

AGENDA
CITY OF TAYLOR, TEXAS
PLANNING & ZONING COMMISSION MEETING
CITY HALL COUNCIL CHAMBERS
400 PORTER STREET, TAYLOR, TX 76574
AUGUST 13, 2024, 6:00 PM

For Citizens Communication and to speak during the public hearings, please contact the Development Services office at 512-365-3863 prior to 5:30 p.m. on Tuesday, August 13, 2024.

The agenda packet is on the City of Taylor's [website](#).

I. CALL TO ORDER AND DECLARE A QUORUM

II. CITIZEN COMMUNICATION

(The Planning and Zoning Commission welcomes public comment on items not listed on the agenda. However, the Commission cannot respond until the item is posted on a future agenda. All public comments are limited to 3 minutes.)

III. CONSENT AGENDA

(The Consent Agenda includes non-controversial and routine items that the Commission may act on with a single vote. The Chair or a Commission member may pull any item from the Consent Agenda to discuss and act upon it Individually as part of the Regular Agenda.)

1. Review and approve minutes from the meeting held on July 09, 2024.
2. **PZ-2024-2182** Consider Disapproval of the 3311 West Second Street Minor Plat generally located at 3311 W. 2nd Street, legally described as approximately 1.698 acres of land part of the H.G. Johnson Survey, Abstract No. 348, more particularly described by the Williamson Central Appraisal District Parcel R432726, Taylor, Williamson County, Texas. *Courtney Peres*
3. **PZ-2024-2220** Consider Disapproval of the Taylor EDC Addition Minor Plat generally located at 1601 Martin Luther King Jr. Boulevard, legally described as approximately 52.421 acres of land part of the Parthinia Coursey Survey, Abstract No. 131, more particularly described by the Williamson Central Appraisal District Parcel R018994, Taylor, Williamson County, Texas. *Courtney Peres*
4. **PZ-2024-2215** Consider Disapproval of the RCR- Taylor Logistics Park Amending Plat of Phase Two, Block Two, Lots 1, 2, and 3A, generally located at 201 FM 3349, legally described as RCR-Taylor Logistics Park Phase Two Minor Plat, Block Two, Lots 1-2 and RCR-Taylor Logistics Park Phase Two Replat, Block Two, Lot 3A, more particularly described by the Williamson Central Appraisal District Parcels R637527, R648674, R648675, Taylor, Williamson County, Texas. *Courtney Peres*
5. **PZ-2024-2216** Consider Disapproval of the Taylor Pointe Subdivision Preliminary Plat generally located at 715 Carlos G. Parker Blvd. SW, consisting of approximately 39.015 acres

of land part of the G.M. Reese Survey, Abstract No. 533, more particularly described by Williamson Central Appraisal District Parcel R331170, Taylor, Williamson County, Texas. *Courtney Peres*

6. **PZ-2024-2105** Consider Disapproval of Gateway Tract Preliminary Plat, generally located at 505 Carlos G. Parker SW, legally described as 38.09-acre tract of land part of and out of the George M. Reese Survey, Abstract No. 533, more particularly described by Williamson Central Appraisal District Parcels R331030, R019657, R020063, Taylor, Williamson County, Texas. *Courtney Peres*

IV. REGULAR AGENDA

7. **PZ-2024-2212** Hold a public hearing and consider making a recommendation regarding a request for a Place Type zoning change from P2.5 – Large Lot to P3 – Neighborhood on property generally located at 1120 W. Lake Drive, legally described as approximately 1.24 acres of land situated in Hague Heights, Block One, Lots 8 through 13, more particularly described by the Williamson Central Appraisal District Parcel R017151, Taylor, Williamson County, Texas. *Courtney Peres*
8. **PZ-2024-2213** Hold a public hearing and consider making a recommendation for a Special Use Permit to allow lodging without a full time, on-site operator generally located at 520 W. 10th Street, legally described as a 0.37-acre tract of land out of the Murphy Addition, Block Seven, southern part of Lot 1 and 2, more particularly described by the Williamson Central Appraisal District Parcel R017691, Taylor, Williamson County, Texas. *Courtney Peres*
9. **PZ-2023-1997** Hold a public hearing and consider making a recommendation regarding a request for an Employment Center Plan referred to as Taylor 50, generally located at 369C CR 395, legally described as approximately 49.913-acre tract of land out of the J.C. Eaves Survey, Abstract No. 213, more particularly described by the Williamson Central Appraisal District Parcel R019150, Taylor, Williamson County, Texas. *Courtney Peres*
10. **PZ-2024-2238** Hold a public hearing and consider action regarding a request for a Subdivision Variance related to the installation of public utilities and sidewalks generally located at 14501 Hwy 79, legally described as a 69.015-acre tract of land part of and out of the H.G. Johnson Survey, Section 6, Abstract No. 348, more particularly described by the Williamson Central Appraisal District Parcels R019338 and R019992, Taylor, Williamson County, Texas. *Courtney Peres*
11. **PZ-2024-2243** Hold a public hearing and consider making a recommendation regarding amendments to the City of Taylor Land Development Code to correct errors and provide clarification to the following chapters: Chapter 1 – Intent & General Provisions, Chapter 2 – Development Process, Chapter 3 – Neighborhoods, Additions, Subdivisions, Chapter 4 – Place Type Zoning, Chapter 5 – Private Lot Development Standards, Chapter 6 – Historic Preservation, and Chapter 7 - Definitions.

V. DISCUSSION ITEMS

12. Update regarding City Council actions on items referred by the Planning and Zoning Commission.

VI. ADJOURN

The Commission may vote and/or act upon each of the items listed in this Agenda. The Commission reserves the right to retire into executive session concerning any of the items listed on this Agenda, whenever it is considered necessary and legally Justified under the Open Meetings Act.

I certify that the notice of this meeting was posted in the City of Taylor Hall Lobby continuously for 72 continuous hours before August 13, 2024. I further certify that the following news media was notified of this meeting: Taylor Daily Press.

Posted by:  Date: 08/09/2024
Victoria Winchester, Administrative Assistant

MINUTES

CITY OF TAYLOR, TEXAS

PLANNING AND ZONING COMMISSION MEETING

July 9, 2024, at 6:00 P.M.

City Hall Council Chambers

400 Porter Street, Taylor, TX 76574

<u>PRESENT</u>	<u>ABSENT</u>	<u>STAFF PRESENT</u>
Nora Roy	Amy Everhart	Victoria Winchester, Administrative Assistant II
Donna Frazier	Mike Eaton	Justinh Sauer, Permit Technician
Annette Maruska		Preston Gunn, Permit Technician
Jim Newman	Kellie-Billings	Shai Roos, Planning Consultant
Alexander Allrich	Ray	Parker McDowell, Senior Planner
Barbara-Aviles Torsberg		Tom Yantis, Assistant City Manager

I. CALL TO ORDER AND DECLARE A QUORUM

Vice Chair, Nora Roy called to order and declared a quorum at 6:00 P.M.

II. CITIZENS COMMUNICATION

(The Planning and Zoning Commission welcomes public comments on items not listed on the Agenda. However, the Commission cannot respond until an item is posted on a future meeting Agenda. Registration forms are available at the sign in table.)

Vice Chair, Nora Roy opened the Citizens Communication. There was no one present to speak. Vice Chair, Nora Roy closed the Citizens Communication.

III. CONSENT AGENDA

(The Consent Agenda includes non-controversial and routine items that the Commission may act on with one single vote. The Chair or a Commissioner may pull any item from the Consent Agenda to discuss and act upon it individually as part of the Regular Agenda.)

1. Review and approve minutes from the meeting held on June 11, 2024.
2. **PZ-2023-1904** - Consider Conditional Approval of Northcutt-Buzan Estates Preliminary Plat generally located at 1910 CR 452 consisting of approximately 27.887 acres part of and out of the Parthinia Coursey Survey, Abstract No. 131, more particularly described by Williamson Central Appraisal District Parcel R408565, Taylor, Williamson County, Texas. (Courtney Peres, Planning Manager.

3. **PZ-2023-1968** Consider Conditional Approval of the Taylor North Bull Branch Creek Preliminary Plat, generally located along the South right-of-way of N.W. Carlos G. Parker Boulevard, approximately 1,400 feet west of the intersection of N.W. Carlos G. Parker Boulevard and North Drive, consisting of approximately 7.747 acres of land part of and out of the William J Baker Survey, Abstract No. 65, more particularly described by the Williamson Central Appraisal District Parcel R018638, Taylor, Williamson County, Texas. (Courtney Peres, Planning Manager)
4. **PZ-2024-2088** Consider Disapproval of the Davis Tract Phase 1 Preliminary Plat, generally located north of Elm Branch Trail, legally described as approximately 25.52 acres of land part of the James C. Eaves Survey, Abstract No. 214, more particularly described by the Williamson Central Appraisal District Parcel R656448, Taylor, Williamson County, Texas. (Courtney Peres, Planning Manager)
5. **PZ-2024-2150** Consider Conditional Approval of Park 79 Commerce Center Final Plat, generally located at 14501 Highway 79, legally described as a 69.015-acre tract of land part of and out of the H.G. Johnson Survey, Section 6, Abstract No. 348, more particularly described by Williamson Central Appraisal District Parcels R019338 and R019992, Taylor, Williamson County, Texas. (Shai Roos, HDR Planner)
6. **PZ-2024-2172** Consider Disapproval of Spring Creek Phase 2 Final Plat, generally located at the northwest corner of the intersection of North Drive and NW Carlos G. Parker Boulevard, consisting of approximately 20.40 acres of land, legally described as land part of and out of the William J. Baker Survey, Abstract No. 65, more particularly described by Williamson Central Appraisal District Parcels R018683 and R383650, Taylor, Williamson County, Texas. (Courtney Peres, Planning Manager)

Motion was made by Commissioner Jim Newman to approve the Consent Agenda as presented along with approval for minutes held on meeting June 11, 2024. Commissioner, Alexander Allrich second the motion. No further discussions were made by the Commission. The vote passed unanimously. (6-0)

IV. REGULAR AGENDA

7. **PZ-2024-2168** Hold a public hearing and consider making a recommendation regarding a request for a Subdivision Variance related to driveway location and spacing generally located at 202 Mustang Cove, legally described as Lot 4B, of a Replat of Lot 4, Block B, Final Plat of Mustang Creek Industrial Park, more particularly described by Williamson Central Appraisal District Parcel R496076, Taylor, Williamson County, Texas. (Parker McDowell, HDR Planner)

Vice Chair, Nora Roy opened public hearing at 6:02PM

HDR Planner Parker McDowell made a presentation considering making a recommendation regarding a request for a subdivision variance related to a

driveway located at 202 Mustang Cove. Staff recommends approval of the proposed subdivision variances. At this time there were no citizens to speak regarding PZ-2024-2168. Vice Chair, Nora Roy closed the public hearing at 6:07 PM.

Melisa Hernandez the Architect for Caliber Collision, spoke asking for approval as they believe the business supports the surrounding businesses

Commissioner Barbara Aviles-Torsberg made a motion to approve the subdivision variance. Commissioner Annette Maruska seconded the motion. No further discussions were made by the Commission. The vote passed unanimously (6 -0).

8. **PZ-2023-1970** Hold a public hearing and consider making a recommendation regarding a request for a Neighborhood Plan referred to as Turner Spring generally located at 450 CR 398, legally described as a 99.48-acre tract of land out of the Samuel Pharrass Survey, Abstract 496, more particularly described by Williamson Central Appraisal District Parcels R019622 and R020057, Taylor, Williamson County, Texas. (Shai Roos, HDR Planner)

Vice Chair Nora Roy Opened up the public hearing at 6:08 PM. HDR Planner Shai Roos made a presentation considering making a recommendation regarding a request for a Neighborhood Plan referred to as Turner Spring located at 450 CR 398. Staff recommends approval of the Neighborhood Plan. Vice Chair Nora Roy closed the public hearing at 6:16 PM.

The Commissioners wanted to know when the surrounding neighborhood's will be brought to them as well as some minor details of the layout for this case. Assistant City Manager, Tom Yantis, named the surrounding developments and if they have been approved as well as referred to the packet on the details of this case

Citizen, Edd Stevens, asked if there are roads connecting to CR 398 and if there are plans to improve CR 398. Tom Yantis and Shia Roos explained when and how the improvements will be determined.

Commissioner Alexander Allrich made a motion to approve the Neighborhood Plan known as Turner Spring. The motion was seconded by Commissioner, Jim Newman. No further discussions were made by the Commission. The vote passed unanimously (6-0).

9. **PZ-2024-2140** Hold a public hearing and consider making a recommendation regarding a request of an Employment Center Plan referred to as iMarket generally located northeast at the intersection of Carlos G. Parker Boulevard Southeast and FM 112, legally described as a 211.84-acre tract of land in the Parthinia Coursey Survey, Abstract No. 131, more particularly described by Williamson Central Appraisal District Parcels R357492, R318771, R006142, R620065, R624522, R620064, Taylor, Williamson County, Texas. (Shai Roos, HDR Planner)

Vice Chair Nora Roy opened the public hearing at 6:19 PM. HDR, Planner Shai Roos made a presentation considering making a recommendation regarding a request of an Employment Center Plan referred to as iMarket located at FM 112. Staff recommends approval of the proposed Employment Center Plan and associated warrants and variance. Vice Chair, Nora Roy closed the public hearing at 6:30 PM.

Commissioner Annette Maruska had a question. They are concerned for the need of a signal light. Tom Yantis spoke on traffic impact analysis to determine how contribution of a light will be decided. The applicant, Ethan Harwell (Kimely-Horn), presented the project and spoke more on TxDOT about Traffic signals. They then described the topography of the site and the road layout.

Commissioner Allrich and Commissioner Barbara Aviles-Torsberg had a question regarding the connection of trails through this site. Tom Yantis said the Parks Department is currently working on trail system master plan to connect the trails.

Commissioner Barbara Aviles-Torsberg made a motion to approve the request of an Employment Center Plan referred to as iMarket. Commissioner, Alexander Allrich seconded the motion. No further discussions were made by the Commission. The vote passed unanimously (6-0).

- 10. PZ-2024-1848** Hold a public hearing and consider making a recommendation regarding an amendment to the Envision Taylor Comprehensive Plan to include the creation of a Small Area Plan referred to as the Small Area Plan - Special Employment District North on approximately 1,500 acres generally located east of County Road 101, South of County Road 395 and County Road 398, West of Justin Lane, and North of US 79, Taylor, Williamson County, Texas. (Tom Yantis, Assistant City Manager)

Vice Chair Nora Roy opened the public hearing at 6:31PM. Assistant City Manager, Tom Yantis made a presentation considering making a recommendation regarding amendment to the Envision Comprehensive Plan to include the creation of a small area plan referred to as the Small Area Plan- Special Employment District North located east of County Road 101. Staff recommends approval of the proposed Comprehensive Plan amendment to adopt the Small Area Plan – Special Employment District – North. During the public hearing Louis Hughes of 775 Lorax Lane spoke regarding his property within the Small Area Plan; a 70-acre property. He expressed concerns regarding his property and wanted to make a request for a 170-foot buffer between the industrial and residential land uses.

There was a discussion between Commissioners, Donna Frazier, Commissioner, Annette Maruska and Assistant City Manager, Tom Yantis.

Commissioner Annette Maruska made a motion to approve the recommendation regarding amendment to Envision Taylor Comprehensive Plan to include the creation of a Small Area Plan referred to as the Small Area Plan- Special Employment District North and to consider a buffer between Residential land uses and Industrial Land Uses. Motion was Seconded by Commissioner, Alexander Allrich. No further discussions were made by the Commission. The vote passed unanimously (6-0).

V. DISCUSSION ITEMS

1. Update regarding City Council actions on items referred by the Planning and Zoning Commission.

Assistant City Manager, Tom Yantis provided an update to the Commission from June's City Council Meeting items approved or denied from the recommendations by the Planning and Zoning Commission.

2. Update to Land Development Code amendments.

Assistant City Manager, Tom Yantis wanted to update the Board and Commissioners on the Land Development Code Amendments that will be completed in August.

3. **ADJOURN**

Vice Chair Nora Roy called the meeting adjourned at 6:59 P.M.

Approved by Chair: _____

Date: _____

Attest by Administrative Assistant: _____

Date: _____

City of Taylor
PZ-2024-2182
3311 W. 2nd St. Minor Plat
Staff Report

Item Details

Agenda No.	2
Requested Action:	Consider Disapproval of 3311 W. 2 nd Street Minor Plat
Address/Location:	Generally located at 3311 W. 2 nd Street
Legal Description:	Approximately 1.698 acres of land part of the H.G. Johnson Survey, Abstract No. 348, more particularly described by the Williamson Central Appraisal District Parcel R432726, Taylor, Williamson County, Texas.
Current Zoning:	EC – Employment Center
Current Use:	Two different businesses
Applicant:	Shae Willard, Texas Permitting Solutions
Case History:	This is the first submission of the Minor Plat.
Staff Recommendation:	The submitted Minor Plat does not meet the minimum requirements of the Land Development Code and Engineering Manual. Therefore, staff recommends Disapproval of the proposed Minor Plat.

Attachments

1. Staff Comments
2. Location Map
3. Proposed Plat



City of Taylor

400 Porter Street
Taylor, TX 76574
(512) 352-3675
www.ci.taylor.tx.us

Shae Willard
Texas Permitting Solutions
404 Autumn Trail
Georgetown TX 78626
texaspermittingsolutions@gmail.com

Date: Wednesday, July 31, 2024

Address: 3311 W 2nd St, Taylor 78626

Permit Number PZ-2024-2182

Dear Shae Willard,

Staff has completed its review of plans for the 3311 W 2nd St - Minor plat that is to be located at 3311 W 2nd St, Taylor 78626. Staff's recommendation is for Denial at the August 13, 2024, Planning and Zoning Commission Meeting. There are corrections that need to be made prior acceptance of the plat. Comments from this review follow.

Planning Department Comments

The following comments have been provided by Parker McDowell. Should you have any questions or require additional information regarding any of these comments, please contact Parker McDowell at (512) 309-6797 or by email at parker.mcdowell@hdrinc.com.

1. Revise project number to PZ-2024-2182
2. include the ROW acreage being dedicated and provide the lot and block numbers in the title
3. provide the field notes and descriptions of the boundary survey with bearings and distances
4. provide the name and title of signer if applicable and the address and phone number
5. move the north arrow and scale from preparer information
6. label the point of beginning of the plat that matches the point of beginning identified in the field notes
7. label the proposed lots and block on the plan view
8. add the square footage of the lot to the acreage label
9. show Topographic features, with ten (10) foot contour lines
10. label the adjacent property to the south west with lots and blocks, names of recorded subdivisions, streets, easements and water courses
11. Label all (existing and new) easements, including but not limited to drainage, utility, landscape, tree protection and access - dimension and label as to type, note any restriction on the plat
12. label the iron rods found
13. provide notes on this plat that the monuments of this plat have been rotated to the NAD 83/93 HARN - Texas Central Zone and NAVD 88.

Engineering Department Review

The following comments have been provided by Javier Vasquez. Should you have any questions or require additional information regarding any of these comments, please contact Javier Vasquez at (713) 576-3691 or by email at javier.vasquez@hdrinc.com.

1. Complete plat heading information missing on the plat.
2. Provide metes and bounds field notes description.
3. Label the proposed lot and block information on the plat drawing.
4. Update linework to distinguish the proposed plat area and adjacent lot lines or easement lines (e.g. bold line for proposed subdivision and broken lines for other line types).
5. Do not show existing features on the plat drawing such as the parking or buildings currently shown.
6. Update Engineer Certification to revise "Registered" to "Licensed".
7. Revise Surveyor's Certification to use plat certificate language found in the City Plat Application.
8. Provide a Development Services Director Certification block.
9. If lot is to be serviced initially be septic, an OSSF Certification block shall be included.
10. Update the completion date shown in the Surveyor's Certification.
11. Show complete information for adjacent tracts (TxDOT) and County Road shown. Show Parcel information for other side of County Road shown.

Fire Department Comments (PZ)

The following comments have been provided by Eric Engelke. Should you have any questions or require additional information regarding any of these comments, please contact Eric Engelke at or by email at eric.engelke@taylortx.gov.

Approved with no comments.

Please revise the plat to address the comments noted above. Following revision, submit the plat electronically with a resolution letter in PDF format. Should you have questions regarding specific comments, please contact the staff member referenced under the section in which the comment occurs. Should you have questions or require additional information regarding the plan review process itself, please feel free to contact me directly. I can be reached by telephone at (512) 309-6797, or by e-mail at parker.mcdowell@hdrinc.com.

Thank you,



Parker McDowell
Senior Planner
City of Taylor

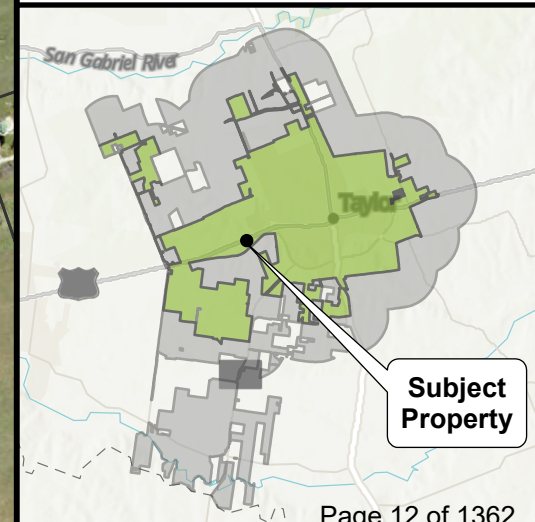
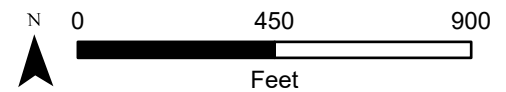
Attachment

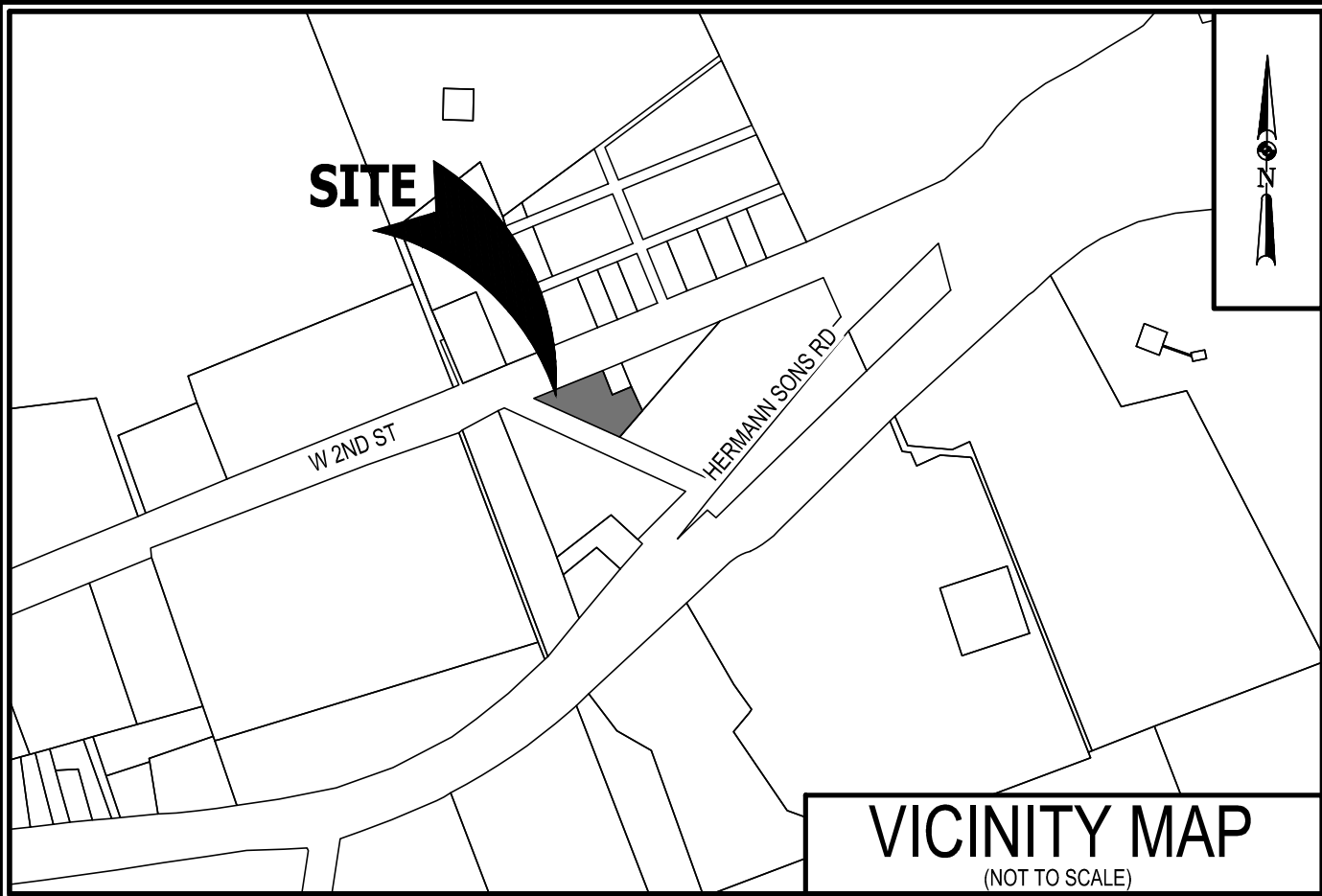


PZ-2024-2182

**3311 W 2nd St.
Neighborhood Plan
Minor Subdivision Plat
Approximately 1.7 acres**

-  City Limits
-  ETJ Boundary
-  Subject Property
-  Parcels





MINOR PLAT ESTABLISHING
3311 WEST SECOND ST
PZ-2024-XXXX

BEING A MINOR PLAT CONSISTING OF 1.698 ACRES, INCLUDING _____ ACRES OF RIGHT-OF-WAY DEDICATION, TO CREATE _____ LOTS, _____ RESERVES, PART OF AND OUT OF THE H.G. JOHNSON SURVEY, ABSTRACT NO. 348, TAYLOR, WILLIAMSON COUNTY, TEXAS.

OWNER
MANAR INVESTMENTS, LLC
3613 ROCK SHELF LANE
ROUND ROCK, TEXAS 78681

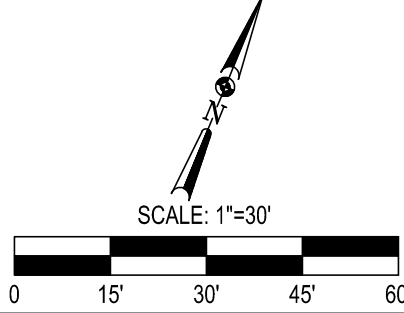
MAY, 2024

PLAT PREPARED BY THE FOLLOWING CIVIL ENGINEER AND LAND ENGINEERING FIRM:

MATKINHOOVER
ENGINEERING
& SURVEYING

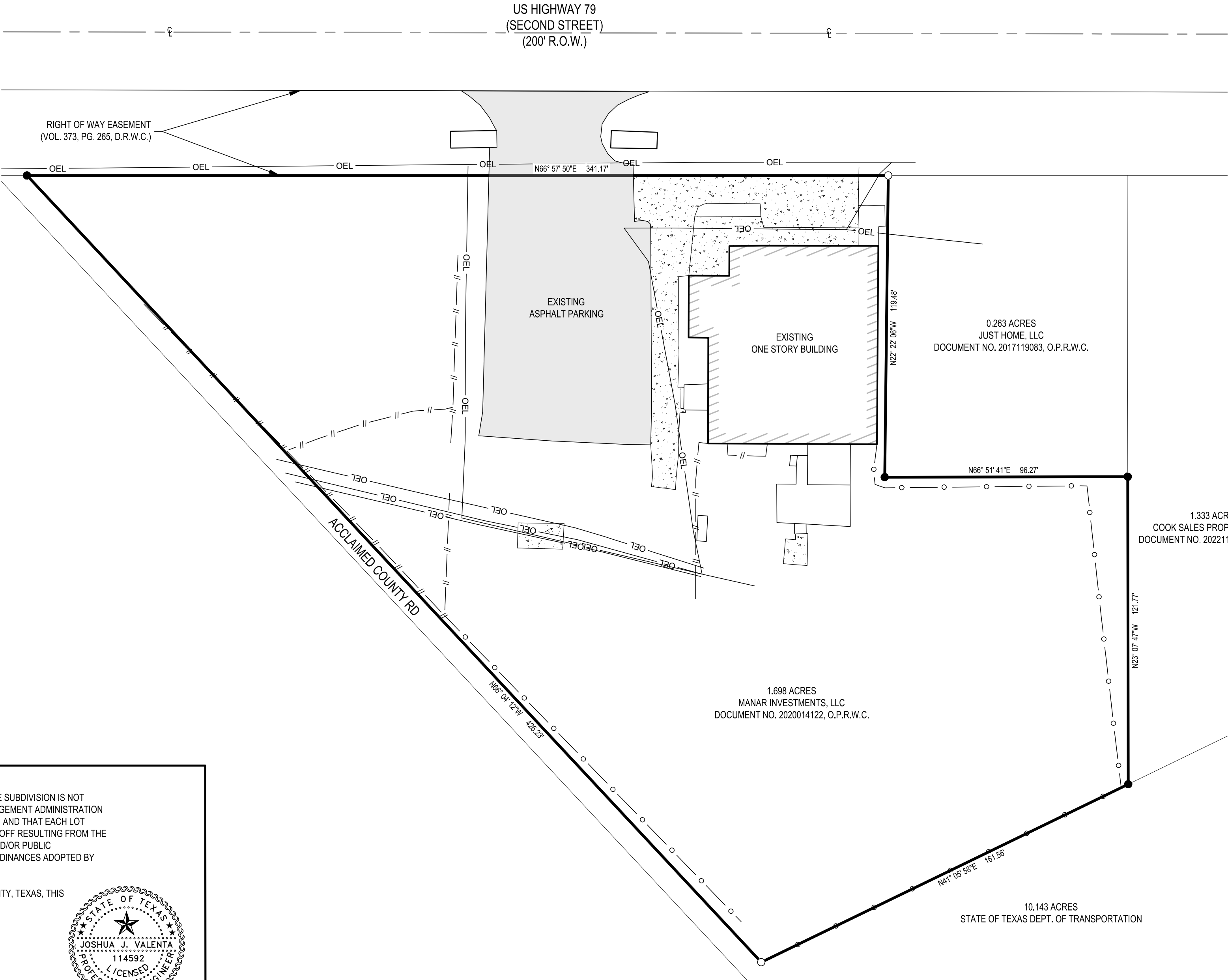
P.O. BOX 54
8 SPENCER ROAD, SUITE 100
BOERNE, TEXAS 78009
OFFICE: (830) 249-0600 FAX: (830) 249-0609
TEXAS REGISTERED ENGINEERING FIRM F-004512

CIVIL ENGINEERS SURVEYORS LAND PLANNERS
CONSTRUCTION MANAGERS CONSULTANTS



LEGEND	
M.R.	WILLIAMSON COUNTY MAP RECORDS
O.P.R.	WILLIAMSON COUNTY OFFICIAL PUBLIC RECORDS
NO.	NUMBER
CSJ	CONTROL-SECTION-JOB NUMBER
R.O.W.	RIGHT-OF-WAY
TXDOT	TEXAS DEPARTMENT OF TRANSPORTATION
SQ. FT.	SQUARE FEET
VOL.	VOLUME
PG.	PAGE
P.O.B.	POINT OF BEGINNING
— 0 —	CENTER LINE
---	EXISTING LOT LINES
---	PROPERTY BOUNDARY
○	PROPERTY CORNER FOUND
●	IRON ROD FOUND
⊠	EXISTING MONUMENT FOUND

- GENERAL NOTES:
- UTILITY PROVIDERS - WATER: THE CITY OF TAYLOR, WASTEWATER: THE CITY OF TAYLOR, ELECTRICITY: ONCOR.
 - ALL STRUCTURES AND/OR OBSTRUCTIONS, INCLUDING FENCES, ARE PROHIBITED IN DRAINAGE AREAS/RESERVES.
 - THERE ARE NO AREAS WITHIN THE BOUNDARY OF THE SUBDIVISION IN THE 100-YEAR FLOODPLAIN AS DEFINED BY FIRM MAP NUMBER 48491C0530F EFFECTIVE DATE OF DECEMBER 20, 2019.
 - ALL MINIMUM YARD (BUILDING) SETBACKS SHALL BE ACCORDANCE WITH THE APPROVED PLANNED DEVELOPMENT AGREEMENT WITH THE CITY OF TAYLOR, ORDINANCE NO. 2021-07.
 - MINIMUM FIRE FLOW OF 500 GALLONS PER MINUTE FOR NOT LESS THAN TWO (2) HOURS SHALL BE APPROVED.
 - A 10' PUBLIC UTILITY EASEMENT SHALL BE DEDICATED ALONG ALL STREET FRONTAGES.



ENGINEERS CERTIFICATION:

I, JOSHUA VALENTA, LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THE SUBDIVISION IS NOT ENCLOSED BY A ZONE A FLOOD AREA, AS DENOTED HEREIN, AND AS DEFINED BY FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION FLOOD HAZARD BOUNDARY MAP, COMMUNITY PANEL NUMBER 48491C0530F, EFFECTIVE DATE DECEMBER 20, 2019, AND THAT EACH LOT CONFORMS TO THE CITY OF TAYLOR REGULATIONS, THE FULLY DEVELOPED, CONCENTRATED STORMWATER RUNOFF RESULTING FROM THE ONE HUNDRED (100) YEAR FREQUENCY STORM IS CONTAINED WITHIN THE DRAINAGE EASEMENTS SHOWN AND/OR PUBLIC RIGHTS-OF-WAY DEDICATED BY THIS PLAT. THE INFORMATION CONTAINED ON THIS PLAT COMPLIES WITH ALL ORDINANCES ADOPTED BY THE CITY.

TO CERTIFY WHICH, WITNESS BY MY HAND AND SEAL AT _____ COUNTY, TEXAS, THIS _____ DAY OF _____, 2024.

JOSHUA VALENTA, P.E.
REGISTERED PROFESSIONAL ENGINEER NO.
JAM MATKIN & ASSOCIATES, LTD.
8 SPENCER ROAD, SUITE 100, BOERNE, TEXAS 78006
(830) 249-0600

I, KYLE L. PRESSLER, REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THE INFORMATION CONTAINED ON THIS PLAT COMPLIES WITH THE SUBDIVISION REGULATIONS ADOPTED BY WILLIAMSON COUNTY, TEXAS.

PLAT COMPLETION DATE: MAR/XX/2024

KYLE L. PRESSLER, R.L.P.S.
REGISTERED PROFESSIONAL LAND SURVEYOR #6528
MATKINHOOVER ENGINEERING & SURVEYING

STATE OF TEXAS
COUNTY OF WILLIAMSON

THAT _____, AUTHORIZED SIGNATORY OF _____, SOLE OWNER OF THAT CERTAIN _____ ACRE TRACT OF LAND SHOWN HEREON AND DESCRIBED IN DEEDS RECORDED IN DOCUMENT NO. _____, BOTH OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, AND DO HEREBY STATE THAT THERE ARE NO LIEN HOLDERS ON THAT CERTAIN TRACT OF LAND, AND DO HEREBY SUBDIVIDE SAID TRACT AS SHOWN HEREON, AND DO HEREBY DEDICATE TO THE CITY OF TAYLOR STREETS, ALLEYS, RIGHT-OF-WAY, EASEMENTS AND PUBLIC PLACES SHOWN HEREON FOR SUCH PUBLIC PURPOSES AS THE CITY OF TAYLOR MAY DEEM APPROPRIATE. THIS SUBDIVISION IS TO BE KNOWN AS "QUICKTRIP STORE 4192."

TO CERTIFY WHICH, WITNESS BY MY HAND THIS _____ DAY OF _____, 2024.

NAME, AUTHORIZED SIGNATORY
ADDRESS
PHONE #

WILLIAMSON COUNTY CLERK

I, _____, CLERK OF THE COUNTY COURT OF WILLIAMSON COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT IN WRITING, WITH ITS CERTIFICATE OF AUTHENTICATION, WAS FILED FOR RECORD IN MY OFFICE ON THE _____ DAY OF _____, 2024, A.D. AT _____ O'CLOCK _____ M., AND DULY RECORDED THIS THE _____ DAY OF _____, 2024 A.D., AT _____ O'CLOCK _____ M., IN THE OFFICIAL PUBLIC RECORDS OF SAID COUNTY IN INSTRUMENT NO. _____.

TO CERTIFY WHICH, WITNESS IN MY HAND AND SEAL AT THE SAID COUNTY COURT OF SAID COUNTY, AT MY OFFICE IN _____, TEXAS, THE DATE LAST SHOWN ABOVE WRITTEN.

_____, CLERK COUNTY COURT
OF WILLAMSON COUNTY, TEXAS

BY: _____, DEPUTY

STATE OF TEXAS
COUNTY OF WILLAMSON

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED _____, KNOWN TO ME TO BE THE PERSON(S) WHOSE NAME(S) IS/ARE SUBSCRIBED TO THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT THEY EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED AND IN THE CAPACITY THEREIN AND HEREIN STATED, AND AS THE ACT AND DEED OF SAID CORPORATION.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS _____ DAY OF _____, 2024.

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

PRINT NAME

MY COMMISSION EXPIRES: _____

PLANNING & ZONING COMMISSION

THIS SUBDIVISION TO BE KNOWN AS " _____ " HAS BEEN ACCEPTED AN APPROVED FOR FILING OF RECORD WITH THE COUNTY CLERK OF WILLAMSON COUNTY, TEXAS, ACCORDING TO THE MINUTES OF THE MEETING OF THE TAYLOR PLANNING AND ZONING COMMISSION OF THE _____ DAY OF _____, 2024

_____, CHAIRMAN
_____, SECRETARY

DATE
DATE

City of Taylor
PZ-2024-2220
Taylor EDC Minor Plat
Staff Report

Item Details

Agenda No.	3
Requested Action:	Consider Disapproval of Taylor EDC Minor Plat
Address/Location:	Generally located at 1601 Martin Luther King Jr. Blvd.
Legal Description:	Approximately 52.421 acres of land part of the Parthinia Coursey Survey, Abstract No. 131, more particularly described by the Williamson Central Appraisal District Parcel R018994, Taylor, Williamson County, Texas
Current Zoning:	EC – Employment Center
Current Use:	Vacant Acreage
Applicant:	Ricca Keepers, Keepers Land Planning
Case History:	This is the first submission of the Minor Plat
Staff Recommendation:	The submitted Minor Plat does not meet the minimum requirements of the Land Development Code and Engineering Manual. Therefore, staff recommends Disapproval of the proposed Minor Plat.

Attachments

1. Staff Comments
2. Location Map
3. Proposed Plat



City of Taylor

400 Porter Street
Taylor, TX 76574
(512) 352-3675
www.ci.taylor.tx.us

Ricca Keepers
Keepers Land Planning
PO Box 5553
Round Rock TX 78683
Ricca@keeperslandplanning.com

Date: Wednesday, July 31, 2024

Address: 1601 Martin Luther King Jr Blvd, Taylor Texas 76574

Permit Number PZ-2024-2220

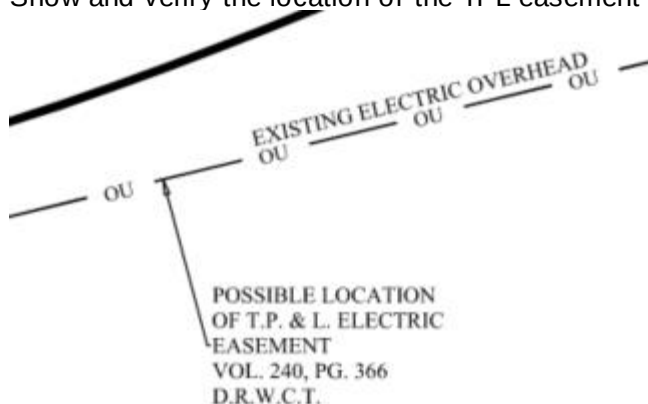
Dear Ricca Keepers,

Staff has completed its review of plans for the Taylor EDC Addition Minor Plat that is to be located at 1601 Martin Luther King Jr Blvd, Taylor Texas 76574. Staff's recommendation is for Denial at the August 13, 2024, Planning and Zoning Commission Meeting. There are corrections that need to be made prior acceptance of the plat. There are some corrections that need to be made prior to recordation of the plat. Comments from this review follow.

Planning Department Comments

The following comments have been provided by Parker McDowell. Should you have any questions or require additional information regarding any of these comments, please contact Parker McDowell at (512) 309-6797 or by email at parker.mcdowell@hdrinc.com.

1. Revise title at the top of the pages to "Taylor EDC Addition Minor Plat"
2. Beneath the title provide a legal description of the plat at the top and center of the sheet in the following format: Being a Minor Plat consisting of ___ acres, to create ___ Lot(s), ___ Block(s), ___ reserves, part of and out of the ___ Survey, Abstract No. ___, Taylor, Williamson County, Texas"
3. Provide a contact name for the owner and surveyor.
4. Provide a north arrow for the location map
5. Revise scale of location map to 1:1,000 or 1:2,000 and relevant street names adjacent to the subject site.
6. Show all required easements (see engineering comments) on the plat.
7. Show and verify the location of the TPL easement



8. Add the centerline to the Right-of-ways
9. Please revise boundary description to include the total acreage summary that matches the plat of 52.42 acres.
10. Remove Plat Note 5
11. Add Case No. "PZ-2024-2220" to the bottom right hand corner of every page.
12. Remove Submittal Date.
13. Remove P&Z Signature Block
14. Provide a Director of Development Services Signature Block.

Engineering Department Review

The following comments have been provided by Javier Vasquez. Should you have any questions or require additional information regarding any of these comments, please contact Javier Vasquez at (713) 576-3691 or by email at javier.vasquez@hdrinc.com.

*See Associated Documents section of the permit page to download a PDF containing the following engineering comments:

Sheet 1 of 2

1. A minimum finished floor elevation shall be established for Lot 1 in conformance with Chapter 7 of the City Code of Ordinances.
2. Existing Taylor floodplain area to be dedicated within an easement (Taylor Engineering Manual Sec. 1.8) along with use of the easement for trails as identified on the City Transportation Plan as applicable.
3. Include an area on the plat to denote revision resubmittals and dates
4. Recommend updating the subdivision boundary line to a thicker lineweight for better visibility
5. Label creek/water feature(s)
6. Provide complete plat heading and legal (all sheets)
7. Provide a 20-ft Utility Easement along the portion of property fronting FM 112 (TxDOT) in accordance to Taylor Engineering Manual Sec. 1.8
8. For the 10-ft sanitary sewer easement shown, it is requested that this be widened to 20-ft.
9. Verify if an easement width can be identified with T.P.&L. Electric for this site.

Sheet 2 of 2

1. Engineer Certification - Update "Registered to Licensed"
2. Include the City Floodplain Administrator's Certification Block
3. Owner's Certification Block - Remove additional language shown

Fire Department Comments (PZ)

The following comments have been provided by Bobby Copeland. Should you have any questions or require additional information regarding any of these comments, please contact Bobby Copeland at (512) 352-6992 or by email at robert.copeland@taylor.tx.gov.

1. A note shall be added to the plat that states: The minimum fire flow shall be the minimum fire flow as required by the 2018 International Fire Code but shall not be less than 1,500 gallons per minute for at least 2 hours.

Please revise the plat to address the comments noted above. Following revision, submit the plat electronically with a resolution letter in PDF format.

Should you have questions regarding specific comments, please contact the staff member referenced under the section in which the comment occurs. Should you have questions or require additional information regarding the plan review process itself, please feel free to contact me directly. I can be reached by telephone at (512) 309-6797, or by e-mail at parker.mcdowell@hdrinc.com.

Thank you,



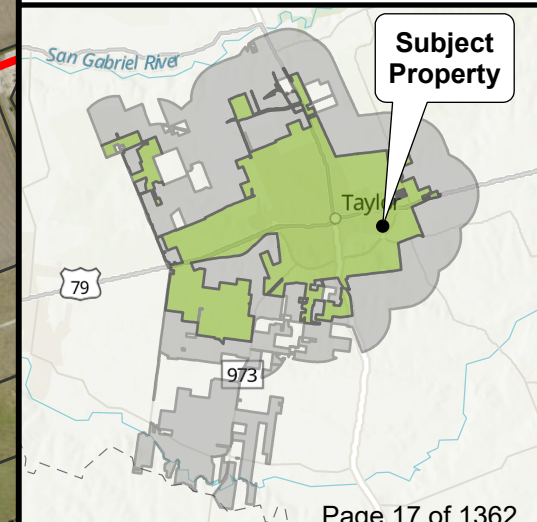
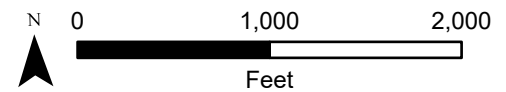
Parker McDowell
Senior Planner
City of Taylor



PZ-2024-2220

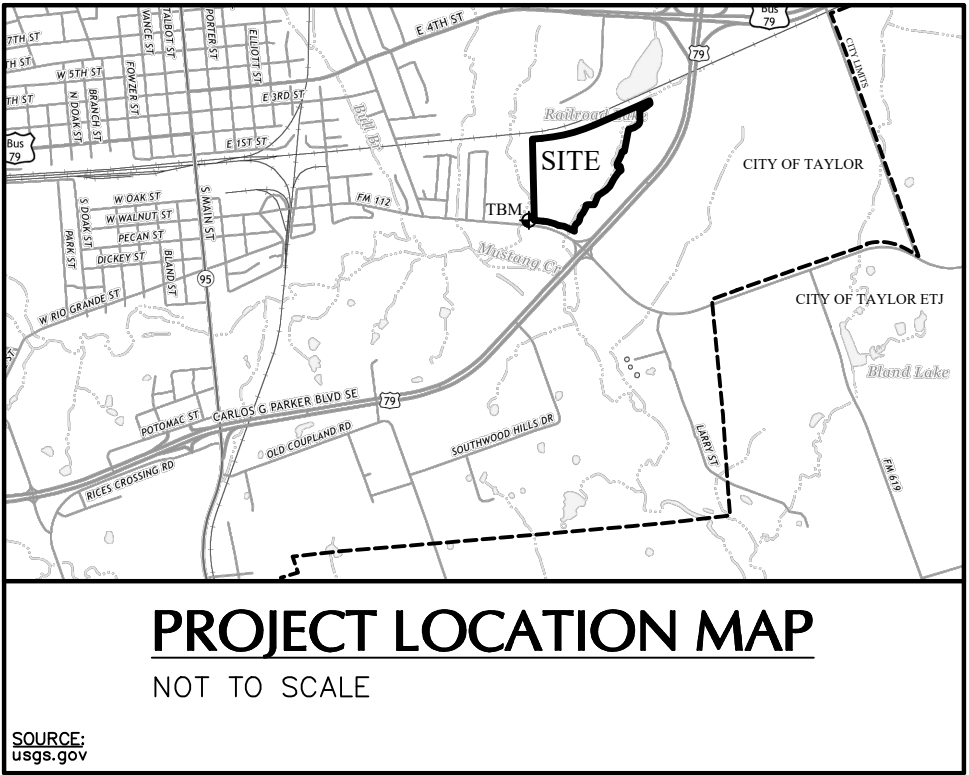
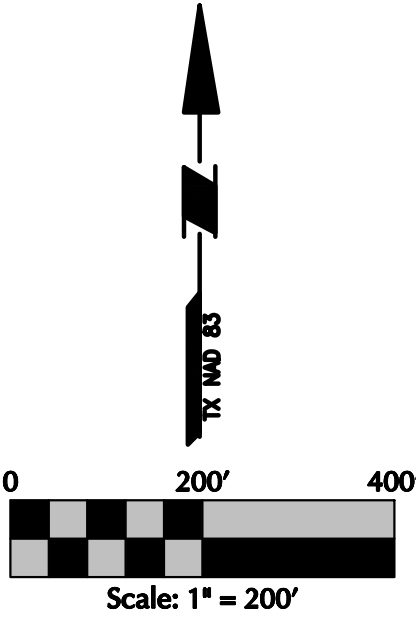
**1601 Martin Luther King Jr Blvd.
Minor Plat
Location Map
Approximately 52 acres**

- City Limits
- ETJ Boundary
- Subject Property
- Parcels



TAYLOR EDC ADDITION

PRELIMINARY: THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT.
~RELEASED FOR REVIEW TO ON MAY 1, 2024.



FINAL PLAT
OF
TAYLOR EDC ADDITION
52.42 ACRES
SITUATED IN THE
PARTHINIA COURSEY SURVEY, ABSTRACT NO. 131
CITY OF TAYLOR, WILLIAMSON COUNTY, TEXAS

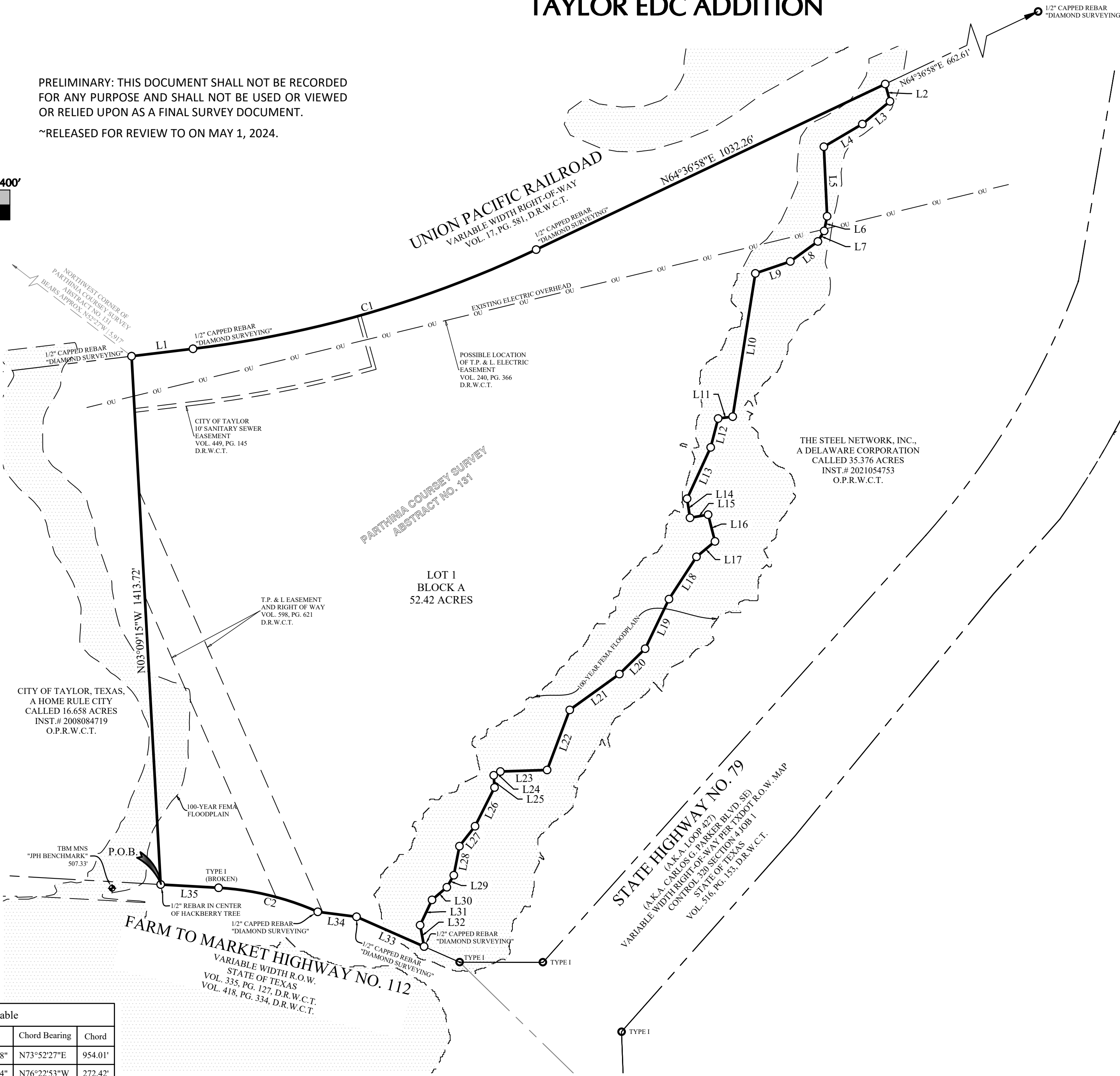
PREPARED ON: APRIL 30, 2024
SUBMITTAL DATE: _____

OWNERS:
Taylor Economic Development Corporation,
a 4A economic development corporation
112 W. 2nd Street, Ste. 203
Taylor, Texas 76574

SURVEYOR:
Langan Engineering and
Environmental Services, LLC
9606 N. Mopac Expressway, Ste. 110
Austin, Texas 78759
(737) 289-7800

Line Data Table		
Line #	Bearing	Distance
L1	N83°07'56"E	165.29'
L2	S15°19'12"E	48.04'
L3	S50°33'44"W	95.58'
L4	S59°30'17"W	119.37'
L5	S02°38'48"E	185.99'
L6	S11°07'42"W	39.83'
L7	S30°51'36"W	32.88'
L8	S54°04'40"W	90.94'
L9	S71°06'45"W	98.75'
L10	S08°59'04"W	387.52'
L11	S82°43'53"W	39.13'
L12	S14°29'58"W	79.62'
L13	S24°42'11"W	151.00'
L14	S08°42'46"E	51.62'
L15	N80°08'50"E	49.06'
L16	S14°25'33"E	73.72'
L17	S50°10'01"W	64.28'
L18	S33°01'42"W	134.80'
L19	S25°38'28"W	147.04'
L20	S45°27'01"W	96.52'
L21	S54°09'50"W	163.59'
L22	S20°38'49"W	171.54'
L23	S88°07'35"W	124.80'
L24	S60°26'48"W	20.52'
L25	S03°45'56"E	32.67'
L26	S26°40'47"W	115.83'
L27	S38°05'02"W	67.56'
L28	S11°00'16"W	79.21'
L29	S30°07'26"W	37.02'
L30	S49°30'05"W	52.06'
L31	S25°12'05"W	74.55'
L32	S10°24'00"E	58.11'
L33	N66°12'48"W	197.13'
L34	N82°43'10"W	104.45'
L35	N86°45'31"W	155.00'

Curve Data Table					
Curve #	Arc	Radius	Delta	Chord Bearing	Chord
C1	958.17'	2964.93'	018°30'58"	N73°52'27"E	954.01'
C2	273.92'	756.20'	020°45'14"	N76°22'53"W	272.42'



- PLAT NOTES:
- The site benchmark (TBM) is a mag nail with metal washer stamped "JPH BENCHMARK" set in a concrete drain culvert headwall located along the northerly margin of F.M. Highway 112, and located approximately 1.200 feet northwesterly from the intersection of F.M. Highway 112 and U.S. Highway 79. Benchmark Elevation = 507.33' (NAVD'88). See vicinity map for general location.
 - Utility providers - Water: City of Taylor; Wastewater/septic: City of Taylor; Electricity: Oncor
 - There are areas within the boundaries of this subdivision in the 100-year Floodplain as defined by FIRM Map Number 48491C0534F, effective date of 2019/12/20.
 - A 10-ft Public Utility Easement (P.U.E.) shall be dedicated along all street frontages.
 - All minimum yard (building) setbacks shall be in accordance with the City of Taylor Zoning Ordinance, as amended.
 - No development shall begin prior to the issuance of a Floodplain Development Permit.

LANGAN

Langan Engineering and
Environmental Services, LLC
9606 N. Mopac Expressway, Suite 110
Austin, TX 78759

T: 737.289.7800 F: 737.289.7801 www.langan.com
TBPELS Firm No. 10194888

Project No.
531031101
Date
2024/04/30
Drawn By
R. GONZALES
Checked By
C. HENDERSON

MONUMENTS / DATUMS / BEARING BASIS
Monuments are found if not marked MNS or CRS.
CRS ○ 1/2" rebar stamped "LANGAN" set
MNS ○ Mag nail & washer stamped "LANGAN" set
TBM ⊕ Site benchmark (see vicinity map for general location)
TYPE I ○ TxDOT Right of Way tapered concrete monument.
○ lot corner (monument not found nor set)
Coordinate values, if shown, are US.SyFt./TxCS/83,CZ
Elevations, if shown, are NAVD'88 (Geoid 18)
Bearings are based on the TxCS/83,CZ
Distances & areas shown are represented in surface values

LEGEND OF ABBREVIATIONS
US.SyFt. United States Survey Feet
TxCS/83,CZ Texas Coordinate System of 1983, Central Zone
NAVD'88 North American Vertical Datum of 1988
P.R.W.C.T. Plat Records of Williamson County, Texas
O.P.R.W.C.T. Official Public Records of Williamson County, Texas
D.R.W.C.T. Deed Records of Williamson County, Texas
VOL/PG/INST# Volume/Page/Instrument Number
POB/POC Point of Beginning/Point of Commencing
ESMT/BL Easement/Building Line

FIELD NOTES to that certain tract of land situated in the Parthinia Coursey Survey, Abstract No. 131 City of Taylor, Williamson County, Texas; being the tract described as 87.797 acres in a Warranty Deed to Taylor Economic Development Corporation, a 4A economic development corporation (hereinafter referred to as Taylor Economic Development Corporation), recorded under Instrument Number 2008084718, Official Public Records, Williamson County, Texas; the subject tract is more particularly described as follows (bearings are based on the Texas Coordinate System of 1983, Central Zone):

THENCE NORTH 03° 09' 15" WEST, with the common line of said Taylor Economic tract and said City of Taylor tract, a distance of 1,413.72 feet to a 1/2-inch capped rebar stamped "DIAMOND SURVEYING" found in the south right-of-way line of U.S. Pacific Railroad (a variable width right-of-way per Volume 17, Page 581, of said Deed Records, at the common north corner of said Taylor Economic tract and said City of Taylor tract;

1. NORTH 83° 07' 56" EAST, a distance of 165.29 feet to the beginning of a curve to the left (concave northwest), having a radius of 2,964.93 feet and a chord which bears NORTH 73° 52' 27" EAST, a distance of 954.01 feet, from which a 1/2-inch capped rebar stamped "DIAMOND SURVEYING" found bears SOUTH 83° EAST, a distance of 0.3' feet;
2. Along said curve to the left, an arc length of 958.17 feet to a 1/2-inch capped rebar stamped "DIAMOND SURVEYING" found;
3. NORTH 64° 36' 58" EAST, a distance of 1,032.26 feet to the northwest corner of the tract described as 35.376 acres in a Special Warranty Deed to The Steel Network, Inc., a Delaware corporation (hereinafter referred to as Steel Network tract), recorded under Instrument Number 2021054753 of said Official Public Records, being in the approximate centerline of a creek, from which a 1/2-inch capped rebar stamped "DIAMOND SURVEYING" found in the west right-of-way line of U.S. Highway No. 79, at the northeast corner of said Steel Network tract bears NORTH 64° 36' 58" EAST, a distance of 662.61 feet;

1. SOUTH 15° 19' 12" EAST, a distance of 48.04 feet;
2. SOUTH 50° 33' 44" WEST, a distance of 95.58 feet;
3. SOUTH 59° 30' 17" WEST, a distance of 119.37 feet;
4. SOUTH 02° 38' 48" EAST, a distance of 185.99 feet;
5. SOUTH 11° 07' 42" WEST, a distance of 39.83 feet;
6. SOUTH 30° 51' 36" WEST, a distance of 32.88 feet;
7. SOUTH 54° 04' 40" WEST, a distance of 90.94 feet;
8. SOUTH 71° 06' 45" WEST, a distance of 98.75 feet;
9. SOUTH 08° 59' 04" WEST, a distance of 387.52 feet;
10. SOUTH 82° 43' 53" WEST, a distance of 39.13 feet;
11. SOUTH 14° 29' 58" WEST, a distance of 79.62 feet;
12. SOUTH 24° 42' 11" WEST, a distance of 151.00 feet;
13. SOUTH 08° 42' 46" EAST, a distance of 51.62 feet;
14. NORTH 80° 08' 50" EAST, a distance of 49.06 feet;
15. SOUTH 14° 25' 33" EAST, a distance of 73.72 feet;
16. SOUTH 50° 10' 01" WEST, a distance of 64.28 feet;
17. SOUTH 33° 01' 42" WEST, a distance of 134.80 feet;
18. SOUTH 25° 38' 28" WEST, a distance of 147.04 feet;
19. SOUTH 45° 27' 01" WEST, a distance of 96.52 feet;
20. SOUTH 54° 09' 50" WEST, a distance of 163.59 feet;
21. SOUTH 20° 38' 49" WEST, a distance of 171.54 feet;
22. SOUTH 88° 07' 35" WEST, a distance of 124.80 feet;
23. SOUTH 60° 26' 48" WEST, a distance of 20.52 feet;
24. SOUTH 03° 45' 56" EAST, a distance of 32.67 feet;

25. SOUTH 26° 40' 47" WEST, a distance of 115.83 feet;
26. SOUTH 38° 05' 02" WEST, a distance of 67.56 feet;
27. SOUTH 11° 00' 16" WEST, a distance of 79.21 feet;
28. SOUTH 30° 07' 26" WEST, a distance of 37.02 feet;
29. SOUTH 49° 30' 05" WEST, a distance of 52.06 feet;
30. SOUTH 25° 12' 05" WEST, a distance of 74.55 feet;
31. SOUTH 10° 24' 00" EAST, a distance of 58.11 feet to a 1/2-inch capped rebar stamped "DIAMOND SURVEYING" found in the common line of said Taylor Economic tract and the north right-of-way line of said F.M. Highway No. 112, at the southwest corner of said Steel Network tract, from which a Texas Department of Transportation tapered concrete monument (Type I) found at the intersection of the north right-of-way line of said Farm to Market Highway No. 112 and the east right-of-way line of State Highway No. 79 bears SOUTH 66° 12' 48" EAST, a distance of 103.71 feet;

1. NORTH 66° 12' 48" WEST, a distance of 197.13 feet to a 1/2-inch capped rebar stamped "DIAMOND SURVEYING" found;
2. NORTH 82° 43' 10" WEST, a distance of 104.45 feet to a 1/2-inch capped rebar stamped "DIAMOND SURVEYING" found at the beginning of a curve to the left (concave southwest), having a radius of 756.20 feet, and a chord which bears NORTH 76° 22' 53" WEST, a distance of 272.42 feet;
3. Along said curve to the left, an arc length of 273.92 feet to a Texas Department of Transportation tapered concrete monument (Type I) found;
4. NORTH 86° 45' 31" WEST, a distance of 155.00 feet to the POINT OF BEGINNING and containing 52.42 acres of land.

_____, authorized officer of Taylor Economic Development Corporation, a 4A economic development corporation, sole owner of the certain 52.42 acre tract of land shown hereon and out of a portion of the tract described in a warranty deed recorded in Document No. 2008084718 of the Official Public Records of Williamson County, Texas, and do hereby state that there are no lien holders of the certain tract of land and do hereby subdivide said tract as shown hereon, and do hereby consent to all plat note requirements shown hereon, and do hereby forever dedicate to the City of Taylor the streets, alleys, rights-of-way, easements and public places shown hereon for such public purposes as the City of Taylor may deem appropriate. This subdivision is to be known as TAYLOR EDC ADDITION.

**Taylor Economic Development Corporation,
a 4A economic development corporation
112 W. 2nd Street, Ste. 203
Taylor, Texas 76574**

Before me, the undersigned authority, a Notary Public in and for said County and State on this day personally appeared _____, President of Taylor Economic Development Corporation, a 4A economic development corporation, known to me to be the person whose name is subscribed to the above and foregoing instrument, and acknowledged to me that he executed the same for the purpose and considerations therein expressed.

My commission expires on: _____

BY: _____
Deputy

LANGAN

Langan Engineering and
Environmental Services, LLC
9606 N. Mopac Expressway, Suite 110
Austin, TX 78759

T: 737.289.7800 F: 737.289.7801 www.langan.com
TBPELS Firm No. 10194888

Project No.

531031101

Date _____

2024/04/30

Drawn By

R. GONZALES

Checked By

C. HENDERSON

City of Taylor
PZ-2024-2215
RCR-Logistics Park Amending Plat of Phase Two, Block Two, Lots 1, 2, and 3A
Staff Report

Item Details

Agenda No.	4
Requested Action:	Consider Disapproval of RCR-Logistics Park Amending Plat of Phase Two, Block Two, Lots 1, 2, and 3A
Address/Location:	Generally located at 201 FM 3349
Legal Description:	RCR-Taylor Logistics Park Phase Two Minor Plat, Block Two, Lots 1-2 and RCR-Taylor Logistics Park Phase Two Replat, Block Two, Lot 3A, more particularly described by the Williamson Central Appraisal District Parcels R637527, R648674, R648675, Taylor, Williamson County, Texas
Current Zoning:	EC – Employment Center with Planned Development Overlay
Current Use:	Vacant Acreage
Applicant:	Richard Heiges, RITD
Case History:	This is the first submission of the Amending Plat.
Staff Recommendation:	The submitted Amending Plat does not meet the minimum requirements of the Land Development Code and Engineering Manual. Therefore, staff recommends Disapproval of the proposed Amending Plat.

Attachments

1. Staff Comments
2. Location Map
3. Proposed Plat



City of Taylor

400 Porter Street
Taylor, TX 76574
(512) 352-3675
www.ci.taylor.tx.us

Richard Heiges
RITD
35505 Cooper Rd.
Brookshire TX 77423
rheiges@ritd-llc.com

Date: Friday, July 26, 2024

Address: 201 FM 3349, Taylor 76574

Permit Number PZ-2024-2215

Dear Richard Heiges,

Staff has completed its review of replat that is to be located at 201 FM 3349, Taylor 76574. There are some corrections that need to be made prior to recordation of the plat. Comments from this review follow.

Planning Department Comments

The following comments have been provided by Shai Roos. Should you have any questions or require additional information regarding any of these comments, please contact Shai Roos at (972) 960-4077 or by email at shai.roos@hdrinc.com.

- 1) Check acreage shown for Lot 3AA.
- 2) Show all easements mentioned in Engineering Comments.

Engineering Department Review

The following comments have been provided by Javier Vasquez. Should you have any questions or require additional information regarding any of these comments, please contact Javier Vasquez at (713) 576-3691 or by email at javier.vasquez@hdrinc.com.

*See Associated Documents section of the permit page to download a copy of the plat PDF containing the below engineering comments:

Replat - Engineering Review 01

Sheet 1 of 3

1. Move Legend for clarity of plat drawing.
2. Verify and notate locations of necessary drainage easements on Lot 3AA and Lot 2A that drain towards Detention Reserve 2A shown on sheet 2.
3. Provide plat perimeter in a bolder line weight to distinguish from boundaries outside the plat
4. Recommend adding dimensioning of the easements shown or use of an inset as used on previous replats

Sheet 2 of 3

1. Verify and show existing landscape buffer easement along RCR Parkway, Lot 1A
2. Verify and notate locations of necessary drainage easements on Lot 2A and Lot 1A that drain towards Detention Reserve 2A shown.

Sheet 3 of 3

1. Engineer's Certification - Certificate shown is missing information. Provide full certification language
2. Verify and remove Owner's Certificate for Lot PDC TP 01 Lot C
3. Verify and clarify plat note 14 to indicate that sidewalk is not required along FM 3340. Sidewalk is required along RCR Parkway
4. Verify and clarify plat note 15 to make applicable to this replat and not the preliminary plat.
5. Verify plat note 19 to be removed if permanent drainage easements will be shown on the plat
6. Verify and include the Williamson County OSSF plat certificate as portions of these lots are being serviced by septic until final
7. Development Services Director Certification - Update name
8. Verify and update – Metes and Bounds - Plat drawing shows course as S72°37'23"W
9. Verify and update – Metes and Bounds - Plat drawing shows course as S7°41'35"W
10. Verify requirement for planning and zoning commission approval block. Remove if not needed.

Fire Department Comments (PZ)

The following comments have been provided by Bobby Copeland. Should you have any questions or require additional information regarding any of these comments, please contact Bobby Copeland at (512) 352-6992 or by email at robert.copeland@taylor.tx.gov.

Reviewed with no comments.

Please revise the plat to address the comments noted above. Following revision, submit the plat electronically with a resolution letter in PDF format.

Should you have questions regarding specific comments, please contact the staff member referenced under the section in which the comment occurs. Should you have questions or require additional information regarding the plan review process itself, please feel free to contact me directly. I can be reached by telephone at (972) 960-4077, or by e-mail at shai.roos@hdrinc.com.

Thank you,

Shailaja Roos

Shai Roos

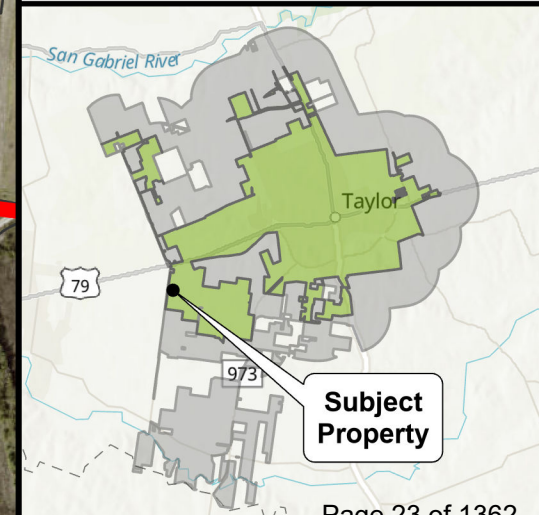
Attachment



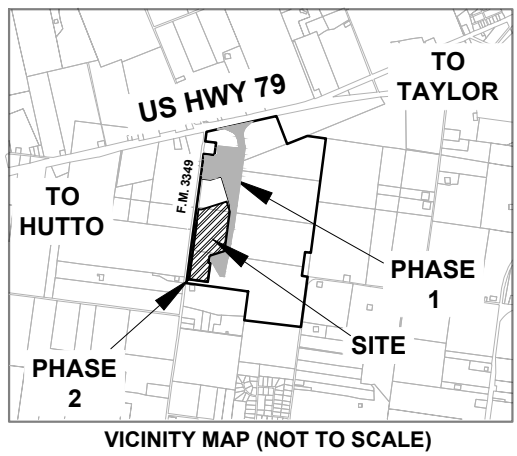
PZ-2024-2215

RCR Phase 2 Block 2
Lots 1, 2, & 3
Replat
Location Map
Approximately 77 acres

- City Limits
- ETJ Boundary
- Subject Property
- Parcels
- Railroad



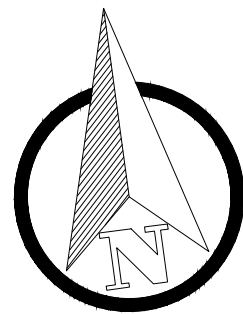
Subject Property



RCR-TAYLOR LOGISTICS PARK

REPLAT OF PHASE 2, BLOCK 2, LOTS 1, 2 AND 3A

BEING A REPLAT OF RCR-TAYLOR LOGISTICS PARK PHASE 2 MINOR PLAT, CONSISTING OF BLOCK 2, LOT 1 (CALLED 21.710 ACRES), LOT 2 (CALLED 30.943 ACRES), LYING IN PART OF AND OUT OF THE WATKINS NOBLES SURVEY, ABSTRACT NO. 484, AS RECORDED IN INSTRUMENT NO. 2022113235 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, AND ALSO BEING A REPLAT OF RCR-TAYLOR LOGISTICS PARK REPLAT OF PHASE 2, BLOCK 2, LOT 3, CONSISTING OF BLOCK 2, LOT 3A (CALLED 20.120 ACRES), LYING IN PART OF AND OUT OF SAID WATKINS NOBLES SURVEY, AS RECORDED IN INSTRUMENT NO. 2023055776 OF THE OFFICIAL PUBLIC RECORDS OF TAYLOR, WILLIAMSON COUNTY, TEXAS.



- LEGEND**
- FOUND 5/8" IRON ROD w/ CAP "RPLS 6452" 4933 = CORNER MONUMENT AS SHOWN
 - SET 5/8" IRON ROD w/ CAP "RPLS 6452" ALSO HAS A CAP MARKED "ROW 4933"
 - FOUND 5/8" IRON ROD BENT = CORNER MONUMENT AS SHOWN
 - FOUND 1/2" IRON ROD ALSO IS BENT
 - 6452 = CORNER MONUMENT AS SHOWN
 - ALSO HAS A CAP MARKED "RPLS 6452"
 - FENCE POST FOR CORNER
 - ORIGINAL ABSTRACT CORNER
 - D.R.W.C.TX. = DEED RECORDS OF WILLIAMSON COUNTY, TEXAS
 - O.P.R.W.C.TX. = OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS
 - P/O = PART OF RES. = RESIDUE BM=BENCHMARK
 - PHASE LINE
 - APPROX. ABSTRACT LINE
 - LANDSCAPE BUFFER (SEE NOTE 17)

POSSESSION AND USE AGREEMENT
BETWEEN RCR TAYLOR LAND, L.P. &
WILLIAMSON COUNTY, TEXAS
CALLED 12.327 ACRES
DOC. NO. 2021124409
O.P.R.W.C.TX.

BLOCK 2, LOT 3B
CALLED 26.292 ACRES
RCR-TAYLOR
LOGISTICS PARK
REPLAT OF PHASE 2,
BLOCK 2, LOT 3
DOC. NO. 2023055776
(OPRWCT)

OWNER: RCR-TAYLOR RAIL LP

RCR TAYLOR
LOGISTICS PARK
AMENDING PLAT 3
PHASE 1 LOT 1A3
CALLED 102.19 ACRES
DOC. NO. 2023095246
(OPRWCT)

OWNER: RCR TAYLOR RAIL LP

J.J. STUBBLEFIELD SURVEY
ABSTRACT NO. 562

F.M. 3349
(RIGHT-OF-WAY VARIES)

PLACE OF BEGINNING
FOUND 5/8" IRON ROD WITH ID. CAP
(RITD, LLC - RPLS 6452)

25' FHR AMENDED
EASEMENT
DOC. NO. 2022059104

LOT 3AA
36.442 ACRES

100' ACCESS EASEMENT
DOC. NO. 2022113235

10' PUBLIC UTILITY EASEMENT
DOC. NO. 2022113235

N82°01'06"W 861.54'
S82°01'06"E 861.54'

15' UTILITY EASEMENT
DOC. NO. 2022113235

LOT 2A
12.827 ACRES

MATCHLINE SHEET 2

RCR TAYLOR RAIL, L.P.
20' UTILITY EASEMENT
DOC. NO. 2023078724

LOGISTICS LOOP WEST
(100' RIGHT-OF-WAY)

RCR-TAYLOR
LOGISTICS PARK
PHASE 2, BLOCK 4
DOC. NO. 2023055776
(OPRWCT)

DATE 07/05/2024

DRAWN RGH

CHECK RH

APPRV'D RH

SURVEYOR: R.I.T.D.
ENGINEER: R.I.T.D.

PARTNERS DEVELOPMENT COMPANY, LLC.
1360 Post Oak Blvd., Ste. 1900
Houston, Tx 77056

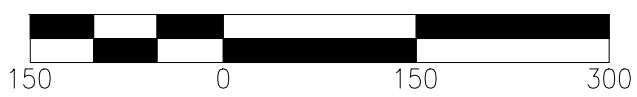
REV. DATE BY DESCRIPTION

SHT 1
OF 3



35505 COOPER ROAD
BROOKSHIRE, TEXAS 77423
(281) 392-4850 WWW.RITD-LLC.COM FIRM 10194405

308 WEST 10TH STREET
LAMPASAS, TEXAS 76550

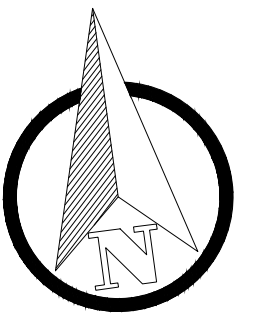


LOCATION AND DESCRIPTION:

RCR - TAYLOR LOGISTICS PARK
781 FM 3349, Taylor, TX 76574

REPLAT OF
PHASE 2, BLOCK 2,
LOTS 1, 2 AND 3A

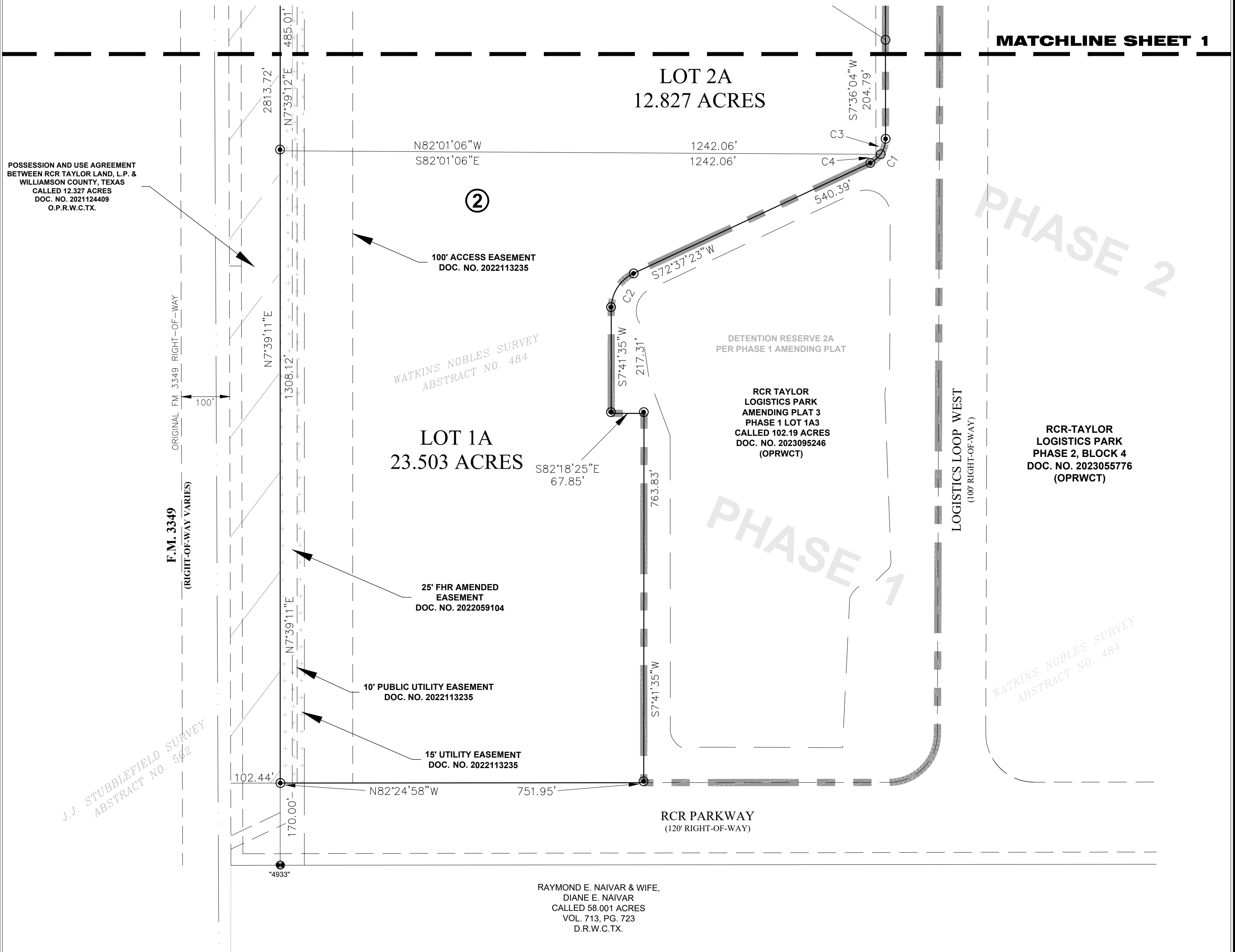
PROJ #: 678



<u>LEGEND</u>		
	FOUND 5/8" IRON ROD w/ CAP "RPLS 6452"	4933 = CORNER MONUMENT AS SHOWN
	SET 5/8" IRON ROD w/ CAP "RPLS 6452"	ALSO HAS A CAP MARKED "ROW 4933"
	FOUND 5/8" IRON ROD	BENT = CORNER MONUMENT AS SHOWN
	FOUND 1/2" IRON ROD	ALSO IS BENT
	FENCE POST FOR CORNER	6452 = CORNER MONUMENT AS SHOWN
	ORIGINAL ABSTRACT CORNER	ALSO HAS A CAP MARKED "RPLS 6452"
	PHASE LINE	
	APPROX. ABSTRACT LINE	
	PROPOSED LANDSCAPE BUFFER (SEE NOTE 18)	
		D.R.W.C.TX. = DEED RECORDS OF WILLIAMSON COUNTY, TEXAS
		O.P.R.W.C.TX. = OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS
		P/O = PART OF RES. = RESIDUE BM=BENCHMARK

NUM	BEARING	DISTANCE
L1	S82°20'39"E	113.86'
L2	S07°36'04"W	244.73'

NUM	DELTA	ARC	RADIUS	BEARING	DISTANCE
C1	65°01'18"	62.42'	55.00'	S40°06'43"W	59.12'
C2	64°56'10"	90.67'	80.00'	S40°09'35"W	85.89'
C3	35°37'58"	34.21'	55.00'	S25°25'03"E	33.66'
C4	29°23'20"	28.21'	55.00'	S57°55'42"W	27.90'



DATE	<u>07/05/2024</u>	DRAWN	<u>RGH</u>
CHECK	<u>RH</u>	APPRV'D	<u>RH</u>

SURVEYOR: R.I.T.D.
ENGINEER: R.I.T.D.

PARTNERS DEVELOPMENT COMPANY, LLC.
1360 Post Oak Blvd., Ste. 1900
Houston, Tx 77056

REV.	DATE	BY	DESCRIPTION

**SHT 2
OF 3**



A number line from -150 to 300 with a bar graph showing the number of students for each grade. The x-axis is labeled with 150, 0, 150, and 300. The y-axis represents the number of students, with a maximum of 150. The bars are black and white.

LOCATION AND DESCRIPTION:

RCR - TAYLOR LOGISTICS PARK
781 FM 3349, Taylor, TX 76574

**REPLAT OF
PHASE 2, BLOCK 2,
LOTS 1, 2 AND 3A**

35505 COOPER ROAD **308 WEST 10TH STREET**
BROOKSHIRE, TEXAS 77423 **LAMPASAS, TEXAS 76550**

(281) 392-4850 **WWW.RITD-LLC.COM** **FIRM 10194405**

PROJ #:	678
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RCR-TAYLOR LOGISTICS PARK
REPLAT OF PHASE 2, BLOCK 2, LOTS 1, 2 AND 3A

BEING A REPLAT OF RCR-TAYLOR LOGISTICS PARK PHASE 2 MINOR PLAT, CONSISTING OF BLOCK 2, LOT 1 (CALLED 21.710 ACRES), LOT 2 (CALLED 30.943 ACRES), LYING IN PART OF AND OUT OF THE WATKINS NOBLES SURVEY, ABSTRACT NO. 484, AS RECORDED IN INSTRUMENT NO. 2022113235 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, AND ALSO BEING A REPLAT OF RCR-TAYLOR LOGISTICS PARK REPLAT OF PHASE 2, BLOCK 2, LOT 3, CONSISTING OF BLOCK 2, LOT 3A (CALLED 20.120 ACRES), LYING IN PART OF AND OUT OF SAID WATKINS NOBLES SURVEY, AS RECORDED IN INSTRUMENT NO. 2023055776 OF THE OFFICIAL PUBLIC RECORDS OF TAYLOR, WILLIAMSON COUNTY, TEXAS.

OWNER'S CERTIFICATION

STATE OF TEXAS {
KNOW ALL MEN BY THESE PRESENTS
COUNTY OF _____ {

WE, PDC TP 01 LOT A, LLC., ACTING THROUGH _____, MANAGER, OWNER OF 21.710 ACRES OF LAND SHOWN HEREON AND BEING DESCRIBED IN DEED RECORDED IN DOCUMENT NUMBER 2022141602 OF THE OFFICIAL RECORDS OF WILLIAMSON COUNTY, TEXAS OF THE OFFICIAL RECORDS OF WILLIAMSON COUNTY, TEXAS, AND DO HEREBY STATE THAT THERE ARE NO LIEN HOLDERS OF THE CERTAIN TRACT OF LAND, AND DO HEREBY SUBDIVIDE SAID TRACT AS SHOWN HEREON, AND DO HEREBY CONSENT TO ALL PLAT NOTE REQUIREMENTS SHOWN HEREON, AND DO HEREBY DEDICATE TO THE CITY OF TAYLOR THE STREETS, ALLEYS, RIGHTS-OF-WAY, EASEMENTS AND PUBLIC PLACES SHOWN HEREON FOR SUCH PUBLIC PURPOSES AS THE CITY OF TAYLOR MAY DEEM APPROPRIATE. THIS SUBDIVISION IS TO BE KNOWN AS RCR-TAYLOR LOGISTICS PARK, REPLAT OF PHASE 2, BLOCK 2, LOT 1, LOT 2 AND LOT 3A.

TO CERTIFY WHICH, WITNESS BY MY HAND THIS _____ DAY OF _____, 2024.

_____, MANAGER, PDC TP 01 LOT A, LLC.

NOTARY'S CERTIFICATION

STATE OF TEXAS {
KNOW ALL MEN BY THESE PRESENTS
COUNTY OF _____ {

BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, ON THIS DAY PERSONALLY APPEARED _____, KNOWN TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS _____ DAY OF _____, 2024.

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS _____

MY COMMISSION EXPIRES ON:

OWNER'S CERTIFICATION

STATE OF TEXAS {
KNOW ALL MEN BY THESE PRESENTS
COUNTY OF _____ {

WE, PDC TP 01 LOT B, LLC., ACTING THROUGH _____, MANAGER, OWNER OF 30.943 ACRES OF LAND SHOWN HEREON AND BEING DESCRIBED IN DEED RECORDED IN DOCUMENT NUMBER 2022076405 OF THE OFFICIAL RECORDS OF WILLIAMSON COUNTY, TEXAS OF THE OFFICIAL RECORDS OF WILLIAMSON COUNTY, TEXAS, AND DO HEREBY STATE THAT THERE ARE NO LIEN HOLDERS OF THE CERTAIN TRACT OF LAND, AND DO HEREBY SUBDIVIDE SAID TRACT AS SHOWN HEREON, AND DO HEREBY CONSENT TO ALL PLAT NOTE REQUIREMENTS SHOWN HEREON, AND DO HEREBY DEDICATE TO THE CITY OF TAYLOR THE STREETS, ALLEYS, RIGHTS-OF-WAY, EASEMENTS AND PUBLIC PLACES SHOWN HEREON FOR SUCH PUBLIC PURPOSES AS THE CITY OF TAYLOR MAY DEEM APPROPRIATE. THIS SUBDIVISION IS TO BE KNOWN AS RCR-TAYLOR LOGISTICS PARK, REPLAT OF PHASE 2, BLOCK 2, LOT 1, LOT 2 AND LOT 3A.

TO CERTIFY WHICH, WITNESS BY MY HAND THIS _____ DAY OF _____, 2024.

_____, MANAGER, PDC TP 01 LOT B, LLC.

NOTARY'S CERTIFICATION

STATE OF TEXAS {
KNOW ALL MEN BY THESE PRESENTS
COUNTY OF _____ {

BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, ON THIS DAY PERSONALLY APPEARED _____, KNOWN TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS _____ DAY OF _____, 2024.

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS _____

MY COMMISSION EXPIRES ON:

OWNER'S CERTIFICATION

STATE OF TEXAS {
KNOW ALL MEN BY THESE PRESENTS
COUNTY OF _____ {

WE, PDC TP 01 LOT C, LLC., ACTING THROUGH _____, MANAGER, OWNER OF 20.120 ACRES OF LAND SHOWN HEREON AND BEING DESCRIBED IN DEED RECORDED IN DOCUMENT NUMBER 2024037327 OF THE OFFICIAL RECORDS OF WILLIAMSON COUNTY, TEXAS OF THE OFFICIAL RECORDS OF WILLIAMSON COUNTY, TEXAS, AND DO HEREBY STATE THAT THERE ARE NO LIEN HOLDERS OF THE CERTAIN TRACT OF LAND, AND DO HEREBY SUBDIVIDE SAID TRACT AS SHOWN HEREON, AND DO HEREBY CONSENT TO ALL PLAT NOTE REQUIREMENTS SHOWN HEREON, AND DO HEREBY DEDICATE TO THE CITY OF TAYLOR THE STREETS, ALLEYS, RIGHTS-OF-WAY, EASEMENTS AND PUBLIC PLACES SHOWN HEREON FOR SUCH PUBLIC PURPOSES AS THE CITY OF TAYLOR MAY DEEM APPROPRIATE. THIS SUBDIVISION IS TO BE KNOWN AS RCR-TAYLOR LOGISTICS PARK, REPLAT OF PHASE 2, BLOCK 2, LOT 1, LOT 2 AND LOT 3A.

TO CERTIFY WHICH, WITNESS BY MY HAND THIS _____ DAY OF _____, 2024.

_____, MANAGER, PDC TP 01 LOT C, LLC.

NOTARY'S CERTIFICATION

STATE OF TEXAS {
KNOW ALL MEN BY THESE PRESENTS
COUNTY OF _____ {

BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, ON THIS DAY PERSONALLY APPEARED _____, KNOWN TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS _____ DAY OF _____, 2024.

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS _____

MY COMMISSION EXPIRES ON:

LEGAL DESCRIPTION

BEGINNING AT A 5/8 INCH IRON ROD FOUND WITH ID. CAP (RITD, LLC - RPLS 6452) FOR THE SOUTHWEST CORNER OF THE OF RCR TAYLOR LOGISTICS PARK REPLAT OF PHASE 2, BLOCK 2 LOT 3 (CALLED 26.292 ACRES) AS RECORDED IN INSTRUMENT NO. 2023055776 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS FOR THE NORTHWEST CORNER HEREOF, COMMON WITH THE NORTHWEST CORNER OF SAID RCR TAYLOR LOGISTICS PARK REPLAT OF PHASE 2, BLOCK 2, LOT 3A (CALLED 20.120 ACRES), ALSO BEING ON AN EAST LINE OF THE POSSESSION AND USE AGREEMENT BETWEEN RCR TAYLOR LAND, L.P. & WILLIAMSON COUNTY, TEXAS TRACT CALLED 12.327 ACRES AS RECORDED IN INSTRUMENT NO. 2021124409 OF SAID OFFICIAL PUBLIC RECORDS;

THENCE ALONG SOUTH AND WEST LINES OF SAID PHASE 2, BLOCK 2, LOT 3B, FOR NORTH AND EAST LINES HEREOF, BEING ALONG THE NORTH AND EAST LINES OF SAID LOT 3A, THE FOLLOWING CALLS: S 82°20'39" E 113.86 FEET TO A 5/8 INCH IRON ROD FOUND WITH ID. CAP (RITD, LLC - RPLS 6452) FOR AN ANGLE POINT HEREOF AND OF SAID LOT 3B, N 72°58'00" E 1060.05 FEET TO A 5/8 INCH IRON ROD FOUND WITH ID. CAP (RITD, LLC - RPLS 6452) FOR AN INTERIOR CORNER OF PHASE 2, LOT 3B COMMON WITH THE NORTHEAST CORNER HEREOF, S 17°02'00" E 416.32 FEET TO A 5/8 INCH IRON ROD FOUND WITH ID. CAP (RITD, LLC - RPLS 6452) FOR AN ANGLE POINT HEREOF AND BEING IN THE WEST LINE OF RCR TAYLOR LOGISTICS PARK AMENDING PLAT 3 PHASE 1, LOT 1A3 (CALLED 102.19 ACRES) RECORDED IN DOCUMENT NO. 2023095246 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, S 07°36'04" W 1545.14 FEET TO A 5/8 INCH IRON ROD FOUND WITH ID. CAP (RITD, LLC - RPLS 6452) FOR A TANGENT POINT HEREOF AND OF PHASE 1 LOT 1A3, BEING AT THE BEGINNING OF A CURVE TO THE RIGHT;

THENCE ALONG AN EAST LINE HEREOF, COMMON WITH A WEST LINE OF PHASE1, LOT 1A3, BEING ALONG SAID CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 65°01'18", HAVING A RADIUS OF 55.00 FEET, A CHORD OF S 40°06'43" W 59.12 FEET, FOR AN ARC DISTANCE OF 62.42 FEET TO A 5/8 INCH IRON ROD FOUND FOR A TANGENT POINT HEREOF, OF SAID 84.000 ACRES, AND OF SAID PHASE 1 LOT 1A, AT THE END OF SAID CURVE TO THE RIGHT;

THENCE ALONG A SOUTH LINE HEREOF AND THE NORTH LINE OF LOT 1A3, S 72°37'22" W 540.39 FEET TO A 5/8 INCH IRON ROD FOUND FOR AN INTERIOR CORNER HEREOF AND OF SAID PHASE 1, LOT 1A3, AT THE BEGINNING OF A CURVE TO THE LEFT;

THENCE ALONG AN EAST LINE HEREOF AND A NORTH LINE PHASE 1 LOT 1A3, BEING ALONG SAID CURVE TO THE LEFT, THROUGH A CENTRAL ANGLE OF 64°56'10", HAVING A RADIUS OF 80.00 FEET, A CHORD OF S 40°09'35" W 85.89 FEET, FOR AN ARC DISTANCE OF 90.67 FEET TO A 5/8 INCH IRON ROD SET WITH ID. CAP (RITD, LLC - RPLS 6452) HEREOF, COMMON WITH A WEST LINE OF SAID PHASE 1, LOT 1A3, AND AT THE END OF SAID CURVE TO THE LEFT;

THENCE WITH EAST, AND NORTH LINES HEREOF, BEING WEST, AND SOUTH LINE OF Lot 1A3 THE FOLLOWING CALLS: S 07°41'37" E 217.31 FEET TO A 5/8 INCH IRON ROD SET WITH ID. CAP (RITD, LLC - RPLS 6452) FOR AN INTERIOR CORNER HEREOF, S 82°18'25" E 67.85 FEET TO A 5/8 INCH IRON ROD SET WITH ID. CAP (RITD, LLC - RPLS 6452) FOR A NORTHEAST CORNER HEREOF, AND S 07°41'35" W 763.83 FEET TO A 5/8 INCH IRON ROD SET WITH ID. CAP (RITD, LLC - RPLS 6452) FOR THE SOUTHEAST CORNER HEREOF, BEING THE SOUTHWEST CORNER OF LOT 1A3, ALSO BEING THE NORTH RIGHT-OF-WAY LINE OF RCR PARKWAY (120' RIGHT-OF-WAY);

THENCE WITH THE SOUTH LINE HEREOF, AND THE NORTH LINE OF SAID RCR PARKWAY N 82°24'58" W 751.95 FEET TO A 5/8 INCH IRON ROD SET WITH ID. CAP (RITD, LLC - RPLS 6452) FOR THE SOUTHWEST CORNER HEREOF COMMON WITH AN EAST LINE OF SAID POSSESSION AND USE AGREEMENT TRACT CALLED 12.327 ACRES;

THENCE ALONG THE WEST LINE HEREOF, BEING ALONG A PORTION OF AN EAST LINE OF SAID 12.327 ACRES POSSESSION AND USE AGREEMENT TRACT, BEING ALONG A PORTION OF A WEST LINE OF SAID 84.000 ACRES, IN PART, N 07°39'11" E 2813.72 FEET TO THE PLACE OF BEGINNING AND CONTAINING 72.772 ACRES OF LAND.

NOTES:

- THE BEARINGS SHOWN HEREON ARE RELATIVE TO THE TEXAS STATE PLANE GRID SYSTEM, NAD-83 (2011), CENTRAL ZONE 4203, DISTANCES SHOWN ARE GROUND DISTANCES. SCALE FACTOR IS 0.9998800. DISTANCES AND COORDINATES SHOWN HEREON ARE U.S. SURVEY FEET.
- SUBJECT TO EASEMENTS, CONDITIONS, COVENANTS AND RESTRICTIONS AS STATED OR SHOWN HEREON, AS REQUIRED BY THE CITY OF TAYLOR, TEXAS, AND ANY OF RECORD WHICH MAY BE APPLICABLE.
- A CURRENT TITLE COMMITMENT OR REPORT WAS NOT AVAILABLE OR PROVIDED TO THE UNDERSIGNED SURVEYOR AS OF THE DATE OF THIS SURVEY AND THE UNDERSIGNED SURVEYOR DID NOT ABSTRACT THE SUBJECT PROPERTY.
- A 10-FOOT PUBLIC UTILITY EASEMENT (P.U.E.) SHALL BE DEDICATED ALONG ALL STREET FRONTAGES, UNLESS OTHERWISE NOTED HEREON.
- UTILITY PROVIDERS - WATER: CITY OF TAYLOR, TEXAS; WASTEWATER/SEPTIC: CITY OF TAYLOR, TEXAS; ELECTRICITY: ONCOR ELECTRIC.
- NO PART OF THE SUBJECT PROPERTY LIES WITHIN THE SPECIAL FLOOD HAZARD AREA ACCORDING TO THE FLOOD INSURANCE RATE MAP (FIRM) AS COMPILED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, NATIONAL FLOOD INSURANCE PROGRAM, MAP NUMBER 48491C0540F EFFECTIVE DATE DECEMBER 20, 2019, WILLIAMSON COUNTY, TEXAS.
- NO STRUCTURES AND/OR OBSTRUCTIONS ARE PERMITTED IN DRAINAGE EASEMENTS WITHOUT PRIOR REVIEW AND APPROVAL BY THE CITY OF TAYLOR, TEXAS DEVELOPMENT SERVICES DEPARTMENT.
- ALL MINIMUM YARD (BUILDING) SETBACKS SHALL BE IN ACCORDANCE WITH THE COMMERCIAL PLANNED DEVELOPMENT FOR RCR-TAYLOR LOGISTICS PARK.
- THE CITY OF TAYLOR PUBLIC WORKS SHALL BE ALLOWED TO ACCESS EASEMENTS ADJACENT TO THE 10-FT PUE SHOWN IN ORDER TO MAINTAIN PUBLIC UTILITIES.
- MINIMUM FIRE FLOW OF 750 GALLONS PER MINUTES FOR NOT LESS THAN TWO (2) HOURS SHALL BE PROVIDED. THE PLATTED PROPERTY HAS ADJACENT ACCESS TO THE CITY OF TAYLOR WATER SYSTEM; TYPICAL FIRE SUPPRESSION SYSTEMS AND FIRE PROTECTION WATER SUPPLY WILL COMPLY WITH CITY OF TAYLOR, TEXAS CODE REQUIREMENTS AND WILL BE DESIGNED ACCORDINGLY.
- THIS SUBDIVISION IS SUBJECT TO CITY OF TAYLOR, TEXAS ORDINANCE 2022-25 (COMMERCIAL PLANNED DEVELOPMENT DISTRICT).
- STRUCTURES AND BUILDINGS CONSTRUCTED NEXT TO THE FLOODPLAIN MUST BE A MINIMUM OF TWO (2) FEET ABOVE THE 100-YEAR FLOODPLAIN BASE FLOOD ELEVATION (BFE).
- ALL DRAINAGE AND DETENTION FACILITIES SHOWN HEREIN ARE PRIVATE FACILITIES. THE LAND OWNER/DEVELOPER SHALL BE REQUIRED TO MEET THE STANDARDS SPECIFIED IN THE OPERATIONS & MAINTENANCE PLAN FOR DETENTION FACILITIES FILED UNDER CITY OF TAYLOR PERMIT FZ-2019-1182. THE CITY OF TAYLOR, TEXAS SHALL NOT BE RESPONSIBLE FOR MAINTENANCE ACTIVITIES FOR DRAINAGE AND DETENTION FACILITIES SHOWN HEREIN.
- SIDEWALKS SHALL NOT BE REQUIRED FOR PROPERTIES WITHIN RCR TAYLOR LOGISTICS PARK THAT HAVE PUBLIC ROAD ACCESS ALONG FM 3349.
- AN INDIVIDUAL SEWER TAP AND WATER TAP SHALL BE INSTALLED FOR EACH LOT.
- ON-SITE SEWAGE FACILITIES (OSSF), PERMITTED THROUGH WILLIAMSON COUNTY, MAY BE TEMPORARILY UTILIZED FOR WASTEWATER SERVICE AND TREATMENT FOR DEVELOPMENT WITHIN THE BOUNDARY OF THIS PRELIMINARY PLAT UNTIL PERMANENT WASTEWATER SERVICES FROM THE CITY OF TAYLOR'S SANITARY SEWER SYSTEM ARE AVAILABLE TO THE PROPERTY, AT WHICH TIME ALL LOTS AND DEVELOPMENT WITHIN THE BOUNDARY OF THIS PRELIMINARY PLAT SHALL BE CONNECTED TO THE CITY OF TAYLOR'S SANITARY SEWER SYSTEM. WITHIN SIXTY DAYS OF APPROVAL OF THIS PRELIMINARY PLAT, DEVELOPER AND CITY AGREE TO NEGOTIATE A MUTUALLY AGREED UPON FINANCIAL STRUCTURE FOR THE CONSTRUCTION OF PERMANENT SANITARY SEWER SERVICE TO THE PROPERTY. A REFERENCE TO THE AGREEMENT AND THE DEADLINE FOR PERMANENT WASTEWATER SERVICE CONNECTION SHALL BE REQUIRED ON ALL FUTURE FINAL PLATS OR REPLATS WITHIN THE BOUNDARY OF THIS PRELIMINARY PLAT.
- THERE IS A PROPOSED LANDSCAPE BUFFER 50 FEET WIDE AND ADJACENT TO THE PROPOSED FM3349 RIGHT-OF-WAY LINE / FUTURE RIGHT-OF-WAY RESERVE. THE LANDSCAPING PLAN SHALL MEET THE REQUIREMENTS STATED IN THE RCR TAYLOR LOGISTICS PARK COMMERCIAL PLANNED DEVELOPMENT CODES.
- NEXT TO THE 50-FOOT EASEMENT RUNNING ALONG F.M. 3349, THERE IS AN EXISTING 100-FOOT JOINT ACCESS EASEMENT AS ESTABLISHED BY THE RCR TAYLOR LOGISTICS PARK, PHASE 2 MINOR PLAT. WITHIN THE 100-FOOT JOINT ACCESS EASEMENT, A MINIMUM 35 FEET WIDE PAVEMENT MUST BE CONSTRUCTED. ADDITIONALLY, PERMANENT JOINT ACCESS EASEMENTS ARE HEREBY ESTABLISHED WHERE TxDOT DRIVEWAYS ARE APPROVED AND TEMPORARY CONSTRUCTION JOINT ACCESS EASEMENTS ARE HEREBY ESTABLISHED FOR TWO (2) YEARS OR UNTIL THE TIME CERTIFICATES OF OCCUPANCIES ARE OBTAINED FROM THE CITY OF TAYLOR FOR THE USE OF THE LAND OR BUILDINGS, WHICHEVER OCCURS FIRST. JOINT ACCESS EASEMENTS ARE TO PROVIDE ACCESS ACROSS ALL LOTS WITHIN THIS AND FUTURE PLATS ENCOMPASSING THESE PROPOSED LOTS. CROSS-ACCESS CANNOT BE OBSTRUCTED BY VEHICLES, FENCES, DUMPSTERS, CONSTRUCTION MATERIALS, OR ANY OTHER MEANS.
- A PRIVATE TEMPORARY BLANKET DRAINAGE EASEMENT SHALL BE INCLUDED OVER AND ACROSS ALL PORTIONS OF THIS PLAT THAT DRAIN INTO DETENTION RESERVE 2A UNTIL A PERMANENT DRAINAGE EASEMENT IS ESTABLISHED AS DEFINED BY SEPARATE EASEMENT OR AMENDING PLAT FOLLOWING CITY OF TAYLOR REVIEW AND APPROVAL OF SITE DEVELOPMENT PLANS FOR THE RESPECTIVE LOTS.
- THIS SUBDIVISION IS SUBJECT TO ALL GENERAL NOTES AND RESTRICTIONS APPEARING ON THE PLAT OF RCR TAYLOR LOGISTICS PARK, PHASE 2, RECORDED AS DOCUMENT #2022113235 OF THE PLAT RECORDS OF WILLIAMSON COUNTY, TEXAS.

ENGINEER'S CERTIFICATION

AREA, AS DENOTED HEREIN, AND AS DEFINED BY FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION FLOOD HAZARD BOUNDARY MAP, COMMUNITY PANEL NUMBER 48491C0540F, EFFECTIVE DATE DECEMBER 20, 2019, AND THAT EACH LOT CONFORMS TO THE CITY OF TAYLOR REGULATIONS. THE FULLY DEVELOPED, CONCENTRATED STORMWATER RUNOFF RESULTING FROM THE ONE HUNDRED (100) YEAR FREQUENCY STORM IS CONTAINED WITHIN THE DRAINAGE EASEMENT SHOWN AND/OR PUBLIC RIGHTS-OF-WAY DEDICATED BY THIS PLAT.

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL AT _____, COUNTY, TEXAS, THIS _____ DAY OF _____, 2024

FOR REVIEW

RICHARD W. HEIGES, P.E.
REGISTERED PROFESSIONAL
ENGINEER NO. 123135

PLANNING AND ZONING COMMISSION

THIS SUBDIVISION IS TO BE KNOWN AS RCR-TAYLOR LOGISTICS PARK, REPLAT OF PHASE 2, BLOCK 2, LOT 2 AND LOT 3A HAS BEEN ACCEPTED AND APPROVED FOR FILING OF RECORD WITH THE COUNTY CLERK OF WILLIAMSON COUNTY, TEXAS, ACCORDING TO THE MINUTES OF THE MEETING OF THE TAYLOR PLANNING AND ZONING COMMISSION ON THE _____ DAY OF _____, 20____ A.D.

_____, CHAIRMAN

_____, SECRETARY

_____, DATE

DEVELOPMENT SERVICES DIRECTOR'S CERTIFICATION

DEVELOPMENT SERVICES DIRECTOR

I, _____, DEVELOPMENT SERVICES DIRECTOR FOR THE CITY OF TAYLOR, TEXAS, DO HEREBY CERTIFY THIS PLAT IS APPROVED FOR FILING OF RECORD WITH THE COUNTY CLERK OF WILLIAMSON COUNTY, TEXAS

BY: _____, DEPUTY

TOM YANTIS, DIRECTOR

_____, DATE

SURVEYOR'S CERTIFICATION

THE STATE OF TEXAS

COUNTY OF WILLIAMSON

I, RICHARD W. HEIGES, REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6452 IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECTLY MADE FROM AN ACTUAL SURVEY MADE ON THE GROUND OF THE PROPERTY LEGALLY DESCRIBED HEREON, AND THAT THERE ARE NO APPARENT DISCREPANCIES, CONFLICTS, OVERLAPPING OF IMPROVEMENTS, VISIBLE UTILITY LINES OR ROADS IN PLACE, EXCEPT AS SHOWN ON THE ACCOMPANYING PLAT, AND THAT THE CORNER MONUMENTS SHOWN THEON WERE PROPERLY PLACED UNDER MY SUPERVISION IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS OF THE CITY OF TAYLOR, TEXAS.

DATED THIS THE _____ DAY OF _____, 2024, A.D.

FOR REVIEW

RICHARD W. HEIGES
REGISTERED PROFESSIONAL LAND
SURVEYOR NO. 6452, STATE OF TEXAS

COUNTY CLERK'S CERTIFICATION

STATE OF TEXAS {
KNOW ALL MEN BY THESE PRESENTS
COUNTY OF WILLIAMSON {

I, _____, CLERK OF THE COUNTY COURT OF SAID COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT IN WRITING, WITH ITS CERTIFICATE OF AUTHENTICATION WAS FILED FOR RECORD IN MY OFFICE ON THE _____ DAY OF _____, 20____, A.D., AT _____ O'CLOCK, ____M., AND DULY RECORDED THIS THE _____ DAY OF _____, 20____, A.D., AT _____ O'CLOCK, ____M., IN THE OFFICIAL PUBLIC RECORDS OF SAID COUNTY IN DOCUMENT NO. _____

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL AT THE COUNTY COURT OF SAID COUNTY, AT MY OFFICE IN GEORGETOWN, TEXAS, THE DATE LAST SHOWN ABOVE WRITTEN.

_____, CLERK COUNTY COURT
OF WILLIAMSON COUNTY, TEXAS

BY: _____, DEPUTY

DATE 07/05/2024
CHECK RH
DRAWN RGH
APPRV'D RH

SURVEYOR: R.I.T.D.
ENGINEER: R.I.T.D.

PARTNERS DEVELOPMENT COMPANY, LLC.
1360 Post Oak Blvd., Ste. 1900
Houston, Tx 77056

REV.	DATE	BY	DESCRIPTION

SHT 3
OF 3



35505 COOPER ROAD
BROOKSHIRE, TEXAS 77423
(281) 392-4850
308 WEST 10TH STREET
LAMPASAS, TEXAS 76550
WWW.RITD-LLC.COM
FIRM 10194405

150 0 150 300
SCALE: 1" = 150'

LOCATION AND DESCRIPTION:
RCR - TAYLOR LOGISTICS PARK
781 FM 3349, Taylor, TX 76574

REPLAT OF
PHASE 2, BLOCK 2,
LOTS 1, 2 AND 3A

PROJ #: 678

City of Taylor
PZ-2024-2216
Taylor Pointe Preliminary Plat
Staff Report

Item Details

Agenda No.	5
Requested Action:	Consider Disapproval of Taylor Pointe Preliminary Plat
Address/Location:	Generally located at 715 Carlos G. Parker Blvd. SW
Legal Description:	Approximately 39.015 acres of land part of the G.M. Reese Survey, Abstract No. 533, more particularly described by Williamson Central Appraisal District Parcel R331170, Taylor, Williamson County, Texas.
Current Zoning:	P4 – Mix, P5 – Urban Center, EC – Employment Center, CS – Civic Space
Current Use:	Vacant Acreage
Applicant:	Sandy Brantley, Kirkman Engineering
Case History:	This is the first submission of the Preliminary Plat.
Staff Recommendation:	The submitted Preliminary Plat does not meet the minimum requirements of the Land Development Code and Engineering Manual. Therefore, staff recommends Disapproval of the proposed Preliminary Plat.

Attachments

1. Staff Comments
2. Location Map
3. Proposed Plat Package



City of Taylor

400 Porter Street
Taylor, TX 76574
(512) 352-3675
www.ci.taylor.tx.us

Sandy Brantley
Kirkman Engineering
1130 Cottonwood Creek Trail, Suite C3
Cedar Park TX 78613
sandy.brantley@trustke.com

Date: Monday, July 29, 2024

Address: 715 Carlos G Parker Blvd SW, Taylor 76574

Permit Number PZ-2024-2216

Dear Sandy Brantley,

Staff has completed its review of the Taylor Pointe Subdivision Preliminary Plat that is to be generally located at 715 Carlos G Parker Blvd SW, Taylor, TX 76574. There are corrections that need to be made prior to acceptance of the plat. Comments from this review follow.

Planning Department Comments

The following comments have been provided by Parker McDowell. Should you have any questions or require additional information regarding any of these comments, please contact Parker McDowell at (512) 309-6797 or by email at parker.mcdowell@hdrinc.com.

- Revise the project number to PZ-2024-2216
 - Revise owner information to include the owner's name
 - Label the ROW widths on the plat for proposed and existing ROW
 - Add 10' topography contour lines
 - Show the adjacent lot lines with dashed lines for the lots to the north of the plan to differentiate ROW from Lot
 - Add access easements for the proposed drives that are shared between lots
 - Provide the space for engineer seal and signature on the plat and the preliminary review note
 - Provide the following signature blocks: Owner Lien Holder Surveyor's Certification Engineer's Certification County Clerk's Certification
 - Revise Field Notes (page 2) to include all of the subject property.
1. Remove the case number (PZ-2024-2216) from the title and place elsewhere (preferably in the right-side panel beneath Benchmark Description).
 2. All blocks and lots should be identified on the preliminary plat. Instances of "Remainder of X acres" should be further defined. Refer to the Neighborhood Plan.
 3. Provide a means to identify phasing if that is intended (phase line(s) or separate phasing plan).
 4. The Vicinity Map needs to be revised. Identify all the property.
 5. Plat Notes:
 - i. Revise to Oncor,
 - a. Revise to "Development shall be in accordance with Ordinance 2024-12 – 715 Carlos G Parker Blvd. Neighborhood Plan."
 - b. Remove – not needed.
 - c. Remove – not needed.
 - d. Revise per Fire Marshal comment.
 6. Provide Street Names for proposed roadways. Reference Neighborhood Plan Page X.2.
 7. Provide Engineer's Preliminary Review note (to be removed with final submittal) "For Review. This document is released for the purpose of review under the authority of (name of engineer & seal number). It is not to be used for bidding, permit or construction."

8. Provide all the following signature blocks (required) as applicable: Owner(s), Lien Holder(s), Surveyor's Certification, Engineer's Certification, Planning and Zoning Commission Signature block, Planning Director Signature block.
9. Identify a POB on the Plat with matching symbology in the Legend.
10. Show ROW widths with street centerlines
 - i.
11. Show all easements existing and proposed.
12. Label any lots designated for special use (parks, open space, detention).
 - i. example - Civic Spaces not identified as required within the Neighborhood Plan.
13. Further identify the proposed streets within a Street Table (Street class type (thoroughfare type), proposed street name, ROW dimension, linear feet).
14. Revise – Path 1 is not shown within the Preliminary Plat as depicted in the Neighborhood Plan. 24' ROW. Provide a name for this path.

Urban Design Consultant

1.

Engineering Department Review

The following comments have been provided by Javier Vasquez. Should you have any questions or require additional information regarding any of these comments, please contact Javier Vasquez by email at javier.vasquez@hdrinc.com.

***Please see the Associated Documents section of the permit page to download a copy of the plat PDF containing the following engineering comments:**

Preliminary Plat - Engineering Review 01

Sheet 1 of 2

1. Preliminary plat to show all aspects of the subdivision noted with phasing. Include all other reserves, spaces and thoroughfares (all types).
2. Update City permit number in the border.
3. Verify and update lot number to be "Lot 1, Block A".
4. Show bearings and distances for these courses .
5. Street names to be provided on the plat (Typical).
6. Provide contours on the preliminary plat in 2-ft intervals.
7. For FM 973, notate ownership and ROW information .
8. Show bearings and distance for easement line shown. Provide dimension of this segment of easement along Carlos G. Parker.
9. For areas to be used for detention/drainage, a reserve will need to be established for these areas on the plat.
10. Notate right of way widths for all streets. Provide width dimensions at key locations.
11. Street stubout to be provided here for continuity to adjacent tract.
12. Verify and provide dedication of fire alleys on the plat taken from the neighborhood plan.
13. Provide tables on the plat for the following: Street Table (Street Name, ROW, Designation), Lot Table (Block, Lot No., Sqft.), Reserves Table (Notate Use).
14. Complete notes 1, 7 & 8.
15. Remove graphics shown if not needed on the plat.
16. Revise the block and lot information to reflect lots and blocks being created.
17. Verify and include easement or note for drainage being conveyed by the Castlewood subdivision at this location of Lot 3 Block C shown.
18. Show street centerline information on the plat (Typical, all streets).
19. Remove text from Plat Heading.
20. Notate blocks created in heading.
21. Show name of the existing street shown within Castlewood. Provide centerline information and ROW information to verify streets lineup.
22. For Carlos G. Parker , notate ownership and ROW information. Show complete ROW.

Sheet 2 of 2

1. Recommend including all necessary plat certifications on the preliminary plat for review. This information will essentially be processed over to the final plat; therefore, would act as a precursor/placeholder for plat submitted.
2. Update metes and bounds based on initial round of comments.

***Please see the Associated Documents section of the permit page to download a copy of the study PDF containing the following engineering comments:**

Drainage Study - Engineering Review 01

Page 2 – 1.0 Introduction

1. The drainage areas total to 43.23 ac based on the plan sheet, please review.

Page 2 – 2.0 Project Description

1. Please provide the model for review
2. Please provide more detail to justify the use of these values (ie. soil group information)

Page 3 – 2.6 Proposed Conditions

1. This total should be 7.98 based on the plan set (DA-3 + OFF-2), please review.

Page 4 – 3.1 Drainage Impacts

1. Please provide a schematic with more detail for the proposed detention pond
2. Acreage shown does not match the total drainage area shown in the plan sheets, please review.

Appendix C

1. Provide TC flowpaths on the drainage area maps

Appendix D

1. Provide TC flowpaths on the drainage area maps
2. Provide details for the proposed detention pond (stage-storage table, outlet detail) that match the inputs to the HMS model to be provided.
3. Add POIs to the legend
4. Provide calculations supporting compliance with Qcritical requirements (EM 3.1.4)

Utility Schematics - Engineering Review 01 (No Review)

1. No utility schematics were provided for review. Please provide a schematic plan drawing showing how the utilities will be routed throughout the subdivision and how each lot will be serviced and include location of proposed connection points and any proposed easements.

***Please see the Associated Documents section of the permit page to download a copy of the Memo PDF containing the following engineering comments:**

Traffic Impact Analysis (TIA) - Engineering Review 01

1. HDR Comment (7.26.2024): General – Please provide excel spreadsheets and Synchro files in the next submittal.
2. HDR Comment (7.26.2024): Page 3 – Please provide basis for 1.5% growth rate assumption. Growth rate calculations should be provided in the Appendix based on historical average daily traffic counts from TxDOT (<https://txdot.public.ms2soft.com/tcds/tsearch.asp?loc=Txdot&mod=TCDS>) or other verified sources.

3. HDR Comment (7.26.2024): Trip Generation – Trip generation estimates should not be based on unit rate equations (i.e. trips/land use size). Please revise the trip generation to be based on either the fitted curve equation or average rate based on 11th Edition ITE methodology. Please remove the unit calculation from all trip generation tables, as well as the % enter/ % exit values.
4. HDR Comment (7.26.2024): Trip Generation – Please include a row/additional table for Phases 3 that shows the total trips.
5. HDR Comment (7.26.2024): Trip Generation – A discussion of the assumed trip reduction assumptions (pass-by and internal capture) should be included, as well as a comparison of unadjusted vs. adjusted trip generation as it is difficult to understand in the current format how trips are calculated and how pass-by is applied.
6. HDR Comment (7.26.2024): Capacity Analysis – Per scope sections 3a-3c provided in the appendix, LOS analysis should be per movement, not approach as shown in Tables 6-11. Please revised the tables to show LOS, delay, V/C, and 95th queue for each movement under each scenario analyzed per the scope. See example table below for guidance.
 - i.
7. HDR Comment (7.26.2024): Capacity Analysis (US 79/FM 973) – Please explain why no further mitigation measures were recommended. Several approaches under “Mitigation” scenarios are unmitigated compared to “Projected”. Either provide details of design constraints that make additional improvement not feasible or recommend additional improvements to mitigate the delay when compared to “Projected” operating conditions. Additionally, page 11 notes that dual left-turn lanes are recommended as part of the Taylor Gateway development. If you assume this improvement to be funded and constructed by others, please provide documentation or include as a recommended improvement as part of this TIA.
8. HDR Comment (7.26.2024): Capacity Analysis (FM 973/Taylor HS Driveway) – Please explain why no further mitigation measures were recommended. Although the northbound approach is a private driveway to the school, future site traffic on the major road is causing a significant increase in delay at an existing school that needs to be addressed.
9. HDR Comment (7.26.2024): Capacity Analysis (FM 973/Driveway #2 & FM 973/Driveway #3)) – Please provide additional mitigation, or different lane configurations to show acceptable LOS (A-D) at all driveways. Also, please ensure that these driveways are either aligned with or appropriately offset from the proposed driveways for the Taylor Gateway project.
10. HDR Comment (7.26.2024): Appendix D (Background Project) – Please include title pages or labels for each background project for additional clarify. Also include any documentation of background improvements, for example, the traffic signal assumed at FM 973 and Wesley Miller Lane as part of the Castlewood Subdivision TIA.
11. HDR Comment (7.26.2024): Scope of Work – Please clarify the number of scenarios. The scope of work notes analysis for Phases 1 and 2, while Page 7 notes two scenarios during the PM peak period. The TIA then shows analysis results for all three phases during both peak periods. Please explain these discrepancies and revise accordingly.
12. HDR Comment (7.26.2024): Scope of Work – Please clarify the discrepancies between the scope and TIA trip

generation. For example, the TIA scope shows 5,312 sq. ft. Convenience Store/14 VFP, while the TIA assumes 16 VFP.

1. HDR Comment (7.26.2024): Scope of Work – Please provide all signal warrant analyses completed as part of this project in the Appendix. For example, Driveways #2 and #3 would normally have a signal warrant analysis, since they operate unacceptably, and will most likely require a traffic signal to show acceptable operating conditions.
2. HDR Comment (7.26.2024): Scope of Work – Per scope item 5, please provide intersection sight distance analysis for all proposed driveways and/or intersections and stopping sight distance analysis for all intersections proposed to be signalized.
3. HDR Comment (7.26.2024): Scope of Work – Please ensure the scope of work is fully signed by all parties in the next submittal.
4. HDR Comment (7.26.24): Please ensure that the next TIA submittal is signed and sealed by the engineer of record.

Note: More comments could be generated upon review of the updated TIA.

Fire Department Comments

The following comments have been provided by Bobby Copeland. Should you have any questions or require additional information regarding any of these comments, please contact Bobby Copeland at (512) 352-6992 or by email at robert.copeland@taylor.tx.gov.

1. Plat note # 8 shall read: The fire flow shall be according to the minimum fire flow requirements per the adopted 2018 International Fire Code.

Please revise the plat to address the comments noted above. Following revision, submit the plat electronically with a resolution letter in PDF format.

Should you have questions regarding specific comments, please contact the staff member referenced under the section in which the comment occurs. Should you have questions or require additional information regarding the plan review process itself, please feel free to contact me directly. I can be reached by telephone at (512) 309-6268, or by e-mail at courtney.peres@taylor.tx.gov.

Thank you,



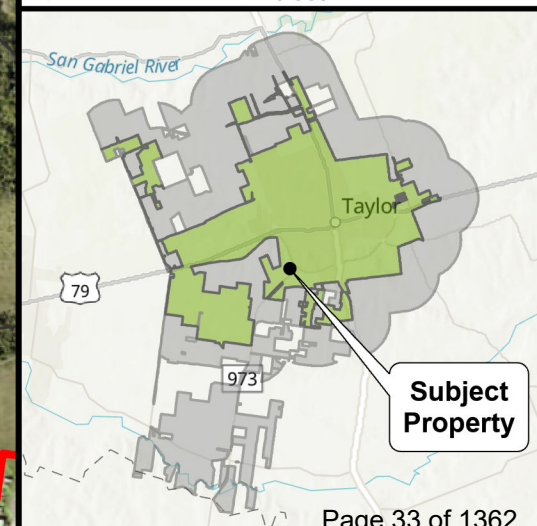
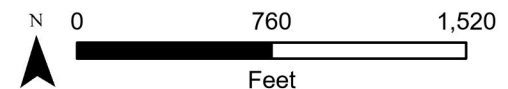
Parker McDowell



PZ-2024-2216

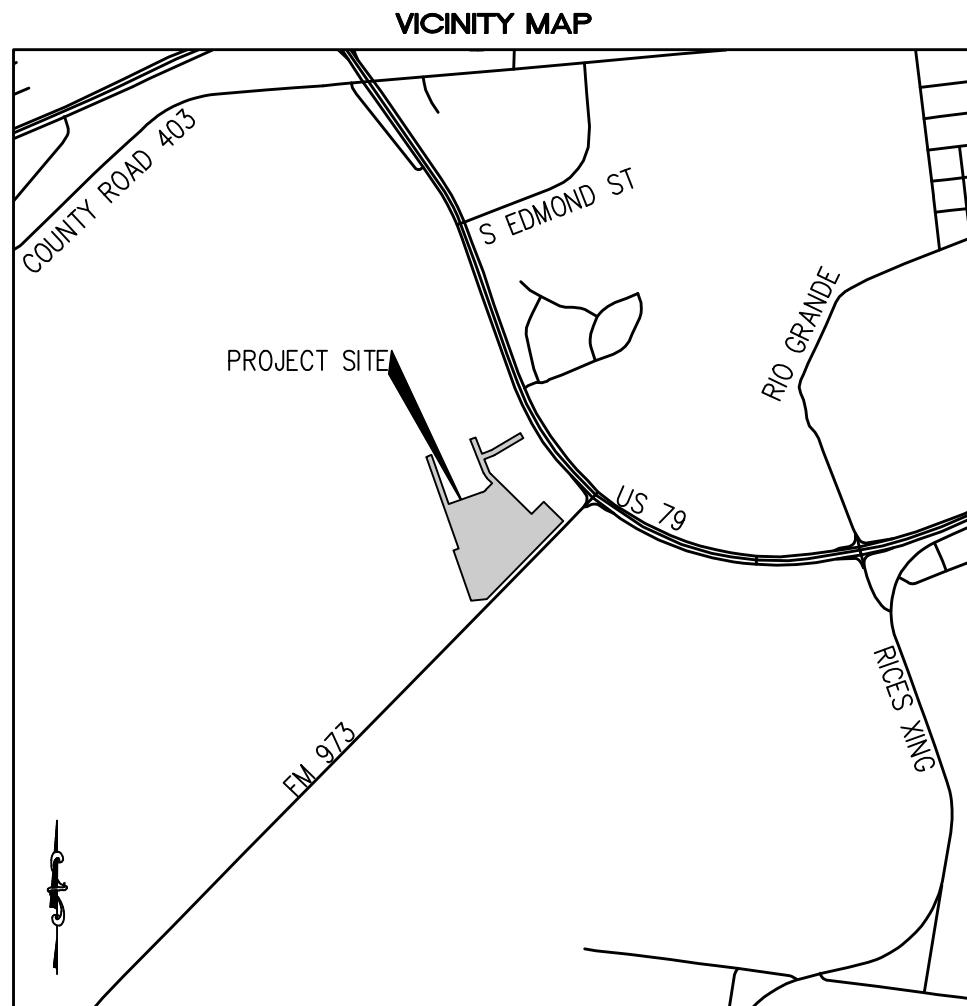
**715 Carlos G Parker Blvd.
Preliminary Subdivision Plat
Location Map
Approximately 39 acres**

- City Limits
- ETJ Boundary
- Subject Property
- Parcels



TAYLOR POINTE SUBDIVISION PRELIMINARY PLAT

CITY OF TAYLOR PROJECT NUMBER (PZ-2024-XXXX)
BEING A PRELIMINARY PLAT CONSISTING OF 39.015 ACRES, INCLUDING 6.05
ACRES OF RIGHT-OF-WAY DEDICATION, TO CREATE 14 LOTS, 0 RESERVES,
PART OF LAND OUT OF THE GEORGE M. REESE SURVEY, ABSTRACT NO. 533,
TAYLOR, WILLIAMSON COUNTY, TEXAS



SCALE: 1" = 2000'

- UTILITY PROVIDERS -WATER: CITY OF TAYLOR ;
WASTEWATER/SEPTIC: CITY OF TAYLOR ; ELECTRICITY:

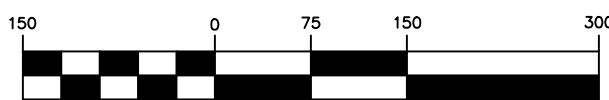
- ALL STRUCTURES AND/OR OBSTRUCTIONS ARE PROHIBITED
IN DRAINAGE EASEMENTS.
- THERE ARE NOT AREAS WITHIN THE BOUNDARIES OF
THIS SUBDIVISION IN THE 100-YEAR FLOODPLAIN AS
DEFINED BY FIRM MAP NUMBER 48491C0541F, EFFECTIVE
DATE OF 12/20/2019
- A 10-FT PUBLIC UTILITY EASEMENT (P.U.E.) SHALL BE
DEDICATED ALONG ALL STREET FRONTAGES.
- ALL MINIMUM YARD (BUILDING) SETBACKS SHALL BE IN
ACCORDANCE WITH THE CITY OF TAYLOR ZONING
ORDINANCE, AS AMENDED.
- NO DEVELOPMENT SHALL BEGIN PRIOR TO THE ISSUANCE
OF A FLOODPLAIN DEVELOPMENT PERMIT FOR EACH OF
THE FOLLOWING LOTS: N/A.
- PARKLAND DEDICATION REQUIREMENTS ARE MET BY: THE
DEDICATION OF BLOCK ____/LOT ____; PAYMENT OF FEES
IN LIEU PER RESIDENTIAL LOT, PAYABLE AT THE TIME OF
FINAL PLAT RECORDATION; < OTHER SITUATION AS
DESCRIBED >.
- MINIMUM FIRE FLOW OF ____<PER FIRE MARSHALL>____
GALLONS PER MINUTES FOR NOT LESS THAN TWO (2)
HOURS SHALL BE PROVIDED.

LEGEND

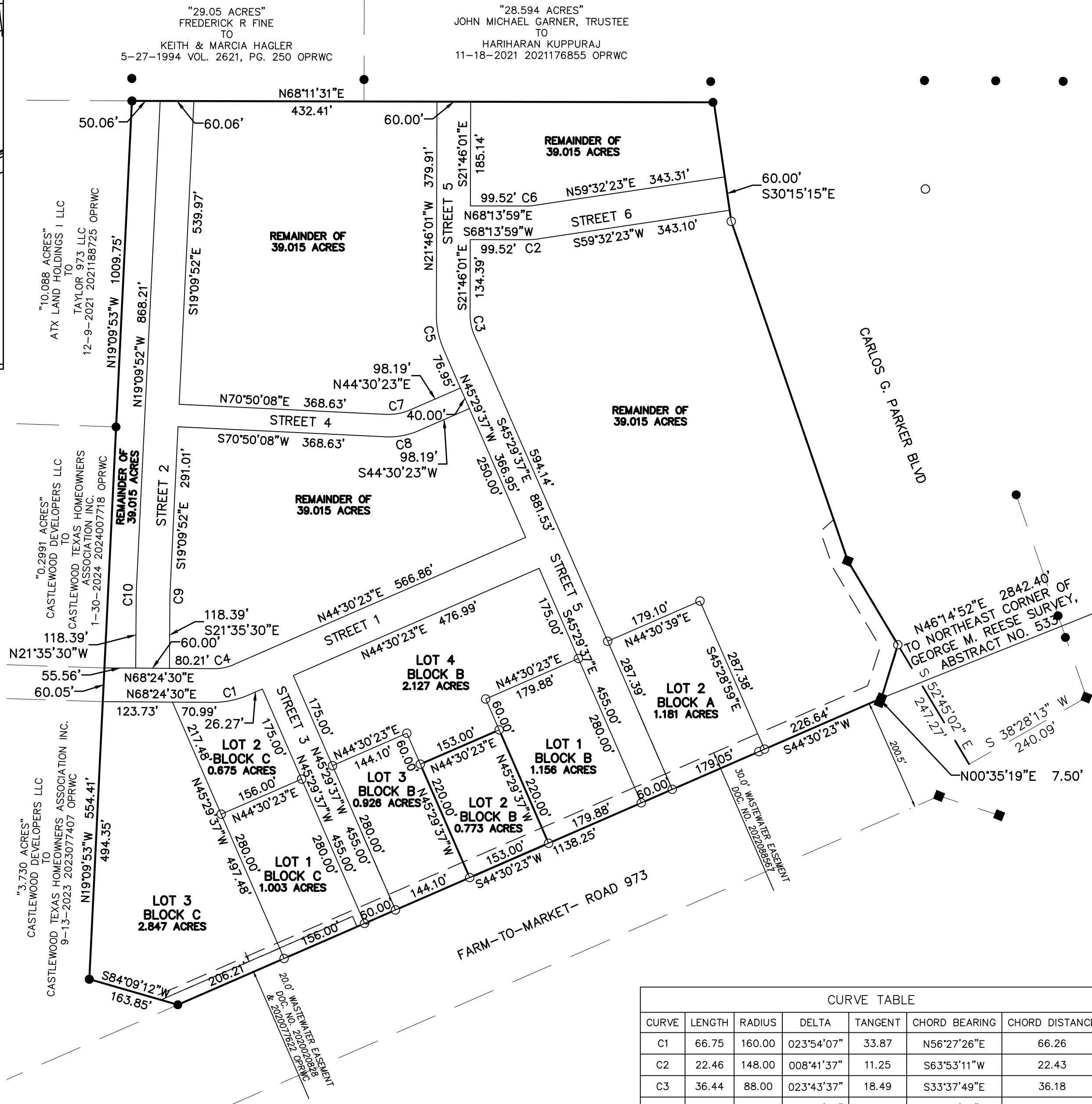
- IRON ROD FOUND
- IRON ROD SET
- BENCHMARK

ABBREVIATIONS

FND. - FOUND
I.R. - IRON ROD
N.F. - NOT FOUND
R.O.W. - RIGHT-OF-WAY
DRWC - DEED RECORDS OF WILLIAMSON COUNTY, TEXAS
ORWC - OFFICIAL RECORDS OF WILLIAMSON COUNTY, TEXAS
OPRWC - OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS
D W/VL - DEED WITH VENDOR'S LIEN
WCR - WILLIAMSON COUNTY ROAD
{xx.xx} - RECORD CALL



SCALE: 1"=150'



CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD BEARING	CHORD DISTANCE
C1	66.75	160.00	023°54'07"	33.87	N56°27'26"E	66.26
C2	22.46	148.00	008°41'37"	11.25	S63°53'11"W	22.43
C3	36.44	88.00	023°43'37"	18.49	S33°37'49"E	36.18
C4	34.63	83.00	023°54'07"	17.57	N56°27'26"E	34.37
C5	60.46	146.00	023°43'37"	30.67	N33°37'49"W	60.03
C6	13.35	88.00	008°41'37"	6.69	N63°53'11"E	13.34
C7	43.20	94.00	026°19'45"	21.99	N57°40'15"E	42.82
C8	61.58	134.00	026°19'45"	31.34	S57°40'15"W	61.04
C9	20.67	488.00	002°25'38"	10.34	S20°22'41"E	20.67
C10	23.21	548.00	002°25'38"	11.61	N20°22'41"W	23.21

SHEET 1 OF 2

OWNER:

DOSS DEVELOPMENT, LLC
DOSS DEVELOPMENT, LLC
4637 STONE OAK DRIVE
CARRLLTON, TX 75010

SURVEYOR:

BRUCE BRYAN, RPLS
BRYAN TECHNICAL SERVICES, INC.
911 NORTH MAIN
TAYLOR, TEXAS 76574
BRUCE@BRYANTECHNICALSERVICES.COM

ENGINEER:

SANDY BRANTLEY
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034

TBPE FIRM NO.F-15874
SANDY.BRANTLEY@TRUSTKE.COM

PATENT SURVEY:

GEORGE M. REESE SURVEY
ABSTRACT NO. 533

TOTAL NUMBER OF BLOCKS: 8

TOTAL NUMBER OF LOTS: 14

LINEAR FEET OF NEW STREETS: 4746

TOTAL ACREAGE: 39.015 ACRES

SUBMITTAL DATE:

JULY 5, 2024

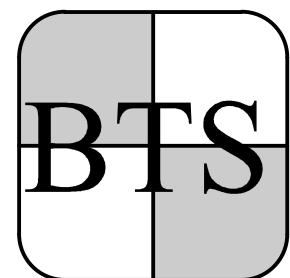
BENCHMARK DESCRIPTION:

COTTON SPIKE IN POWER POLE
N = 10177315.040'
E = 3210860.312'
ELEVATION = 607.42
(NAVD 88, GEOID MODEL 2012)

PRELIMINARY PLAT OF
TAYLOR POINTE SUBDIVISION

39.015 ACRE TRACT OUT OF
THE GEORGE M. REESE SURVEY
ABSTRACT NO. 533
WILLIAMSON COUNTY, TEXAS

BRYAN TECHNICAL SERVICES, INC.



911 NORTH MAIN
TAYLOR, TX 76574

PHONE: (512) 352-9090
FAX: (512) 352-9091

FIRM No. 10128500

surveying@austin.rr.com
www.bryantechnicalservices.com

NO.	DATE	REVISIONS	BY

DRAWN BY: AMR	CHECKED BY: BLB
SCALE: 1" = 150'	APPROVED BY: BLB
PROJECT NO. 24-159	DATE: JUNE 5, 2024

TAYLOR POINTE SUBDIVISION PRELIMINARY PLAT

CITY OF TAYLOR PROJECT NUMBER (PZ-2024-XXXX)
BEING A PRELIMINARY PLAT CONSISTING OF 39.015 ACRES, INCLUDING 6.05
ACRES OF RIGHT-OF-WAY DEDICATION, TO CREATE 14 LOTS, 0 RESERVES,
PART OF LAND OUT OF THE GEORGE M. REESE SURVEY, ABSTRACT NO. 533,
TAYLOR, WILLIAMSON COUNTY, TEXAS

1.868 ACRES

THESE NOTES DESCRIBE THAT CERTAIN TRACT OF LAND LOCATED IN THE **GEORGE M. REESE SURVEY, ABSTRACT NO. 533** SITUATED IN WILLIAMSON COUNTY, TEXAS; SUBJECT TRACT BEING PART OF AND OUT A CALLED "38.979 ACRES" CONVEYED IN A WARRANTY DEED WITH VENDOR'S LIEN FROM MARIO D. CRUZ TO FASH TAYLOR, LTD., DATED 7-6-2023 AND RECORDED IN DOCUMENT NO. 2023055749 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY (OPRWC), BEING SURVEYED ON THE GROUND UNDER THE DIRECT SUPERVISION OF BRUCE LANE BRYAN, REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4249, DURING THE MONTH OF JULY, 2024 AND BEING MORE FULLY DESCRIBED AS FOLLOWS:

COMMENCING AT A 1/2" IRON ROD FOUND IN THE SOUTH LINE OF A CALLED "85.047 ACRES" CONVEYED IN A WARRANTY DEED WITH VENDOR'S LIEN FROM FREDERICK R. FINE TO KEITH HAGLER, ET UX, DATED 5-27-1994 AND RECORDED IN VOLUME 2621, PAGE 250 OF THE OFFICIAL RECORDS OF WILLIAMSON COUNTY (ORWC), BEING THE NORTHWEST CORNER OF SAID "38.979 ACRES" AND ALSO BEING THE NORTHEAST CORNER OF A CALLED "TRACT 2-70.664 ACRES" CONVEYED IN A WARRANTY DEED WITH VENDOR'S LIEN FROM ATZ LAND HOLDINGS I, LLC TO TAYLOR 973, LLC, DATED 12-9-2021 AND RECORDED IN DOCUMENT NO. 2021188725 (OPRWC), **THENCE NORTH 68° 11' 31" EAST** A DISTANCE OF **50.06 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING THE **POINT OF BEGINNING**;

THENCE NORTH 68° 11' 31" EAST, WITH THE COMMON LINE OF BOTH SAID "38.979 ACRES" AND "85.047 ACRES", A DISTANCE OF **60.06 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING AN EXTERIOR CORNER OF SUBJECT TRACT;

THENCE OVER AND ACROSS SAID "38.979 ACRES" THE FOLLOWING COURSES;

- SOUTH 19° 09' 52" EAST**, A DISTANCE OF **539.97 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS");
- NORTH 70° 50' 08" EAST**, A DISTANCE OF **368.63 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING THE BEGINNING OF A CURVE TO THE LEFT;
- WITH SAID CURVE TO THE LEFT, **HAVING A CENTRAL ANGLE OF 026° 19' 45", A RADIUS OF 94.00 FEET, A CHORD BEARING OF NORTH 57° 40' 15" EAST, A CHORD LENGTH OF 42.82 FEET AND AN ARC LENGTH OF 43.20 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING END OF SAID CURVE;
- NORTH 44° 30' 23" EAST**, A DISTANCE OF **98.19 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS");
- SOUTH 45° 29' 37" EAST**, A DISTANCE OF **40.00 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS");
- SOUTH 44° 30' 23" WEST**, A DISTANCE OF **98.19 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING THE BEGINNING OF A CURVE TO THE RIGHT;
- WITH SAID CURVE TO THE RIGHT, **HAVING A CENTRAL ANGLE OF 026° 19' 45", A RADIUS OF 134.00 FEET, A CHORD BEARING OF SOUTH 57° 40' 15" WEST, A CHORD LENGTH OF 61.04 FEET AND AN ARC LENGTH OF 61.58 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING END OF SAID CURVE;
- SOUTH 70° 50' 08" WEST**, A DISTANCE OF **368.63 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS");
- SOUTH 19° 19' 52" EAST**, A DISTANCE OF **291.01 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING THE BEGINNING OF A CURVE TO THE LEFT;
- WITH SAID CURVE TO THE LEFT, **HAVING A CENTRAL ANGLE OF 02° 25' 38", A RADIUS OF 488.00 FEET, A CHORD BEARING OF SOUTH 20° 22' 41" EAST, A CHORD LENGTH OF 20.67 FEET AND AN ARC LENGTH OF 20.67 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING END OF SAID CURVE;
- SOUTH 21° 35' 30" EAST**, A DISTANCE OF **118.39 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS");
- SOUTH 68° 24' 30" WEST**, A DISTANCE OF **60.00 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS");
- NORTH 21° 35' 30" WEST**, A DISTANCE OF **118.39 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING THE BEGINNING OF A CURVE TO THE RIGHT;
- WITH SAID CURVE TO THE RIGHT, **HAVING A CENTRAL ANGLE OF 02° 25' 38", A RADIUS OF 548.00 FEET, A CHORD BEARING OF NORTH 20° 22' 41" WEST, A CHORD LENGTH OF 23.21 FEET AND AN ARC LENGTH OF 23.21 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING END OF SAID CURVE;
- NORTH 19° 09' 52" WEST**, A DISTANCE OF **868.21 FEET** TO THE **PLACE OF BEGINNING** CONTAINING ACCORDING TO THE DIMENSIONS HEREIN STATED AN AREA OF **1.868 ACRES** OF LAND.

14.871 ACRES

THESE NOTES DESCRIBE THAT CERTAIN TRACT OF LAND LOCATED IN THE **GEORGE M. REESE SURVEY, ABSTRACT NO. 533** SITUATED IN WILLIAMSON COUNTY, TEXAS; SUBJECT TRACT BEING PART OF AND OUT A CALLED "38.979 ACRES" CONVEYED IN A WARRANTY DEED WITH VENDOR'S LIEN FROM MARIO D. CRUZ TO FASH TAYLOR, LTD., DATED 7-6-2023 AND RECORDED IN DOCUMENT NO. 2023055749 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY (OPRWC), ALSO BEING ALL OF A CALLED "0.773 ACRES" CONVEYED IN A SPECIAL WARRANTY DEED WITH VENDOR'S LIEN FROM FASH TAYLOR, LTD. TO DOSS DEVELOPMENT, LLC, DATED 4-11-2024 AND RECORDED IN DOCUMENT NO. 2024030082 (OPRWC), AND ALSO BEING ALL OF A CALLED "TRACTS 1,2, AND 3" CONVEYED IN A SPECIAL WARRANTY DEED WITH VENDOR'S LIEN FROM FASH TAYLOR, LTD. TO MILAN PROPERTY GROUP LLC, DATED 6-24-2024 AND RECORDED IN DOCUMENT NO. 2024049722 (OPRWC), BEING SURVEYED ON THE GROUND UNDER THE DIRECT SUPERVISION OF BRUCE LANE BRYAN, REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4249, DURING THE MONTH OF JULY, 2024 AND BEING MORE FULLY DESCRIBED AS FOLLOWS:

COMMENCING AT A TYPE II CONCRETE MONUMENT (BRASS DISC) FOUND IN THE NORTH RIGHT-OF-WAY LINE OF FARM-TO-MARKET ROAD NO. 973, BEING A SOUTHEASTERN CORNER OF SAID "38.979 ACRES", **THENCE SOUTH 44° 30' 23" WEST**, A DISTANCE OF **226.64 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS") IN THE COMMON LINE OF SAID "38.979 ACRES" AND THE NORTH LINE OF FARM-TO-MARKET ROAD NO. 973, BEING THE **POINT OF BEGINNING**;

THENCE SOUTH 44° 30' 23" WEST, WITH THE COMMON LINE OF BOTH SAID "38.979 ACRES" AND SAID NORTH LINE OF FARM-TO-MARKET ROAD NO. 973, A DISTANCE OF **1138.25 FEET** TO A 1/2" IRON ROD FOUND, BEING AN EXTERIOR CORNER OF "38.979 ACRES" AND ALSO BEING THE SOUTHEAST CORNER OF A CALLED "CASTLEWOOD SUBDIVISION PHASE 1" RECORDED IN DOCUMENT NO. 2021152781 (OPRWC);

THENCE SOUTH 84° 09' 12" WEST, WITH THE COMMON LINE OF BOTH SAID "38.979 ACRES" AND SAID "CASTLEWOOD SUBDIVISION PHASE 1", A DISTANCE OF **163.85 FEET** TO A 1/2" IRON ROD FOUND, BEING AN EXTERIOR CORNER OF BOTH SAID "38.979 ACRES" AND "CASTLEWOOD SUBDIVISION PHASE 1";

THENCE NORTH 19° 09' 53" WEST, WITH THE COMMON LINE OF BOTH SAID "38.979 ACRES" AND SAID "CASTLEWOOD SUBDIVISION PHASE 1", A DISTANCE OF **554.41 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS") IN THE COMMON LINE OF BOTH SAID "38.979 ACRES" AND SAID "CASTLEWOOD SUBDIVISION PHASE 1", BEING AN EXTERIOR CORNER OF SUBJECT TRACT;

THENCE OVER AND ACROSS SAID "38.979 ACRES" THE FOLLOWING COURSES;

- NORTH 68° 24' 30" EAST**, A DISTANCE OF **195.77 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING THE BEGINNING OF A CURVE TO THE LEFT;
- WITH SAID CURVE TO THE LEFT, **HAVING A CENTRAL ANGLE OF 023° 54' 07", A RADIUS OF 83.00 FEET, A CHORD BEARING OF NORTH 56° 27' 26" EAST, A CHORD LENGTH OF 34.37 FEET AND AN ARC LENGTH OF 34.63 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING END OF SAID CURVE;
- NORTH 44° 30' 23" EAST**, A DISTANCE OF **566.86 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS");
- NORTH 45° 29' 37" WEST**, A DISTANCE OF **366.95 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING THE BEGINNING OF A CURVE TO THE RIGHT;
- WITH SAID CURVE TO THE RIGHT, **HAVING A CENTRAL ANGLE OF 023° 43' 37", A RADIUS OF 146.00 FEET, A CHORD BEARING OF NORTH 33° 37' 49" WEST, A CHORD LENGTH OF 60.03 FEET AND AN ARC LENGTH OF 60.46 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING END OF SAID CURVE;
- NORTH 21° 46' 01" WEST**, A DISTANCE OF **379.91 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS") IN THE SOUTH LINE OF A CALLED "85.047 ACRES" CONVEYED IN A WARRANTY DEED WITH VENDOR'S LIEN FROM FREDERICK R. FINE TO KEITH HAGLER, ET UX, DATED 5-27-1994 AND RECORDED IN VOLUME 2621, PAGE 250 OF THE OFFICIAL RECORDS OF WILLIAMSON COUNTY (ORWC) AND BEING IN THE NORTH LINE OF SAID "38.979 ACRES", ALSO BEING AN EXTERIOR CORNER OF SUBJECT TRACT;

THENCE NORTH 68° 11' 31" EAST, WITH THE COMMON LINE OF BOTH SAID "38.979 ACRES" AND "85.047 ACRES", A DISTANCE OF **60.00 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING AN EXTERIOR CORNER OF SUBJECT TRACT;

THENCE OVER AND ACROSS SAID "38.979 ACRES" THE FOLLOWING COURSES;

- SOUTH 21° 46' 01" EAST**, A DISTANCE OF **185.14 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS");
- NORTH 68° 13' 59" EAST**, A DISTANCE OF **99.52 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING THE BEGINNING OF A CURVE TO THE LEFT;
- WITH SAID CURVE TO THE LEFT, **HAVING A CENTRAL ANGLE OF 08° 41' 37", A RADIUS OF 88.00 FEET, A CHORD BEARING OF NORTH 63° 53' 11" EAST, A CHORD LENGTH OF 13.34 FEET AND AN ARC LENGTH OF 13.35 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING END OF SAID CURVE;
- NORTH 59° 32' 23" EAST**, A DISTANCE OF **343.31 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS") IN AN EASTERN LINE OF SAID "38.979 ACRES", SAME BEING THE WEST RIGHT-OF-WAY OF CARLOS G. PARKER BLVD., BEING AN EXTERIOR CORNER OF SUBJECT TRACT;

THENCE SOUTH 30° 15' 15" EAST, WITH THE COMMON LINE OF BOTH SAID "38.979 ACRES" AND CARLOS G. PARKER BLVD., A DISTANCE OF **60.00 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING AN EXTERIOR CORNER OF SUBJECT TRACT;

THENCE OVER AND ACROSS SAID "38.979 ACRES" THE FOLLOWING COURSES;

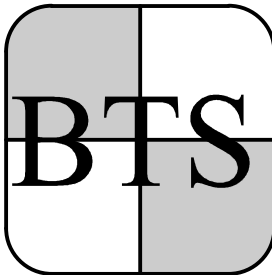
- SOUTH 59° 32' 23" WEST**, A DISTANCE OF **343.10 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING THE BEGINNING OF A CURVE TO THE RIGHT;
- WITH SAID CURVE TO THE RIGHT, **HAVING A CENTRAL ANGLE OF 08° 41' 37", A RADIUS OF 148.00 FEET, A CHORD BEARING OF SOUTH 63° 53' 11" WEST, A CHORD LENGTH OF 22.43 FEET AND AN ARC LENGTH OF 22.46 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING END OF SAID CURVE;
- SOUTH 68° 13' 59" WEST**, A DISTANCE OF **99.52 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS");
- SOUTH 21° 46' 01" EAST**, A DISTANCE OF **134.39 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING THE BEGINNING OF A CURVE TO THE LEFT;
- WITH SAID CURVE TO THE LEFT, **HAVING A CENTRAL ANGLE OF 023° 43' 37", A RADIUS OF 88.00 FEET, A CHORD BEARING OF SOUTH 33° 37' 49" EAST, A CHORD LENGTH OF 36.18 FEET AND AN ARC LENGTH OF 36.44 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS"), BEING END OF SAID CURVE;
- SOUTH 45° 29' 37" EAST**, A DISTANCE OF **594.14 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS");
- NORTH 44° 30' 23" EAST**, A DISTANCE OF **179.10 FEET** TO A 1/2" IRON ROD SET (CAPPED "BTS");

SOUTH 45° 28' 59" EAST, A DISTANCE OF 287.39 FEET TO THE PLACE OF BEGINNING CONTAINING ACCORDING TO THE DIMENSIONS HEREIN STATED AN AREA OF **14.871 ACRES** OF LAND.

PRELIMINARY PLAT OF
TAYLOR POINTE SUBDIVISION

39.015 ACRE TRACT OUT OF
THE GEORGE M. REESE SURVEY
ABSTRACT NO. 533
WILLIAMSON COUNTY, TEXAS

BRYAN TECHNICAL SERVICES, INC.



911 NORTH MAIN
TAYLOR, TX 76574

PHONE: (512) 352-9090
FAX: (512) 352-9091

FIRM No. 10128500

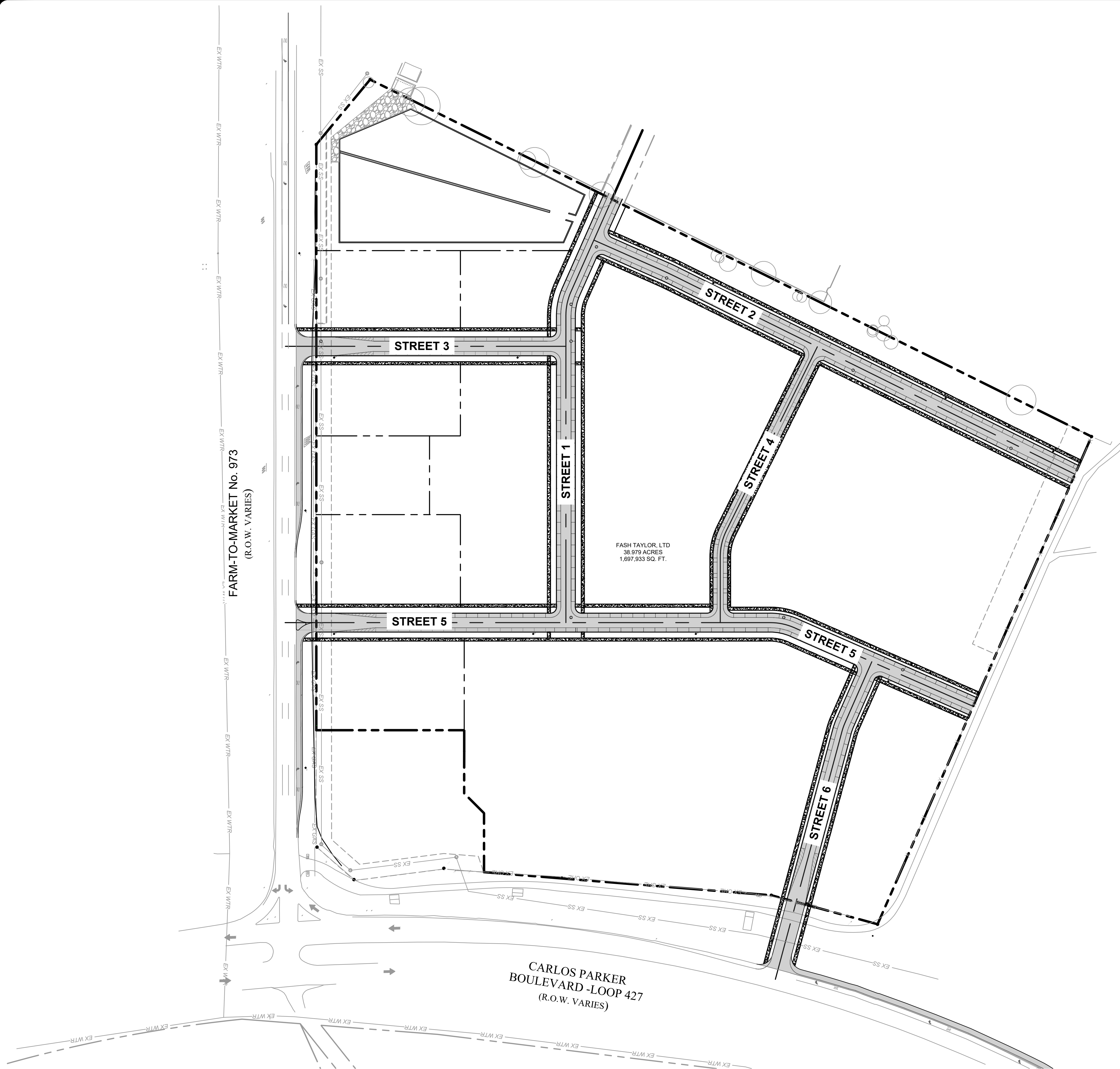
surveying@austin.rr.com
www.bryantechanicalservices.com

NO.	DATE	REVISIONS	BY

DRAWN BY: AMR	CHECKED BY: BLB
SCALE: 1" = NTS	APPROVED BY: BLB
PROJECT NO. 24-159	DATE: JUNE 5, 2024

SHEET 2 OF 2

CITY PROJECT NO: PZ-2024-XXXX



Know what's **below**.
Call before you dig.

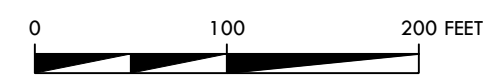
<u>SITE BENCHMARKS</u>	
BM NO. 1	TEMPORARY BENCH MARK 1/2" IRON, N=10177819.470' E=3210509.089' ELEVATION = 610.34' (NAD '83)
BM NO. 2	TEMPORARY BENCH MARK COTTON SPIKE IN POWER POLE. N=10177315.040' E=3210860.312' ELEVATION = 607.42' (NAD '83)

LEGEND

PROPOSED FIRE HYDRANT	
PROPOSED SANITARY MANHOLE	
PROPOSED CURB INLET	
PROPOSED GRATE INLET	
PROPERTY BOUNDARY	
PROPOSED PAVEMENT	
PROPOSED SIDEWALK	



GRAPHIC SCALE



SCALE: 1" = 100

P R E L I M I N A R Y
F O R R E V I E W O N L Y
T H E S E D O C U M E N T S A R E F O R
D E S I G N R E V I E W O N L Y A N D
N O T I N T E N D E D F O R T H E P U R P O S E S
O F C O N S T R U C T I O N , B I D D I N G
O R P E R M I T . T H E Y W E R E P R E P A R E D
B Y , O R U N D E R T H E S U P E R V I S I O N O F :

JONATHAN E. SCHINDLER
P.E.# 108864
DATE: July 5, 2024

WATERMARK BANK
6501 N. CLASSEN BLVD. #300
OKLAHOMA CITY, OK 73116

DEVELOPER:
CONTACT: JOHN CHONG

TAYLOR POINTE
715 CARLOS G PARKER BLVD
CITY OF TAYLOR
WILLIAMSON COUNTY, TEXAS

[illegible]

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

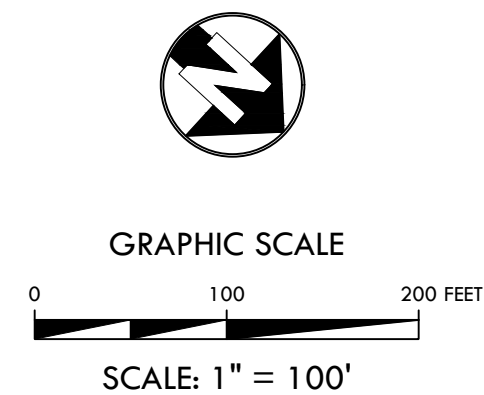
JOB NUMBER: FSH24001

ISSUE DATE:

**PRELIMINARY
ROADWAY
CONCEPT PLAN**

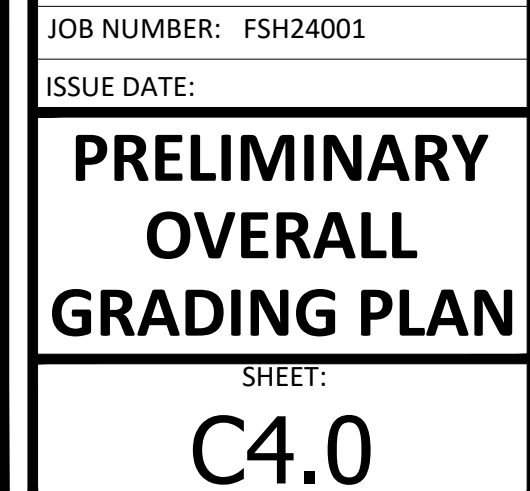
SHEET:

C3.0



WATERMARK BANK
6501 N. CLASSEN BLVD. #300
OKLAHOMA CITY, OK 73116

DEVELOPER:
CONTACT: JOHN CHONG

[illegible]



Know what's below.
Call before you dig.

SITE BENCHMARKS		
BM NO. 1	TEMPORARY BENCH MARK 1/2" IRON. N=10177619.470' E=3210509.089'	
	ELEVATION = 610.34' (NAD '83)	
BM NO. 2	TEMPORARY BENCH MARK COTTON SPIKE IN POWER POLE. N=10177315.040' E=3210860.312'	
	ELEVATION = 607.42' (NAD '83)	

LEGEND		
EXISTING DRAINAGE AREA LABEL	BASIN NAME	DA1
	ACRES	0.63 ac.
	Q100 (cfs)	5.57
EXISTING DRAINAGE AREA DIVIDE		
EXISTING DRAINAGE FLOW ARROW		
EXISTING CONTOUR	500	
EXISTING STORM PIPE		
PROPERTY BOUNDARY		
POINT OF INTEREST		

Existing Hydrology Summary				
Analysis Point	Peak Flow (cfs)			
	Q ₂	Q ₁₀	Q ₂₅	Q ₁₀₀
POI-1	14.2	26.1	34.0	46.9
POI-2	9.8	18.1	23.6	32.6
POI-3	33.9	62.5	81.6	112.9
POI-4	21.9	41.1	54.0	75.2

Existing Conditions - Routing Analysis Inputs							
Drainage Areas			Land Use		TOC Calculation Table	HEC-HMS Inputs	
Contributing Area	Area (sf)	Area (ac)	Base Curve Number	Impervious Cover (sf)	TOC (min)	Area (sq. mi.)	Impervious Cover (%)
EX-1	289,238	6.64	80	0.00	8.87	0.0103750	0%
EX-2	216,493	4.97	80	0.00	16.71	0.0077656	0%
EX-3	759,251	17.43	80	0.00	15.82	0.0272344	0%
EX-4	622,037	14.28	80	0.00	22.09	0.0223125	0%

NOTE: DRAINAGE CRITERIA TAKEN FROM CITY OF TAYLOR ENGINEERING DESIGN MANUAL DATED JANUARY 2024.



GRAPHIC SCALE
0 100 200 FEET
SCALE: 1" = 100'

PRELIMINARY
FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR
DESIGN REVIEW ONLY AND
NOT INTENDED FOR THE PURPOSES
OF CONSTRUCTION, BIDDING
OR PERMIT. THEY WERE PREPARED
BY, OR UNDER THE SUPERVISION OF:

JONATHAN E. SCHINDLER
P.E.# 108864
DATE: July 5, 2024

WATERMARK BANK
6501 N. CLASSEN BLVD. #300
OKLAHOMA CITY, OK 73116

DEVELOPER:
CONTACT: JOHN CHONG

TAYLOR POINTE
715 CARLOS G PARKER BLVD
CITY OF TAYLOR
WILLAMSON COUNTY, TEXAS

DESCRIPTION:

DATE:

REV:



KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: FSH24001

ISSUE DATE:

PRELIMINARY
EXISTING DRAINAGE
AREA MAP

SHEET:

C6.0



P R E L I M I N A R Y
F O R R E V I E W O N L Y
T H E S E D O C U M E N T S A R E F O R
D E S I G N R E V I E W O N L Y A N D
N O T I N T E N D E D F O R T H E P U R P O S E S
O F C O N S T R U C T I O N, B I D D I N G
O R P E R M I T. T H E Y W E R E P R E P A R E D
B Y, O R U N D E R T H E S U P E R V I S I O N O F:

JONATHAN E. SCHINDLER
P.E.# 108864
DATE: July 5, 2024

WATERMARK BANK
6501 N. CLASSEN BLVD. #300
OKLAHOMA CITY, OK 73116

DEVELOPER:
CONTACT: JOHN CHONG

TAYLOR POINTE
715 CARLOS G PARKER BLVD
CITY OF TAYLOR
WILLIAMSON COUNTY, TEXAS

[illegible]

**PRELIMINARY
PROPOSED DRAINAGE
AREA MAP**

SHEET:
C6.1

TAYLOR POINTE

CITY OF TAYLOR

WILLIAMSON COUNTY, TEXAS

PRELIMINARY DRAINAGE REPORT

JULY 2, 2024

Developer:

Fash Taylor, LTD

825 Watters Creek Boulevard, Suite 250

Allen, Texas 75013

John Chong

(469) 267-1520

Engineer:

Kirkman Engineering, LLC

Texas Firm No. 15874

Jonathan Schindler, P.E.

1130 Cottonwood Creek Trail, Suite C3

Cedar Park, TX 78613

(817) 488-4960

Date Prepared: July 5, 2024

DATE: 7/5/2024

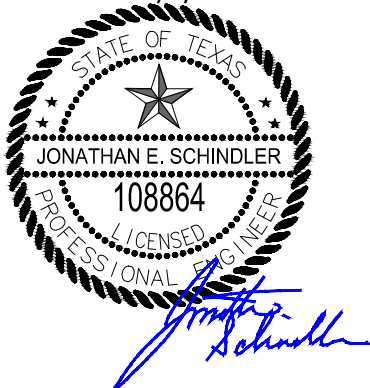


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2.3 FEMA Map & Flood Zone.....	2
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1.0 INTRODUCTION

This preliminary drainage report was prepared in support of the preliminary plat application for the master development called Taylor Mixed Use located in Taylor, Texas. The project site is located at the Southwest corner of FM 973 and Loop 427 (Carlos G Parker Boulevard). This report has been prepared to address the site's hydrologic and hydraulic impacts, stormwater mitigation and conformance to the city's stormwater design requirements. This proposed development will consist of mixed land uses including multi-family, single-family residential, hotel, and general commercial. The total site area for this development is 38.979 acres. The existing zoning of the site is P5: Urban Center. A master plan has previously been approved for this mixed-use development.

2.0 PROJECT DESCRIPTION

2.1 SURVEY BENCHMARK INFORMATION

Two temporary benchmarks were set on the northern side of the property. Cotton spike in power pole with an elevation of 607.42' (Temporary benchmark #1) and a ½" iron rod with an elevation of 610.34' (Temporary benchmark #2).

2.2 PROPOSED LAND USE

The subject tract will be a mixed-use development consisting of, but not limited to, multi-family, single-family residential, retail, restaurant, office, and hotel uses.

2.3 FEMA MAP & FLOOD ZONE

The limits of this project site are not located within a floodplain per the latest FEMA FIRM Map Number 48491C0541F. See Appendix B – FEMA FIRM Map.

2.4 METHODOLOGY

Existing and proposed stormwater analysis was derived using approved methods as outlined in the City of Taylor Engineering Manual & Details, dated January 2024. Drainage area calculations used the standard SCS methodology. Rainfall data was taken from the City of Taylor Engineering Manual Table 3-1. HEC-HMS Version 4.12 was used for detention modeling and is attached with this report. The development is required to mitigate stormwater runoff from the 2-yr, 10-yr, 25-yr, and 100-yr storm events. The total drainage area for this site is +/- 39 acres. For the existing site, the runoff CN values of 80 has been used for each point of interest. CN values for the proposed site are a mixture of 93 for onsite and 89 for channelized flow. For all four (4) points of interest, runoff coefficients are shown for each basin on the Existing and Proposed Drainage Area Maps, Refer to Appendix C and D, respectively.

2.5 EXISTING CONDITIONS

The project site is located at the Southwest corner of FM 973 and Loop 427 (Carlos G Parker Boulevard) in Taylor, Texas. Refer to "Appendix A" for the project site location map. The existing

condition of this site is currently vacant, consisting of cultivated farmland. There are no trees on site. The site is generally draining from the north corner of the property (approximate elevation of 611.2') and splits into three separate drainage basins sheet flowing to the western corner (approximate elevation of 598.65'), southern corner (approximate elevation of 596.63'), and the southeastern side of the property (approximate elevation of 596.92'). The slope of the existing site ranges from 0.5% to 5%. Point of interest 1 will consist of 6.64 acres and have a flow of 46.9 cfs at the 100-yr storm event. Point of interest 2 will consist of 4.97 acres and have a flow of 32.6 cfs at the 100-yr storm event. Point of interest 3 will consist of 17.43 acres and have a flow of 112.9 cfs at the 100-yr storm event. Point of interest 4 will consist of 14.28 acres and have a flow of 75.2 cfs at the 100-yr storm event. Refer to "Appendix C – Existing Drainage Area Map" for the existing topography and drainage patterns for this site and table 1.1 for existing drainage calculations.

Existing Hydrology Summary				
Analysis Point	Peak Flow (cfs)			
	Q ₂	Q ₁₀	Q ₂₅	Q ₁₀₀
POI-1	14.2	26.1	34.0	46.9
POI-2	9.8	18.1	23.6	32.6
POI-3	33.9	62.5	81.6	112.9
POI-4	21.9	41.1	54.0	75.2

Table 1.1

2.6 PROPOSED CONDITIONS

Point of interest 1 will consist of 4.00 acres of runoff flow and outflow to the western corner of the property. Point of interest 1 will have 31.5 cfs at the 100-yr storm event. Point of interest 2 will consist of 3.14 acres of runoff flow going to the northern corner of the site. Point of interest 2 will have 24.1 cfs at the 100-yr storm event. Point of interest 3 will consist of 8.93 acres and flow to the southeastern side of the property into an existing drainage culvert. Point of interest 3 will have 62.5 cfs at the 100-yr storm event. Point of interest 4 will consist of 28.1 acres and flow to an on-site detention pond at the southern corner of the property and will outfall into an existing drainage culvert crossing under FM 973. Point of interest 4 will have 75.1 cfs at the 100-yr storm event. Runoff coefficients were calculated based on the total of impervious and pervious areas. Refer to "Appendix D – Proposed Drainage Area Maps" and Table 1.2.

Proposed Hydrology Summary				
Analysis Point	Peak Flow (cfs)			
	Q ₂	Q ₁₀	Q ₂₅	Q ₁₀₀
POI-1	13.8	20.3	24.5	31.5
POI-2	9.6	15.0	18.5	24.1
POI-3	26.9	40.0	48.5	62.5
POI-4	20.4	41.1	53.5	75.1

Table 1.2

3.0 PROPOSED DRAINAGE DESIGN

3.1 DRAINAGE IMPACTS

The existing topography for this site generally slopes from the north to the south. The proposed site will be designed to collect stormwater runoff from 27.75 acres within catch basins and storm inlets. The stormwater discharge will be routed through an underground stormwater drainage system to a detention pond in the southern corner of the site. The remaining 11.23 acres will consist of three separate drainage basins which will bypass the proposed regional detention pond. There shall be no increase in stormwater discharge in the 2, 10, 25, and 100-yr storm events at Points of interest 2-4. Hydrologic calculations were performed using HEC-HMS Version 4.12. Storage volumes were calculated for the 2-yr, 10-yr, 25-yr, and 100-yr storm events. On-site analysis consists of four (4) existing sub-basins and four (4) proposed sub-basins. The site is located within the Blackland Prairie which requires that channel erosion protection will have the 2-year Q critical flow to be less than 2% of the pre-development 2-year frequency storm peak flow rate. (Section 3.1.4.D of the City of Taylore Engineering Manual) Riprap will be placed where channels are being used to reduce the 2-year peak flow rate to below the 2% Q critical flow.

3.2 STORMWATER MITIGATION

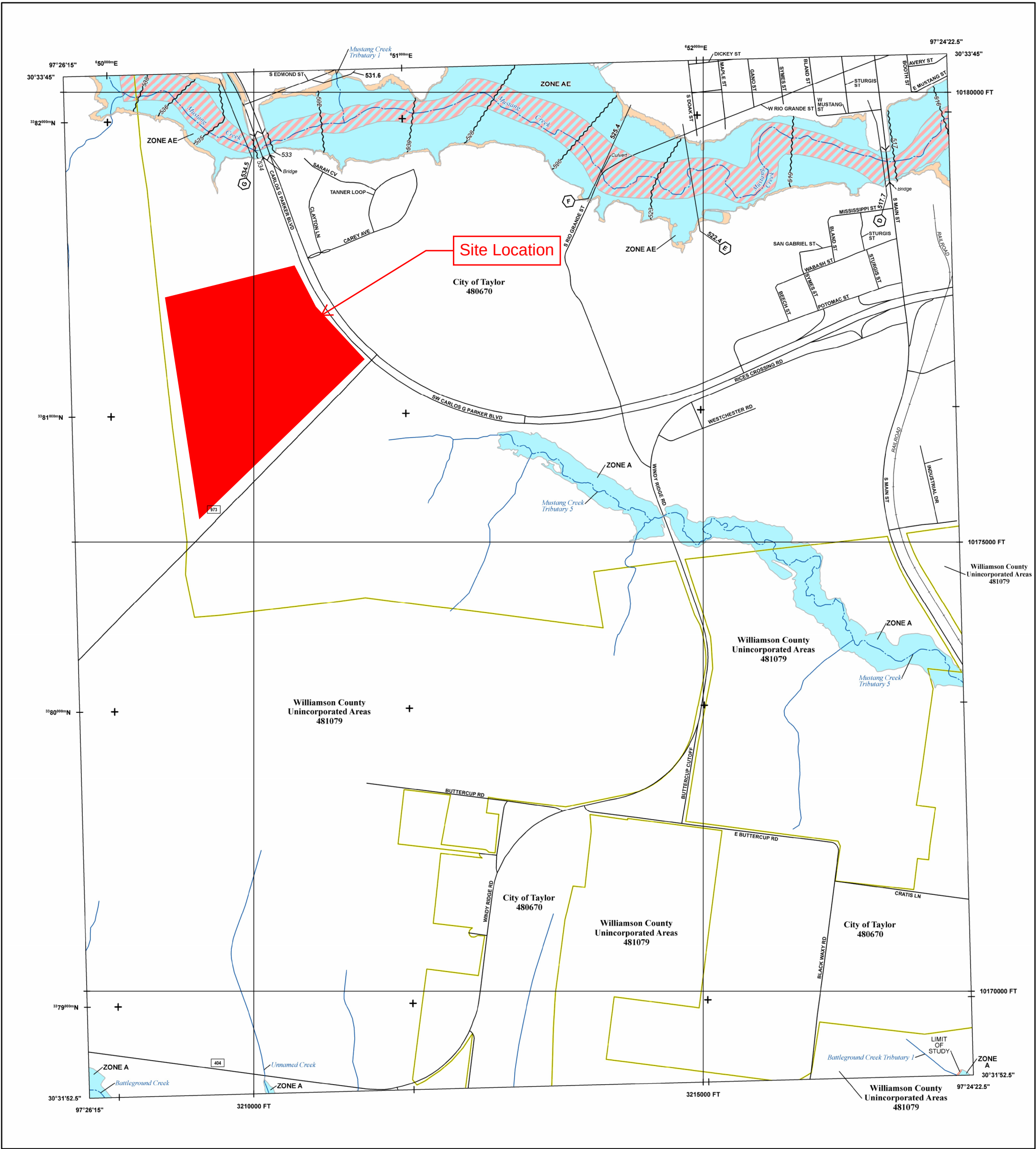
The proposed development is shown on the Proposed Drainage Area Map "Exhibit D". Calculations were performed to calculate the required detention volume. An above ground stormwater detention pond was designed to mitigate the increased stormwater discharge developed by the proposed development. The required detention volume is 351,584.1 cubic feet of storage. The amount of detention volume provided is 439, 741.1 cubic feet that includes 1-ft of freeboard. A weir outfall system was designed to reduce the stormwater discharge to maintain or be less than the existing conditions. All drainage calculations are shown in "Appendices C & D – Existing and Proposed Drainage Area Maps".

Appendices

Appendix A: Site Map



Appendix B: FEMA Map



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT HTTPS://MSC.FEMA.GOV	
SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) Zone A/V, A99
	With BFE or Depth Zone AE, AO, AH, VE, AR
	Regulatory Floodway
	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X
	Area with Reduced Flood Risk due to Levee See Notes. Zone X
	Area with Flood Risk due to Levee Zone D
OTHER AREAS OF FLOOD HAZARD	
	NO SCREEN Area of Minimal Flood Hazard Zone X
	Area of Undetermined Flood Hazard Zone D
OTHER AREAS	
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer Levee, Dike, or Floodwall
	Cross Sections with 1% Annual Chance Water Surface Elevation
	Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	Base Flood Elevation Line (BFE)
OTHER FEATURES	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at <https://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

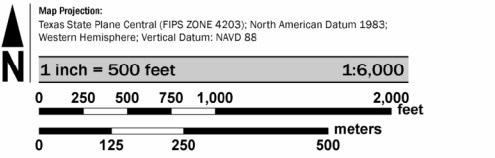
Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

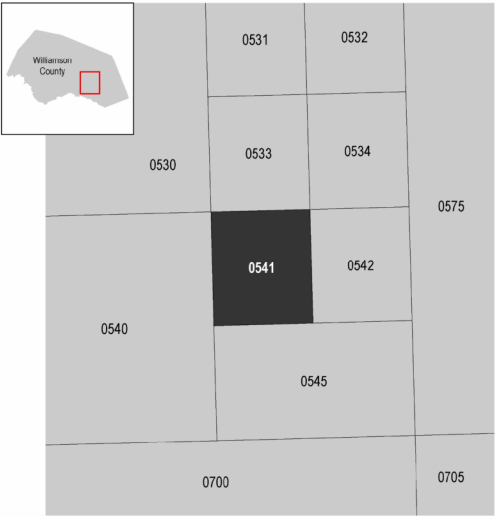
To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6629.

Base map information shown on this FIRM was derived from digital data obtained from Texas Natural Resource Information Systems (TNRIS), dated 2000; United States Census Bureau, dated 2015; United States Geological Survey, dated 2005; and the Williamson County Geographic Information Systems (GIS) Department, dated 2014 and 2017.

SCALE



PANEL LOCATOR



National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

WILLIAMSON COUNTY, TEXAS
and Incorporated Areas

PANEL 541 OF 750

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
TAYLOR, CITY OF	480670	0541	F
WILLIAMSON COUNTY	481079	0541	F

VERSION NUMBER
2.3.3.3

MAP NUMBER
48491C0541F

MAP REVISED
DECEMBER 20, 2019



LEGEND

	BASIN NAME
RAIN DRAINAGE AREA LABEL	DA1
ACRES	0.63 ac.
Q100 (cfs)	5.57

RAIN DRAINAGE AREA DIVIDE

RAIN DRAINAGE FLOW ARROW

EXISTING CONTOUR

EXISTING STORM PIPE

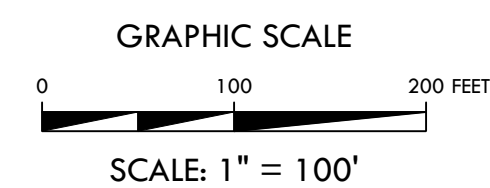
PROPERTY BOUNDARY

POINT OF INTEREST

Existing Conditions - Routing Analysis Inputs								
Drainage Areas			Land Use		TOC Calculation Table	HEC-HMS Inputs		
Contributing Area	Area (sf)	Area (ac)	Base Curve Number	Impervious Cover (sf)	TOC (min)	Area (sq. mi.)	Impervious Cover (%)	Lag Time
EX-1	289,238	6.64	80	0.00	8.87	0.0103750	0%	5.32
EX-2	216,493	4.97	80	0.00	16.71	0.0077656	0%	10.03
EX-3	759,251	17.43	80	0.00	15.82	0.0272344	0%	9.49
EX-4	622,037	14.28	80	0.00	22.09	0.0223125	0%	13.26

Existing Conditions - Routing Analysis Inputs								
Drainage Areas			Land Use		TOC Calculation Table	HEC-HMS Inputs		
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EX-3	759,251	17.43	80	0.00	15.82	0.0272344	0%	9.49
EX-4	622,037	14.28	80	0.00	22.09	0.0223125	0%	13.26

NOTE: DRAINAGE CRITERIA TAKEN FROM CITY OF TAYLOR ENGINEERING DESIGN MANUAL DATED JANUARY 2024.



JONATHAN E. SCHINDLER
P.E.# 108864
DATE: June 26, 2024

TAYLOR MIXED USE
715 CARLOS G PARKER BLVD
CITY OF TAYLOR
WILLIAMSON COUNTY, TEXAS



Kirkman
ENGINEERING

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEEVILLE, TX 76034
TEXAS FIRM NO. 15874

ISSUE DATE:

SHEET:

APPENDIX C



Know what's below.
Call before you dig.

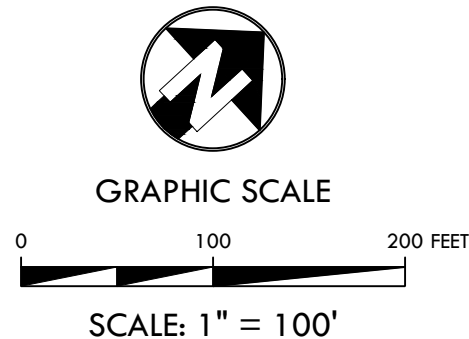
SITE BENCHMARKS	
BM NO. 1	TEMPORARY BENCH MARK 1/2" IRON, N=10177819.470' E=3210509.089' ELEVATION = 610.34' (NAD '83)
BM NO. 2	TEMPORARY BENCH MARK COTTON SPIKE IN POWER POLE, N=10177315.040' E=3210860.312' ELEVATION = 607.42' (NAD '83)

LEGEND	
PROPOSED DRAINAGE AREA LABEL	BASIN NAME ACRES Q100 (cfs)
PROPOSED DRAINAGE AREA DIVIDE	DA1 1.82 Ac. 14.52
EXISTING DRAINAGE FLOW ARROW	
PROPOSED DRAINAGE FLOW ARROW	
EXISTING CONTOUR	500
PROPOSED CONTOUR	500
EXISTING STORM PIPE	
PROPOSED STORM PIPE	
PROPERTY BOUNDARY	

Proposed Hydrology Summary				
Analysis Point	Peak Flow (cfs)			
	Q ₂	Q ₁₀	Q ₂₅	Q ₁₀₀
POI-1	13.8	20.3	24.5	31.5
POI-2	9.6	15.0	18.5	24.1
POI-3	26.9	40.0	48.5	62.5
POI-4	20.4	41.1	53.5	75.1
Existing Hydrology Summary				
Analysis Point	Peak Flow (cfs)			
	Q ₂	Q ₁₀	Q ₂₅	Q ₁₀₀
POI-1	14.2	26.1	34.0	46.9
POI-2	9.8	18.1	23.6	32.6
POI-3	33.9	62.5	81.6	112.9
POI-4	21.9	41.1	54.0	75.2

Proposed Conditions - Routing Analysis Inputs								
Drainage Areas			Land Use		TOC Calculation Table		HEC-HMS Inputs	
Contributing Area	Area (sf)	Area (ac)	Base Curve Number	Impervious Cover (sf)	TOC (min)	Area (sq. mi.)	Impervious Cover (%)	Lag Time
DA-1	174,240	4	93	139392.00	5.00	0.0062500	80%	3.00
DA-2	32,234	0.74	93	25787.52	5.00	0.0011563	80%	3.00
DA-3	284,447	6.53	93	227557.44	5.00	0.0102031	80%	3.00
DA-4	1,178,734	27.06	93	942986.88	7.44	0.0422813	80%	4.46
OFF-1	104,544	2.4	89	5227.20	11.27	0.0037500	5%	6.76
OFF-2	63,162	1.45	89	3158.10	11.48	0.0022656	5%	6.89
OFF-3	45,302	1.04	89	2265.12	5.00	0.0016250	5%	3.00

NOTE: DRAINAGE CRITERIA TAKEN FROM CITY OF TAYLOR ENGINEERING DESIGN MANUAL DATED JANUARY 2024.



PRELIMINARY
FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR
DESIGN REVIEW ONLY AND
NOT INTENDED FOR THE PURPOSES
OF CONSTRUCTION, BIDDING
OR PERMIT. THEY WERE PREPARED
BY, OR UNDER THE SUPERVISION OF:

JONATHAN E. SCHINDLER
P.E. # 108864
DATE: June 26, 2024

825 WATTERS CREEK
BLVD #STE 250
ALLEN, TX 75013

TAYLOR MIXED USE
715 CARLOS G PARKER BLVD
CITY OF TAYLOR
WILLAMSON COUNTY, TEXAS

REVISIONS

Kirkman
ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: FSH24001
ISSUE DATE:

PROPOSED
DRAINAGE
AREA MAP

SHEET:
APPENDIX D



SCI ENGINEERING, INC.
150 Texas Avenue, Suite 105
Round Rock, Texas 78664
512-996-9199
www.sciengineering.com

Roadway Geotechnical Report
QUIKTRIP NO. 4192 ROADWAY REPORT
TAYLOR, TEXAS

June 2024

Prepared for:
QUIKTRIP CORPORATION

SCI No. 2024-0521.10





SCI ENGINEERING, INC.

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ENVIRONMENTAL
NATURAL RESOURCES
CULTURAL RESOURCES
CONSTRUCTION SERVICES

June 6, 2024

Wade Richardson
QuikTrip Corporation
4705 South 129th East Avenue
Tulsa, Oklahoma 74134-7008

RE: Roadway Geotechnical Report
QuikTrip No. 4192
Taylor, Texas
SCI No. 2024-0521.10

Dear Wade Richardson:

Enclosed is our *Roadway Geotechnical Report*, dated June 2024. This report should be read in its entirety, and our recommendations considered in the design and construction of the proposed roadway. Please call if you have any questions.

SCI ENGINEERING, INC.

Texas Engineering Firm F-7870

A handwritten signature in black ink, appearing to read 'Curtis J. Connor'.

Curtis J. Connor, P.E.
Project Engineer

A handwritten signature in black ink, appearing to read 'Tonya S. Sonsteng'.

Tonya S. Sonsteng, P.E.
Regional Manager

GMK/CJC/TSS/snp/mas

Enclosure
Roadway Geotechnical Report

\\scieng\shared\Projects\2024\2024-0521 QuikTrip 4192\GS\10\Road Way Report\QuikTrip 4192 - Roadway Report FINAL.docx

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FIGURES

Figure 1 - Vicinity and Topographic Map
Figure 2 - Aerial Photograph
Figure 3 - Site Plan

APPENDICES

Appendix A - Boring Log Legend and Nomenclature, Boring Logs
Appendix B - Laboratory Test Results
Appendix C - Pavement Design Outputs

Roadway Geotechnical Report

QUIKTRIP NO. 4192 TAYLOR, TEXAS

1.0 PROJECT DESCRIPTION

The geotechnical investigation summarized in this report was performed for the two planned wing roads associated with QuikTrip Store No. 4192. The two wing roads will consist of approximately 380 linear feet of roadway total. The wing roads will be located to the north of FM 973 and to the west of Carlos G Parker Boulevard in Taylor, Texas. The location of the site is shown on the *Vicinity and Topographic Map*, Figure 1. SCI understands that a new QuikTrip store is being planned for an approximate 1.925-acre site located at 715 SW Carlos G Parker Boulevard in Taylor, Texas. The wing roads will connect FM 972 and Carlos G Parker boulevard to the planned development. The project area is currently undeveloped agricultural land and some grading operations have been performed with the northeast property corner due to municipal infrastructure installation. The topography of the overall site slopes downwards from the west towards the east with approximately 12 feet of relief. The existing conditions are shown on the *Aerial Photograph*, Figure 2. The side roads attached to the wing roads are currently outside the scope of our work.

Based on the *Overall Grading Plan* prepared by Kirkman Engineering, dated April 9, 2024, maximum cuts and fills will be on the order of 5 feet within the wing road alignments. Based on the project information provided, the two southern wing roads will be classified as a Collector Street and the northeast wing road will be classified as a Local Street. All three will be governed by the City of Taylor, which utilizes the *City of Austin, Texas Transportation Criteria Manual (2022) (Austin TCM)* for pavement design and construction. The scope of the proposed construction is shown on the *Site Plan*, Figure 3.

2.0 SUBSURFACE EXPLORATION

2.1 Exploration Procedures

A total of three borings (D-1, D-2, and D-4) were drilled at the approximate locations depicted on the *Aerial Photograph*, Figure 2. The boring locations were staked in the field by SCI personnel utilizing a global positioning system. Approximate ground surface elevations at the boring locations were interpolated from the topographic information presented on the referenced *Overall Grading Plan*.

Drilling was performed with a CME-750 drill rig and hollow stem augers. Standard Penetration Testing (SPT) was performed, and samples collected to the boring termination depths of 15 feet; soil samples were transported to our laboratory for further testing. In addition, one bulk sample at each of the boring locations

of the anticipated pavement subgrade was collected and tested to determine the soil characteristics, soluble sulfate content, pH, and California Bearing Ratio (CBR) value. The results of the composite sample testing are detailed in the *Laboratory Test Results*, contained in Appendix B.

Detailed information regarding the nature and thickness of the soils encountered, and the results of the field sampling and laboratory testing are shown on the *Boring Logs*, contained in Appendix A. Data on the boring logs include visual classification of the subsurface soils and laboratory data. Variations from the conditions shown on the logs could occur between or beyond the boring locations. In addition, the stratification lines depicted represent approximate boundaries between soil types and have been estimated by a geotechnical engineer based on an examination of the samples and on information from the drilling logs. Actual transitions between soil types could vary somewhat from the approximate levels shown and could be gradual.

2.2 Soil Profile

The native soil profile predominantly consisted of fat clay (CH in accordance with the Unified Soil Classification System and ASTM D 2488-06), which extended to depths of 3 to 4½ feet, underlain by lean clay (CL) with varying amounts of sand and calcareous material extending to depths of 13 to 13½ feet. These upper clay soils were underlain by an alluvial stratum of clayey gravel (GC) and clayey sand (SC) soils which extended to the depths of boring termination at 15 feet.

SPT N-values within the native clay soils ranged from 6 to 33 blows per foot (bpf), averaging 19 bpf, classifying the clay as firm to hard in consistency. SPT N-values within the native alluvial soils ranged from 29 bpf to 50 blows per 3 inches of penetration, classifying the soils as medium dense to very dense. The moisture content in the native clay soils ranged from 10 to 32 percent and averaged 18 percent. The moisture content in the native alluvial soils ranged from 9 to 12 percent and averaged 10 percent. Atterberg limits tests in the native soils resulted in liquid limits (LLs) of 20 to 54 and corresponding plasticity indices (PIs) of 9 to 32.

2.3 Site Geology

According to the *United States Geological Survey (USGS) Geological Units of Texas*, the geology of the site lies within the High Gravel Deposits (Qhb). The Qhb formation consists of upper part silty clay and lower coarse unit that yields some water (possible correlation with the onion creek marl).

2.4 Groundwater

Groundwater was encountered at a depth of 13 feet in D-1 during drilling operations (approximate elevation 585). Groundwater was not observed in either of the other boring locations during drilling. Groundwater was not observed during delayed groundwater observations, performed approximately 24 hours after completion of drilling in any of the boring locations. The groundwater level depends on seasonal and climatic variations and may be present at different depths in the future. In addition, without extended periods of observation, accurate groundwater level measurements may not be possible, particularly in low permeability soils.

3.0 GEOTECHNICAL EVALUATION

3.1 Expansive Clay

A surficial stratum of highly expansive fat clay soil was encountered at this site and extended to depths of approximately 3 to 4½ feet. These soils are susceptible to excessive volume change with variations in moisture content, which can lead to movement of pavements. Within this region, the Texas Department of Transportation Method (Tex-124-E) is typically utilized to evaluate the swell potential of the expansive clay soils and provides an estimate of the Potential Vertical Rise (PVR) based upon changes in the soil moisture content from a dry-to-wet condition. Utilizing the Tex-124-E Method, our analysis indicates that the PVR for the expansive clay soils at this site is **on the order of 1½ to 2 inches**, based on existing grades. Based on the *Austin TCM* a PVR of less than or equal to 2 inches is required for collector streets. Therefore, expansive clay remediation is not necessary for the proposed wing roads. However, general fill utilized to raise the roadways to design subgrade elevation should have a LL less than 40 and a PI less than 20.

High-plastic soils, such as those encountered at this project site, are prone to swelling and shrinking with changes in water content. There are several ways to reduce the effects of soil moisture changes in pavement subgrade soils. A traditional approach is the use of lime stabilization of the pavement subgrade soils, which can help to reduce the water content of the soil and thus the risk of swelling and shrinking, as well as creating a layer that has a reduced permeability compared to untreated soils. Another option that we are providing in this report is utilizing a geotextile to create a mechanically stabilized base layer. The design purpose of the geotextile is to lock the aggregate base into a bound layer, reducing the potential for differential movement induced cracking.

Other important factors for roadway construction are proper grading and drainage, minimizing the potential for surface water infiltration and promoting proper pavement performance. Several factors should be considered during pavement design to reduce infiltration and maintain proper drainage.

- Water should not be allowed to pond behind curbs and saturate the pavement base stone.
- Appropriate slopes should be provided.
- Joints should be properly sealed and maintained.
- Proper pavement maintenance programs such as sealing surface cracks, and immediate repair of distressed pavement areas should be utilized.
- During the construction phase of this project, site grading should be kept in such a way that the water drains freely off the site and off any prepared or unprepared subgrade soils.
- The degree of compaction of the subgrade soils should be maintained until the subgrade is paved.
- Planting of trees adjacent to roadways should be limited to a minimum distance greater than that of the anticipated mature root zone, and tree types should be evaluated based on water consumption.

3.2 Pavement Design

The pavement design parameters utilized for our analysis are based on information presented in the *Austin TCM*, and local pavement design experience. Laboratory California Bearing Ratio (CBR) testing resulted in a CBR of 3.2. Calculations for the pavement sections are based on the following parameters. Pavement design evaluations are based on the native clay soils being utilized as pavement subgrade.

Table 3.1 - Pavement Design Parameters – Collector Street

Street Type	Collector Street		Local Street	
Parameter	Flexible Pavement Section	Rigid Pavement Section	Flexible Pavement Section	Rigid Pavement Section
Design Period	20 years	30 years	20 years	30 years
Average Daily Traffic (ADT)*	2,000		500	
ESALs – 18 kip**	700,000		150,000	
Reliability	90%		90%	
Annual Growth Rate	3.5%		3.5%	
Standard Deviation	0.45	0.35	0.45	0.35
Initial Serviceability	4.2		4.2	

* Estimated from the *City of Austin, Texas Transportation Criteria Manual* Section 2.1.4.

**Estimated from the *City of Austin, Texas Transportation Criteria Manual* Sections 3.1.4 and 4.3.3.1.

psi - pounds per square inch

Table 3.1 - Pavement Design Parameters – Collector Street (continued)

Street Type	Collector Street		Local Street	
Parameter	Flexible Pavement Section	Rigid Pavement Section	Flexible Pavement Section	Rigid Pavement Section
Terminal Serviceability	2.5		2.0	
Soil Elastic Modulus	4,118 psi	--	4,118 psi	--
Flexural Strength	--	600 psi	--	600 psi
Concrete Elastic Modulus	--	4,100,000 psi	--	4,100,000 psi
Load Transfer	--	3.0	--	2.8
Modulus of Subgrade Reaction	--	138 psi/in	--	138 psi/in

* Estimated from the *City of Austin, Texas Transportation Criteria Manual* Section 2.1.4.

**Estimated from the *City of Austin, Texas Transportation Criteria Manual* Sections 3.1.4 and 4.3.3.1.

psi - pounds per square inch

3.2.1 Flexible Pavement

The proposed roadway can be constructed with flexible hot mix asphaltic concrete (HMAC). The minimum recommended design thicknesses as published for collector and local streets within the *Austin TCM* have been evaluated using TxDOT FPS21 Pavement Design software. The flexible pavement section meets the mechanistic and triaxial checks utilized by the TxDOT pavement design process, the FPS21 analysis summary is provided in the Pavement Design Outputs, contained in Appendix C.

Table 3.2 – Recommended Flexible Pavement Section

Material	Pavement Layer Minimum Thickness (inches)	Pavement Layer Minimum Thickness (inches)
	Collector Street	Local Street
Asphaltic Concrete Surface Course (TxDOT Item 340 - Type C)	3.5	2.5
Crushed Limestone Base (TxDOT Item 247 - Type A, Grade 5)	12	10
Lime Treated Subgrade (TxDOT Item 260)	8	8
Natural Subgrade/General Fill	Achieve Grade	Achieve Grade

As an alternative design, the use of geogrid has been evaluated and is shown in Table 3.3. The design results are included in Appendix C.

Table 3.3 – Recommended Flexible Pavement Section – Alternate Design

Material	Pavement Layer Minimum Thickness (inches)	Pavement Layer Minimum Thickness (inches)
	Collector Street – Alternate Design	Local Street – Alternate Design
Asphaltic Concrete Surface Course (TxDOT Item 340 - Type C)	3	2.5
Crushed Limestone Base (TxDOT Item 247 - Type A, Grade 5)	12	10
Geogrid Type 2 or Type 3 (TxDOT DMS 6240)	Yes	Yes
Natural Subgrade/General Fill	Achieve Grade	Achieve Grade

3.2.2 Rigid Pavement

As an alternative, rigid pavement can be used with less anticipated long-term maintenance. The Pavement Design Output is enclosed in Appendix C, and the recommend pavement section is detailed below, which takes into account minimum requirements as outlined by the *Austin TCM*.

Table 3.4 – Recommended Rigid Pavement Section

Material	Pavement Layer Minimum Thickness (inches)	Pavement Layer Minimum Thickness (inches)
	Collector Street	Local Street
Concrete (Class A)	6.5	6
Crushed Limestone Base (TxDOT Item 247 - Type A, Grade 2)	4	---
Lime Treated Subgrade (TxDOT Item 260)	8	8
Natural Subgrade/General Fill	Achieve Grade	Achieve Grade

The concrete should have a minimum compressive strength at 28 days of 4,500 psi. The reinforced concrete pavement should be properly designed with #4 rebar on 18-inch centers each way, pre-manufactured chair supports should be used to support the reinforcing steel during concrete placement. The reinforcement should be located in the top half of the concrete section with a minimum of two (2) inches of cover from the top.

Saw cut control joints should be placed at maximum 15-foot intervals and should be cut at a depth of at least one-quarter of the pavement thickness. Saw cut control joints spaced at 10 feet usually control cracking better than the 15-foot interval. Joints should be sawed within 12 hours of concrete placement and preferably sooner. All joint spacing in large pavement areas should not exceed a distance of 60 feet.

Interlocking construction joints and minimum 18-inch long dowel bars spaced at 24-inches on center should be used where a subsequent concrete placement intersects a previous one. Dowel bars should also be used to transfer load at expansion joint locations. After construction, the control, expansion, and construction joints should be inspected periodically and resealed, if necessary.

4.0 CONSTRUCTION CONSIDERATIONS

We recommend the construction activities be performed in accordance with the current *Austin TCM* and any pertinent special provisions or policies set forth by the City of Taylor or other governing municipalities. A Quality Assurance/Quality Control (QA/QC) plan outlining the required construction inspection and testing services shall be prepared and submitted to the City of Taylor for review and approval.

4.1 Alignment Preparation

Areas to be cut or to receive fill should be stripped of any surface vegetation, organic topsoil, or loose soils after clearing is performed. After stripping, areas to receive fill should be proofrolled in accordance with Texas Department of Transportation (TxDOT) *Item 216*, observing the subgrade for pockets of excessively soft, wet, or disturbed soil, or otherwise unacceptable materials. Unacceptable areas, if encountered, should be removed and replaced with general fill prior to placing additional fill. Final proofroll activities should be observed for QA/QC purposes.

4.2 Subgrade

Initially, design subgrade elevations should be achieved using general fill soils. In areas to be filled, the upper 8-inches of proofrolled subgrade should be scarified, moisture conditioned, and recompacted to at least 95 percent of the maximum dry density determined in accordance with Tex-114-E. In-field density testing should be performed at a rate determined by the City of Taylor inspector.

Pavement subgrades may be subjected to construction traffic and exposure to weather for an extended period and significant problems may be incurred. It may be necessary to proofroll the subgrade, in both cut and fill areas, and recompact the subgrade immediately prior to placing fill or base rock for the pavement. In addition, subgrades covered with base rock may be very slow to dry if precipitation occurs after placing the base rock. Therefore, we recommend that proofrolling and placement of the base rock be done as close to the time of paving as is practical.

Special measures may be required to facilitate construction during wet or cold weather, or where excessive areas of soft soils are identified. These measures may include, but are not limited to, the addition of lime to the subgrade soils for drying purposes, or the removal of soft spongy soils and their replacement with crushed limestone. Soft areas should be selectively undercut and backfilled with properly compacted cohesive soil. A geotechnical stabilization fabric, such as Mirafi 600X, Tensar TX140, or equivalent, may be used to help stabilize particularly soft areas. Where possible, the subgrade should be sloped to provide drainage.

4.3 Fill Materials and Compaction

General fill utilized to raise the roadways to design subgrade elevation should have a LL less than 40 and a PI less than 20. Acceptable fill soils (select and general) are to be designated as CL, CL-ML, SC, SC-SM, GC, GM, or GC-GM (in accordance with ASTM D 2487-11). Acceptable general fill soils are to be non-organic, free of deleterious material and particles larger than 3-inches. Soils should be placed in maximum 8-inch-thick loose lifts and mechanically compacted to at least 95 percent of the maximum dry density determined in accordance with Tex-114-E. Soils should be moisture conditioned as needed to achieve the required compaction density, soils with a PI greater than 20 should be moisture conditioned to at least +3 percent of the optimum moisture content prior to compaction.

Prior to compaction, the soil may require moisture adjustment. During warm weather, moisture reduction can generally be accomplished by disking or otherwise aerating the soil. When air drying is not feasible, a moisture reducing chemical additive, such as hydrated lime, could be incorporated into the soil. During dry weather, some addition of moisture may be required to facilitate compaction. This should also be done in a controlled manner using a tank truck with a spray bar. The moistened soil should be thoroughly blended with a disk or pulverizer to produce a uniform moisture content.

In addition to the minimum density requirement listed above, the soil must be stable, i.e., not “pumping” or rutting excessively under construction traffic, prior to placing additional fill or constructing pavements. Field density tests should be performed on each lift of fill, at a rate determine by the City of Taylor inspector, to document that proper compaction is achieved.

4.4 Lime Treatment

The sulfate tests performed on bulk samples of anticipated roadway subgrade, indicated non-detectable sulfate levels. Once the roadway alignment is graded to the design pavement subgrade elevation, additional sulfate content tests should be performed to confirm soluble sulfate levels less than 8,000 ppm prior to performing lime stabilization.

Lime treatment of the subgrade soils should be performed in accordance with TxDOT *Item 260*. The upper 8 inches of the clay subgrade should be scarified, and lime stabilized with a sufficient quantity of lime to achieve a pH of 12.4 or as outlined in Tex-121-E. Based on the results of our laboratory testing, a 6 percent lime addition by weight (dry weight of soil basis), achieves a pH of 12.4. After application, the mixture should be allowed to mellow for two to four days. After mellowing, the stabilized subgrade should be mixed until homogeneous, and a sample collected to verify the required gradation. Once the proper gradation is achieved, a lime stabilized proctor sample should be obtained and tested in accordance with Tex-121-E. The stabilized subgrade should then be compacted to at least 95 percent of the maximum dry density and tested in accordance with Tex-115-E at a rate determine by the City of Taylor inspector, to document that proper compaction is achieved.

4.5 Mechanically Stabilized Base Material - Geogrid Reinforcement

The design of flexible pavement sections using geogrid is based on the increase in stiffness of a mechanically stabilized aggregate layer and reduced deterioration of stiffness over the design life of the pavement, as compared to a conventional unbound aggregate layer. For the alternate pavement section proposed, a Type 2 or Type 3 geogrid, such as Tensar TX150, shall be placed in accordance with TxDOT Item DMS-6240. The geogrid should overlap at least 1 foot at all seam locations.

4.6 Base Material

Crushed limestone base material shall conform to TxDOT *Item 247*, Type A, Grade 1-2. Prior to placement, the base material properties shall be tested to verify conformity, and the results provided to the County Engineer for approval. The base course should be placed in maximum 6-inch lifts, compacted to achieve at least 100 percent of the maximum dry density as determined by Tex-113-E. For HMAC, after compaction and testing of the base material, the surface should be primed using an Asphalt Emulsion prime coat meeting TxDOT Item 310S. It is recommended that the base course layer extend at least 2 feet beyond the edge of shoulder line.

4.7 Flexible Pavement - HMAC

Hot mix asphaltic concrete shall meet the requirements of TxDOT *Item 340S*, Type C, and be supplied from a TxDOT certified plant. The HMAC should be compacted to a minimum of 96 percent of the maximum theoretical density, with rolling completed before the HMAC temperature drops below 175° F. Daily testing shall include the following TxDOT Test Methods: Tex-200-F, Tex-210-F, Tex-208-F, Tex-207-F, and Tex-227-F. A minimum of three 6-inch diameter field cores should be obtained by the contractor from each day's paving.

4.8 Rigid Pavement - Portland Cement Concrete

Portland cement concrete shall meet the requirements of ASTM C 150, Type I and Type III, and be supplied from a TxDOT certified plant. During the progress of work, the Engineer will cast test cylinders and/or beams, perform slump and entrained air tests and will make temperature checks, as required, to ensure compliance with the specifications. Slump tests will be performed in accordance with Test Method Tex-415-A. Entrained air tests will be performed in accordance with Test Method Tex-416-A. The cast cylinders and/or beams will be tested in accordance with Test Methods Tex-418-A or Tex-448-A.

4.9 Erosion Control and Land Disturbance Monitoring Program

Appropriate erosion and sediment control measures, such as proper contouring during site grading activities, the installation of siltation fences, and/or inlet protection, should be used during construction to keep eroded materials from being carried onto adjacent properties or waterbodies. Depending on the length of time the subgrade is exposed and the amount of siltation that occurs, it may be necessary to periodically remove materials collected by the sediment control systems. Timely sodding and/or seeding of sloped surfaces will help reduce this potential problem.

SCI recommends following the procedures detailed in the Stormwater Pollution Prevention Plan (SWPPP). Any site disturbing more than one acre of ground must obtain a Land Disturbance Permit from the Texas Commission on Environmental Quality (TCEQ). As part of the permit compliance procedures, weekly and rain event site observations must be performed to document the changing site conditions and maintenance of control measures. If conditions encountered during construction dictate that additional Best Management Practices are required, SCI can provide consultation as needed during construction.

5.0 CONSTRUCTION MONITORING PROGRAM

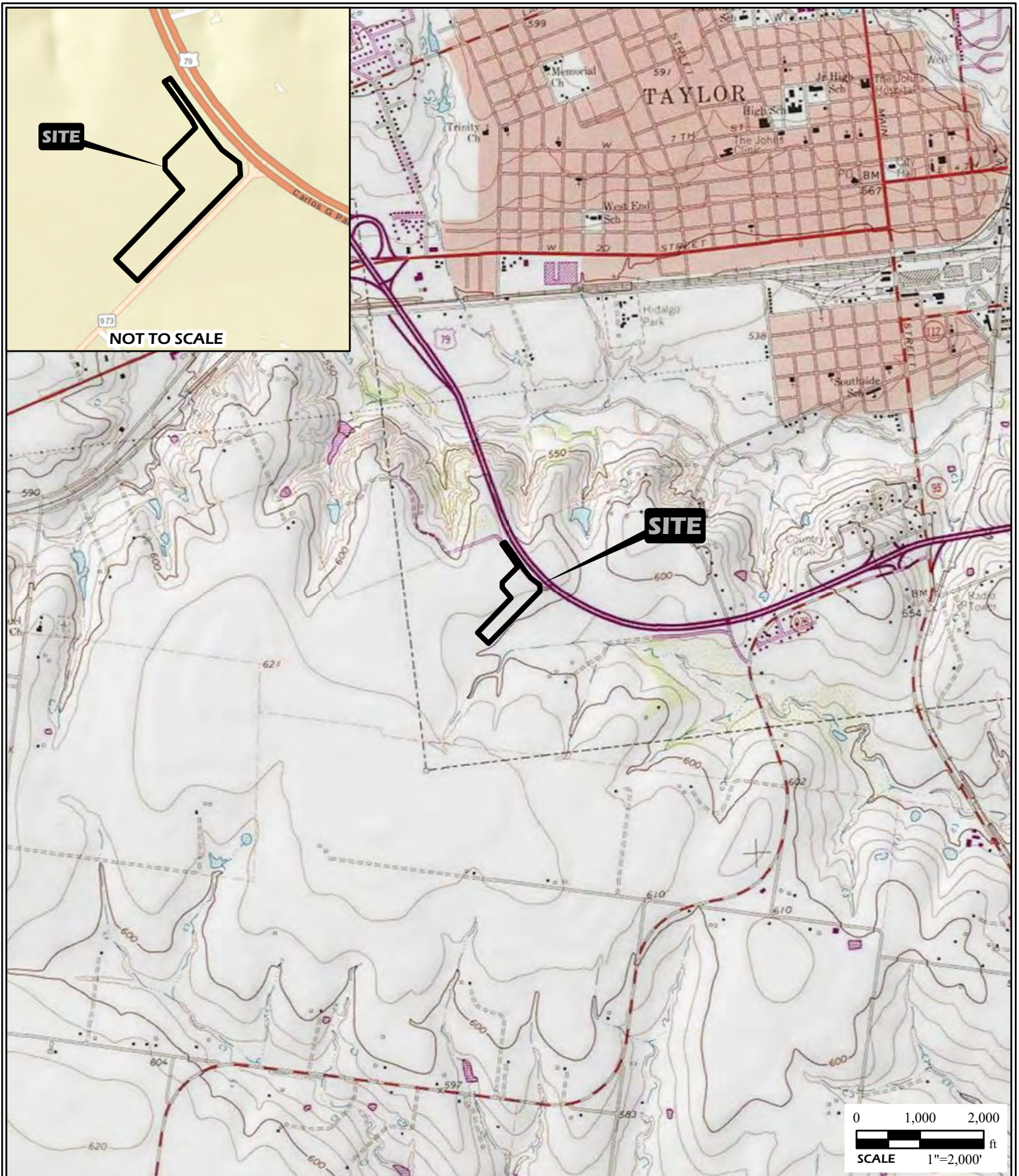
The list provided on the following page summarizes SCI's recommendations for a construction monitoring program. These services are recommended to provide quality assurance in assessing design assumptions and to document earth related construction procedures for compliance with plans, specifications, and good engineering practice. SCI should be retained to:

- Participate in a formal preconstruction meeting with the Owner's Representative, Civil Engineer, and Contractor, prior to construction at the site;
- Observe site preparation activities prior to construction, including proofrolling;
- Assess the suitability of potential fill materials, including both on-site and off-site sources;
- Observe pavement subgrade preparation and monitor placement and compaction of general fill;
- Provide observation and testing services for the base course and pavement section;
- Check the thickness of pavement sections; and
- Provide quality assurance testing of pavement materials.

6.0 LIMITATIONS

The recommendations provided herein are for the exclusive use of QuikTrip Corporation and the City of Taylor. They are specific only to the project described and are based on subsurface information obtained at three specific, widely spaced boring locations within the project area, our understanding of the project as described herein, and geotechnical engineering practice consistent with the standard of care. No other warranty is expressed or implied. SCI should be contacted if conditions encountered during construction are not consistent with those described.

Appendix A



	PROJECT NAME QUIKTRIP NO. 4192 ROADWAY REPORT TAYLOR, TEXAS			GENERAL NOTES/LEGEND USGS TOPOGRAPHIC MAP TAYLOR, TEXAS QUADRANGLE DATED 1964 REVISED 1989 10' CONTOURS STREET MAP HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD_STREET_MAP	 FIGURE 1
	VICINITY AND TOPOGRAPHIC MAP				
	DRAWN BY ACV	FIGURE DATE 05/02/2024	JOB NUMBER 2024-0521.10		
	CHECKED BY CJC				





GENERAL NOTES/LEGEND

APPROXIMATE SOIL BORING LOCATIONS



AERIAL PHOTOGRAPH OBTAINED FROM ARCGIS ONLINE, WORLD IMAGERY.
PLAN DATED 01/24/2024 BY KIRKMAN ENGINEERING.
DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL
NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.

PROJECT NAME	QUICKTRIP NO. 4192 ROADWAY REPORT TAYLOR, TEXAS
AERIAL PHOTOGRAPH	



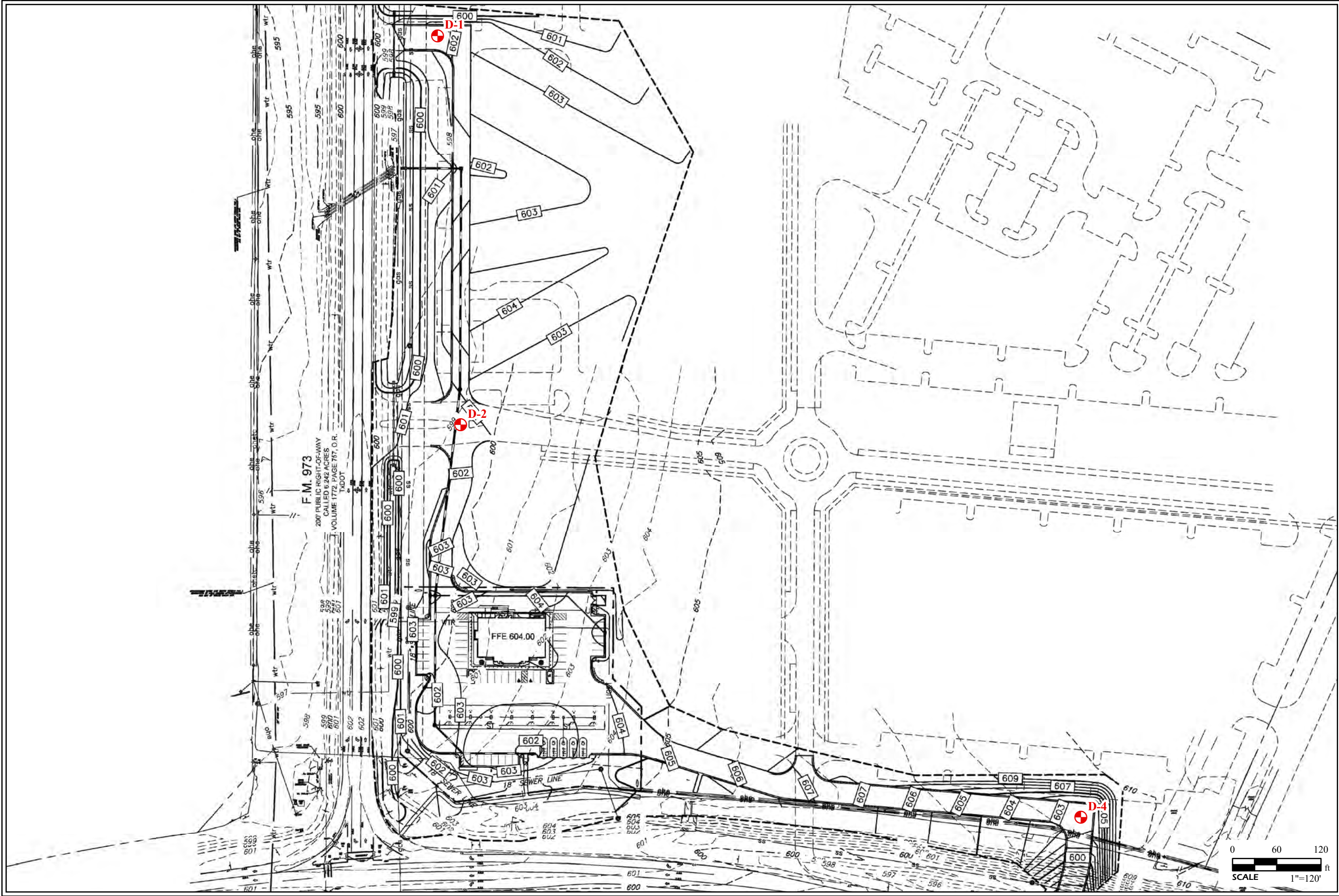
JOB NUMBER
2024-0521.10

FIGURE DATE
05/02/2024

DRAWN BY
ACV

CHECKED BY
CJC

FIGURE
2





GENERAL NOTES/LEGEND

APPROXIMATE SOIL BORING LOCATIONS

 D-1

PLAN DATED 3/27/2024 BY KIRKMAN ENGINEERING.

DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.

PROJECT NAME	QUICKTRIP NO. 4192 ROADWAY REPORT TAYLOR, TEXAS
SITE PLAN	



JOB NUMBER
2024-0521.10

FIGURE DATE
05/02/2024

DRAWN BY
ACV

CHECKED BY
CJC

FIGURE
3

Appendix B

LIQUID AND PLASTIC LIMIT CALCULATION SPREADSHEET AND REPORT

(ASTM D4318, AASHTO T 89 and T90) *Liquidity and Moisture Content*

Project Name QuikTrip No. 4192 Roadway Report Project No. 2024-0521.10

Bowl I.D.	Visual Description & Remarks				Natural Moisture					
AB 8					Moist + Tare (g)					
Boring/Sample ID & Depth (ft.)					Prep'd By	FP	Date	4/11/2024	Dry + Tare (g)	
D-1 (BULK) (0-2')									Tare (g)	
					Moisture, %	--				

☒ M.C. (%) has already been determined for this sample.

Estimated % Retained on No. 40 Sieve		Sample Prep. Over No. 40 Sieve		Sieved By		IR	
2		☒ Wet	☒ Pushed Through			4/18/2024	
Approximate Largest Sieve Opening Required for 100% of Material to Pass?		☐ Air-Dry	☐ Washed Over				
No. 16		☐ Oven-Dry	☐ Sieved Dry				

Liquid Limit	Wet + Tare Mass (g)	Dry + Tare Mass (g)	Tare Mass (g)	Blows	Liquid Limit Device I.D.	Test Method	Groove Tool
Trial 1	22.61	18.08	12.40	20		☐ A	☒ Plastic / Flat
Trial 2	23.32	18.39	12.13	22		☒ B	☐ Metal / Curved
Trial 3							
Tested By	IT	Date	4/19/2024		SA-LL-2		

Blow Count Ranges for Method A:
15 to 25 (wet), 20 to 30 (mid.), 25 to 35 (dry)

Blow Count Ranges for Method B:
20 to 30 (ASTM) or 22 to 28 (AASHTO) Blow counts recorded from Trial 1 and Trial 2 must not differ by more than 2.

Plastic Limit	Wet + Tare Mass (g)	Dry + Tare Mass (g)	Tare Mass (g)	
Trial 1	22.25	20.28	12.53	
Trial 2	21.70	19.78	12.23	
Tested By	FP	Date	4/19/2024	

Liquid Limit, LL **78**

Plastic Limit, PL **25**

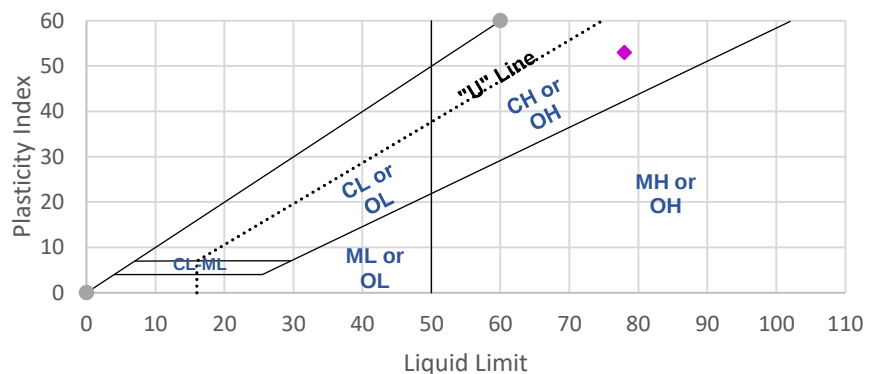
Plasticity Index, PI **53**

Classification **CH**

Calc'd By	FP
Date	4/22/2024

Checked By	GMK
Date	4/22/2024

Plasticity Chart



LIQUID AND PLASTIC LIMIT CALCULATION SPREADSHEET AND REPORT

(ASTM D4318, AASHTO T 89 and T90) *Liquidity and Moisture Content*

Project Name QuikTrip No. 4192 Roadway Report Project No. 2024-0521.10

Bowl I.D.	Visual Description & Remarks				Natural Moisture	
AB 17					Moist + Tare (g)	
					Dry + Tare (g)	
Boring/Sample ID & Depth (ft.)	Prep'd By	FP	Date	4/11/2024	Tare (g)	
D-2 (BULK) (0-2')					Moisture, %	--

☒ M.C. (%) has already been determined for this sample.

Estimated % Retained on No. 40 Sieve	Sample Prep. Over No. 40 Sieve		
2	☒ Wet	☒ Pushed Through	Sieved By
Approximate Largest Sieve Opening Required for 100% of Material to Pass?	☐ Air-Dry	☐ Washed Over	Date
No. 16	☐ Oven-Dry	☐ Sieved Dry	4/16/2024

Liquid Limit	Wet + Tare Mass (g)	Dry + Tare Mass (g)	Tare Mass (g)	Blows	Liquid Limit Device I.D.	Test Method	Groove Tool
Trial 1	21.88	18.10	12.03	21		☐ A	☒ Plastic / Flat
Trial 2	24.20	19.73	12.42	22			
Trial 3					SA-LL-2	☒ B	☐ Metal / Curved
Tested By	IT	Date	4/19/2024				

Blow Count Ranges for Method A:
15 to 25 (wet), 20 to 30 (mid.), 25 to 35 (dry)

Blow Count Ranges for Method B:
20 to 30 (ASTM) or 22 to 28 (AASHTO) Blow counts recorded from Trial 1 and Trial 2 must not differ by more than 2.

Plastic Limit	Wet + Tare Mass (g)	Dry + Tare Mass (g)	Tare Mass (g)	Liquid Limit, LL
Trial 1	21.03	19.60	12.42	61
Trial 2	22.13	20.51	12.06	20
Tested By	IT	Date	4/19/2024	

Plastic Limit, PL

Plasticity Index, PI

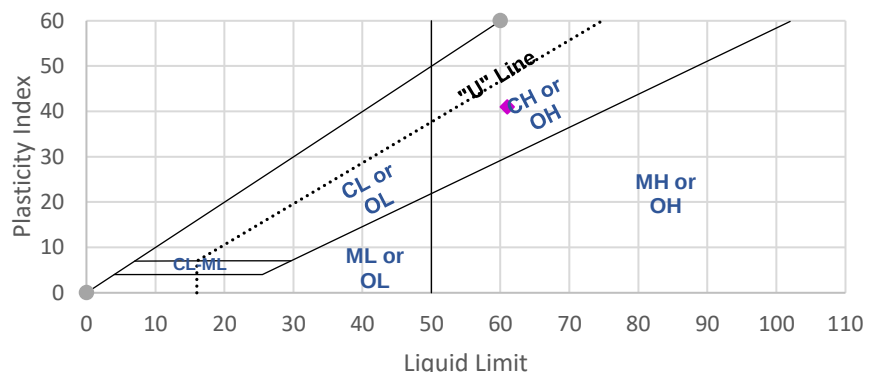
Classification

CH

Calc'd By	FP
Date	4/22/2024

Checked By	GMK
Date	4/22/2024

Plasticity Chart



LIQUID AND PLASTIC LIMIT CALCULATION SPREADSHEET AND REPORT

(ASTM D4318, AASHTO T 89 and T90) *Liquidity and Moisture Content*

Project Name QuikTrip No. 4192 Roadway Report Project No. 2024-0521.10

Bowl I.D.	Visual Description & Remarks				Natural Moisture	
AB 33	QuikTrip No. 4192 Roadway Report				Moist + Tare (g)	
Boring/Sample ID & Depth (ft.)	Prep'd By	FP	Date	4/11/2024	Dry + Tare (g)	
D-4 (BULK) (0-2')					Tare (g)	
					Moisture, % --	

☒ M.C. (%) has already been determined for this sample.

Estimated % Retained on No. 40 Sieve	Sample Prep. Over No. 40 Sieve			Sieved By	IR
2	☒ Wet	☒ Pushed Through		Date	4/17/2024
Approximate Largest Sieve Opening Required for 100% of Material to Pass?	☐ Air-Dry	☐ Washed Over			
No. 8	☐ Oven-Dry	☐ Sieved Dry			

Liquid Limit	Wet + Tare Mass (g)	Dry + Tare Mass (g)	Tare Mass (g)	Blows	Liquid Limit Device I.D. SA-LL-2	Test Method	Groove Tool
Trial 1	25.30	20.28	12.43	26		☐ A	☒ Plastic / Flat
Trial 2	22.26	18.40	12.34	25			
Trial 3						☒ B	☐ Metal / Curved
Tested By	IT	Date	4/19/2024				

Blow Count Ranges for Method A:

15 to 25 (wet), 20 to 30 (mid.), 25 to 35 (dry)

Blow Count Ranges for Method B:

20 to 30 (ASTM) or 22 to 28 (AASHTO) Blow counts recorded from Trial 1 and Trial 2 must not differ by more than 2.

Plastic Limit	Wet + Tare Mass (g)	Dry + Tare Mass (g)	Tare Mass (g)
Trial 1	22.12	20.42	12.31
Trial 2	21.34	19.72	12.18
Tested By	IT	Date	4/19/2024

Liquid Limit, LL

64

Plastic Limit, PL

21

Plasticity Index, PI

43

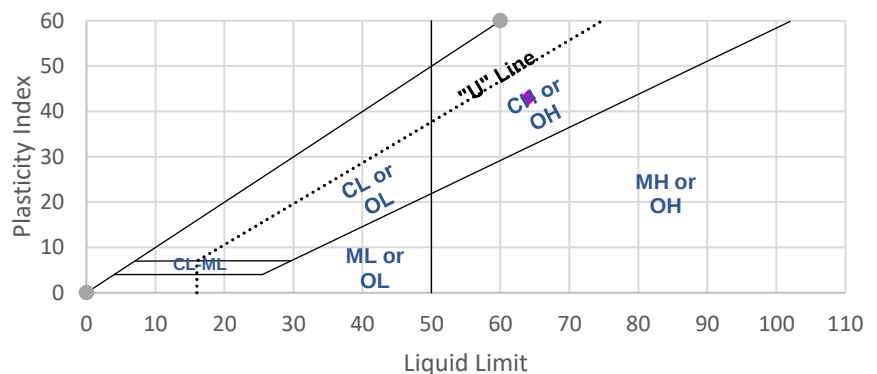
Classification

CH

Calc'd By	FP
Date	4/22/2024

Checked By	GMK
Date	4/22/2024

Plasticity Chart



PERCENT FINER THAN NO. 200 SIEVE (ASTM D 1140)

SCI Procedure: QSM: 2.9

Project Name: QuikTrip No. 4192 Roadway Report

Project No.: 2024-0521.10

Page: 1 of 1

Tested by/date: FP 04/11/2024

Calculated By: FP 04/15/2024

Checked by/date: GMK 04/15/2024

For Air Dried Samples Only

Boring	Sample	Sample Depth (ft)	Moisture Content of Air Dried Sample				Wt. Before Wash			Wt. After Wash				Minutes Soaked	
			Wet & Tare (g)	Dry & Tare (g)	Tare (g)	Percent Moisture	Air Dried Sample & Tare (g)	Tare (g)	Dry Weight (g)	Dry Sample & Tare (g)	Tare (g)	Dry Weight (g)	Percent Passing		
D-1 (BULK)	11275	0-2	77.27	63.5	21.23	32.58	311.09	210.14	76.14	215	210.14	6.46	91.5	24 HRS	#200
			77.27	63.5	21.23	32.58	311.09	210.14	76.14	10.65	9.05	1.60	97.9	24 HRS	#40
D-2 (BULK)	11276	0-2	103.26	88.75	20.80	21.35	496.29	212.50	233.85	229.55	212.50	19.54	91.6	24 HRS	#200
			103.26	88.75	20.80	21.35	496.29	212.50	233.85	11.37	8.88	2.49	98.9	24 HRS	#40
D-4 (BULK)	11278	0-2	85.27	73.78	20.81	21.69	398.05	218.63	147.44	229.47	218.63	13.04	91.2	24 HRS	#200
			85.27	73.78	20.81	21.69	398.05	218.63	147.44	11.29	9.09	2.20	98.5	24 HRS	#40
						#DIV/0!			#DIV/0!			0.00	#DIV/0!		#200
						#DIV/0!			#DIV/0!			0.00	#DIV/0!		#40
						#DIV/0!			#DIV/0!			0.00	#DIV/0!		#200
						#DIV/0!			#DIV/0!			0.00	#DIV/0!		#40
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						#DIV/0!			#DIV/0!			0.00	#DIV/0!		#40
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						#DIV/0!			#DIV/0!			0.00	#DIV/0!		#200
						#DIV/0!			#DIV/0!			0.00	#DIV/0!		#40

Soil Corrosivity Testing (ASTM D4972 & Tex-145-E)

Project Name: QuikTrip 4192
(PN: 20240521.10)
Sample ID: 11275 (D-1) (0-2 ft)

Test Date: 04/16/24
Tested By: O.V., & C.M.

pH of Soil

Condition	pH Value	Temperature
In Distilled Water	7.75	19.9°C
In Calcium Chloride (CaCl ₂)	7.18	20.0°C

Test Method: ASTM D4972, Method A

pH Meter: AE-224, Hanna, 5050150101

Calibrated Date: 04/16/24

Sulfate Content in Soils

Test Method: Tex-145-E, Part II

Sulfate Content (ppm): ND

Tested By: C.M.

Tech Cert No: #826 (SB103)

Calibrated Date: 04/16/24

Note 1: Average sulfate concentration was obtained from multiple trials.

Note 2: ND = No Detection, Below Method Detection Limit, which < 100 ppm.

Cheng-Wei Chen, Ph.D., 04/16/24

Reviewed By / Date

The testing was performed in accordance with applicable industry standard. The results provided in this report do not constitute a professional opinion by Alpine Engineering Services, LLC (Alpine). This report may be used only by the Client and the registered design professional in charge.

Soil Corrosivity Testing (ASTM D4972 & Tex-145-E)

Project Name: QuikTrip 4192
(PN: 20240521.10)
Sample ID: 11276 (D-2) (0-2 ft)

Test Date: 04/16/24
Tested By: O.V., & C.M.

pH of Soil

Condition	pH Value	Temperature
In Distilled Water	8.20	20.4°C
In Calcium Chloride (CaCl ₂)	7.62	20.3°C

Test Method: ASTM D4972, Method A

pH Meter: AE-224, Hanna, 5050150101

Calibrated Date: 04/16/24

Sulfate Content in Soils

Test Method: Tex-145-E, Part II

Sulfate Content (ppm): ND

Tested By: C.M.

Tech Cert No: #826 (SB103)

Calibrated Date: 04/16/24

Note 1: Average sulfate concentration was obtained from multiple trials.

Note 2: ND = No Detection, Below Method Detection Limit, which < 100 ppm.

Cheng-Wei Chen, Ph.D., 04/16/24

Reviewed By / Date

The testing was performed in accordance with applicable industry standard. The results provided in this report do not constitute a professional opinion by Alpine Engineering Services, LLC (Alpine). This report may be used only by the Client and the registered design professional in charge.

Soil Corrosivity Testing (ASTM D4972 & Tex-145-E)

Project Name: QuikTrip 4192
(PN: 20240521.10)
Sample ID: 11278 (D-4) (0-2 ft)

Test Date: 04/16/24
Tested By: O.V., & C.M.

pH of Soil

Condition	pH Value	Temperature
In Distilled Water	8.22	20.0°C
In Calcium Chloride (CaCl ₂)	7.46	20.1°C

Test Method: ASTM D4972, Method A

pH Meter: AE-224, Hanna, 5050150101

Calibrated Date: 04/16/24

Sulfate Content in Soils

Test Method: Tex-145-E, Part II

Sulfate Content (ppm): ND

Tested By: C.M.

Tech Cert No: #826 (SB103)

Calibrated Date: 04/16/24

Note 1: Average sulfate concentration was obtained from multiple trials.

Note 2: ND = No Detection, Below Method Detection Limit, which < 100 ppm.

Cheng-Wei Chen, Ph.D., 04/16/24

Reviewed By / Date

The testing was performed in accordance with applicable industry standard. The results provided in this report do not constitute a professional opinion by Alpine Engineering Services, LLC (Alpine). This report may be used only by the Client and the registered design professional in charge.

CBR (California Bearing Ratio) Test (ASTM D1883)

Project Name: QuikTrip 4192
(PN: 20240521.10)

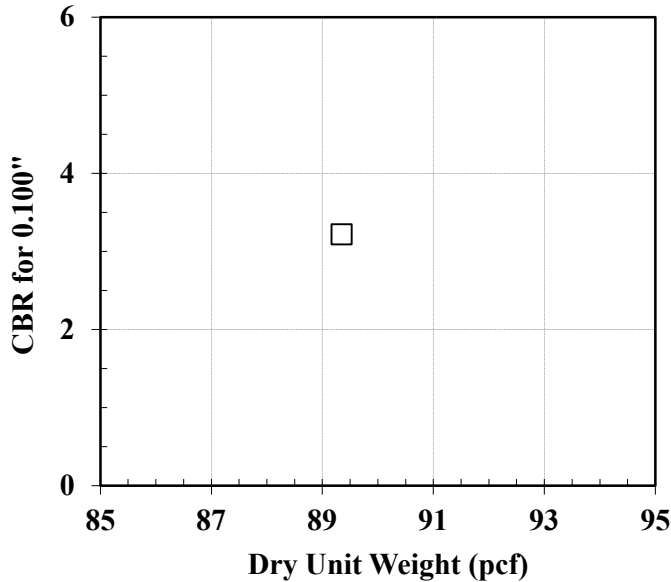
Sample ID: 11278

Location: D-1, D-2, D-4 (0-2') Combined Bulk

Test Date: 04/19/24

Tested By: CM

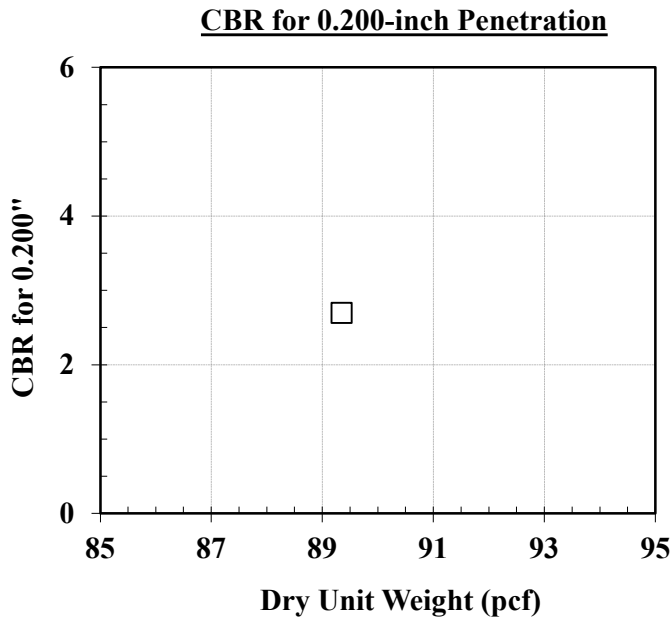
CBR for 0.100-inch Penetration



Rate of Penetration: 0.05 in/min

Initial Conditions	
Specimen No.	1
Target Dry Unit Weight (pcf)	89.6
Condition of Sample	Soaked
Surcharge Weight (lbs)	10
Water Content (%)	25.9
Dry Unit Weight (pcf)	89.3

Final Conditions	
Water Content (%) at top 1-inch layer after soaking	32.6
Swell (% of initial height)	0.9
Bearing Ratio of Specimen at 0.100 in penetration	3.2
Bearing Ratio of Specimen at 0.200 in penetration	2.7



Note: Soil specimen was remolded to target unit weight 95% standard compaction at optimum water content per ASTM D698. The 10 lbs surcharge load was placed during bearing test. It was allowed the specimens to soak for 96 hrs prior to bearing test. Prior to bearing test, removed the free water and allow the specimens to drain out for at least 15 minutes.

Cheng-Wei Chen, Ph.D. 04/23/24

Reviewed By / Date



ASTM D698 T99 Standard Proctor

Report Date: 04/15/2024

Austin

150 Texas Avenue
Suite 105
Round Rock, TX 78664
Phone: 512-996-9199

Client:

QuikTrip Corporation
4705 South 129th East Avenue
Tulsa, OK 74134

Project:

20240521.10
QuikTrip 4192
SWC of FM 973 and US 79
Taylor, TX 76574

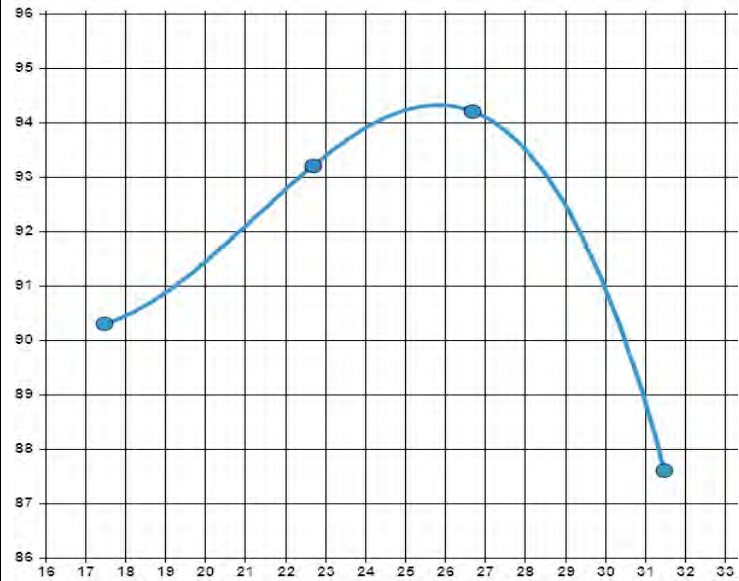
Sample Number: 11278

Sample Date: 04/03/2024

Location: Borehole

Location Details: D-1, D-2, D-4 (0-2') Combined Bulk

GRAPH & MAX DENSITY-OPTIMUM MOISTURE



Maximum Dry Density (lb/ft³): 94.3

Optimum Moisture (%): 25.8

TEST DATA

Mass of Compaction Mold (grams)	4132.20	4132.20	4132.20	4132.20
Mass of Mold and Compacted Subspecimen (grams)	5855.80	5929.80	5730.20	5867.20
Wet Density of Subspecimen (lb/ft³)	114.4	119.3	106.1	115.2
Dry Density of Subspecimen (lb/ft³)	93.2	94.2	90.3	87.6
Water Content of Subspecimen (%)	22.7	26.7	17.5	31.5

Material Classification: CH FAT CLAY
Material Description: FAT CLAY (CH): Dark Brown
Test Method Used: Method B
Type of Rammer Used: Mechanical

Test Date: 04/03/2024
Preparation Method: Moist
Tested By: Frank Proano

*Testing performed in general accordance with ASTM D698, D2216, D2487, D2488, D4318, D4718, and D6913 where applicable unless otherwise noted.

Appendix C

TEXAS DEPARTMENT OF TRANSPORTATION

FP S21-1.5

FLEXIBLE PAVEMENT SYSTEM

Release:12-12-2018

PAVEMENT DESIGN TYPE # 5 -- ACP + FLEX BASE + STAB SBGR OVER SUBGRADE

PROB	DIST.-14	COUNTY-227	CONT.	SECT.	JOB	HIGHWAY	DATE	PAGE
1	Austin	TRAVIS	NA	NA	NA	wingroads	5/8/2024	1

COMMENTS ABOUT THIS PROBLEM

QuikTrip No. 4192 Roadway Report

BASIC DESIGN CRITERIA

LENGTH OF THE ANALYSIS PERIOD (YEARS)	20.0
MINIMUM TIME TO FIRST OVERLAY (YEARS)	10.0
MINIMUM TIME BETWEEN OVERLAYS (YEARS)	5.0
DESIGN CONFIDENCE LEVEL (90.0%)	B
SERVICEABILITY INDEX OF THE INITIAL STRUCTURE	4.2
FINAL SERVICEABILITY INDEX P2	2.0
SERVICEABILITY INDEX P1 AFTER AN OVERLAY	4.2
DISTRICT TEMPERATURE CONSTANT	31.0
SUBGRADE ELASTIC MODULUS by COUNTY (ksi)	12.00
INTEREST RATE OR TIME VALUE OF MONEY (PERCENT)	7.0

PROGRAM CONTROLS AND CONSTRAINTS

NUMBER OF SUMMARY OUTPUT PAGES DESIRED (8 DESIGNS/PAGE)	3
MAX FUNDS AVAILABLE PER SQ.YD. FOR INITIAL DESIGN (DOLLARS)	99.00
MAXIMUM ALLOWED THICKNESS OF INITIAL CONSTRUCTION (INCHES)	30.0
ACCUMULATED MAX DEPTH OF ALL OVERLAYS (INCHES) (EXCLUDING LEVEL-UP)	6.0

TRAFFIC DATA

ADT AT BEGINNING OF ANALYSIS PERIOD (VEHICLES/DAY)	500.
ADT AT END OF TWENTY YEARS (VEHICLES/DAY)	995.
ONE-DIRECTION 20YEAR 18 kip ESAL (millions)	0.150
AVERAGE APPROACH SPEED TO THE OVERLAY ZONE (MPH)	30.0
AVERAGE SPEED THROUGH OVERLAY ZONE (OVERLAY DIRECTION) (MPH)	10.0
AVERAGE SPEED THROUGH OVERLAY ZONE (NON-OVERLAY DIRECTION) (MPH)	30.0
PROPORTION OF ADT ARRIVING EACH HOUR OF CONSTRUCTION (PERCENT)	5.0
PERCENT TRUCKS IN ADT	4.0

TEXAS DEPARTMENT OF TRANSPORTATION

FP S21-1.5

FLEXIBLE PAVEMENT SYSTEM

Release:12-12-2018

PAVEMENT DESIGN TYPE # 5 -- ACP + FLEX BASE + STAB SBGR OVER SUBGRADE

PROB	DIST.-14	COUNTY-227	CONT.	SECT.	JOB	HIGHWAY	DATE	PAGE
1	Austin	TRAVIS	NA	NA	NA	wingroads	5/8/2024	2

INPUT DATA CONTINUED

CONSTRUCTION AND MAINTENANCE DATA

MINIMUM OVERLAY THICKNESS (INCHES)	1.5
OVERLAY CONSTRUCTION TIME (HOURS/DAY)	12.0
ASPHALTIC CONCRETE COMPACTED DENSITY (TONS/C.Y.)	1.90
ASPHALTIC CONCRETE PRODUCTION RATE (TONS/HOUR)	200.0
WIDTH OF EACH LANE (FEET)	15.0
FIRST YEAR COST OF ROUTINE MAINTENANCE (DOLLARS/LANE-MILE)	0.00
ANNUAL INCREMENTAL INCREASE IN MAINTENANCE COST (DOLLARS/LANE-MILE)	0.00

DETOUR DESIGN FOR OVERLAYS

TRAFFIC MODEL USED DURING OVERLAYING	2
TOTAL NUMBER OF LANES OF THE FACILITY	2
NUMBER OF OPEN LANES IN RESTRICTED ZONE (OVERLAY DIRECTION)	0
NUMBER OF OPEN LANES IN RESTRICTED ZONE (NON-OVERLAY DIRECTION)	1
DISTANCE TRAFFIC IS SLOWED (OVERLAY DIRECTION) (MILES)	0.60
DISTANCE TRAFFIC IS SLOWED (NON-OVERLAY DIRECTION) (MILES)	0.60
DETOUR DISTANCE AROUND THE OVERLAY ZONE (MILES)	0.00

PAVING MATERIALS INFORMATION

LAYER CODE	MATERIALS NAME	COST PER CY	E MODULUS	POISSON RATIO	MIN. DEPTH	MAX. DEPTH	SALVAGE PCT.
1 A	ASPH CONC PVMT	150.00	500000.	0.35	2.50	2.50	30.00
2 B	FLEXIBLE BASE	54.00	40000.	0.35	10.00	10.00	75.00
3 C	STABILIZED SUBGR	15.00	36000.	0.30	8.00	8.00	90.00
4 D	SUBGRADE (200)	2.00	12000.	0.40	200.00	200.00	90.00

TEXAS DEPARTMENT OF TRANSPORTATION

FP S21-1.5

FLEXIBLE PAVEMENT SYSTEM

Release:12-12-2018

PAVEMENT DESIGN TYPE # 5 -- ACP + FLEX BASE + STAB SBGR OVER SUBGRADE

PROB	DIST.-14	COUNTY-227	CONT.	SECT.	JOB	HIGHWAY	DATE	PAGE
1	Austin	TRAVIS	NA	NA	NA	wingroads	5/8/2024	3

C. LEVEL B SUMMARY OF THE BEST DESIGN STRATEGIES
IN ORDER OF INCREASING TOTAL COST
1

MATERIAL ARRANGEMENT	ABC
INIT. CONST. COST	28.75
OVERLAY CONST. COST	0.00
USER COST	0.00
ROUTINE MAINT. COST	0.00
SALVAGE VALUE	-4.49

TOTAL COST	24.26
------------	-------

NUMBER OF LAYERS	3
------------------	---

LAYER DEPTH (INCHES)	
D(1)	2.50
D(2)	10.00
D(3)	8.00

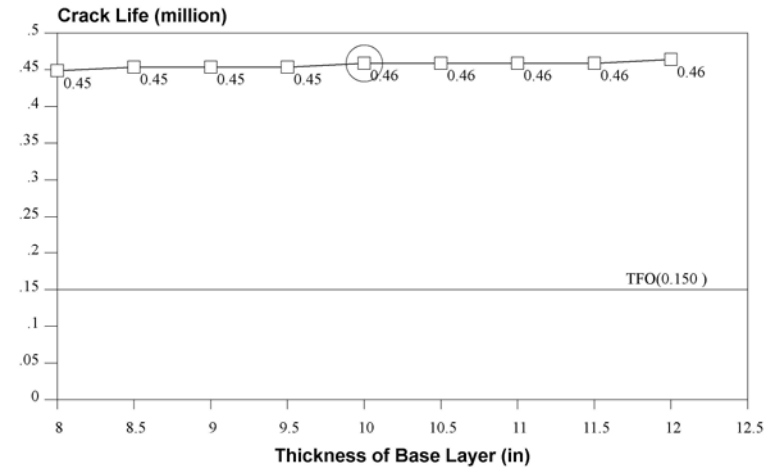
NO.OF PERF.PERIODS	1
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PERF. TIME (YEARS)	
T(1)	40.

OVERLAY POLICY (INCH)
(INCLUDING LEVEL-UP)

THE TOTAL NUMBER OF FEASIBLE DESIGNS CONSIDERED WAS 1

	Thickness (inches)	Modulus (ksi)	Poisson's Ratio	Material Name
AC	2.50	500.00	0.35	ASPH CONC PVMT
Base	10.00	40.00	0.35	FLEXIBLE BASE
Subbase	8.00	36.00	0.30	STABILIZED SUBGR
Subgrade	200.00	12.00	0.40	SUBGRADE(200)



Fatigue Crack Model:

$$N_f = f_1 (\epsilon_t)^{f_2} (E_t)^{f_3}$$

$f_1 = 7.96E-02$
 $f_2 = 3.291$

Rutting Model:

$$N_d = f_4 (\epsilon_v)^{f_5}$$

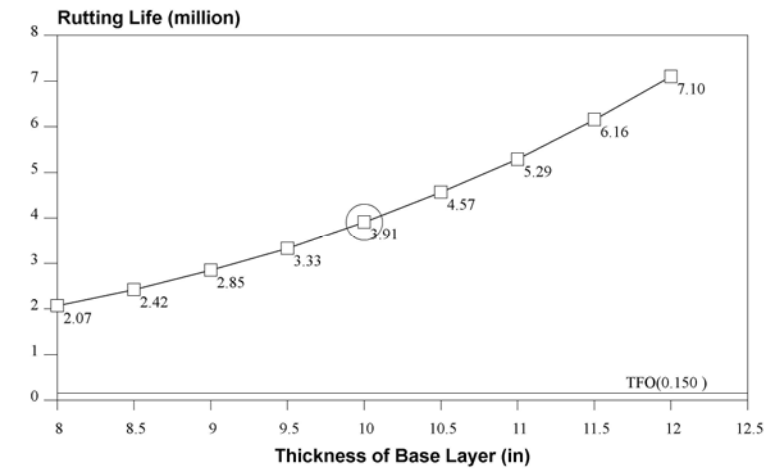
$f_4 = 1.37E-09$
 $f_5 = 4.477$

TFO(Traffic to 1st Overlay): 0.15 (million)

Crack Life: 0.46 (million) $\epsilon_t = 293.00 (\mu\epsilon)$

Rut Life: 3.91 (million) $\epsilon_v = -353.00 (\mu\epsilon)$

Traffic to 1st Overlay is calculated by analysis period: 20years and 18 kips: 15millions.
Also the start ADT:500.0 and ending ADT:995.0

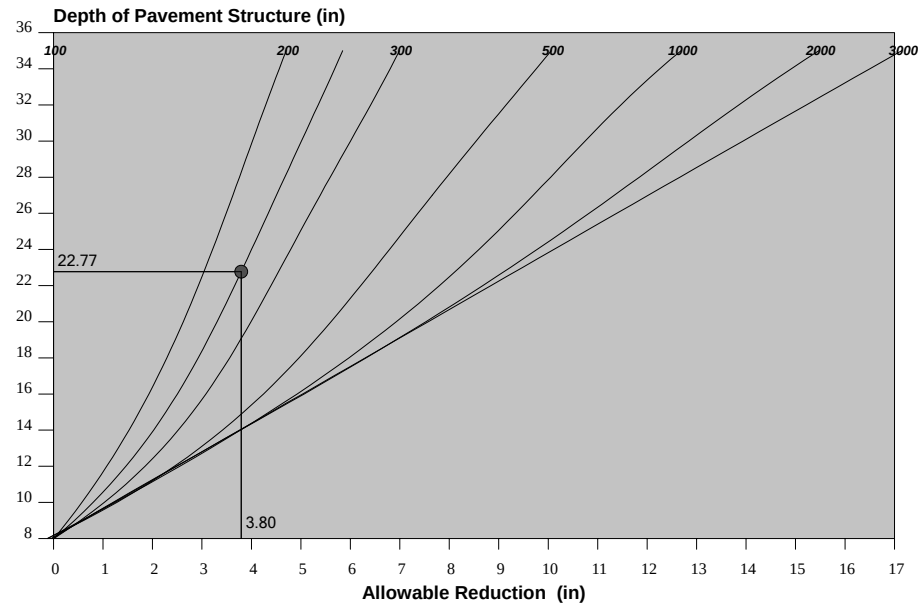


Mechanistic Check Conclusion:

The design is OK !

FPS 21 Mechanistic Design Check Output (FPS21-1.5Release:12-12-2018)			
Highway	wingroads	Problem	1
C-S-J	NA - NA - NA	Date	5/8/2024
District	Austin	County	TRAVIS
Design Type:Asphalt concrete + Flexible Base + Stabilized Subgrade over Subgrade			

	Thickness (inches)	Modulus (ksi)	Poisson's Ratio	Material Name
ASPH CONC PVMT	2.50	500.00	0.35	ASPH CONC PVMT
FLEXIBLE BASE	10.00	40.00	0.35	FLEXIBLE BASE
STABILIZED SUBGR	8.00	36.00	0.30	STABILIZED SUBGR
SUBGRADE(200)	200.00	12.00	0.40	SUBGRADE(200)



Thickness Reduction Chart for Stabilized Layers

INPUT PARAMETERS:

The Heaviest Wheel Loads Daily (ATHWLD)	10000.0 (lb)
Percentage of TandemAxles	10.0 (%)
Modified Cohesionmeter Value	250.0
Design Wheel Load	10000.0 (lb)
Subgrade Texas Triaxial Class Number (TTC)	5.88
Calculated TTC based on input soil PI	
User Input Sub-Grade Plasticity Index (PI)	43.00

RESULT:

Triaxial Thickness Required	22.8 (in)
The FPS Design Thickness	20.5 (in)
Allowable Thickness Reduction	3.8 (in)
Modified Triaxial Thickness	19.0 (in)

TRIAxIAL CHECK CONCLUSION:

The Design OK !

FPS 21 Triaxial Design Check Output (FPS21-1.5Release:12-12-2018)			
Highway	wingroads	Problem	1
C-S-J	NA - NA - NA	Date	5/22/2024
District	Austin	County	TRAVIS
Design Type:Asphalt concrete + Flexible Base + Stabilized Subgrade over Subgrade			

TEXAS DEPARTMENT OF TRANSPORTATION

FP S21-1.5

FLEXIBLE PAVEMENT SYSTEM

Release:12-12-2018

PAVEMENT DESIGN TYPE # 5 -- ACP + FLEX BASE + STAB SBGR OVER SUBGRADE

PROB	DIST.-14	COUNTY-227	CONT.	SECT.	JOB	HIGHWAY	DATE	PAGE
1	Austin	TRAVIS	NA	NA	NA	wingroads	5/8/2024	1

COMMENTS ABOUT THIS PROBLEM

QuikTrip No. 4192 Roadway Report

BASIC DESIGN CRITERIA

LENGTH OF THE ANALYSIS PERIOD (YEARS)	20.0
MINIMUM TIME TO FIRST OVERLAY (YEARS)	10.0
MINIMUM TIME BETWEEN OVERLAYS (YEARS)	5.0
DESIGN CONFIDENCE LEVEL (90.0%)	B
SERVICEABILITY INDEX OF THE INITIAL STRUCTURE	4.2
FINAL SERVICEABILITY INDEX P2	2.5
SERVICEABILITY INDEX P1 AFTER AN OVERLAY	4.2
DISTRICT TEMPERATURE CONSTANT	31.0
SUBGRADE ELASTIC MODULUS by COUNTY (ksi)	12.00
INTEREST RATE OR TIME VALUE OF MONEY (PERCENT)	7.0

PROGRAM CONTROLS AND CONSTRAINTS

NUMBER OF SUMMARY OUTPUT PAGES DESIRED (8 DESIGNS/PAGE)	3
MAX FUNDS AVAILABLE PER SQ.YD. FOR INITIAL DESIGN (DOLLARS)	99.00
MAXIMUM ALLOWED THICKNESS OF INITIAL CONSTRUCTION (INCHES)	30.0
ACCUMULATED MAX DEPTH OF ALL OVERLAYS (INCHES) (EXCLUDING LEVEL-UP)	6.0

TRAFFIC DATA

ADT AT BEGINNING OF ANALYSIS PERIOD (VEHICLES/DAY)	2000.
ADT AT END OF TWENTY YEARS (VEHICLES/DAY)	3980.
ONE-DIRECTION 20YEAR 18 kip ESAL (millions)	0.700
AVERAGE APPROACH SPEED TO THE OVERLAY ZONE (MPH)	30.0
AVERAGE SPEED THROUGH OVERLAY ZONE (OVERLAY DIRECTION) (MPH)	10.0
AVERAGE SPEED THROUGH OVERLAY ZONE (NON-OVERLAY DIRECTION) (MPH)	30.0
PROPORTION OF ADT ARRIVING EACH HOUR OF CONSTRUCTION (PERCENT)	5.0
PERCENT TRUCKS IN ADT	4.0

TEXAS DEPARTMENT OF TRANSPORTATION

FP S21-1.5

FLEXIBLE PAVEMENT SYSTEM

Release:12-12-2018

PAVEMENT DESIGN TYPE # 5 -- ACP + FLEX BASE + STAB SBGR OVER SUBGRADE

PROB	DIST.-14	COUNTY-227	CONT.	SECT.	JOB	HIGHWAY	DATE	PAGE
1	Austin	TRAVIS	NA	NA	NA	wingroads	5/8/2024	2

INPUT DATA CONTINUED

CONSTRUCTION AND MAINTENANCE DATA

MINIMUM OVERLAY THICKNESS (INCHES)	2.0
OVERLAY CONSTRUCTION TIME (HOURS/DAY)	12.0
ASPHALTIC CONCRETE COMPACTED DENSITY (TONS/C.Y.)	1.90
ASPHALTIC CONCRETE PRODUCTION RATE (TONS/HOUR)	200.0
WIDTH OF EACH LANE (FEET)	15.0
FIRST YEAR COST OF ROUTINE MAINTENANCE (DOLLARS/LANE-MILE)	0.00
ANNUAL INCREMENTAL INCREASE IN MAINTENANCE COST (DOLLARS/LANE-MILE)	0.00

DETOUR DESIGN FOR OVERLAYS

TRAFFIC MODEL USED DURING OVERLAYING	2
TOTAL NUMBER OF LANES OF THE FACILITY	2
NUMBER OF OPEN LANES IN RESTRICTED ZONE (OVERLAY DIRECTION)	0
NUMBER OF OPEN LANES IN RESTRICTED ZONE (NON-OVERLAY DIRECTION)	1
DISTANCE TRAFFIC IS SLOWED (OVERLAY DIRECTION) (MILES)	0.60
DISTANCE TRAFFIC IS SLOWED (NON-OVERLAY DIRECTION) (MILES)	0.60
DETOUR DISTANCE AROUND THE OVERLAY ZONE (MILES)	0.00

PAVING MATERIALS INFORMATION

LAYER CODE	MATERIALS NAME	COST PER CY	E MODULUS	POISSON RATIO	MIN. DEPTH	MAX. DEPTH	SALVAGE PCT.
1 A	ASPH CONC PVMT	150.00	500000.	0.35	3.50	3.50	30.00
2 B	FLEXIBLE BASE	54.00	40000.	0.35	12.00	12.00	75.00
3 C	STABILIZED SUBGR	15.00	35000.	0.30	8.00	8.00	90.00
4 D	SUBGRADE (200)	2.00	12000.	0.40	200.00	200.00	90.00

TEXAS DEPARTMENT OF TRANSPORTATION

FP S21-1.5

FLEXIBLE PAVEMENT SYSTEM

Release:12-12-2018

PAVEMENT DESIGN TYPE # 5 -- ACP + FLEX BASE + STAB SBGR OVER SUBGRADE

PROB	DIST.-14	COUNTY-227	CONT.	SECT.	JOB	HIGHWAY	DATE	PAGE
1	Austin	TRAVIS	NA	NA	NA	wingroads	5/8/2024	3

C. LEVEL B SUMMARY OF THE BEST DESIGN STRATEGIES
IN ORDER OF INCREASING TOTAL COST
1

MATERIAL ARRANGEMENT	ABC
INIT. CONST. COST	35.92
OVERLAY CONST. COST	0.00
USER COST	0.00
ROUTINE MAINT. COST	0.00
SALVAGE VALUE	-5.39

TOTAL COST	30.52
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NUMBER OF LAYERS	3
------------------	---

LAYER DEPTH (INCHES)	
D(1)	3.50
D(2)	12.00
D(3)	8.00

NO.OF PERF.PERIODS	1
--------------------	---

PERF. TIME (YEARS)	
T(1)	38.

OVERLAY POLICY (INCH)
(INCLUDING LEVEL-UP)

THE TOTAL NUMBER OF FEASIBLE DESIGNS CONSIDERED WAS 1

	Thickness (inches)	Modulus (ksi)	Poisson's Ratio	Material Name
AC	3.50	500.00	0.35	ASPH CONC PVMT
Base	12.00	40.00	0.35	FLEXIBLE BASE
Subbase	8.00	35.00	0.30	STABILIZED SUBGR
Subgrade	200.00	12.00	0.40	SUBGRADE(200)

Fatigue Crack Model:

$$N_f = f_1 (\epsilon_t)^{f_2} (E_t)^{f_3}$$

$$f_1 = 7.96E-02$$

$$f_2 = 3.291$$

Rutting Model:

$$N_d = f_4 (\epsilon_v)^{f_5}$$

$$f_4 = 1.37E-09$$

$$f_5 = 4.477$$

TFO(Traffic to 1st Overlay): 0.70 (million)

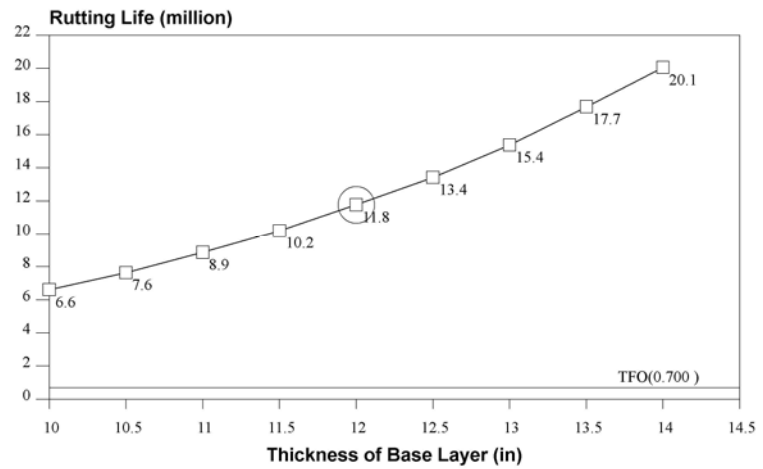
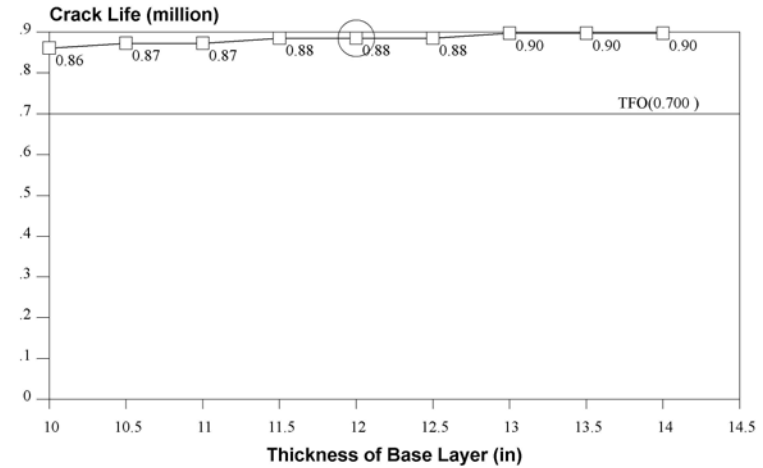
Crack Life: 0.88 (million) $\epsilon_t = 240.00 (\mu\epsilon)$

Rut Life: 11.77 (million) $\epsilon_v = -276.00 (\mu\epsilon)$

Traffic to 1st Overlay is calculated by analysis period: 20years and 18 kips: 70millions.
Also the start ADT:2000.0 and ending ADT:3980.0

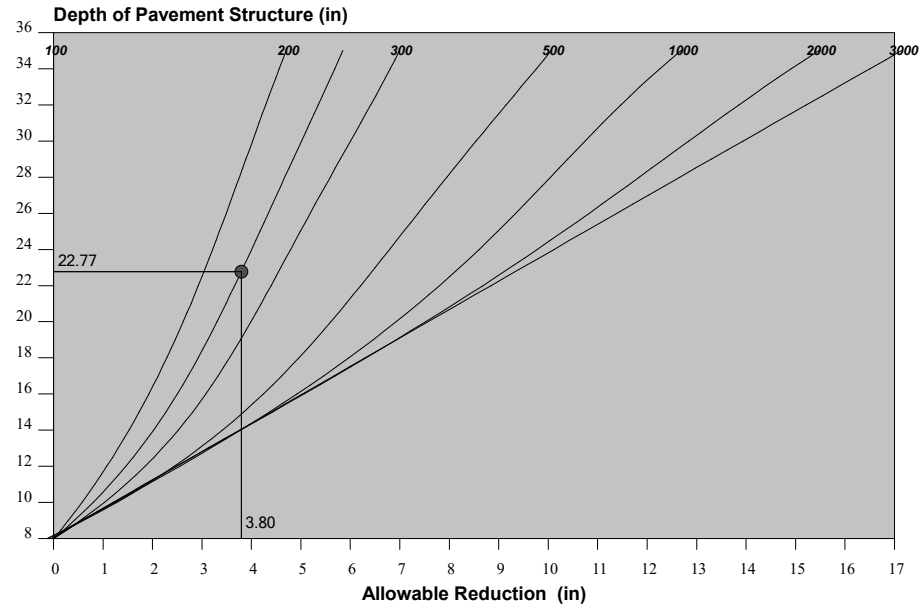
Mechanistic Check Conclusion:

The design is OK !



FPS 21 Mechanistic Design Check Output (FPS21-1.5Release:12-12-2018)			
Highway	wingroads	Problem	1
C-S-J	NA - NA - NA	Date	5/8/2024
District	Austin	County	TRAVIS
Design Type:Asphalt concrete + Flexible Base + Stabilized Subgrade over Subgrade			

	Thickness (inches)	Modulus (ksi)	Poisson's Ratio	Material Name
ASPH CONC PVMT	3.50	500.00	0.35	ASPH CONC PVMT
FLEXIBLE BASE	12.00	40.00	0.35	FLEXIBLE BASE
STABILIZED SUBGR	8.00	35.00	0.30	STABILIZED SUBGR
SUBGRADE(200)	200.00	12.00	0.40	SUBGRADE(200)



Thickness Reduction Chart for Stabilized Layers

INPUT PARAMETERS:

The Heaviest Wheel Loads Daily (ATHWLD)	10000.0 (lb)
Percentage of TandemAxles	10.0 (%)
Modified Cohesionmeter Value	250.0
Design Wheel Load	10000.0 (lb)
Subgrade Texas Triaxial Class Number (TTC)	5.88
Calculated TTC based on input soil PI	
User Input Sub-Grade Plasticity Index (PI)	43.00

RESULT:

Triaxial Thickness Required	22.8 (in)
The FPS Design Thickness	23.5 (in)
Allowable Thickness Reduction	3.8 (in)
Modified Triaxial Thickness	19.0 (in)

TRIAxIAL CHECK CONCLUSION:

The Design OK !

FPS 21 Triaxial Design Check Output (FPS21-1.5Release:12-12-2018)			
Highway	wingroads	Problem	1
C-S-J	NA - NA - NA	Date	5/8/2024
District	Austin	County	TRAVIS
Design Type:Asphalt concrete + Flexible Base + Stabilized Subgrade over Subgrade			

WinPAS

Pavement Thickness Design According to
1993 AASHTO Guide for Design of Pavements Structures
American Concrete Pavement Association

Rigid Design Inputs

Project Name: QuikTrip #4192 - Roadway Report
Route: Wing Roads - Local
Location: SWC of FM 973 & Carlos G Parker Blvd, Taylor, Texas
Owner/Agency:
Design Engineer:

Rigid Pavement Design/Evaluation

Concrete Thickness	4.91 inches	Load Transfer Coefficient	2.80
Total Rigid ESALs	150,000	Modulus of Subgrade Reaction	138 psi/in.
Reliability	90.00 percent	Drainage Coefficient	0.90
Overall Standard Deviation	0.35	Initial Serviceability	4.20
Flexural Strength	600 psi	Terminal Serviceability	2.00
Modulus of Elasticity	4,100,000 psi		

WinPAS

Pavement Thickness Design According to
1993 AASHTO Guide for Design of Pavements Structures
American Concrete Pavement Association

Rigid Design Inputs

Project Name: QuikTrip #4192 - Roadway Report
Route: Wing Roads - Collector
Location: SWC of FM 973 & Carlos G Parker Blvd, Taylor, Texas
Owner/Agency:
Design Engineer:

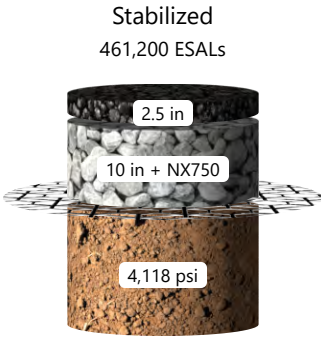
Rigid Pavement Design/Evaluation

Concrete Thickness	6.42 inches	Load Transfer Coefficient	3.00
Total Rigid ESALs	700,000	Modulus of Subgrade Reaction	138 psi/in.
Reliability	90.00 percent	Drainage Coefficient	1.00
Overall Standard Deviation	0.35	Initial Serviceability	4.20
Flexural Strength	600 psi	Terminal Serviceability	2.00
Modulus of Elasticity	4,100,000 psi		

Asphalt Pavement
Design Analysis

Design	Local	Reference	
Project	QT4192	Location	Taylor, TX, USA
Customer		Designer	gabrielle kowalik
Company	SCI Engineering	Date	May 22, 2024

Results



	Thickness	Coeff.	SN
HMA layer 1	2.5 in	0.440	1.100
Aggregate base (NX750)	10 in	0.254	2.540
Structural number (SN)			3.640

	Thickness	Coeff.	SN
HMA layer 1	2.5 in	0.440	1.100
Aggregate base	10 in	0.140	1.400
Chemically-treated subbase	8 in	0.080	0.640
Structural number (SN)			3.140

Parameters

Project Information

Target ESALs	Subgrade resilient modulus	Reliability	Standard deviation	Serviceability	
				Initial	Terminal
150,000	4,118 psi	90%	0.45	4.2	2

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Asphalt Pavement
Cost Analysis



Design	Local	Reference	
Project	QT4192	Location	Taylor, TX, USA
Customer		Designer	gabrielle kowalik
Company	SCI Engineering	Date	May 22, 2024

Results

Construction Cost

	Stabilized	Unstabilized
HMA layer 1	\$96,365	\$96,365
Aggregate base	\$87,871	\$87,871
Subbase	\$0	\$56,237
Geogrid	\$37,222	
Excavation	\$24,744	\$40,579
Total cost	\$246,201	\$281,052
Unit cost	\$35.45/yd ²	\$40.47/yd ²
Savings	\$34,851 (12%)	

Additional Considerations

	Stabilized	Unstabilized
Construction time	11.4 days	16 days
Dump truck visits	500	822
Fuel required	2,667 gal	4,384 gal
Water required	48,234 gal	86,821 gal

Parameters

Dimensions

Project area	62,500 ft ²
--------------	------------------------

Grading Requirements

Grade offset	Meet existing grade
Excavation cost	\$8/ton

Stabilized Pavement Section Costs (Installed)

HMA layer 1	\$100/ton
Aggregate base	\$25/ton

Geosynthetic Costs (Installed)

NX750	\$5.36/yd ²
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Unstabilized Pavement Section Costs (Installed)

HMA layer 1	\$100/ton
Aggregate base	\$25/ton
Chemically-treated subbase	\$20/ton

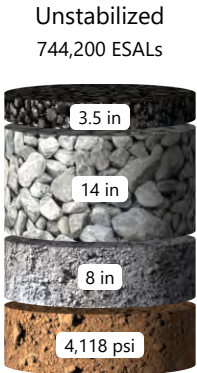
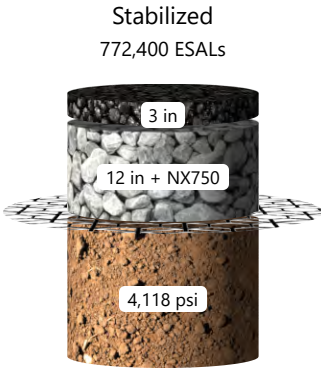
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Asphalt Pavement
Design Analysis

Design	Collector	Reference	
Project		Location	Taylor, TX, USA
Customer		Designer	gabrielle kowalik
Company	SCI Engineering	Date	May 22, 2024

Results



	Thickness	Coeff.	SN
HMA layer 1	3 in	0.440	1.320
Aggregate base (NX750)	12 in	0.237	2.844
Structural number (SN)			4.164

	Thickness	Coeff.	SN
HMA layer 1	3.5 in	0.440	1.540
Aggregate base	14 in	0.140	1.960
Chemically-treated subbase	8 in	0.080	0.640
Structural number (SN)			4.140

Parameters

Project Information

Target ESALs	Subgrade resilient modulus	Reliability	Standard deviation	Serviceability	
				Initial	Terminal
700,000	4,118 psi	90%	0.45	4.2	2.5

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Asphalt Pavement
Cost Analysis



Design	Collector	Reference	
Project		Location	Taylor, TX, USA
Customer		Designer	gabrielle kowalik
Company	SCI Engineering	Date	May 22, 2024

Results

Construction Cost

	Stabilized	Unstabilized
HMA layer 1	\$115,638	\$134,911
Aggregate base	\$105,445	\$123,019
Subbase	\$0	\$56,237
Geogrid	\$37,222	
Excavation	\$29,692	\$50,477
Total cost	\$287,997	\$364,644
Unit cost	\$41.47/yd ²	\$52.51/yd ²
Savings	\$76,647 (21%)	

Additional Considerations

	Stabilized	Unstabilized
Construction time	13.4 days	21 days
Dump truck visits	600	1,021
Fuel required	3,200 gal	5,445 gal
Water required	57,881 gal	106,115 gal

Parameters

Dimensions

Project area	62,500 ft ²
--------------	------------------------

Grading Requirements

Grade offset	Meet existing grade
Excavation cost	\$8/ton

Stabilized Pavement Section Costs (Installed)

HMA layer 1	\$100/ton
Aggregate base	\$25/ton

Geosynthetic Costs (Installed)

NX750	\$5.36/yd ²
-------	------------------------

Unstabilized Pavement Section Costs (Installed)

HMA layer 1	\$100/ton
Aggregate base	\$25/ton
Chemically-treated subbase	\$20/ton

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Important Information about This Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer

will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it.* A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the “Findings” Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site’s subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual site-wide subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report’s Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals’ misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals’ plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note*

conspicuously that you’ve included the material for information purposes only. To avoid misunderstanding, you may also want to note that “informational purposes” means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled “limitations,” many of these provisions indicate where geotechnical engineers’ responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a “phase-one” or “phase-two” environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer’s services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, *proper implementation of the geotechnical engineer’s recommendations will not of itself be sufficient to prevent moisture infiltration.* Confront the risk of moisture infiltration by including building-envelope or mold specialists on the design team. *Geotechnical engineers are not building-envelope or mold specialists.*



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QuikTrip #4192

Taylor, TX

TRAFFIC IMPACT ANALYSIS

PREPARED FOR:



PREPARED BY:



TxDOT

May 2024

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QUIKTRIP #4192 TAYLOR, TX**I. Introduction****Project Description**

Camacho-Hernandez & Associates were retained to prepare a Traffic Impact Analysis (TIA) Report for the proposed QuikTrip #4192 in Taylor, Texas. The general location of this proposed development can be seen in Figure 1 below.

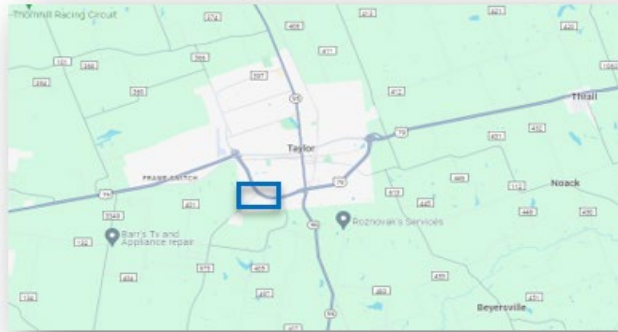


Figure 1 – General Project Location Map

The proposed development consists of the following:

- 16 Fueling Position Super Convenience Market/Gas Station
- 17 Unit Single Family Detached Housing
- Automated Car Wash with 1 Tunnel
- 12,500 sq. ft. of Fast-Food Restaurant
- 25,000 sq. ft. of Strip Retail Plaza
- 80,000 sq. ft. of General Office Building
- Hotel with 110 Rooms
- 450 Unit Multifamily Housing
- 47,000 sq. ft. of Shopping Plaza

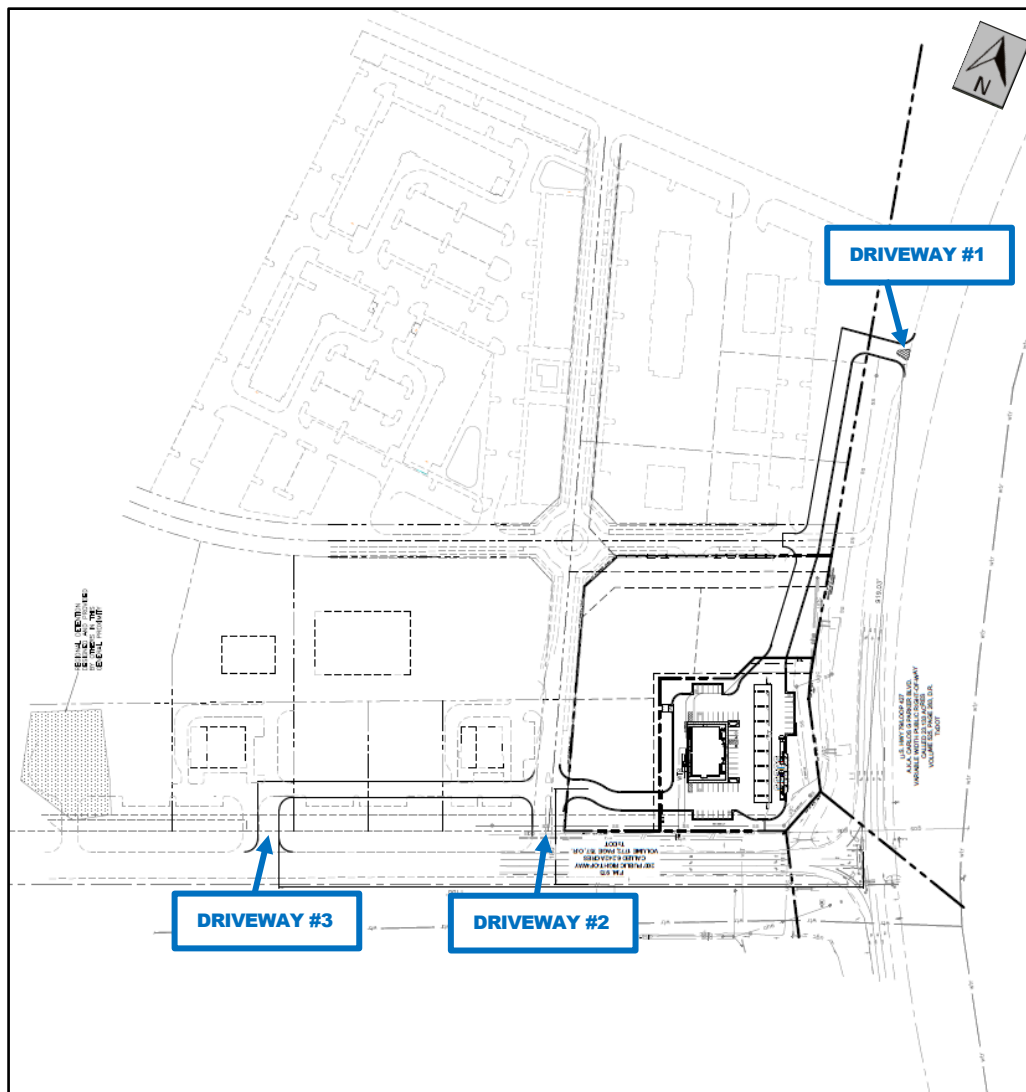


Figure 2 – Proposed Development Site Layout

Project Timeline

The proposed development is anticipated to be constructed in four years and will be constructed in three phases: Phase I in 2025, Phase II in 2027 and Phase III in 2028. For the purposes of this study, a growth rate of 1.5% will be used to develop projected traffic volumes. The analysis will be conducted as follows:

- Phase I – Convenience Store/Gas Station with 16 Fueling Positions (ITE Land Use 945)
- Phase II – 12,500 Sq. Ft. Fast-Food Restaurant with Drive-Through Window (ITE Land Use 934), Automated Car Wash with 1 Tunnel (ITE Land Use 948)
- Phase III – 25,000 Sq. Ft. Strip Retail Plaza (ITE Land Use 822), 80,000 Sq. Ft. General Office Building (ITE Land Use 710), 110 Room Hotel(s) (ITE Land Use 310), 450 Multi-Family (Low-Rise) Dwelling Units (ITE Land Use 220), 47,000 Sq. Ft. Shopping Plaza (ITE Land Use 821), 17 Single Family Detached Houses (ITE Land Use 210)

Study Area

The study area for the proposed development will consist of three external intersections and three internal (development created) intersections. The list of intersections below corresponds with the Synchro traffic simulation model and all traffic exhibits in the appendix.

- 1) US 79 and FM 973
- 2) FM 973 and Taylor Highschool Driveway
- 3) FM 973 and Wesley Miller Lane
- 4) US 79 and Driveway #1
- 5) FM 973 and Driveway #2
- 6) FM 973 and Driveway #3



Figure 3 – Project Study Area/Intersections

II. Study Methodology

Key factors and items discussed for this study include the following:

- ✓ ITE Trip Generation Manual (11th Edition) Utilized
- ✓ 1.5% Growth Rate @ 4 Year Build-Out (2028)
- ✓ 1 Existing Intersection Analyzed w/ Signal
 - US Highway 79 and FM 973
- ✓ 2 Existing Intersections Analyzed w/ TWSC
 - FM 973 and Taylor High School Driveway
 - FM 973 and Wesley Miller Lane

III. Impacted Roadways

The existing US Highway 79 corridor within the study area is a 4-lane divided roadway that serves as a north/south highway located in south Taylor in Williamson County.

The existing FM 973 corridor within the study area is a 2-lane roadway with a continuous two way left turn lane and runs in an east/west direction near the development.

IV. Traffic Data

Traffic data was collected on Thursday, January 24, 2024, in the form of Turning Movement Counts (TMCs) at the following locations:

- 1) US 79 and FM 973
- 2) FM 973 and Taylor Highschool Driveway
- 3) FM 973 and Wesley Miller Lane

Additionally, traffic data from three background developments (Castlewood Subdivision, Castlewood South Subdivision, and Taylor Gateway) was incorporated into this analysis.

All Traffic Data/Exhibits can be found within the appendix.

V. Traffic Analysis & Simulation**Trip Generation**

All trip generation calculations were determined based upon the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition) as per industry standards.

The proposed development adds 1,497 vehicles to the AM peak hour and 1,691 vehicles to the PM peak hour.

The weekday daily, weekday morning peak (AM), and weekday afternoon peak (PM) trip totals can be found within the following tables.

Table 1 – Trip Generation Summary (Phase 1)

Phase 1							
QuikTrip #4192							
Super Convenience Market/Gas Station - ITE Land Use 945							
Fueling Pos.	16	Weekday 24 hrs		Weekday AM Peak		Weekday PM Peak	
Trips/Fueling Positions		257.13		27.04		22.76	
% Enter / % Exit		50%	50%	50%	50%	50%	50%
Total Trips		4,114		433		364	
Enter / Exit		2,057	2,057	216	217	182	182
Pass-By Trip Rate		-	-	76%	76%	75%	75%
Subtotal Pass-By Trips		-	-	164	164	137	137
Net Hour Expected Trips		-	-	52	53	46	46

Table 2 – Trip Generation Summary (Phase 2)

Phase 2							
Automated Car Wash - ITE Land Use 948							
Tunnel	1	Weekday 24 hrs		Weekday AM Peak		Weekday PM Peak	
Trips/Tunnel		0.00		0.00		77.5	
% Enter / % Exit		50%	50%	50%	50%	50%	50%
Total Trips		0		0		78	
Enter / Exit		0	0	0	0	39	39
Fast Food with Drive Through Window - ITE Land Use 934							
1K. Sq. Ft. GFA	12.5	Weekday 24 hrs		Weekday AM Peak		Weekday PM Peak	
Trips/1K Sq. Ft. GFA		467.48		44.61		33.03	
% Enter / % Exit		50%	50%	51%	49%	52%	48%
Total Trips		5,844		558		413	
Enter / Exit		2,922	2,922	285	273	215	198
Pass-By Trip Rate		-	-	50%	50%	55%	55%
Subtotal Pass-By Trips		-	-	143	143	118	118
Net Hour Expected Trips		-	-	142	130	97	80

Table 3 – Trip Generation Summary (Phase 3)

Phase 3							
Strip Retail Plaza (<40K) - ITE Land Use 822							
1K. Sq. Ft. GFA	25	Weekday 24 hrs		Weekday AM Peak		Weekday PM Peak	
Trips/1K Sq. Ft. GFA		54.45		2.36		6.59	
% Enter / % Exit		50%	50%	60%	40%	50%	50%
Total Trips		1,361		59		165	
Enter / Exit		680	681	35	24	82	83
General Office Building - ITE Land Use 710							
1K. Sq. Ft. GFA	80	Weekday 24 hrs		Weekday AM Peak		Weekday PM Peak	
Trips/1K Sq. Ft. GFA		10.84		1.52		1.44	
% Enter / % Exit		50%	50%	88%	12%	17%	83%
Total Trips		867		122		116	
Enter / Exit		433	434	107	15	20	96
Hotel - ITE Land Use 310							
Rooms	110	Weekday 24 hrs		Weekday AM Peak		Weekday PM Peak	
Trips/Rooms		7.99		0.46		0.59	
% Enter / % Exit		50%	50%	56%	44%	51%	49%
Total Trips		879		51		65	
Enter / Exit		440	439	29	22	33	32
Multifamily Housing (Low-Rise) ITE Land Use 220							
Dwelling Units	450	Weekday 24 hrs		Weekday AM Peak		Weekday PM Peak	
Trips/Dwelling Units		6.74		0.40		0.51	
% Enter / % Exit		50%	50%	24%	76%	63%	37%
Total Trips		3,033		180		230	
Enter / Exit		1,516	1,517	43	137	145	85
Shopping Plaza (40-150K) - ITE Land Use 821							
1K. Sq. Ft. GFA	47	Weekday 24 hrs		Weekday AM Peak		Weekday PM Peak	
Trips/1K Sq. Ft. GFA		67.52		1.73		5.19	
% Enter / % Exit		50%	50%	62%	38%	49%	51%
Total Trips		3,169		82		244	
Enter / Exit		1,585	1,584	51	31	120	124
Single-Family Detached Housing - ITE Land Use 210							
Dwelling Units	17	Weekday 24 hrs		Weekday AM Peak		Weekday PM Peak	
Trips/Dwelling Units		9.43		0.70		94	
% Enter / % Exit		50%	50%	26%	74%	63%	37%
Total Trips		160		12		16	
Enter / Exit		81	80	3	9	10	6

Trip Distribution

The trip distribution was determined based upon anticipated travel patterns as well as traffic engineering judgment. The global distribution includes forty percent (40%) of the generated traffic traveling to/from US Highway 79 to the north; twenty-five percent (25%) traveling to/from US Highway 79 to the south; and thirty-five percent (35%) traveling to/from FM 973 to the east. The project global trip distribution percentages can be seen within Figure 4.



Figure 4 – Global Trip Distribution

Traffic Simulation

The traffic simulation analysis was conducted using Synchro 12.0 Traffic Simulation Software. The analysis process involved the development of a base model, calibration of the base model, and an alternative comparison to the base model. Development of the base model involves the creation of a system network, also referred to as the link-node diagram. The network development includes: link-node assignments, traffic control, traffic signalization, roadway geometry, lane designations & assignments, traffic volumes, and turning movements. As discussed during the Scoping Meeting, this TIA will analyze two scenarios which include projected and projected with development traffic conditions for the critical afternoon (PM) peak period. As previously listed, the following study area intersections were included in the traffic simulation model:

- 1) US 79 and FM 973
- 2) FM 973 and Taylor Highschool Driveway
- 3) FM 973 and Wesley Miller Lane
- 4) US 79 and Driveway #1
- 5) FM 973 and Driveway #2
- 6) FM 973 and Driveway #3

LOS Analysis

Based on criteria found in the Highway Capacity Manual (HCM), Levels of Service (LOS) for each of the intersections within the study area may be determined based on the measures of effectiveness obtained from the traffic simulation output. In accordance with the HCM, an average control delay is calculated for each approach within the traffic simulation model. The combined approach average control delay measures are used to determine the overall intersection LOS at signalized intersections; at unsignalized intersections, the minor street approach LOS is measured and provided accordingly.

Tables 4 and 5 show the average control delay ranges with the corresponding LOS for unsignalized and signalized intersections.

Table 4 - Level of Service Criteria for TWSC Intersections

Level of Service	Average Control Delay (sec/veh)
A	< 10
B	> 10 - 15
C	> 15 - 25
D	> 25 - 35
E	> 35 - 50
F	> 50

Table 5 - HCM LOS Criteria for Signalized Intersections

Level of Service	Average Control Delay (sec/veh)
A	< 10
B	> 10 - 20
C	> 20 - 35
D	> 35 - 55
E	> 55 - 80
F	> 80

Analysis Results

The results of the analysis are provided in Tables 6-11 broken down by approach for all six (6) of the analyzed intersections. Detailed LOS results can also be found within the Synchro Output Files in the Appendix.

Table 6 – US Highway 79 and FM 973

#1	Intersection Analysis									
	Northbound		Southbound		Eastbound		-		Intersection	
	US Highway 79		US Highway 79		FM 973		-		Average	
	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	-	-	Delay (Sec)	LOS
AM Peak Period										
Existing (2024)	91.7	F	39.1	D	34.1	C	-	-	56.6	E
Projected (2025)	517.8	F	94.2	F	112.2	F	-	-	247.7	F
Projected (2027)	510.5	F	104.8	F	111.8	F	-	-	251.9	F
Projected (2028)	517.2	F	112.7	F	114.9	F	-	-	258.1	F
Proj w/ Dev (2025)	632.8	F	98.1	F	149.1	F	-	-	297.2	F
Proj w/ Dev (2027)	808.1	F	110.6	F	208.0	F	-	-	380.9	F
Proj w/ Dev (2028)	1034.8	F	126.1	F	285.3	F	-	-	486.3	F
PM Peak Period										
Existing (2024)	20.9	C	40.6	D	65.0	E	-	-	47.4	D
Projected (2025)	573.6	F	46.9	D	184.7	F	-	-	230.8	F
Projected (2027)	621.8	F	52.8	D	172.3	F	-	-	245.5	F
Projected (2028)	634.3	F	54.3	D	177.6	F	-	-	251.1	F
Proj w/ Dev (2025)	701.0	F	47.8	D	210.0	F	-	-	271.6	F
Proj w/ Dev (2027)	967.8	F	59.8	E	240.3	F	-	-	362.6	F
Proj w/ Dev (2028)	1196.6	F	88.6	F	350.1	F	-	-	516.4	F

Table 7 – FM 973 and Taylor H.S. Driveway

#2	Intersection Analysis									
	Northbound		-		Eastbound		Westbound		Intersection	
	Taylor High School Driveway		-		FM 973		FM 973		Average	
	Delay (Sec)	LOS	-	-	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
AM Peak Period										
Existing (2024)	22.7	C	-	-	0.0	A	0.1	A	4.2	A
Projected (2025)	96.6	F	-	-	0.0	A	0.1	A	15.5	C
Projected (2027)	148.7	F	-	-	0.0	A	0.6	A	23.7	C
Projected (2028)	157.7	F	-	-	0.0	A	0.6	A	25.1	D
Proj w/ Dev (2025)	107.0	F	-	-	0.0	A	0.1	A	16.9	C
Proj w/ Dev (2027)	203.8	F	-	-	0.0	A	0.6	A	30.6	D
Proj w/ Dev (2028)	305.1	F	-	-	0.0	A	0.6	A	42.5	E
PM Peak Period										
Existing (2024)	33.8	D	-	-	0.0	A	0.1	A	1.5	A
Projected (2025)	121.9	F	-	-	0.0	A	0.5	A	7.8	A
Projected (2027)	166.2	F	-	-	0.0	A	0.5	A	10.7	B
Projected (2028)	183.9	F	-	-	0.0	A	0.5	A	11.9	B
Proj w/ Dev (2025)	131.3	F	-	-	0.0	A	0.5	A	8.2	A
Proj w/ Dev (2027)	219.5	F	-	-	0.0	A	0.5	A	13.3	B
Proj w/ Dev (2028)	410.8	F	-	-	0.0	A	0.5	A	21.9	C

Table 8 – FM 973 and Wesley Miller Lane

#3	Intersection Analysis									
	Northbound		Southbound		Eastbound		Westbound		Intersection	
	Wesley Miller Lane		Wesley Miller Lane		FM 973		FM 973		Average	
	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
AM Peak Period										
Existing (2024)	134.1	F	14.4	B	0.1	A	3.9	A	9.3	A
Projected (2025)	13160.7	F	45618.5	F	2.6	A	3.2	A	11040.7	F
Projected (2027)	17195.6	F	56244.2	F	2.7	A	3.3	A	13367.3	F
Projected (2028)	19244.4	F	61723.7	F	2.7	A	3.3	A	14572.3	F
Proj w/ Dev (2025)	14693.2	F	50643.7	F	2.6	A	3.2	A	12122.6	F
Proj w/ Dev (2027)	30347.7	F	84109.2	F	2.6	A	3.5	A	19343.0	F
Proj w/ Dev (2028)	210664.4	F	167017.7	F	2.6	A	3.9	A	42519.1	F
PM Peak Period										
Existing (2024)	71.8	F	145.2	F	0.1	A	2.8	A	8.2	A
Projected (2025)	5167.2	F	19251.9	F	1.1	A	1.5	A	2550.3	F
Projected (2027)	5989.8	F	28630.7	F	1.1	A	1.6	A	3569.8	F
Projected (2028)	6298.9	F	33260.6	F	1.1	A	1.7	A	4061.0	F
Proj w/ Dev (2025)	5557.0	F	21940.2	F	1.1	A	1.5	A	2842.0	F
Proj w/ Dev (2027)	7923.1	F	57575.9	F	1.1	A	1.6	A	6518.1	F
Proj w/ Dev (2028)	16648.6	F	23612.4	F	1.1	A	1.7	A	3405.0	F

Table 9 – US Highway 79 and Driveway #1

#4	Intersection Analysis									
	-		Southbound		Eastbound		-		Intersection	
	-		US Highway 79		Driveway #1		-		Average	
	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
AM Peak Period										
Proj w/ Dev (2025)	-	-	0.0	A	14.4	B	-	-	1.1	A
Proj w/ Dev (2027)	-	-	0.0	A	19.5	C	-	-	2.8	A
Proj w/ Dev (2028)	-	-	0.0	A	28.6	D	-	-	4.6	A
PM Peak Period										
Proj w/ Dev (2025)	-	-	0.0	A	13.2	B	-	-	0.8	A
Proj w/ Dev (2027)	-	-	0.0	A	15.9	C	-	-	1.8	A
Proj w/ Dev (2028)	-	-	0.0	A	27.0	D	-	-	4.3	A

Table 10 – FM 973 and Driveway #2

#5	Intersection Analysis									
	-		Southbound		Eastbound		Westbound		Intersection	
	-		Driveway #2		FM 973		FM 973		Average	
	-	-	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
	-	-	(Sec)		(Sec)		(Sec)		(Sec)	
AM Peak Period										
Proj w/ Dev (2025)	-	-	30.9	D	1.1	A	0.0	A	2.7	A
Proj w/ Dev (2027)	-	-	76.6	F	1.2	A	0.0	A	9.7	A
Proj w/ Dev (2028)	-	-	265.0	F	1.2	A	0.0	A	41.1	E
PM Peak Period										
Proj w/ Dev (2025)	-	-	33.0	A	0.6	A	0.0	A	2.9	A
Proj w/ Dev (2027)	-	-	83.9	F	0.7	A	0.0	A	10.4	B
Proj w/ Dev (2028)	-	-	406.0	F	0.7	A	0.0	A	68.0	F

Table 11 – FM 973 and Driveway #3

#6	Intersection Analysis									
	-		Southbound		Eastbound		Westbound		Intersection	
	-		Driveway #3		FM 973		FM 973		Average	
	-	-	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
	-	-	(Sec)		(Sec)		(Sec)		(Sec)	
AM Peak Period										
Proj w/ Dev (2027)	-	-	25.3	D	1.6	A	0.0	A	1.7	A
Proj w/ Dev (2028)	-	-	40.8	E	3.5	A	0.0	A	4.8	A
PM Peak Period										
Proj w/ Dev (2027)	-	-	23.3	C	0.6	A	0.0	A	1.5	A
Proj w/ Dev (2028)	-	-	36.6	E	1.7	A	0.0	A	5.9	A

The results of the LOS Analysis show that all six (6) of the analyzed intersections will operate at an unacceptable LOS during the critical (PM) peak period with the proposed development in place.

Potential Mitigation Measures

US Highway 79 and FM 973

All approaches at the location are projected to operate with an LOS F as the average vehicle will experience 987.5 seconds of delay by Projected with Development 2028 (PM) according to the synchro traffic simulation model. Based on model observations, it is apparent that there is a high number of vehicles waiting to make turning movements at this intersection. A potential mitigation measure considered was to add dual left turn lanes from FM 973 to US Highway 79. In essence, this will allow more turning movements at this location and would alleviate the traffic at this intersection. Please note that this improvement was recommended by and will be constructed as part of the Taylor Gateway Development. Table 12 shows the improvement in LOS at this location if this mitigation measure is implemented. Please note these mitigation measures will be incorporated into the Projected with Development 2025 scenario and will apply to all subsequent scenarios.

Table 12 – US Highway 79 and FM 973 Mitigation Results

#1	Intersection Analysis									
	Northbound		Southbound		Eastbound		-		Intersection	
	US Highway 79		US Highway 79		FM 973		-		Average	
	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	-	-	Delay (Sec)	LOS
AM Peak Period										
Projected (2025)	517.8	F	94.2	F	112.2	F	-	-	247.7	F
Projected (2027)	510.5	F	104.8	F	111.8	F	-	-	251.9	F
Projected (2028)	517.2	F	112.7	F	114.9	F	-	-	258.1	F
Proj w/ Dev (2025)	632.8	F	98.1	F	149.1	F	-	-	297.2	F
Proj w/ Dev (2027)	808.1	F	110.6	F	208.0	F	-	-	380.9	F
Proj w/ Dev (2028)	1034.8	F	126.1	F	285.3	F	-	-	486.3	F
Mitigation (2025)	191.6	F	252.5	F	240.5	F	-	-	228.2	F
Mitigation (2027)	274.1	F	286.8	F	310.5	F	-	-	288.7	F
Mitigation (2028)	381.6	F	319.3	F	402.3	F	-	-	363.9	F
PM Peak Period										
Projected (2025)	573.6	F	46.9	D	184.7	F	-	-	230.8	F
Projected (2027)	621.8	F	52.8	D	172.3	F	-	-	245.5	F
Projected (2028)	634.3	F	54.3	D	177.6	F	-	-	251.1	F
Proj w/ Dev (2025)	701.0	F	47.8	D	210.0	F	-	-	271.6	F
Proj w/ Dev (2027)	967.8	F	59.8	E	240.3	F	-	-	362.6	F
Proj w/ Dev (2028)	1196.6	F	88.6	F	350.1	F	-	-	516.4	F
Mitigation (2025)	185.4	F	113.2	F	254.1	F	-	-	190.3	F
Mitigation (2027)	299.4	F	149.5	F	291.2	F	-	-	246.2	F
Mitigation (2028)	511.1	F	199.6	F	408.8	F	-	-	366.1	F

As shown in Table 12, the mitigation measures did not bring the intersection to an acceptable LOS. Since further roadway improvements are not feasible, additional mitigation measures will not be applied or analyzed.

FM 973 and Taylor H.S. Driveway

The northbound approach at this location is projected to operate with a LOS F as the average vehicle will experience 508.3 seconds of delay according to the Synchro traffic simulation model. Mitigation measures would be applied; however, because the northbound approach is a private driveway, mitigation improvements at this location will not be analyzed.

FM 973 and Wesley Miller Lane

The northbound and southbound approaches at this location are projected to operate with a LOS F in the Existing scenario and will experience over 200,000 seconds of delay by completion of Phase III of the development. Both approaches are expected to serve over 100 vehicles in the critical PM period with a one lane departure. Mitigation measures would be applied; however, because both approaches are private driveways, conversion to a signal-controlled intersection is recommended instead. A traffic signal warrant analysis would be conducted; however, this mitigation measure was warranted and applied within the Castlewood Subdivision TIA Report, which was considered as background traffic for this analysis. Since the proposed development will increase the amount of traffic experienced at this intersection from what was considered within the previous traffic signal warrant analysis, this intersection is recommended to be converted to a signal-control. Please note that this improvement was recommended by and will be constructed as part of the Castlewood Subdivision.

Table 13 – FM 973 and Wesley Miller Lane Mitigation Results

#3	Intersection Analysis									
	Northbound		Southbound		Eastbound		Westbound		Intersection	
	Wesley Miller Lane		Wesley Miller Lane		FM 973		FM 973		Average	
	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
AM Peak Period										
Projected (2025)	13160.7	F	45618.5	F	2.6	A	3.2	A	11040.7	F
Projected (2027)	17195.6	F	56244.2	F	2.7	A	3.3	A	13367.3	F
Projected (2028)	19244.4	F	61723.7	F	2.7	A	3.3	A	14572.3	F
Proj w/ Dev (2025)	14693.2	F	50643.7	F	2.6	A	3.2	A	12122.6	F
Proj w/ Dev (2027)	30347.7	F	84109.2	F	2.6	A	3.5	A	19343.0	F
Proj w/ Dev (2028)	210664.4	F	167017.7	F	2.6	A	3.9	A	42519.1	F
Mitigation (2025)	34.0	C	388.0	F	92.8	F	105.0	F	162.9	F
Mitigation (2027)	34.1	C	389.8	F	146.1	F	159.9	F	200.4	F
Mitigation (2028)	34.1	C	393.2	F	135.6	F	305.7	F	272.3	F
PM Peak Period										
Projected (2025)	5167.2	F	19251.9	F	1.1	A	1.5	A	2550.3	F
Projected (2027)	5989.8	F	28630.7	F	1.1	A	1.6	A	3569.8	F
Projected (2028)	6298.9	F	33260.6	F	1.1	A	1.7	A	4061.0	F
Proj w/ Dev (2025)	5557.0	F	21940.2	F	1.1	A	1.5	A	2842.0	F
Proj w/ Dev (2027)	7923.1	F	57575.9	F	1.1	A	1.6	A	6518.1	F
Proj w/ Dev (2028)	16648.6	F	23612.4	F	1.1	A	1.7	A	3405.0	F
Mitigation (2025)	29.8	C	184.3	F	71.8	E	44.5	D	70.6	E
Mitigation (2027)	30.3	C	190.8	F	106.1	F	46.3	D	86.9	F
Mitigation (2028)	31.0	C	192.9	F	174.3	F	46.0	D	117.4	F

As shown in Table 13, the mitigation measures did not bring the intersection to an acceptable LOS. Since further roadway improvements are not feasible, additional mitigation measures will not be applied or analyzed.

Driveway #1 and US Highway 79

The eastbound approach at this location is projected to operate at a LOS F in Phase III of the development. Based on model observations, it is apparent the exiting right-turn movements do not have enough gaps along the free-flowing highway in order to efficiently exit. Potential mitigation measures were looked at to enhance the LOS of the eastbound approach. Providing a 630 LF southbound right-turn deceleration lane into the proposed development will allow additional gaps in traffic flow to make right-turns out more efficiently. Table 14 shows the improvement in LOS if this mitigation measure is implemented. Please note these mitigation measures will be incorporated into the Projected with Development 2028 scenario and will apply to all subsequent scenarios.

Table 14 – Driveway #1 and US Highway 79 Mitigation Results

#4	Intersection Analysis									
	-		Southbound		Eastbound		-		Intersection	
	-		US Highway 79		Driveway #1		-		Average	
	-	-	Delay	LOS	Delay	LOS	-	-	Delay	LOS
	-	-	(Sec)		(Sec)		-	-	(Sec)	
AM Peak Period										
Proj w/ Dev (2028)	-	-	0.0	A	28.6	D	-	-	4.6	A
Mitigation (2025)	-	-	0.0	A	13.6	B	-	-	1.1	A
Mitigation (2027)	-	-	0.0	A	15.8	C	-	-	2.3	A
Mitigation (2028)	-	-	0.0	A	18.6	C	-	-	3.0	A
PM Peak Period										
Proj w/ Dev (2028)	-	-	0.0	A	27.0	D	-	-	4.3	A
Mitigation (2025)	-	-	0.0	A	12.8	B	-	-	0.7	A
Mitigation (2027)	-	-	0.0	A	14.1	B	-	-	1.6	A
Mitigation (2028)	-	-	0.0	A	17.9	C	-	-	2.8	A

As shown in Table 13, the mitigation measures applied to the intersection are expected to improve the intersection to an acceptable LOS.

Driveway #2, #3 and FM 973

The southbound approach at these locations is projected to operate with unacceptable LOS values according to the Synchro traffic simulation model. Based on model observations, it is apparent that exiting movements do not have enough gaps in order to efficiently exit. Potential mitigation measures were looked at to enhance the LOS of both southbound approaches. Providing 400 LF westbound right-turn deceleration lanes into the proposed development at both driveways will allow additional gaps in traffic flow to allow for exiting movements to flow more efficiently. Please note this is a reduced turn lane length due to the proximity to the nearby signal and the distance between the two driveways. Table 15 and 16 show the improvements in LOS if both mitigation measures are implemented. Please note these mitigation measures will be incorporated into the Projected with Development 2025 scenario for Driveway #3 and Projected with Development 2027 scenario for Driveway #2 and will apply to all subsequent scenarios.

Table 15 – Driveway #2 and FM 973 Mitigation Results

#5	Intersection Analysis									
	-		Southbound		Eastbound		Westbound		Intersection	
	-		Driveway #2		FM 973		FM 973		Average	
	-	-	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
	-	-	(Sec)		(Sec)		(Sec)		(Sec)	
AM Peak Period										
Proj w/ Dev (2025)	-	-	30.9	D	1.1	A	0.0	A	2.7	A
Proj w/ Dev (2027)	-	-	76.6	F	1.2	A	0.0	A	9.7	A
Proj w/ Dev (2028)	-	-	265.0	F	1.2	A	0.0	A	41.1	E
Mitigation (2025)	-	-	29.4	D	1.1	A	0.0	A	2.6	A
Mitigation (2027)	-	-	62.1	F	1.2	A	0.0	A	7.9	A
Mitigation (2028)	-	-	208.8	F	1.2	A	0.0	A	32.5	D
PM Peak Period										
Proj w/ Dev (2025)	-	-	33.0	A	0.6	A	0.0	A	2.9	A
Proj w/ Dev (2027)	-	-	83.9	F	0.7	A	0.0	A	10.4	B
Proj w/ Dev (2028)	-	-	406.0	F	0.7	A	0.0	A	68.0	F
Mitigation (2025)	-	-	33.7	D	0.7	A	0.0	A	3.0	A
Mitigation (2027)	-	-	77.8	F	0.7	A	0.0	A	9.7	A
Mitigation (2028)	-	-	368.2	F	0.7	A	0.0	A	61.7	F

Table 16 – Driveway #3 and FM 973 Mitigation Results

#6	Intersection Analysis									
	-		Southbound		Eastbound		Westbound		Intersection	
	-		Driveway #3		FM 973		FM 973		Average	
	-	-	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
	-	-	(Sec)		(Sec)		(Sec)		(Sec)	
AM Peak Period										
Proj w/ Dev (2027)	-	-	25.3	D	1.6	A	0.0	A	1.7	A
Proj w/ Dev (2028)	-	-	40.8	E	3.5	A	0.0	A	4.8	A
Mitigation (2027)	-	-	25.3	D	1.6	A	0.0	A	1.7	A
Mitigation (2028)	-	-	39.5	E	3.5	A	0.0	A	4.7	A
PM Peak Period										
Proj w/ Dev (2027)	-	-	23.3	C	0.6	A	0.0	A	1.5	A
Proj w/ Dev (2028)	-	-	36.6	E	1.7	A	0.0	A	5.9	A
Mitigation (2027)	-	-	23.4	C	0.6	A	0.0	A	1.5	A
Mitigation (2028)	-	-	36.4	E	1.7	A	0.0	A	5.9	A

As shown in Table 15 and 16, the mitigation measures applied at both intersections did not bring the intersections to an acceptable LOS. A traffic signal warrant analysis was considered, however due to the proximity to the existing signal at US Highway 79 and FM 973, this improvement was deemed unfeasible and no further mitigation measures were applied or analyzed.

Left/Right Turn Lane Analysis

The following driveways for the proposed development will require a dedicated turn-lane based on entering peak hour trips:

- #1 – US Highway 79 and Driveway #1 (SB Right Turn)
- #2 – FM 973 and Driveway #2 (WB Right Turn)
- #3 – FM 973 and Driveway #3 (EB Left Turn)

Note: A continuous two-way left-turn lane already exists along FM 973 at Driveway #3 and it is recommended that a dedicated turn lane remain at this location upon completion of any improvements along FM 973

Additionally, the following turn lanes are recommended to improve safety and operations:

- FM 973 and Driveway #3 (WB Right Turn)

VI. Conclusion/Recommendations

The results of the traffic simulation analysis show that all intersections analyzed will operate at an unacceptable LOS during the build-out years for the proposed development. Each location can be improved and all safety/operations in this area can be enhanced through the following proposed mitigation measures:

- Provide 630 LF SB Right-turn Lane at US Highway 79 and Driveway #1 (Phase I)
- Provide 400 LF WB Right-turn Lane at FM 973 and Driveway #2 (Phase I)
- Provide 400 LF WB Right-turn Lane at FM 973 and Driveway #3 (Phase I)
- Restripe roadway to allow for a 605 LF EB Left-turn Lane at FM 973 and Driveway #3 (Phase I)

Please note that all site driveways are expected to be constructed with Phase I of development and that an internal roadway connecting the driveways will be completed during Phase II of development.

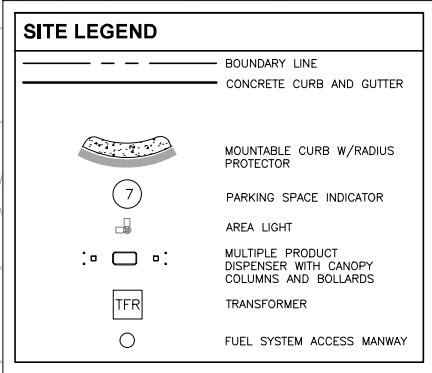
Further coordination with TxDOT is recommended moving forward.



05/31/2024

John Hernandez, P.E.
Camacho-Hernandez and Associates, LLC

APPENDIX A - SITE PLAN



DATE: January 10, 2024

PROJECT NO.: QT22012



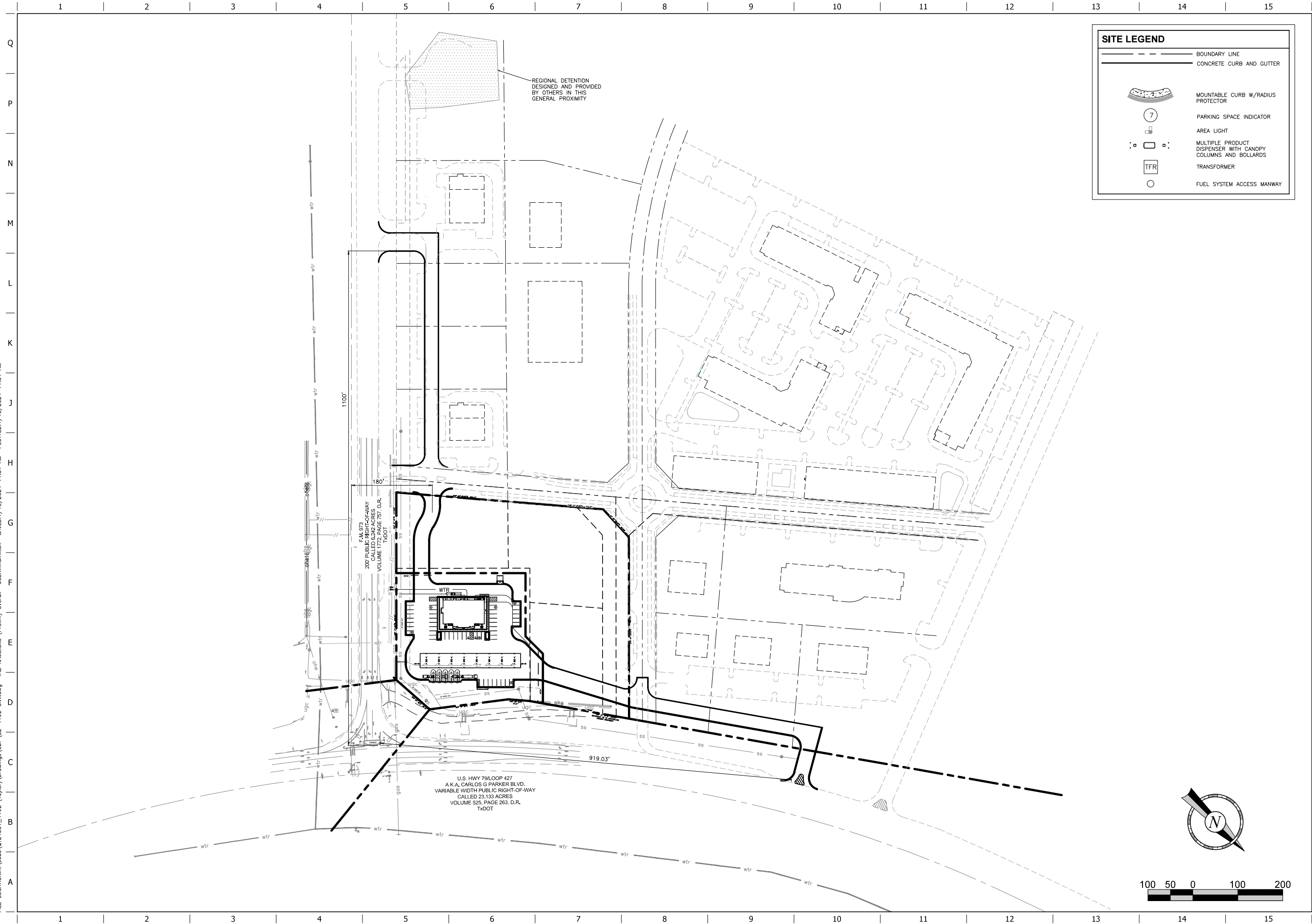
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PROTOTYPE: P-116 (12/01/23)
DIVISION: 82
VERSION: 001
DESIGNED BY: SB
DRAWN BY: HGH
REVIEWED BY: JES

[illegible]

SHEET TITLE:	
SITE (PRELIM)	

SHEET NUMBER:
1



SHEET NUMBER:

1

APPENDIX B - TRAFFIC DATA / EXHIBITS

1. SH 79 at FM 973 - TMC

Thu Jan 25, 2024

Full Length (7 AM-9 AM, 3 PM-6 PM)

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1151552, Location: 30.553647, -97.426761



Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg Direction	SH 79 Southbound						Driveway Westbound						SH 79 Northbound						FM 973 Eastbound							
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int	
2024-01-25 7:00AM	132	71	0	0	203	0	0	0	0	0	0	0	0	121	55	0	0	176	0	16	0	64	0	80	0	459
7:15AM	146	64	0	2	212	0	0	0	0	0	0	0	0	111	60	0	0	171	0	19	0	67	0	86	0	469
7:30AM	164	77	0	1	242	0	0	0	0	0	0	0	0	120	50	0	0	170	0	32	0	71	0	103	0	515
7:45AM	168	75	0	0	243	0	0	0	0	0	0	0	0	143	85	0	0	228	0	43	0	75	0	118	0	589
Hourly Total	610	287	0	3	900	0	0	0	0	0	0	0	0	495	250	0	0	745	0	110	0	277	0	387	0	2032
8:00AM	209	56	0	0	265	0	0	0	0	0	0	0	0	101	88	0	0	189	0	42	0	88	0	130	0	584
8:15AM	165	67	0	2	234	0	0	0	0	0	0	0	0	88	52	1	0	141	0	40	0	93	0	133	0	508
8:30AM	66	49	0	1	116	0	0	0	0	0	0	0	0	79	38	0	0	117	0	28	0	87	0	115	0	348
8:45AM	62	64	0	0	126	0	0	0	0	0	0	0	0	67	34	0	0	101	0	22	0	37	0	59	0	286
Hourly Total	502	236	0	3	741	0	0	0	0	0	0	0	0	335	212	1	0	548	0	132	0	305	0	437	0	1726
3:00PM	53	90	0	3	146	0	0	0	0	0	0	0	0	52	33	0	0	85	0	32	0	66	0	98	0	329
3:15PM	67	90	0	1	158	0	0	0	0	0	0	0	0	78	24	0	0	102	0	45	0	84	0	129	0	389
3:30PM	92	120	0	4	216	0	0	0	0	0	0	0	0	63	26	0	0	89	0	54	0	118	0	172	0	477
3:45PM	67	94	1	3	165	0	0	0	0	0	0	0	0	48	51	0	0	99	1	44	0	97	0	141	0	405
Hourly Total	279	394	1	11	685	0	0	0	0	0	0	0	0	241	134	0	0	375	1	175	0	365	0	540	0	1600
4:00PM	99	123	0	3	225	0	0	0	0	0	0	0	0	83	47	0	0	130	0	61	0	133	0	194	0	549
4:15PM	111	122	0	2	235	0	0	0	0	0	0	0	0	86	38	0	0	124	0	118	0	161	0	279	0	638
4:30PM	69	143	0	1	213	0	0	0	0	0	0	0	0	124	41	0	0	165	0	126	0	158	0	284	0	662
4:45PM	67	178	0	2	247	0	0	0	0	0	0	0	0	99	24	0	0	123	0	67	0	171	0	238	0	608
Hourly Total	346	566	0	8	920	0	0	0	0	0	0	0	0	392	150	0	0	542	0	372	0	623	0	995	0	2457
5:00PM	64	151	0	1	216	0	0	0	0	0	0	0	0	121	30	0	0	151	0	66	0	104	0	170	0	537
5:15PM	86	173	0	2	261	0	0	0	0	0	0	0	0	109	33	0	0	142	0	68	0	122	0	190	0	593
5:30PM	75	159	0	2	236	0	0	0	0	0	0	0	0	116	28	0	0	144	0	122	0	175	0	297	0	677
5:45PM	62	155	0	7	224	0	0	0	0	0	0	0	0	93	34	0	0	127	0	142	0	192	0	334	0	685
Hourly Total	287	638	0	12	937	0	0	0	0	0	0	0	0	439	125	0	0	564	0	398	0	593	0	991	0	2492
Total	2024	2121	1	37	4183	0	0	0	0	0	0	0	0	1902	871	1	0	2774	1	1187	0	2163	0	3350	0	10307
% Approach	48.4%	50.7%	0%	0.9%	-	-	0%	0%	0%	0%	-	-	0%	68.6%	31.4%	0%	-	-	35.4%	0%	64.6%	0%	-	-	-	
% Total	19.6%	20.6%	0%	0.4%	40.6%	-	0%	0%	0%	0%	0%	-	0%	18.5%	8.5%	0%	26.9%	-	11.5%	0%	21.0%	0%	32.5%	-	-	
Motorcycles	2	0	0	0	2	-	0	0	0	0	0	-	0	3	0	0	3	-	0	0	1	0	1	-	6	
% Motorcycles	0.1%	0%	0%	0%	0%	-	0%	0%	0%	0%	-	-	0%	0.2%	0%	0%	0.1%	-	0%	0%	0%	0%	0%	-	0.1%	
Lights	1959	1958	1	37	3955	-	0	0	0	0	0	-	0	1740	824	1	2565	-	1146	0	2115	0	3261	-	9781	
% Lights	96.8%	92.3%	100%	100%	94.5%	-	0%	0%	0%	0%	-	-	0%	91.5%	94.6%	100%	92.5%	-	96.5%	0%	97.8%	0%	97.3%	-	94.9%	
Single-Unit Trucks	31	43	0	0	74	-	0	0	0	0	0	-	0	34	17	0	51	-	13	0	15	0	28	-	153	
% Single-Unit Trucks	1.5%	2.0%	0%	0%	1.8%	-	0%	0%	0%	0%	-	-	0%	1.8%	2.0%	0%	1.8%	-	1.1%	0%	0.7%	0%	0.8%	-	1.5%	
Articulated Trucks	21	117	0	0	138	-	0	0	0	0	0	-	0	119	19	0	138	-	18	0	20	0	38	-	314	
% Articulated Trucks	1.0%	5.5%	0%	0%	3.3%	-	0%	0%	0%	0%	-	-	0%	6.3%	2.2%	0%	5.0%	-	1.5%	0%	0.9%	0%	1.1%	-	3.0%	
Buses	11	3	0	0	14	-	0	0	0	0	0	-	0	6	11	0	17	-	10	0	12	0	22	-	53	
% Buses	0.5%	0.1%	0%	0%	0.3%	-	0%	0%	0%	0%	-	-	0%	0.3%	1.3%	0%	0.6%	-	0.8%	0%	0.6%	0%	0.7%	-	0.5%	
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0		
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-		

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

1. SH 79 at FM 973 - TMC

Thu Jan 25, 2024

Full Length (7 AM-9 AM, 3 PM-6 PM)

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

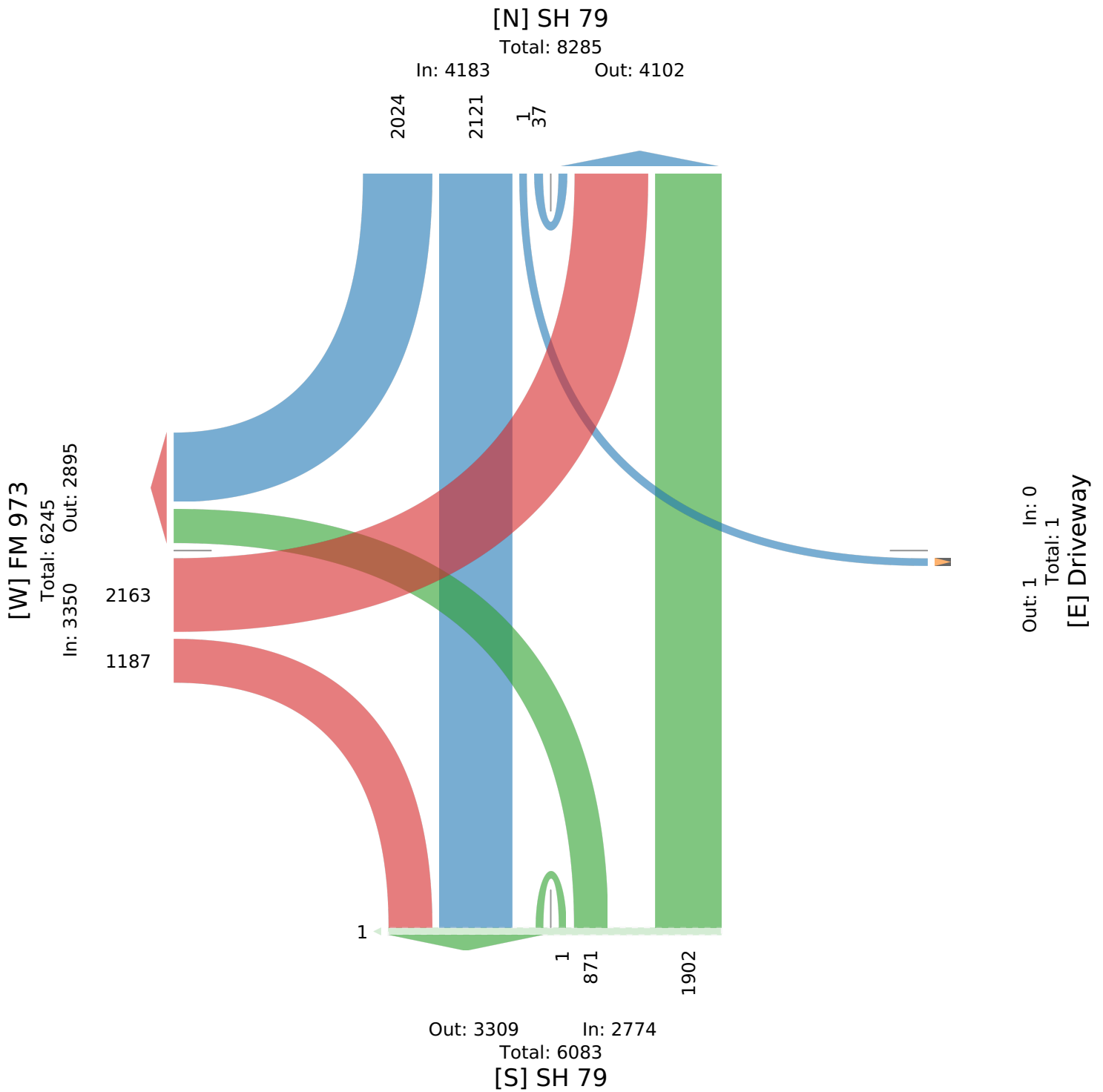
All Movements

ID: 1151552, Location: 30.553647, -97.426761



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US



1. SH 79 at FM 973 - TMC

Thu Jan 25, 2024

AM Peak (7:30 AM - 8:30 AM)

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1151552, Location: 30.553647, -97.426761



Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg Direction	SH 79 Southbound						Driveway Westbound						SH 79 Northbound						FM 973 Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2024-01-25 7:30AM	164	77	0	1	242	0	0	0	0	0	0	0	0	120	50	0	170	0	32	0	71	0	103	0	515
7:45AM	168	75	0	0	243	0	0	0	0	0	0	0	0	143	85	0	228	0	43	0	75	0	118	0	589
8:00AM	209	56	0	0	265	0	0	0	0	0	0	0	0	101	88	0	189	0	42	0	88	0	130	0	584
8:15AM	165	67	0	2	234	0	0	0	0	0	0	0	0	88	52	1	141	0	40	0	93	0	133	0	508
Total	706	275	0	3	984	0	0	0	0	0	0	0	0	452	275	1	728	0	157	0	327	0	484	0	2196
% Approach	71.7%	27.9%	0%	0.3%	-	-	0%	0%	0%	0%	-	-	0%	62.1%	37.8%	0.1%	-	-	32.4%	0%	67.6%	0%	-	-	-
% Total	32.1%	12.5%	0%	0.1%	44.8%	-	0%	0%	0%	0%	0%	-	0%	20.6%	12.5%	0%	33.2%	-	7.1%	0%	14.9%	0%	22.0%	-	-
PHF	0.844	0.893	-	0.375	0.928	-	-	-	-	-	-	-	-	0.790	0.781	0.250	0.798	-	0.913	-	0.879	-	0.910	-	0.932
Motorcycles	1	0	0	0	1	-	0	0	0	0	0	-	0	1	0	0	1	-	0	0	0	0	0	-	2
% Motorcycles	0.1%	0%	0%	0%	0.1%	-	0%	0%	0%	0%	-	-	0%	0.2%	0%	0%	0.1%	-	0%	0%	0%	0%	0%	-	0.1%
Lights	685	235	0	3	923	-	0	0	0	0	0	-	0	419	264	1	684	-	145	0	318	0	463	-	2070
% Lights	97.0%	85.5%	0%	100%	93.8%	-	0%	0%	0%	0%	-	-	0%	92.7%	96.0%	100%	94.0%	-	92.4%	0%	97.2%	0%	95.7%	-	94.3%
Single-Unit Trucks	8	11	0	0	19	-	0	0	0	0	0	-	0	7	4	0	11	-	4	0	1	0	5	-	35
% Single-Unit Trucks	1.1%	4.0%	0%	0%	1.9%	-	0%	0%	0%	0%	-	-	0%	1.5%	1.5%	0%	1.5%	-	2.5%	0%	0.3%	0%	1.0%	-	1.6%
Articulated Trucks	6	29	0	0	35	-	0	0	0	0	0	-	0	24	4	0	28	-	3	0	3	0	6	-	69
% Articulated Trucks	0.8%	10.5%	0%	0%	3.6%	-	0%	0%	0%	0%	-	-	0%	5.3%	1.5%	0%	3.8%	-	1.9%	0%	0.9%	0%	1.2%	-	3.1%
Buses	6	0	0	0	6	-	0	0	0	0	0	-	0	1	3	0	4	-	5	0	5	0	10	-	20
% Buses	0.8%	0%	0%	0%	0.6%	-	0%	0%	0%	0%	-	-	0%	0.2%	1.1%	0%	0.5%	-	3.2%	0%	1.5%	0%	2.1%	-	0.9%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

1. SH 79 at FM 973 - TMC

Thu Jan 25, 2024

AM Peak (7:30 AM - 8:30 AM)

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians,
Bicycles on Crosswalk)

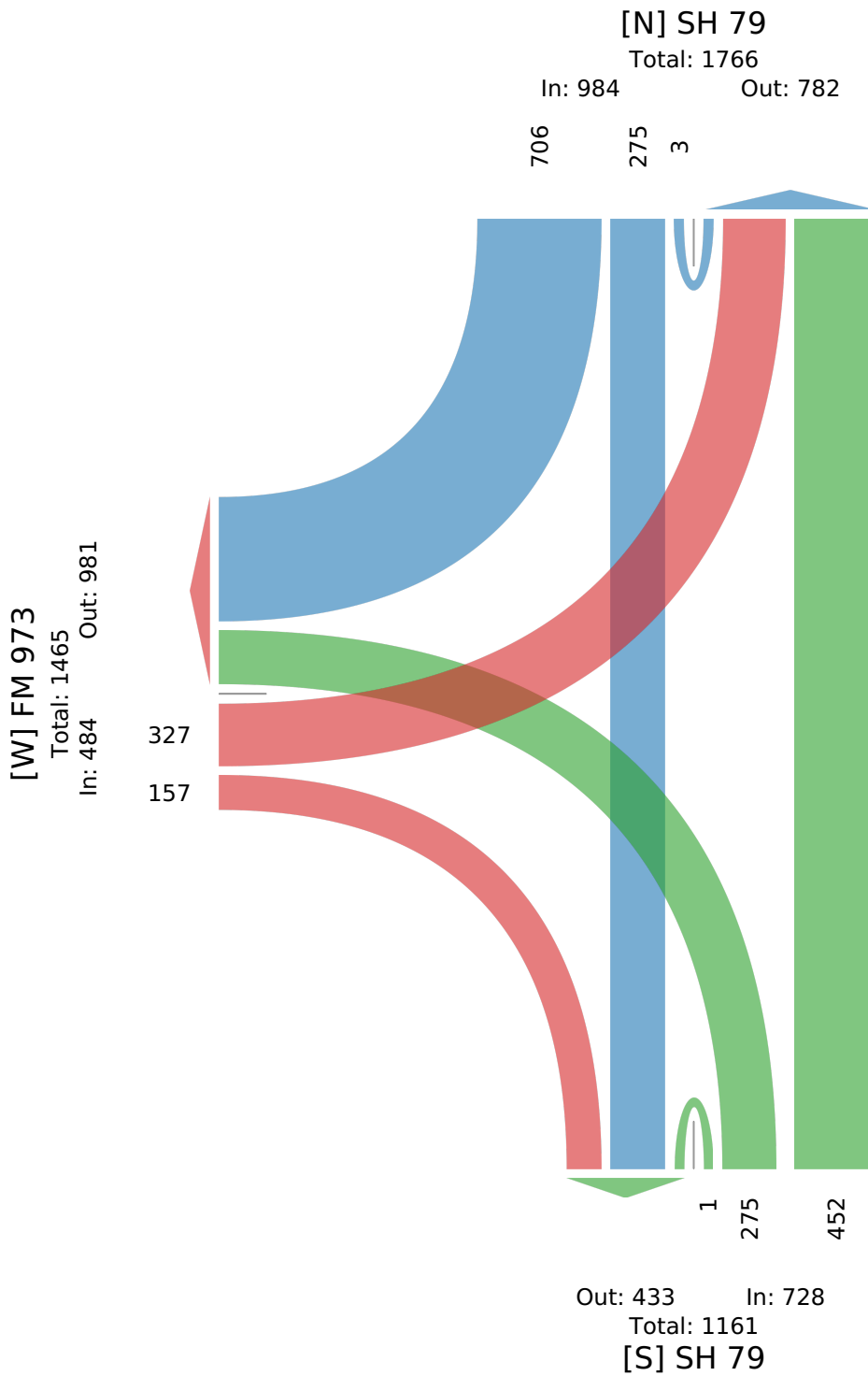
All Movements

ID: 1151552, Location: 30.553647, -97.426761



Provided by: C. J. Hensch &
Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US



1. SH 79 at FM 973 - TMC

Thu Jan 25, 2024

PM Peak (5 PM - 6 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1151552, Location: 30.553647, -97.426761



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg Direction	SH 79 Southbound						Driveway Westbound						SH 79 Northbound						FM 973 Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2024-01-25 5:00PM	64	151	0	1	216	0	0	0	0	0	0	0	0	121	30	0	151	0	66	0	104	0	170	0	537
5:15PM	86	173	0	2	261	0	0	0	0	0	0	0	0	109	33	0	142	0	68	0	122	0	190	0	593
5:30PM	75	159	0	2	236	0	0	0	0	0	0	0	0	116	28	0	144	0	122	0	175	0	297	0	677
5:45PM	62	155	0	7	224	0	0	0	0	0	0	0	0	93	34	0	127	0	142	0	192	0	334	0	685
Total	287	638	0	12	937	0	0	0	0	0	0	0	0	439	125	0	564	0	398	0	593	0	991	0	2492
% Approach	30.6%	68.1%	0%	1.3%	-	-	0%	0%	0%	0%	-	-	0%	77.8%	22.2%	0%	-	-	40.2%	0%	59.8%	0%	-	-	-
% Total	11.5%	25.6%	0%	0.5%	37.6%	-	0%	0%	0%	0%	0%	-	0%	17.6%	5.0%	0%	22.6%	-	16.0%	0%	23.8%	0%	39.8%	-	-
PHF	0.834	0.922	-	0.429	0.898	-	-	-	-	-	-	-	-	0.907	0.919	-	0.934	-	0.701	-	0.772	-	0.742	-	0.909
Motorcycles	1	0	0	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	1
% Motorcycles	0.3%	0%	0%	0%	0.1%	-	0%	0%	0%	0%	-	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Lights	283	618	0	12	913	-	0	0	0	0	0	-	0	412	118	0	530	-	393	0	591	0	984	-	2427
% Lights	98.6%	96.9%	0%	100%	97.4%	-	0%	0%	0%	0%	-	-	0%	93.8%	94.4%	0%	94.0%	-	98.7%	0%	99.7%	0%	99.3%	-	97.4%
Single-Unit Trucks	1	6	0	0	7	-	0	0	0	0	0	-	0	1	2	0	3	-	2	0	2	0	4	-	14
% Single-Unit Trucks	0.3%	0.9%	0%	0%	0.7%	-	0%	0%	0%	0%	-	-	0%	0.2%	1.6%	0%	0.5%	-	0.5%	0%	0.3%	0%	0.4%	-	0.6%
Articulated Trucks	1	14	0	0	15	-	0	0	0	0	0	-	0	25	5	0	30	-	3	0	0	0	3	-	48
% Articulated Trucks	0.3%	2.2%	0%	0%	1.6%	-	0%	0%	0%	0%	-	-	0%	5.7%	4.0%	0%	5.3%	-	0.8%	0%	0%	0%	0.3%	-	1.9%
Buses	1	0	0	0	1	-	0	0	0	0	0	-	0	1	0	0	1	-	0	0	0	0	0	-	2
% Buses	0.3%	0%	0%	0%	0.1%	-	0%	0%	0%	0%	-	-	0%	0.2%	0%	0%	0.2%	-	0%	0%	0%	0%	0%	-	0.1%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

1. SH 79 at FM 973 - TMC

Thu Jan 25, 2024

PM Peak (5 PM - 6 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians,
Bicycles on Crosswalk)

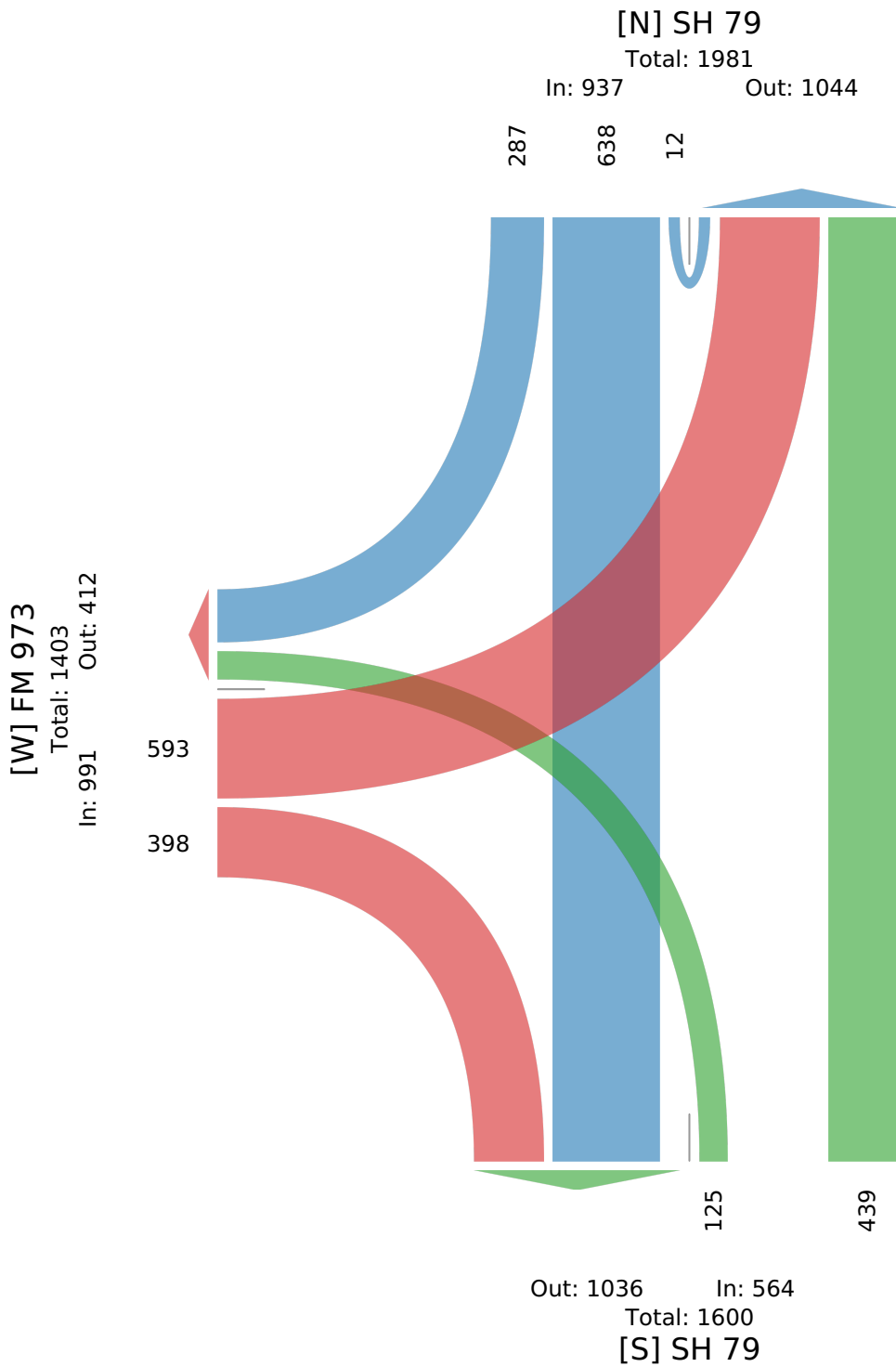
All Movements

ID: 1151552, Location: 30.553647, -97.426761



Provided by: C. J. Hensch &
Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US



2. FM 973 at Taylor HS Driveway - TMC

Thu Jan 25, 2024

Full Length (7 AM-9 AM, 3 PM-6 PM)

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1151554, Location: 30.550057, -97.430984



Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg Direction	FM 973 Westbound					Taylor HS Driveway Northbound					FM 973 Eastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2024-01-25 7:00AM	193	1	0	194	0	3	0	0	3	0	0	76	0	76	0	273
7:15AM	206	2	0	208	0	3	1	0	4	0	0	86	0	86	0	298
7:30AM	243	2	0	245	0	10	1	0	11	0	0	95	0	95	0	351
7:45AM	268	2	0	270	0	27	1	0	28	0	0	95	0	95	0	393
Hourly Total	910	7	0	917	0	43	3	0	46	0	0	352	0	352	0	1315
8:00AM	289	0	0	289	0	55	4	0	59	0	0	78	0	78	0	426
8:15AM	215	0	0	215	0	77	11	0	88	0	0	54	0	54	0	357
8:30AM	105	0	0	105	0	38	1	0	39	0	0	67	0	67	0	211
8:45AM	95	0	0	95	0	3	0	0	3	0	1	60	0	61	0	159
Hourly Total	704	0	0	704	0	173	16	0	189	0	1	259	0	260	0	1153
3:00PM	86	0	0	86	0	2	0	0	2	0	0	98	0	98	0	186
3:15PM	92	0	0	92	0	12	0	0	12	0	0	124	0	124	0	228
3:30PM	117	0	0	117	0	7	0	0	7	0	1	160	0	161	0	285
3:45PM	118	0	0	118	0	4	0	0	4	0	0	143	0	143	0	265
Hourly Total	413	0	0	413	0	25	0	0	25	0	1	525	0	526	0	964
4:00PM	147	0	0	147	0	8	0	0	8	0	1	200	0	201	0	356
4:15PM	149	0	0	149	0	98	0	0	98	0	0	194	0	194	0	441
4:30PM	112	1	0	113	0	22	0	0	22	0	0	279	0	279	0	414
4:45PM	88	1	0	89	0	11	2	0	13	0	0	183	0	183	0	285
Hourly Total	496	2	0	498	0	139	2	0	141	0	1	856	0	857	0	1496
5:00PM	92	1	0	93	0	5	0	0	5	0	0	159	0	159	0	257
5:15PM	123	1	0	124	0	4	0	0	4	0	0	216	0	216	0	344
5:30PM	95	0	0	95	0	14	1	0	15	0	0	288	0	288	0	398
5:45PM	100	0	0	100	0	5	0	0	5	0	0	319	0	319	0	424
Hourly Total	410	2	0	412	0	28	1	0	29	0	0	982	0	982	0	1423
Total	2933	11	0	2944	0	408	22	0	430	0	3	2974	0	2977	0	6351
% Approach	99.6%	0.4%	0%	-	-	94.9%	5.1%	0%	-	-	0.1%	99.9%	0%	-	-	-
% Total	46.2%	0.2%	0%	46.4%	-	6.4%	0.3%	0%	6.8%	-	0%	46.8%	0%	46.9%	-	-
Motorcycles	3	0	0	3	-	0	0	0	0	-	0	1	0	1	-	4
% Motorcycles	0.1%	0%	0%	0.1%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0.1%
Lights	2827	11	0	2838	-	407	22	0	429	-	3	2888	0	2891	-	6158
% Lights	96.4%	100%	0%	96.4%	-	99.8%	100%	0%	99.8%	-	100%	97.1%	0%	97.1%	-	97.0%
Single-Unit Trucks	40	0	0	40	-	0	0	0	0	-	0	29	0	29	-	69
% Single-Unit Trucks	1.4%	0%	0%	1.4%	-	0%	0%	0%	0%	-	0%	1.0%	0%	1.0%	-	1.1%
Articulated Trucks	41	0	0	41	-	0	0	0	0	-	0	34	0	34	-	75
% Articulated Trucks	1.4%	0%	0%	1.4%	-	0%	0%	0%	0%	-	0%	1.1%	0%	1.1%	-	1.2%
Buses	22	0	0	22	-	1	0	0	1	-	0	22	0	22	-	45
% Buses	0.8%	0%	0%	0.7%	-	0.2%	0%	0%	0.2%	-	0%	0.7%	0%	0.7%	-	0.7%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

2. FM 973 at Taylor HS Driveway - TMC

Thu Jan 25, 2024

Full Length (7 AM-9 AM, 3 PM-6 PM)

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

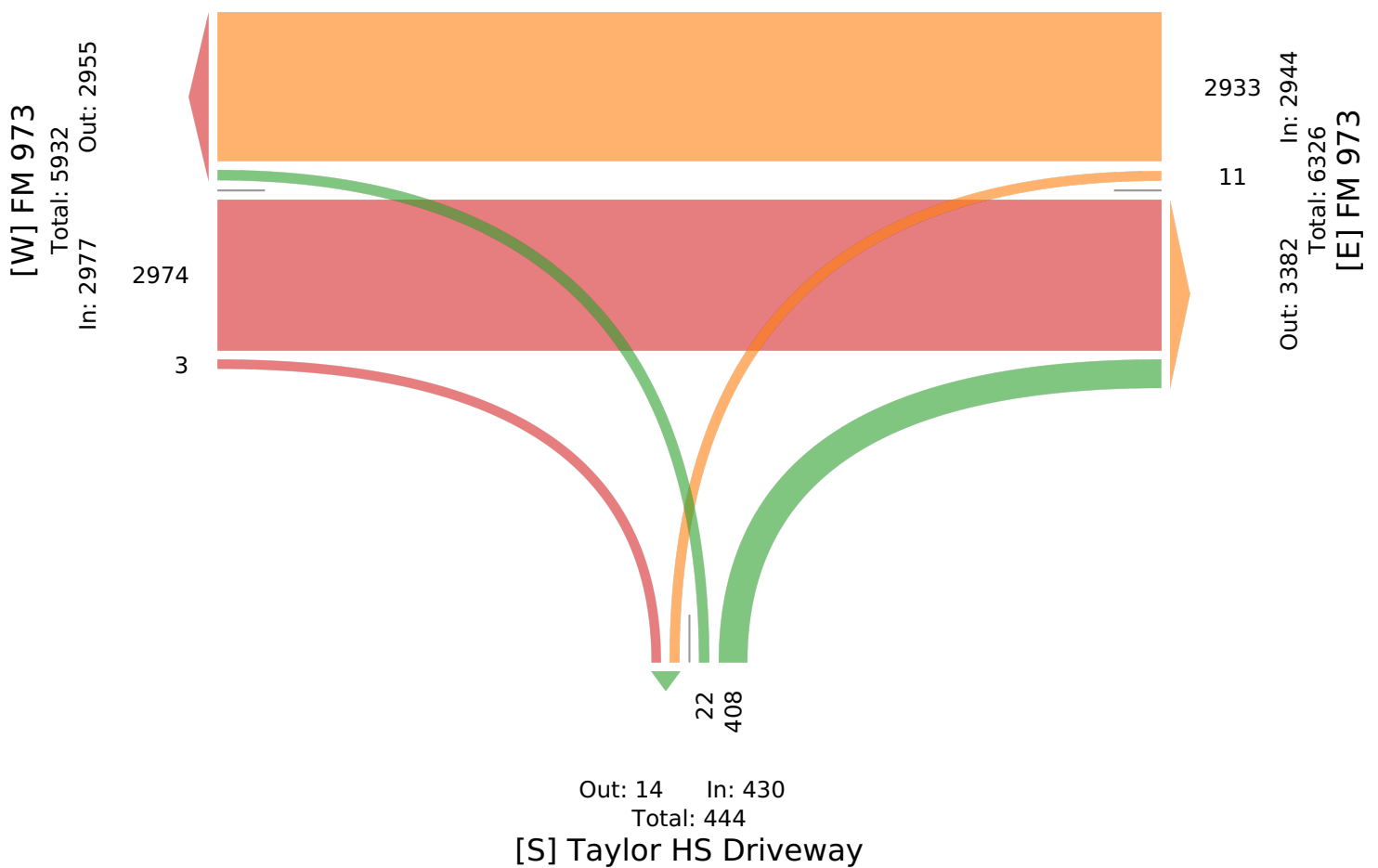
All Movements

ID: 1151554, Location: 30.550057, -97.430984

CJ Hensch &
Associates, Inc.

Provided by: C. J. Hensch &
Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US



2. FM 973 at Taylor HS Driveway - TMC

Thu Jan 25, 2024

AM Peak (7:30 AM - 8:30 AM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1151554, Location: 30.550057, -97.430984



Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg Direction	FM 973 Westbound					Taylor HS Driveway Northbound					FM 973 Eastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2024-01-25 7:30AM	243	2	0	245	0	10	1	0	11	0	0	95	0	95	0	351
7:45AM	268	2	0	270	0	27	1	0	28	0	0	95	0	95	0	393
8:00AM	289	0	0	289	0	55	4	0	59	0	0	78	0	78	0	426
8:15AM	215	0	0	215	0	77	11	0	88	0	0	54	0	54	0	357
Total	1015	4	0	1019	0	169	17	0	186	0	0	322	0	322	0	1527
% Approach	99.6%	0.4%	0%	-	-	90.9%	9.1%	0%	-	-	0%	100%	0%	-	-	-
% Total	66.5%	0.3%	0%	66.7%	-	11.1%	1.1%	0%	12.2%	-	0%	21.1%	0%	21.1%	-	-
PHF	0.878	0.500	-	0.881	-	0.549	0.386	-	0.528	-	-	0.847	-	0.847	-	0.896
Motorcycles	1	0	0	1	-	0	0	0	0	-	0	0	0	0	-	1
% Motorcycles	0.1%	0%	0%	0.1%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0.1%
Lights	986	4	0	990	-	169	17	0	186	-	0	303	0	303	-	1479
% Lights	97.1%	100%	0%	97.2%	-	100%	100%	0%	100%	-	0%	94.1%	0%	94.1%	-	96.9%
Single-Unit Trucks	10	0	0	10	-	0	0	0	0	-	0	6	0	6	-	16
% Single-Unit Trucks	1.0%	0%	0%	1.0%	-	0%	0%	0%	0%	-	0%	1.9%	0%	1.9%	-	1.0%
Articulated Trucks	9	0	0	9	-	0	0	0	0	-	0	3	0	3	-	12
% Articulated Trucks	0.9%	0%	0%	0.9%	-	0%	0%	0%	0%	-	0%	0.9%	0%	0.9%	-	0.8%
Buses	9	0	0	9	-	0	0	0	0	-	0	10	0	10	-	19
% Buses	0.9%	0%	0%	0.9%	-	0%	0%	0%	0%	-	0%	3.1%	0%	3.1%	-	1.2%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

2. FM 973 at Taylor HS Driveway - TMC

Thu Jan 25, 2024

AM Peak (7:30 AM - 8:30 AM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians,
Bicycles on Crosswalk)

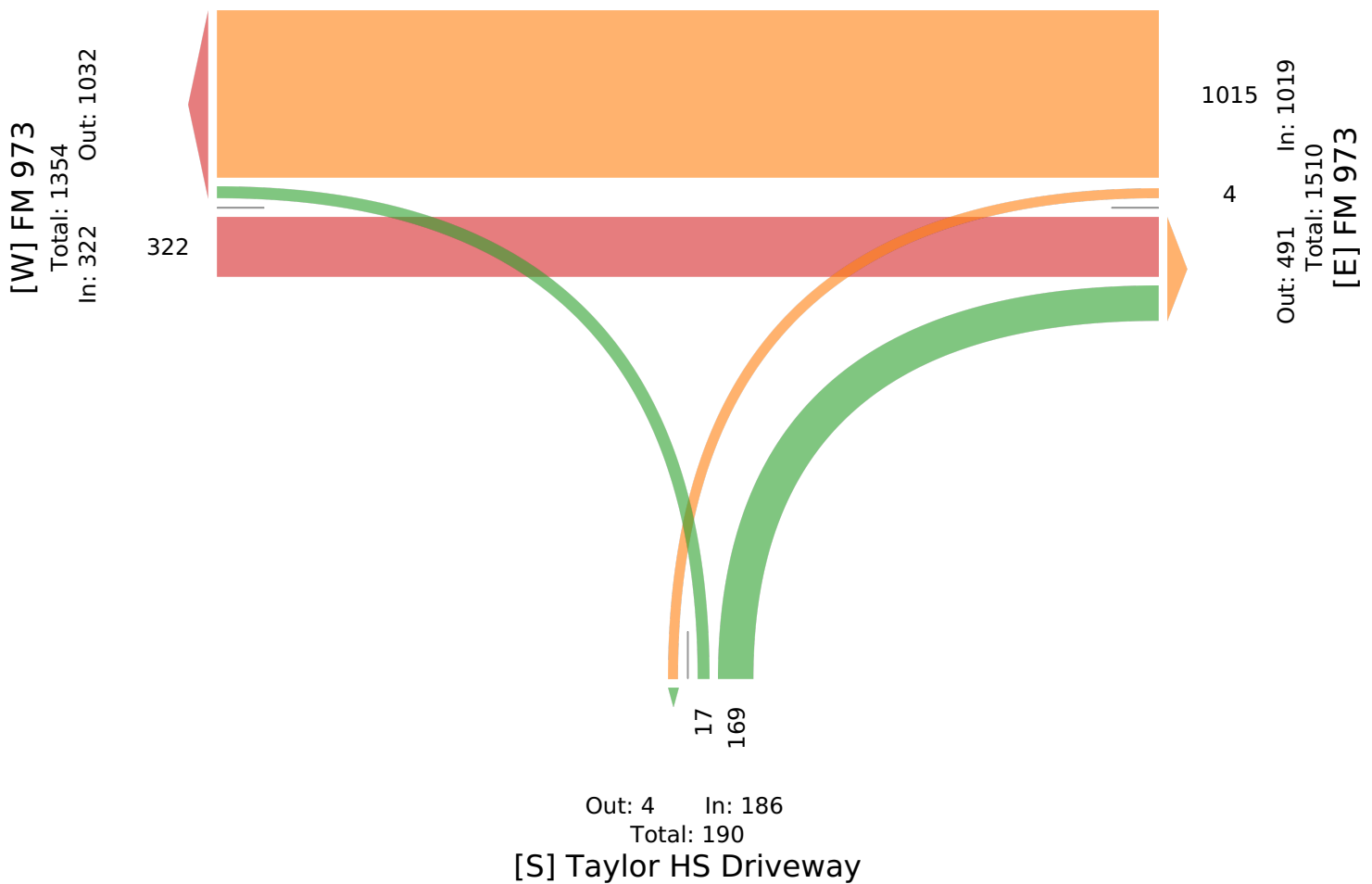
All Movements

ID: 1151554, Location: 30.550057, -97.430984

CJ Hensch &
Associates, Inc.

Provided by: C. J. Hensch &
Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US



2. FM 973 at Taylor HS Driveway - TMC

Thu Jan 25, 2024

PM Peak (4 PM - 5 PM)

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1151554, Location: 30.550057, -97.430984



Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg Direction	FM 973 Westbound					Taylor HS Driveway Northbound					FM 973 Eastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2024-01-25 4:00PM	147	0	0	147	0	8	0	0	8	0	1	200	0	201	0	356
4:15PM	149	0	0	149	0	98	0	0	98	0	0	194	0	194	0	441
4:30PM	112	1	0	113	0	22	0	0	22	0	0	279	0	279	0	414
4:45PM	88	1	0	89	0	11	2	0	13	0	0	183	0	183	0	285
Total	496	2	0	498	0	139	2	0	141	0	1	856	0	857	0	1496
% Approach	99.6%	0.4%	0%	-	-	98.6%	1.4%	0%	-	-	0.1%	99.9%	0%	-	-	-
% Total	33.2%	0.1%	0%	33.3%	-	9.3%	0.1%	0%	9.4%	-	0.1%	57.2%	0%	57.3%	-	-
PHF	0.832	0.500	-	0.836	-	0.355	0.250	-	0.360	-	0.250	0.767	-	0.768	-	0.848
Motorcycles	1	0	0	1	-	0	0	0	0	-	0	0	0	0	-	1
% Motorcycles	0.2%	0%	0%	0.2%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0.1%
Lights	478	2	0	480	-	138	2	0	140	-	1	832	0	833	-	1453
% Lights	96.4%	100%	0%	96.4%	-	99.3%	100%	0%	99.3%	-	100%	97.2%	0%	97.2%	-	97.1%
Single-Unit Trucks	7	0	0	7	-	0	0	0	0	-	0	6	0	6	-	13
% Single-Unit Trucks	1.4%	0%	0%	1.4%	-	0%	0%	0%	0%	-	0%	0.7%	0%	0.7%	-	0.9%
Articulated Trucks	3	0	0	3	-	0	0	0	0	-	0	9	0	9	-	12
% Articulated Trucks	0.6%	0%	0%	0.6%	-	0%	0%	0%	0%	-	0%	1.1%	0%	1.1%	-	0.8%
Buses	7	0	0	7	-	1	0	0	1	-	0	9	0	9	-	17
% Buses	1.4%	0%	0%	1.4%	-	0.7%	0%	0%	0.7%	-	0%	1.1%	0%	1.1%	-	1.1%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

2. FM 973 at Taylor HS Driveway - TMC

Thu Jan 25, 2024

PM Peak (4 PM - 5 PM)

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians,
Bicycles on Crosswalk)

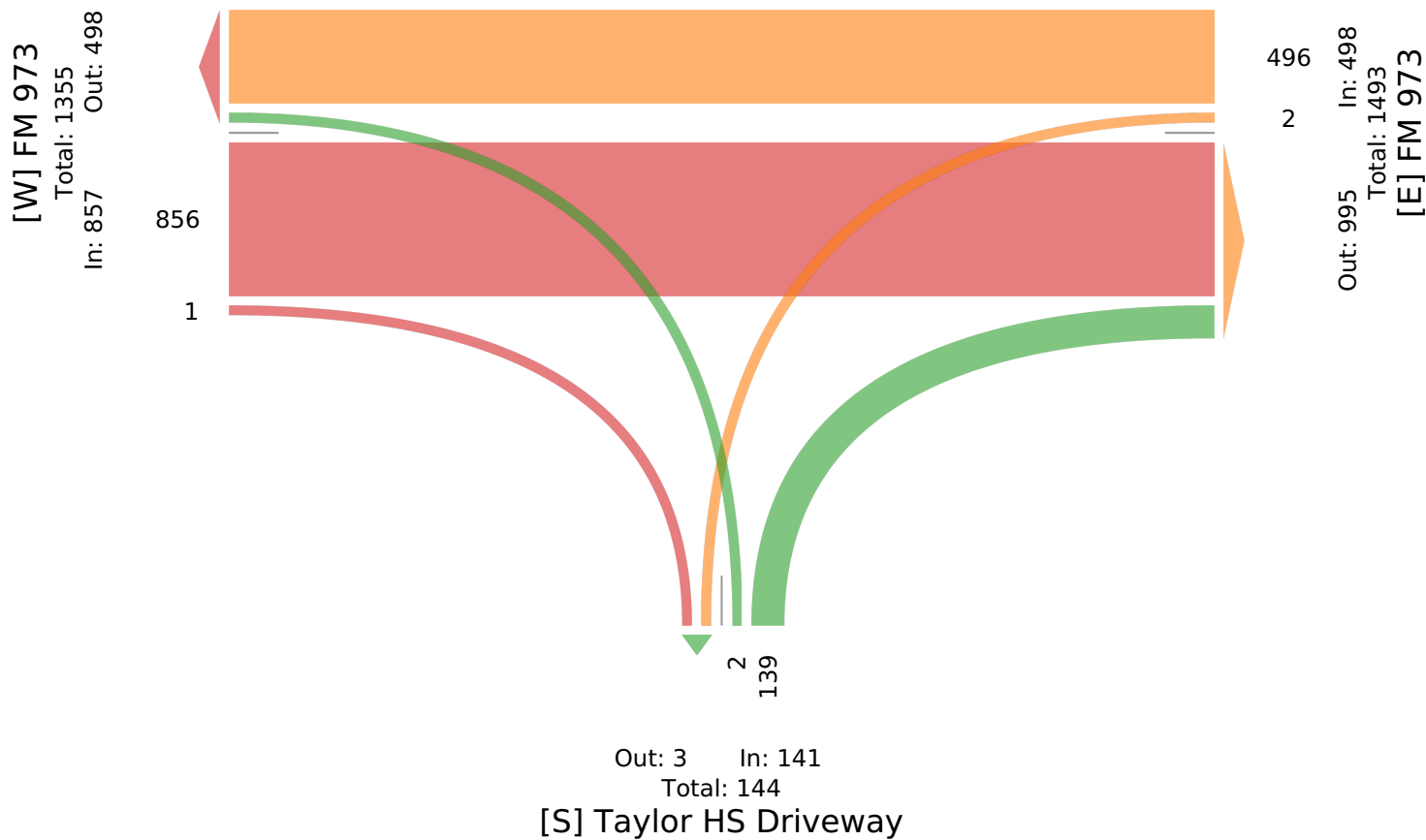
All Movements

ID: 1151554, Location: 30.550057, -97.430984

CJ Hensch &
Associates, Inc.

Provided by: C. J. Hensch &
Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US



3. FM 973 at Wesley Miller Lane - TMC

Thu Jan 25, 2024

Full Length (7 AM-9 AM, 3 PM-6 PM)

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1151558, Location: 30.547794, -97.433739



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg Direction	Wesley Miller Lane Southbound						FM 973 Westbound						Wesley Miller Lane Northbound						FM 973 Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2024-01-25 7:00AM	2	0	0	0	2	0	0	173	14	0	187	0	8	0	0	0	8	0	0	62	0	0	62	0	259
7:15AM	0	0	1	0	1	0	0	179	28	0	207	0	6	0	1	0	7	0	2	78	2	0	82	0	297
7:30AM	0	0	0	0	0	0	0	201	34	1	236	0	9	0	1	0	10	0	2	82	0	0	84	0	330
7:45AM	0	0	0	0	0	0	1	193	72	0	266	0	16	0	1	0	17	0	5	80	1	0	86	0	369
Hourly Total	2	0	1	0	3	0	1	746	148	1	896	0	39	0	3	0	42	0	9	302	3	0	314	0	1255
8:00AM	0	0	0	0	0	0	0	153	114	0	267	0	18	0	4	0	22	0	13	62	1	0	76	0	365
8:15AM	1	0	0	0	1	0	0	119	117	0	236	0	10	0	1	0	11	0	27	42	1	0	70	0	318
8:30AM	1	0	1	0	2	0	0	83	28	0	111	0	6	0	1	0	7	0	2	54	0	0	56	0	176
8:45AM	0	0	0	0	0	0	0	87	6	0	93	0	1	0	0	0	1	0	1	63	0	0	64	0	158
Hourly Total	2	0	1	0	3	0	0	442	265	0	707	0	35	0	6	0	41	0	43	221	2	0	266	0	1017
3:00PM	1	0	1	0	2	0	0	73	13	0	86	0	6	1	0	0	7	0	2	85	2	0	89	0	184
3:15PM	0	0	0	0	0	0	0	66	24	0	90	0	27	0	4	0	31	0	2	100	0	0	102	0	223
3:30PM	1	0	0	0	1	0	1	90	24	0	115	0	26	1	1	0	28	0	5	128	0	0	133	0	277
3:45PM	0	0	0	0	0	0	0	79	39	0	118	0	4	0	0	0	4	0	2	137	0	1	140	0	262
Hourly Total	2	0	1	0	3	0	1	308	100	0	409	0	63	2	5	0	70	0	11	450	2	1	464	0	946
4:00PM	0	0	0	0	0	0	0	99	29	1	129	0	14	0	3	0	17	0	4	194	0	0	198	0	344
4:15PM	2	0	0	0	2	0	0	123	43	0	166	0	45	0	1	0	46	0	2	158	1	0	161	0	375
4:30PM	0	0	0	0	0	0	0	94	17	0	111	0	16	0	3	0	19	0	1	245	0	0	246	0	376
4:45PM	0	0	0	0	0	0	0	80	10	0	90	0	13	0	4	0	17	0	0	157	0	0	157	0	264
Hourly Total	2	0	0	0	2	0	0	396	99	1	496	0	88	0	11	0	99	0	7	754	1	0	762	0	1359
5:00PM	1	0	0	0	1	0	1	78	14	0	93	0	9	0	1	0	10	0	3	148	2	0	153	0	257
5:15PM	0	0	2	0	2	0	0	100	19	0	119	0	28	0	2	0	30	0	5	193	1	0	199	0	350
5:30PM	1	0	2	0	3	0	0	67	32	0	99	0	26	0	3	0	29	0	2	266	1	0	269	0	400
5:45PM	0	0	0	0	0	0	0	83	19	0	102	0	36	1	2	0	39	0	1	263	0	0	264	0	405
Hourly Total	2	0	4	0	6	0	1	328	84	0	413	0	99	1	8	0	108	0	11	870	4	0	885	0	1412
Total	10	0	7	0	17	0	3	2220	696	2	2921	0	324	3	33	0	360	0	81	2597	12	1	2691	0	5989
% Approach	58.8%	0%	41.2%	0%	-	-	0.1%	76.0%	23.8%	0.1%	-	-	90.0%	0.8%	9.2%	0%	-	-	3.0%	96.5%	0.4%	0%	-	-	-
% Total	0.2%	0%	0.1%	0%	0.3%	-	0.1%	37.1%	11.6%	0%	48.8%	-	5.4%	0.1%	0.6%	0%	6.0%	-	1.4%	43.4%	0.2%	0%	44.9%	-	-
Motorcycles	0	0	0	0	0	-	0	3	0	0	3	-	0	0	0	0	0	-	0	2	0	0	2	-	5
% Motorcycles	0%	0%	0%	0%	0%	-	0%	0.1%	0%	0%	0.1%	-	0%	0%	0%	0%	0%	-	0%	0.1%	0%	0%	0.1%	-	0.1%
Lights	8	0	5	0	13	-	2	2135	678	2	2817	-	308	3	32	0	343	-	80	2526	10	1	2617	-	5790
% Lights	80.0%	0%	71.4%	0%	76.5%	-	66.7%	96.2%	97.4%	100%	96.4%	-	95.1%	100%	97.0%	0%	95.3%	-	98.8%	97.3%	83.3%	100%	97.3%	-	96.7%
Single-Unit Trucks	2	0	1	0	3	-	0	36	0	0	36	-	0	0	0	0	0	-	0	27	2	0	29	-	68
% Single-Unit Trucks	20.0%	0%	14.3%	0%	17.6%	-	0%	1.6%	0%	0%	1.2%	-	0%	0%	0%	0%	0%	-	0%	1.0%	16.7%	0%	1.1%	-	1.1%
Articulated Trucks	0	0	1	0	1	-	1	42	0	0	43	-	0	0	0	0	0	-	0	36	0	0	36	-	80
% Articulated Trucks	0%	0%	14.3%	0%	5.9%	-	33.3%	1.9%	0%	0%	1.5%	-	0%	0%	0%	0%	0%	-	0%	1.4%	0%	0%	1.3%	-	1.3%
Buses	0	0	0	0	0	-	0	4	18	0	22	-	16	0	1	0	17	-	1	6	0	0	7	-	46
% Buses	0%	0%	0%	0%	0%	-	0%	0.2%	2.6%	0%	0.8%	-	4.9%	0%	3.0%	0%	4.7%	-	1.2%	0.2%	0%	0%	0.3%	-	0.8%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

3. FM 973 at Wesley Miller Lane - TMC

Thu Jan 25, 2024

Full Length (7 AM-9 AM, 3 PM-6 PM)

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1151558, Location: 30.547794, -97.433739

CJ Hensch &
Associates, Inc.

Provided by: C. J. Hensch &
Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US

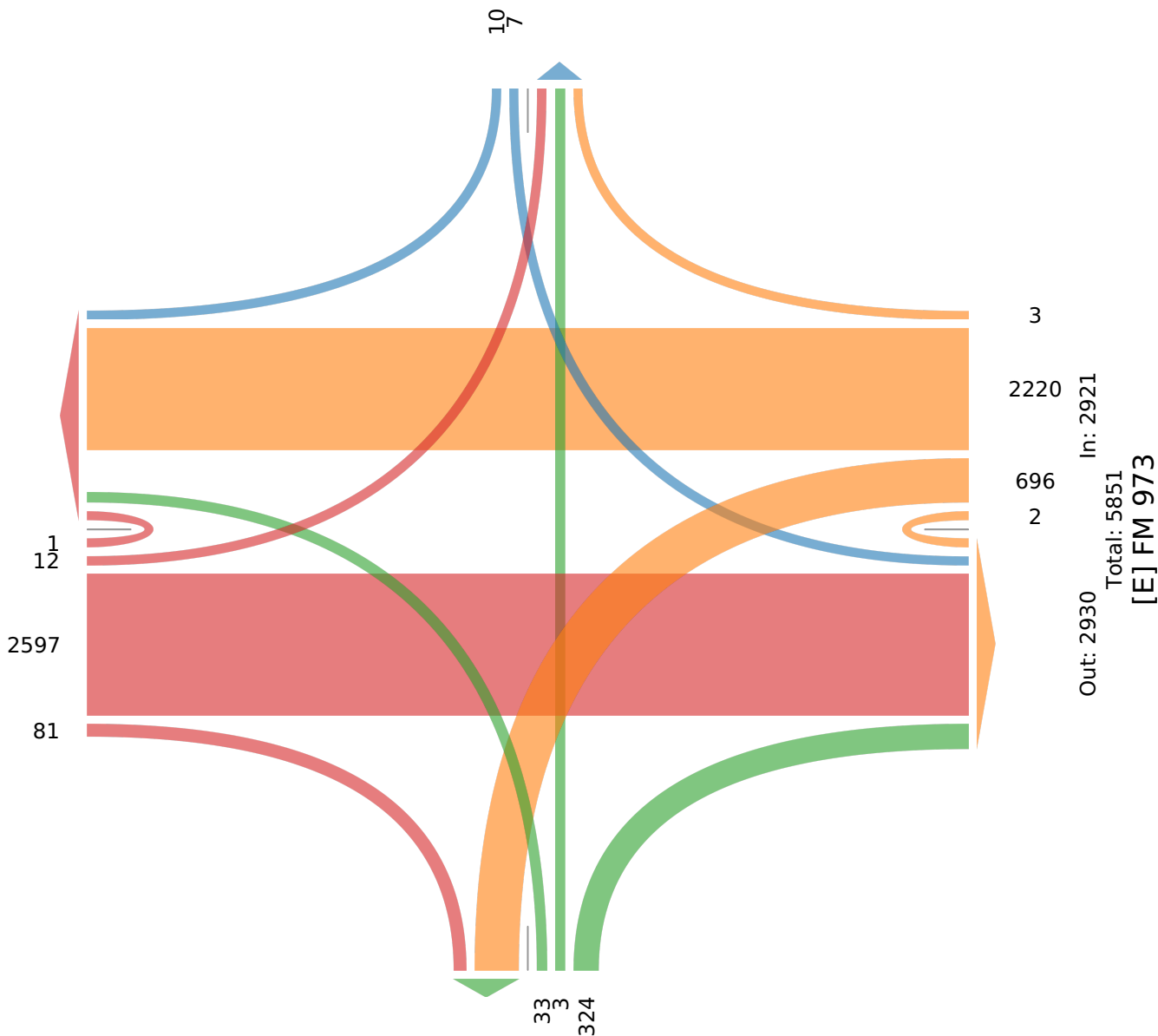
[N] Wesley Miller Lane

Total: 35

In: 17 Out: 18

10
7

[W] FM 973
Total: 4955
In: 2691 Out: 2264



Out: 777 In: 360
Total: 1137

[S] Wesley Miller Lane

3. FM 973 at Wesley Miller Lane - TMC

Thu Jan 25, 2024

AM Peak (7:30 AM - 8:30 AM)

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1151558, Location: 30.547794, -97.433739



Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

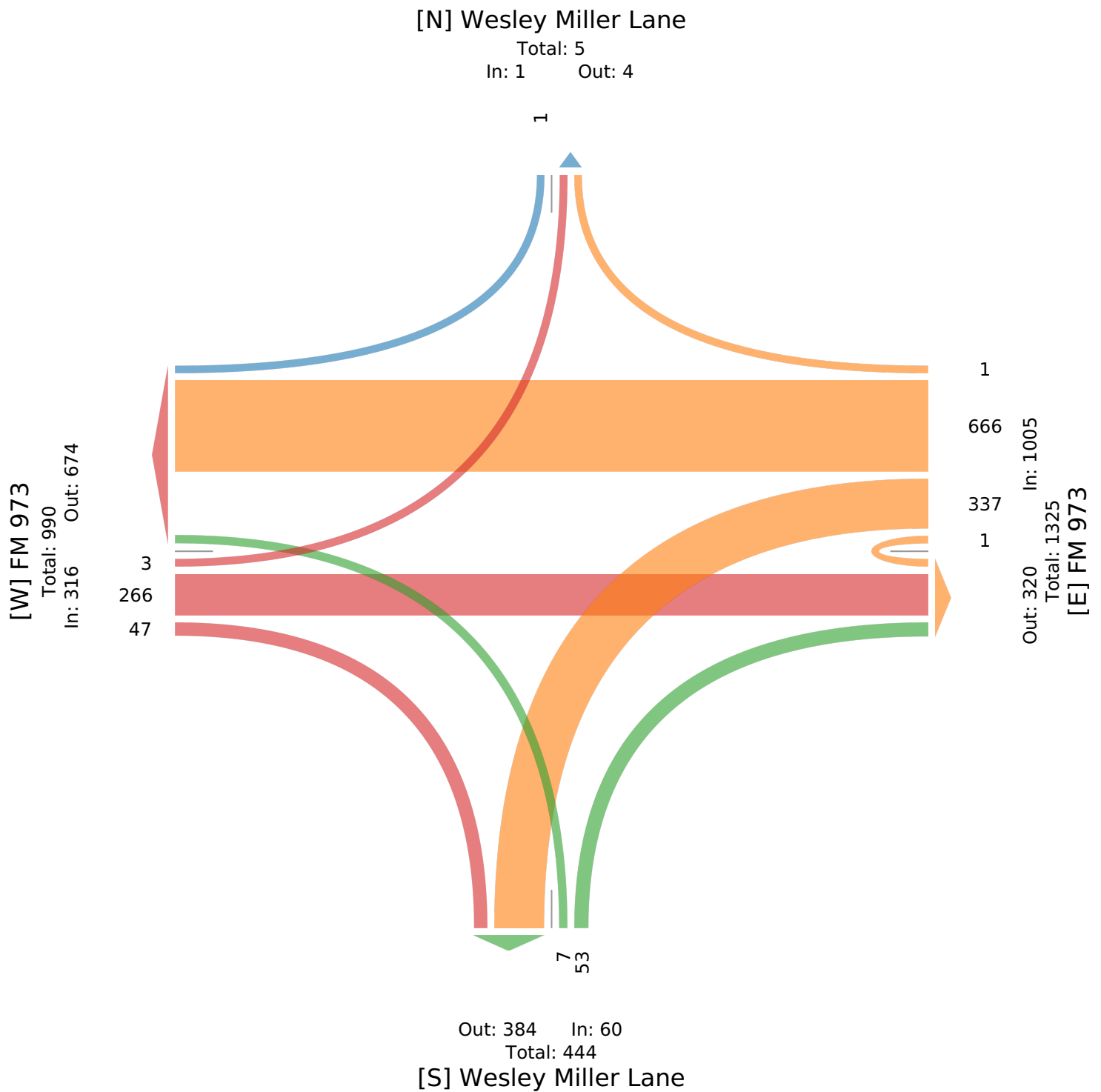
Leg Direction	Wesley Miller Lane Southbound							FM 973 Westbound							Wesley Miller Lane Northbound							FM 973 Eastbound							
Time	R	T	L	U	App	Ped*		R	T	L	U	App	Ped*		R	T	L	U	App	Ped*		R	T	L	U	App	Ped*		Int
2024-01-25 7:30AM	0	0	0	0	0	0	0	0	201	34	1	236	0		9	0	1	0	10	0		2	82	0	0	84	0		330
7:45AM	0	0	0	0	0	0	0	1	193	72	0	266	0		16	0	1	0	17	0		5	80	1	0	86	0		369
8:00AM	0	0	0	0	0	0	0	0	153	114	0	267	0		18	0	4	0	22	0		13	62	1	0	76	0		365
8:15AM	1	0	0	0	0	1	0	0	119	117	0	236	0		10	0	1	0	11	0		27	42	1	0	70	0		318
Total	1	0	0	0	0	1	0	1	666	337	1	1005	0		53	0	7	0	60	0		47	266	3	0	316	0		1382
% Approach	100%	0%	0%	0%	0%	-	-	0.1%	66.3%	33.5%	0.1%	-	-		88.3%	0%	11.7%	0%	-	-		14.9%	84.2%	0.9%	0%	-	-		-
% Total	0.1%	0%	0%	0%	0%	0.1%	-	0.1%	48.2%	24.4%	0.1%	72.7%	-		3.8%	0%	0.5%	0%	4.3%	-		3.4%	19.2%	0.2%	0%	22.9%	-		-
PHF	0.250	-	-	-	-	0.250	-	0.250	0.828	0.720	0.250	0.941	-		0.736	-	0.438	-	0.682	-		0.435	0.811	0.750	-	0.919	-		0.936
Motorcycles	0	0	0	0	0	0	-	0	1	0	0	1	-		0	0	0	0	0	-		0	1	0	0	1	-		2
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0.2%	0%	0%	0.1%	-		0%	0%	0%	0%	0%	-		0%	0.4%	0%	0%	0.3%	-		0.1%
Lights	1	0	0	0	0	1	-	0	648	328	1	977	-		45	0	7	0	52	-		47	255	1	0	303	-		1333
% Lights	100%	0%	0%	0%	0%	100%	-	0%	97.3%	97.3%	100%	97.2%	-		84.9%	0%	100%	0%	86.7%	-		100%	95.9%	33.3%	0%	95.9%	-		96.5%
Single-Unit Trucks	0	0	0	0	0	0	-	0	9	0	0	9	-		0	0	0	0	0	-		0	5	2	0	7	-		16
% Single-Unit Trucks	0%	0%	0%	0%	0%	0%	-	0%	1.4%	0%	0%	0.9%	-		0%	0%	0%	0%	0%	-		0%	1.9%	66.7%	0%	2.2%	-		1.2%
Articulated Trucks	0	0	0	0	0	0	-	1	8	0	0	9	-		0	0	0	0	0	-		0	4	0	0	4	-		13
% Articulated Trucks	0%	0%	0%	0%	0%	0%	-	100%	1.2%	0%	0%	0.9%	-		0%	0%	0%	0%	0%	-		0%	1.5%	0%	0%	1.3%	-		0.9%
Buses	0	0	0	0	0	0	-	0	0	9	0	9	-		8	0	0	0	8	-		0	1	0	0	1	-		18
% Buses	0%	0%	0%	0%	0%	0%	-	0%	0%	2.7%	0%	0.9%	-		15.1%	0%	0%	0%	13.3%	-		0%	0.4%	0%	0%	0.3%	-		1.3%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-		-	-	-	-	-	0	-		-	-	-	-	-		0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-		-	-	-	-	-	0	-		-	-	-	-	-		0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

ID: 1151558, Location: 30.547794, -97.433739

CJ Hensch &
Associates, Inc.

Provided by: C. J. Hensch &
Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US



3. FM 973 at Wesley Miller Lane - TMC

Thu Jan 25, 2024

PM Peak (5 PM - 6 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1151558, Location: 30.547794, -97.433739



Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg Direction	Wesley Miller Lane Southbound						FM 973 Westbound						Wesley Miller Lane Northbound						FM 973 Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2024-01-25 5:00PM	1	0	0	0	1	0	1	78	14	0	93	0	9	0	1	0	10	0	3	148	2	0	153	0	257
5:15PM	0	0	2	0	2	0	0	100	19	0	119	0	28	0	2	0	30	0	5	193	1	0	199	0	350
5:30PM	1	0	2	0	3	0	0	67	32	0	99	0	26	0	3	0	29	0	2	266	1	0	269	0	400
5:45PM	0	0	0	0	0	0	0	83	19	0	102	0	36	1	2	0	39	0	1	263	0	0	264	0	405
Total	2	0	4	0	6	0	1	328	84	0	413	0	99	1	8	0	108	0	11	870	4	0	885	0	1412
% Approach	33.3%	0%	66.7%	0%	-	-	0.2%	79.4%	20.3%	0%	-	-	91.7%	0.9%	7.4%	0%	-	-	1.2%	98.3%	0.5%	0%	-	-	-
% Total	0.1%	0%	0.3%	0%	0.4%	-	0.1%	23.2%	5.9%	0%	29.2%	-	7.0%	0.1%	0.6%	0%	7.6%	-	0.8%	61.6%	0.3%	0%	62.7%	-	-
PHF	0.500	-	0.500	-	0.500	-	0.250	0.820	0.656	-	0.868	-	0.688	0.250	0.667	-	0.692	-	0.550	0.818	0.500	-	0.822	-	0.872
Motorcycles	0	0	0	0	0	-	0	1	0	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	1
% Motorcycles	0%	0%	0%	0%	0%	-	0%	0.3%	0%	0%	0.2%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.1%
Lights	1	0	4	0	5	-	1	316	84	0	401	-	99	1	8	0	108	-	11	861	4	0	876	-	1390
% Lights	50.0%	0%	100%	0%	83.3%	-	100%	96.3%	100%	0%	97.1%	-	100%	100%	100%	0%	100%	-	100%	99.0%	100%	0%	99.0%	-	98.4%
Single-Unit Trucks	1	0	0	0	1	-	0	3	0	0	3	-	0	0	0	0	0	-	0	4	0	0	4	-	8
% Single-Unit Trucks	50.0%	0%	0%	0%	16.7%	-	0%	0.9%	0%	0%	0.7%	-	0%	0%	0%	0%	0%	-	0%	0.5%	0%	0%	0.5%	-	0.6%
Articulated Trucks	0	0	0	0	0	-	0	7	0	0	7	-	0	0	0	0	0	-	0	4	0	0	4	-	11
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	2.1%	0%	0%	1.7%	-	0%	0%	0%	0%	0%	-	0%	0.5%	0%	0%	0.5%	-	0.8%
Buses	0	0	0	0	0	-	0	1	0	0	1	-	0	0	0	0	0	-	0	1	0	0	1	-	2
% Buses	0%	0%	0%	0%	0%	-	0%	0.3%	0%	0%	0.2%	-	0%	0%	0%	0%	0%	-	0%	0.1%	0%	0%	0.1%	-	0.1%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

3. FM 973 at Wesley Miller Lane - TMC

Thu Jan 25, 2024

PM Peak (5 PM - 6 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians,
Bicycles on Crosswalk)

All Movements

ID: 1151558, Location: 30.547794, -97.433739

CJ Hensch &
Associates, Inc.

Provided by: C. J. Hensch &
Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US

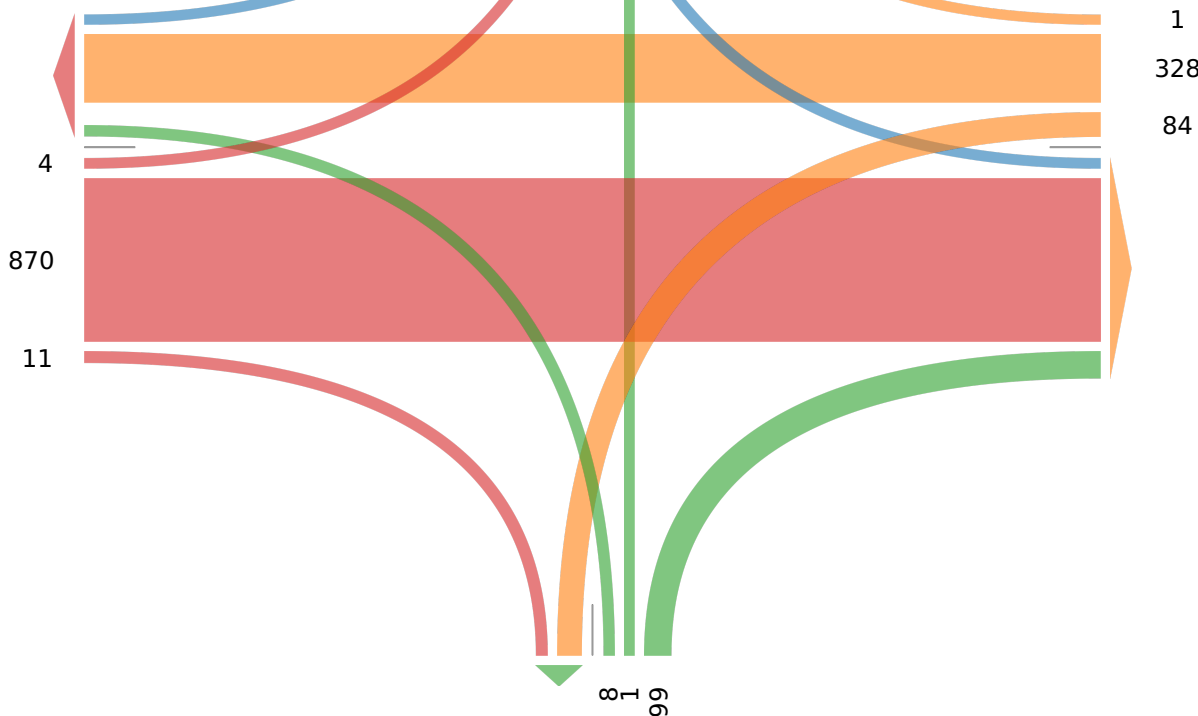
[N] Wesley Miller Lane

Total: 12

In: 6 Out: 6

24

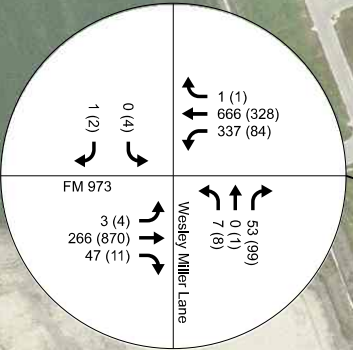
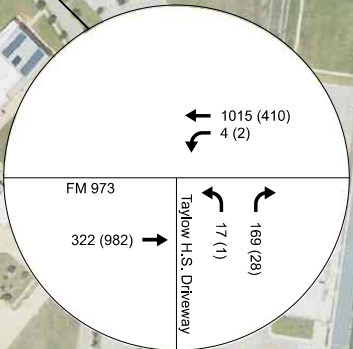
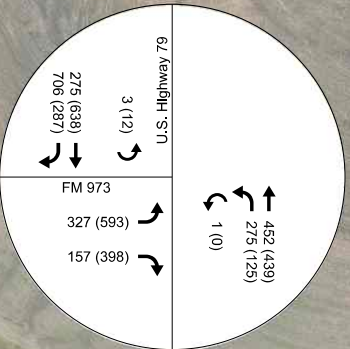
[W] FM 973
Total: 1223
In: 885 Out: 338



Out: 973 In: 413
Total: 1386
[E] FM 973

Out: 95 In: 108
Total: 203

[S] Wesley Miller Lane



WESLEY MILLER LANE



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TBPE Firm No. F-8478

QuikTrip #4192

Northwest Corner of U.S. Highway 79 and FM 973

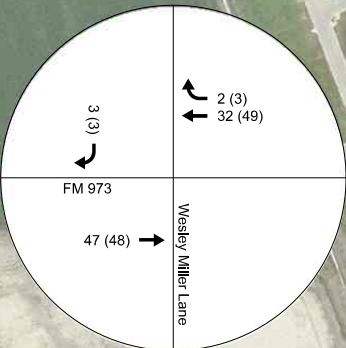
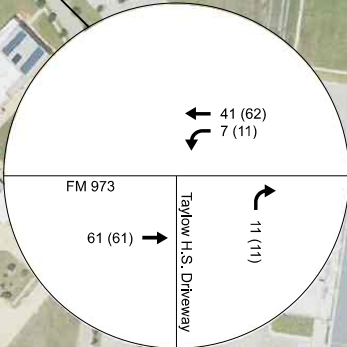
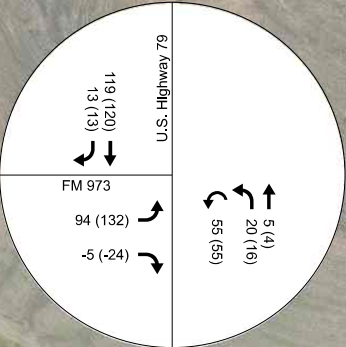
Existing Traffic Volumes (2024)

DATE:
4/25/2024
SCALE:
1" = 300'

Legend

AM / (PM)





WESLEY MILLER LANE

TAYLOR

BUCKS



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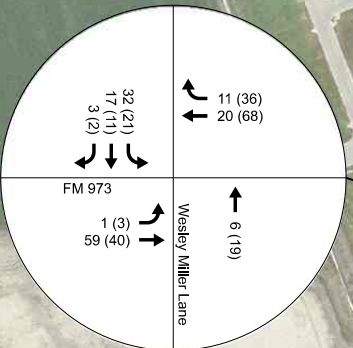
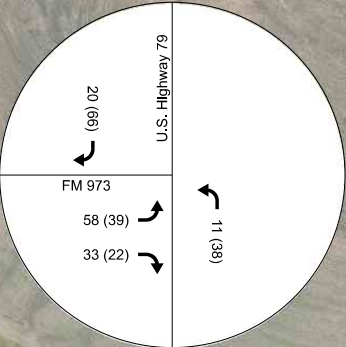
BG - Taylor Gateway (2024)

DATE:
4/25/2024
SCALE:
1" = 300'

Legend

AM / (PM)





WESLEY MILLER LANE



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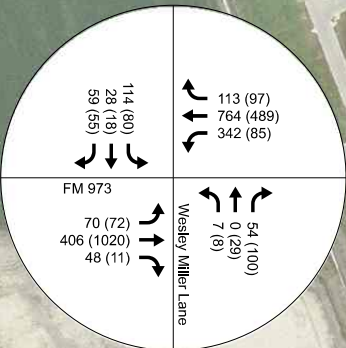
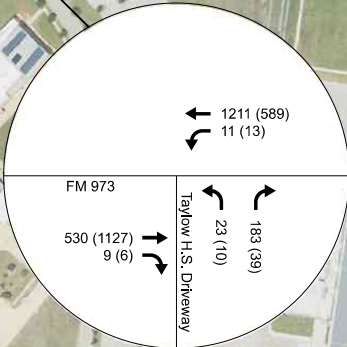
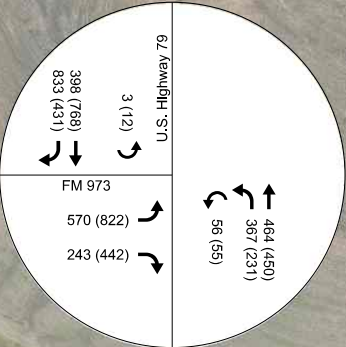
QuikTrip #4192
Northwest Corner of U.S. Highway 79 and FM 973

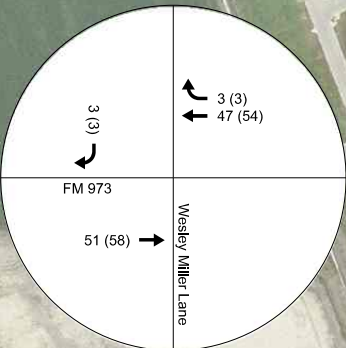
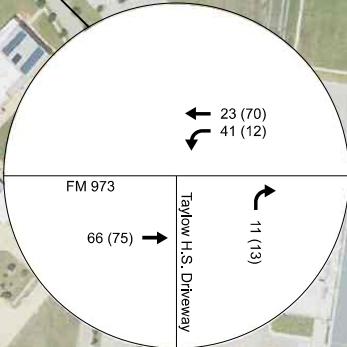
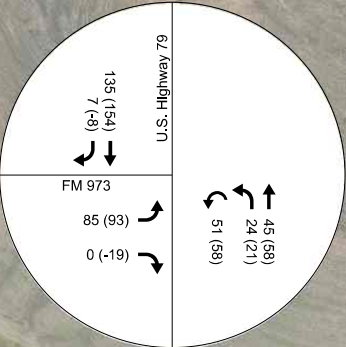
BG - Castlewood South (2024)

DATE:
4/25/2024
SCALE:
1" = 300'

Legend
AM / (PM)







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Northwest Corner of U.S. Highway 79 and FM 973

BG - Taylor Gateway (2026)

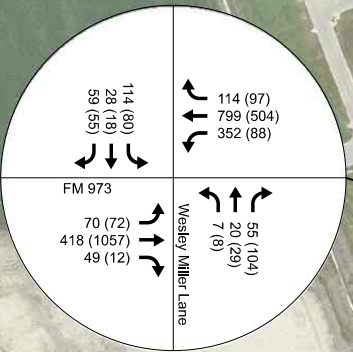
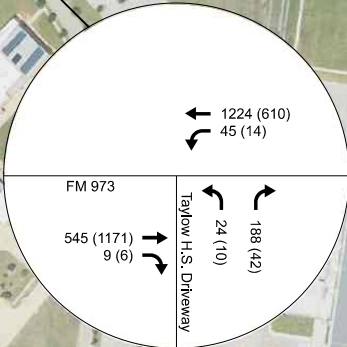
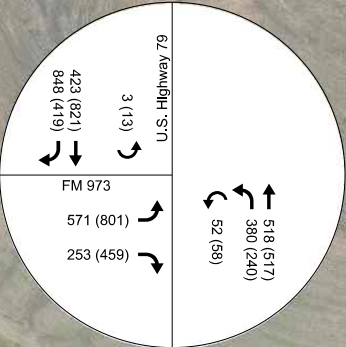
DATE:
4/25/2024

SCALE:
1" = 300'

Legend

AM / (PM)





WESLEY MILLER LANE

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QuikTrip #4192

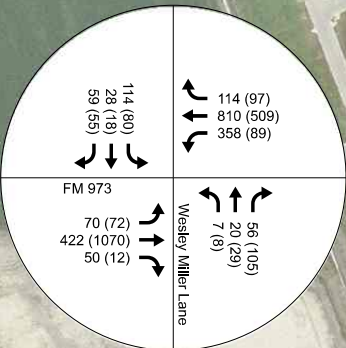
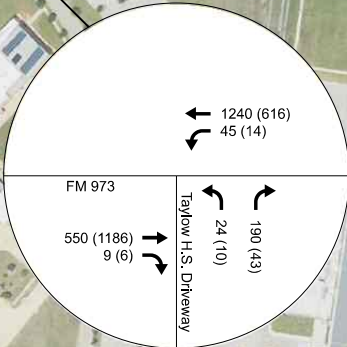
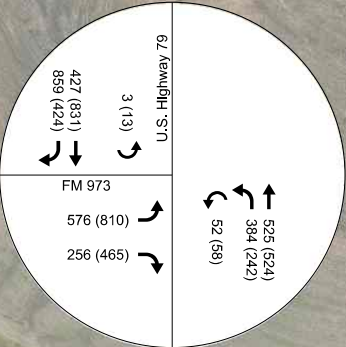
Northwest Corner of U.S. Highway 79 and FM 973

Projected Traffic Volumes (2027)

DATE:
4/25/2024
SCALE:
1" = 300'

Legend
AM / (PM)









CH

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QuikTrip #4 192
Northwest Corner of U.S. Highway 79 and FM 973

Trip Distribution (Volumes) Phase I
C-Store

DATE:
4/25/2024

SCALE:
1" = 300'

Legend
AM / PM

Page 146 of 1362







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QuikTrip #4192
Northwest Corner of U.S. Highway 79 and FM 973

Trip Distribution (Volumes) Phase I
C-Store Pass-By

DATE: 5/9/2024
SCALE: 1" = 300'

Legend
AM / PM





QuikTrip #4 192

Northwest Corner of U.S. Highway 79 and FM 973

Trip Distribution (Percentages) Phase II

DATE: 4/25/2024

SCALE: 1" = 300'

Legend

Enter % / (Exit %)

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QuikTrip #4192

Northwest Corner of U.S. Highway 79 and FM 973

Trip Distribution (Percentages) Phase II

Fast Food Restaurant

DATE:
4/25/2024

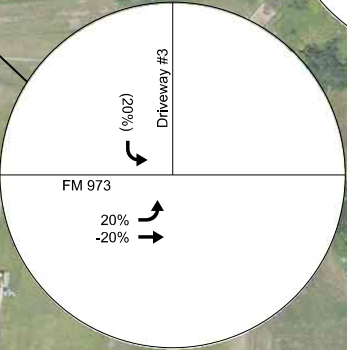
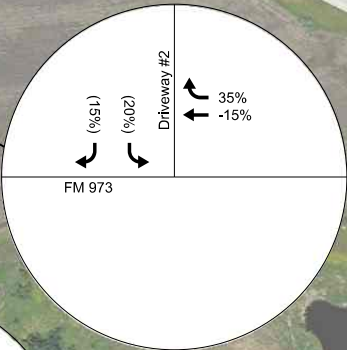
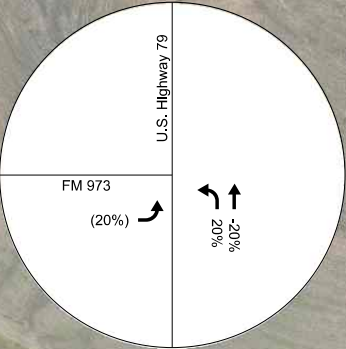
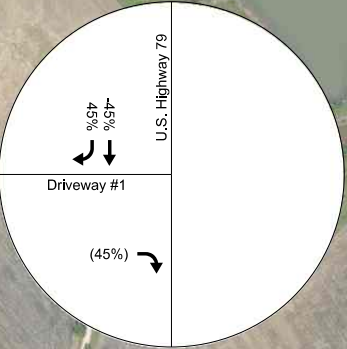
SCALE:
1" = 300'

Legend

Enter % / (Exit %)







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QuikTrip #4192
Northwest Corner of U.S. Highway 79 and FM 973

Trip Distribution (Percentages) Phase II
Fast Food Pass-By AM

DATE:
4/25/2024
SCALE:
1" = 300'

Legend
Enter % / (Exit %)



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QuikTrip #4 192

Northwest Corner of U.S. Highway 79 and FM 973

Trip Distribution (Percentages) Phase II

Fast Food Pass-By PM

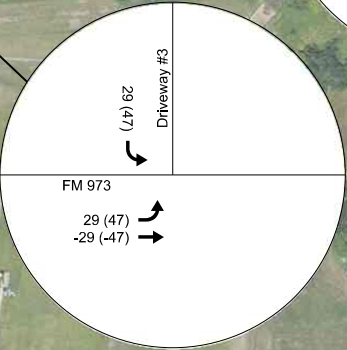
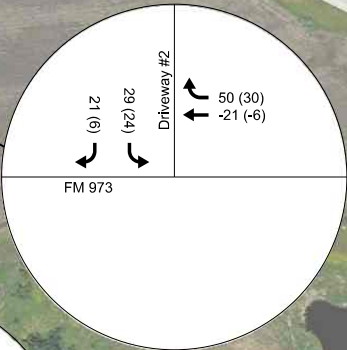
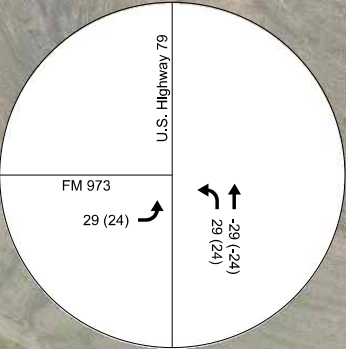
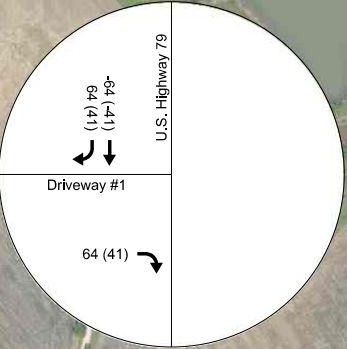
DATE:
4/25/2024

SCALE:
1" = 300'

Legend

Enter % / (Exit %)





WESLEY MILLER LANE



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QuikTrip #4192

Northwest Corner of U.S. Highway 79 and FM 973

Trip Distribution (Volumes) Phase II
Fast Food Pass-By

DATE:
4/25/2024
SCALE:
1" = 300'

Legend
AM / PM













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QuikTrip #4192

Northwest Corner of U.S. Highway 79 and FM 973

Trip Distribution (Volumes) Phase III

Strip Retail Plaza

DATE:
4/25/2024

SCALE:
1" = 300'

Legend

AM / PM













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QuikTrip #4192
Northwest Corner of U.S. Highway 79 and FM 973

Trip Distribution (Volumes) Phase III
Multifamily

DATE:
4/25/2024
SCALE:
1" = 300'

Legend
AM / PM







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QuikTrip #4 192

Northwest Corner of U.S. Highway 79 and FM 973

Trip Distribution (Percentages) Phase III
Single Family

DATE:
4/25/2024
SCALE:
1" = 300'

Legend

Enter % / (Exit %)

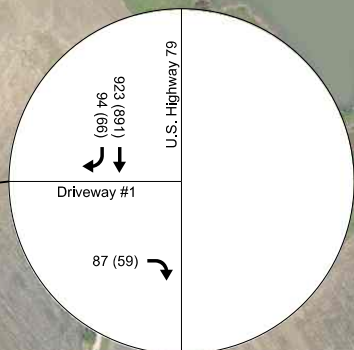
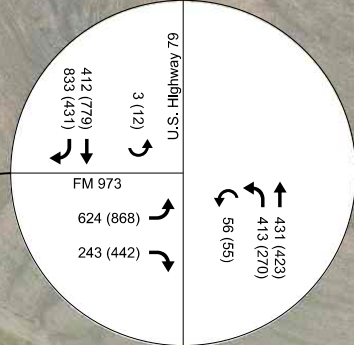
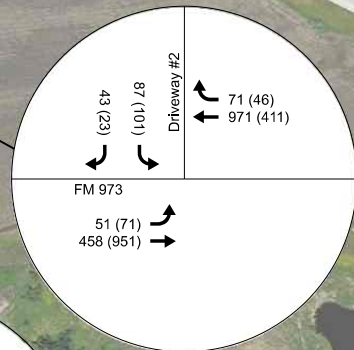
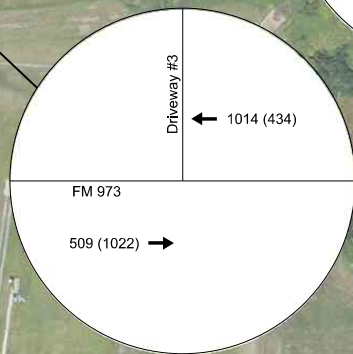
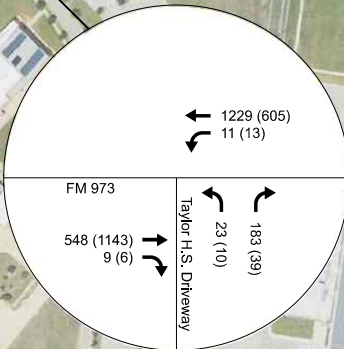
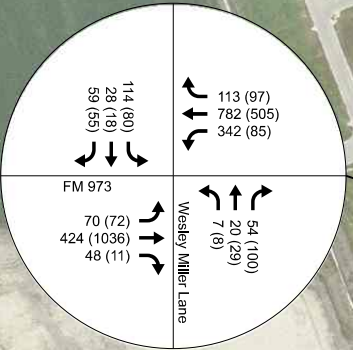








WESLEY MILLER LANE



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QuikTrip #4 192

Northwest Corner of U.S. Highway 79 and FM 973

Projected with Development (2025)

DATE: 5/9/2024
SCALE: 1" = 300'

Legend

AM / PM





APPENDIX C - SYNCHRO OUTPUT FILES

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

04/26/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	327	157	1	275	452	3	275	706
Future Volume (vph)	327	157	1	275	452	3	275	706
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1495		1736	3374	1805	3139	1568
Flt Permitted	0.95	1.00		0.56	1.00	0.39	1.00	1.00
Satd. Flow (perm)	1752	1495		1031	3374	737	3139	1568
Peak-hour factor, PHF	0.88	0.91	0.25	0.78	0.79	0.38	0.89	0.84
Adj. Flow (vph)	372	173	4	353	572	8	309	840
RTOR Reduction (vph)	0	120	0	0	0	0	0	468
Lane Group Flow (vph)	372	53	0	357	572	8	309	372
Heavy Vehicles (%)	3%	8%	0%	4%	7%	0%	15%	3%
Turn Type	Perm	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases				5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	30.5	30.5		25.5	60.5	30.5	30.5	30.5
Effective Green, g (s)	30.5	30.5		25.5	60.5	30.5	30.5	30.5
Actuated g/C Ratio	0.31	0.31		0.26	0.61	0.31	0.31	0.31
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	534	455		262	2041	224	957	478
v/s Ratio Prot					0.17		0.10	
v/s Ratio Perm	c0.21	0.04		c0.35		0.01		c0.24
v/c Ratio	0.70	0.12		1.36	0.28	0.04	0.32	0.78
Uniform Delay, d1	30.7	25.0		37.3	9.4	24.4	26.8	31.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.3	0.5		185.8	0.3	0.3	0.9	11.8
Delay (s)	38.0	25.6		223.1	9.7	24.7	27.7	43.4
Level of Service	D	C		F	A	C	C	D
Approach Delay (s/veh)	34.1				91.7		39.1	
Approach LOS	C				F		D	
Intersection Summary								
HCM 2000 Control Delay (s/veh)			56.6		HCM 2000 Level of Service		E	
HCM 2000 Volume to Capacity ratio			0.92					
Actuated Cycle Length (s)			100.0		Sum of lost time (s)		13.5	
Intersection Capacity Utilization			66.5%		ICU Level of Service		C	
Analysis Period (min)			15					
c Critical Lane Group								

HCM 7th TWSC
2: Taylor HS Driveway & FM 973

04/26/2024

Intersection						
Int Delay, s/veh	4.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	322	0	4	1015	17	169
Future Vol, veh/h	322	0	4	1015	17	169
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	25	50	88	39	55
Heavy Vehicles, %	6	0	0	3	0	0
Mvmt Flow	379	0	8	1153	44	307
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	379	0	1548	379
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	1169	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1191	-	127	672
Stage 1	-	-	-	-	697	-
Stage 2	-	-	-	-	298	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1191	-	126	672
Mov Cap-2 Maneuver	-	-	-	-	235	-
Stage 1	-	-	-	-	697	-
Stage 2	-	-	-	-	296	-
Approach	EB	WB		NB		
HCM Control Delay, s/v	0	0.06		22.69		
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	546	-	-	1191	-	
HCM Lane V/C Ratio	0.643	-	-	0.007	-	
HCM Control Delay (s/veh)	22.7	-	-	8	-	
HCM Lane LOS	C	-	-	A	-	
HCM 95th %tile Q(veh)	4.5	-	-	0	-	

HCM 7th TWSC
3: Wesley Miller Lane & FM 973

04/26/2024

Intersection												
Int Delay, s/veh	9.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	266	47	337	666	1	7	0	53	0	0	1
Future Vol, veh/h	3	266	47	337	666	1	7	0	53	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	500	-	590	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	81	44	72	83	25	44	25	74	25	25	25
Heavy Vehicles, %	67	4	0	3	3	100	0	0	15	0	0	0
Mvmt Flow	4	328	107	468	802	4	16	0	72	0	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	806	0	0	435	0	0	2128	2132	382	2075	2182	802
Stage 1	-	-	-	-	-	-	390	390	-	1739	1739	-
Stage 2	-	-	-	-	-	-	1739	1743	-	336	443	-
Critical Hdwy	4.77	-	-	4.13	-	-	7.1	6.5	6.35	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.803	-	-	2.227	-	-	3.5	4	3.435	3.5	4	3.3
Pot Cap-1 Maneuver	594	-	-	1119	-	-	37	50	638	40	47	387
Stage 1	-	-	-	-	-	-	638	611	-	112	143	-
Stage 2	-	-	-	-	-	-	112	142	-	682	579	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	594	-	-	1119	-	-	21	29	638	21	27	387
Mov Cap-2 Maneuver	-	-	-	-	-	-	21	29	-	21	27	-
Stage 1	-	-	-	-	-	-	634	607	-	65	83	-
Stage 2	-	-	-	-	-	-	65	83	-	601	575	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.1			3.86			134.14			14.4		
HCM LOS							F			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	100	594	-	-	1119	-	-	387
HCM Lane V/C Ratio	0.872	0.007	-	-	0.418	-	-	0.01
HCM Control Delay (s/veh)	134.1	11.1	-	-	10.5	-	-	14.4
HCM Lane LOS	F	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	5	0	-	-	2.1	-	-	0

HCM 7th TWSC
4: Driveway #1 & US Highway 79

04/26/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↖	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Major/Minor	Minor2		Major2			
Conflicting Flow All	-	1	-	-	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	1083	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	1083	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		SB			
HCM Control Delay, s/v	0		0			
HCM LOS	A					
Minor Lane/Major Mvmt	EBLn1	SBT	SBR			
Capacity (veh/h)	-	-	-			
HCM Lane V/C Ratio	-	-	-			
HCM Control Delay (s/veh)	0	-	-			
HCM Lane LOS	A	-	-			
HCM 95th %tile Q(veh)	-	-	-			

HCM 7th TWSC
5: FM 973 & Driveway #2

04/26/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	1
Stage 2	-	-	0
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	1022
Stage 1	-	-	1022
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	1022
Mov Cap-2 Maneuver	-	-	933
Stage 1	-	-	1022
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM 7th TWSC
6: FM 973 & Driveway #3

04/26/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	1
Stage 2	-	-	0
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	1022
Stage 1	-	-	1022
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	1022
Mov Cap-2 Maneuver	-	-	933
Stage 1	-	-	1022
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

04/24/2024

							
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	593	398	125	439	12	638	287
Future Volume (vph)	593	398	125	439	12	638	287
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1599	1703	3406	1805	3505	1599
Flt Permitted	0.95	1.00	0.95	1.00	0.41	1.00	1.00
Satd. Flow (perm)	1805	1599	1703	3406	774	3505	1599
Peak-hour factor, PHF	0.77	0.70	0.92	0.91	0.43	0.92	0.83
Adj. Flow (vph)	770	569	136	482	28	693	346
RTOR Reduction (vph)	0	254	0	0	0	0	254
Lane Group Flow (vph)	770	315	136	482	28	693	92
Heavy Vehicles (%)	0%	1%	6%	6%	0%	3%	1%
Turn Type	Prot	Perm	Prot	NA	Perm	NA	Perm
Protected Phases	7		5	2		6	
Permitted Phases	7	7			6		6
Actuated Green, G (s)	45.5	45.5	25.5	60.5	30.5	30.5	30.5
Effective Green, g (s)	45.5	45.5	25.5	60.5	30.5	30.5	30.5
Actuated g/C Ratio	0.40	0.40	0.22	0.53	0.27	0.27	0.27
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	714	632	377	1791	205	929	424
v/s Ratio Prot	c0.43		c0.08	0.14		c0.20	
v/s Ratio Perm		0.20			0.04		0.06
v/c Ratio	1.08	0.50	0.36	0.27	0.14	0.75	0.22
Uniform Delay, d1	34.8	26.2	37.9	15.0	32.2	38.7	32.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	56.8	2.8	2.7	0.4	1.4	5.4	1.2
Delay (s)	91.6	28.9	40.5	15.4	33.6	44.1	34.1
Level of Service	F	C	D	B	C	D	C
Approach Delay (s/veh)	65.0			20.9		40.6	
Approach LOS	E			C		D	
Intersection Summary							
HCM 2000 Control Delay (s/veh)	47.4			HCM 2000 Level of Service			D
HCM 2000 Volume to Capacity ratio	0.80						
Actuated Cycle Length (s)	115.0			Sum of lost time (s)			13.5
Intersection Capacity Utilization	68.7%			ICU Level of Service			C
Analysis Period (min)	15						
c Critical Lane Group							

HCM 7th TWSC
2: Taylor HS Driveway & FM 973

04/24/2024

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	982	0	2	410	1	28
Future Vol, veh/h	982	0	2	410	1	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	25	50	83	25	36
Heavy Vehicles, %	3	0	0	3	0	1
Mvmt Flow	1275	0	4	494	4	78

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1275
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	551
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	551
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.09	33.85
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	205	-	-	551	-
HCM Lane V/C Ratio	0.4	-	-	0.007	-
HCM Control Delay (s/veh)	33.8	-	-	11.6	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	1.8	-	-	0	-

HCM 7th TWSC
3: Wesley Miller Lane & FM 973

04/24/2024

Intersection												
Int Delay, s/veh	8.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	870	11	84	328	1	8	1	99	4	0	2
Future Vol, veh/h	4	870	11	84	328	1	8	1	99	4	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	500	-	590	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	82	55	66	82	25	67	25	69	50	25	50
Heavy Vehicles, %	0	1	0	0	3	0	0	0	0	0	0	50
Mvmt Flow	8	1061	20	127	400	4	12	4	143	8	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	404	0	0	1081	0	0	1742	1746	1071	1734	1752	400
Stage 1	-	-	-	-	-	-	1087	1087	-	655	655	-
Stage 2	-	-	-	-	-	-	655	659	-	1079	1097	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.75
Pot Cap-1 Maneuver	1166	-	-	653	-	-	69	87	271	70	86	558
Stage 1	-	-	-	-	-	-	264	295	-	459	466	-
Stage 2	-	-	-	-	-	-	459	464	-	267	291	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1166	-	-	653	-	-	55	70	271	25	69	558
Mov Cap-2 Maneuver	-	-	-	-	-	-	55	70	-	25	69	-
Stage 1	-	-	-	-	-	-	262	293	-	369	375	-
Stage 2	-	-	-	-	-	-	367	374	-	123	289	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v 0.06		2.84	71.76	145.22
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	198	1166	-	-	653	-	-	37
HCM Lane V/C Ratio	0.806	0.007	-	-	0.195	-	-	0.327
HCM Control Delay (s/veh)	71.8	8.1	-	-	11.8	-	-	145.2
HCM Lane LOS	F	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	5.7	0	-	-	0.7	-	-	1.1

HCM 7th TWSC
4: Driveway #1 & US Highway 79

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↖	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	1	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	1083	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	1083	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s/v	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s/veh)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

HCM 7th TWSC
5: FM 973 & Driveway #2

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	1
Stage 2	-	-	0
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	1022
Stage 1	-	-	1022
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	1022
Mov Cap-2 Maneuver	-	-	933
Stage 1	-	-	1022
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	1
Stage 2	-	-	0
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	1022
Stage 1	-	-	1022
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	1022
Mov Cap-2 Maneuver	-	-	933
Stage 1	-	-	1022
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

04/24/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	570	243	56	367	464	3	398	833
Future Volume (vph)	570	243	56	367	464	3	398	833
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1495		1757	3374	1805	3139	1568
Flt Permitted	0.95	1.00		0.49	1.00	0.38	1.00	1.00
Satd. Flow (perm)	1752	1495		913	3374	719	3139	1568
Peak-hour factor, PHF	0.88	0.91	0.25	0.78	0.79	0.38	0.89	0.84
Adj. Flow (vph)	648	267	224	471	587	8	447	992
RTOR Reduction (vph)	0	163	0	0	0	0	0	443
Lane Group Flow (vph)	648	104	0	695	587	8	447	549
Heavy Vehicles (%)	3%	8%	0%	4%	7%	0%	15%	3%
Turn Type	Perm	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases				5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	30.5	30.5		25.5	60.5	30.5	30.5	30.5
Effective Green, g (s)	30.5	30.5		25.5	60.5	30.5	30.5	30.5
Actuated g/C Ratio	0.31	0.31		0.26	0.61	0.31	0.31	0.31
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	534	455		232	2041	219	957	478
v/s Ratio Prot					0.17		0.14	
v/s Ratio Perm	c0.37	0.07		c0.76		0.01		c0.35
v/c Ratio	1.21	0.23		3.00	0.29	0.04	0.47	1.15
Uniform Delay, d1	34.8	26.0		37.3	9.4	24.4	28.2	34.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	112.4	1.2		909.6	0.4	0.3	1.6	89.0
Delay (s)	147.2	27.1		946.8	9.8	24.7	29.8	123.7
Level of Service	F	C		F	A	C	C	F
Approach Delay (s/veh)	112.2				517.8		94.2	
Approach LOS	F				F		F	
Intersection Summary								
HCM 2000 Control Delay (s/veh)			247.7			HCM 2000 Level of Service		F
HCM 2000 Volume to Capacity ratio			1.71					
Actuated Cycle Length (s)			100.0			Sum of lost time (s)		13.5
Intersection Capacity Utilization			82.5%			ICU Level of Service		E
Analysis Period (min)			15					
c Critical Lane Group								

HCM 7th TWSC
2: Taylor HS Driveway & FM 973

04/24/2024

Intersection						
Int Delay, s/veh	15.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	530	9	11	1211	23	183
Future Vol, veh/h	530	9	11	1211	23	183
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	25	50	88	39	55
Heavy Vehicles, %	6	0	0	3	0	0
Mvmt Flow	624	36	22	1376	59	333
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	660	0	2062	642
Stage 1	-	-	-	-	642	-
Stage 2	-	-	-	-	1420	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	938	-	61	478
Stage 1	-	-	-	-	528	-
Stage 2	-	-	-	-	225	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	938	-	60	478
Mov Cap-2 Maneuver	-	-	-	-	164	-
Stage 1	-	-	-	-	528	-
Stage 2	-	-	-	-	220	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0.14		96.64	
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1		EBT	EBR	WBL	WBT
Capacity (veh/h)	371		-	-	938	-
HCM Lane V/C Ratio	1.057		-	-	0.023	-
HCM Control Delay (s/veh)	96.6		-	-	8.9	-
HCM Lane LOS	F		-	-	A	-
HCM 95th %tile Q(veh)	13.5		-	-	0.1	-

HCM 7th TWSC
3: Wesley Miller Lane & FM 973

04/24/2024

Intersection												
Int Delay, s/veh	11040.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	406	48	342	764	113	7	20	54	114	28	59
Future Vol, veh/h	70	406	48	342	764	113	7	20	54	114	28	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	500	-	590	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	81	44	72	83	25	44	25	74	25	25	25
Heavy Vehicles, %	67	4	0	3	3	100	0	0	15	0	0	0
Mvmt Flow	93	501	109	475	920	452	16	80	73	456	112	236
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1372	0	0	610	0	0	2669	3065	556	2598	2667	920
Stage 1	-	-	-	-	-	-	742	742	-	1870	1870	-
Stage 2	-	-	-	-	-	-	1926	2322	-	728	797	-
Critical Hdwy	4.77	-	-	4.13	-	-	7.1	6.5	6.35	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.803	-	-	2.227	-	-	3.5	4	3.435	3.5	4	3.3
Pot Cap-1 Maneuver	339	-	-	964	-	-	~ 15	~ 13	507	~ 17	~ 23	331
Stage 1	-	-	-	-	-	-	410	425	-	~ 94	123	-
Stage 2	-	-	-	-	-	-	87	~ 72	-	~ 418	401	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	339	-	-	964	-	-	~ 2	~ 5	507	~ 5	~ 8	331
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 2	~ 5	-	~ 5	~ 8	-
Stage 1	-	-	-	-	-	-	297	308	-	~ 48	~ 62	-
Stage 2	-	-	-	-	-	-	-	~ 37	-	~ 192	291	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	2.6			3.17			\$ 13160.72			\$ 45618.51		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	6	339	-	-	964	-	-	8				
HCM Lane V/C Ratio	27.631	0.275	-	-	0.493	-	-	400.366				
HCM Control Delay (s/veh)	\$ 13160.7	19.6	-	-	12.3	-	-	\$ 45618.5				
HCM Lane LOS	F	C	-	-	B	-	-	F				
HCM 95th %tile Q(veh)	23.1	1.1	-	-	2.8	-	-	102.4				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

HCM 7th TWSC
4: Driveway #1 & US Highway 79

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↖	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	1	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	1083	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	1083	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s/v	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s/veh)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

HCM 7th TWSC
5: FM 973 & Driveway #2

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	1
Stage 2	-	-	0
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	1022
Stage 1	-	-	1022
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	1022
Mov Cap-2 Maneuver	-	-	933
Stage 1	-	-	1022
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM 7th TWSC
6: FM 973 & Driveway #3

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	1
Stage 2	-	-	0
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	1022
Stage 1	-	-	1022
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	1022
Mov Cap-2 Maneuver	-	-	933
Stage 1	-	-	1022
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

04/24/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	822	422	55	231	450	12	768	431
Future Volume (vph)	822	422	55	231	450	12	768	431
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1599		1749	3406	1805	3505	1599
Flt Permitted	0.95	1.00		0.34	1.00	0.40	1.00	1.00
Satd. Flow (perm)	1805	1599		621	3406	756	3505	1599
Peak-hour factor, PHF	0.77	0.70	0.25	0.92	0.91	0.43	0.92	0.83
Adj. Flow (vph)	1068	603	220	251	495	28	835	519
RTOR Reduction (vph)	0	87	0	0	0	0	0	381
Lane Group Flow (vph)	1068	516	0	471	495	28	835	138
Heavy Vehicles (%)	0%	1%	0%	6%	6%	0%	3%	1%
Turn Type	Prot	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases	7			5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	45.5	45.5		25.5	60.5	30.5	30.5	30.5
Effective Green, g (s)	45.5	45.5		25.5	60.5	30.5	30.5	30.5
Actuated g/C Ratio	0.40	0.40		0.22	0.53	0.27	0.27	0.27
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	714	632		137	1791	200	929	424
v/s Ratio Prot	c0.59				0.15		c0.24	
v/s Ratio Perm		0.32		c0.76		0.04		0.09
v/c Ratio	1.50	0.82		3.44	0.28	0.14	0.90	0.32
Uniform Delay, d1	34.8	31.0		44.8	15.1	32.2	40.8	34.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	230.5	11.2		1115.3	0.4	1.5	13.3	2.0
Delay (s)	265.2	42.2		1160.1	15.5	33.7	54.1	36.0
Level of Service	F	D		F	B	C	D	D
Approach Delay (s/veh)	184.7				573.6		46.9	
Approach LOS	F				F		D	
Intersection Summary								
HCM 2000 Control Delay (s/veh)			230.8		HCM 2000 Level of Service			F
HCM 2000 Volume to Capacity ratio			1.80					
Actuated Cycle Length (s)			115.0		Sum of lost time (s)		13.5	
Intersection Capacity Utilization			93.9%		ICU Level of Service		F	
Analysis Period (min)			15					
c Critical Lane Group								

HCM 7th TWSC
2: Taylor HS Driveway & FM 973

04/24/2024

Intersection						
Int Delay, s/veh	7.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1127	6	13	589	10	39
Future Vol, veh/h	1127	6	13	589	10	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	25	50	83	25	36
Heavy Vehicles, %	3	0	0	3	0	1
Mvmt Flow	1464	24	26	710	40	108
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1488	0	2237	1476
Stage 1	-	-	-	-	1476	-
Stage 2	-	-	-	-	762	-
Critical Hdwy	-	-	4.1	-	6.4	6.21
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.309
Pot Cap-1 Maneuver	-	-	458	-	47	156
Stage 1	-	-	-	-	212	-
Stage 2	-	-	-	-	465	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	458	-	45	156
Mov Cap-2 Maneuver	-	-	-	-	148	-
Stage 1	-	-	-	-	212	-
Stage 2	-	-	-	-	438	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0.47		121.87	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	154	-	-	458	-	
HCM Lane V/C Ratio	0.966	-	-	0.057	-	
HCM Control Delay (s/veh)	121.9	-	-	13.3	-	
HCM Lane LOS	F	-	-	B	-	
HCM 95th %tile Q(veh)	7.1	-	-	0.2	-	

HCM 7th TWSC
3: Wesley Miller Lane & FM 973

04/24/2024

Intersection												
Int Delay, s/veh	2550.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	1020	11	85	489	97	8	29	100	80	18	55
Future Vol, veh/h	72	1020	11	85	489	97	8	29	100	80	18	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	500	-	590	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	82	55	66	82	25	67	25	69	50	25	50
Heavy Vehicles, %	0	1	0	0	3	0	0	0	0	0	0	50
Mvmt Flow	144	1244	20	129	596	388	12	116	145	160	72	110
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	984	0	0	1264	0	0	2432	2784	1254	2444	2406	596
Stage 1	-	-	-	-	-	-	1542	1542	-	854	854	-
Stage 2	-	-	-	-	-	-	890	1242	-	1590	1552	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.75
Pot Cap-1 Maneuver	710	-	-	557	-	-	22	~ 19	212	~ 22	~ 34	425
Stage 1	-	-	-	-	-	-	146	178	-	356	378	-
Stage 2	-	-	-	-	-	-	340	249	-	~ 137	176	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	710	-	-	557	-	-	~ 10	~ 12	212	~ 4	~ 21	425
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 10	~ 12	-	~ 4	~ 21	-
Stage 1	-	-	-	-	-	-	116	142	-	274	291	-
Stage 2	-	-	-	-	-	-	146	191	-	~ 6	141	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	1.16			1.55			\$ 5167.19			\$ 19251.88		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	23	710	-	-	557	-	-	8				
HCM Lane V/C Ratio	11.762	0.203	-	-	0.231	-	-	-41.814				
HCM Control Delay (s/veh)	\$ 5167.2	11.4	-	-	13.4	-	-	\$ 19251.9				
HCM Lane LOS	F	B	-	-	B	-	-	F				
HCM 95th %tile Q(veh)	34.2	0.8	-	-	0.9	-	-	44.6				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

HCM 7th TWSC
4: Driveway #1 & US Highway 79

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↖	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Major/Minor	Minor2		Major2			
Conflicting Flow All	-	1	-	-	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	1083	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	1083	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		SB			
HCM Control Delay, s/v	0		0			
HCM LOS	A					
Minor Lane/Major Mvmt	EBLn1	SBT	SBR			
Capacity (veh/h)	-	-	-			
HCM Lane V/C Ratio	-	-	-			
HCM Control Delay (s/veh)	0	-	-			
HCM Lane LOS	A	-	-			
HCM 95th %tile Q(veh)	-	-	-			

HCM 7th TWSC
5: FM 973 & Driveway #2

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	1
Stage 2	-	-	0
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	1022
Stage 1	-	-	1022
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	1022
Mov Cap-2 Maneuver	-	-	933
Stage 1	-	-	1022
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM 7th TWSC
6: FM 973 & Driveway #3

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	1
Stage 2	-	-	0
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	1022
Stage 1	-	-	1022
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	1022
Mov Cap-2 Maneuver	-	-	933
Stage 1	-	-	1022
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

04/24/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	571	253	52	380	518	3	423	848
Future Volume (vph)	571	253	52	380	518	3	423	848
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1495		1756	3374	1805	3139	1568
Flt Permitted	0.95	1.00		0.48	1.00	0.34	1.00	1.00
Satd. Flow (perm)	1752	1495		887	3374	642	3139	1568
Peak-hour factor, PHF	0.88	0.91	0.25	0.78	0.79	0.38	0.89	0.84
Adj. Flow (vph)	649	278	208	487	656	8	475	1010
RTOR Reduction (vph)	0	170	0	0	0	0	0	440
Lane Group Flow (vph)	649	108	0	695	656	8	475	570
Heavy Vehicles (%)	3%	8%	0%	4%	7%	0%	15%	3%
Turn Type	Perm	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases				5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	30.5	30.5		25.5	60.5	30.5	30.5	30.5
Effective Green, g (s)	30.5	30.5		25.5	60.5	30.5	30.5	30.5
Actuated g/C Ratio	0.31	0.31		0.26	0.61	0.31	0.31	0.31
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	534	455		226	2041	195	957	478
v/s Ratio Prot					0.19		0.15	
v/s Ratio Perm	c0.37	0.07		c0.78		0.01		c0.36
v/c Ratio	1.22	0.24		3.08	0.32	0.04	0.50	1.19
Uniform Delay, d1	34.8	26.0		37.3	9.7	24.5	28.5	34.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	113.2	1.2		945.5	0.4	0.4	1.8	105.8
Delay (s)	147.9	27.3		982.8	10.1	24.9	30.3	140.5
Level of Service	F	C		F	B	C	C	F
Approach Delay (s/veh)	111.8				510.5		104.8	
Approach LOS	F				F		F	
Intersection Summary								
HCM 2000 Control Delay (s/veh)			251.9		HCM 2000 Level of Service			F
HCM 2000 Volume to Capacity ratio			1.75					
Actuated Cycle Length (s)			100.0		Sum of lost time (s)		13.5	
Intersection Capacity Utilization			83.9%		ICU Level of Service		E	
Analysis Period (min)			15					
c Critical Lane Group								

HCM 7th TWSC
2: Taylor HS Driveway & FM 973

04/24/2024

Intersection						
Int Delay, s/veh	23.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	545	9	45	1224	24	188
Future Vol, veh/h	545	9	45	1224	24	188
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	25	50	88	39	55
Heavy Vehicles, %	6	0	0	3	0	0
Mvmt Flow	641	36	90	1391	62	342
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	677	0	2230	659
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	1571	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	924	-	~ 48	467
Stage 1	-	-	-	-	518	-
Stage 2	-	-	-	-	190	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	924	-	~ 43	467
Mov Cap-2 Maneuver	-	-	-	-	132	-
Stage 1	-	-	-	-	518	-
Stage 2	-	-	-	-	172	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0.57		148.72	
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	336	-	-	924	-	
HCM Lane V/C Ratio	1.199	-	-	0.097	-	
HCM Control Delay (s/veh)	148.7	-	-	9.3	-	
HCM Lane LOS	F	-	-	A	-	
HCM 95th %tile Q(veh)	17.2	-	-	0.3	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 7th TWSC
3: Wesley Miller Lane & FM 973

04/24/2024

Intersection												
Int Delay, s/veh	13367.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	418	49	352	799	114	7	20	55	114	28	59
Future Vol, veh/h	70	418	49	352	799	114	7	20	55	114	28	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	500	-	590	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	81	44	72	83	25	44	25	74	25	25	25
Heavy Vehicles, %	67	4	0	3	3	100	0	0	15	0	0	0
Mvmt Flow	93	516	111	489	963	456	16	80	74	456	112	236
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1419	0	0	627	0	0	2755	3155	572	2683	2755	963
Stage 1	-	-	-	-	-	-	758	758	-	1940	1940	-
Stage 2	-	-	-	-	-	-	1996	2396	-	743	814	-
Critical Hdwy	4.77	-	-	4.13	-	-	7.1	6.5	6.35	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.803	-	-	2.227	-	-	3.5	4	3.435	3.5	4	3.3
Pot Cap-1 Maneuver	324	-	-	950	-	-	~ 13	~ 11	496	~ 15	~ 20	313
Stage 1	-	-	-	-	-	-	402	418	-	~ 85	113	-
Stage 2	-	-	-	-	-	-	79	~ 66	-	~ 410	394	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	324	-	-	950	-	-	~ 1	~ 4	496	~ 4	~ 7	313
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 1	~ 4	-	~ 4	~ 7	-
Stage 1	-	-	-	-	-	-	286	298	-	~ 41	~ 55	-
Stage 2	-	-	-	-	-	-	-	~ 32	-	~ 182	281	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	2.66			3.27			\$ 17195.56			\$ 56244.25		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	5	324	-	-	950	-	-	7				
HCM Lane V/C Ratio	35.861	0.288	-	-	0.515	-	-	123.52				
HCM Control Delay (s/veh)	\$ 17195.6	20.6	-	-	12.7	-	-	\$ 56244.3				
HCM Lane LOS	F	C	-	-	B	-	-	F				
HCM 95th %tile Q(veh)	23.4	1.2	-	-	3	-	-	102.6				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon						

HCM 7th TWSC
4: Driveway #1 & US Highway 79

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↖	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	1	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	1083	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	1083	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s/v	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s/veh)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

HCM 7th TWSC
5: FM 973 & Driveway #2

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	1
Stage 2	-	-	0
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	1022
Stage 1	-	-	1022
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	1022
Mov Cap-2 Maneuver	-	-	933
Stage 1	-	-	1022
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM 7th TWSC
6: FM 973 & Driveway #3

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	1
Stage 2	-	-	0
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	1022
Stage 1	-	-	1022
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	1022
Mov Cap-2 Maneuver	-	-	933
Stage 1	-	-	1022
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

04/24/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	801	459	58	240	517	13	821	419
Future Volume (vph)	801	459	58	240	517	13	821	419
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1599		1749	3406	1805	3505	1599
Flt Permitted	0.95	1.00		0.32	1.00	0.35	1.00	1.00
Satd. Flow (perm)	1805	1599		587	3406	660	3505	1599
Peak-hour factor, PHF	0.77	0.70	0.25	0.92	0.91	0.43	0.92	0.83
Adj. Flow (vph)	1040	656	232	261	568	30	892	505
RTOR Reduction (vph)	0	80	0	0	0	0	0	371
Lane Group Flow (vph)	1040	576	0	493	568	30	892	134
Heavy Vehicles (%)	0%	1%	0%	6%	6%	0%	3%	1%
Turn Type	Prot	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases	7			5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	45.5	45.5		25.5	60.5	30.5	30.5	30.5
Effective Green, g (s)	45.5	45.5		25.5	60.5	30.5	30.5	30.5
Actuated g/C Ratio	0.40	0.40		0.22	0.53	0.27	0.27	0.27
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	714	632		130	1791	175	929	424
v/s Ratio Prot	c0.58				0.17		c0.25	
v/s Ratio Perm		0.36		c0.84		0.05		0.08
v/c Ratio	1.46	0.91		3.79	0.32	0.17	0.96	0.32
Uniform Delay, d1	34.8	32.8		44.8	15.5	32.5	41.7	33.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	213.2	19.6		1275.1	0.5	2.1	21.3	1.9
Delay (s)	248.0	52.4		1319.8	16.0	34.6	63.0	35.8
Level of Service	F	D		F	B	C	E	D
Approach Delay (s/veh)	172.3				621.8		52.8	
Approach LOS	F				F		D	
Intersection Summary								
HCM 2000 Control Delay (s/veh)			245.5		HCM 2000 Level of Service			F
HCM 2000 Volume to Capacity ratio			1.89					
Actuated Cycle Length (s)			115.0		Sum of lost time (s)		13.5	
Intersection Capacity Utilization			94.8%		ICU Level of Service		F	
Analysis Period (min)			15					
c Critical Lane Group								

HCM 7th TWSC
2: Taylor HS Driveway & FM 973

04/24/2024

Intersection						
Int Delay, s/veh	10.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1171	6	14	610	10	42
Future Vol, veh/h	1171	6	14	610	10	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	25	50	83	25	36
Heavy Vehicles, %	3	0	0	3	0	1
Mvmt Flow	1521	24	28	735	40	117
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1545	0	2324	1533
Stage 1	-	-	-	-	1533	-
Stage 2	-	-	-	-	791	-
Critical Hdwy	-	-	4.1	-	6.4	6.21
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.309
Pot Cap-1 Maneuver	-	-	435	-	42	144
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	450	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	435	-	~ 39	144
Mov Cap-2 Maneuver	-	-	-	-	138	-
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	421	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0.51		166.22	
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	143	-	-	435	-	
HCM Lane V/C Ratio	1.098	-	-	0.064	-	
HCM Control Delay (s/veh)	166.2	-	-	13.8	-	
HCM Lane LOS	F	-	-	B	-	
HCM 95th %tile Q(veh)	8.6	-	-	0.2	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 7th TWSC
3: Wesley Miller Lane & FM 973

04/24/2024

Intersection												
Int Delay, s/veh	3569.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	1057	12	88	504	97	8	29	104	80	18	55
Future Vol, veh/h	72	1057	12	88	504	97	8	29	104	80	18	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	500	-	590	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	82	55	66	82	25	67	25	69	50	25	50
Heavy Vehicles, %	0	1	0	0	3	0	0	0	0	0	0	50
Mvmt Flow	144	1289	22	133	615	388	12	116	151	160	72	110
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1003	0	0	1311	0	0	2505	2857	1300	2516	2480	615
Stage 1	-	-	-	-	-	-	1588	1588	-	881	881	-
Stage 2	-	-	-	-	-	-	917	1269	-	1635	1599	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.75
Pot Cap-1 Maneuver	699	-	-	534	-	-	20	~ 17	199	~ 19	~ 30	414
Stage 1	-	-	-	-	-	-	137	169	-	344	367	-
Stage 2	-	-	-	-	-	-	329	241	-	~ 129	167	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	699	-	-	534	-	-	~ 9	~ 10	199	~ 3	~ 18	414
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 9	~ 10	-	~ 3	~ 18	-
Stage 1	-	-	-	-	-	-	109	134	-	258	276	-
Stage 2	-	-	-	-	-	-	134	181	-	~ 3	133	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	1.14			1.64			\$ 5989.86			\$ 28630.73		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	21	699	-	-	534	-	-	6				
HCM Lane V/C Ratio	13.506	0.206	-	-	0.249	-	-	-61.735				
HCM Control Delay (s/veh)	\$ 5989.9	11.5	-	-	14	-	-	\$ 28630.7				
HCM Lane LOS	F	B	-	-	B	-	-	F				
HCM 95th %tile Q(veh)	35.2	0.8	-	-	1	-	-	44.9				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

HCM 7th TWSC
4: Driveway #1 & US Highway 79

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↖	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	1	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	1083	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	1083	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s/v	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s/veh)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

HCM 7th TWSC
5: FM 973 & Driveway #2

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	1
Stage 2	-	-	0
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	1022
Stage 1	-	-	1022
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	1022
Mov Cap-2 Maneuver	-	-	933
Stage 1	-	-	1022
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM 7th TWSC
6: FM 973 & Driveway #3

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	1
Stage 2	-	-	0
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	1022
Stage 1	-	-	1022
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	1022
Mov Cap-2 Maneuver	-	-	933
Stage 1	-	-	1022
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

04/24/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	576	256	52	384	525	3	427	859
Future Volume (vph)	576	256	52	384	525	3	427	859
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1495		1756	3374	1805	3139	1568
Flt Permitted	0.95	1.00		0.48	1.00	0.33	1.00	1.00
Satd. Flow (perm)	1752	1495		883	3374	633	3139	1568
Peak-hour factor, PHF	0.88	0.91	0.25	0.78	0.79	0.38	0.89	0.84
Adj. Flow (vph)	655	281	208	492	665	8	480	1023
RTOR Reduction (vph)	0	170	0	0	0	0	0	439
Lane Group Flow (vph)	655	111	0	700	665	8	480	584
Heavy Vehicles (%)	3%	8%	0%	4%	7%	0%	15%	3%
Turn Type	Perm	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases				5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	30.5	30.5		25.5	60.5	30.5	30.5	30.5
Effective Green, g (s)	30.5	30.5		25.5	60.5	30.5	30.5	30.5
Actuated g/C Ratio	0.31	0.31		0.26	0.61	0.31	0.31	0.31
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	534	455		225	2041	193	957	478
v/s Ratio Prot					0.20		0.15	
v/s Ratio Perm	c0.37	0.07		c0.79		0.01		c0.37
v/c Ratio	1.23	0.24		3.11	0.33	0.04	0.50	1.22
Uniform Delay, d1	34.8	26.1		37.3	9.7	24.5	28.5	34.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	117.8	1.3		961.6	0.4	0.4	1.9	117.2
Delay (s)	152.5	27.4		998.9	10.1	24.9	30.4	152.0
Level of Service	F	C		F	B	C	C	F
Approach Delay (s/veh)	114.9				517.2		112.7	
Approach LOS	F				F		F	
Intersection Summary								
HCM 2000 Control Delay (s/veh)			258.1		HCM 2000 Level of Service			F
HCM 2000 Volume to Capacity ratio			1.78					
Actuated Cycle Length (s)			100.0		Sum of lost time (s)		13.5	
Intersection Capacity Utilization			84.8%		ICU Level of Service		E	
Analysis Period (min)			15					
c Critical Lane Group								

HCM 7th TWSC
2: Taylor HS Driveway & FM 973

04/24/2024

Intersection						
Int Delay, s/veh	25.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	550	9	45	1240	24	190
Future Vol, veh/h	550	9	45	1240	24	190
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	25	50	88	39	55
Heavy Vehicles, %	6	0	0	3	0	0
Mvmt Flow	647	36	90	1409	62	345
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	683	0	2254	665
Stage 1	-	-	-	-	665	-
Stage 2	-	-	-	-	1589	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	919	-	~ 46	463
Stage 1	-	-	-	-	515	-
Stage 2	-	-	-	-	186	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	919	-	~ 42	463
Mov Cap-2 Maneuver	-	-	-	-	129	-
Stage 1	-	-	-	-	515	-
Stage 2	-	-	-	-	168	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0.56		157.68	
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	333	-	-	919	-	
HCM Lane V/C Ratio	1.222	-	-	0.098	-	
HCM Control Delay (s/veh)	157.7	-	-	9.3	-	
HCM Lane LOS	F	-	-	A	-	
HCM 95th %tile Q(veh)	17.8	-	-	0.3	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 7th TWSC

3: Wesley Miller Lane & FM 973

04/24/2024

Intersection												
Int Delay, s/veh	14572.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	422	50	358	810	114	7	20	56	114	28	59
Future Vol, veh/h	70	422	50	358	810	114	7	20	56	114	28	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	500	-	590	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	81	44	72	83	25	44	25	74	25	25	25
Heavy Vehicles, %	67	4	0	3	3	100	0	0	15	0	0	0
Mvmt Flow	93	521	114	497	976	456	16	80	76	456	112	236
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1432	0	0	635	0	0	2791	3191	578	2718	2792	976
Stage 1	-	-	-	-	-	-	764	764	-	1970	1970	-
Stage 2	-	-	-	-	-	-	2026	2426	-	748	821	-
Critical Hdwy	4.77	-	-	4.13	-	-	7.1	6.5	6.35	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.803	-	-	2.227	-	-	3.5	4	3.435	3.5	4	3.3
Pot Cap-1 Maneuver	320	-	-	944	-	-	~ 12	~ 10	492	~ 14	~ 19	307
Stage 1	-	-	-	-	-	-	399	415	-	~ 82	~ 109	-
Stage 2	-	-	-	-	-	-	76	~ 64	-	~ 408	391	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	320	-	-	944	-	-	~ 1	~ 3	492	~ 4	~ 6	307
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 1	~ 3	-	~ 4	~ 6	-
Stage 1	-	-	-	-	-	-	283	294	-	~ 39	~ 52	-
Stage 2	-	-	-	-	-	-	-	~ 30	-	~ 178	277	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	2.67			3.35			\$ 19244.4			\$ 61723.68		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	4	320	-	-	944	-	-	6				
HCM Lane V/C Ratio	40.057	0.292	-	-	0.527	-	-	135.46				
HCM Control Delay (s/veh)	\$ 19244.4	20.8	-	-	13	-	-	\$ 61723.7				
HCM Lane LOS	F	C	-	-	B	-	-	F				
HCM 95th %tile Q(veh)	23.6	1.2	-	-	3.2	-	-	102.7				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

HCM 7th TWSC
4: Driveway #1 & US Highway 79

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↖	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	1	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	1083	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	1083	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s/v	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s/veh)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

HCM 7th TWSC
5: FM 973 & Driveway #2

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	1
Stage 2	-	-	0
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	1022
Stage 1	-	-	1022
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	1022
Mov Cap-2 Maneuver	-	-	933
Stage 1	-	-	1022
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM 7th TWSC
6: FM 973 & Driveway #3

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	1
Stage 2	-	-	0
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	1022
Stage 1	-	-	1022
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	1022
Mov Cap-2 Maneuver	-	-	933
Stage 1	-	-	1022
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

04/24/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	810	465	58	242	524	13	831	424
Future Volume (vph)	810	465	58	242	524	13	831	424
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1599		1749	3406	1805	3505	1599
Flt Permitted	0.95	1.00		0.32	1.00	0.34	1.00	1.00
Satd. Flow (perm)	1805	1599		581	3406	650	3505	1599
Peak-hour factor, PHF	0.77	0.70	0.25	0.92	0.91	0.43	0.92	0.83
Adj. Flow (vph)	1052	664	232	263	576	30	903	511
RTOR Reduction (vph)	0	80	0	0	0	0	0	375
Lane Group Flow (vph)	1052	584	0	495	576	30	903	136
Heavy Vehicles (%)	0%	1%	0%	6%	6%	0%	3%	1%
Turn Type	Prot	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases	7			5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	45.5	45.5		25.5	60.5	30.5	30.5	30.5
Effective Green, g (s)	45.5	45.5		25.5	60.5	30.5	30.5	30.5
Actuated g/C Ratio	0.40	0.40		0.22	0.53	0.27	0.27	0.27
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	714	632		128	1791	172	929	424
v/s Ratio Prot	c0.58				0.17		c0.26	
v/s Ratio Perm		0.36		c0.85		0.05		0.08
v/c Ratio	1.47	0.92		3.87	0.32	0.17	0.97	0.32
Uniform Delay, d1	34.8	33.1		44.8	15.5	32.6	41.8	33.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	220.6	21.2		1308.9	0.5	2.2	23.5	2.0
Delay (s)	255.4	54.3		1353.7	16.0	34.7	65.3	35.9
Level of Service	F	D		F	B	C	E	D
Approach Delay (s/veh)	177.6				634.3		54.3	
Approach LOS	F				F		D	
Intersection Summary								
HCM 2000 Control Delay (s/veh)			251.1		HCM 2000 Level of Service			F
HCM 2000 Volume to Capacity ratio			1.92					
Actuated Cycle Length (s)			115.0		Sum of lost time (s)		13.5	
Intersection Capacity Utilization			95.7%		ICU Level of Service		F	
Analysis Period (min)			15					
c Critical Lane Group								

HCM 7th TWSC
2: Taylor HS Driveway & FM 973

04/24/2024

Intersection						
Int Delay, s/veh	11.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1186	6	14	616	10	43
Future Vol, veh/h	1186	6	14	616	10	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	25	50	83	25	36
Heavy Vehicles, %	3	0	0	3	0	1
Mvmt Flow	1540	24	28	742	40	119
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1564	0	2350	1552
Stage 1	-	-	-	-	1552	-
Stage 2	-	-	-	-	798	-
Critical Hdwy	-	-	4.1	-	6.4	6.21
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.309
Pot Cap-1 Maneuver	-	-	428	-	40	140
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	447	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	428	-	~ 37	140
Mov Cap-2 Maneuver	-	-	-	-	135	-
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	417	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0.51		183.86	
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	139	-	-	428	-	
HCM Lane V/C Ratio	1.146	-	-	0.065	-	
HCM Control Delay (s/veh)	183.9	-	-	14	-	
HCM Lane LOS	F	-	-	B	-	
HCM 95th %tile Q(veh)	9.1	-	-	0.2	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 7th TWSC
3: Wesley Miller Lane & FM 973

04/24/2024

Intersection												
Int Delay, s/veh	4061											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	1070	12	89	509	97	8	29	105	80	18	55
Future Vol, veh/h	72	1070	12	89	509	97	8	29	105	80	18	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	500	-	590	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	82	55	66	82	25	67	25	69	50	25	50
Heavy Vehicles, %	0	1	0	0	3	0	0	0	0	0	0	50
Mvmt Flow	144	1305	22	135	621	388	12	116	152	160	72	110
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1009	0	0	1327	0	0	2530	2882	1316	2541	2505	621
Stage 1	-	-	-	-	-	-	1604	1604	-	890	890	-
Stage 2	-	-	-	-	-	-	926	1278	-	1651	1615	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.75
Pot Cap-1 Maneuver	695	-	-	527	-	-	19	~ 17	195	~ 18	~ 29	411
Stage 1	-	-	-	-	-	-	134	166	-	340	364	-
Stage 2	-	-	-	-	-	-	325	239	-	~ 126	164	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	695	-	-	527	-	-	~ 8	~ 10	195	~ 2	~ 17	411
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 8	~ 10	-	~ 2	~ 17	-
Stage 1	-	-	-	-	-	-	106	132	-	253	271	-
Stage 2	-	-	-	-	-	-	130	178	-	~ 3	130	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	1.13			1.67			\$ 6298.93			\$ 33260.6		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	20	695	-	-	527	-	-	5				
HCM Lane V/C Ratio	14.16	0.207	-	-	0.256	-	-	71.568				
HCM Control Delay (s/veh)	\$ 6298.9	11.5	-	-	14.2	-	-	\$ 33260.6				
HCM Lane LOS	F	B	-	-	B	-	-	F				
HCM 95th %tile Q(veh)	35.5	0.8	-	-	1	-	-	45				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

HCM 7th TWSC
4: Driveway #1 & US Highway 79

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↖	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	1	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	1083	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	1083	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s/v	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s/veh)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

HCM 7th TWSC
5: FM 973 & Driveway #2

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	1
Stage 2	-	-	0
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	1022
Stage 1	-	-	1022
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	1022
Mov Cap-2 Maneuver	-	-	933
Stage 1	-	-	1022
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM 7th TWSC
6: FM 973 & Driveway #3

04/24/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	1
Stage 2	-	-	0
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	1022
Stage 1	-	-	1022
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	1022
Mov Cap-2 Maneuver	-	-	933
Stage 1	-	-	1022
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

05/09/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	624	243	56	413	431	3	412	833
Future Volume (vph)	624	243	56	413	431	3	412	833
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1495		1756	3374	1805	3139	1568
Flt Permitted	0.95	1.00		0.49	1.00	0.40	1.00	1.00
Satd. Flow (perm)	1752	1495		898	3374	768	3139	1568
Peak-hour factor, PHF	0.88	0.91	0.25	0.78	0.79	0.38	0.89	0.84
Adj. Flow (vph)	709	267	224	529	546	8	463	992
RTOR Reduction (vph)	0	149	0	0	0	0	0	434
Lane Group Flow (vph)	709	118	0	753	546	8	463	558
Heavy Vehicles (%)	3%	8%	0%	4%	7%	0%	15%	3%
Turn Type	Perm	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases				5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	30.5	30.5		25.5	60.5	30.5	30.5	30.5
Effective Green, g (s)	30.5	30.5		25.5	60.5	30.5	30.5	30.5
Actuated g/C Ratio	0.31	0.31		0.26	0.61	0.31	0.31	0.31
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	534	455		228	2041	234	957	478
v/s Ratio Prot					0.16		0.15	
v/s Ratio Perm	c0.40	0.08		c0.84		0.01		c0.36
v/c Ratio	1.33	0.26		3.30	0.27	0.03	0.48	1.17
Uniform Delay, d1	34.8	26.2		37.3	9.3	24.4	28.3	34.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	160.1	1.4		1047.4	0.3	0.3	1.7	95.6
Delay (s)	194.8	27.6		1084.6	9.6	24.7	30.1	130.4
Level of Service	F	C		F	A	C	C	F
Approach Delay (s/veh)	149.1				632.8		98.1	
Approach LOS	F				F		F	
Intersection Summary								
HCM 2000 Control Delay (s/veh)			297.2		HCM 2000 Level of Service			F
HCM 2000 Volume to Capacity ratio			1.85					
Actuated Cycle Length (s)			100.0		Sum of lost time (s)		13.5	
Intersection Capacity Utilization			85.1%		ICU Level of Service		E	
Analysis Period (min)			15					
c Critical Lane Group								

HCM 7th TWSC
2: Taylor HS Driveway & FM 973

05/09/2024

Intersection						
Int Delay, s/veh	16.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	548	9	11	1229	23	183
Future Vol, veh/h	548	9	11	1229	23	183
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	25	50	88	39	55
Heavy Vehicles, %	6	0	0	3	0	0
Mvmt Flow	645	36	22	1397	59	333
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	681	0	2103	663
Stage 1	-	-	-	-	663	-
Stage 2	-	-	-	-	1441	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	921	-	~ 57	465
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	220	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	921	-	~ 56	465
Mov Cap-2 Maneuver	-	-	-	-	159	-
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	215	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0.14		106.99	
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	361	-	-	921	-	
HCM Lane V/C Ratio	1.087	-	-	0.024	-	
HCM Control Delay (s/veh)	107	-	-	9	-	
HCM Lane LOS	F	-	-	A	-	
HCM 95th %tile Q(veh)	14.2	-	-	0.1	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 7th TWSC

3: Wesley Miller Lane & FM 973

05/09/2024

Intersection												
Int Delay, s/veh	12122.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	424	48	342	782	113	7	20	54	114	28	59
Future Vol, veh/h	70	424	48	342	782	113	7	20	54	114	28	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	500	-	590	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	81	44	72	83	25	44	25	74	25	25	25
Heavy Vehicles, %	67	4	0	3	3	100	0	0	15	0	0	0
Mvmt Flow	93	523	109	475	942	452	16	80	73	456	112	236
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1394	0	0	633	0	0	2713	3109	578	2642	2711	942
Stage 1	-	-	-	-	-	-	765	765	-	1892	1892	-
Stage 2	-	-	-	-	-	-	1948	2344	-	750	819	-
Critical Hdwy	4.77	-	-	4.13	-	-	7.1	6.5	6.35	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.803	-	-	2.227	-	-	3.5	4	3.435	3.5	4	3.3
Pot Cap-1 Maneuver	332	-	-	945	-	-	~ 14	~ 12	492	~ 16	~ 21	322
Stage 1	-	-	-	-	-	-	399	415	-	~ 91	120	-
Stage 2	-	-	-	-	-	-	84	~ 70	-	~ 406	392	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	332	-	-	945	-	-	~ 1	~ 4	492	~ 5	~ 8	322
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 1	~ 4	-	~ 5	~ 8	-
Stage 1	-	-	-	-	-	-	287	299	-	~ 45	~ 60	-
Stage 2	-	-	-	-	-	-	-	~ 35	-	~ 182	282	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	2.58			3.2			\$ 14963.24			\$ 50643.74		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	5	332	-	-	945	-	-	7				
HCM Lane V/C Ratio	31.297	0.281	-	-	0.502	-	-	111.316				
HCM Control Delay (s/veh)	\$ 14963.2	20	-	-	12.6	-	-	\$ 50643.7				
HCM Lane LOS	F	C	-	-	B	-	-	F				
HCM 95th %tile Q(veh)	23.2	1.1	-	-	2.9	-	-	102.5				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

HCM 7th TWSC
4: Driveway #1 & US Highway 79

05/09/2024

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↖↗	
Traffic Vol, veh/h	0	87	0	0	923	94
Future Vol, veh/h	0	87	0	0	923	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	95	0	0	1003	102
Major/Minor	Minor2		Major2			
Conflicting Flow All	-	553	-	-	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	477	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	477	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		SB			
HCM Control Delay, s/v14.41			0			
HCM LOS	B					
Minor Lane/Major Mvmt	EBLn1	SBT	SBR			
Capacity (veh/h)	477	-	-			
HCM Lane V/C Ratio	0.198	-	-			
HCM Control Delay (s/veh)	14.4	-	-			
HCM Lane LOS	B	-	-			
HCM 95th %tile Q(veh)	0.7	-	-			

HCM 7th TWSC
5: FM 973 & Driveway #2

05/09/2024

Intersection						
Int Delay, s/veh	2.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	51	458	971	71	87	43
Future Vol, veh/h	51	458	971	71	87	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	498	1055	77	95	47
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1133	0	-	0	1703	1094
Stage 1	-	-	-	-	1094	-
Stage 2	-	-	-	-	609	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	617	-	-	-	101	260
Stage 1	-	-	-	-	321	-
Stage 2	-	-	-	-	543	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	617	-	-	-	~ 92	260
Mov Cap-2 Maneuver	-	-	-	-	210	-
Stage 1	-	-	-	-	292	-
Stage 2	-	-	-	-	543	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	1.14	0		30.9		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	617	-	-	-	210	260
HCM Lane V/C Ratio	0.09	-	-	-	0.45	0.18
HCM Control Delay (s/veh)	11.4	-	-	-	35.4	21.8
HCM Lane LOS	B	-	-	-	E	C
HCM 95th %tile Q(veh)	0.3	-	-	-	2.1	0.6
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	509	1014	0	0	0
Future Vol, veh/h	0	509	1014	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	553	1102	0	0	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1102	0	-	0	1655	1102
Stage 1	-	-	-	-	1102	-
Stage 2	-	-	-	-	553	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	633	-	-	-	108	257
Stage 1	-	-	-	-	318	-
Stage 2	-	-	-	-	576	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	633	-	-	-	108	257
Mov Cap-2 Maneuver	-	-	-	-	231	-
Stage 1	-	-	-	-	318	-
Stage 2	-	-	-	-	576	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	633	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

05/09/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	868	442	55	270	423	12	779	431
Future Volume (vph)	868	442	55	270	423	12	779	431
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1599		1745	3406	1805	3505	1599
Flt Permitted	0.95	1.00		0.33	1.00	0.42	1.00	1.00
Satd. Flow (perm)	1805	1599		613	3406	798	3505	1599
Peak-hour factor, PHF	0.77	0.70	0.25	0.92	0.91	0.43	0.92	0.83
Adj. Flow (vph)	1127	631	220	293	465	28	847	519
RTOR Reduction (vph)	0	87	0	0	0	0	0	381
Lane Group Flow (vph)	1127	544	0	513	465	28	847	138
Heavy Vehicles (%)	0%	1%	0%	6%	6%	0%	3%	1%
Turn Type	Prot	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases	7			5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	45.5	45.5		25.5	60.5	30.5	30.5	30.5
Effective Green, g (s)	45.5	45.5		25.5	60.5	30.5	30.5	30.5
Actuated g/C Ratio	0.40	0.40		0.22	0.53	0.27	0.27	0.27
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	714	632		135	1791	211	929	424
v/s Ratio Prot	c0.62				0.14		c0.24	
v/s Ratio Perm		0.34		c0.84		0.04		0.09
v/c Ratio	1.58	0.86		3.80	0.26	0.13	0.91	0.32
Uniform Delay, d1	34.8	31.8		44.8	15.0	32.2	40.9	34.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	267.0	14.3		1277.8	0.4	1.3	14.6	2.0
Delay (s)	301.8	46.2		1322.6	15.3	33.5	55.6	36.0
Level of Service	F	D		F	B	C	E	D
Approach Delay (s/veh)	210.0				701.0		47.8	
Approach LOS	F				F		D	
Intersection Summary								
HCM 2000 Control Delay (s/veh)			271.6		HCM 2000 Level of Service			F
HCM 2000 Volume to Capacity ratio			1.93					
Actuated Cycle Length (s)			115.0		Sum of lost time (s)		13.5	
Intersection Capacity Utilization			98.9%		ICU Level of Service		F	
Analysis Period (min)			15					
c Critical Lane Group								

HCM 7th TWSC
2: Taylor HS Driveway & FM 973

05/09/2024

Intersection						
Int Delay, s/veh	8.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1143	6	13	605	10	39
Future Vol, veh/h	1143	6	13	605	10	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	25	50	83	25	36
Heavy Vehicles, %	3	0	0	3	0	1
Mvmt Flow	1484	24	26	729	40	108
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1508	0	2277	1496
Stage 1	-	-	-	-	1496	-
Stage 2	-	-	-	-	781	-
Critical Hdwy	-	-	4.1	-	6.4	6.21
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.309
Pot Cap-1 Maneuver	-	-	449	-	45	152
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	455	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	449	-	42	152
Mov Cap-2 Maneuver	-	-	-	-	144	-
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	429	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0.46		131.3	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	149	-	-	449	-	
HCM Lane V/C Ratio	0.993	-	-	0.058	-	
HCM Control Delay (s/veh)	131.3	-	-	13.5	-	
HCM Lane LOS	F	-	-	B	-	
HCM 95th %tile Q(veh)	7.4	-	-	0.2	-	

HCM 7th TWSC

3: Wesley Miller Lane & FM 973

05/09/2024

Intersection												
Int Delay, s/veh	2842											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	1036	11	85	505	97	8	29	100	80	18	55
Future Vol, veh/h	72	1036	11	85	505	97	8	29	100	80	18	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	500	-	590	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	82	55	66	82	25	67	25	69	50	25	50
Heavy Vehicles, %	0	1	0	0	3	0	0	0	0	0	0	50
Mvmt Flow	144	1263	20	129	616	388	12	116	145	160	72	110
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1004	0	0	1283	0	0	2471	2823	1273	2483	2445	616
Stage 1	-	-	-	-	-	-	1561	1561	-	873	873	-
Stage 2	-	-	-	-	-	-	909	1261	-	1609	1571	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.75
Pot Cap-1 Maneuver	698	-	-	547	-	-	21	~ 18	206	~ 20	~ 32	413
Stage 1	-	-	-	-	-	-	142	175	-	347	370	-
Stage 2	-	-	-	-	-	-	332	244	-	~ 133	173	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	698	-	-	547	-	-	~ 9	~ 11	206	~ 4	~ 19	413
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 9	~ 11	-	~ 4	~ 19	-
Stage 1	-	-	-	-	-	-	113	138	-	266	283	-
Stage 2	-	-	-	-	-	-	139	186	-	~ 5	137	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	1.16			1.54			\$ 5557.04			\$ 21940.19		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	22	698	-	-	547	-	-	7				
HCM Lane V/C Ratio	12.581	0.206	-	-	0.235	-	-	-47.524				
HCM Control Delay (s/veh)	\$ 5557	11.5	-	-	13.6	-	-	\$ 21940.2				
HCM Lane LOS	F	B	-	-	B	-	-	F				
HCM 95th %tile Q(veh)	34.4	0.8	-	-	0.9	-	-	44.7				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon						

HCM 7th TWSC
4: Driveway #1 & US Highway 79

05/09/2024

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↖↗	
Traffic Vol, veh/h	0	59	0	0	891	66
Future Vol, veh/h	0	59	0	0	891	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	64	0	0	968	72

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	520	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	501	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	501	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s/v13.24		0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	501	-	-
HCM Lane V/C Ratio	0.128	-	-
HCM Control Delay (s/veh)	13.2	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-

HCM 7th TWSC
5: FM 973 & Driveway #2

05/09/2024

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	71	951	411	46	101	23
Future Vol, veh/h	71	951	411	46	101	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	77	1034	447	50	110	25
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	497	0	-	0	1660	472
Stage 1	-	-	-	-	472	-
Stage 2	-	-	-	-	1188	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1067	-	-	-	~ 107	592
Stage 1	-	-	-	-	628	-
Stage 2	-	-	-	-	289	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1067	-	-	-	~ 99	592
Mov Cap-2 Maneuver	-	-	-	-	215	-
Stage 1	-	-	-	-	582	-
Stage 2	-	-	-	-	289	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0.6	0		33.04		
HCM LOS				D		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1067	-	-	-	215	592
HCM Lane V/C Ratio	0.072	-	-	-	0.51	0.042
HCM Control Delay (s/veh)	8.6	-	-	-	38	11.3
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.2	-	-	-	2.6	0.1
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1022	434	0	0	0
Future Vol, veh/h	0	1022	434	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1111	472	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	472	0	0 1583 472
Stage 1	-	-	- 472 -
Stage 2	-	-	- 1111 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1090	-	- 120 592
Stage 1	-	-	- 628 -
Stage 2	-	-	- 315 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1090	-	- 120 592
Mov Cap-2 Maneuver	-	-	- 238 -
Stage 1	-	-	- 628 -
Stage 2	-	-	- 315 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1090	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

05/09/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	706	253	52	491	456	3	469	848
Future Volume (vph)	706	253	52	491	456	3	469	848
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1495		1752	3374	1805	3139	1568
Flt Permitted	0.95	1.00		0.46	1.00	0.38	1.00	1.00
Satd. Flow (perm)	1752	1495		842	3374	731	3139	1568
Peak-hour factor, PHF	0.88	0.91	0.25	0.78	0.79	0.38	0.89	0.84
Adj. Flow (vph)	802	278	208	629	577	8	527	1010
RTOR Reduction (vph)	0	138	0	0	0	0	0	425
Lane Group Flow (vph)	802	140	0	837	577	8	527	585
Heavy Vehicles (%)	3%	8%	0%	4%	7%	0%	15%	3%
Turn Type	Perm	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases				5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	30.5	30.5		25.5	60.5	30.5	30.5	30.5
Effective Green, g (s)	30.5	30.5		25.5	60.5	30.5	30.5	30.5
Actuated g/C Ratio	0.31	0.31		0.26	0.61	0.31	0.31	0.31
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	534	455		214	2041	222	957	478
v/s Ratio Prot					0.17		0.17	
v/s Ratio Perm	c0.46	0.09		c0.99		0.01		c0.37
v/c Ratio	1.50	0.31		3.91	0.28	0.04	0.55	1.22
Uniform Delay, d1	34.8	26.7		37.3	9.4	24.4	29.0	34.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	235.5	1.8		1321.3	0.3	0.3	2.3	118.0
Delay (s)	270.3	28.4		1358.5	9.8	24.7	31.3	152.7
Level of Service	F	C		F	A	C	C	F
Approach Delay (s/veh)	208.0				808.1		110.6	
Approach LOS	F				F		F	
Intersection Summary								
HCM 2000 Control Delay (s/veh)			380.9		HCM 2000 Level of Service			F
HCM 2000 Volume to Capacity ratio			2.11					
Actuated Cycle Length (s)			100.0		Sum of lost time (s)		13.5	
Intersection Capacity Utilization			93.4%		ICU Level of Service			F
Analysis Period (min)			15					
c Critical Lane Group								

HCM 7th TWSC
2: Taylor HS Driveway & FM 973

05/09/2024

Intersection						
Int Delay, s/veh	30.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	613	9	45	1288	24	188
Future Vol, veh/h	613	9	45	1288	24	188
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	25	50	88	39	55
Heavy Vehicles, %	6	0	0	3	0	0
Mvmt Flow	721	36	90	1464	62	342
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	757	0	2383	739
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	1644	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	863	-	~ 38	421
Stage 1	-	-	-	-	476	-
Stage 2	-	-	-	-	175	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	863	-	~ 34	421
Mov Cap-2 Maneuver	-	-	-	-	119	-
Stage 1	-	-	-	-	476	-
Stage 2	-	-	-	-	157	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0.56		203.75	
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	303	-	-	863	-	
HCM Lane V/C Ratio	1.331	-	-	0.104	-	
HCM Control Delay (s/veh)	203.8	-	-	9.7	-	
HCM Lane LOS	F	-	-	A	-	
HCM 95th %tile Q(veh)	20.1	-	-	0.3	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 7th TWSC
3: Wesley Miller Lane & FM 973

05/09/2024

Intersection												
Int Delay, s/veh	19343											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	486	49	352	863	114	7	20	55	114	28	59
Future Vol, veh/h	70	486	49	352	863	114	7	20	55	114	28	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	500	-	590	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	81	44	72	83	25	44	25	74	25	25	25
Heavy Vehicles, %	67	4	0	3	3	100	0	0	15	0	0	0
Mvmt Flow	93	600	111	489	1040	456	16	80	74	456	112	236
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1496	0	0	711	0	0	2916	3316	656	2844	2916	1040
Stage 1	-	-	-	-	-	-	842	842	-	2018	2018	-
Stage 2	-	-	-	-	-	-	2074	2474	-	827	898	-
Critical Hdwy	4.77	-	-	4.13	-	-	7.1	6.5	6.35	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.803	-	-	2.227	-	-	3.5	4	3.435	3.5	4	3.3
Pot Cap-1 Maneuver	300	-	-	884	-	-	~ 10	~ 9	443	~ 11	~ 16	282
Stage 1	-	-	-	-	-	-	362	383	-	~ 77	~ 104	-
Stage 2	-	-	-	-	-	-	71	~ 60	-	~ 369	361	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	300	-	-	884	-	-	~ 0	~ 3	443	~ 3	~ 5	282
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 0	~ 3	-	~ 3	~ 5	-
Stage 1	-	-	-	-	-	-	249	263	-	~ 34	~ 46	-
Stage 2	-	-	-	-	-	-	-	~ 27	-	~ 147	248	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	2.59			3.45			\$ 30347.71			\$ 84109.15		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	3	300	-	-	884	-	-	4				
HCM Lane V/C Ratio	62.627	0.311	-	-	0.553	-	-	184.24				
HCM Control Delay (s/veh)	\$ 30347.7	22.4	-	-	14	-	-	\$ 84109.1				
HCM Lane LOS	F	C	-	-	B	-	-	F				
HCM 95th %tile Q(veh)	23.6	1.3	-	-	3.5	-	-	102.9				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

HCM 7th TWSC
4: Driveway #1 & US Highway 79

05/09/2024

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↖↗	
Traffic Vol, veh/h	0	183	0	0	889	214
Future Vol, veh/h	0	183	0	0	889	214
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	199	0	0	966	233
Major/Minor	Minor2		Major2			
Conflicting Flow All	-	599	-	-	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	444	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	444	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		SB			
HCM Control Delay, s/v	19.5		0			
HCM LOS	C					
Minor Lane/Major Mvmt	EBLn1	SBT	SBR			
Capacity (veh/h)	444	-	-			
HCM Lane V/C Ratio	0.448	-	-			
HCM Control Delay (s/veh)	19.5	-	-			
HCM Lane LOS	C	-	-			
HCM 95th %tile Q(veh)	2.3	-	-			

HCM 7th TWSC
5: FM 973 & Driveway #2

05/09/2024

Intersection						
Int Delay, s/veh	9.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	51	473	980	157	168	64
Future Vol, veh/h	51	473	980	157	168	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	514	1065	171	183	70
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1236	0	-	0	1776	1151
Stage 1	-	-	-	-	1151	-
Stage 2	-	-	-	-	625	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	564	-	-	-	~ 91	241
Stage 1	-	-	-	-	301	-
Stage 2	-	-	-	-	534	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	564	-	-	-	~ 82	241
Mov Cap-2 Maneuver	-	-	-	-	197	-
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	534	-
Approach	EB	WB	SB			
HCM Control Delay, s/v	1.18	0	76.61			
HCM LOS			F			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	564	-	-	-	197	241
HCM Lane V/C Ratio	0.098	-	-	-	0.928	0.289
HCM Control Delay (s/veh)	12.1	-	-	-	95.9	25.9
HCM Lane LOS	B	-	-	-	F	D
HCM 95th %tile Q(veh)	0.3	-	-	-	7.4	1.2
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	79	495	1044	0	29	46
Future Vol, veh/h	79	495	1044	0	29	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	86	538	1135	0	32	50
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1135	0	-	0	1845	1135
Stage 1	-	-	-	-	1135	-
Stage 2	-	-	-	-	710	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	616	-	-	-	82	246
Stage 1	-	-	-	-	307	-
Stage 2	-	-	-	-	487	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	616	-	-	-	71	246
Mov Cap-2 Maneuver	-	-	-	-	185	-
Stage 1	-	-	-	-	264	-
Stage 2	-	-	-	-	487	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	1.62	0		25.27		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	616	-	-	-	185	246
HCM Lane V/C Ratio	0.139	-	-	-	0.17	0.203
HCM Control Delay (s/veh)	11.8	-	-	-	28.4	23.3
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q(veh)	0.5	-	-	-	0.6	0.7

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

05/09/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	919	459	58	337	466	13	861	419
Future Volume (vph)	919	459	58	337	466	13	861	419
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1599		1741	3406	1805	3505	1599
Flt Permitted	0.95	1.00		0.31	1.00	0.39	1.00	1.00
Satd. Flow (perm)	1805	1599		560	3406	733	3505	1599
Peak-hour factor, PHF	0.77	0.70	0.25	0.92	0.91	0.43	0.92	0.83
Adj. Flow (vph)	1194	656	232	366	512	30	936	505
RTOR Reduction (vph)	0	79	0	0	0	0	0	371
Lane Group Flow (vph)	1194	577	0	598	512	30	936	134
Heavy Vehicles (%)	0%	1%	0%	6%	6%	0%	3%	1%
Turn Type	Prot	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases	7			5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	45.5	45.5		25.5	60.5	30.5	30.5	30.5
Effective Green, g (s)	45.5	45.5		25.5	60.5	30.5	30.5	30.5
Actuated g/C Ratio	0.40	0.40		0.22	0.53	0.27	0.27	0.27
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	714	632		124	1791	194	929	424
v/s Ratio Prot	c0.66				0.15		c0.27	
v/s Ratio Perm		0.36		c1.07		0.04		0.08
v/c Ratio	1.67	0.91		4.82	0.29	0.15	1.01	0.32
Uniform Delay, d1	34.8	32.9		44.8	15.2	32.4	42.3	33.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	308.7	19.8		1738.3	0.4	1.7	31.4	1.9
Delay (s)	343.4	52.7		1783.0	15.6	34.1	73.6	35.8
Level of Service	F	D		F	B	C	E	D
Approach Delay (s/veh)	240.3				967.8		59.8	
Approach LOS	F				F		E	
Intersection Summary								
HCM 2000 Control Delay (s/veh)			362.6		HCM 2000 Level of Service			F
HCM 2000 Volume to Capacity ratio			2.26					
Actuated Cycle Length (s)			115.0		Sum of lost time (s)			13.5
Intersection Capacity Utilization			107.8%		ICU Level of Service			G
Analysis Period (min)			15					
c Critical Lane Group								

HCM 7th TWSC
2: Taylor HS Driveway & FM 973

05/09/2024

Intersection						
Int Delay, s/veh	13.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1235	6	14	668	10	42
Future Vol, veh/h	1235	6	14	668	10	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	25	50	83	25	36
Heavy Vehicles, %	3	0	0	3	0	1
Mvmt Flow	1604	24	28	805	40	117
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	1628	0	2477	1616
Stage 1	-	-	-	-	1616	-
Stage 2	-	-	-	-	861	-
Critical Hdwy	-	-	4.1	-	6.4	6.21
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.309
Pot Cap-1 Maneuver	-	-	405	-	~ 33	129
Stage 1	-	-	-	-	181	-
Stage 2	-	-	-	-	417	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	405	-	~ 31	129
Mov Cap-2 Maneuver	-	-	-	-	125	-
Stage 1	-	-	-	-	181	-
Stage 2	-	-	-	-	389	-
Approach	EB	WB	NB			
HCM Control Delay, s/v	0	0.49	219.5			
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	128	-	-	405	-	
HCM Lane V/C Ratio	1.228	-	-	0.069	-	
HCM Control Delay (s/veh)	219.5	-	-	14.6	-	
HCM Lane LOS	F	-	-	B	-	
HCM 95th %tile Q(veh)	9.7	-	-	0.2	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 7th TWSC

3: Wesley Miller Lane & FM 973

05/09/2024

Intersection												
Int Delay, s/veh	6518.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	1121	12	88	562	97	8	29	104	80	18	55
Future Vol, veh/h	72	1121	12	88	562	97	8	29	104	80	18	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	500	-	590	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	82	55	66	82	25	67	25	69	50	25	50
Heavy Vehicles, %	0	1	0	0	3	0	0	0	0	0	0	50
Mvmt Flow	144	1367	22	133	685	388	12	116	151	160	72	110
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1073	0	0	1389	0	0	2654	3006	1378	2665	2629	685
Stage 1	-	-	-	-	-	-	1666	1666	-	952	952	-
Stage 2	-	-	-	-	-	-	988	1340	-	1713	1677	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.75
Pot Cap-1 Maneuver	657	-	-	499	-	-	15	~ 14	179	~ 15	~ 24	375
Stage 1	-	-	-	-	-	-	123	155	-	314	341	-
Stage 2	-	-	-	-	-	-	300	223	-	~ 116	153	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	657	-	-	499	-	-	~ 6	~ 8	179	~ 1	~ 14	375
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 6	~ 8	-	~ 1	~ 14	-
Stage 1	-	-	-	-	-	-	96	121	-	230	250	-
Stage 2	-	-	-	-	-	-	111	164	-	~ 1	120	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	1.13			1.64			\$ 7923.05			\$ 57575.9		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	16	657	-	-	499	-	-	3				
HCM Lane V/C Ratio	17.573	0.219	-	-	0.267	-	-	423.213				
HCM Control Delay (s/veh)	\$ 7923.1	12	-	-	14.8	-	-	\$ 57575.9				
HCM Lane LOS	F	B	-	-	B	-	-	F				
HCM 95th %tile Q(veh)	35.8	0.8	-	-	1.1	-	-	45.2				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

HCM 7th TWSC
4: Driveway #1 & US Highway 79

05/09/2024

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↖↗	
Traffic Vol, veh/h	0	129	0	0	878	161
Future Vol, veh/h	0	129	0	0	878	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	140	0	0	954	175
Major/Minor	Minor2		Major2			
Conflicting Flow All	-	565	-	-	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	468	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	468	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		SB			
HCM Control Delay, s/v15.94			0			
HCM LOS	C					
Minor Lane/Major Mvmt	EBLn1	SBT	SBR			
Capacity (veh/h)	468	-	-			
HCM Lane V/C Ratio	0.299	-	-			
HCM Control Delay (s/veh)	15.9	-	-			
HCM Lane LOS	C	-	-			
HCM 95th %tile Q(veh)	1.2	-	-			

HCM 7th TWSC
5: FM 973 & Driveway #2

05/09/2024

Intersection						
Int Delay, s/veh	10.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	85	981	418	110	173	43
Future Vol, veh/h	85	981	418	110	173	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	92	1066	454	120	188	47
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	574	0	-	0	1765	514
Stage 1	-	-	-	-	514	-
Stage 2	-	-	-	-	1251	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	999	-	-	-	~ 92	560
Stage 1	-	-	-	-	600	-
Stage 2	-	-	-	-	270	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	999	-	-	-	~ 84	560
Mov Cap-2 Maneuver	-	-	-	-	197	-
Stage 1	-	-	-	-	545	-
Stage 2	-	-	-	-	270	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0.72	0		83.86		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	999	-	-	-	197	560
HCM Lane V/C Ratio	0.092	-	-	-	0.953	0.083
HCM Control Delay (s/veh)	9	-	-	-	101.7	12
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.3	-	-	-	7.8	0.3
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	81	1019	461	0	47	28
Future Vol, veh/h	81	1019	461	0	47	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	1108	501	0	51	30

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	501	0	-	0	1785
Stage 1	-	-	-	-	501
Stage 2	-	-	-	-	1284
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1063	-	-	-	90
Stage 1	-	-	-	-	609
Stage 2	-	-	-	-	260
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1063	-	-	-	82
Mov Cap-2 Maneuver	-	-	-	-	193
Stage 1	-	-	-	-	558
Stage 2	-	-	-	-	260

Approach	EB	WB	SB
HCM Control Delay, s/v	0.64	0	23.28
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1063	-	-	-	193	570
HCM Lane V/C Ratio	0.083	-	-	-	0.264	0.053
HCM Control Delay (s/veh)	8.7	-	-	-	30.2	11.7
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1	0.2

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

05/09/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	807	261	52	563	463	3	527	871
Future Volume (vph)	807	261	52	563	463	3	527	871
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1495		1751	3374	1805	3139	1568
Flt Permitted	0.95	1.00		0.43	1.00	0.38	1.00	1.00
Satd. Flow (perm)	1752	1495		790	3374	720	3139	1568
Peak-hour factor, PHF	0.88	0.91	0.25	0.78	0.79	0.38	0.89	0.84
Adj. Flow (vph)	917	287	208	722	586	8	592	1037
RTOR Reduction (vph)	0	124	0	0	0	0	0	420
Lane Group Flow (vph)	917	163	0	930	586	8	592	617
Heavy Vehicles (%)	3%	8%	0%	4%	7%	0%	15%	3%
Turn Type	Perm	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases				5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	30.5	30.5		25.5	60.5	30.5	30.5	30.5
Effective Green, g (s)	30.5	30.5		25.5	60.5	30.5	30.5	30.5
Actuated g/C Ratio	0.31	0.31		0.26	0.61	0.31	0.31	0.31
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	534	455		201	2041	219	957	478
v/s Ratio Prot					0.17		0.19	
v/s Ratio Perm	c0.52	0.11		c1.18		0.01		c0.39
v/c Ratio	1.72	0.36		4.63	0.29	0.04	0.62	1.29
Uniform Delay, d1	34.8	27.1		37.3	9.4	24.4	29.8	34.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	330.6	2.2		1643.4	0.4	0.3	3.0	145.4
Delay (s)	365.4	29.3		1680.7	9.8	24.7	32.8	180.2
Level of Service	F	C		F	A	C	C	F
Approach Delay (s/veh)	285.3				1034.8		126.1	
Approach LOS	F				F		F	
Intersection Summary								
HCM 2000 Control Delay (s/veh)			486.3		HCM 2000 Level of Service			F
HCM 2000 Volume to Capacity ratio			2.42					
Actuated Cycle Length (s)			100.0		Sum of lost time (s)			13.5
Intersection Capacity Utilization			104.6%		ICU Level of Service			G
Analysis Period (min)			15					
c Critical Lane Group								

HCM 7th TWSC
2: Taylor HS Driveway & FM 973

05/09/2024

Intersection						
Int Delay, s/veh	42.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	711	9	45	1387	24	190
Future Vol, veh/h	711	9	45	1387	24	190
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	25	50	88	39	55
Heavy Vehicles, %	6	0	0	3	0	0
Mvmt Flow	836	36	90	1576	62	345
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	872	0	2611	854
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	1756	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	782	-	~ 27	361
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	154	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	782	-	~ 24	361
Mov Cap-2 Maneuver	-	-	-	-	102	-
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	136	-
Approach	EB	WB	NB			
HCM Control Delay, s/v	0	0.55	\$ 305.09			
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	261	-	-	782	-	
HCM Lane V/C Ratio	1.561	-	-	0.115	-	
HCM Control Delay (s/veh)	\$ 305.1	-	-	10.2	-	
HCM Lane LOS	F	-	-	B	-	
HCM 95th %tile Q(veh)	24.5	-	-	0.4	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 7th TWSC
3: Wesley Miller Lane & FM 973

05/09/2024

Intersection												
Int Delay, s/veh	42519.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	583	50	358	957	114	7	20	56	114	28	59
Future Vol, veh/h	70	583	50	358	957	114	7	20	56	114	28	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	500	-	590	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	81	44	72	83	25	44	25	74	25	25	25
Heavy Vehicles, %	67	4	0	3	3	100	0	0	15	0	0	0
Mvmt Flow	93	720	114	497	1153	456	16	80	76	456	112	236
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1609	0	0	833	0	0	3167	3567	777	3094	3168	1153
Stage 1	-	-	-	-	-	-	963	963	-	2147	2147	-
Stage 2	-	-	-	-	-	-	2203	2603	-	946	1020	-
Critical Hdwy	4.77	-	-	4.13	-	-	7.1	6.5	6.35	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.803	-	-	2.227	-	-	3.5	4	3.435	3.5	4	3.3
Pot Cap-1 Maneuver	267	-	-	795	-	-	~ 6	~ 6	377	~ 7	~ 11	243
Stage 1	-	-	-	-	-	-	310	337	-	~ 64	~ 89	-
Stage 2	-	-	-	-	-	-	60	~ 52	-	~ 316	317	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	267	-	-	795	-	-	~ 0	~ 1	377	~ 1	~ 3	243
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 0	~ 1	-	~ 1	~ 3	-
Stage 1	-	-	-	-	-	-	202	219	-	~ 24	~ 33	-
Stage 2	-	-	-	-	-	-	-	~ 19	-	~ 104	206	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	2.57			3.96			\$ 210664.35			\$ 167017.66		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	267	-	-	795	-	-	2				
HCM Lane V/C Ratio	429.863	0.349	-	-	0.625	-	-	364.903				
HCM Control Delay (s/veh)	\$ 210664.3	25.5	-	-	16.8	-	-	\$ 167017.7				
HCM Lane LOS	F	D	-	-	C	-	-	F				
HCM 95th %tile Q(veh)	24.1	1.5	-	-	4.5	-	-	103.1				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon						

HCM 7th TWSC
4: Driveway #1 & US Highway 79

05/09/2024

Intersection						
Int Delay, s/veh	4.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↖↗	
Traffic Vol, veh/h	0	237	0	0	916	309
Future Vol, veh/h	0	237	0	0	916	309
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	258	0	0	996	336

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	666	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	402	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	402	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s/v28.59		0
HCM LOS	D	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	402	-	-
HCM Lane V/C Ratio	0.641	-	-
HCM Control Delay (s/veh)	28.6	-	-
HCM Lane LOS	D	-	-
HCM 95th %tile Q(veh)	4.3	-	-

HCM 7th TWSC
5: FM 973 & Driveway #2

05/09/2024

Intersection						
Int Delay, s/veh	41.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	51	491	1023	209	259	64
Future Vol, veh/h	51	491	1023	209	259	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	534	1112	227	282	70
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1339	0	-	0	1870	1226
Stage 1	-	-	-	-	1226	-
Stage 2	-	-	-	-	645	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	515	-	-	-	~ 79	218
Stage 1	-	-	-	-	~ 277	-
Stage 2	-	-	-	-	523	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	515	-	-	-	~ 71	218
Mov Cap-2 Maneuver	-	-	-	-	~ 181	-
Stage 1	-	-	-	-	~ 248	-
Stage 2	-	-	-	-	523	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	1.21	0		265.02		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	515	-	-	-	181	218
HCM Lane V/C Ratio	0.108	-	-	-	1.559	0.319
HCM Control Delay (s/veh)	12.8	-	-	-	\$ 323.3	29.1
HCM Lane LOS	B	-	-	-	F	D
HCM 95th %tile Q(veh)	0.4	-	-	-	18.4	1.3
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

HCM 7th TWSC
6: FM 973 & Driveway #3

05/09/2024

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	172	503	1059	28	39	129
Future Vol, veh/h	172	503	1059	28	39	129
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	187	547	1151	30	42	140
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1182	0	-	0	2087	1166
Stage 1	-	-	-	-	1166	-
Stage 2	-	-	-	-	921	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	591	-	-	-	58	236
Stage 1	-	-	-	-	296	-
Stage 2	-	-	-	-	388	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	591	-	-	-	~ 40	236
Mov Cap-2 Maneuver	-	-	-	-	138	-
Stage 1	-	-	-	-	203	-
Stage 2	-	-	-	-	388	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	3.54	0		40.84		
HCM LOS	E					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	591	-	-	-	138	236
HCM Lane V/C Ratio	0.316	-	-	-	0.308	0.594
HCM Control Delay (s/veh)	13.9	-	-	-	42.4	40.4
HCM Lane LOS	B	-	-	-	E	E
HCM 95th %tile Q(veh)	1.4	-	-	-	1.2	3.4
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

05/09/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	1098	473	58	441	743	13	970	437
Future Volume (vph)	1098	473	58	441	743	13	970	437
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1599		1735	3406	1805	3505	1599
Flt Permitted	0.95	1.00		0.27	1.00	0.20	1.00	1.00
Satd. Flow (perm)	1805	1599		496	3406	384	3505	1599
Peak-hour factor, PHF	0.77	0.70	0.25	0.92	0.91	0.43	0.92	0.83
Adj. Flow (vph)	1426	676	232	479	816	30	1054	527
RTOR Reduction (vph)	0	79	0	0	0	0	0	387
Lane Group Flow (vph)	1426	597	0	711	816	30	1054	140
Heavy Vehicles (%)	0%	1%	0%	6%	6%	0%	3%	1%
Turn Type	Prot	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases	7			5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	45.5	45.5		25.5	60.5	30.5	30.5	30.5
Effective Green, g (s)	45.5	45.5		25.5	60.5	30.5	30.5	30.5
Actuated g/C Ratio	0.40	0.40		0.22	0.53	0.27	0.27	0.27
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	714	632		109	1791	101	929	424
v/s Ratio Prot	c0.79				0.24		c0.30	
v/s Ratio Perm		0.37		c1.43		0.08		0.09
v/c Ratio	2.00	0.95		6.52	0.46	0.30	1.13	0.33
Uniform Delay, d1	34.8	33.5		44.8	17.0	33.7	42.3	34.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	453.7	24.6		2504.7	0.8	7.4	73.9	2.1
Delay (s)	488.5	58.2		2549.4	17.8	41.1	116.2	36.1
Level of Service	F	E		F	B	D	F	D
Approach Delay (s/veh)	350.1				1196.6		88.6	
Approach LOS	F				F		F	
Intersection Summary								
HCM 2000 Control Delay (s/veh)			516.4		HCM 2000 Level of Service			F
HCM 2000 Volume to Capacity ratio			2.86					
Actuated Cycle Length (s)			115.0		Sum of lost time (s)			13.5
Intersection Capacity Utilization			126.5%		ICU Level of Service			H
Analysis Period (min)			15					
c Critical Lane Group								

HCM 7th TWSC
2: Taylor HS Driveway & FM 973

05/09/2024

Intersection						
Int Delay, s/veh	21.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1394	6	14	823	10	43
Future Vol, veh/h	1394	6	14	823	10	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	25	50	83	25	36
Heavy Vehicles, %	3	0	0	3	0	1
Mvmt Flow	1810	24	28	992	40	119
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1834	0	2870	1822
Stage 1	-	-	-	-	1822	-
Stage 2	-	-	-	-	1048	-
Critical Hdwy	-	-	4.1	-	6.4	6.21
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.309
Pot Cap-1 Maneuver	-	-	337	-	~ 19	~ 97
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	341	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	337	-	~ 17	~ 97
Mov Cap-2 Maneuver	-	-	-	-	96	-
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	312	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0.46		\$ 410.79	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	97	-	-	337	-	
HCM Lane V/C Ratio	1.652	-	-	0.083	-	
HCM Control Delay (s/veh)	\$ 410.8	-	-	16.7	-	
HCM Lane LOS	F	-	-	C	-	
HCM 95th %tile Q(veh)	12.6	-	-	0.3	-	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

HCM 7th TWSC
3: Wesley Miller Lane & FM 973

05/09/2024

Intersection												
Int Delay, s/veh	3405											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	1278	12	89	716	97	8	29	105	80	18	55
Future Vol, veh/h	72	1278	12	89	716	97	8	29	105	80	18	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	500	-	590	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	82	55	66	82	25	67	25	69	50	25	50
Heavy Vehicles, %	0	1	0	0	3	0	0	0	0	0	0	50
Mvmt Flow	144	1559	22	135	873	388	12	116	152	160	72	110

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1261	0	0	1580	0	0	3036	3388	1569	3047	3011	873
Stage 1	-	-	-	-	-	-	1857	1857	-	1143	1143	-
Stage 2	-	-	-	-	-	-	1179	1531	-	1905	1868	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.75
Pot Cap-1 Maneuver	558	-	-	422	-	-	~ 8	~ 8	~ 138	~ 8	~ 14	288
Stage 1	-	-	-	-	-	-	96	125	-	246	277	-
Stage 2	-	-	-	-	-	-	234	181	-	~ 90	123	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	558	-	-	422	-	-	~ 3	~ 4	~ 138	~ 4	~ 7	288
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 3	~ 4	-	~ 4	~ 7	-
Stage 1	-	-	-	-	-	-	71	~ 92	-	167	189	-
Stage 2	-	-	-	-	-	-	61	123	-	~ 2	91	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	1.14			1.69			\$ 16648.56			\$ 23612.39		
HCM LOS							F			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	8	558	-	-	422	-	-	7
HCM Lane V/C Ratio	35.934	0.258	-	-	0.32	-	-	-51.076
HCM Control Delay (s/veh)	\$ 16648.6	13.7	-	-	17.5	-	-	\$ 23612.4
HCM Lane LOS	F	B	-	-	C	-	-	F
HCM 95th %tile Q(veh)	36.9	1	-	-	1.4	-	-	44.8

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 7th TWSC
4: Driveway #1 & US Highway 79

05/09/2024

Intersection						
Int Delay, s/veh	4.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↖↗	
Traffic Vol, veh/h	0	228	0	0	906	312
Future Vol, veh/h	0	228	0	0	906	312
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	248	0	0	985	339
Major/Minor	Minor2		Major2			
Conflicting Flow All	-	662	-	-	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	404	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	404	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		SB			
HCM Control Delay, s/v27.01			0			
HCM LOS	D					
Minor Lane/Major Mvmt	EBLn1	SBT	SBR			
Capacity (veh/h)	404	-	-			
HCM Lane V/C Ratio	0.613	-	-			
HCM Control Delay (s/veh)	27	-	-			
HCM Lane LOS	D	-	-			
HCM 95th %tile Q(veh)	4	-	-			

HCM 7th TWSC
5: FM 973 & Driveway #2

05/09/2024

Intersection						
Int Delay, s/veh	68					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	85	1037	432	217	311	43
Future Vol, veh/h	85	1037	432	217	311	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	92	1127	470	236	338	47
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	705	0	-	0	1899	588
Stage 1	-	-	-	-	588	-
Stage 2	-	-	-	-	1312	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	893	-	-	-	~ 76	509
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	~ 252	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	893	-	-	-	~ 68	509
Mov Cap-2 Maneuver	-	-	-	-	~ 180	-
Stage 1	-	-	-	-	498	-
Stage 2	-	-	-	-	~ 252	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0.72	0		\$ 406.03		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	893	-	-	-	180	509
HCM Lane V/C Ratio	0.104	-	-	-	1.881	0.092
HCM Control Delay (s/veh)	9.5	-	-	-	\$ 460.4	12.8
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.3	-	-	-	24.9	0.3
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 7th TWSC
6: FM 973 & Driveway #3

05/09/2024

Intersection						
Int Delay, s/veh	5.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	225	1035	467	8	87	177
Future Vol, veh/h	225	1035	467	8	87	177
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	245	1125	508	9	95	192
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	516	0	-	0	2126	512
Stage 1	-	-	-	-	512	-
Stage 2	-	-	-	-	1614	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1049	-	-	-	~ 55	562
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	179	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1049	-	-	-	~ 42	562
Mov Cap-2 Maneuver	-	-	-	-	133	-
Stage 1	-	-	-	-	461	-
Stage 2	-	-	-	-	179	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	1.69	0		36.56		
HCM LOS				E		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1049	-	-	-	133	562
HCM Lane V/C Ratio	0.233	-	-	-	0.713	0.342
HCM Control Delay (s/veh)	9.5	-	-	-	81	14.7
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.9	-	-	-	4	1.5
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

05/09/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	 			 	 		 	
Traffic Volume (vph)	624	243	56	413	431	3	412	833
Future Volume (vph)	624	243	56	413	431	3	412	833
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	1495		1756	3374	1805	3139	1568
Flt Permitted	0.95	1.00		0.49	1.00	0.44	1.00	1.00
Satd. Flow (perm)	3400	1495		898	3374	827	3139	1568
Peak-hour factor, PHF	0.88	0.91	0.25	0.78	0.79	0.38	0.89	0.84
Adj. Flow (vph)	709	267	224	529	546	8	463	992
RTOR Reduction (vph)	0	231	0	0	0	0	0	339
Lane Group Flow (vph)	709	36	0	753	546	8	463	653
Heavy Vehicles (%)	3%	8%	0%	4%	7%	0%	15%	3%
Turn Type	Perm	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases				5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	20.5	20.5		77.5	120.5	38.5	38.5	38.5
Effective Green, g (s)	20.5	20.5		77.5	120.5	38.5	38.5	38.5
Actuated g/C Ratio	0.14	0.14		0.52	0.80	0.26	0.26	0.26
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	464	204		463	2710	212	805	402
v/s Ratio Prot					0.16		0.15	
v/s Ratio Perm	c0.21	0.02		c0.84		0.01		c0.42
v/c Ratio	1.53	0.18		1.63	0.20	0.04	0.58	1.62
Uniform Delay, d1	64.8	57.3		36.2	3.5	41.8	48.6	55.8
Progression Factor	0.96	0.93		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	247.8	1.8		291.6	0.2	0.3	3.0	292.2
Delay (s)	310.3	55.2		327.9	3.6	42.2	51.6	348.0
Level of Service	F	E		F	A	D	D	F
Approach Delay (s/veh)	240.5				191.6		252.5	
Approach LOS	F				F		F	
Intersection Summary								
HCM 2000 Control Delay (s/veh)			228.2		HCM 2000 Level of Service			F
HCM 2000 Volume to Capacity ratio			1.61					
Actuated Cycle Length (s)			150.0		Sum of lost time (s)		13.5	
Intersection Capacity Utilization			85.1%		ICU Level of Service		E	
Analysis Period (min)			15					
c Critical Lane Group								

HCM 7th TWSC
4: Driveway #1 & US Highway 79

05/09/2024

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↗↗	↗
Traffic Vol, veh/h	0	87	0	0	923	94
Future Vol, veh/h	0	87	0	0	923	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	630
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	95	0	0	1003	102
Major/Minor	Minor2		Major2			
Conflicting Flow All	-	502	-	-	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	515	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	515	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		SB			
HCM Control Delay, s/v13.56			0			
HCM LOS	B					
Minor Lane/Major Mvmt	EBLn1	SBT	SBR			
Capacity (veh/h)	515	-	-			
HCM Lane V/C Ratio	0.184	-	-			
HCM Control Delay (s/veh)	13.6	-	-			
HCM Lane LOS	B	-	-			
HCM 95th %tile Q(veh)	0.7	-	-			

HCM 7th TWSC
5: FM 973 & Driveway #2

05/09/2024

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	51	458	971	71	87	43
Future Vol, veh/h	51	458	971	71	87	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	400	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	498	1055	77	95	47

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1133	0	0 1664 1055
Stage 1	-	-	- 1055 -
Stage 2	-	-	- 609 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	617	-	- 107 274
Stage 1	-	-	- 335 -
Stage 2	-	-	- 543 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	617	-	- 97 274
Mov Cap-2 Maneuver	-	-	- 218 -
Stage 1	-	-	- 305 -
Stage 2	-	-	- 543 -

Approach	EB	WB	SB
HCM Control Delay, s/v	1.14	0	29.39
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	617	-	-	-	218	274
HCM Lane V/C Ratio	0.09	-	-	-	0.434	0.171
HCM Control Delay (s/veh)	11.4	-	-	-	33.6	20.8
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q(veh)	0.3	-	-	-	2	0.6

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	509	1014	0	0	0
Future Vol, veh/h	0	509	1014	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	400	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	553	1102	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1102	0	0 1655 1102
Stage 1	-	-	- 1102 -
Stage 2	-	-	- 553 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	633	-	- 108 257
Stage 1	-	-	- 318 -
Stage 2	-	-	- 576 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	633	-	- 108 257
Mov Cap-2 Maneuver	-	-	- 231 -
Stage 1	-	-	- 318 -
Stage 2	-	-	- 576 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	633	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

05/09/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	 				 		 	
Traffic Volume (vph)	868	442	55	270	423	12	779	431
Future Volume (vph)	868	442	55	270	423	12	779	431
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	1599		1745	3406	1805	3505	1599
Flt Permitted	0.95	1.00		0.33	1.00	0.46	1.00	1.00
Satd. Flow (perm)	3502	1599		613	3406	881	3505	1599
Peak-hour factor, PHF	0.77	0.70	0.25	0.92	0.91	0.43	0.92	0.83
Adj. Flow (vph)	1127	631	220	293	465	28	847	519
RTOR Reduction (vph)	0	358	0	0	0	0	0	413
Lane Group Flow (vph)	1127	273	0	513	465	28	847	106
Heavy Vehicles (%)	0%	1%	0%	6%	6%	0%	3%	1%
Turn Type	Prot	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases	7			5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	27.5	27.5		70.5	103.5	28.5	28.5	28.5
Effective Green, g (s)	27.5	27.5		70.5	103.5	28.5	28.5	28.5
Actuated g/C Ratio	0.20	0.20		0.50	0.74	0.20	0.20	0.20
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	687	314		308	2518	179	713	325
v/s Ratio Prot	c0.32				0.14		c0.24	
v/s Ratio Perm		0.17		c0.84		0.03		0.07
v/c Ratio	1.64	0.87		1.67	0.18	0.16	1.19	0.33
Uniform Delay, d1	56.3	54.5		34.8	5.5	45.9	55.8	47.5
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	294.8	26.5		313.5	0.2	1.9	98.3	2.6
Delay (s)	351.0	81.0		348.2	5.7	47.7	154.1	50.2
Level of Service	F	F		F	A	D	F	D
Approach Delay (s/veh)	254.1				185.4		113.2	
Approach LOS	F				F		F	
Intersection Summary								
HCM 2000 Control Delay (s/veh)			190.3		HCM 2000 Level of Service			F
HCM 2000 Volume to Capacity ratio			1.55					
Actuated Cycle Length (s)			140.0		Sum of lost time (s)		13.5	
Intersection Capacity Utilization			78.2%		ICU Level of Service		D	
Analysis Period (min)			15					
c Critical Lane Group								

HCM 7th TWSC
4: Driveway #1 & US Highway 79

05/09/2024

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↗↗	↗
Traffic Vol, veh/h	0	59	0	0	891	66
Future Vol, veh/h	0	59	0	0	891	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	630
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	64	0	0	968	72

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	484	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	529	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	529	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s/v12.75		0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	529	-	-
HCM Lane V/C Ratio	0.121	-	-
HCM Control Delay (s/veh)	12.7	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-

HCM 7th TWSC
5: FM 973 & Driveway #2

05/09/2024

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	81	951	411	46	101	23
Future Vol, veh/h	81	951	411	46	101	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	400	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	1034	447	50	110	25
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	497	0	-	0	1657	447
Stage 1	-	-	-	-	447	-
Stage 2	-	-	-	-	1210	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1067	-	-	-	~ 108	612
Stage 1	-	-	-	-	645	-
Stage 2	-	-	-	-	282	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1067	-	-	-	~ 99	612
Mov Cap-2 Maneuver	-	-	-	-	212	-
Stage 1	-	-	-	-	591	-
Stage 2	-	-	-	-	282	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0.68	0		33.7		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1067	-	-	-	212	612
HCM Lane V/C Ratio	0.083	-	-	-	0.517	0.041
HCM Control Delay (s/veh)	8.7	-	-	-	38.8	11.1
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.3	-	-	-	2.7	0.1
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1022	434	0	0	0
Future Vol, veh/h	0	1022	434	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	400	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1111	472	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	472	0	0 1583 472
Stage 1	-	-	- 472 -
Stage 2	-	-	- 1111 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1090	-	- 120 592
Stage 1	-	-	- 628 -
Stage 2	-	-	- 315 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1090	-	- 120 592
Mov Cap-2 Maneuver	-	-	- 238 -
Stage 1	-	-	- 628 -
Stage 2	-	-	- 315 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1090	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

05/09/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	 			 	 		 	
Traffic Volume (vph)	706	253	52	491	456	3	469	848
Future Volume (vph)	706	253	52	491	456	3	469	848
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	1495		1752	3374	1805	3139	1568
Flt Permitted	0.95	1.00		0.46	1.00	0.42	1.00	1.00
Satd. Flow (perm)	3400	1495		842	3374	794	3139	1568
Peak-hour factor, PHF	0.88	0.91	0.25	0.78	0.79	0.38	0.89	0.84
Adj. Flow (vph)	802	278	208	629	577	8	527	1010
RTOR Reduction (vph)	0	240	0	0	0	0	0	300
Lane Group Flow (vph)	802	38	0	837	577	8	527	710
Heavy Vehicles (%)	3%	8%	0%	4%	7%	0%	15%	3%
Turn Type	Perm	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases				5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	20.5	20.5		77.5	120.5	38.5	38.5	38.5
Effective Green, g (s)	20.5	20.5		77.5	120.5	38.5	38.5	38.5
Actuated g/C Ratio	0.14	0.14		0.52	0.80	0.26	0.26	0.26
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	464	204		435	2710	203	805	402
v/s Ratio Prot					0.17		0.17	
v/s Ratio Perm	c0.24	0.03		c0.99		0.01		c0.45
v/c Ratio	1.73	0.19		1.92	0.21	0.04	0.65	1.77
Uniform Delay, d1	64.8	57.4		36.2	3.5	41.9	49.8	55.8
Progression Factor	0.97	0.93		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	336.4	1.9		424.3	0.2	0.4	4.1	354.5
Delay (s)	399.0	55.3		460.6	3.7	42.2	53.9	410.2
Level of Service	F	E		F	A	D	D	F
Approach Delay (s/veh)	310.5				274.1		286.8	
Approach LOS	F				F		F	
Intersection Summary								
HCM 2000 Control Delay (s/veh)			288.7		HCM 2000 Level of Service			F
HCM 2000 Volume to Capacity ratio			1.85					
Actuated Cycle Length (s)			150.0		Sum of lost time (s)		13.5	
Intersection Capacity Utilization			90.1%		ICU Level of Service		E	
Analysis Period (min)			15					
c Critical Lane Group								

HCM 7th TWSC
4: Driveway #1 & US Highway 79

05/09/2024

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↗↗	↗
Traffic Vol, veh/h	0	183	0	0	889	214
Future Vol, veh/h	0	183	0	0	889	214
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	630
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	199	0	0	966	233

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	483	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	529	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	529	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s/v15.83		0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	529	-	-
HCM Lane V/C Ratio	0.376	-	-
HCM Control Delay (s/veh)	15.8	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	1.7	-	-

HCM 7th TWSC
5: FM 973 & Driveway #2

05/09/2024

Intersection						
Int Delay, s/veh	7.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	51	473	980	157	168	64
Future Vol, veh/h	51	473	980	157	168	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	400	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	514	1065	171	183	70
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1236	0	-	0	1690	1065
Stage 1	-	-	-	-	1065	-
Stage 2	-	-	-	-	625	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	564	-	-	-	~ 103	270
Stage 1	-	-	-	-	331	-
Stage 2	-	-	-	-	534	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	564	-	-	-	~ 93	270
Mov Cap-2 Maneuver	-	-	-	-	213	-
Stage 1	-	-	-	-	299	-
Stage 2	-	-	-	-	534	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	1.18	0		62.07		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	564	-	-	-	213	270
HCM Lane V/C Ratio	0.098	-	-	-	0.859	0.257
HCM Control Delay (s/veh)	12.1	-	-	-	77	22.9
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.3	-	-	-	6.6	1
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	79	495	1044	0	29	46
Future Vol, veh/h	79	495	1044	0	29	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	400	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	86	538	1135	0	32	50
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1135	0	-	0	1845	1135
Stage 1	-	-	-	-	1135	-
Stage 2	-	-	-	-	710	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	616	-	-	-	82	246
Stage 1	-	-	-	-	307	-
Stage 2	-	-	-	-	487	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	616	-	-	-	71	246
Mov Cap-2 Maneuver	-	-	-	-	185	-
Stage 1	-	-	-	-	264	-
Stage 2	-	-	-	-	487	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	1.62	0		25.27		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	616	-	-	-	185	246
HCM Lane V/C Ratio	0.139	-	-	-	0.17	0.203
HCM Control Delay (s/veh)	11.8	-	-	-	28.4	23.3
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q(veh)	0.5	-	-	-	0.6	0.7

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

05/09/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	 			 	 		 	
Traffic Volume (vph)	919	459	58	337	466	13	861	419
Future Volume (vph)	919	459	58	337	466	13	861	419
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	1599		1741	3406	1805	3505	1599
Flt Permitted	0.95	1.00		0.31	1.00	0.43	1.00	1.00
Satd. Flow (perm)	3502	1599		560	3406	821	3505	1599
Peak-hour factor, PHF	0.77	0.70	0.25	0.92	0.91	0.43	0.92	0.83
Adj. Flow (vph)	1194	656	232	366	512	30	936	505
RTOR Reduction (vph)	0	346	0	0	0	0	0	402
Lane Group Flow (vph)	1194	310	0	598	512	30	936	103
Heavy Vehicles (%)	0%	1%	0%	6%	6%	0%	3%	1%
Turn Type	Prot	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases	7			5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	27.5	27.5		70.5	103.5	28.5	28.5	28.5
Effective Green, g (s)	27.5	27.5		70.5	103.5	28.5	28.5	28.5
Actuated g/C Ratio	0.20	0.20		0.50	0.74	0.20	0.20	0.20
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	687	314		282	2518	167	713	325
v/s Ratio Prot	c0.34				0.15		c0.27	
v/s Ratio Perm		0.19		c1.07		0.04		0.06
v/c Ratio	1.74	0.99		2.12	0.20	0.18	1.31	0.32
Uniform Delay, d1	56.3	56.1		34.8	5.6	46.1	55.8	47.5
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	338.2	47.4		516.1	0.2	2.3	150.6	2.5
Delay (s)	394.4	103.5		550.8	5.8	48.4	206.4	50.0
Level of Service	F	F		F	A	D	F	D
Approach Delay (s/veh)	291.2				299.4		149.5	
Approach LOS	F				F		F	
Intersection Summary								
HCM 2000 Control Delay (s/veh)			246.2		HCM 2000 Level of Service			F
HCM 2000 Volume to Capacity ratio			1.85					
Actuated Cycle Length (s)			140.0		Sum of lost time (s)			13.5
Intersection Capacity Utilization			85.4%		ICU Level of Service			E
Analysis Period (min)			15					
c Critical Lane Group								

HCM 7th TWSC
4: Driveway #1 & US Highway 79

05/09/2024

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↗↗	↗
Traffic Vol, veh/h	0	129	0	0	878	161
Future Vol, veh/h	0	129	0	0	878	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	630
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	140	0	0	954	175
Major/Minor	Minor2		Major2			
Conflicting Flow All	-	477	-	-	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	534	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	534	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		SB			
HCM Control Delay, s/v14.12			0			
HCM LOS	B					
Minor Lane/Major Mvmt	EBLn1	SBT	SBR			
Capacity (veh/h)	534	-	-			
HCM Lane V/C Ratio	0.262	-	-			
HCM Control Delay (s/veh)	14.1	-	-			
HCM Lane LOS	B	-	-			
HCM 95th %tile Q(veh)	1	-	-			

HCM 7th TWSC
5: FM 973 & Driveway #2

05/09/2024

Intersection						
Int Delay, s/veh	9.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	85	981	418	110	173	43
Future Vol, veh/h	85	981	418	110	173	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	400	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	92	1066	454	120	188	47
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	574	0	-	0	1705	454
Stage 1	-	-	-	-	454	-
Stage 2	-	-	-	-	1251	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	999	-	-	-	~ 100	606
Stage 1	-	-	-	-	639	-
Stage 2	-	-	-	-	270	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	999	-	-	-	~ 91	606
Mov Cap-2 Maneuver	-	-	-	-	203	-
Stage 1	-	-	-	-	580	-
Stage 2	-	-	-	-	270	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0.72	0		77.82		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	999	-	-	-	203	606
HCM Lane V/C Ratio	0.092	-	-	-	0.928	0.077
HCM Control Delay (s/veh)	9	-	-	-	94.3	11.4
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.3	-	-	-	7.5	0.2
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	81	1019	461	0	47	28
Future Vol, veh/h	81	1019	461	0	47	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	400	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	1108	501	0	51	30
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	501	0	-	0	1785	501
Stage 1	-	-	-	-	501	-
Stage 2	-	-	-	-	1284	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1063	-	-	-	90	570
Stage 1	-	-	-	-	609	-
Stage 2	-	-	-	-	260	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1063	-	-	-	82	570
Mov Cap-2 Maneuver	-	-	-	-	193	-
Stage 1	-	-	-	-	558	-
Stage 2	-	-	-	-	260	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0.64	0		23.28		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1063	-	-	-	193	570
HCM Lane V/C Ratio	0.083	-	-	-	0.264	0.053
HCM Control Delay (s/veh)	8.7	-	-	-	30.2	11.7
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1	0.2

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

05/09/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	807	261	52	563	463	3	527	871
Future Volume (vph)	807	261	52	563	463	3	527	871
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	1495		1751	3374	1805	3139	1568
Flt Permitted	0.95	1.00		0.43	1.00	0.41	1.00	1.00
Satd. Flow (perm)	3400	1495		790	3374	785	3139	1568
Peak-hour factor, PHF	0.88	0.91	0.25	0.78	0.79	0.38	0.89	0.84
Adj. Flow (vph)	917	287	208	722	586	8	592	1037
RTOR Reduction (vph)	0	224	0	0	0	0	0	272
Lane Group Flow (vph)	917	63	0	930	586	8	592	765
Heavy Vehicles (%)	3%	8%	0%	4%	7%	0%	15%	3%
Turn Type	Perm	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases				5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	20.5	20.5		77.5	120.5	38.5	38.5	38.5
Effective Green, g (s)	20.5	20.5		77.5	120.5	38.5	38.5	38.5
Actuated g/C Ratio	0.14	0.14		0.52	0.80	0.26	0.26	0.26
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	464	204		408	2710	201	805	402
v/s Ratio Prot					0.17		0.19	
v/s Ratio Perm	c0.27	0.04		c1.18		0.01		c0.49
v/c Ratio	1.98	0.31		2.28	0.22	0.04	0.74	1.90
Uniform Delay, d1	64.8	58.3		36.2	3.5	41.9	51.1	55.8
Progression Factor	0.97	0.95		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	446.8	3.7		583.5	0.2	0.4	5.9	415.5
Delay (s)	509.8	59.1		619.7	3.7	42.2	57.0	471.3
Level of Service	F	E		F	A	D	E	F
Approach Delay (s/veh)	402.3				381.6		319.3	
Approach LOS	F				F		F	
Intersection Summary								
HCM 2000 Control Delay (s/veh)			363.9		HCM 2000 Level of Service			F
HCM 2000 Volume to Capacity ratio			2.13					
Actuated Cycle Length (s)			150.0		Sum of lost time (s)		13.5	
Intersection Capacity Utilization			95.5%		ICU Level of Service		F	
Analysis Period (min)			15					
c Critical Lane Group								

HCM 7th TWSC
4: Driveway #1 & US Highway 79

05/09/2024

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↗↗	↗
Traffic Vol, veh/h	0	237	0	0	916	309
Future Vol, veh/h	0	237	0	0	916	309
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	630
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	258	0	0	996	336

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	498	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	518	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	518	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s/v18.63		0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	518	-	-
HCM Lane V/C Ratio	0.497	-	-
HCM Control Delay (s/veh)	18.6	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	2.7	-	-

HCM 7th TWSC
5: FM 973 & Driveway #2

05/09/2024

Intersection						
Int Delay, s/veh	32.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	51	491	1023	209	259	64
Future Vol, veh/h	51	491	1023	209	259	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	400	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	534	1112	227	282	70
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1339	0	-	0	1757	1112
Stage 1	-	-	-	-	1112	-
Stage 2	-	-	-	-	645	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	515	-	-	-	~ 93	254
Stage 1	-	-	-	-	315	-
Stage 2	-	-	-	-	523	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	515	-	-	-	~ 83	254
Mov Cap-2 Maneuver	-	-	-	-	~ 200	-
Stage 1	-	-	-	-	~ 281	-
Stage 2	-	-	-	-	523	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	1.21	0		208.76		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	515	-	-	-	200	254
HCM Lane V/C Ratio	0.108	-	-	-	1.405	0.274
HCM Control Delay (s/veh)	12.8	-	-	-	254.3	24.4
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.4	-	-	-	16.5	1.1
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 7th TWSC
6: FM 973 & Driveway #3

05/09/2024

Intersection						
Int Delay, s/veh	4.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	172	503	1059	28	39	129
Future Vol, veh/h	172	503	1059	28	39	129
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	400	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	187	547	1151	30	42	140
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1182	0	-	0	2072	1151
Stage 1	-	-	-	-	1151	-
Stage 2	-	-	-	-	921	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	591	-	-	-	59	241
Stage 1	-	-	-	-	301	-
Stage 2	-	-	-	-	388	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	591	-	-	-	~ 41	241
Mov Cap-2 Maneuver	-	-	-	-	139	-
Stage 1	-	-	-	-	206	-
Stage 2	-	-	-	-	388	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	3.54	0		39.52		
HCM LOS	E					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	591	-	-	-	139	241
HCM Lane V/C Ratio	0.316	-	-	-	0.304	0.582
HCM Control Delay (s/veh)	13.9	-	-	-	41.8	38.8
HCM Lane LOS	B	-	-	-	E	E
HCM 95th %tile Q(veh)	1.4	-	-	-	1.2	3.3
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM Signalized Intersection Capacity Analysis

1: US Highway 79 & FM 973

05/09/2024

								
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	 			 	 		 	
Traffic Volume (vph)	1098	473	58	441	473	13	970	437
Future Volume (vph)	1098	473	58	441	473	13	970	437
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00		1.00	0.95	1.00	0.95	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	1599		1735	3406	1805	3505	1599
Flt Permitted	0.95	1.00		0.27	1.00	0.43	1.00	1.00
Satd. Flow (perm)	3502	1599		496	3406	811	3505	1599
Peak-hour factor, PHF	0.77	0.70	0.25	0.92	0.91	0.43	0.92	0.83
Adj. Flow (vph)	1426	676	232	479	520	30	1054	527
RTOR Reduction (vph)	0	346	0	0	0	0	0	420
Lane Group Flow (vph)	1426	330	0	711	520	30	1054	107
Heavy Vehicles (%)	0%	1%	0%	6%	6%	0%	3%	1%
Turn Type	Prot	Perm	Perm	Prot	NA	Perm	NA	Perm
Protected Phases	7			5	2		6	
Permitted Phases	7	7	2			6		6
Actuated Green, G (s)	27.5	27.5		70.5	103.5	28.5	28.5	28.5
Effective Green, g (s)	27.5	27.5		70.5	103.5	28.5	28.5	28.5
Actuated g/C Ratio	0.20	0.20		0.50	0.74	0.20	0.20	0.20
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	687	314		249	2518	165	713	325
v/s Ratio Prot	c0.41				0.15		c0.30	
v/s Ratio Perm		0.21		c1.43		0.04		0.07
v/c Ratio	2.08	1.05		2.86	0.21	0.18	1.48	0.33
Uniform Delay, d1	56.3	56.3		34.8	5.6	46.1	55.8	47.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	489.1	64.5		845.9	0.2	2.4	222.8	2.7
Delay (s)	545.3	120.7		880.7	5.8	48.5	278.5	50.3
Level of Service	F	F		F	A	D	F	D
Approach Delay (s/veh)	408.8				511.1		199.6	
Approach LOS	F				F		F	
Intersection Summary								
HCM 2000 Control Delay (s/veh)		366.1			HCM 2000 Level of Service		F	
HCM 2000 Volume to Capacity ratio		2.37						
Actuated Cycle Length (s)		140.0			Sum of lost time (s)		13.5	
Intersection Capacity Utilization		97.0%			ICU Level of Service		F	
Analysis Period (min)		15						
c Critical Lane Group								

HCM 7th TWSC
4: Driveway #1 & US Highway 79

05/09/2024

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↗↗	↗
Traffic Vol, veh/h	0	228	0	0	906	312
Future Vol, veh/h	0	228	0	0	906	312
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	400
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	248	0	0	985	339
Major/Minor	Minor2		Major2			
Conflicting Flow All	-	492	-	-	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	522	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	522	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		SB			
HCM Control Delay, s/v17.97			0			
HCM LOS	C					
Minor Lane/Major Mvmt	EBLn1	SBT	SBR			
Capacity (veh/h)	522	-	-			
HCM Lane V/C Ratio	0.475	-	-			
HCM Control Delay (s/veh)	18	-	-			
HCM Lane LOS	C	-	-			
HCM 95th %tile Q(veh)	2.5	-	-			

HCM 7th TWSC
5: FM 973 & Driveway #2

05/09/2024

Intersection						
Int Delay, s/veh	61.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	85	1037	432	217	311	43
Future Vol, veh/h	85	1037	432	217	311	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	400	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	92	1127	470	236	338	47
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	705	0	-	0	1782	470
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	1312	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	893	-	-	-	~ 90	594
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	~ 252	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	893	-	-	-	~ 81	594
Mov Cap-2 Maneuver	-	-	-	-	~ 189	-
Stage 1	-	-	-	-	564	-
Stage 2	-	-	-	-	~ 252	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0.72	0		\$ 368.15		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	893	-	-	-	189	594
HCM Lane V/C Ratio	0.104	-	-	-	1.788	0.079
HCM Control Delay (s/veh)	9.5	-	-	-	\$ 417.4	11.6
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.3	-	-	-	23.9	0.3
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 7th TWSC
6: FM 973 & Driveway #3

05/09/2024

Intersection						
Int Delay, s/veh	5.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	225	1035	467	8	87	177
Future Vol, veh/h	225	1035	467	8	87	177
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	500	-	-	400	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	245	1125	508	9	95	192
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	516	0	-	0	2122	508
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	1614	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1049	-	-	-	~ 55	565
Stage 1	-	-	-	-	604	-
Stage 2	-	-	-	-	179	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1049	-	-	-	~ 42	565
Mov Cap-2 Maneuver	-	-	-	-	133	-
Stage 1	-	-	-	-	464	-
Stage 2	-	-	-	-	179	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	1.69	0		36.42		
HCM LOS	E					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1049	-	-	-	133	565
HCM Lane V/C Ratio	0.233	-	-	-	0.712	0.34
HCM Control Delay (s/veh)	9.5	-	-	-	80.8	14.6
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.9	-	-	-	4	1.5
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

APPENDIX D – BACKGROUND TIAS

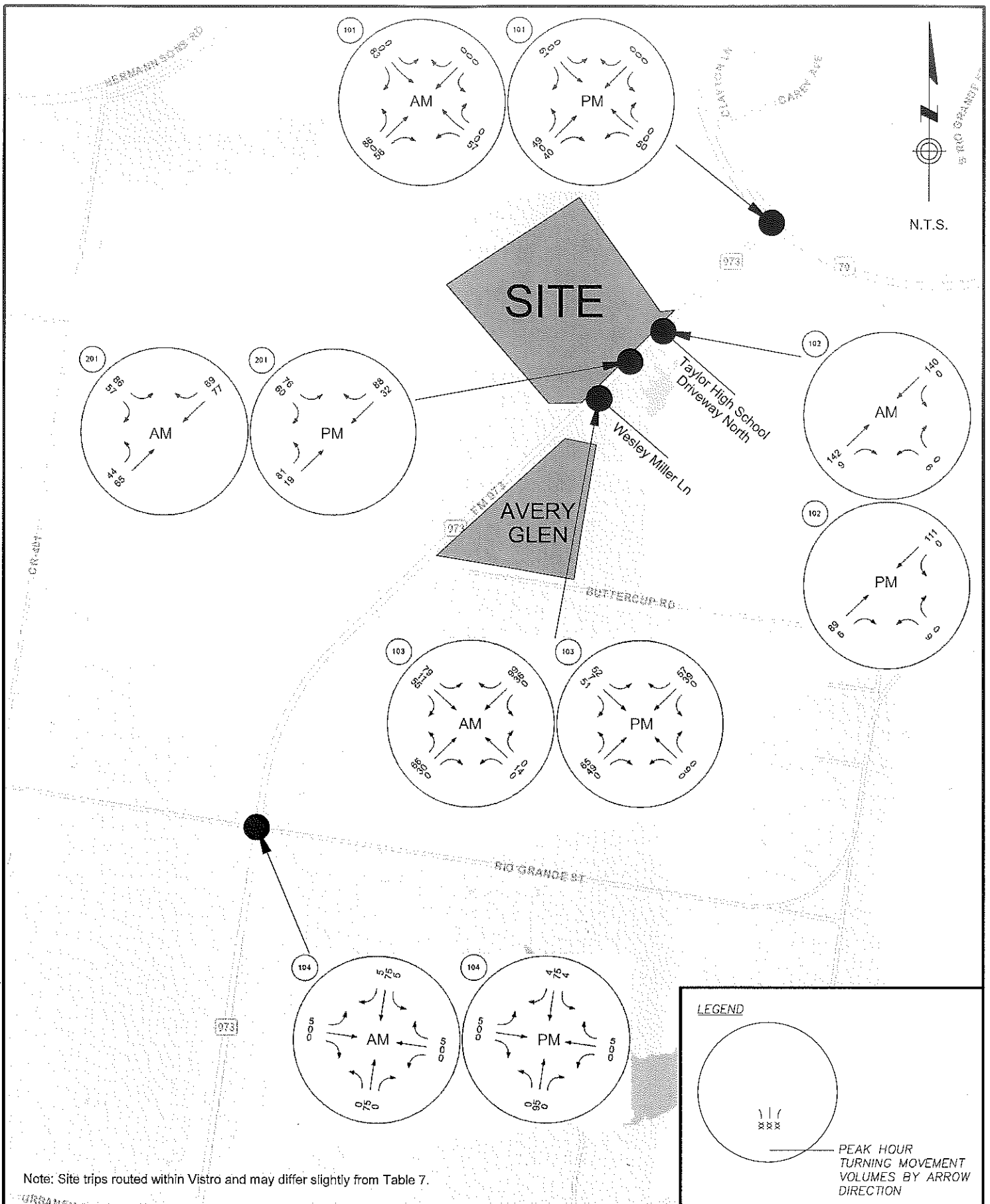


Figure 7: AM/PM Site Traffic (2024)

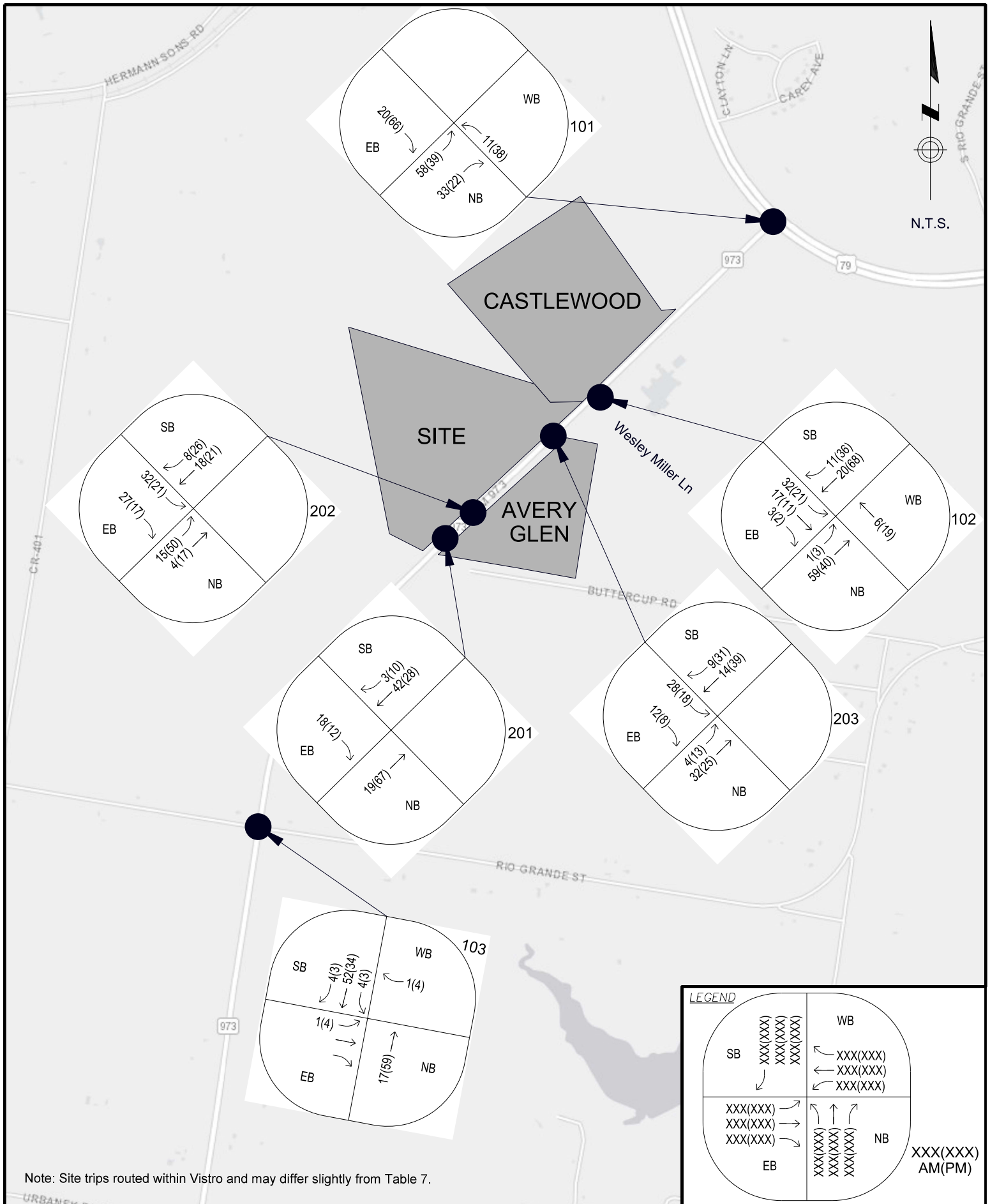
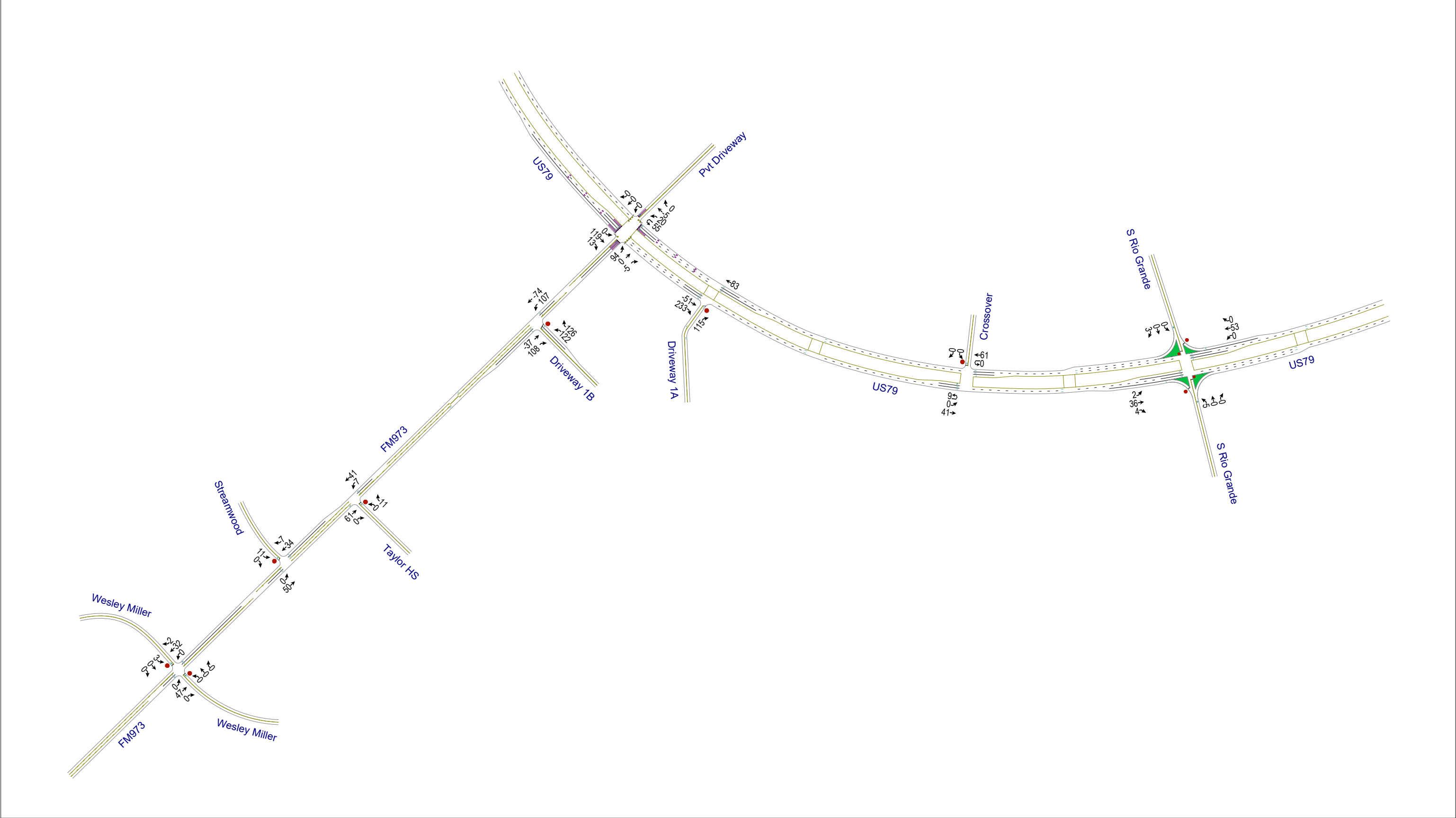
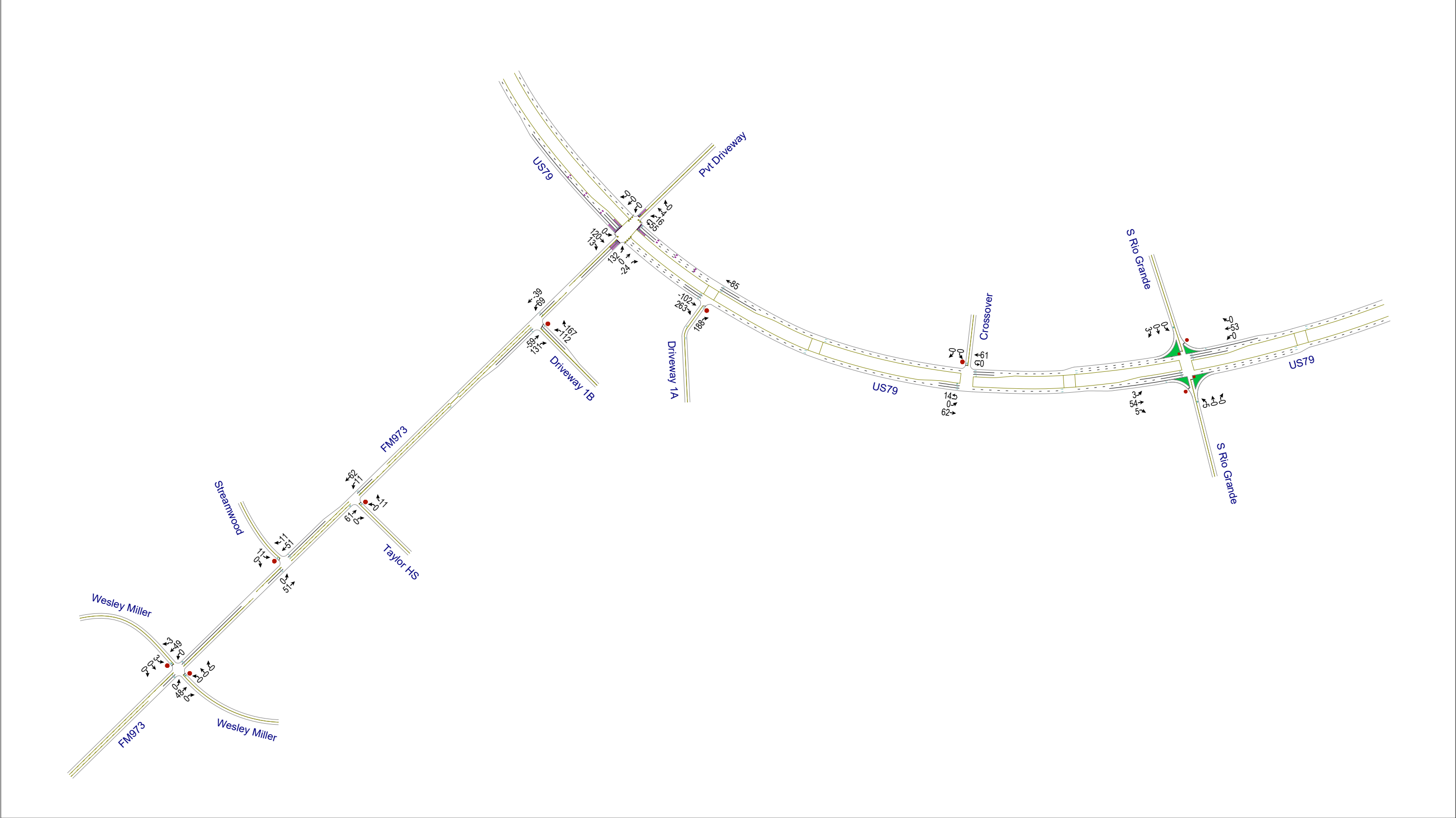


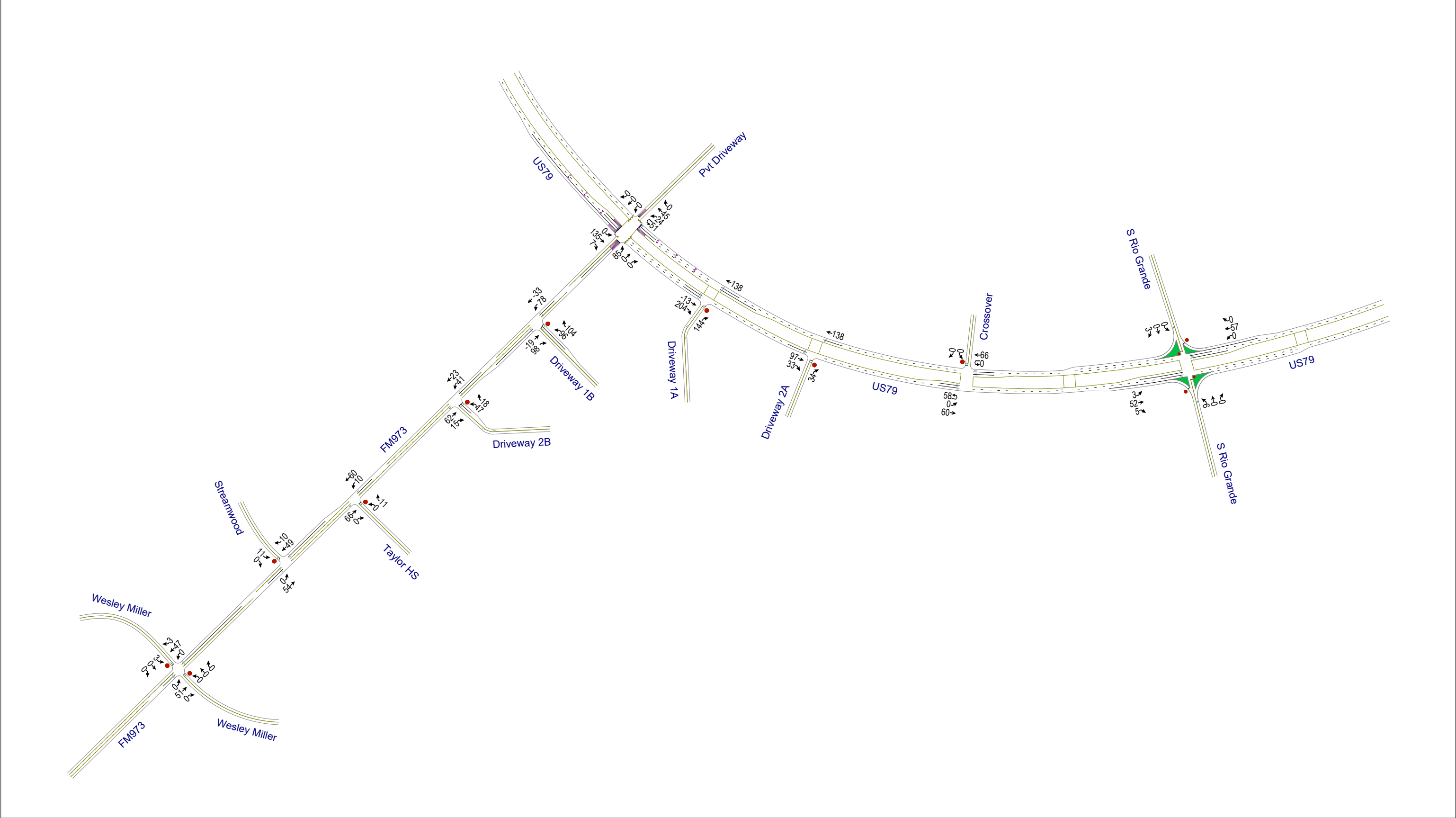
Figure 6: AM/PM Site Traffic (2024)



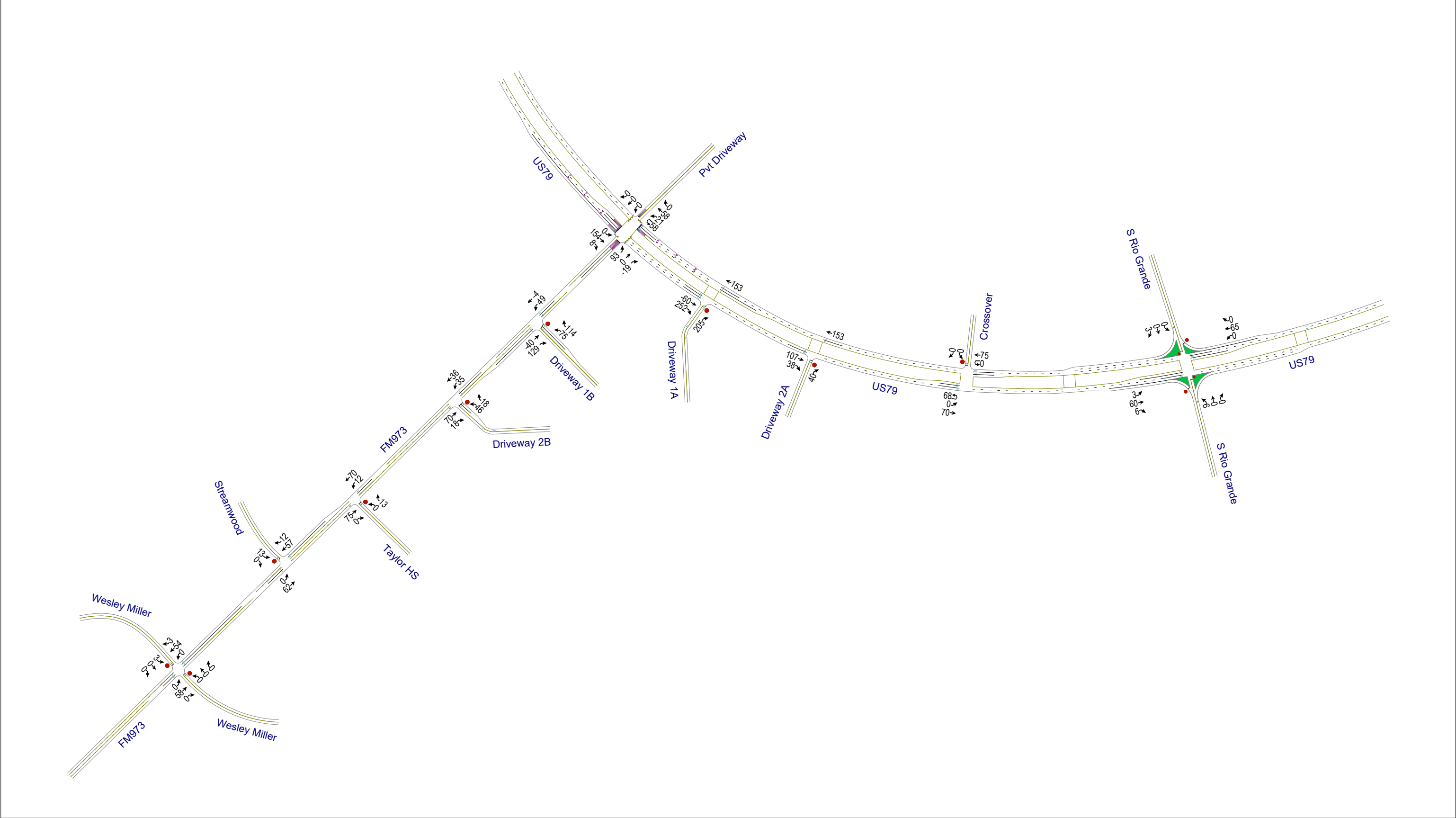
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APPENDIX E - SCOPING MEETING MATERIAL



TRANSPORTATION ASSESSMENT SCOPE AND STUDY AREA

Project Name: **QuikTrip No. 4192** Date: **February 1, 2024**
Location: **Southwest Corner of US Highway 79 and FM 973, Taylor, Texas**
Owner's Engineer: **John Hernandez, P.E.** Phone: **(210)-341-6200**

General: The TIA associated with this scope shall be prepared in accordance with the TxDOT, City of Taylor, and Williamson County TIA guidelines (latest edition). This scope is valid for 1 year from the date indicated. If the TIA is not submitted within 1 year from the date indicated, the TIA will need to be rescoped.

Instructions: Sections I and II of the scope must be signed by all parties prior to formal submittal of a Transportation Assessment (TA). You may receive sign off of both sections concurrently or separately.

I. Data Collection

1. Background Information

- Proposed daily trip generation estimate for the proposed development.
- Location/Study area map that specifies major roadways and intersections within study area.
- The following adopted plans and public infrastructure improvement projects apply to this site:
 - TxDOT, City of Taylor, and Williamson County 2045 Transportation Blueprint**

2. Analysis Phases/Years:

- Existing Conditions**
- Phase I (2025) – 5,312 Sq. Ft. Convenience Store / Gas Station with 14 Fueling Positions**
- Phase II (2027) – Remainder of 39 Acres (Mixed Use Development)**

- Intersections Level of Service: A.M. and P.M. peak hour analysis** must be performed for the following intersections, showing (a) existing traffic conditions and (b) projected traffic conditions, identifying site, non-site, and total traffic:

- US Highway 79 and FM 973**
- FM 973 and Wesley Miller Lane**
- FM 973 and High School Driveway**
- All site driveways (see attached concept plan)**

Notes: Existing signal timings shall be used for the intersection unless alternative timing proposals are approved by the TxDOT, City of Taylor, and Williamson County Transportation Department or TxDOT.

Analysis for each phase/year shall include:

- Level of Service by movements

- b. Delay by movements
- c. Volume to Capacity Ratio by movements
- d. Queueing analysis with 95% queue length by movements, vs existing storage bay and/or distance from adjacent intersection(s)

4. Signal Warrant Analysis: A Signal Warrant analysis (existing, No-Build and Build) shall be performed for the following study area intersections showing 12 hrs of data including peak hrs (Please note Austin District Traffic requires ½ mile spacing between any proposed to existing signals) :

a. FM 973 & Development Driveways (if needed)

5. Sight Distance Analysis

- a. When proposed mitigation recommends a new traffic signal be installed, an analysis of the intersection's actual sight distance and stopping sight distance to vehicles stopped in queue (back of queue) should be included. The stopping sight distance analysis for the back of queue must show that the back of queue to stop bar is continuously visible to the approaching vehicle.
- b. New Intersections or driveways must provide an analysis of the intersection's actual sight distance on all approaches to the required stopping sight distance.

6. Turn Lane Analysis

Turn lane analysis must be performed at all site driveways/roadways to determine if left or right turn lanes are needed to enter the site.

7. School Specific Traffic Assessment: N/A

- a. On-site queuing analysis
- b. Development of a safe route to school program
- c. Documentation that sufficient parking is available for Staff and Students who will be driving to school.

8. Other Considerations:

- a. Counts are to be taken when public schools are in session. If counts are taken while schools **(Taylor High School in the area)** are not in session, mathematically determined adjustment factors may be used based on historic nearby traffic counts or as otherwise approved by TXDOT.
- b. Ensure automated traffic data captures demand. Manual observations or a multiple period analysis may be necessary.
- c. Capture and report data to calibrate model for existing operational analysis (i.e. queue length and approach/movement delay recommended) and discuss and illustrate model calibration (i.e. queue length and approach/movement delay recommended).
- d. Methodology for capacity and level of service shall be Highway Capacity Manual, latest edition.
- e. The analysis shall be performed using intersection peak hour volumes.

II. Study Assumptions

1. Data Assumptions The following assumptions must be included in the analysis. Any change in these assumptions must be approved by the transportation reviewer(s) prior to submittal of the TA.

- a. Background Traffic – The average annual growth rate shall be calculated using available sources as near as possible to the study area Intersections/Roadways and shall be documented in the report and shall be calculated using the following standard formula and back solved to growth rate:
 - i. “Newest reported volume = Old reported volume * (1+Growth rate) ^ number of years in between the two volumes”
 - ii. The roadway used for computing growth rate should be of the same class of roadway as the development’s location and be as close as possible to the development.
- b. Background Project: Background projects shall include:

Project Name	Case Number
Castlewood	An Open Records Request will be made
Castlewood South	www.txdot.gov , type Open Records
Taylor Gateway	Request in search field to go to form.

- c. Internal Trips/Transit Trips/Walking/Biking:

Mixed-Use Internal Capture Rates from ITE Trip Generation Handbook
 - d. Pass-by trip reductions: **76% during the AM peak hour and 75% during the PM peak hour per the ITE Trip Generation Handbook. Pass-by trips applied to major highway.**
- 2. Trip Distribution: Site Trips shall be distributed for each proposed land use and any connecting property.**
- a. Existing Trips and Forecasted Trips to be determined **based on existing and historical data.**
 - b. Site Trips to be suggested based on proposed type of land use and an end user’s likely path given site location in relation to other generators and/or attractors.

III. Submittal Requirements

1. The cover sheet of the TIA must include the Williamson County MyPermitNow permit number, City of Taylor Single Office Number (if applicable), City of Taylor permit number, and the owner’s name and contact information (e-mail and phone number).
2. Submit to the City of Taylor electronically, by the City’s approved method, the items specified below.
3. Submit to TXDOT electronically by using TxDOT’s box.com site for your firm. (Your firm will be sent an invite, if one does not exist yet). The electronic submission (Austin District and Toll Division) must include the items specified below.
4. Traffic modeling requirements:
 - a. All timing sheets obtained from various sources (City of Taylor, TXDOT, Williamson County, etc.) are to be included in the Appendix of the TIA.
 - b. Submit electronically the following: PDF of the TIA, Synchro Network for all conditions analyzed and background DXF or aerial format. Synchro files must be in real world coordinates, Excel spreadsheets with, overall trip generation, internal and pass-by trip capture rates if applicable, site trip distribution & assignment within roadway network and site driveways.

- c. All intersections must be modeled in one Synchro (latest edition) network (including unsignalized intersections).
- d. Synchro printouts and analysis must be performed for the following scenarios and must be included in the appendix of the report in the following format:
 - Existing conditions (am + pm on one sheet),
 - Six (6) future conditions (for all years/phases identified in section I of this scope):
 - o (AM No-Build, AM Build, AM Build + Mitigation)
 - o (PM No-Build, PM Build, PM Build + Mitigation)
- e. Intersection LOS by movements, Delay by movements, v/c by movements, and 95% queue length by movements in a tabular format (on 11"x17" sheets only) for different scenarios noted.

5. Maps/Plans/Exhibits

- a. A proposed Site Plan.
- b. A CAD or GIS file for the Development.
- c. A map/plan showing all roadways and driveways analyzed (labeled and dimensioned).
- d. Exhibits of all intersections with roadway improvements (dimensioned), including above ground utilities called out.
- e. Other Maps/Plans/Exhibits identified elsewhere in this scope or identified in the TxDOT, City of Taylor, and Williamson County TIA Guidelines.
- f. Autoturn templates for size of warehouse truck ingress/egress at each driveway and truck turning radii for size of truck on site plan.

Any change in the assumptions provided for preparation of this scope may require a change in the scope. If the analysis or traffic volumes provided in the report indicate impacts to intersections or roadways that are not included in this scope, additional analysis may be required. For more detailed guidelines on preparation of the TIA, please see the TxDOT, City of Taylor, and Williamson County TIA Guidelines (latest edition) or contact the undersigned.

Prepared by: Scott R. Cunningham, P.E. Phone: (512) 832 – 7188
Scott Cunningham, P.E. Email: Scott.Cunningham@TxDOT.gov

The Owner's Engineer and the Applicant confirm that all the documents, reports and files will be prepared in accordance with the submittal requirements of this TIA Scope and the TxDOT, City of Taylor, and Williamson County TIA guidelines (latest edition). The Owner's Engineer and the Applicant confirm that comments received will not be cleared based on phone calls, e-mails or meetings. Formal updates must be submitted in order to receive clearance of issued comments.

Agreed to by: John Hernandez, P.E. Phone: (210)-341-6200
John Hernandez, P.E. Email: johnh@cha-eng.com

City of Taylor
PZ-2024-2105
Gateway Tract Preliminary Plat
Staff Report

Item Details

Agenda No.:	6
Requested Action:	Consider Disapproval of Gateway Tract Preliminary Plat
Address/Location:	505 Carlos G. Parker SW
Legal Description:	38.09-acre tract of land part of and out of the George M. Reese Survey, Abstract No. 533, Taylor, Williamson County, Texas
Current Zoning:	P5 – Urban Center with a PD Overlay
Current Use:	Vacant
Applicant:	John Pickens, Kimley Horn
Case History:	This is the second submission of the Preliminary Plat
Staff Recommendation:	The submitted Plat does not meet the minimum requirements of the Subdivision Ordinance and Engineering Manual. Therefore, staff recommends disapproval of the proposed Preliminary Plat

Attachments

1. Staff Comments
2. Location Map
3. Proposed Plat



City of Taylor

400 Porter Street
Taylor, TX 76574
(512) 352-3675
www.ci.taylor.tx.us

John Pickens
Kimley Horn

Date: Tuesday, August 6, 2024

john.pickens@kimley-horn.com

Address: 505 SW Carlos G. Parker Blvd., Taylor 76574

Permit Number PZ-2024-2105

Dear John Pickens,

Staff has completed its review of plans for the MWA - Gateway Tract Preliminary Plat that is to be located at 505 SW Carlos G. Parker Blvd., Taylor 76574. There are some corrections that need to be made prior to recordation of the plat. Comments from this review follow.

Planning Department Comments

The following comments have been provided by Shai Roos. Should you have any questions or require additional information regarding any of these comments, please contact Shai Roos at (972) 960-4077 or by email at shai.roos@hdrinc.com.

**See Associated Documents section to download a PDF(s) containing the following planning comments:*

- Page 1, 2, and 3 - Remove Project No. PZ-2024-2105 from the plat description/heading and locate to bottom right hand corner of every page.*
- Page 1 - Add correct address - 505 SW Carlos G. Parker Blvd.*
- Page 1 - Update submission date.*
- Page 2 - Show boundaries of adjacent properties in gray, dashed lines.*
- Page 2 - Remove proposed uses from all the lots on the plat. Note - during SDP process Block F Lot 2 will need to be shown as civic space.*
- Page 2 - Block E numbering is missing Lot 14, relabel the Block and Lots to be consecutive numbering.*
- Page 2 - Label all pedestrian access lots on the plat.*
- Page 2 - Show the easement through the property correctly - the easement lines need to close.*
- Page 2 - Separate the roadway easement to be vacated from the UE that will remain next to Block J Lot 1.*
- Page 2 - Use different symbology for contours versus easements.*
- Page 2 - The verbiage for "To Be Vacated by City of Taylor" should be "Vacated per this plat."*
- Page 2 - Use different symbology to show contours versus easements.*
- Page 2 - Provide a Lot and Block Table. Provide square footage of each lot.*

Urban Design Review

1. MWA denied second submission. See PDF document for specific urban design comments.

Engineering Department Review

The following comments have been provided by Javier Vasquez. Should you have any questions or require additional information regarding any of these comments, please contact Javier Vasquez at (713) 576-3691 or by email at javier.vasquez@hdrinc.com.

[*See Associated Documents section to download a PDF\(s\) containing the following engineering comments:](#)

Preliminary Plat - Engineering Review 02

Sheet 1 of 3

1. Use classifications taken from the Engineering Manual (Section 2)
2. In response to response provided, this is a summary of the site. A separate table is to be provided enumerating each of the lots within blocks and including the square footage/acreage of each.

Sheet 2 of 3

1. Verify and update: Deere Street - 45' per PD
2. Verify and update: Wilmut Street - 53' per PD
3. Verify and update designation per PD for Blocks D, F, & G(e.g. thoroughfare required here as a "Way".
4. Verify and update Lot 2 Block A to distinguish Civic Space and Alley. Dimension alley accordingly on plat.
5. Verify and notate location of all privately dedicated Fire Alleys per PD.
6. Denote Blocks for areas/large lots that do not have it shown. (Typical)
7. Provide lot and block tables that also include square footage/acreage for each lot
8. Provide a reserves/spaces table that notate all applicable spaces and use. Table shall also include square footage/acreage for each.
9. Notate Civic Space shown near Block E
10. Verify location near Lamarr Street matches PD requirements (Pocket Park)
11. Notate location of sidewalk in civic spaces
12. Civic space to be provided where lot 2 Block F is shown
13. Verify lot lines to match approved PD (Typical)
14. Verify Wozniac St. curves shown
15. Verify lot 12, Block I. Shown as civic space.
16. Verify lots 26 & 27, Block G. Shown as civic space.
17. Do not show tree information on plat drawing (typical)
18. Verify and update Fremi Street termination point to match PD.
19. Notate and dimension perimeter easements shown along FM 973 and Carlos G. Parker. Update line color to be black dashed line to have them dedicated with plat
20. Provide a corner tie to the original survey (abstract) that the subdivision was a part of
21. Include a legend on the plat to provide reference to all graphics, abbreviations, linetypes, etc.
22. Lot 1 Block J is not noted as a Civic Space in the PD. This should be a Drainage Easement.
23. Show location of existing floodplain within or adjacent to subdivision.
24. It is noted that per current GIS, Taylor Floodplain is present within the subdivision. Dedication of all floodplain areas and lots with minimum finished floor elevations shall be determined on the final plat
25. Lot 2 Block C - A path (PT-V-5) is shown in this location on the PD.

Sheet 3 of 3

1. Verify field notes matches the courses shown on the plat drawing. (Typical)
2. Show the point of beginning on the plat drawing

Utility Schematic - Engineering Review 02

1. Coordination to be made to verify water and wastewater locations and sizing.
2. Water and wastewater line locations within ROW to be updated per ROW assignments shown in roadway types (Taylor Engineering Manual Chapter 2). This is schematic only and is understood that the subdivision improvement plans will detail designed locations.

Traffic Impact Analysis - Engineering Review 03

1. A TIA Review Response Memo has been provided with comments requiring updated TIA information and responses. Please see the Associated Documents to download a copy. A copy will also be coordinated with the engineer that completed the TIA Report.

Drainage Impact Analysis and Modeling

1. Please provide a copy of the Drainage Impact Analysis and Modeling with the next plat submittal.

Fire Department Comments (PZ)

The following comments have been provided by Bobby Copeland. Should you have any questions or require additional information regarding any of these comments, please contact Bobby Copeland at (512) 352-6992 or by email at robert.copeland@taylor.tx.gov.

Reviewed the submitted plans and the previous comments have been addressed.

The final location of the fire hydrants will be reviewed during the site plan phase.

Please revise the plat to address the comments noted above. Following revision, submit the plat electronically with a resolution letter in PDF format.

Should you have questions regarding specific comments, please contact the staff member referenced under the section in which the comment occurs. Should you have questions or require additional information regarding the plan review process itself, please feel free to contact me directly. I can be reached by telephone at (512) 309-6268, or by e-mail at courtney.peres@taylor.tx.gov.

Thank you,

Courtney Peres

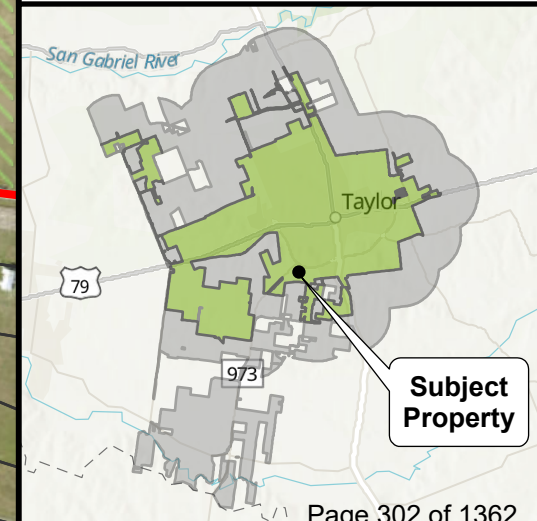
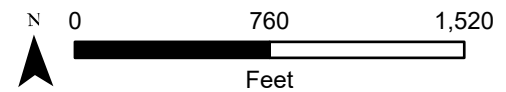
Attachment



PZ-2024-2105

505 SW Carlos G Parker Blvd.
Preliminary Subdivision Plat
Location Map
Approximately 38.1 acres

- City Limits
- ETJ Boundary
- Parcels
- Subject Property



GATEWAY TRACT SUBDIVISION PRELIMINARY PLAT

CITY OF TAYLOR PROJECT NUMBER (PZ-2024-2105)

BEING A PRELIMINARY PLAT CONSISTING OF
38.09 ACRES, PART OF AND OUT OF THE
GEORGE M. REESE SURVEY, ABSTRACT NO.
533, TAYLOR, WILLIAMSON COUNTY, TEXAS

ADDRESS:
FM 973 TAYLOR, TEXAS 76574

SITE SUMMARY:

- SURVEY:
1. TOTAL ACRES: 38.09
2. RETAIL/RESTAURANT: 3 LOTS - 2.97 ACRES
GAS STATION/CONVENIENCE STORE: 2 LOTS - 1.09 ACRES
HOTEL: 2 LOTS - 4.31 ACRES
TOWNHOUSE: 30 LOTS - 1.90 ACRES
MULTI-FAMILY/RESTAURANT/RESIDENTIAL: 2 LOTS - 1.49 ACRES
MULTI-FAMILY: 34 LOTS - 4.13 ACRES
LIVE-WORK RESIDENTIAL: 29 LOTS - 1.88 ACRES
LIVE-WORK COMMERCIAL: 14 LOTS - 0.61 ACRES
PRIVATE ALLEY: 2 LOTS - 0.54 ACRES
PRIVATE ALLEY WITH PARKING: 3 LOTS - 0.64 ACRES
PEDESTRIAN ACCESS: 2 LOTS - 0.05 ACRES
CIVIC SPACE: 10 LOTS - 2.36 ACRES
CIVIC SPACE & DRAINAGE EASEMENT: 3 LOTS - 3.65 ACRES
CIVIC SPACE & PRIVATE ALLEY: 1 LOTS - .63 ACRES
TOTAL NUMBER OF LOTS: 137 LOTS - 30.25 ACRES
3. PROPOSED RIGHT-OF-WAY AREA: 7.84 ACRES
4. THIS TRACT IS LOCATED ENTIRELY IN THE CITY OF TAYLOR

OWNER/ DEVELOPER:
GATEWAY OZ REAL ESTATE LP,
76 RENFIELD DRIVE
PRINCETON, NEW JERSEY 08540
PHONE: (201) 655-2831
CONTACT: PHILIP GHERARDINI
EMAIL: SERVICES@EVOLVE-REALESTATE.COM

ENGINEER:
KIMLEY-HORN AND ASSOCIATES, INC.
10814 JOLLYVILLE ROAD, CAMPUS IV, SUITE 200
AUSTIN, TEXAS 78759
TBPE FIRM REGISTRATION NO. F-928
PHONE: (512) 720-5466
CONTACT: JOHN PICKENS, P.E.
EMAIL: JOHN.PICKENS@KIMLEY-HORN.COM

SURVEYOR:
KIMLEY-HORN AND ASSOCIATES, INC.
MICHAEL A MONTGOMERY II
10814 JOLLYVILLE ROAD
CAMPUS IV, SUITE 200
AUSTIN, TEXAS 78759
PH. (512) 418-1771
MIKE.MONTGOMERY@KIMLEY-HORN.COM

STREET SUMMARY TABLE:				
STREET NAME	LENGTH	DESIGN SPEED	ROW WIDTH	PUD THOROUGHFARE PLAN CLASSIFICATION
WOZNIAC STREET	670 LF	25 MPH	60 FEET	(CS-60-36)
TURING STREET	1260 LF	25 MPH	60 FEET	(CS-60-36)
FREMI STREET	333 LF	25 MPH	60 FEET	(CS-60-36)
CURIE STREET	301 LF	25 MPH	52 FEET	(CS-52-28)
HOPPER STREET	832 LF	25 MPH	60 FEET	(ST-60-34)
CARMAK STREET	506 LF	25 MPH	60 FEET	(ST-60-34)
GODDARD STREET	467 LF	25 MPH	53 FEET	(ST-53-27)
DEERE STREET	507 LF	25 MPH	45 FEET	(ST-45-19)
LAMARR STREET	830 LF	25 MPH	60 FEET	(ST-60-34)
WILMUT STREET	341 LF	25 MPH	53 FEET	(ST-53-27)

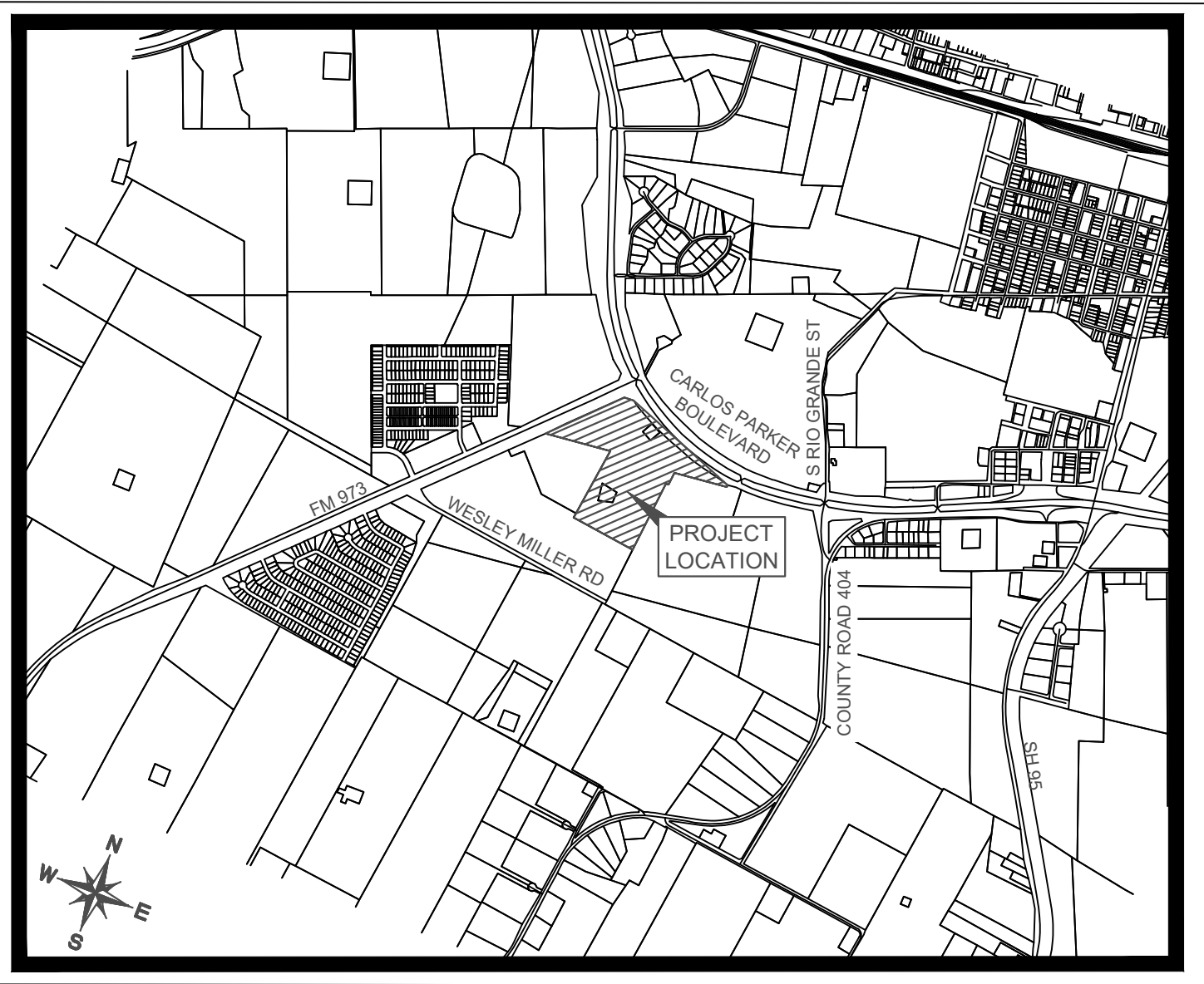
NOTES:

- UTILITY PROVIDERS - WATER THE CITY OF TAYLOR. WASTEWATER - THE CITY OF TAYLOR. ELECTRICITY - ONCOR.
- ALL STRUCTURES AND/OR OBSTRUCTIONS ARE PROHIBITED IN DRAINAGE AREAS/RESERVES.
- THERE ARE NO AREAS WITHIN THE BOUNDARIES OF THIS SITE IN THE 100-YEAR FLOODPLAIN AD DEFINED BY FIRM MAP NO. 48491C0541F EFFECTIVE DATE OF DECEMBER 20, 2019.
- MINIMUM FIRE FLOW OF 500 GALLONS PER MINUTE FOR NOT LESS THAN TWO (2) HOURS SHALL BE APPROVED.
- GATEWAY TRACT SUBDIVISION PRELIMINARY PLAT TO BE IN CONFORMANCE WITH THE PLANNED DEVELOPMENT ORDINANCE 2023-34.
- ALL CIVIC SPACE RESERVES SHALL BE OWNED AND MAINTAINED BY THE PROPERTY OWNERS ASSOCIATION.
- ALL CIVIC SPACE RESERVES SHALL HAVE A PUBLIC ACCESS EASEMENT TO PROVIDE ACCESS TO LOTS.
- A 10' P.U.E SHALL BE RESERVED ALONG ALL PUBLIC RIGHTS-OF-WAY.
- SIDEWALKS ARE REQUIRED PER THE PLANNED DEVELOPMENT ORDINANCE 2023-34

COORDINATES: TEXAS STATE COORDINATE SYSTEM, CENTRAL ZONE (4203)
HORIZONTAL DATUM: NAD '83
VERTICAL DATUM: NAD '88

For Review:

This document is released for the purpose of review under the authority of John Pickens,
Professional Engineer No. 110631 on 07/19/2024. It is not to be used for bidding, permit
or construction.



VICINITY MAP

SCALE: 1" = 2,000'

SHEET INDEX

SHEET NO.	DESCRIPTION
1	OVERVIEW, VICINITY MAP, NOTES, SUMMARY
2	PLAT, LOT AREAS, LINE TABLES, CURVE TABLES
3	DEDICATION SHEET

BENCHMARKS

BENCHMARK:
NGS NO. BM0359 ELEV.: 554.10'
BENCHMARK IS A BRASS DISK STAMPED "E 196 1933" LOCATED 1.1 MILES FROM TAYLOR, BEING 1.1 MILES SOUTH OF AND ALONG N.I.C.T. RAILROAD 145 YARDS SOUTH OF MILE POST 500.70 YARDS SOUTH OF ROAD CROSSING ON THE SOUTHWEST END OF A CONCRETE RAILROAD CULVERT.
SITE BENCHMARK:
5/8 I.R. ELEV.: 601.68'
BENCHMARK IS A 5/8 INCH IRON ROD WITH CAP SET, LOCATED NORTH 63°58'55" WEST, A DISTANCE OF 11.34 FEET FROM A UTILITY POWER POLE. BENCHMARK CAN BE FOUND WITH THE FOLLOWING COORDINATES: N:10,175,573.072, E:3,211,584.120

**GATEWAY TRACT
PRELIMINARY PLAT**
A SUBDIVISION OF 38.09 ACRES IN THE
CITY OF TAYLOR,
WILLIAMSON COUNTY, TEXAS
SUBMITTAL DATE: 4/5/2024

Kimley»Horn

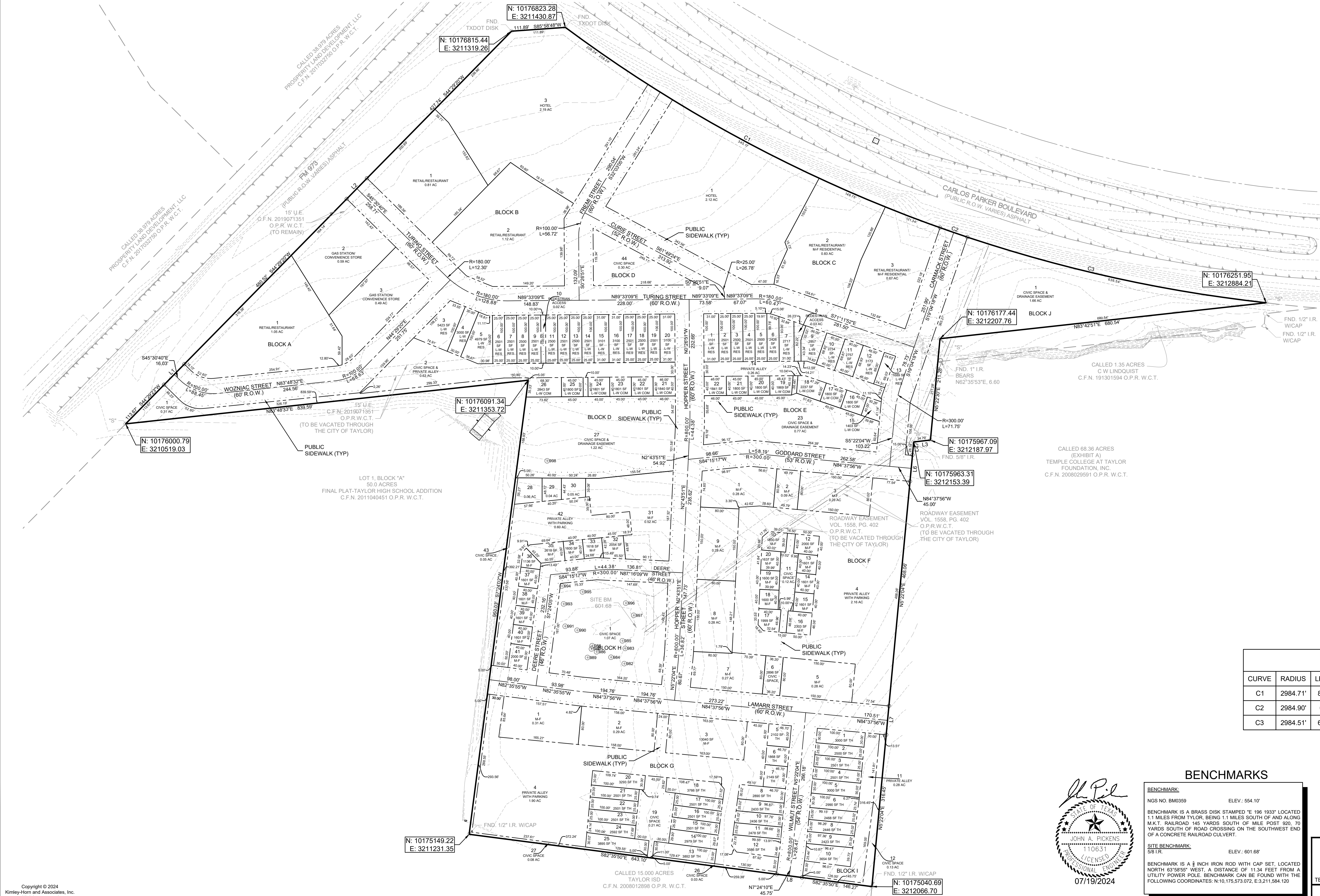
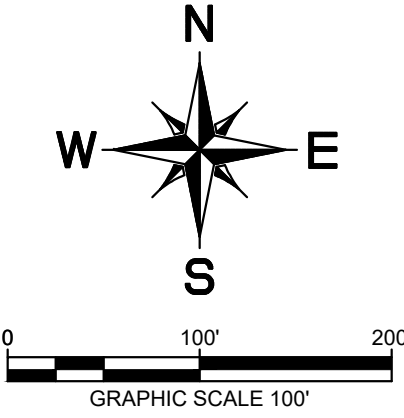
TEXAS REGISTERED ENGINEERING FIRM F-928

Scale	Drawn by	Checked by	Date	KHA Project No.	Sheet No.
	AJM	JAP	MARCH 2024	069405306	1 OF 3

City Project Number: PZ-2024-2105

GATEWAY TRACT SUBDIVISION PRELIMINARY PLAT
CITY OF TAYLOR PROJECT NUMBER (PZ-2024-2105)

BEING A PRELIMINARY PLAT CONSISTING OF 38.09 ACRES, PART OF AND OUT OF THE GEORGE M. REESE SURVEY, ABSTRACT NO. 533,
TAYLOR, WILLIAMSON COUNTY, TEXAS

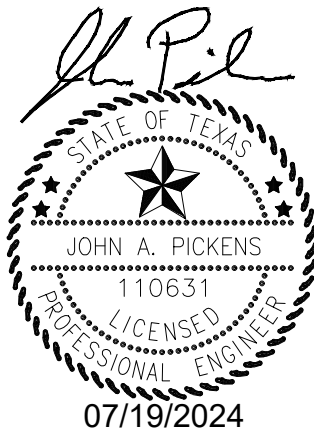


LINE TABLE		
LINE	LENGTH	BEARING
L1	60.00	S44°29'12.81"W
L2	60.00	S44°29'19.65"W
L3	34.79	N83°46'14.00"E
L4	27.09	N5°21'59.59"E
L6	55.09	N5°22'05.47"E
L7	60.00	N5°22'03.53"E
L8	53.00	S82°35'50.35"E

CURVE TABLE					
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA
C1	2984.71'	884.45'	N61°51'52"W	881.22'	16°58'42"
C2	2984.90'	60.00'	N70°55'42"W	60.00'	1°09'06"
C3	2984.51'	635.54'	N77°36'12"W	634.34'	12°12'03"

BENCHMARKS

BENCHMARK:
NGS NO. BM0359 ELEV.: 554.10'
BENCHMARK IS A BRASS DISK STAMPED "E 196 1933" LOCATED 1.1 MILES FROM TAYLOR, BEING 1.1 MILES SOUTH OF AND ALONG M.K.T. RAILROAD 145 YARDS SOUTH OF MILE POST 920, 70 YARDS SOUTH OF ROAD CROSSING ON THE SOUTHWEST END OF A CONCRETE RAILROAD CULVERT.
SITE BENCHMARK:
516 I.R. ELEV.: 601.68'
BENCHMARK IS A 1/2" IRON ROD WITH CAP SET, LOCATED NORTH 83°58'55" WEST, A DISTANCE OF 11.34 FEET FROM A UTILITY POWER POLE. BENCHMARK CAN BE FOUND WITH THE FOLLOWING COORDINATES: N:10,175,573.072; E:3,211,584.120



**GATEWAY TRACT
PRELIMINARY PLAT**
A SUBDIVISION OF 38.09 ACRES IN THE
CITY OF TAYLOR,
WILLIAMSON COUNTY, TEXAS
SUBMITTAL DATE: 4/5/2024



Scale	Drawn by	Checked by	Date	KHA Project No.	Sheet No.
	AJM	JAP	MARCH 2024	069405306	2 OF 3

GATEWAY TRACT SUBDIVISION PRELIMINARY PLAT
CITY OF TAYLOR PROJECT NUMBER (PZ-2024-2105)

BEING A PRELIMINARY PLAT CONSISTING OF 38.09 ACRES, PART OF AND OUT OF THE GEORGE M. REESE SURVEY, ABSTRACT NO. 533,
TAYLOR, WILLIAMSON COUNTY, TEXAS

OWNER'S DEDICATION STATEMENT

STATE OF TEXAS §
COUNTY OF WILLIAMSON §

THAT GATEWAY OZ REAL ESTATE, LP SOLE OWNER OF THAT CERTAIN 38.09 ACRE TRACT OF LAND SHOWN HEREON AND DESCRIBED IN DEEDS RECORDED IN DOCUMENT NO. 2021150771, BOTH OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, AND DO HEREBY STATE THAT THERE ARE LIEN HOLDERS ON THAT CERTAIN TRACT OF LAND, AND DO HEREBY SUBDIVIDE SAID TRACT AS SHOWN HEREON, AND DO HEREBY CONSENT TO ALL PLAT NOTE REQUIREMENTS SHOWN HEREON, AND DO HEREBY DEDICATE TO THE CITY OF TAYLOR THE STREETS, ALLEYS, RIGHT-OF-WAY, EASEMENTS AND PUBLIC PLACES SHOWN HEREON FOR SUCH PUBLIC PURPOSES AS THE CITY OF TAYLOR MAY DEEM APPROPRIATE. THIS SUBDIVISION IS TO BE KNOWN AS "GATEWAY TRACT".

TO CERTIFY WHICH, WITNESS BY MY HAND THIS _____ day of _____, 2024.

SANTOSH ENUKONDA
GATEWAY OZ REAL ESTATE, LP
76 RENFIELD DRIVE
PRINCETON, NJ 08540

STATE OF TEXAS §
COUNTY OF _____ §

BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, ON THIS DAY PERSONALLY APPEARED AARON LEVY, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS _____ day of _____, 2024.

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

MY COMMISSION EXPIRES ON: _____

LIEN HOLDER

STATE OF TEXAS §
COUNTY OF WILLIAMSON §

I, _____ OF SIMMONS BANK, LIENHOLDER OF THAT CERTAIN 69.97 ACRES TRACT OF LAND SHOWN HEREON AND DESCRIBED IN A DEED OF TRUST RECORDED IN DOCUMENT NO. 2021150771 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, DO HEREBY CONSENT TO THE SUBDIVISION OF SAID TRACT AS SHOWN HEREON, AND DO FURTHER HEREBY JOIN, APPROVE, AND CONSENT TO ALL PLAT NOTE REQUIREMENTS SHOWN HEREON, AND DO HEREBY DEDICATE TO THE CITY OF TAYLOR THE STREETS, ALLEYS, RIGHTS-OF-WAY, EASEMENTS AND PUBLIC PLACES SHOWN HEREON FOR SUCH PUBLIC PURPOSES AS THE CITY OF TAYLOR MAY DEEM APPROPRIATE. THIS SUBDIVISION IS TO BE KNOWN AS "GATEWAY TRACT".

TO CERTIFY WHICH, WITNESS BY MY HAND THIS _____ day of _____, 2024.

SIMMONS BANK
14951 AVERY RANCH BOULEVARD
AUSTIN, TEXAS 78717

STATE OF TEXAS §
COUNTY OF _____ §

BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, ON THIS DAY PERSONALLY APPEARED AARON LEVY, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS _____ day of _____, 2024.

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

MY COMMISSION EXPIRES ON: _____

FIELD NOTE DESCRIPTION

These notes describe a certain "69.993 Acre" tract of land situated in the M. DENTLER SURVEY, A-211, the GEORGE M. REESE SURVEY, A-533 and the H. & T. B. R. R. SURVEY, A-315, all located in Williamson County, Texas; subject tract being a part of and out of a called "150 acres" (same and except "12.91 Acres" conveyed for roadway purposes) conveyed in an Executon's Deed from Rose Marie Hafernik Apel and John Fred Hafernik dated 5-27-2014 and recorded in Document No. 2011036488 of the Official Public records of Williamson County (OPRWC); being surveyed on the ground under the direct supervision of Bruce Lane Bryan, Registered Professional Land Surveyor No. 4249, on October 4, 2013; subject tract being more fully described as follows:

BEGINNING at the Northwest corner of subject tract, same being the Northwest corner said "150 Acres" and the Southwest coner of a called "89.4 Acres" as titled to Julius Charles Stelzer, III, as recorded in document No. 2008077958, Official Public Records of Williamson County (OPRWC) in the East line of a called "150 Acres" currently titled to Roland Teichelman, et al recorded in volume in 1608, page 847 of the Official Records of Williamson County (OPRWC); found a concrete marker (unrecorded, standing 36" tall) at same corner (North= 10,175.074,960 East= 3,206,736.816);

THENCE South 82°38'02" East with the common line of said "150 acres" and said "89.4 Acres" passing a 3" iron pipe (18" below surface) at the southwest corner of said "89.4 Acres", same being the Southwest corner of a called "100 Acres" currently tied to William Lynn Davis as recorded in Document No. 9838651, Official Records of Williamson County (OPRWC) at a distance of 719.48 feet, and continuing with the common line of said "150 acres" and "100 acres" an additional 1196.74 feet for total distnace of 1916.22 feet to a found concrete marker (unrecorded, strading 36" tall) at the Southeast corner of said "100 Acres" in the West line of a called "Second Tract - 60.32 Acres" currently titled the John Wesley Miller Family Trust as recorded in Document No. 2010074538, OPRWC, same being an exterior corner of subject tract;

THENCE South 82°38'02" East with the South line of "Second Tract - 60.32 Acres", a distance of 127.58 feet to a found concrete marker (unrecorded, standing 36" tall) at the Southwest corner of same, also being an interior corner of said "150 Acres" in the common survey line of aforementioned M. DENTLER SURVEY, A-211 and GEORGE M. REESE SURVEY, A-533;

THENCE South 82°33'41" East with the common line of said "150 Acres" and said "Second Tract - 60.32 Acres", also being the North line of aforementioned M. DENTLER SURVEY, A-211 and South line of the GEORGE M. REESE SURVEY, A-533, a distance of 257.09 feet to a 1/2" iron rod (capped Bryan Tech Svc) set 4" below surface at the Northeast corner of subject tract, same being in the West right-of-way line to Farm-to-Market road No. 973 at the Northeast corner of subject tract, same being in the west right-of-way line of Farm-to-Market road No. 973 at the Northwest corner of aforementioned "parcel 6-12.691 Acres"; found a 1/2" iron rod at the Southwest corner of Lot 1, Block "A" of the Taylor high School Addition to the City of Taylor as recorded as in Document No. 2011040451, OPRWC, bearing South 82°35'27" East, 250.47 feet;

THENCE South 44°27'05" West with the West right-of-way line of Farm-to-Market Road No. 973 (right-of-way width = 2000.00 feet), a distance of 2760.49 feet to the 1/2" iron rod (capped Bryan Tech Svc) set 4" below surface at the Southeast corner of subject tract, at the Southwest corner of aforementioned "Parcel 6 - 12.691 Acres", same being in the South line of said "150 Acres" and for the Northeast corner of a called "79.21 Acres" currently titled to Eugene Mundkowsky as recorded in volume 837, page 121, Williamson County Deed Records (DRWC);

THENCE North 82°26'24" West with the common line of said "150 Acres" and "79.21 Acres", a distance of 347.57 feet to a 1/2" iron rod (capped Bryan Tech Svc) set 4" below surface at the Southwest upper Northwest corner of said "79.21 Acres"; 1/2" iron rod found at the Southwest corner of said Teichelman "150 Acres", same being an interior corner of said "79.21 Acres" bears South 01°51'41" West, 335.32 feet;

THENCE North 01°51'41" East with the common line of aforementioned "150 acres" and Teichelman "150 Acres", a distance of 2323.66 feet to the PLACE OF BEGINNING, containing according to the dimensions herein stated, an area of 69.993 ACRES (3,048,913 Square Feet).

SURVEYORS CERTIFICATION:

STATE OF TEXAS §
COUNTY OF COLLIN §

I, MICHAEL A. MONTGOMERY II, REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECTLY MADE FROM AN ACTUAL SURVEY MADE ON THE GROUND OF THE PROPERTY LEGALLY DESCRIBED HEREON, AND THAT THERE ARE NO APPARENT DISCREPANCIES, CONFLICTS, OVERLAPPING OF IMPROVEMENTS, VISIBLE UTILITY LINES OR ROADS IN PLACE, EXCEPT AS SHOWN ON THE ACCOMPANYING PLAT, AND THAT THE CORNER MONUMENTS SHOWN THEREON WERE PROPERLY PLACED UNDER MY SUPERVISION IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS OF THE CITY OF TAYLOR, TEXAS

MICHAEL A. MONTGOMERY II,
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6890
KIMLEY-HORN AND ASSOCIATES
10814 JOLLYVILLE ROAD
CAMPUS IV, SUITE 200
AUSTIN, TEXAS 78759
PH. 512-418-1771

ENGINEERS CERTIFICATION:

STATE OF TEXAS §
COUNTY OF TRAVIS §

I, JOHN PICKENS, LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THIS SUBDIVISION IS NOT ENCROACHED BY A ZONE A FLOOD AREA, AS DENOTED HEREIN, AND AS DEFINED BY FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION FLOOD HAZARD BOUNDARY MAP, COMMUNITY PANEL NUMBER 48491C0541F, EFFECTIVE DATE DECEMBER 12, 2019, AND THAT EACH LOT CONFORMS TO THE CITY OF TAYLOR REGULATIONS, THE FULLY DEVELOPED, CONCENTRATED STORMWATER RUNOFF RESULTING FROM THE ONE HUNDRED (100) YEAR FREQUENCY STORM IS CONTAINED WITHIN THE DRAINAGE EASEMENTS SHOWN AND/OR PUBLIC RIGHTS-OF-WAY DEDICATED BY THIS PLAT.

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL AT AUSTIN, TRAVIS COUNTY, TEXAS, THIS _____ DAY OF _____, 2024.

JOHN PICKENS
LICENSED PROFESSIONAL ENGINEER NO. 110631
KIMLEY-HORN AND ASSOCIATES, INC.
10814 JOLLYVILLE ROAD, CAMPUS IV, SUITE 200
AUSTIN, TEXAS 78759
PH. 512-418-1791

PLANNING & ZONING COMMISSION

A PRELIMINARY PLAT FOR A SUBDIVISION TO BE KNOW AS "GATEWAY TRACT" HAS BEEN APPROVED ACCORDING TO THE MINUTES OF THE MEETING OF THE TAYLOR PLANNING AND ZONING COMMISSION OF THE _____ DAY OF _____, 2021.

_____, CHAIRMAN
_____, SECRETARY

WILLIAMSON COUNTY CLERK

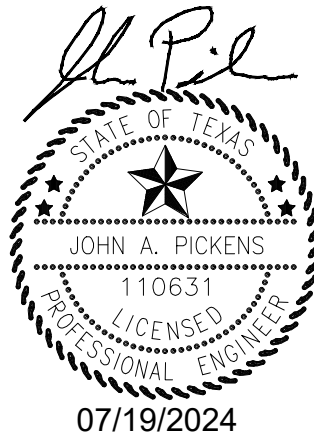
STATE OF TEXAS §
COUNTY OF WILLIAMSON §

I, NANCY E. RISTER, CLERK OF THE COUNTY COURT OF SAID COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT IS WRITING, WITH ITS CERTIFICATE OF AUTHENTICATION, WAS FILED FOR RECORD IN MY OFFICE ON THE _____ DAY OF _____, 2024 A.D., AT _____ O'CLOCK _____ M., AND DULY RECORDED THIS THE _____ DAY OF _____, 2024 A.D., AT _____ O'CLOCK _____ M., IN THE OFFICIAL PUBLIC RECORDS OF SAID COUNTY IN INSTRUMENT NO. _____.

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL AT THE SAID COUNTY COURT OF SAID COUNTY, AT MY OFFICE IN GEORGETOWN, TEXAS, THE DATE LAST SHOWN ABOVE WRITTEN.

NANCY E. RISTER, CLERK COUNTY COURT
OF WILLIAMSON COUNTY, TEXAS

BY: _____, DEPUTY



GATEWAY TRACT
PRELIMINARY PLAT
A SUBDIVISION OF 38.09 ACRES IN THE
CITY OF TAYLOR,
WILLIAMSON COUNTY, TEXAS
SUBMITTAL DATE: 4/5/2024

Kimley»Horn

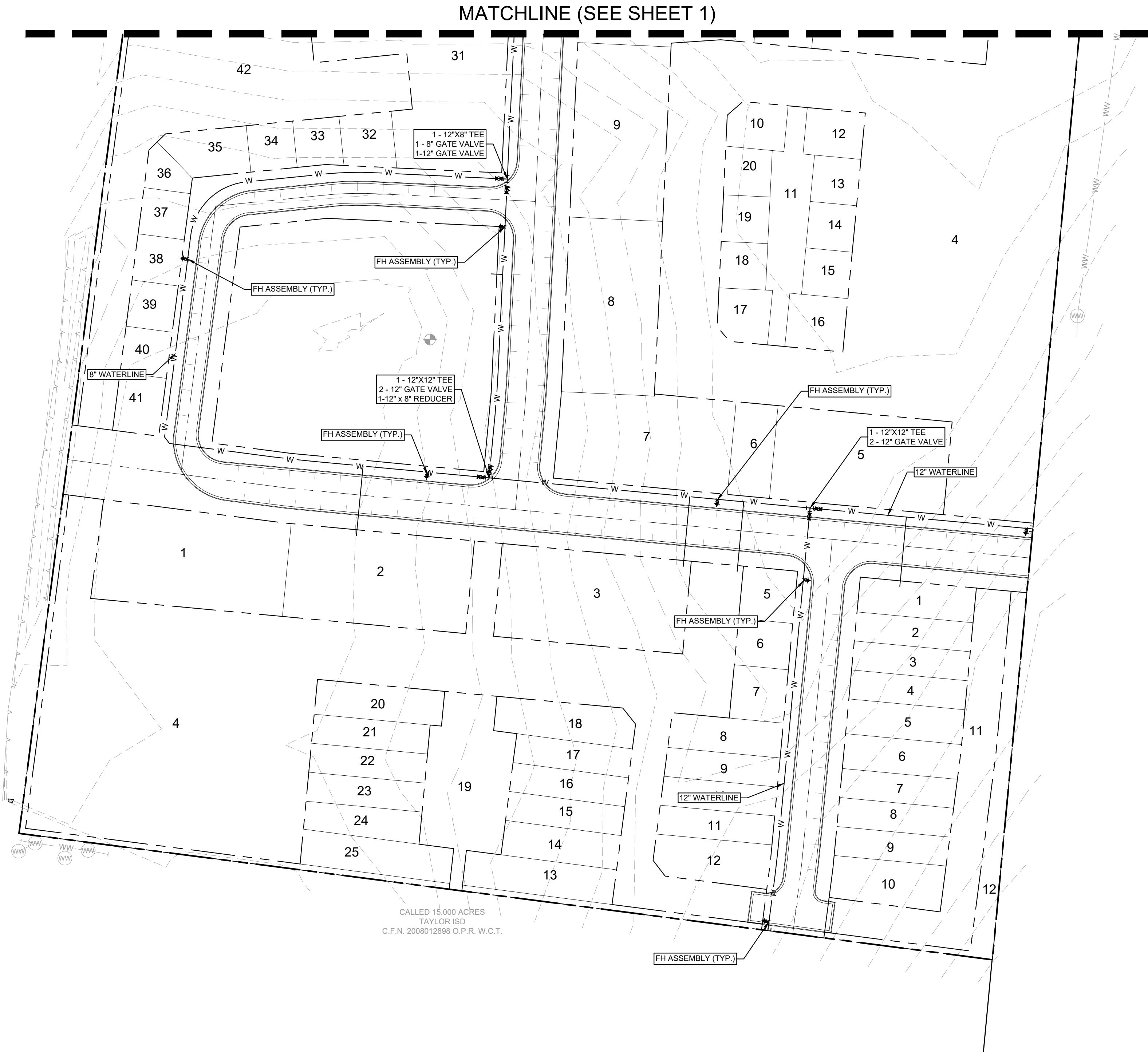
TEXAS REGISTERED ENGINEERING FIRM F-928

Scale	Drawn by	Checked by	Date	KHA Project No.	Sheet No.
	AJM	JAP	MARCH 2024	069405306	OF 3

City Project Number: PZ-2024-2105

NOTES:

1. THIS SITE IS LOCATED IN THE CITY OF TAYLOR WATER AND WASTEWATER CCN.



North arrow pointing North (N), South (S), East (E), and West (W).
GRAPHIC SCALE 60'

LEGEND

- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER CLEANOUT
- WASTEWATER FLOW DIRECTION
- PROPOSED FIRE HYDRANT
- PROPOSED TAPPING SLEEVE & VALVE
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING WASTEWATER MANHOLE

City of Taylor, Tx
Gateway PUD

Date: 6/18/2023
Project: Gateway PUD
Site Area (Acres): 38.10

Domestic Water Demand Calculations:

Proposed Development Intended Use	Units (Apartments) or SF (Retail)	LUE Rate	Total LUE's	Peak Hour Water (2.2 GPM/LUE) (GPM)	Peak Day Water (1.3 GPM/LUE) (GPM)
Restaurant	16,000	1/200	80.0	176.0	104.0
Club House	1	0.5	0.5	1.1	0.7
Retail	39,800	1/1660	24.0	52.7	31.2
Hotel	300	0.5	150.0	330.0	195.0
Multifamily	240	0.5	120.0	264.0	156.0
Townhouse	25	1	25.0	55.0	32.5
Live Work Retail	25	0.5	12.5	27.5	16.3
Live Work Residential	25	0.5	12.5	27.5	16.3
Liner	31	0.5	15.5	34.1	20.2
Total Development:			440.0	967.9	572.0

Fire Flow Demand Calculations:

Maximum Fire Separation Areas	Construction Type (Int. Fire Code)	Required Fire Flow Gross (GPM)	Flow Duration and Pressure (After Sprinkler Reduction)	Sprinkler Reduction	Required Fire Flow Net (GPM)
Total Development	V-A	4,500	2 Hr, 20 PSI	50%	2,250
				Total:	2,250

Wastewater Demand Calculations:

Total LUE's	Average Dry Weather Flow (ADWF) (70 gallons/person/day * # of L.U.E.'s * 3.5 Person/1440) (GPM)	Peak Flow Factor (PFF) $\frac{18 + (0.0206 \cdot T)^{1.5}}{4 + (0.0206 \cdot T)^{1.5}}$ (unitless)	Peak Dry Weather Flow (PDWF) (ADWF x PFF) (GPM)	Inflow and Infiltration (I&I) [1000 GPD/Acre x Area] 1440 (GPM)	Peak WW Flow (PDWF + I&I) (GPM)
Total Development	440.0	74.9	4.00	299.4	26.5
					325.9

**GATEWAY TRACT
PRELIMINARY WATER PLAN**
A SUBDIVISION OF 38.09 ACRES IN THE
CITY OF TAYLOR,
SUBMITTAL DATE: 4/5/2024

Kimley»Horn

TEXAS REGISTERED ENGINEERING FIRM F-928

Scale	Drawn by	Checked by	Date	KHA Project No.	Sheet No.
	AJM	JAP	MARCH 2024	069405306	2 OF 2

City Project Number: PZ-2024-2105

Fire Hydrant Flow Test Report

Date: 7/15/2024, 1115 hrs

Location: FM 973/ Carlos G Parker Blvd, Taylor, TX 76574

Test Hydrant: FM 973/ Carlos G Parker Blvd
Hydrant ID: 3214-032; 2010 Mueller
GPS: 30.553003/ -97.426895

Flow Hydrant: 401 FM 973
Hydrant ID: 3214-010; 2010 Mueller
GPS: 30.550781/ -97.429583

Water District: City of Taylor

Flow Data

SIZE OPENING: 2.5
COEFFICIENT: 0.9
PITOT READING: 60
GPM: 1300

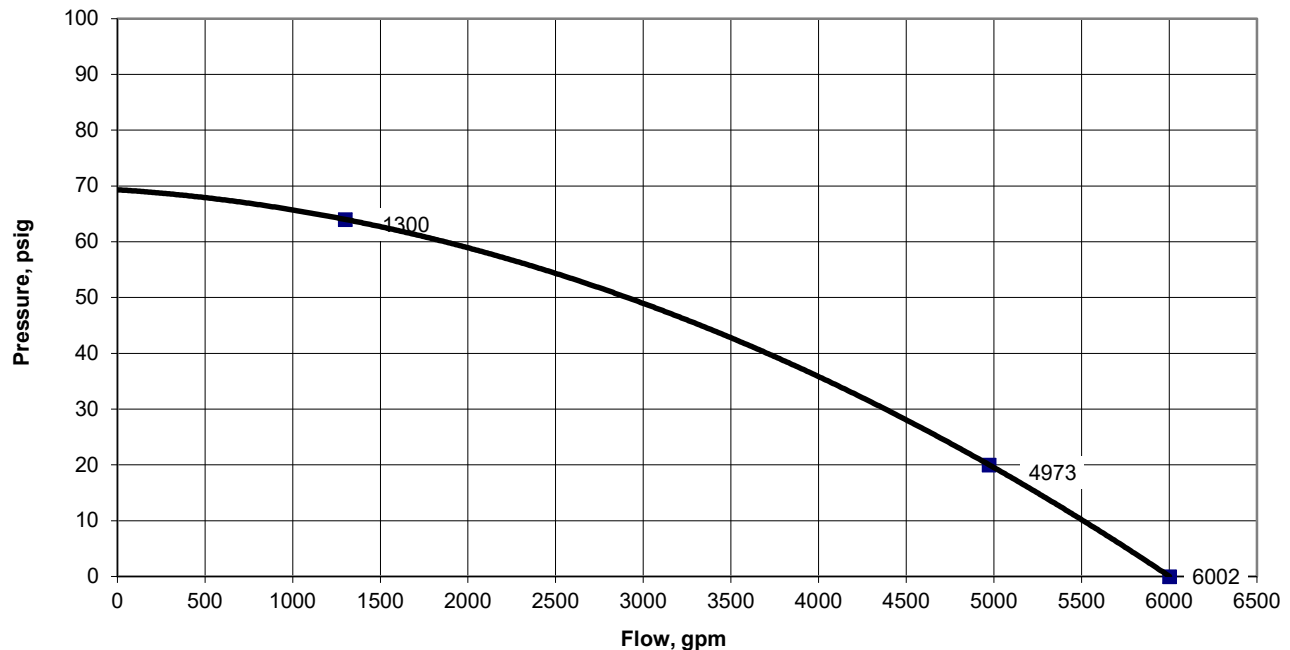
TOTAL FLOW DURING TEST: 1300 GPM

STATIC READING: 68 PSI

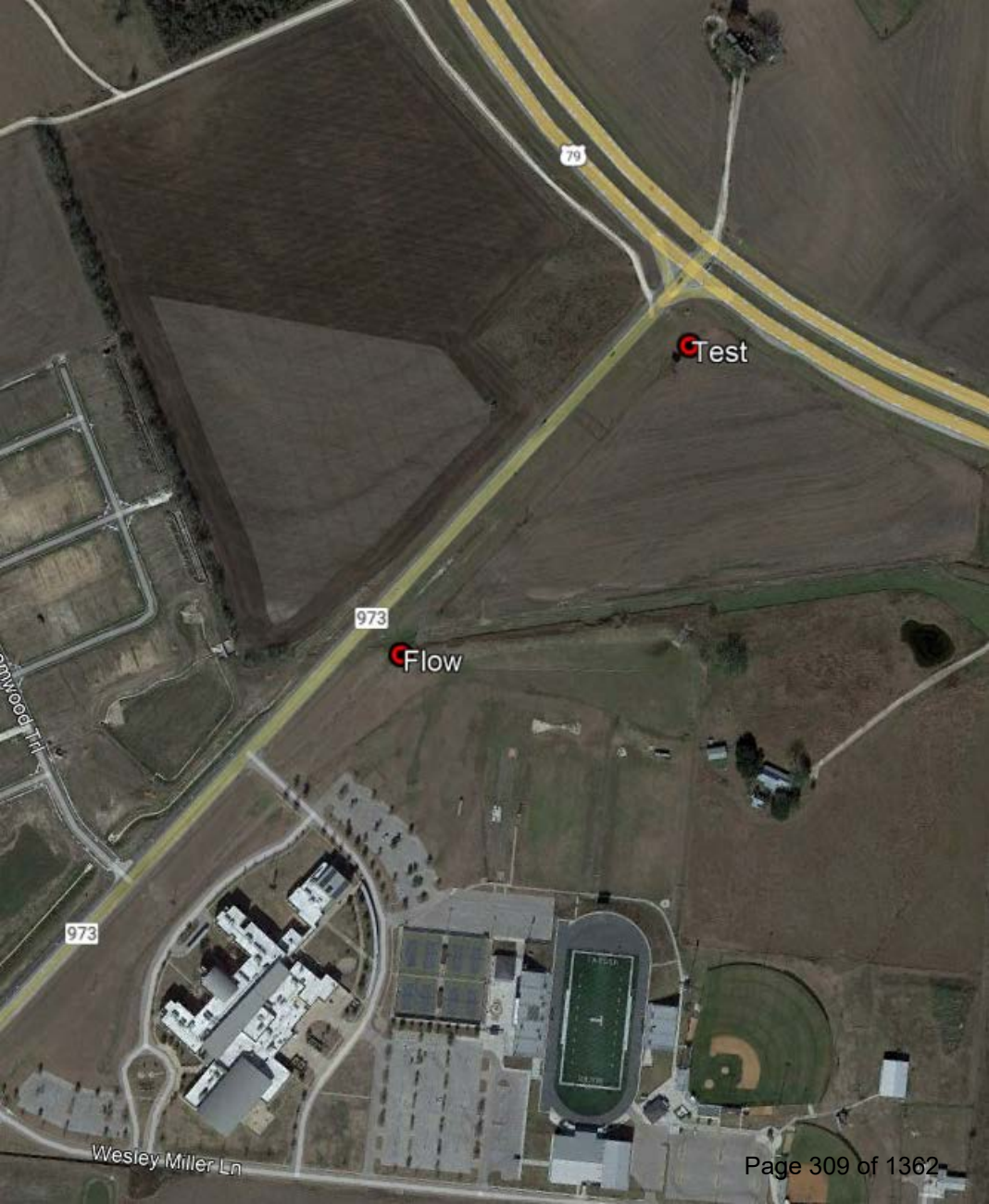
RESIDUAL: 64 PSI

Predicted flow: at 20 psi residual --- 4973 GPM at 0 psi residual --- 6002 GPM

Remarks:



All equipment was left in operational condition upon completion of testing.
Capital Hydrant certifies the test results only on the date and time listed above.



79

Test

973

Flow

973

Wesley Miller Ln

Traffic Impact Analysis Taylor Gateway Mixed-Use Retail, Restaurant, and Residential Development



Prepared for
Gateway Oz, LLC.

July 2022
(v1.2, July 2024)

Voigt Associates, Inc.

Professional Traffic Engineers, Texas Registered Firm F-5333
Project 55301 (v1.2)

Taylor Gateway Mixed-Use Retail, Restaurant, Grocery and Residential Development

Traffic Impact Analysis

US Highway 79 at Farm-to-Market Road 973
Taylor, Texas

Prepared for
Gateway Oz, LLC



Voigt Associates, Inc.
F-5333

Prepared by
Voigt Associates, Inc.
Project 53301
Originally Submitted July 2022

v1.3, July 2024

Executive Summary

This report presents the analysis and findings of a Traffic Impact Analysis performed by Voigt Associates, Inc. for a proposed multi-phase mixed-use development on the southeast corner of US 79 and Farm-to-Market Road 973 (FM 973) in Taylor, Texas.

The development is planned to consist of a mix of retail, restaurant, and residential development to include:

- Phase 1:
 - Restaurants
 - Spec Retail
 - Fast-Food/Quick-Service Restaurants
 - Convenience Store/Gas Station
 - Office Space; and
 - Hotels
- Phase 2:
 - Multifamily Mid-Rise Housing; and
 - Single-Family Attached Housing.

The anticipated time frame on development is to begin work on Phase 1 in 2024 with build-out and occupancy in 2025. Phase 2 is anticipated to begin work in 2025 with full build-out assumed for the year 2027 – with both timelines driven by permitting progress and market conditions, but with the desire to accelerate buildout as soon as possible for the entire project given overall market demand in the Taylor area.

The development is proposed to take access directly to US 79 via one driveway on the north side of the tract and with two driveways on FM 973 on the west side of the tract. Options for future access to the south and east are provided and reserved in the conceptual site plan.

Exhibit A1 shows the Site Location Map, Exhibit A2 presents the conceptual land plan, and Exhibit A3 shows the conceptual land plan with the anticipated access locations for Phase1 and Phase 2 conditions. All referenced exhibits in this report and found in Appendix A.

This section of the report summarizes the overall impact of the Taylor Gateway development and includes discussion about recommended site access, traffic control, and other improvements or operations issues that should be addressed as the development is built-out and occupied.

Traffic Operations Analysis

The traffic simulation analysis revealed that the added traffic during the AM and PM peak periods attributed to the proposed development will have marginal impacts at study intersections, with reductions in level of service attributable to background traffic growth in addition to the additional development related trips. Observations from the simulation analysis included:

- The AM peak hour is very much influenced by school-related traffic, with several intersections expected to experience undesirable LOS during that period – these are

discussed in more detail below. The PM peak hour shows LOS D or better at all study intersections for all scenarios and there will less emphasis in discussion for the afternoon peak hour. As of February 2024, the PM peak hour traffic conditions along FM 973 are being influenced by construction-related traffic associated with the Samsung plant west of the study area. The plant construction will have additional roadway capacity and connections to US 79 that will relieve traffic volumes on FM 973 in the study area.

- The signalized intersection of US 79 at FM 973 will begin to see increased delays and degraded levels of service with and without traffic associated with the development, particularly in the AM peak hour:
 - With phase 1 of development, LOS moves from D to E and optimizing the signal timings does not bring LOS back to D. Added capacity would be required to improve the LOS.
 - At the request of the City of Taylor, a scenario with dual left turns northbound on FM 973 at US 79, with addition of a new right turn deceleration/turn lane on the approach, was added to the analysis. This improvement would bring LOS back to D in the buildout year of the development (with associated signal timing adjustments), inclusive of background developments (Castlewood and Phase 1 of Samsung).
 - TxDOT should consider improvements at this intersection based on projected conditions with or without the subject development, including modifications to provide northbound dual left turns from FM 973 to US 79 and adding new pavement for an associated dedicated northbound right turn lane. This improvement should be coordinated with TxDOT to determine responsibility for the improvement (either by the developer, by TxDOT, or a combination of the two parties).
- By others - signalize the intersection of FM 973 at Wesley Miller Lane as this intersection currently meets volume warrants (at least for peak hour Warrant #3) due to school related traffic. This improvement should not be the responsibility of the developer, but TxDOT (or other entity) since it is currently warranted. This improvement lets in January 2025 and should be completed sometime in 2025.
- The site driveway on US 79 is anticipated to have LOS B operation in the AM peak hour and LOS C in the PM peak hour, typically considered acceptable for urban and suburban conditions. No mitigation for LOS or delays is required.
- Proposed Driveway 1B on FM 973 (the easternmost driveway) is required to be right-in/right-out only by TxDOT. At full buildout, this driveway approach will experience LOS C during the peak hours.

- Proposed Driveway 2B on FM 973 (the westernmost driveway) is proposed as full access, but with only stop control would be projected to be LOS F in the AM Peak hour (with D in the PM peak hour). This intersection does meet warrants for signalization (see below). Signalization improves LOS to C in the AM peak hour and LOS B in the PM peak hour.

Compliance With Access Management Guidelines

TxDOT *Access Management Manual* guidelines specify that for highways with posted speed limits equal to or greater than 50 mph (as is the case on US 79 and FM 973) the required access spacing is 425'. The provided spacing at proposed site driveways are:

1. Driveway 2A, a right-in/right-out driveway on US 79 located about 1070' east of FM 973;
2. Driveway 1B, a full-access driveway on FM 973 located about 570' south of US 79; and
3. Driveway 2B, a full-access driveway on FM 973 located about 520' south of Driveway 1B and 650' north of the Taylor High School north site driveway.

Each of the site driveways meet the TxDOT access spacing standards. No modifications are needed to comply with the Access Management Manual guidelines. However, the requirement for speed change lanes (right turn deceleration lanes) may cause the resulting access separation distances to be greater than those per Table 2-2 of the AMM.

Analysis of Auxiliary Lane Warrants

The proposed driveways to US 79 and FM 973 were examined for the need for right turn speed change lanes using the Texas Department of Transportation (TxDOT) *Access Management Manual* and *Roadway Design Manual* guidelines. In general, a right turn deceleration lane may be needed on roadways with a posted speed limit of 45 mph or higher when right turning volumes exceed 50 vehicles per hour. The speed limit on US 79 is 65 mph and speed limit on FM 973 is 55 mph along the site frontage. If a right turn deceleration lane is warranted is summarized below:

- Driveway 2A (US 79):
 - Right turn deceleration lane warranted, constructed when tied-in to US 79
- Driveway 1B (FM 973):
 - Right turn deceleration lane warranted, constructed when tied-in to US 79
- Driveway 2B (FM 973):
 - Right turn deceleration lane marginally warranted by volume but required per TxDOT based on speed/safety concerns. To be constructed when tied-in to US 79.

Per Table 3-3 of the Roadway Design Manual, the deceleration lane on US 79 at Driveway 2A would have 30' storage and 415' deceleration length. The deceleration lane should be 12' wide with minimum 4' to maximum 12' shoulder (width to be determined with TxDOT coordination) and be designated with pavement markings and signing to TxDOT standards. The yield markings and lane edge markings should be refreshed for the northbound FM 973 approach to US 79 as part of the improvement. This configuration retains the current acceleration lane for the right turn movement from northbound on FM 973 to eastbound on US 79.

Per Table 3-3 of the Roadway Design Manual, the right turn deceleration lane on FM 973 at Driveway 1B would be required to have 30' storage and 415' deceleration length. Due to spacing limitations upstream to Driveway 2B, the total length provided would be 421' length with 76' taper. The right turn deceleration lane on FM 973 at Driveway 2B provides the RDM required 445' long deceleration lane with 100' taper. Both deceleration lanes on FM 973 should be 12' wide with minimum 4' shoulder (width to be confirmed with TxDOT coordination) and be designated with pavement markings and signing to TxDOT standards.

Traffic Signal Warrant

Driveway 2B on FM 973 was found to meet warrants for signalization at full buildout (and likely earlier) of the site. Per procedures outlined in the Texas Manual on Uniform Traffic Control Devices (TxMUTCD) (3), a traffic signal warrant analysis was conducted using the projected hourly volumes with development at the FM 973 at Driveway 2B intersection. The analysis results and warrant requirements are attached in Appendix E. The analysis showed:

- Warrant 1 (Eight Hour) met for 13 hours (8 required)
- Warrant 2 (Four Hour) met for 12 hours (4 required)
- Warrant 3 (Peak Hour) met for 9 hours (1 required, if applicable)

We would recommend a traffic signal be installed at the developers cost prior to complete build-out of Phase 1.

Access Driveway Recommendations

The development is proposed to have one driveway with access to US 79 and two driveways connecting to FM 973. Proposed site driveways include:

1. Driveway 2A, a right-in/right-out driveway on US 79 located about 1070' east of FM 973;
2. Driveway 1B, a full-access driveway on FM 973 located about 570' south of US 79; and
3. Driveway 2B, a full-access driveway on FM 973 located about 1100' south of US 79.

The site plan is conceptual, but Driveway 2A on US 79 is right-in/right-out, so one lane in and one lane out will be adequate, with geometry provided to accommodate truck trips to the site to service the convenience store/gas station (refueling truck) and other retail developments within the site at Driveway 2A (likely 35' width with 40' radii). Driveway 1B on FM 973 should provide one lane in and one lanes out, with porkchop divider per TxDOT Austin District requirements. Driveway 2B on FM 973 should provide one lane in and two lanes out, designated as left-only and right-only.

Driveway 1B should also be designed to accommodate service truck access, with geometry adequate to accommodate larger truck turns into and out of the site while minimizing encroachment into opposing lanes without off-tracking.

A standard R6-1R "ONE WAY" (arrow to right) sign should be installed across from Driveway 2A on US 79 at the time the driveway is constructed. A standard R3-2 "NO LEFT TURN" sign should be posted on the southbound approach of FM 973 at and on the driveway approach to FM 973 to enforce the right-in/right-out only movements.

Calculation of Pro-rata Contribution for Traffic Signal at FM 973 at Wesley Miller Lane

The intersection of FM 197 at Wesley Miller Lane warrants signalization under existing conditions, but the Gateway development will add a marginal amount of traffic to the intersection. As of July 1, 2024, TxDOT indicated that the signal would be let for construction in January 2025. Per City of Taylor request, the developer of the Gateway project was asked to make a financial contribution towards construction of the signal based on a pro-rata share of peak hour traffic in the buildout year of the Gateway development. However, if the project is funded and letting in January 2025 to be constructed by TxDOT, the city should confirm if this pro-rata contribution is still required. If this contribution is still required the total was calculated as \$22,119 (amount of contribution paid to City of Taylor by developer, if required).

Summary of Mitigation and Responsibility

The required mitigation, and responsibility thereof, to accommodate the Gateway Development includes:

Mitigation	Trigger	Responsible Party
Add right turn deceleration lane at Driveway 2A on US 79	Upon construction and tie-in of driveway	Developer
Add right turn deceleration lane and directional porkchop at Driveway 1B (east) on FM 973	Upon construction and tie-in of driveway	Developer
Add right turn deceleration lane at Driveway 2B on FM 973	Upon construction and tie-in of driveway	Developer
Add traffic signal at Driveway 2B at FM 973	Prior to substantial completion of Phase 1 of development.	Developer
Add northbound right turn deceleration lane on FM 973 at US 79 (with associated median island and traffic signal modifications)	Prior to substantial completion of Phase 1 of development.	Developer and/or TxDOT (further coordination required)
Pro-rata contribution for traffic signal installation at FM 973 at Wesley Miller Lane	If still required by City of Taylor (projected funded and to be let by TxDOT)	Developer

This report has been prepared to assist in assessing the impacts of traffic generated by the subject development and represents the best estimates and opinion of Voigt Associates, Inc. While the traffic forecasts cannot be precise, they do represent, in our view, a reasonable expectation for the future based on the information available to us as of the date of this report. The estimates contained within this document rely on engineering assumptions and judgments which can be influenced by external circumstances and subject to changes that may materially affect the conclusions drawn herein.

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List of Exhibits

(All Exhibits located in Appendix A)

Exhibit A1.	Site Location Map
Exhibit A2.	Conceptual Land Plan
Exhibit A3.	Conceptual Site Layout with Preliminary Access Locations
Exhibit A4.	Study Area and Intersection Control Status
Exhibit A4-A.	Background Developments in Study Area
Exhibit A5.	Existing 2022 AM Peak Hour Turning Movement Counts
Exhibit A6.	Existing 2022 PM Peak Hour Turning Movement Counts
Exhibit A7.	Trip Distribution: AM & PM Peak Origins/Destinations (Phase 1 Build-Out)
Exhibit A8.	Trip Distribution: AM & PM Peak Origins/Destinations (Phase 2 Build-Out)
Exhibit A9.	Projected 2025 Weekday AM Peak Hour Turning Movement Counts (Phase 1 Build-Out Year, Projected Condition, Without Development)
Exhibit A10.	Projected 2025 Weekday PM Peak Hour Turning Movement Counts (Phase 1 Build-Out Year, Projected Condition, Without Development)
Exhibit A11.	Projected 2027 Weekday AM Peak Hour Turning Movement Counts (Phase 2 Build-Out Year, Projected Condition, Without Development)
Exhibit A12.	Projected 2027 Weekday PM Peak Hour Turning Movement Counts (Phase 2 Build-Out Year, Projected Condition, Without Development)
Exhibit A13-A.	Projected AM Peak Hour New+Pass-By Site Trips, Phase 1 of Development
Exhibit A13-P	Projected PM Peak Hour New+Pass-By Site Trips, Phase 1 of Development
Exhibit A14-A	Projected AM Peak Hour New+Pass-By Site Trips, Phase 1+2 of Development
Exhibit A14-P	Projected PM Peak Hour New+Pass-By Site Trips, Phase 1+2 of Development
Exhibit A15.	Projected 2025 Weekday AM Peak Hour Turning Movement Counts (Phase 1 Build-Out Year, Projected Condition, With Development)
Exhibit A16.	Projected 2025 Weekday PM Peak Hour Turning Movement Counts (Phase 1 Build-Out Year, Projected Condition, With Development)
Exhibit A17.	Projected 2027 Weekday AM Peak Hour Turning Movement Counts (Phase 2 Build-Out Year, Projected Condition, With Development)
Exhibit A18.	Projected 2027 Weekday PM Peak Hour Turning Movement Counts (Phase 2 Build-Out Year, Projected Condition, With Development)
Exhibit A19.	Mitigation Schematic.
Exhibit A20-A,B,C.	Conceptual Design Drawings for Driveways and Deceleration Lanes (KHA)

SECTION 1. STUDY PURPOSE AND OBJECTIVES

This report presents the analysis and findings of a Traffic Impact Analysis performed by Voigt Associates, Inc. for a proposed multi-phase mixed-use development on the southeast corner of US 79 and Farm-to-Market Road 973 (FM 973) in Taylor, Texas. The report is the 3rd version produced, documenting slight changes to the land plan and phasing, limiting access to US 79 to only one driveway per TxDOT requirement, turn restrictions at the east FM 973 driveway, and expanding the number of hours of analysis for the traffic signal warrant of the west site driveway to FM 973.

The development is planned to consist of a mix of retail, restaurant, and residential development to include:

- Phase 1:
 - Restaurants
 - Spec Retail
 - Fast-Food/Quick-Service Restaurants
 - Convenience Store/Gas Station
 - Office Space; and
 - Hotels
- Phase 2:
 - Multifamily Mid-Rise Housing; and
 - Single-Family Attached Housing.

The anticipated time frame on development is to begin work on Phase 1 in 2024 with build-out and occupancy in 2025. Phase 2 is anticipated to begin work in 2025 with full build-out assumed for the year 2027 – with both timelines driven by permitting progress and market conditions, but with the desire to accelerate buildout as soon as possible for the entire project given overall market demand in the Taylor area..

The development is proposed to take access directly to US 79 via one driveway on the north side of the tract and with two driveways on FM 973 on the west side of the tract. Options for future access to the south and east are provided and reserved in the conceptual site plan.

Exhibit A1 shows the Site Location Map, Exhibit A2 presents the conceptual land plan, and Exhibit A3 shows the conceptual land plan with the anticipated access locations for Phase1 and Phase 2 conditions. All referenced exhibits in this report and found in Appendix A.

Scope of Study

The scope of this study included:

1. Field visit to the site to assess existing traffic conditions;
2. Conducting video-based vehicle and pedestrian traffic data collection to include weekday AM (7-9 AM) and PM (4-6 PM) time periods at:
 - a. US 79 at FM 973
 - b. US 79 at Crossover West of South Rio Grande Street

- c. US 79 at South Rio Grande Street
 - d. FM 973 at Taylor High School Driveway (in 2022 and updated in late 2023)
 - e. FM 973 at Streamwood Trail; and
 - f. FM 973 at Wesley Miller Lane.
3. Based on the proposed land plan, generate a total estimate of vehicle trips to and from the site for the weekday AM and PM peak hours for Phase 1 and Phase 1+2 of development;
 4. Distribute those trip numbers to the roadway network based on traffic patterns and existing capacity available in the surrounding roadway network;
 5. Capture traffic volumes from area developments (Castlewood subdivision and Samsung Phase 1) into background traffic estimates;
 6. Conduct level of service and capacity analysis for the study intersections and site driveways with projected access conditions with proposed development;
 7. Examine warrants for turn lanes at the study intersections and site driveways;
 8. Conduct traffic signal warrants for one site driveway on FM 973 for projected conditions with development; and
 9. Preparing recommendations for other transportation improvements or mitigation measures resulting from trips to and from the site.

Study Methodology

The study began with site visits to the area in June and July 2022, with an update in February 2024. During the site visits, general observations about the surrounding roadway network were made (existing roadway widths, traffic control, roadway alignment and speed limits). Considering the general nature of the existing roadway network and the portion of the network most likely to be impacted by the proposed developments, the effective study limits for the traffic operations level of service analysis were determined as:

- US 79 from west of FM 973 to South Rio Grande Street; and
- FM 973 from US 79 south to Wesley Miller Lane.

Included in the analysis were six existing intersections:

1. US 79 at FM 973 (signalized);
2. US 79 at Crossover West of South Rio Grande Street (yield);
3. US 79 at South Rio Grande Street (two-way stop);
4. FM 973 at Taylor High School north driveway (one-way stop);
5. FM 973 at Streamwood Trail (one-way stop);
6. FM 973 at Wesley Miller Lane (two-way stop).

Also included were the three proposed site driveways (see Exhibit A3):

1. Driveway 2A, a right-in/right-out driveway on US 79 located about 1070' east of FM 973.
2. Driveway 1B, a full-access driveway on FM 973 located about 570' south of US 79; and

3. Driveway 2B, a full-access driveway on FM 973 located about 520' south of Driveway 1B and 650' north of the Taylor High School north site driveway.

These intersections were confirmed in a traffic study scoping meeting with Kathy Smith, P.E. (of HDR, representing the City of Taylor) on May 31, 2022.

The next step in the analysis was to estimate the number of trips generated by the proposed development. The Institute of Transportation Engineer's *Trip Generation Handbook, 11th Edition* (1) was used to develop estimates of trips generated by the development. Specific assumptions made in the trip generation analysis are presented in Section 5 of this report. Once trips were generated, internal capture and pass-by rates were applied (as applicable) and the estimated new trips and pass-by trips were then distributed to the roadway network.

Once projected turning movement counts and access driveway volume estimates were finalized, a computerized operational analysis was undertaken using techniques outlined in the *Highway Capacity Manual* (HCM) (2). The computerized traffic simulation software suite Synchro 11.1 was used to complete the operational analysis. The macroscopic tool Synchro was used to report HCM level of service for major and minor intersections and microscopic tool SimTraffic was used to assess queue performance in the network.

SECTION 2. DESCRIPTION OF SITE AND STUDY AREA

The proposed development is located on the southeast quadrant of the intersection of US 79 at FM 973 in Taylor, Texas on about 38 acres of land. The study area generally includes:

- US 79 from west of FM 973 to east of South Rio Grande Street; and
- FM 973 from US 79 south to south of Wesley Miller Lane.

This area includes the Castlewood residential development – a 239-unit single-family housing development on the west side of FM 973 across from Taylor High School. At the time of traffic data collection, crews were working on constructing street tie-ins for access from the development to FM 973 and homesites were being prepped for construction. This analysis provides estimates of trips generated by full buildout of the Castlewood development explicitly included as background traffic. Also included in the background traffic estimates are volumes projected to be attributed to Phase 1 of the Samsung plant. Exhibit A4-A show the locations of these two developments in relation to the subject site.

The development is proposed to have one driveway with access to US 79 and two driveways connecting to FM 973. A depiction of the study area is shown on Exhibit A3, and the site access is shown in Exhibit A4. Proposed site driveways include:

1. Driveway 2A, a right-in/right-out driveway on US 79 located about 1070' east of FM 973;
2. Driveway 1B, a full-access driveway on FM 973 located about 570' south of US 79; and
3. Driveway 2B, a full-access driveway on FM 973 located about 1100' south of US 79.

The site plan is conceptual, but Driveway 2A on US 79 is a right-in/right-out driveway, so one lane in and one lane out will be adequate, with geometry provided to accommodate truck trips to the

site to service the convenience store/gas station (refueling truck) and other retail tracts within the development. Driveway 1B (east site driveway) will be a right-in/right-out only driveway and will have one lane in and one lane out. Driveway 2B (west site driveway) on FM 973 should provide a minimum of one lane in and two lanes out, designated as left-only and right-only.

Driveway 1B should also be designed to accommodate service truck access, with site engineers ensuring that the driveway design can accommodate larger truck turns into and out of the site.

The existing land use at the site is undeveloped, open land. Areas east of the proposed development are generally undeveloped land and large-lot single family residential. Directly south of the site is Taylor High School. There are new residential developments (Castlewood and Avery Glen) south and west of the high school, with potential for more residential development to the south along FM 973.

Traffic volumes during the AM peak hour in the study area are greatly influenced by Taylor High School related traffic. Projected conditions during the PM peak hour are not as critical because the high school traffic has dissipated by that time of the day. As of February 2024, the PM peak hour traffic conditions along FM 973 are being influenced by construction-related traffic associated with the Samsung plant west of the study area. The plant will have additional roadway capacity and connections to US 79 that will relieve traffic volumes on FM 973 in the study area.

The proposed development is anticipated to be developed in two primary phases which include the following land use:

- Phase 1:
 - Fast-food w/Drive Through – 4,400 SF total;
 - C-Store w/Gas – 5,600 SF;
 - Restaurants – 26,350 SF total;
 - Retail – 11,350 SF total;
 - Multifamily Housing – 45 dwelling units;
 - Live-Work Commercial (Office) – 29,000 SF total; and
 - Hotels (2) – 300 rooms total.
- Phase 2:
 - Multifamily Mid-Rise – 240 dwelling units;
 - Single-Family Attached Housing (townhomes and live/work residential) – 30 units.

The retail and services portion of the development are generally fronting the FM 973 and US 79 frontage, with office/live-work development in the center of the tract. The multifamily and attached-single family housing are located towards the southern end of the development. See Exhibit A2 for the conceptual layout of the site.

Compliance With Access Management Guidelines

TxDOT *Access Management Manual* guidelines specify that for highways with posted speed limits equal to or greater than 50 mph (as is the case on US 79 and FM 973) the required access spacing is 425'. The provided spacing at proposed site driveways are:

1. Driveway 2A, a right-in/right-out driveway on US 79 located about 1070' east of FM 973.
2. Driveway 1B, a right-in/right-out driveway on FM 973 located about 570' south of US 79; and
3. Driveway 2B, a full-access driveway on FM 973 located about 520' south of Driveway 1B and 650' north of the Taylor High School north site driveway.

Each of the site driveways meet the TxDOT access spacing standards. No modifications are needed to comply with the Access Management Manual guidelines. However, the requirement for speed change lanes (right turn deceleration lanes) may cause the resulting access separation distances to be greater than those per Table 2-2 of the AMM.

SECTION 3. ROADWAY CONDITIONS

The following roadways were included in the analysis:

- US 79 is an existing four-lane divided asphalt roadway with 12' travel lanes, 8' to 10' shoulders, and 45'-50' center grassy median. There are existing left turn deceleration lanes on both approaches at FM 973; the eastbound approach also includes a right-turn deceleration lane. The posted regulatory speed limit is 65 mph through the study area. US 79 is shown on the City of Taylor's *Comprehensive Plan* Transportation Plan Map as an Enhanced Regional Road and is maintained by TxDOT. US 79 is in generally good condition. A traffic signal controls the intersection with FM 973, with protected eastbound and westbound left turn movements on US 79 and split phasing for FM 973 with the low-volume private driveway on the north side of US 79.
- FM 973 is an existing three-lane undivided asphalt roadway with center two-way left turn lane along the site frontage and transitions to a two-lane roadway south of Wesley Miller Lane. The road is approximately 45'-46' wide with 12' travel lanes. The posted regulatory speed limit is 55 mph along the site frontage, transitioning to 65 mph near Taylor High School. FM 973 is shown on the Transportation Plan Map as an Enhanced Community Boulevard, functioning as an arterial roadway. FM 973 is also in generally good condition in the area.
- South Rio Grande Street is an existing two-lane undivided asphalt roadway located east of the site classified as a Neighborhood Avenue. The road is approximately 22'-24' wide with 11' travel lanes. The regulatory speed is assumed to be 30 mph but is unposted near the US 79 interchange. The South Rio Grande Street approaches to US 79 are stop-controlled with yield-controlled channelized right turns.
- The Taylor High School north driveway was included in the study area. This is a two-lane driveway, stop controlled to FM 973, that provides access to the north side of the high school campus.
- Streamwood Trail is a new two-lane local street stop-controlled to FM 973 providing access to the Castlewood subdivision.

- Wesley Miller Lane is a two-lane asphalt roadway east and west of FM 973. The east side provides access to Taylor High School and the west side to the Castlewood subdivision. The Transportation Plan includes extending Wesley Miller Lane east and west of current termini. This intersection is planned to have a traffic signal installed to accommodate school-related traffic.

Photographs of the roadway facilities included in the study are shown in Appendix F.

Collection of Existing Traffic Data

Vehicle and pedestrian turning movement counts were collected for two-hour peak periods in the weekday AM (7:00-9:00 AM) and weekday PM (4:00-6:00 PM) on Thursday, May 26, 2022 (when school was in session) at the following intersections:

- US 79 at FM 973 (signalized);
- US 79 at Crossover West of South Rio Grande Street (yield);
- FM 973 at Taylor High School north driveway (one-way stop);
- FM 973 at Streamwood Trail (one-way stop);
- FM 973 at Wesley Miller Lane (two-way stop).

After the TIA scoping meeting was conducted, the intersection of US 79 at South Rio Grande Street was added to the study area. This intersection, as well as the crossover on US 79 west of South Rio Grande Street, was collected for the same two-hour peak periods on Tuesday, June 7, 2022. Using the crossover count as a before/after point of comparison with school in and out of session, the US 79 at South Rio Grande Street intersection count was adjusted upwards by 15% in the AM peak hour and 14% in the PM peak hour for use in the analysis.

The intersection of FM 973 at Taylor High School north driveway was recounted on October 23, 2023, as a 24-hour count. This recount was used in a revised traffic signal warrant analysis for the proposed west site driveway (see Appendix B for count results).

Each approach was counted individually and the highest four 15-minute intervals for each period were identified as the peak hour for the intersection. The peak hours identified for analysis for the weekday morning and afternoon were 7:30-8:30 AM and 4:15-5:15 PM, respectively. Peak hour factors were calculated for existing intersections for each peak hour, while a typical peak hour factor of 0.92 was assumed for proposed driveways for use in the simulation analysis.

To determine what impact baseline traffic growth will have on the roadway network, a simple growth factor of 5% per year was used to estimate future traffic volumes on all roadway facilities within the study area for the Phase 1 (2025) and Phase 2 (2027) build-out conditions. Historic traffic growth rates in the area were examined through the TxDOT Stars II database. Table C7 in Appendix C shows a weighted average growth rate over the past 10 years of +2.79% for three count stations nearby. A shorter time period shows a compound annual growth rate of 10.2% determined from a count on FM 973 south of US 79. Using a growth rate this high for a 4-year projection would likely be too aggressive considering that we are explicitly including the

Castlewood subdivision in background traffic estimates, the 5% per year rate was used to project baseline traffic volumes into the 2025 and 2027 build-out years.

All turning movement count data collected is attached to this report in Appendix B. Schematic representations of the existing weekday AM and PM turning movement counts are located on Exhibits A4 and A5 in Appendix A.

SECTION 4. RECORDED OR APPROVED NEARBY DEVELOPMENT

During initial site visits in 2022, there did not appear to be any other significant development (other than the Castlewood subdivision) that would need to be explicitly captured in the background traffic volume projections for this analysis. During site visits in February 2024, it is clear that Samsung Plant construction-related traffic was influencing traffic along FM 973 until connections to US 79 west of Taylor are constructed. Typical development patterns in a suburban area such as where the development lies could be accounted for in the assumed 5% per annum growth rate.

SECTION 5. TRIP GENERATION AND TRIP DISTRIBUTION

If given the expected type of land use and its respective location within a roadway corridor (as well as some idea of access locations), a general estimation of new traffic demand generated by the development on a roadway or at an intersection may be made. This process is typically completed with the assistance of the Institute of Transportation Engineers' *Trip Generation Manual, 11th Edition* (1). The *Trip Generation Manual* is a compilation of thousands of studies of traffic characteristics generated at various land uses. The traffic projected using techniques outlined in Trip Generation must be viewed exclusively as traffic demand estimates, with some variation expected after full build-out and occupancy of the proposed development.

For this study, two analysis phases were examined (as described in Section 2 above):

- Phase 1 (2025): primarily retail/restaurant/office and hotel development; and
- Phase 2 (2027): additional residential.

The estimated trips generated by the development in each build-out phase are shown in Table 1. Detailed calculations are found in Appendix C.

The anticipated time frame on development is to begin work in late 2024 with build-out and occupancy complete of Phase 1 sometime in 2025. Phase 2 is anticipated to begin work in mid-2025 with full build-out complete in 2027. These timelines are influenced by market conditions.

Table 1. Estimated Trips for the Proposed Development.

	Weekday AM Peak Hour of Adjacent Roadway			Weekday PM Peak Hour of Adjacent Roadway		
	Total Trips	Trips*		Total Trips	Trips*	
		Entering	Exiting		Entering	Exiting
Phase 1 Only						
Total Trips, Pre-Capture/Pass-By:	993	541	451	1,007	517	491
Total Trips, Captured Within Development:	44	22	23	146	72	74
Total Trips, New & Pass-By	949	520	429	862	445	417
Total Trips, Pass-By, Existing on Roadway Network:	339	169	169	419	209	209
Total Trips, New on Roadway Network:	610	350	259	443	235	208
	Weekday AM Peak Hour of Adjacent Roadway			Weekday PM Peak Hour of Adjacent Roadway		
	Total Trips	Trips*		Total Trips	Trips*	
		Entering	Exiting		Entering	Exiting
Phase 1+2						
Total Trips, Pre-Capture/Pass-By:	1,097	566	531	1,115	582	533
Total Trips, Captured Within Development:	77	40	37	206	105	101
Total Trips, New & Pass-By	1,020	527	493	909	477	432
Total Trips, Pass-By, Existing on Roadway Network:	339	169	169	419	209	209
Total Trips, New on Roadway Network:	681	357	324	491	268	223

Trips generated by a mixed-use development may be adjusted downwards considering internal capture – or trips which occur between land uses on a multi-use site without re-entering public roadways. For this analysis there would be internal capture expected during both Phase 1 and Phase 2 of development. Table C1-A in Appendix C document internal capture calculations for Phase 1 of development. Table C3-A present internal capture calculations for Phase 1+2 of development. The method used to calculate internal capture is consistent with ITE's *Trip Generation Handbook*, and recommended method from NCHRP 684.

The internal capture adjustments applied to the trip generation estimates included:

- Phase 1:
 - AM Peak Hour:
 - Entering: - 4.0%
 - Exiting: - 5.0%
 - PM Peak Hour:
 - Entering: - 14.0%
 - Exiting: - 15.0%
- Phase 1+2:
 - AM Peak Hour:
 - Entering: - 7.0%
 - Exiting: - 7.0%
 - PM Peak Hour:
 - Entering: - 18.0%
 - Exiting: - 19.0%

The internal capture rates are lower for Phase 1 of development due to the lack of residential land use. Once residential land use is introduced in Phase 2, the internal capture rates increase as

more trips are made internal to the site. Trips designated as internal capture were subtracted from the overall trip estimates before application of pass-by trip rates.

Pass-by trips are generated by vehicles visiting the development site on their way to another destination. Pass-by rates per the *Trip Generation Handbook* were applied to land uses expected to generate pass-by trips (primarily retail land uses on the site). The land uses to which pass-by trips were assigned (and their rates – See Appendix H), included:

- 934-Fast-Food Restaurant w/Drive Through: 50% AM and 55% PM peak hours
- 945-Convenience Store/Gas Station: 76% AM and 75% PM peak hours
- 932-High-Turnover Sit-Down Restaurants: 43% PM peak hour only; and
- 822-Strip Retail Plaza: 40% PM peak hour only.

Once estimates of the new trips and pass-by trips generated by the development were found they were then distributed to the roadway network based on existing traffic volumes in the area, anticipated circulation within the development, and engineering judgment based on site visits and review of traffic generators in the area (retail, commercial, schools, shopping, and employment/commuter patterns).

Trip generation and distribution details are found in Appendix C. Trip generation and distribution tables include the following:

- Table C1. Trip Generation Calculations for Phase 1
- Table C1-A. AM & PM Peak Hour Internal Capture Calculations, Phase 1
- Table C2. Trip Distribution, Phase 1 Development
- Table C3. Trip Generation Calculations - Phase 1+2
- Table C3-A. AM & PM Peak Hour Internal Capture Calculations, Phase 1+2
- Table C4. Trip Distribution, Phase 1+2 Development
- Table C5. Trip Generation Calculations, Castlewood Subdivision (Background)
- Table C6. Trip Distribution, Castlewood Subdivision (Background)

Distribution percentages for **new trips** for Phase 1 and 2 were assumed to be:

- 50% To/From US 79, West of FM 973
- 20% To/From US 79, East of South Rio Grande Street
- 18% To/From FM 973, South of Wesley Miller Lane
- 1% To/From South Rio Grande Street, North of US 79
- 2% To/From South Rio Grande Street, South of US 79
- 4% To/From Streamwood Trail, West of FM 973
- 1% To/From Wesley Miller, West of FM 973
- 4% To/From Taylor HS Driveway, East of FM 973.

Exhibits A7 and A8 present the trip distribution percentages for the Phase 1 and Phase 2 build-out scenarios, respectively.

SECTION 6. PROJECTED FUTURE TRAFFIC VOLUMES

Several tables in Appendix C (and corresponding exhibits in Appendix A) present the estimated traffic volumes at the study intersections and proposed access driveways for the development. The tables and exhibits (AM+PM) summarize the following scenarios:

- **Table C8. Existing (2022) Peak Hour Turning Movement Counts (Exhibit A5+A6)**
- Table C9. Projected Peak Hour New Site Trips, Castlewood Subdivision
- **Table C10. Projected 2025 Peak Hour Turning Movement Counts (Phase 1 Build-Out Year without development) (Exhibit A9+A10)**
- **Table C11. Projected 2027 Peak Hour Turning Movement Counts (Phase 2 Build-Out Year without development) (Exhibit A11+A12)**
- Table C12. Projected Peak Hour New Site Trips, Phase 1 of Development
- Table C13. Projected Peak Hour New Site Trips, Phase 1+2 of Development
- Table C14. Projected Peak Hour Pass-By Trips, Phase 1 of Development
- Table C15. Projected Peak Hour Pass-By Trips, Phase 1+2 of Development
- **Table C16. Projected 2024 Peak Hour Turning Movement Counts (w/Phase 1 development) (Exhibit A15+A16)**
- **Table C17. Projected 2026 Peak Hour Turning Movement Counts (w/Phase 1+2 development) (Exhibit A17+A18).**

The tables in **bold text** represent the scenarios simulated, analyzed, and reported in Section 7 below.

SECTION 7. ROADWAY OPERATIONAL ANALYSIS

Synchro 11.1 was used to simulate the roadway network and intersections in the study area. Synchro is a Windows PC based solution for intersection capacity analysis and signal timing optimization. Synchro can model signalized and unsignalized intersections and calculate useful measures of effectiveness such as average vehicle delay and queue lengths. Detailed Synchro output is attached to this report in Appendix D.

Table 2 presents the per-vehicle delay thresholds that define each Highway Capacity Manual level of service (LOS). An explanation of the concept of level of service is that it is like grades in school – A is the best, F the worst. LOS is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. LOS is directly related to the control delay value. The LOS thresholds are different for signalized intersections as compared to unsignalized intersections, primarily because drivers expect different levels of performance from distinct types of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than a stop-controlled intersection. Thus, a higher level of control delay is acceptable at a signalized intersection for the same level of service. At a two-way stop-controlled intersection, LOS is defined for each minor movement, but not for the intersection as a whole.

Table 2. LOS Thresholds for Signalized and Unsignalized Intersections.

Level of Service (LOS)	Signalized Intersections Control Delay Per Vehicle (sec/veh)	Unsignalized Intersections Control Delay Per Vehicle (sec/veh)
A	≤10	0-10
B	>10-20	>10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50

General access management guidelines state that if the results of the analysis showed that LOS D or worse was caused by the additional traffic generated by a development, the developer (in some cases) may need to make improvements to bring the LOS back up to D or better. If the existing level of service is E or F, and additional traffic lowers the existing level of service, the developer may be required to make improvements to maintain the existing level of service.

All simulations in this study represent the peak 15-minute time periods within any peak hour. In general, the simulation results for the weekday peak periods could be generalized to represent almost an hour of traffic volumes since the volumes should be relatively flat over the weekday peaks for intersections on public roadways. The Synchro results are summarized in Tables 3 and 4.

Simulation was generally initiated with the least amount of traffic control possible (e.g., two-way stop control before signal control). As the simulations were performed, projected operations at each intersection were evaluated as to the potential need for modification, either by additional capacity (turn lanes, added through lanes) or traffic control devices (e.g., traffic signal control) through analysis of warrants, as discussed in Sections 8 and 9. If any modifications appeared to be warranted, they were included in the simulations for build-out conditions.

The signalized intersection of US 79 at FM 973 runs fully actuated and uncoordinated and was assumed to continue fully actuated in future scenarios. Coordination along the FM 973 corridor with additional traffic signal installation may be of benefit, and offsets were optimized for scenarios with signals at Wesley Miller Lane and Driveway 2B. For use in this version of the report, traffic signal timings were obtained from TxDOT and used in the analysis. While the signal runs free, the splits total a maximum cycle length of 160 seconds.

In the scoping meeting it was discussed that a traffic signal at FM 973 at Wesley Miller Lane had been identified as a future improvement based on near-term conditions, which this analysis indicated as needed based on less-than-desirable operation as a two-way stop-controlled intersection. A traffic signal was simulated at FM 973 at Wesley Miller Lane as part of this revised study. The cycle length used at Wesley Miller was half of that at US 79 for all scenarios (based on an indication from Synchro of the optimal cycle length). Information from a July 1, 2024 meeting with TxDOT indicated that the traffic signal construction at Wesley Miller Lane is currently funded

and is scheduled to let in January 2025, so anticipated completion of the signal would be mid- to late 2025.

The traffic simulation analysis revealed that the added traffic during the AM and PM peak periods attributed to the proposed development will have marginal impacts at study intersections, with reductions in level of service attributable to background traffic growth in addition to the additional development related trips. Observations from the simulation analysis included:

- The AM peak hour is very much influenced by school-related traffic, with several intersections expected to experience undesirable LOS during that period – these are discussed in more detail below. The PM peak hour shows LOS D or better at all study intersections for all scenarios and there will less emphasis in discussion for the afternoon peak hour. As of February 2024, the PM peak hour traffic conditions along FM 973 are being influenced by construction-related traffic associated with the Samsung plant west of the study area. The plant construction will have additional roadway capacity and connections to US 79 that will relieve traffic volumes on FM 973 in the study area.
- The signalized intersection of US 79 at FM 973 will begin to see increased delays and degraded levels of service with and without traffic associated with the development, particularly in the AM peak hour:
 - With phase 1 of development, LOS moves from D to E and optimizing the signal timings does not bring LOS back to D. Added capacity would be required to improve the LOS.
 - At the request of the City of Taylor, a scenario with dual left turns northbound on FM 973 at US 79, with addition of a new right turn deceleration/turn lane on the approach, was added to the analysis. This improvement would bring LOS back to D in the buildout year of the development (with associated signal timing adjustments), inclusive of background developments (Castlewood and Phase 1 of Samsung).
 - TxDOT should consider improvements at this intersection based on projected conditions with or without the subject development, including modifications to provide northbound dual left turns from FM 973 to US 79 and adding new pavement for an associated dedicated northbound right turn lane. This improvement should be coordinated with TxDOT to determine responsibility for the improvement (either by the developer, by TxDOT, or a combination of the two parties).
- By others - signalize the intersection of FM 973 at Wesley Miller Lane as this intersection currently meets volume warrants (at least for peak hour Warrant #3) due to school related traffic. This improvement should not be the responsibility of the developer, but TxDOT (or

other entity) since it is currently warranted. This improvement lets in January 2025 and should be completed sometime in 2025.

- The site driveway on US 79 is anticipated to have LOS B operation in the AM peak hour and LOS C in the PM peak hour, typically considered acceptable for urban and suburban conditions. No mitigation for LOS or delays is required.
- Proposed Driveway 1B on FM 973 (the easternmost driveway) is required to be right-in/right-out only by TxDOT. At full buildout, this driveway approach will experience LOS C during the peak hours.
- Proposed Driveway 2B on FM 973 (the westernmost driveway) is proposed as full access, but with only stop control would be projected to be LOS F in the AM Peak hour (with D in the PM peak hour). This intersection does meet warrants for signalization (see below). Signalization improves LOS to C in the AM peak hour and LOS B in the PM peak hour.

Table 3. Weekday AM Peak Hour Simulation Results.

Intersection/Scenario	Analysis Method Reported	Traffic Control /Cycle Length (s)	AM Peak Hour										Overall Intersection Delay (s/v)	Overall Intersection LOS
			Eastbound		Westbound		Northbound		Southbound					
			Approach Delay (s/v)	LOS	Approach Delay (s/v)	LOS	Approach Delay (s/v)	LOS	Approach Delay (s/v)	LOS				
1. US 79 at FM 973														
2022 Existing Conditions	HCM 2000	Free/160	35.5	C	19.9	B	46.2	D	49.2	D	32.2	C		
2025 Projected w/o Development	HCM 2000	Free/160	42.2	D	59.5	E	52.5	D	59.6	E	50.9	D		
2025 Projected w/Phase 1 Dev.	HCM 2000	Free/160	48.1	D	118.8	F	55.1	E	70.8	E	74.7	E		
2025 Projected w/Phase 1 Dev. w/opt. timings	HCM 2000	Free/140	66.0	E	44.3	D	84.5	F	69.1	E	62.6	E		
2025 Projected w/Phase 1 Dev. w/NB Dual Left	HCM 2000	Free/160	35.7	D	49.9	D	49.8	E	56.7	E	44.0	D		
2027 Projected w/o Development	HCM 2000	Free/160	48.1	D	92.2	F	52.5	D	64.6	E	65.4	E		
2027 Projected w/Phase 2 Dev.	HCM 2000	Free/160	50.5	D	138.0	F	77.6	E	72.1	E	87.8	F		
2027 Projected w/Phase 2 Dev. w/opt. timings	HCM 2000	Free/150	91.6	F	52.8	D	103.9	F	74.6	E	80.7	F		
2027 Projected w/Phase 2 Dev. w/NB Dual Left	HCM 2000	Free/160	38.8	D	70.8	E	52.4	D	59.8	E	53.3	D		
3. US 79 at Driveway 2A (Site Driveway)														
2025 Projected w/Phase 1 Dev.	HCM 6TH	TWSC	---	---	---	---	11.7	B	---	---	11.7	B		
2027 Projected w/Phase 2 Dev.	HCM 6TH	TWSC	---	---	---	---	12.5	B	---	---	12.5	B		
4. US 79 at Crossover West of South Rio Grande Street														
2022 Existing Conditions	HCM 2000	OWSC	---	---	---	---	---	---	0.0	A	0.0	A		
2025 Projected w/o Development	HCM 2000	OWSC	---	---	---	---	---	---	0.0	A	0.0	A		
2025 Projected w/Phase 1 Dev.	HCM 2000	OWSC	---	---	---	---	---	---	0.0	A	0.0	A		
2027 Projected w/o Development	HCM 2000	OWSC	---	---	---	---	---	---	0.0	A	0.0	A		
2027 Projected w/Phase 2 Dev.	HCM 2000	OWSC	---	---	---	---	---	---	0.0	A	0.0	A		
5. US 79 at South Rio Grande Street														
2022 Existing Conditions	HCM 2000	TWSC	---	---	---	---	15.1	C	15.6	C	15.6	C		
2025 Projected w/o Development	HCM 2000	TWSC	---	---	---	---	18.8	C	20.8	C	20.8	C		
2025 Projected w/Phase 1 Dev.	HCM 2000	TWSC	---	---	---	---	20.8	C	18.9	C	20.8	C		
2027 Projected w/o Development	HCM 2000	TWSC	---	---	---	---	20.3	C	22.5	C	22.5	C		
2027 Projected w/Phase 2 Dev.	HCM 2000	TWSC	---	---	---	---	23.0	C	20.4	C	23.0	C		
6. FM 973 at Driveway 1B (East Site Driveway)														
2025 Projected w/Phase 1 Dev.	HCM 6TH	OWSC	---	---	14.5	B	---	---	---	---	14.5	B		
2027 Projected w/Phase 2 Dev.	HCM 6TH	OWSC	---	---	15.8	C	---	---	---	---	15.8	C		
7. FM 973 at Driveway 2B (West Site Driveway)														
2025 Projected w/Phase 1 Dev.	HCM 6TH	OWSC	---	---	131.9	F	---	---	---	---	131.9	F		
2027 Projected w/Phase 2 Dev.	HCM 6TH	OWSC	---	---	209.4	F	---	---	---	---	209.4	F		
2027 Projected w/Phase 2 Dev.-signalized	HCM 6TH	80	---	---	37.9	D	18.0	B	30.1	C	26.7	C		
8. FM 973 at Taylor High School Driveway														
2022 Existing Conditions	HCM 6TH	OWSC	---	---	12.7	B	---	---	---	---	12.7	B		
2025 Projected w/o Development	HCM 6TH	OWSC	---	---	18.1	C	---	---	---	---	18.1	C		
2025 Projected w/Phase 1 Dev.	HCM 6TH	OWSC	---	---	21.2	C	---	---	---	---	21.2	C		
2027 Projected w/o Development	HCM 6TH	OWSC	---	---	19.9	C	---	---	---	---	19.9	C		
2027 Projected w/Phase 2 Dev.	HCM 6TH	OWSC	---	---	24.2	C	---	---	---	---	24.2	C		
9. FM 973 at Streamwood Trail														
2022 Existing Conditions	HCM 6TH	OWSC	15.3	C	---	---	---	---	---	---	15.3	C		
2025 Projected w/o Development	HCM 6TH	OWSC	34.6	D	---	---	---	---	---	---	34.6	D		
2025 Projected w/Phase 1 Dev.	HCM 6TH	OWSC	45.4	E	---	---	---	---	---	---	45.4	E		
2027 Projected w/o Development	HCM 6TH	OWSC	40.4	E	---	---	---	---	---	---	40.4	E		
2027 Projected w/Phase 2 Dev.	HCM 6TH	OWSC	57.3	F	---	---	---	---	---	---	57.3	F		
10. FM 973 at Wesley Miller Lane														
2022 Existing Conditions	HCM 2000	TWSC	10.4	B	14.0	B	---	---	---	---	14.0	B		
2025 Projected w/o Development	HCM 2000	TWSC	217.6	F	22.0	C	---	---	---	---	217.6	F		
2025 Projected w/Phase 1 Dev.	HCM 2000	TWSC	446.3	F	25.8	D	---	---	---	---	446.3	F		
2025 Projected w/Phase 1 Dev.-signalized	HCM 2000	80	31.4	C	32.6	C	31.7	C	13.9	B	20.7	C		
2027 Projected w/o Development	HCM 2000	TWSC	366.5	F	31.0	D	---	---	---	---	366.5	F		
2027 Projected w/Phase 2 Dev.	HCM 2000	TWSC	784.2	F	40.3	E	---	---	---	---	784.2	F		
2025 Projected w/Phase 1 Dev.-signalized	HCM 2000	80	31.2	C	32.6	C	37.7	D	19.7	B	25.8	C		
Signalized	TWSC - two-way stop control AWSC - all-way stop control													
Unsignalized	OWSC - one-way stop control													

Table 4. Weekday PM Peak Hour Simulation Results.

Intersection/Scenario	Analysis Method Reported	Traffic Control /Cycle Length (s)	PM Peak Hour										Overall Intersection Delay (s/v)	Overall Intersection LOS
			Eastbound		Westbound		Northbound		Southbound		Overall			
			Approach Delay (s/v)	LOS	Approach Delay (s/v)	LOS	Approach Delay (s/v)	LOS	Approach Delay (s/v)	LOS	Approach Delay (s/v)	LOS		
1. US 79 at FM 973														
2022 Existing Conditions	HCM 2000	Free/160	24.4	C	15.7	B	27.7	C	0.0	A	22.9	C		
2025 Projected w/o Development	HCM 2000	Free/160	30.1	C	20.3	C	35.1	D	0.0	A	28.9	C		
2025 Projected w/Phase 1 Dev.	HCM 2000	Free/160	36.2	D	21.9	C	54.0	D	0.0	A	38.5	D		
2025 Projected w/Phase 1 Dev. w/NB Dual Left	HCM 2000	Free/160	28.5	C	18.3	B	38.0	D	0.0	A	29.0	C		
2027 Projected w/o Development	HCM 2000	Free/160	37.0	D	33.2	C	46.1	D	0.0	A	38.3	D		
2027 Projected w/Phase 2 Dev.	HCM 2000	Free/160	41.6	D	58.9	E	52.5	D	0.0	A	49.5	D		
2027 Projected w/Phase 2 Dev. w/NB Dual Left	HCM 2000	Free/160	35.4	D	24.6	C	51.7	D	0.0	A	36.4	D		
3. US 79 at Driveway 2A (Site Driveway)														
2025 Projected w/Phase 1 Dev.	HCM 6TH	TWSC	---	---	---	---	10.7	B	---	---	10.7	B		
2027 Projected w/Phase 2 Dev.	HCM 6TH	TWSC	---	---	---	---	18.5	C	---	---	18.5	C		
4. US 79 at Crossover West of South Rio Grande Street														
2022 Existing Conditions	HCM 2000	OWSC	---	---	---	---	---	---	0.0	A	0.0	A		
2025 Projected w/o Development	HCM 2000	OWSC	---	---	---	---	---	---	0.0	A	0.0	A		
2025 Projected w/Phase 1 Dev.	HCM 2000	OWSC	---	---	---	---	---	---	0.0	A	0.0	A		
2027 Projected w/o Development	HCM 2000	OWSC	---	---	---	---	---	---	0.0	A	0.0	A		
2027 Projected w/Phase 2 Dev.	HCM 2000	OWSC	---	---	---	---	---	---	0.0	A	0.0	A		
5. US 79 at South Rio Grande Street														
2022 Existing Conditions	HCM 2000	TWSC	---	---	---	---	18.9	C	17.3	C	18.9	C		
2025 Projected w/o Development	HCM 2000	TWSC	---	---	---	---	22.5	C	20.0	C	22.5	C		
2025 Projected w/Phase 1 Dev.	HCM 2000	TWSC	---	---	---	---	29.6	D	21.2	C	29.6	D		
2027 Projected w/o Development	HCM 2000	TWSC	---	---	---	---	26.5	D	23.3	C	26.5	D		
2027 Projected w/Phase 2 Dev.	HCM 2000	TWSC	---	---	---	---	30.2	D	21.7	C	30.2	D		
6. FM 973 at Driveway 1B (East Site Driveway)														
2025 Projected w/Phase 1 Dev.	HCM 6TH	OWSC	---	---	16.9	C	---	---	---	---	16.9	C		
2027 Projected w/Phase 2 Dev.	HCM 6TH	OWSC	---	---	15.0	C	---	---	---	---	15.0	C		
7. FM 973 at Driveway 2B (West Site Driveway)														
2025 Projected w/Phase 1 Dev.	HCM 6TH	OWSC	---	---	26.4	C	---	---	---	---	26.4	C		
2027 Projected w/Phase 2 Dev.	HCM 6TH	OWSC	---	---	30.4	D	---	---	---	---	30.4	D		
2027 Projected w/Phase 2 Dev.-signalized	HCM 6TH	80	---	---	37.5	D	14.0	B	8.9	A	13.7	B		
8. FM 973 at Taylor High School Driveway														
2022 Existing Conditions	HCM 6TH	OWSC	---	---	11.5	B	---	---	---	---	11.5	B		
2025 Projected w/o Development	HCM 6TH	OWSC	---	---	13.6	B	---	---	---	---	13.6	B		
2025 Projected w/Phase 1 Dev.	HCM 6TH	OWSC	---	---	17.0	C	---	---	---	---	17.0	C		
2027 Projected w/o Development	HCM 6TH	OWSC	---	---	15.2	C	---	---	---	---	15.2	C		
2027 Projected w/Phase 2 Dev.	HCM 6TH	OWSC	---	---	16.1	C	---	---	---	---	16.1	C		
9. FM 973 at Streamwood Trail														
2022 Existing Conditions	HCM 6TH	OWSC	0.0	A	---	---	---	---	---	---	0.0	A		
2025 Projected w/o Development	HCM 6TH	OWSC	15.9	C	---	---	---	---	---	---	15.9	C		
2025 Projected w/Phase 1 Dev.	HCM 6TH	OWSC	20.5	C	---	---	---	---	---	---	20.5	C		
2027 Projected w/o Development	HCM 6TH	OWSC	20.7	C	---	---	---	---	---	---	20.7	C		
2027 Projected w/Phase 2 Dev.	HCM 6TH	OWSC	23.7	C	---	---	---	---	---	---	23.7	C		
10. FM 973 at Wesley Miller Lane														
2022 Existing Conditions	HCM 2000	TWSC	10.2	B	11.7	B	---	---	---	---	11.7	B		
2025 Projected w/o Development	HCM 2000	TWSC	13.2	B	13.0	B	---	---	---	---	13.2	B		
2025 Projected w/Phase 1 Dev.	HCM 2000	TWSC	15.8	C	16.0	C	---	---	---	---	16.0	C		
2025 Projected w/Phase 1 Dev.-signalized	HCM 2000	80	36.9	D	37.0	D	8.0	A	5.2	A	7.7	A		
2027 Projected w/o Development	HCM 2000	TWSC	15.9	C	14.4	B	---	---	---	---	15.9	C		
2027 Projected w/Phase 2 Dev.	HCM 2000	TWSC	17.1	C	15.1	C	---	---	---	---	17.1	C		
2025 Projected w/Phase 1 Dev.-signalized	HCM 2000	80	36.9	D	37.0	D	6.8	A	7.0	A	7.6	A		
Signalized	TWSC - two-way stop control AWSC - all-way stop control													
Unsignalized	OWSC - one-way stop control													

SECTION 8. TRAFFIC SIGNAL WARRANT

The site driveway on US 79 is right-in/right-out only due to the divided highway configuration of US 79 and there is no indication that a full access with a crossover would be considered or allowed by TxDOT for this site driveway. Access to US 79 was not considered for any configuration other than right-in/right-out.

Driveway 1B on FM 973, to be constructed during Phase 1 of development will be restricted to right-in/right-out access and would not be a candidate for signalization.

Driveway 2B on FM 973, anticipated to be constructed later in Phase 1 or in the early portion of Phase 2 of development is a good candidate for signalization as it is located about 1100' south of US 79 and would be a logical location for a signal-controlled intersection providing access to the subject tract as well as to the commercially zoned tract west of FM 973 across from the site.

Per procedures outlined in the Texas Manual on Uniform Traffic Control Devices (TxMUTCD) (3), a traffic signal warrant analysis was conducted using the projected hourly volumes with full buildout of the Gateway development at the FM 973 at Driveway 2B intersection. The peak period trip estimates were added to the peak-hour traffic volume counts that were conducted on US 79 at FM 973, projected by 5% per annum to reflect 2027 conditions. This assessment also assumes that Driveway 1B is right-in/right-out only and all left turn demand to/from FM 973 occurs at Driveway 2B.

The analysis results and warrant requirements are attached in Appendix E.

A traffic signal would be warranted for the FM 973 at Driveway 2B intersection for projected conditions. The analysis showed that:

- Warrant 1 (Eight Hour) met for 13 hours (8 required)
- Warrant 2 (Four Hour) met for 12 hours (4 required)
- Warrant 3 (Peak Hour) met for 9 hours (1 required, if applicable)

We would recommend a traffic signal be installed at the developers cost prior to complete build-out of Phase 1 if TxDOT requires right-in/right-out only restrictions at Driveway 1B, but construction of the signal during Phase 2 of development regardless of access restrictions at Driveway 1B. When a traffic signal is installed at Driveway 2B pavement marking modifications to designate a southbound left turn lane would be required.

SECTION 9. ANALYSIS OF AUXILIARY LANE WARRANTS

The proposed driveways to US 79 and FM 973 were examined for the need for right turn speed change lanes using the Texas Department of Transportation (TxDOT) *Access Management Manual* and *Roadway Design Manual* guidelines. In general, a right turn deceleration lane may be needed on roadways with a posted speed limit of 45 mph or higher when right turning volumes exceed 50 vehicles per hour. The speed limit on US 79 is 65 mph and speed limit on FM 973 is 55 mph along the site frontage.

The projected peak hour right turn movements at each driveway, and if a right turn deceleration lane is warranted is summarized below:

- Driveway 2A (US 79):
 - AM Peak Hour: 284 right turns at full buildout
 - PM Peak Hour: 267 right turns at full buildout
 - Right turn deceleration lane warranted, constructed when tied-in to US 79
- Driveway 1B (FM 973):
 - AM Peak Hour: 105 right turns at full buildout
 - PM Peak Hour: 116 right turns at full buildout
 - Right turn deceleration lane warranted, constructed when tied-in to US 79
- Driveway 2B (FM 973):
 - AM Peak Hour: 26 right turns at full buildout
 - PM Peak Hour: 19 right turns at full buildout
 - Right turn deceleration lane not warranted by volume but required per TxDOT based on speed/safety concerns. To be constructed when tied-in to US 79.

Per Table 3-3 of the Roadway Design Manual, the deceleration lane on US 79 at Driveway 2A would have 30' storage and 415' deceleration length. The deceleration lane should be 12' wide with minimum 4' to maximum 12' shoulder (width to be determined with TxDOT coordination) and be designated with pavement markings and signing to TxDOT standards. The yield markings and lane edge markings should be refreshed for the northbound FM 973 approach to US 79 as part of the improvement. This configuration retains the current acceleration lane for the right turn movement from northbound on FM 973 to eastbound on US 79.

Per Table 3-3 of the Roadway Design Manual, the right turn deceleration lane on FM 973 at Driveway 1B would be required to have 30' storage and 415' deceleration length. Due to spacing limitations upstream to Driveway 2B, the total length provided would be 421' length with 76' taper. The right turn deceleration lane on FM 973 at Driveway 2B provides the RDM required 445' long deceleration lane with 100' taper.

Both deceleration lanes on FM 973 should be 12' wide with minimum 4' shoulder (width to be confirmed with TxDOT coordination) and be designated with pavement markings and signing to TxDOT standards.

SECTION 10. FINDINGS AND RECOMMENDATIONS

This section of the report summarizes the overall impact of the Taylor Gateway development and includes discussion about recommended site access, traffic control, and other improvements or operations issues that should be addressed as the development is built-out and occupied.

Traffic Operations Analysis

The traffic simulation analysis revealed that the added traffic during the AM and PM peak periods attributed to the proposed development will have marginal impacts at study intersections, with

reductions in level of service attributable to background traffic growth in addition to the additional development related trips. Observations from the simulation analysis included:

- The AM peak hour is very much influenced by school-related traffic, with several intersections expected to experience undesirable LOS during that period – these are discussed in more detail below. The PM peak hour shows LOS D or better at all study intersections for all scenarios and there will be less emphasis in discussion for the afternoon peak hour. As of February 2024, the PM peak hour traffic conditions along FM 973 are being influenced by construction-related traffic associated with the Samsung plant west of the study area. The plant construction will have additional roadway capacity and connections to US 79 that will relieve traffic volumes on FM 973 in the study area.
- The signalized intersection of US 79 at FM 973 will begin to see increased delays and degraded levels of service with and without traffic associated with the development, particularly in the AM peak hour:
 - With phase 1 of development, LOS moves from D to E and optimizing the signal timings does not bring LOS back to D. Added capacity would be required to improve the LOS.
 - At the request of the City of Taylor, a scenario with dual left turns northbound on FM 973 at US 79, with addition of a new right turn deceleration/turn lane on the approach, was added to the analysis. This improvement would bring LOS back to D in the buildout year of the development (with associated signal timing adjustments), inclusive of background developments (Castlewood and Phase 1 of Samsung).
 - TxDOT should consider improvements at this intersection based on projected conditions with or without the subject development, including modifications to provide northbound dual left turns from FM 973 to US 79 and adding new pavement for an associated dedicated northbound right turn lane. This improvement should be coordinated with TxDOT to determine responsibility for the improvement (either by the developer, by TxDOT, or a combination of the two parties).
- By others - signalize the intersection of FM 973 at Wesley Miller Lane as this intersection currently meets volume warrants (at least for peak hour Warrant #3) due to school related traffic. This improvement should not be the responsibility of the developer, but TxDOT (or other entity) since it is currently warranted. This improvement lets in January 2025 and should be completed sometime in 2025.

- The site driveway on US 79 is anticipated to have LOS B operation in the AM peak hour and LOS C in the PM peak hour, typically considered acceptable for urban and suburban conditions. No mitigation for LOS or delays is required.
- Proposed Driveway 1B on FM 973 (the easternmost driveway) is required to be right-in/right-out only by TxDOT. At full buildout, this driveway approach will experience LOS C during the peak hours.
- Proposed Driveway 2B on FM 973 (the westernmost driveway) is proposed as full access, but with only stop control would be projected to be LOS F in the AM Peak hour (with D in the PM peak hour). This intersection does meet warrants for signalization (see below). Signalization improves LOS to C in the AM peak hour and LOS B in the PM peak hour.

Compliance With Access Management Guidelines

TxDOT *Access Management Manual* guidelines specify that for highways with posted speed limits equal to or greater than 50 mph (as is the case on US 79 and FM 973) the required access spacing is 425'. The provided spacing at proposed site driveways are:

4. Driveway 2A, a right-in/right-out driveway on US 79 located about 1070' east of FM 973;
5. Driveway 1B, a full-access driveway on FM 973 located about 570' south of US 79; and
6. Driveway 2B, a full-access driveway on FM 973 located about 520' south of Driveway 1B and 650' north of the Taylor High School north site driveway.

Each of the site driveways meet the TxDOT access spacing standards. No modifications are needed to comply with the Access Management Manual guidelines. However, the requirement for speed change lanes (right turn deceleration lanes) may cause the resulting access separation distances to be greater than those per Table 2-2 of the AMM.

Analysis of Auxiliary Lane Warrants

The proposed driveways to US 79 and FM 973 were examined for the need for right turn speed change lanes using the Texas Department of Transportation (TxDOT) *Access Management Manual* and *Roadway Design Manual* guidelines. In general, a right turn deceleration lane may be needed on roadways with a posted speed limit of 45 mph or higher when right turning volumes exceed 50 vehicles per hour. The speed limit on US 79 is 65 mph and speed limit on FM 973 is 55 mph along the site frontage. If a right turn deceleration lane is warranted is summarized below:

- Driveway 2A (US 79):
 - Right turn deceleration lane warranted, constructed when tied-in to US 79
- Driveway 1B (FM 973):
 - Right turn deceleration lane warranted, constructed when tied-in to US 79
- Driveway 2B (FM 973):
 - Right turn deceleration lane marginally warranted by volume but required per TxDOT based on speed/safety concerns. To be constructed when tied-in to US 79.

Per Table 3-3 of the Roadway Design Manual, the deceleration lane on US 79 at Driveway 2A would have 30' storage and 415' deceleration length. The deceleration lane should be 12' wide with minimum 4' to maximum 12' shoulder (width to be determined with TxDOT coordination) and be designated with pavement markings and signing to TxDOT standards. The yield markings and lane edge markings should be refreshed for the northbound FM 973 approach to US 79 as part of the improvement. This configuration retains the current acceleration lane for the right turn movement from northbound on FM 973 to eastbound on US 79.

Per Table 3-3 of the Roadway Design Manual, the right turn deceleration lane on FM 973 at Driveway 1B would be required to have 30' storage and 415' deceleration length. Due to spacing limitations upstream to Driveway 2B, the total length provided would be 421' length with 76' taper. The right turn deceleration lane on FM 973 at Driveway 2B provides the RDM required 445' long deceleration lane with 100' taper. Both deceleration lanes on FM 973 should be 12' wide with minimum 4' shoulder (width to be confirmed with TxDOT coordination) and be designated with pavement markings and signing to TxDOT standards.

Traffic Signal Warrant

Driveway 2B on FM 973 was found to meet warrants for signalization at full buildout (and likely earlier) of the site. Per procedures outlined in the Texas Manual on Uniform Traffic Control Devices (TxMUTCD) (3), a traffic signal warrant analysis was conducted using the projected hourly volumes with development at the FM 973 at Driveway 2B intersection. The analysis results and warrant requirements are attached in Appendix E. The analysis showed:

- Warrant 1 (Eight Hour) met for 13 hours (8 required)
- Warrant 2 (Four Hour) met for 12 hours (4 required)
- Warrant 3 (Peak Hour) met for 9 hours (1 required, if applicable)

We would recommend a traffic signal be installed at the developers cost prior to complete build-out of Phase 1.

Access Driveway Recommendations

The development is proposed to have one driveway with access to US 79 and two driveways connecting to FM 973. Proposed site driveways include:

4. Driveway 2A, a right-in/right-out driveway on US 79 located about 1070' east of FM 973;
5. Driveway 1B, a full-access driveway on FM 973 located about 570' south of US 79; and
6. Driveway 2B, a full-access driveway on FM 973 located about 1100' south of US 79.

The site plan is conceptual, but Driveway 2A on US 79 is right-in/right-out, so one lane in and one lane out will be adequate, with geometry provided to accommodate truck trips to the site to service the convenience store/gas station (refueling truck) and other retail developments within the site at Driveway 2A (likely 35' width with 40' radii). Driveway 1B on FM 973 should provide one lane in and one lanes out, with porkchop divider per TxDOT Austin District requirements. Driveway 2B on FM 973 should provide one lane in and two lanes out, designated as left-only and right-only.

Driveway 1B should also be designed to accommodate service truck access, with geometry adequate to accommodate larger truck turns into and out of the site while minimizing encroachment into opposing lanes without off-tracking.

A standard R6-1R “ONE WAY” (arrow to right) sign should be installed across from Driveway 2A on US 79 at the time the driveway is constructed. A standard R3-2 “NO LEFT TURN” sign should be posted on the southbound approach of FM 973 at and on the driveway approach to FM 973 to enforce the right-in/right-out only movements.

Calculation of Pro-rata Contribution for Traffic Signal at FM 973 at Wesley Miller Lane

The intersection of FM 197 at Wesley Miller Lane warrants signalization under existing conditions, but the Gateway development will add a marginal amount of traffic to the intersection. As of July 1, 2024, TxDOT indicated that the signal would be let for construction in January 2025. Per City of Taylor request, the developer of the Gateway project was asked to make a financial contribution towards construction of the signal based on a pro-rata share of peak hour traffic in the buildout year of the Gateway development. However, if the project is funded and letting in January 2025 to be constructed by TxDOT, the city should confirm if this pro-rata contribution is still required.

If this contribution is still required, the calculation is based on the total of AM and PM peak hour traffic in the Gateway buildout year with development traffic versus the buildout year traffic estimates without the Gateway development. These values come from Tables C11 (without development) and C17 (with development) in Appendix C. With a \$300,000 estimated cost of construction of a signal at the intersection, the calculation is as follows:

Percentage Increase =

$$[(\text{AM+PM intersection volumes with development}) - (\text{AM+PM intersection volumes without development})] / [(\text{AM+PM intersection volumes without development}) \times 100].$$

$$[(3243 - 3020) / 3020] \times 100 = 7.37\%$$

Calculation of pro-rata calculation:

$$7.37\% \times \$300,000 = \$22,119 \text{ (amount of contribution paid to City of Taylor by developer, if required).}$$

Summary of Mitigation Required

The required mitigation, and responsibility thereof, to accommodate the Gateway Development includes:

Mitigation	Trigger	Responsible Party
Add right turn deceleration lane at Driveway 2A on US 79	Upon construction and tie-in of driveway	Developer
Add right turn deceleration lane and directional porkchop at Driveway 1B (east) on FM 973	Upon construction and tie-in of driveway	Developer
Add right turn deceleration lane at Driveway 2B on FM 973	Upon construction and tie-in of driveway	Developer
Add traffic signal at Driveway 2B at FM 973	Prior to substantial completion of Phase 1 of development.	Developer
Add northbound right turn deceleration lane on FM 973 at US 79 (with associated median island and traffic signal modifications)	Prior to substantial completion of Phase 1 of development.	Developer and/or TxDOT (further coordination required)
Pro-rata contribution for traffic signal installation at FM 973 at Wesley Miller Lane	If still required by City of Taylor (projected funded and to be let by TxDOT)	Developer

REFERENCES

1. Trip Generation Handbook Trip Generation, 11th Edition, Institute of Transportation Engineers, Washington, DC, via website.
2. Highway Capacity Manual, 6th Edition Transportation Research Board, National Research Council, Washington, DC, 2016.
3. Texas Manual of Uniform Traffic Control Devices, Texas Department of Transportation, 2011.

Appendix A – Exhibits



Exhibit A1. Site Location Map.
North to top of page, Not to Scale.



Lot	Land Use	Bldg. Sq. Ft. / Units	Parking Ratio	Required Parking	Provided Parking
1	Retail/Restaurant	4,400 Sq. Ft.	1/200	22 spaces	*41 spaces
2,3	Gas Station/Convenience Store	5,200 Sq. Ft.	1/100	52 spaces	*69 spaces
4,5	Retail/Restaurant	22,700 Sq. Ft.	1/200	114 spaces	*112 spaces
6	Hotel	150 rooms	0.89/room	134 spaces	*134 spaces
7	Hotel	150 rooms	0.89/room	134 spaces	35 on street spaces 128 parking lot spaces *120 spaces total
8,9	Retail/Restaurant	15,000 Sq. Ft.	1/200	75 spaces	
10	Multi-Family Residential	16 units	1.7/unit	27 spaces	
	Live-Work Residential	12 units	2/unit	24 spaces	*72 spaces total
11	Live-Work Commercial	12,000 Sq. Ft.	3/1000	36 spaces	
	Live-Work Residential	17 units	2/unit	34 spaces	*91 spaces total
12	Live-Work Commercial	17,000 Sq. Ft.	3/1000	51 spaces	
	Multi-Family Residential	24 units	1.7/unit	41 spaces	*52 spaces
13	Multi-Family Residential	144 units	1.7/unit	245 spaces	*243 spaces
14,15	Multi-Family Residential	72 units	1.7/unit	122 spaces	*128 spaces
16,17	Townhome	30 units	2/unit	60 spaces	*60 spaces
				1171 spaces	1285 spaces

* Conceptual parking count only, site plans are needed to verify.



SEC Planning, LLC

Land Planning + Landscape Architecture + Community Branding

AUSTIN, TEXAS
t.512.246.7003
www.secplanning.com + info@secplanning.com

MARKETING EXHIBIT

GATEWAY

TAYLOR, TEXAS

Exhibit A2. Proposed Site Plan.



0 100' 200' 400'

North

Scale: 1" = 200'

Date: October 05, 2023

SHEET FILE: I:\210152-GAOZ\Cadfiles\PLANNING\Exhibits\Concept C Marketing Exhibit.dwg

Base mapping compiled from best available information. All map data should be considered as preliminary, in need of verification, and subject to change. This land plan is conceptual in nature and does not represent any regulatory approval. Plan is subject to change.



Exhibit A3. Conceptual Site Layout with Preliminary Access Locations.
North to top of page, not to scale.

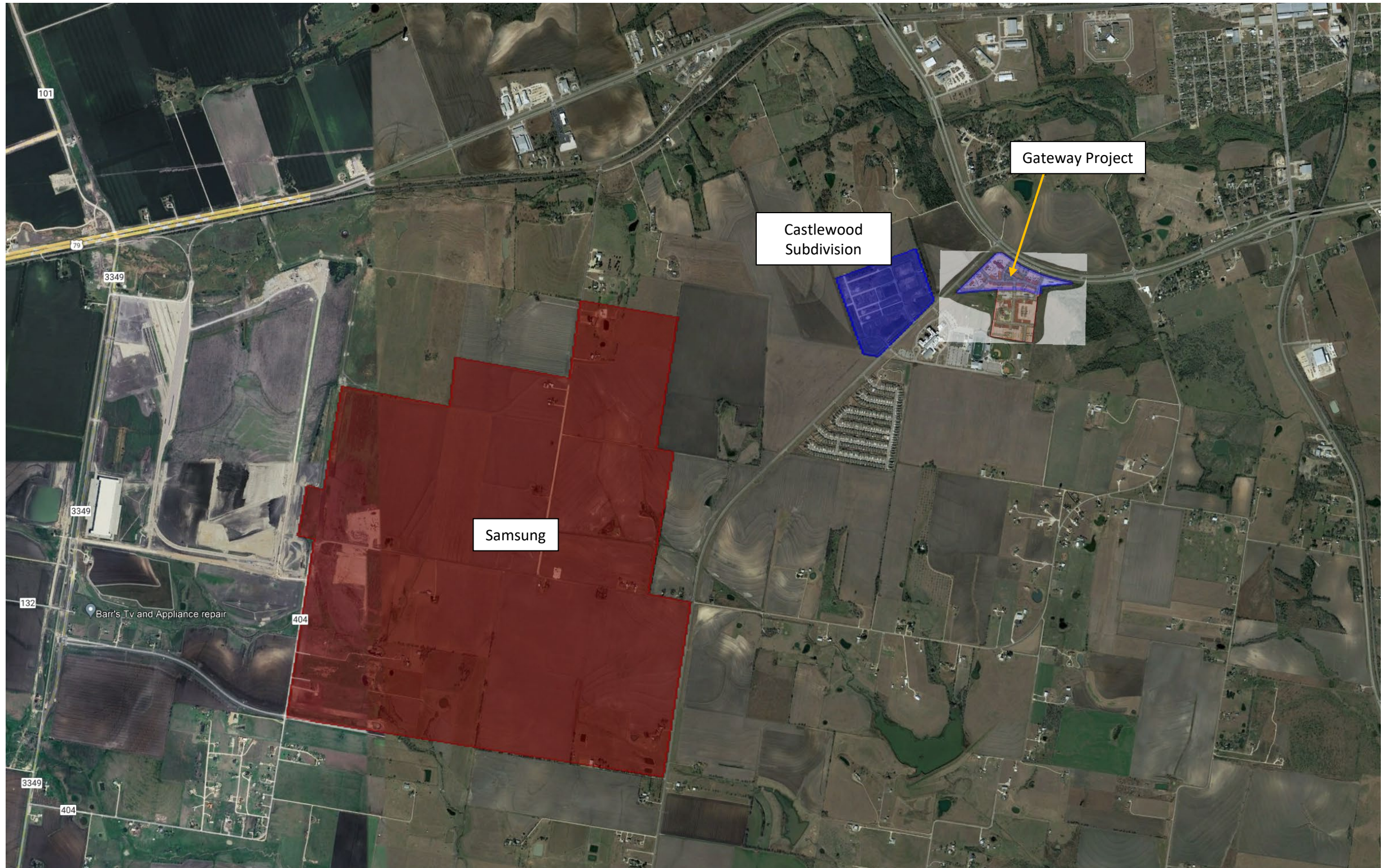
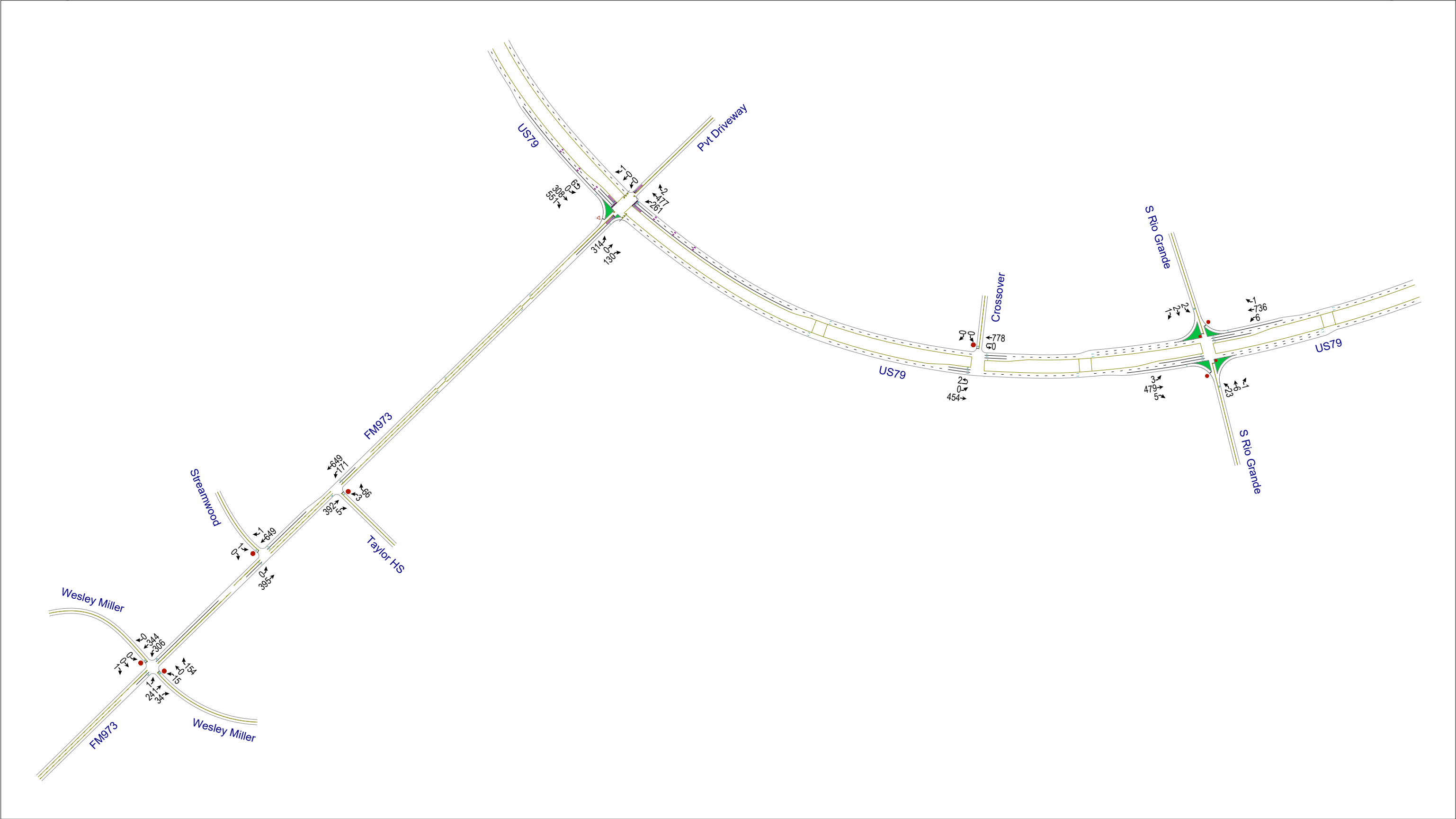
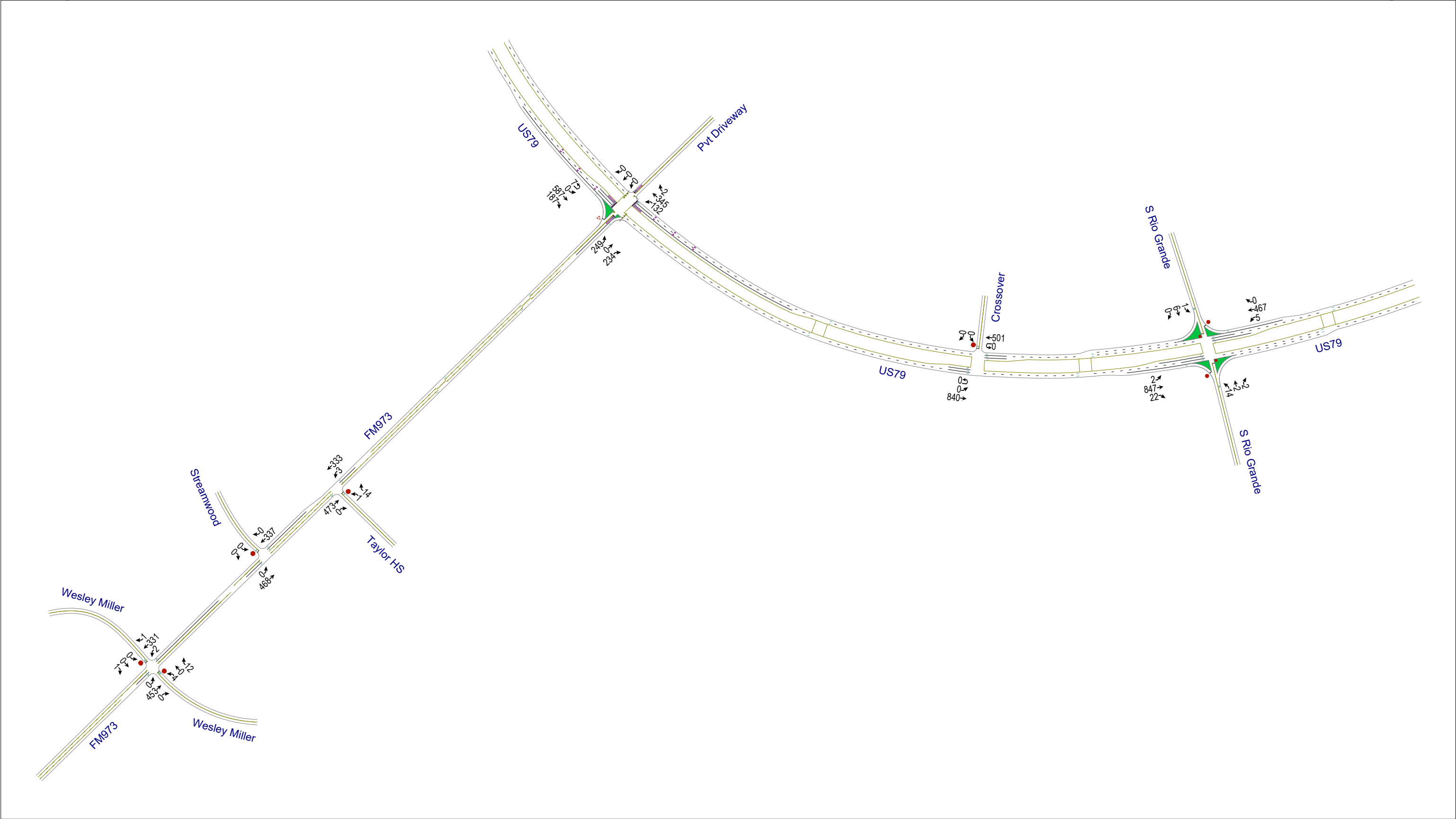


Exhibit A4-A. Background Developments In The Study Area
North to top of page, not to scale.



Not To Scale
North to Top of Page



Not To Scale
North to Top of Page

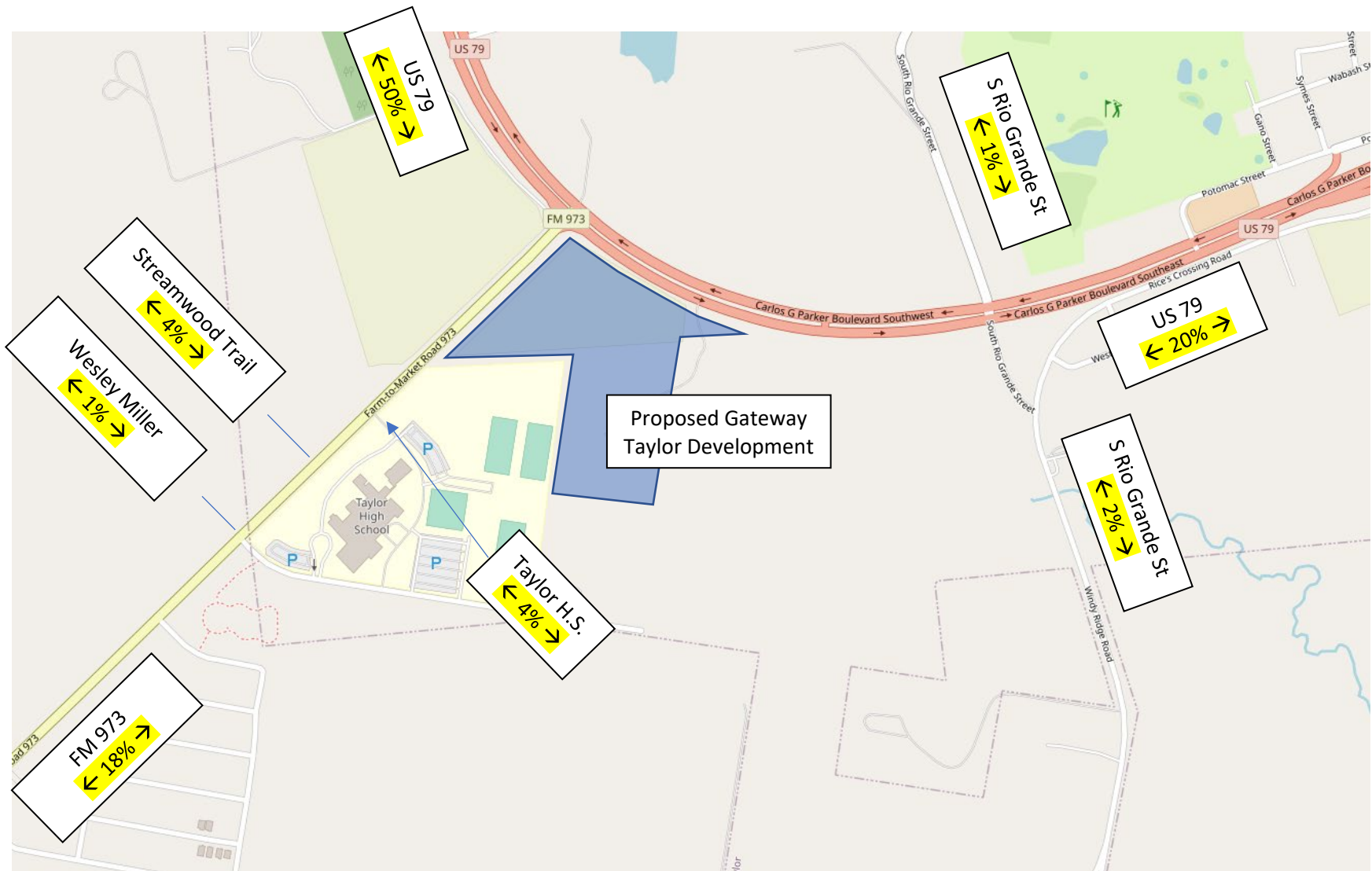


Exhibit A7. Trip Distribution: AM & PM Peak Origins/Destinations (Phase 1 Build-Out).

North to top of page, Not to Scale.

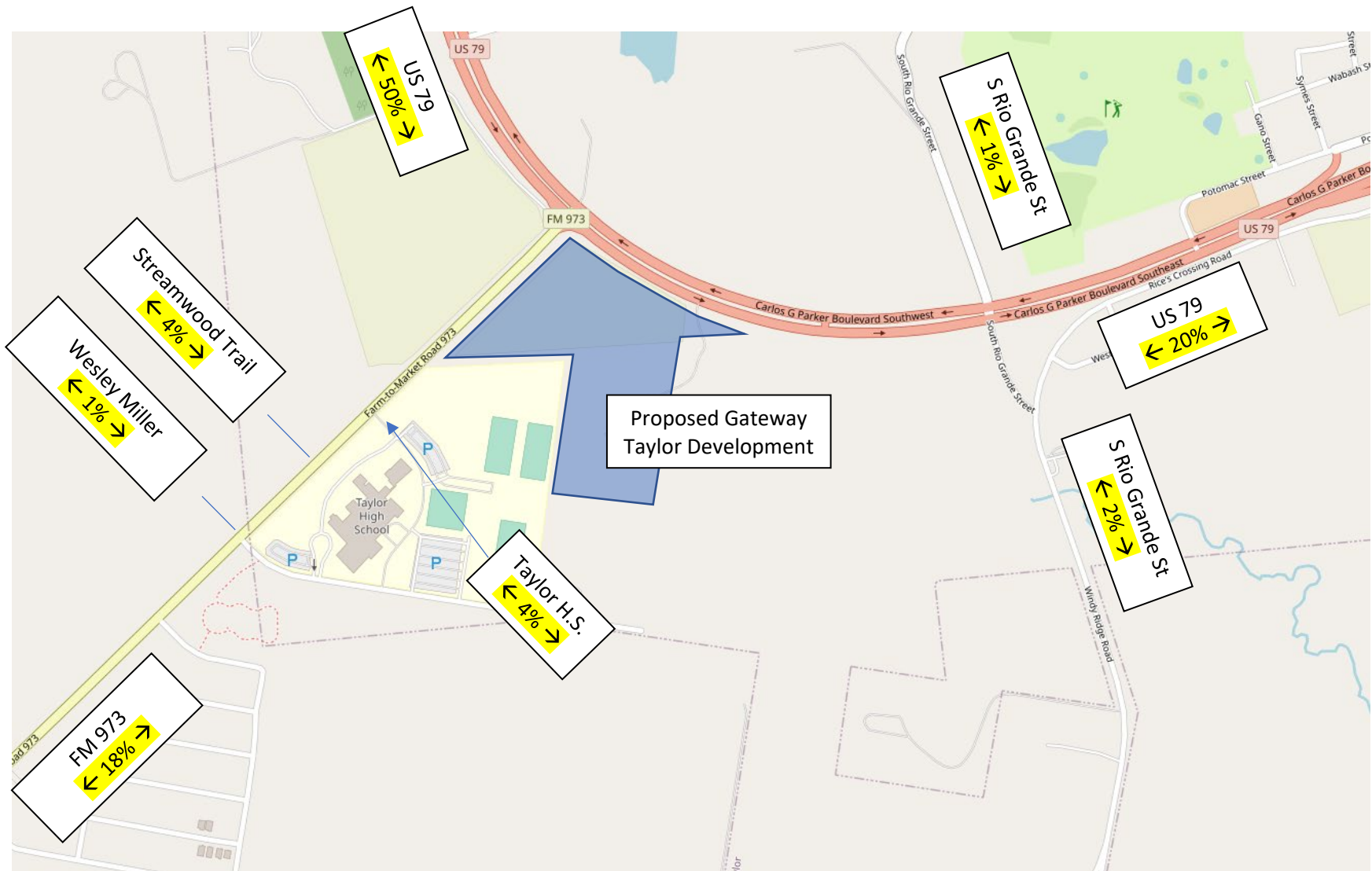
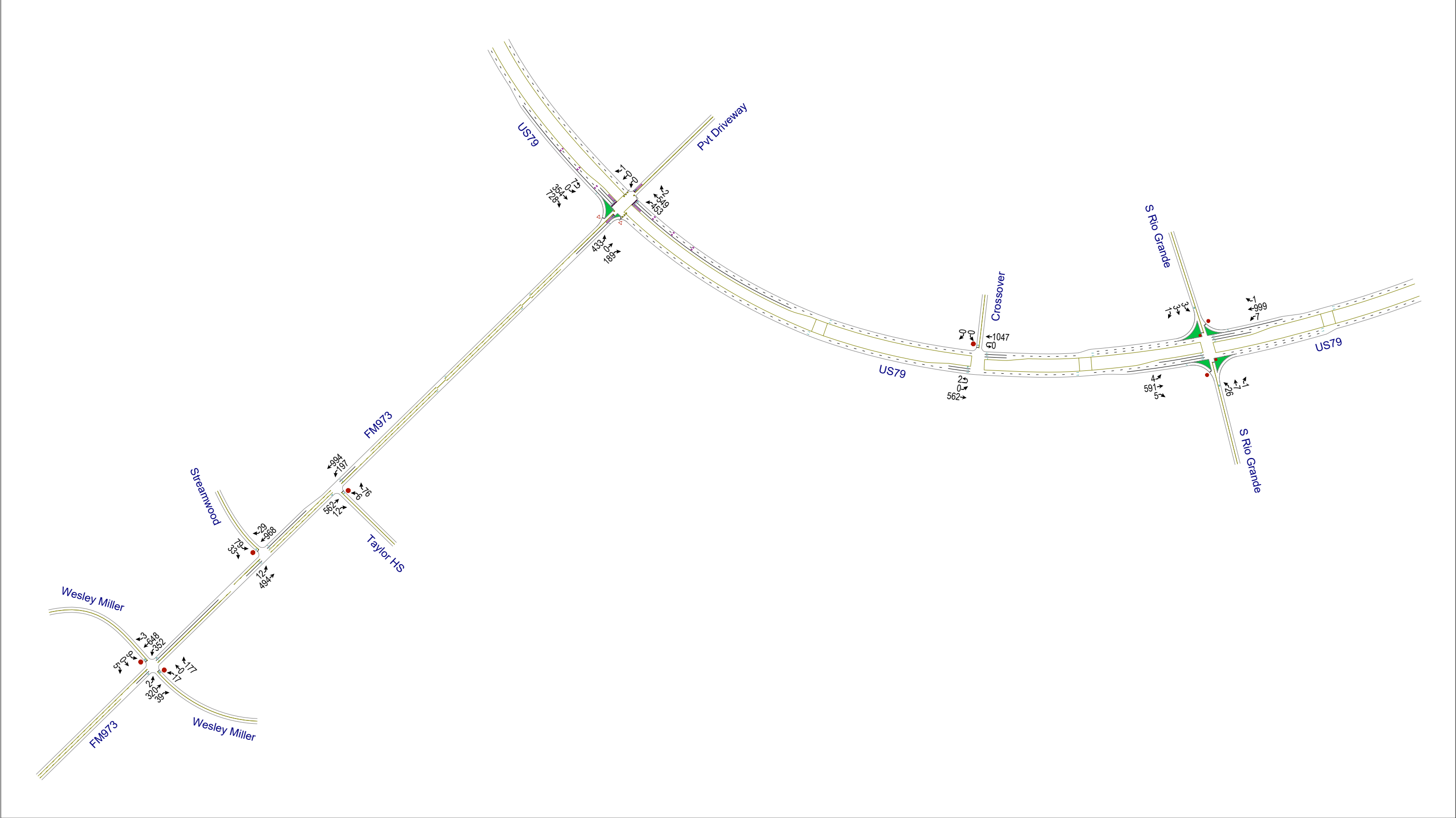
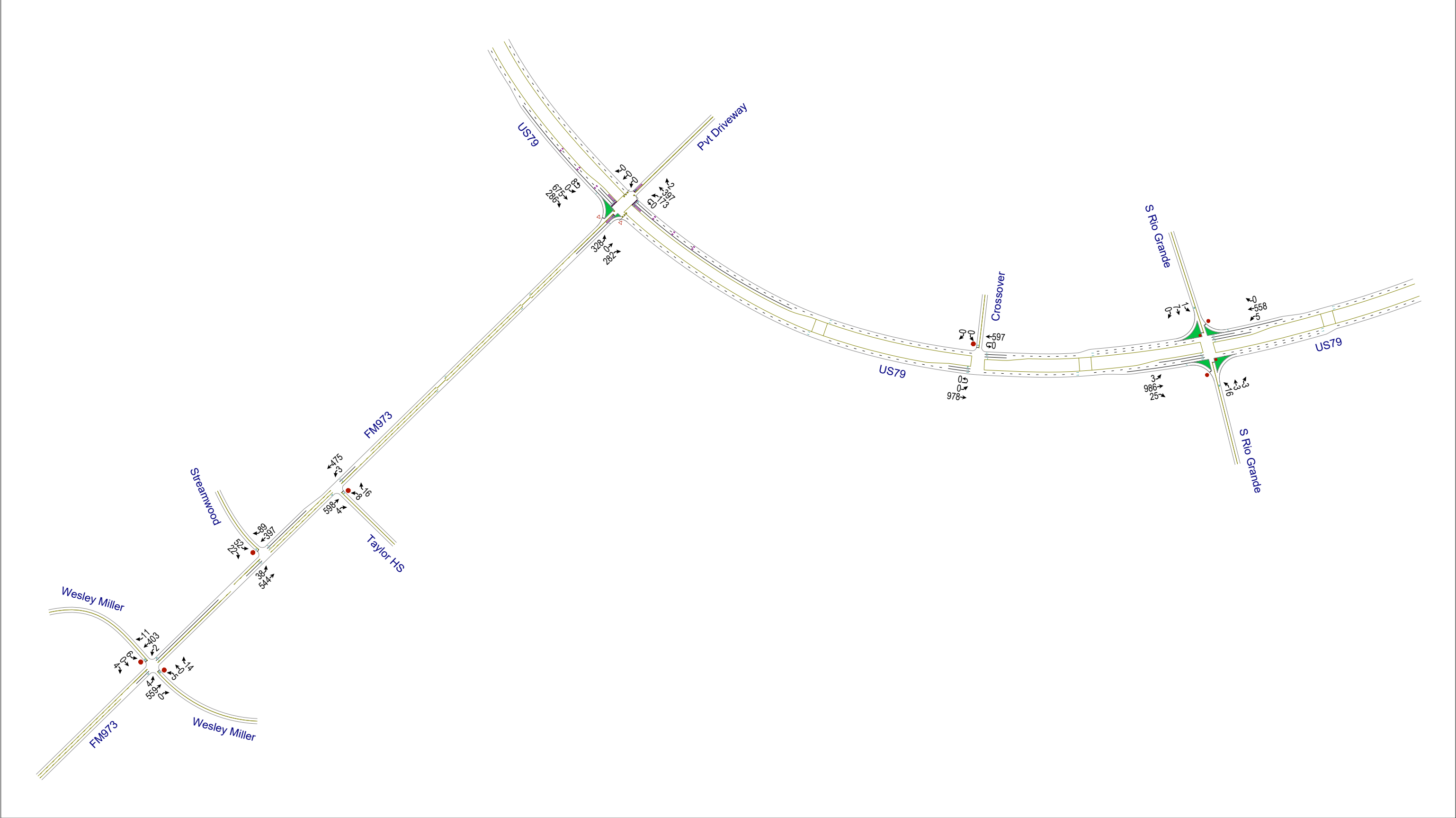


Exhibit A8. Trip Distribution: AM & PM Peak Origins/Destinations (Phase 2 Build-Out).

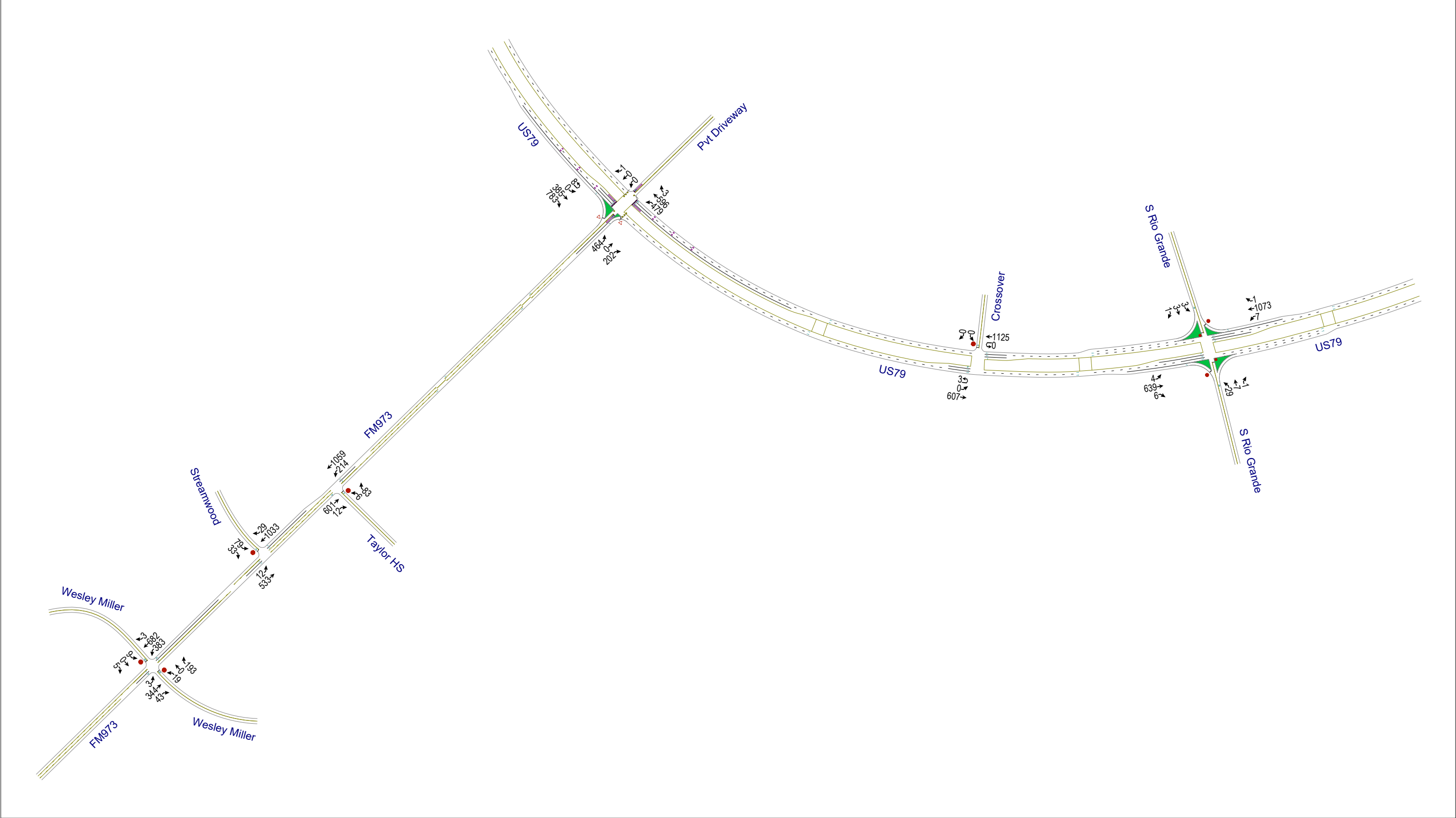
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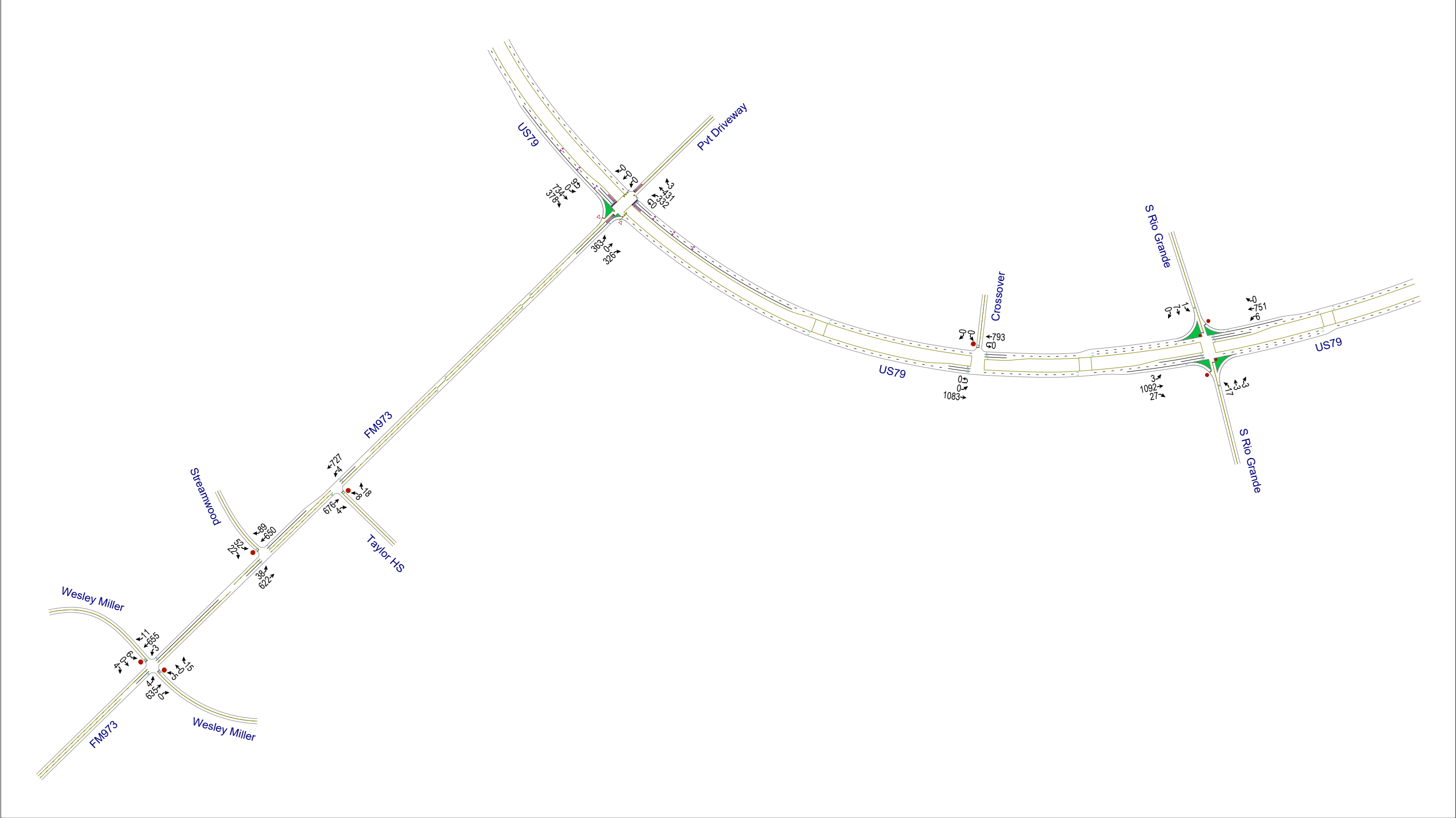
Not To Scale
North to Top of Page



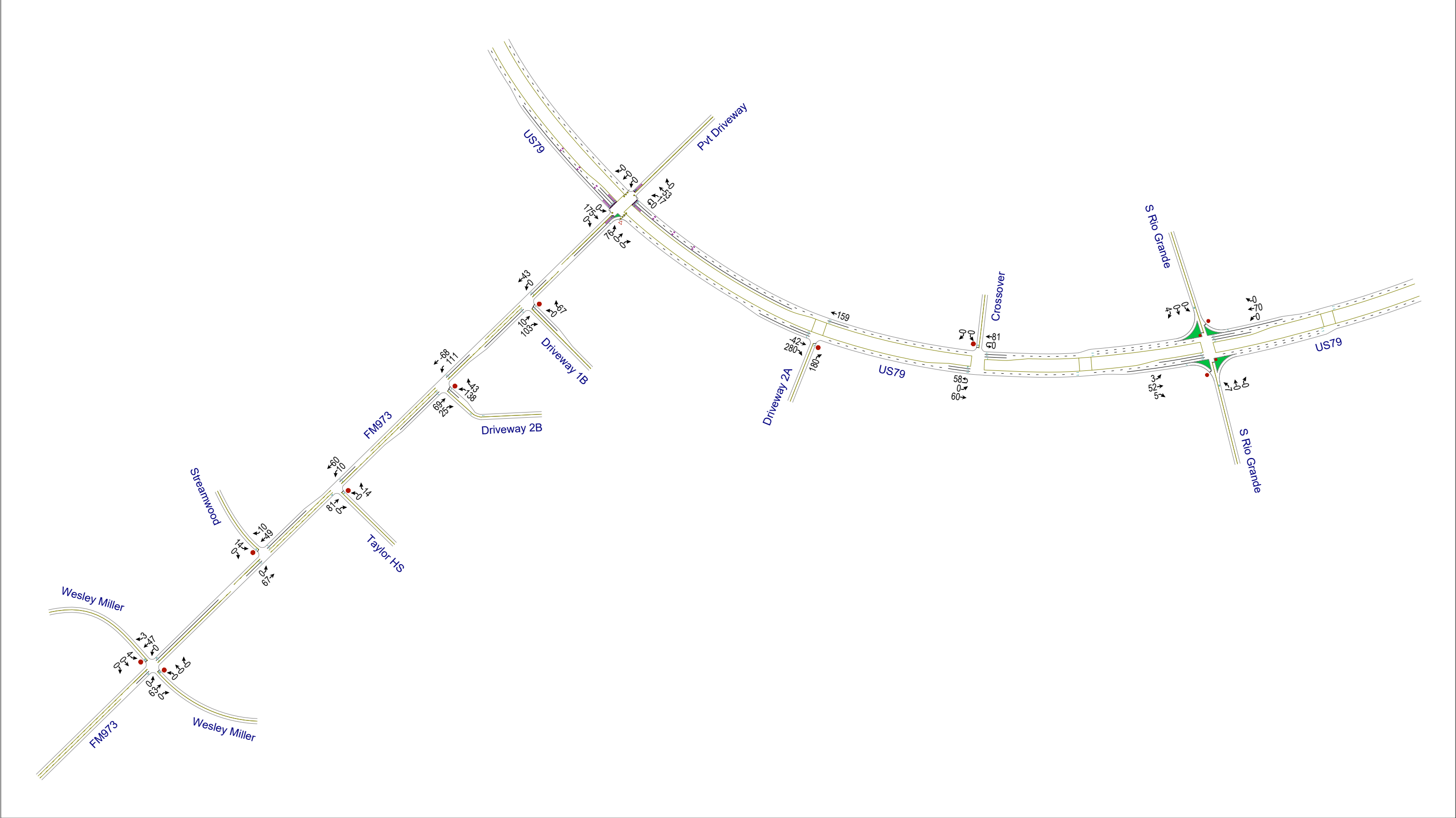
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North to Top of Page



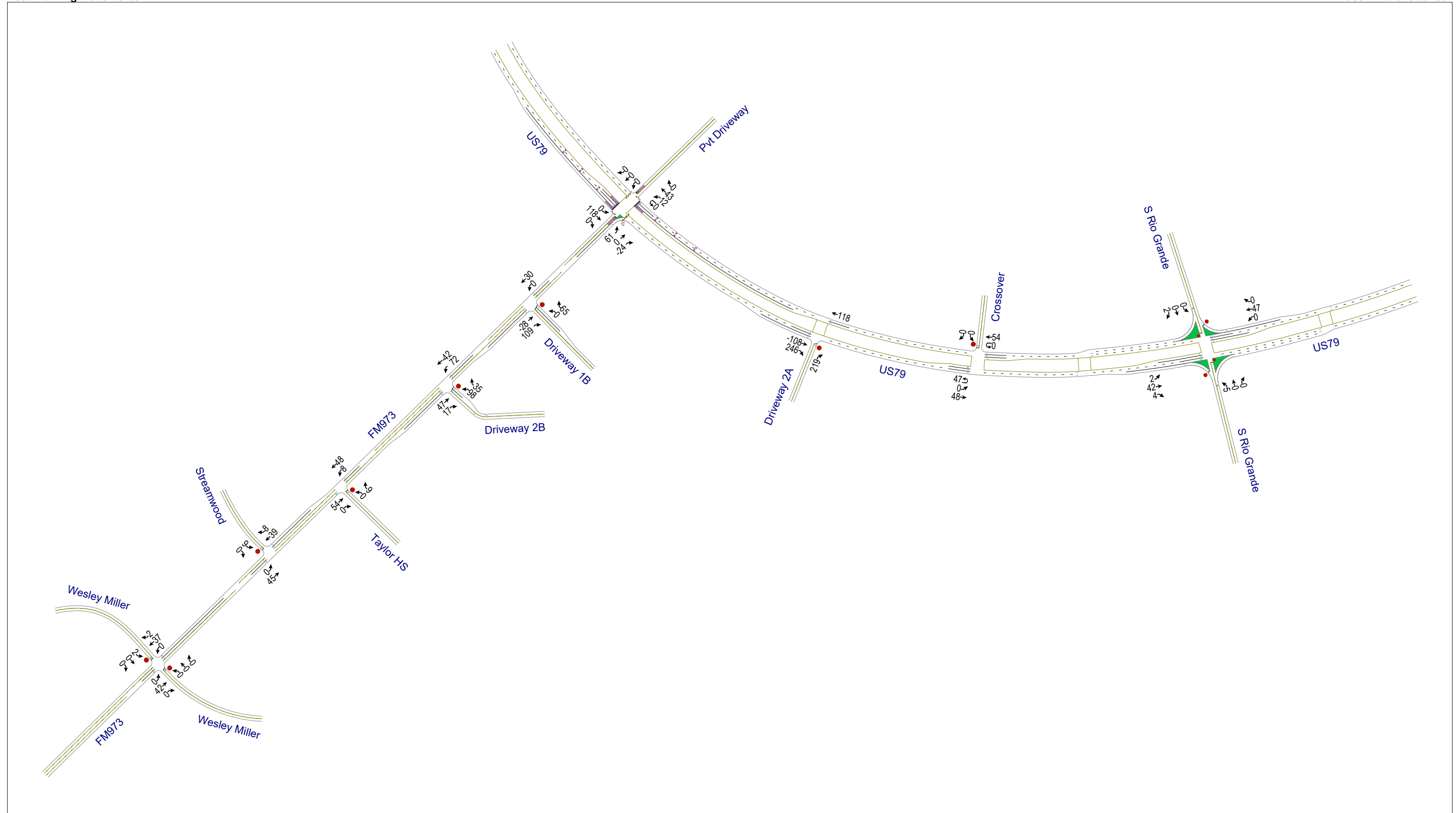
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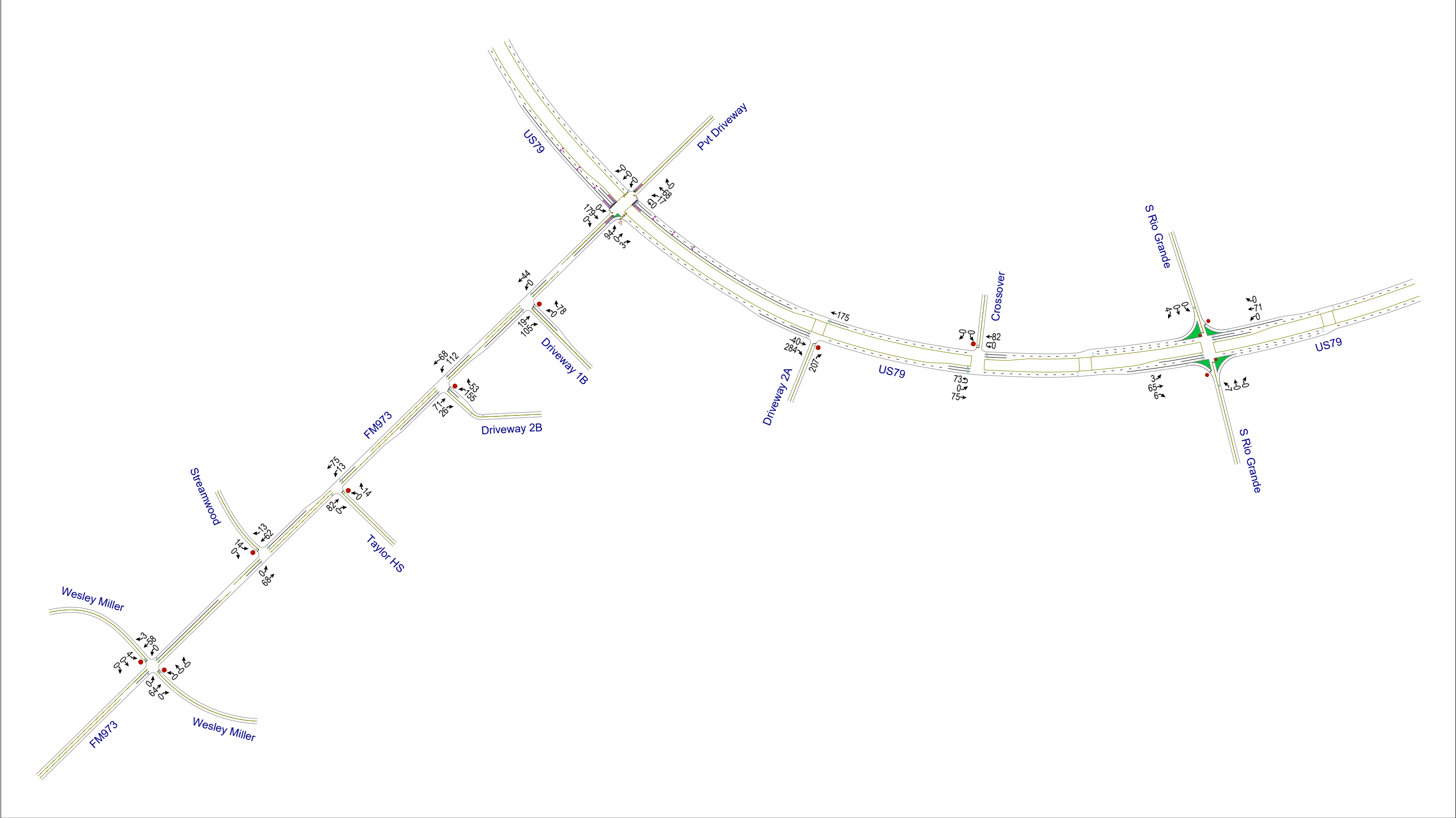
Not To Scale
North to Top of Page



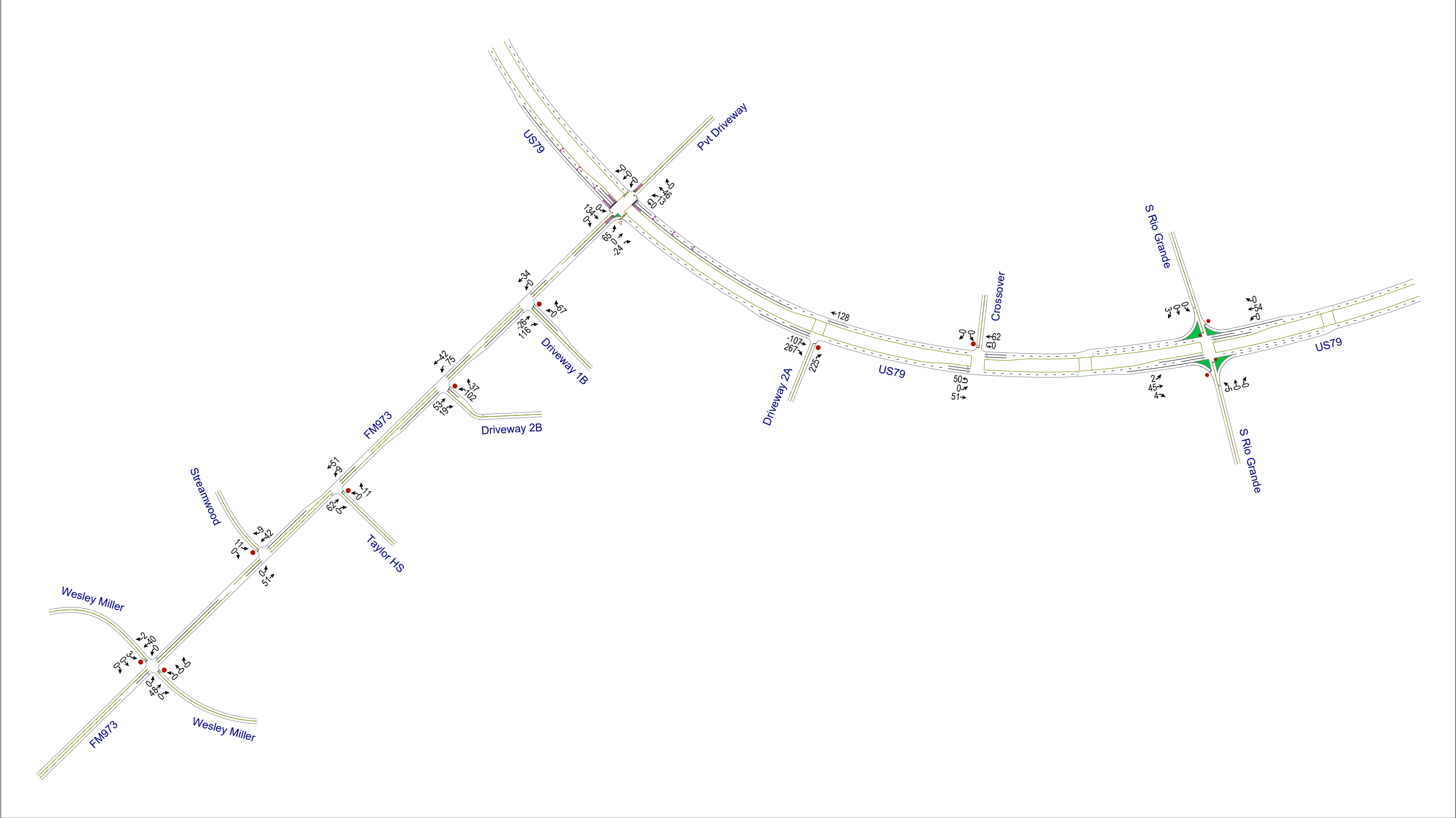
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North to Top of Page



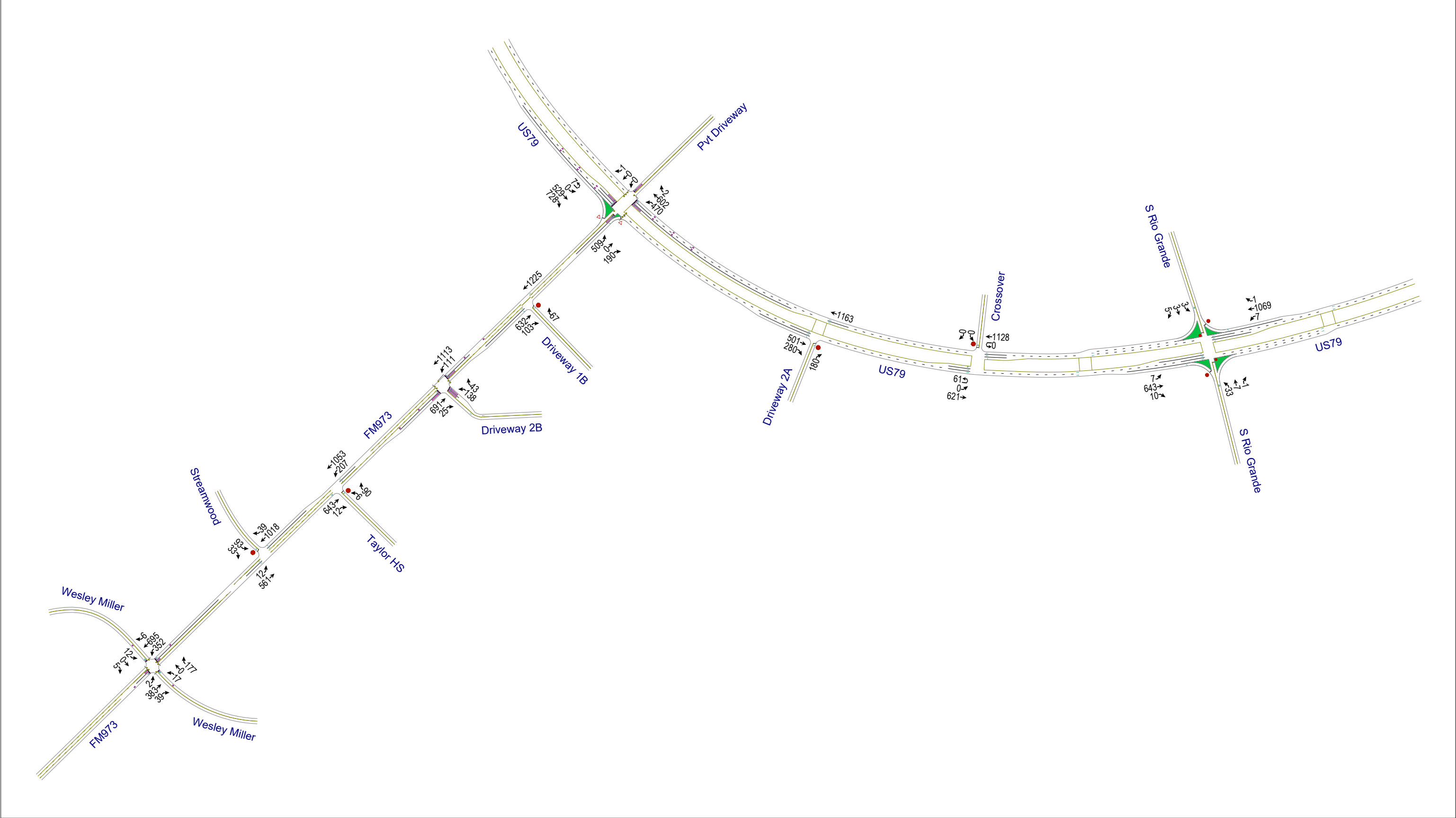
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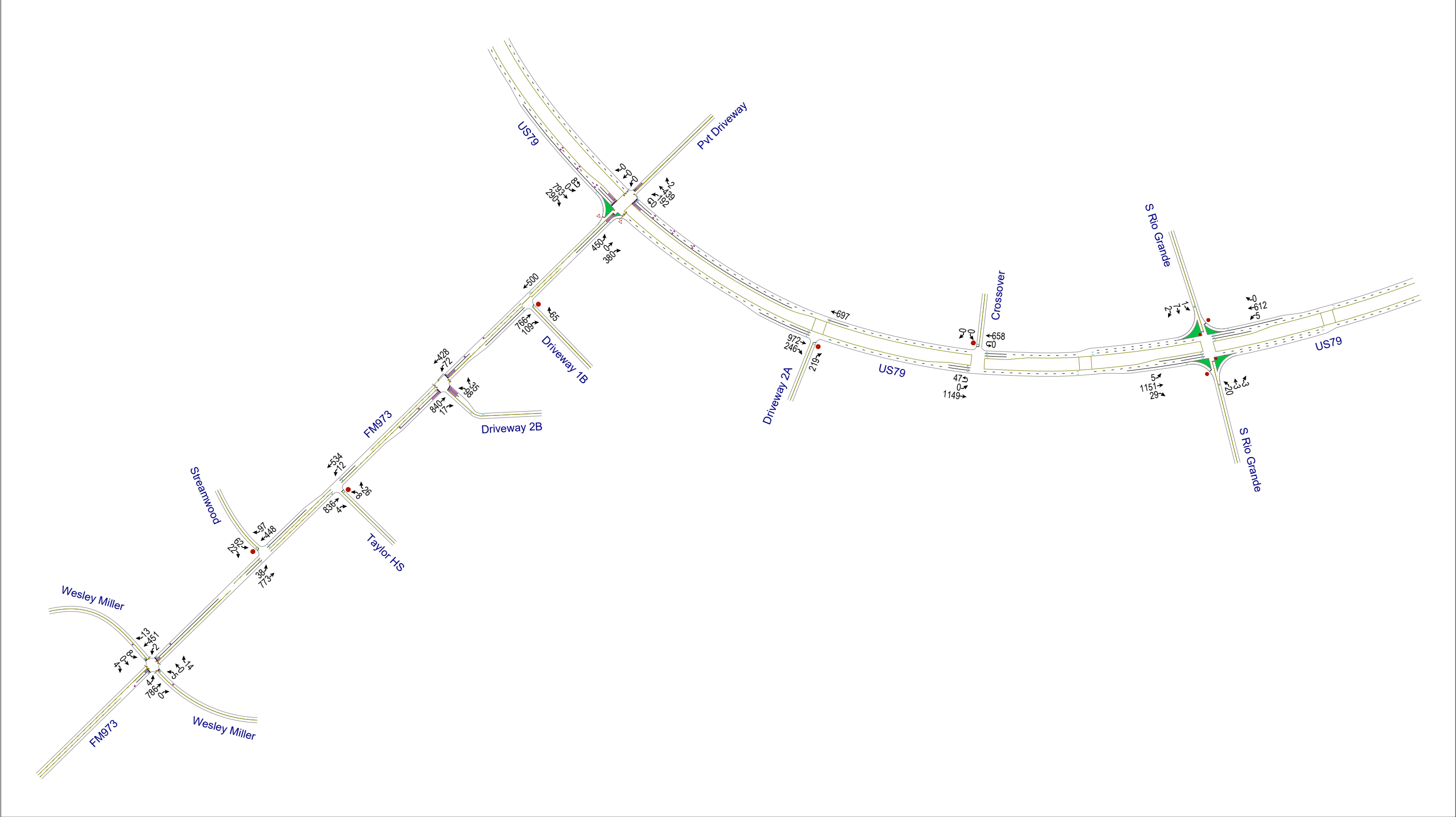
Not To Scale
North to Top of Page



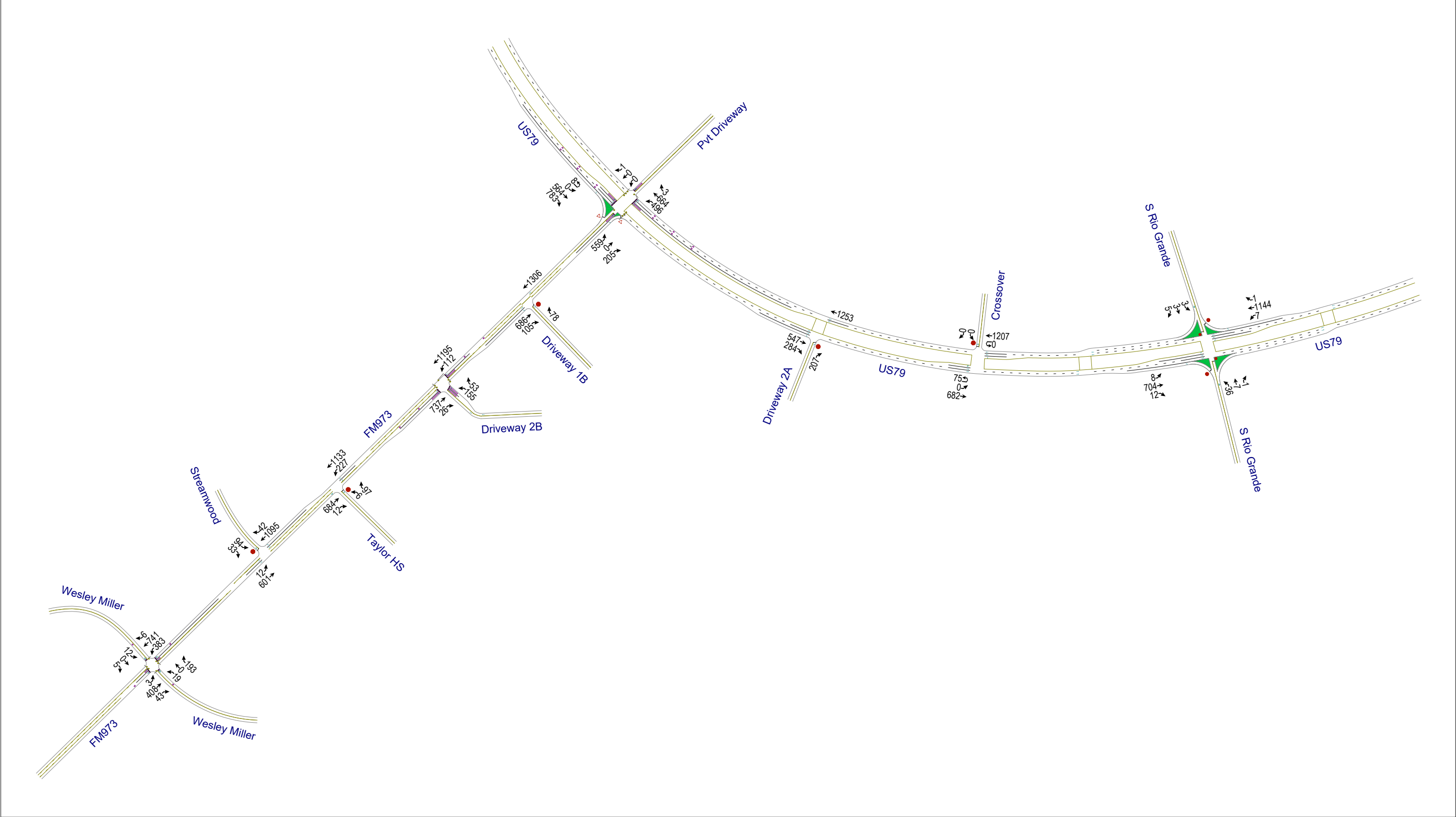
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North to Top of Page



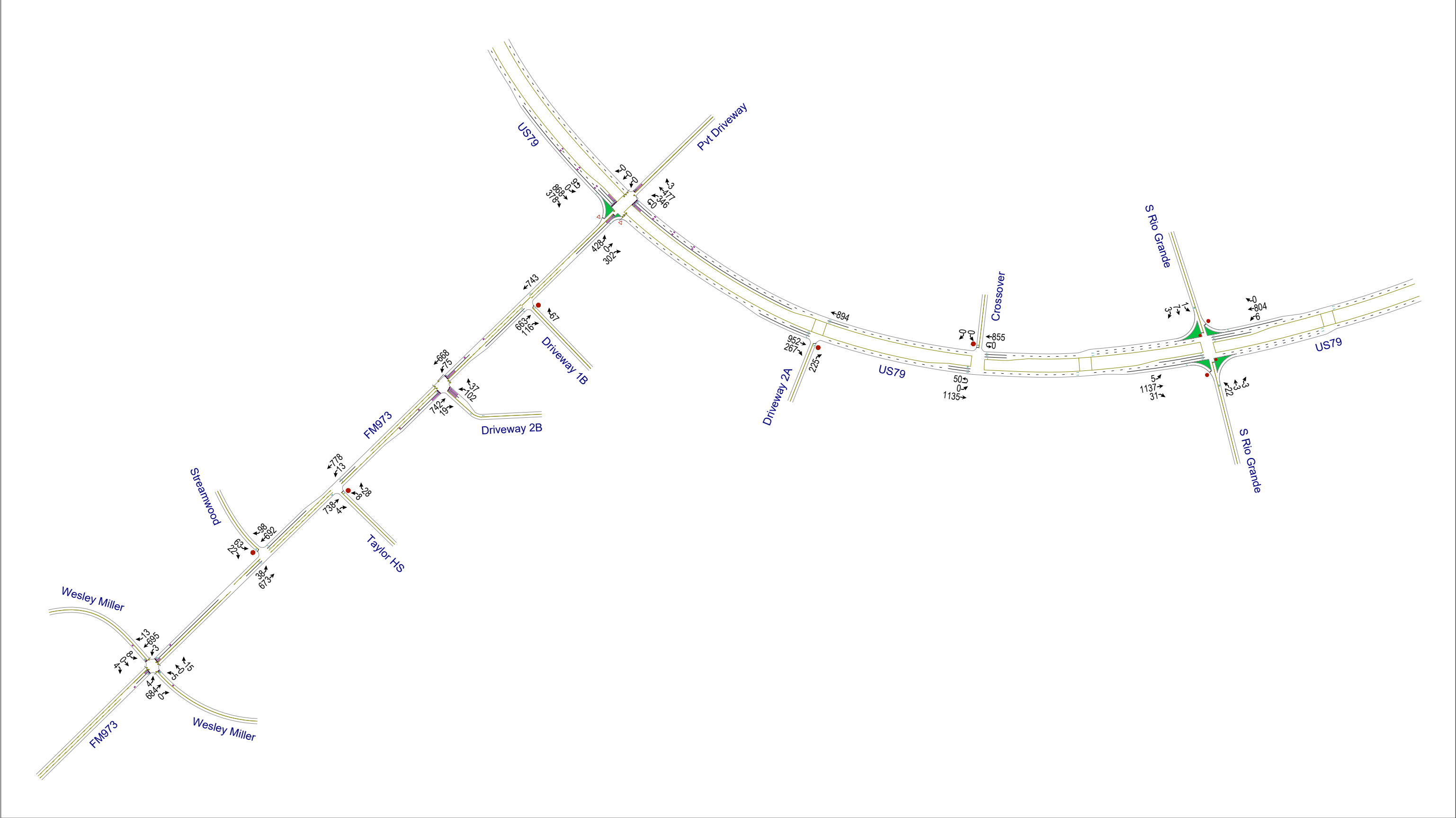
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North to Top of Page



Exhibit A19. Mitigation Schematic.
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○ Study Intersections

Exhibit A20-A

Gateway Driveway 1A

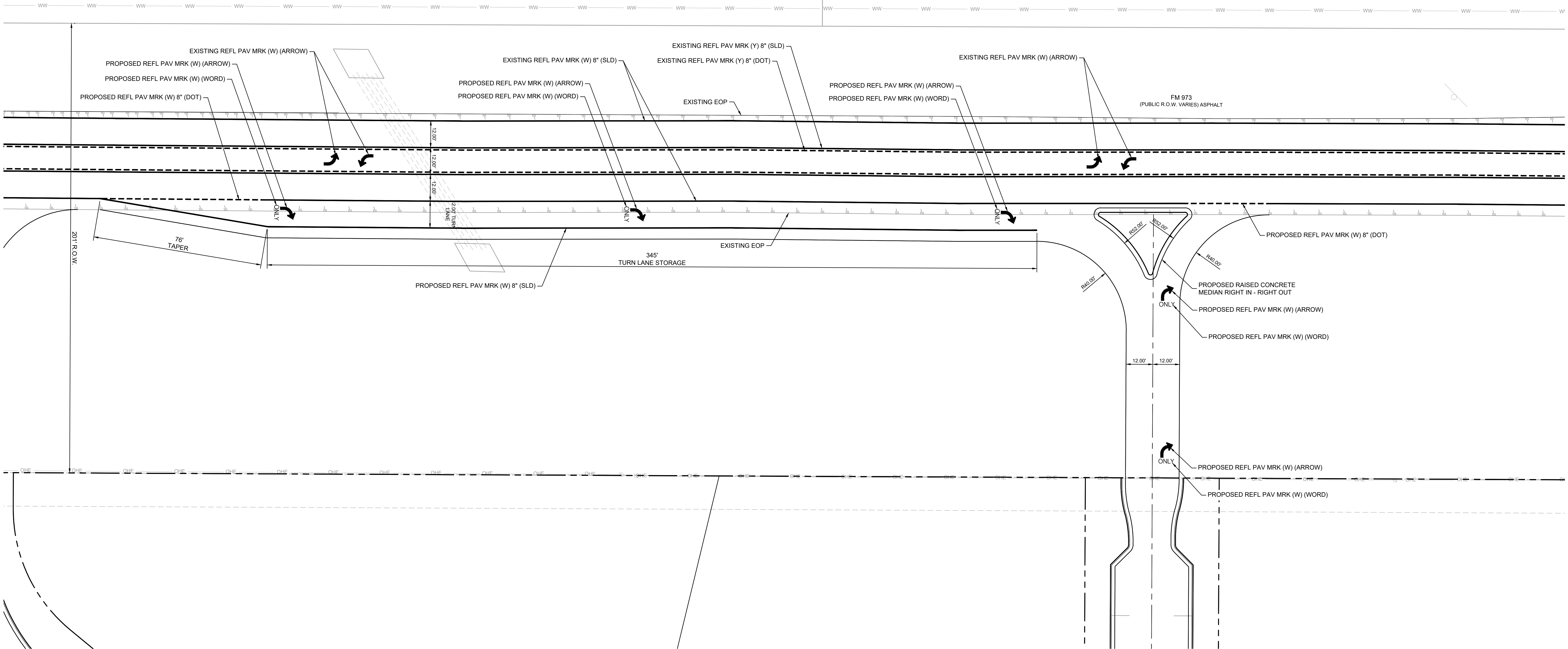
Taylor, Texas
July 2024

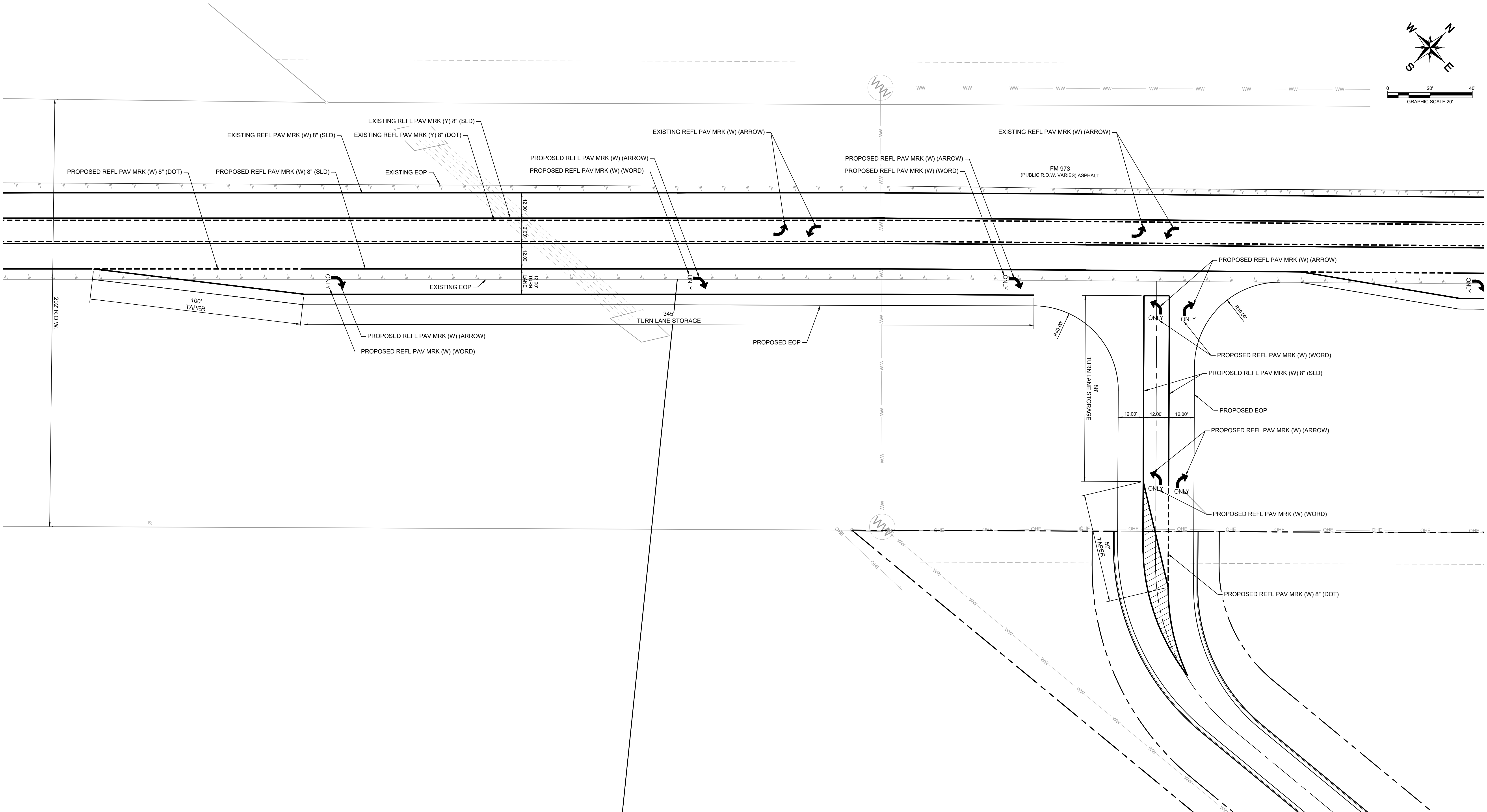
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LAST SAVED 7/16/2024 3:21 PM

Kimley»Horn

10814 Jollyville Road
Campus IV, Suite 200
Austin, TX 78759
512-418-1771
State of Texas Registration No. F-928

NOTE: THIS PLAN IS CONCEPTUAL IN NATURE AND HAS BEEN PRODUCED WITHOUT THE BENEFIT OF A SURVEY, TOPOGRAPHY, UTILITIES, CONTACT WITH THE CITY, ETC.





Appendix B – Traffic Count Data

Thursday, May 26, 2022

[illegible]

Peds						
EB-CW	EB-CCW	WB-CW	WB-CCW	NB-CW	NB-CCW	SB-CW
0	0	0	0	0	0	0
0	0	0	0	0	0	0

0.92

	Eastbound				Westbound				Northbound				Southbound				
	Wesley Miller Lane				Wesley Miller Lane				FM 973				FM 973				
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
AM Peak Period	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%	0%	0%	11%	0%	0%
PM Peak Period	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%	11%	0%	0%

Vehicle/Pedestrian Turning Movement Count
FM 973 at Streamwood Trail (Under Construction)
Thursday, May 26, 2022

Time Begin	Eastbound				Westbound				Northbound				Southbound				15-min Vehicle Total
	Streamwood Trail				<<NO APPROACH>>				FM 973				FM 973				
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
7:00	0		0	0					0	59		0		80	0	0	139
7:15	0		0	0					0	83		1		108	0	0	192
7:30	1		0	0					0	84		0		148	0	0	233
7:45	0		0	0					0	88		1		158	0	0	247
8:00	0		0	0					0	95		0		181	0	0	276
8:15	0		0	0					0	128		0		162	1	0	291
8:30	0		0	0					0	69		0		80	0	0	149
8:45	0		0	0					0	58		0		62	0	0	120
16:00	0		0	0					0	123		0		57	0	0	180
16:15	0		0	0					0	116		0		74	0	0	190
16:30	0		0	0					0	115		0		97	0	0	212
16:45	0		0	0					0	108		0		76	0	0	184
17:00	0		0	0					0	129		0		90	0	0	219
17:15	0		1	0					0	106		0		64	0	0	171
17:30	0		0	0					0	109		0		72	0	0	181
17:45	0		0	0					0	117		0		73	0	0	190
4-Hour Total	1	0	1	0	0	0	0	0	0	1587	0	2	0	1582	1	0	3174

[illegible]

Peak Hour	Eastbound				Westbound				Northbound				Southbound				Hour Vehicle
	Streamwood Trail				<<NO APPROACH>>				FM 973				FM 973				
Total	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Total
7:30-8:30	1	0	0	0	0	0	0	0	0	395	0	1	0	649	1	0	1047
16:15-17:15	0	0	0	0	0	0	0	0	0	468	0	0	0	337	0	0	805

Peds						
EB-CW	EB-CCW	WB-CW	WB-CCW	NB-CW	NB-CCW	SB-CW
0	0	0	0	0	0	0
0	0	0	0	0	0	0

PHF:
0.90
0.92

Peak Period, Percent Trucks, By Movement

	Eastbound				Westbound				Northbound				Southbound			
	Streamwood Trail				<<NO APPROACH>>				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak Period	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	0%	0%	5%	0%	0%
PM Peak Period	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	12%	0%	0%

FM 973 at Taylor High School Driveway
Thursday, May 26, 2022

Time Begin	Eastbound				Westbound				Northbound				Southbound				15-min Vehicle Total
	<<NO APPROACH>>				Taylor High School Driveway				FM 973				FM 973				
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
7:00					0		1	0		57	0	0	7	82		0	147
7:15					1		9	0		82	0	0	22	111		0	225
7:30					0		10	0		85	0	0	19	151		0	265
7:45					1		15	0		88	1	0	29	162		0	296
8:00					1		17	0		93	1	0	50	183		1	346
8:15					1		24	0		126	3	0	73	153		0	380
8:30					0		16	0		63	1	0	23	78		0	181
8:45					0		2	0		63	0	1	3	64		0	133
16:00					0		6	0		113	0	0	1	58		0	178
16:15					0		3	0		120	0	0	2	87		0	212
16:30					1		5	0		119	0	0	0	85		0	210
16:45					0		2	0		112	0	0	1	82		0	197
17:00					0		4	0		122	0	0	0	79		0	205
17:15					0		0	0		111	0	0	0	67		0	178
17:30					0		1	0		115	0	0	0	78		0	194
17:45					0		1	0		119	0	0	0	70		1	191
4-Hour Total	0	0	0	0	5	0	116	0	0	1588	6	1	230	1590	0	2	3538

[illegible]

Peak Hour Total	Eastbound				Westbound				Northbound				Southbound				Hour
	<<NO APPROACH>>				Taylor High School Driveway				FM 973				FM 973				Vehicle
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Total
7:30-8:30	0	0	0	0	3	0	66	0	0	392	5	0	171	649	0	1	1287
16:15-17:15	0	0	0	0	1	0	14	0	0	473	0	0	3	333	0	0	824

Peds							
EB-CW	EB-CCW	WB-CW	WB-CCW	NB-CW	NB-CCW	SB-CW	SB-CCW
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

PHF:
0.85
0.97

Peak Period, Percent Trucks, By Movement

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Taylor High School Driveway				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak Period	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	0%	0%	6%	0%	0%
PM Peak Period	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	11%	0%	0%

Vehicle/Pedestrian Turning Movement Count
FM 973 at Taylor High School Driveway
Wednesday, October 25, 2023

Time Begin	Eastbound				Westbound				Northbound				Southbound				15-min Vehicle Total	
	<<NO APPROACH>>				Taylor High School Driveway				FM 973				FM 973					
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
0:00					v	0	0	0		11	0			0	0			11
0:15					0		0	0		3	0			0	0			3
0:30					0		0	0		6	0			0	0			6
0:45					0		0	0		3	0			0	0			3
1:00					0		0	0		9	0			0	5			14
1:15					0		0	0		2	0			0	1			3
1:30					0		0	0		9	0			0	10			19
1:45					0		0	0		22	0			0	4			26
2:00					0		0	0		23	0			0	4			27
2:15					0		0	0		8	0			0	6			14
2:30					0		0	0		11	0			0	5			16
2:45					0		0	0		18	0			0	4			22
3:00					0		0	0		15	0			0	4			19
3:15					0		0	0		13	0			0	16			29
3:30					0		0	0		8	0			0	19			27
3:45					0		0	0		5	0			0	24			29
4:00					0		0	0		16	0			0	20			36
4:15					0		0	0		36	0			0	41			77
4:30					0		0	0		41	0			0	71			112
4:45					0		1	0		36	0			1	135			173
5:00					0		0	0		45	0			4	252			301
5:15					0		1	0		34	0			4	368			407
5:30					0		3	0		47	0			9	402			461
5:45					0		2	0		79	0			9	402			492
6:00					0		2	0		54	0			3	390			449
6:15					0		3	0		55	0			13	365			436
6:30					0		3	0		85	0			4	362			454
6:45					0		1	0		61	0			1	222			285
7:00					0		2	0		77	0			2	185			266
7:15					1		4	0		63	1			17	183			269
7:30					0		7	0		100	0			21	235			363
7:45					0		18	0		88	0			24	244			374
8:00					0		39	0		98	1			38	253			429
8:15					0		44	0		121	2			51	181			399
8:30					0		15	0		65	0			6	128			214
8:45					0		5	0		50	0			8	119			182
9:00					0		5	0		58	0			4	88			155
9:15					0		2	0		53	0			6	82			143
9:30					0		3	0		53	1			2	70			129
9:45					0		1	0		46	0			2	72			121
10:00					1		7	0		61	0			2	58			129
10:15					0		2	0		59	0			2	51			114
10:30					1		4	0		50	1			1	51			108
10:45					0		3	0		89	0			3	74			169
11:00					0		3	0		113	0			3	83			202
11:15					0		0	0		151	0			1	93			245
11:30					1		13	0		160	0			4	87			265
11:45					0		10	0		161	1			7	114			293
12:00					1		11	0		154	0			11	142			319
12:15					0		23	0		109	1			14	170			317
12:30					0		10	0		82	0			26	189			307
12:45					1		68	0		150	1			26	176			422
13:00					1		32	0		129	1			22	138			323
13:15					0		10	0		71	0			1	101			183
13:30					0		13	0		78	0			5	72			168
13:45					1		2	0		50	0			3	82			138
14:00					0		7	0		49	0			4	70			130
14:15					0		4	0		91	0			3	68			166
14:30					0		1	0		83	0			1	76			161
14:45					0		2	0		103	0			3	72			180
15:00					0		6	0		111	0			5	105			227
15:15					0		6	0		144	0			2	79			231
15:30					2		10	0		147	0			1	102			262
15:45					1		7	0		154	0			3	100			265
16:00					0		16	0		200	0			0	134			350
16:15					0		7	0		218	0			0	115			340
16:30					0		11	0		265	0			0	125			401
16:45					1		2	0		247	1			0	115			366
17:00					0		2	0		242	0			0	105			349
17:15					0		1	0		223	1			1	94			320
17:30					0		1	0		283	1			0	103			388
17:45					0		1	0		255	0			0	82			338
18:00					0		0	0		286	0			0	75			361
18:15					1		0	0		262	0			0	67			330
18:30					0		1	0		151	0			0	82			234
18:45					0		0	0		150	0			1	59			210
19:00					1		1	0		141	2			0	63			208
19:15					1		4	0		100	1			0	44			150
19:30					0		0	0		67	0			1	57			125
19:45					0		0	0		59	0			0	40			99
20:00					0		0	0		42	0			0	32			74
20:15					0		0	0		37	0			0	10			47
20:30					0		0	0		33	0			0	30			63
20:45					0		0	0		29	0			0	31			60
21:00					0		0	0		41	0			0	30			71
21:15					0		2	0		28	0			0	32			62
21:30					0		1	0		22	0			0	28			51
21:45					0		0	0		20	0			0	19			39
22:00					0		0	0		28	0			0	33			61
22:15					0		0	0		19	0			0	26			45
22:30					0		0	0		15	0			0	19			34
22:45					0		0	0		22	0			0	9			31
23:00					0		0	0		15	0			0	1			16
23:15					0		0	0		15	0			0	0			15
23:30					0		0	0		5	0			0	0			5
23:45					0		0	0		7	0			0	0			7
24-Hour Total	0	0	0	0	15	0	465	0	0	7703	16	0	385	8985	0	0	0	17569

Peak Hour Total	Eastbound				Westbound				Northbound				Southbound				Hour Vehicle Total
	<<NO APPROACH>>				Taylor High School Driveway				FM 973				FM 973				
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
7:30-8:30	0	0	0	0	0	0	108	0	0	407	3	0	134	913	0	0	1565
16:15-17:15	0	0	0	0	1	0	22	0	0	972	1	0	0	460	0	0	1456

PHF:
0.91
0.91

Peak Period, Percent Trucks, By Movement

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>								Taylor High School Driveway				FM 973			
									FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak Period	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%
PM Peak Period	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	3%	0%	0%

Thursday, May 26, 2022

[illegible]

Peds							
EB-CW	EB-CCW	WB-CW	WB-CCW	NB-CW	NB-CCW	SB-CW	SB-CCW
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

Peak Period, Percent Trucks, By Movement

Taylor Texas Gateway Traffic Impact Analysis
Prepared for Gateway Oz, LLC
Page 373 of 1362

Vehicle/Pedestrian Turning Movement Count
US 79 at Crossover East of FM 973 (School in Session)
Thursday, May 26, 2022

[illegible][illegible][illegible]

Peds							
EB-CW	EB-CCW	WB-CW	WB-CCW	NB-CW	NB-CCW	SB-CW	SB-CCW
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

PHF:
0.91
0.93

Peak Period, Percent Trucks, By Movement

[illegible]

Vehicle/Pedestrian Turning Movement Count
US 79 at Crossover East of FM 973 (School not in Session)
Tuesday, June 7, 2022

[illegible][illegible][illegible]

Peds						
EB-CW	EB-CCW	WB-CW	WB-CCW	NB-CW	NB-CCW	SB-CW
0	0	0	0	0	0	0
0	0	0	0	0	0	0

PHF:
0.90
0.87

Peak Period, Percent Trucks, By Movement

[illegible]

Vehicle/Pedestrian Turning Movement Count
US 79 at South Rio Grande Street
Tuesday, June 7, 2022

Time Begin	Eastbound				Westbound				Northbound				Southbound				15-min Vehicle	
	US 79				US 79				South Rio Grande Street				South Rio Grande Street				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00	0	67	2	0	0	176	0	0	4	0	0	0	0	0	0	0	249	
7:15	0	76	0	0	0	221	0	0	8	0	1	0	0	0	0	0	306	
7:30	0	123	2	0	1	185	0	0	4	1	0	0	0	0	0	1	0	317
7:45	2	97	0	0	1	186	0	0	4	2	0	0	0	0	1	0	0	293
8:00	1	101	0	0	3	139	1	0	7	2	0	0	1	1	0	0	0	256
8:15	0	97	2	0	0	132	0	0	5	0	1	0	1	0	0	0	0	238
8:30	0	100	3	0	0	112	0	0	9	0	0	0	0	0	0	0	0	224
8:45	1	87	1	0	0	97	0	0	6	0	0	0	0	0	0	0	0	192
16:00	1	182	9	0	1	111	0	0	3	0	0	0	2	1	0	0	0	310
16:15	1	190	7	0	1	84	0	0	3	1	0	0	0	0	1	0	0	288
16:30	0	176	2	0	1	110	0	0	4	0	0	0	0	0	1	0	0	294
16:45	1	166	4	0	1	98	0	0	4	1	1	0	0	0	1	0	0	277
17:00	0	212	6	0	1	118	0	0	1	0	1	0	1	2	0	0	0	342
17:15	2	212	6	0	1	110	0	0	6	1	0	0	0	2	0	0	0	340
17:30	3	191	7	0	0	87	0	0	6	2	1	0	0	0	1	0	0	298
17:45	1	175	6	0	1	79	0	0	3	0	0	0	0	0	1	0	0	266
4-Hour Total	13	2252	57	0	12	2045	1	0	77	10	5	0	5	12	1	0	0	4490

[illegible]

Peak Hour Total	Eastbound					Westbound				Northbound				Southbound				Hour Vehicle Total			
	US 79					US 79				South Rio Grande Street				South Rio Grande Street							
	Left	Thru	Right	U		Left	Thru	Right	U		Left	Thru	Right	U		Left	Thru		Right	U	
7:30-8:30	3	418	4	0		5	642	1	0		20	5	1	0		2	2	1	0		1104
16:15-17:15	2	744	19	0		4	410	0	0		12	2	2	0		1	5	0	0		1201

Peds							
EB-CW	EB-CCW	WB-CW	WB-CCW	NB-CW	NB-CCW	SB-CW	SB-CCW
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

PHF:
0.87
0.88

Peak Period, Percent Trucks, By Movement

[illegible]

Appendix C – Trip Generation & Distribution Analysis Details and Projected Turning Movement Counts

Table C1. Trip Generation Calculations - Phase 1

Trip Rates															
Development Description	ITE Trip Generation Land Use Number	Trip Generation Land Use	Independent Variable	Value	Use Rate	Use Curve	Weekday			Weekday AM Peak Hour of Adjacent Roadway			Weekday PM Peak Hour of Adjacent Roadway		
							24-Hr Trip Rate*	Percent		Trip Rate*	Percent		Trip Rate*	Percent	
								Entering	Exiting		Entering	Exiting		Entering	Exiting
Fast-food w/Drive Through (Lot 1)	934	Fast-Food Restaurant w/Drive Through	1000 SF	4,400	24/AM/PM	---	467.48	50%	50%	44.61	51%	49%	33.03	52%	48%
C-Store w/Gas (Lot 2+3)	945	Convenience Store/Gas Station	1000 SF	5,600	AM/PM	24	700.43	50%	50%	56.52	50%	50%	54.52	50%	50%
Restaurant (Lots 4+5+8+9)	932	High-Turnover Sit Down Restaurants	1000 SF	26,350	24/AM/PM	---	107.20	50%	50%	9.57	55%	45%	9.05	61%	39%
Retail (Lots 4+5)	822	Strip Retail Plaza	1000 SF	11,350	24/AM/PM	---	54.45	50%	50%	2.36	60%	40%	6.59	50%	50%
Multifamily (Lots 8+9+10+11)	221	Multifamily Mid-Rise	Dwelling Unit	45	---	24/AM/PM	4.54	50%	50%	0.37	23%	77%	0.39	61%	39%
Live-Work Commercial (Office) (Lots 10+11)	710	General Office Building	1000 SF	29,000	---	24/AM/PM	10.84	50%	50%	1.52	88%	12%	1.44	17%	83%
Hotel 1 (Lot 6)	310	Hotel	Rooms	150	---	24/AM/PM	7.99	50%	50%	0.46	56%	44%	0.59	51%	49%
Hotel 2 (Lot 7)	310	Hotel	Rooms	150	---	24/AM/PM	7.99	50%	50%	0.46	56%	44%	0.59	51%	49%
Trip End Calculations															
Development Description	ITE Trip Generation Land Use Number	Trip Generation Land Use	Independent Variable	Value	Use Rate	Use Curve	Weekday			Weekday AM Peak Hour of Adjacent Roadway			Weekday PM Peak Hour of Adjacent Roadway		
							24-Hr Trip Ends	Trips		Peak Hour Trips	Trips		Peak Hour Trips	Trips	
								Entering	Exiting		Entering	Exiting		Entering	Exiting
Fast-food w/Drive Through (Lot 1)	934	Fast-Food Restaurant w/Drive Through	1000 SF	4,400	24/AM/PM	---	2,057	1,028	1,028	196	100	96	145	76	70
C-Store w/Gas (Lot 2+3)	945	Convenience Store/Gas Station	1000 SF	5,600	AM/PM	24	3,690	1,845	1,845	317	158	158	305	153	153
Restaurant (Lots 4+5+8+9)	932	High-Turnover Sit Down Restaurants	1000 SF	26,350	24/AM/PM	---	2,825	1,412	1,412	252	139	113	238	145	93
Retail (Lots 4+5)	822	Strip Retail Plaza	1000 SF	11,350	24/AM/PM	---	618	309	309	27	16	11	75	37	37
Multifamily (Lots 8+9+10+11)	221	Multifamily Mid-Rise	Dwelling Unit	45	---	24/AM/PM	168	84	84	8	2	6	18	11	7
Live-Work Commercial (Office) (Lots 10+11)	710	General Office Building	1000 SF	29,000	---	24/AM/PM	395	198	198	58	51	7	59	10	49
Hotel 1 (Lot 6)	310	Hotel	Rooms	150	---	24/AM/PM	1,202	601	601	68	38	30	83	42	41
Hotel 2 (Lot 7)	310	Hotel	Rooms	150	---	24/AM/PM	1,202	601	601	68	38	30	83	42	41
Trip End Totals															
Trip Totals							Weekday			Weekday AM Peak Hour of Adjacent Roadway			Weekday PM Peak Hour of Adjacent Roadway		
							24-Hr Trip Ends	Trips		Peak Hour Trips	Trips		Peak Hour Trips	Trips	
								Entering	Exiting		Entering	Exiting		Entering	Exiting
							12,158	6,079	6,079	993	541	451	1,007	517	491

*trip rates shown for information only, fitted curves used for trip generation

Trip Adjustment Factors			
Adjustment Factor	Time Period	Factor	
Internal Capture Rates:			
	Weekday	-	
Weekday AM Peak Hour of Adjacent Roadway Entering		4.0%	
Weekday AM Peak Hour of Adjacent Roadway Exiting		5.0%	
Weekday PM Peak Hour of Adjacent Roadway Entering		14.0%	
Weekday PM Peak Hour of Adjacent Roadway Exiting		15.0%	
Pass-By Trips:			
	Weekday	-	
Weekday AM Peak Hour of Adjacent Roadway		50.0%	LU 934 (98)
Weekday PM Peak Hour of Adjacent Roadway		55.0%	LU 934 (80)
Weekday AM Peak Hour of Adjacent Roadway		76.0%	LU 945 (241)
Weekday PM Peak Hour of Adjacent Roadway		75.0%	LU 945 (229)
Weekday AM Peak Hour of Adjacent Roadway		0.0%	LU 932 -
Weekday PM Peak Hour of Adjacent Roadway		43.0%	LU 932 (103)
Weekday AM Peak Hour of Adjacent Roadway		0.0%	LU 822 (Using LU 821) -
Weekday PM Peak Hour of Adjacent Roadway		40.0%	LU 822 (Using LU 821) (7)

Trip Totals												
Trip Type		Weekday AM Peak Hour of Adjacent Roadway			Weekday PM Peak Hour of Adjacent Roadway							
		Total Trips	Trips*		Total Trips	Trips*						
			Entering	Exiting		Entering	Exiting					
Total Trips, Pre-Capture/Pass-By:		993	541	451	1,007	517	491					
Total Trips, Captured Within Development:		44	22	23	146	72	74					
Total Trips, New & Pass-By		949	520	429	862	445	417					
Total Trips, Pass-By, Existing on Roadway Network:		339	169	169	419	209	209					
Total Trips, New on Roadway Network:		610	350	259	443	235	208					

*trip estimates subject to roundoff error

Table C1-A. Internal Capture Calculations (Phase 1)

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	Taylor Gateway			Organization:	Voigt Associates, Inc.
Project Location:	US 79 at FM 973, Taylor TX			Performed By:	Anthony Voigt, P.E., PTOE
Scenario Description:	Phase 2 Buildout (AM Peak Hour)			Date:	02/22/2024
Analysis Year:	2027			Checked By:	
Analysis Period:	AM Street Peak Hour			Date:	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office	710	29,000	1000 SF	58	51	7
Retail	822	11,350	1000 SF	27	16	11
Restaurant	932+934	30,750	1000 SF	448	239	210
Cinema/Entertainment				0		
Residential	215+221	45	Dwelling Unit	8	2	6
Hotel	310	300	Rooms	135	76	59
All Other Land Uses ²	945	5,600	1000 SF	317	158	158
				993	541	451

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office	1.00	0%	0%	1.00	0%	0%
Retail	1.50	0%	0%	1.50	0%	0%
Restaurant	1.50	0%	0%	1.50	0%	0%
Cinema/Entertainment	1.50	0%	0%	1.50	0%	0%
Residential	1.00	0%	0%	1.00	0%	0%
Hotel	1.00	0%	0%	1.00	0%	0%
All Other Land Uses ²	1.50	0%	0%	1.50	0%	0%

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	4	0	0	0
Retail	2		2	0	0	0
Restaurant	7	2		0	0	3
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	1	0		0
Hotel	2	1	5	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	1,387	748	639
Internal Capture Percentage	4%	4%	5%
External Vehicle-Trips ⁵	941	517	424
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	22%	86%
Retail	21%	25%
Restaurant	3%	4%
Cinema/Entertainment	N/A	N/A
Residential	0%	17%
Hotel	4%	14%

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Table C1-A. Internal Capture Calculations (Phase 1)

Project Name:	Taylor Gateway
Analysis Period:	AM Street Peak Hour

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	50.80735067	51	1.00	6.928275091	7
Retail	1.50	16.0716	24	1.50	10.7144	16
Restaurant	1.50	238.798065	358	1.50	209.655435	314
Cinema/Entertainment	1.50	0	0	1.50	0	0
Residential	1.00	1.8837	2	1.00	6.3063	6
Hotel	1.00	75.656	76	1.00	59.444	59

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	4	0	0	0
Retail	5		2	0	2	0
Restaurant	97	44		0	13	9
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	1	0		0
Hotel	44	8	5	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		8	82	0	0	0
Retail	2		179	0	0	0
Restaurant	7	2		0	0	3
Cinema/Entertainment	0	0	0		0	0
Residential	2	4	72	0		0
Hotel	2	1	21	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	11	40	51	40	0	0
Retail	5	19	24	13	0	0
Restaurant	12	346	358	231	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	2	2	2	0	0
Hotel	3	73	76	73	0	0
All Other Land Uses ³	0	237	237	158	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	6	1	7	1	0	0
Retail	4	12	16	8	0	0
Restaurant	12	302	314	201	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	1	5	6	5	0	0
Hotel	8	51	59	51	0	0
All Other Land Uses ³	0	237	237	158	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

²Person-Trips

³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Table C1-A. Internal Capture Calculations (Phase 1)

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	Taylor Gateway			Organization:	Voigt Associates, Inc.
Project Location:	US 79 at FM 973, Taylor TX			Performed By:	Anthony Voigt, P.E., PTOE
Scenario Description:	Phase 2 Buildout (AM Peak Hour)			Date:	02/22/2024
Analysis Year:	2027			Checked By:	
Analysis Period:	PM Street Peak Hour			Date:	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office	710	29,000	1000 SF	59	10	49
Retail	822	11,350	1000 SF	75	37	37
Restaurant	932+934	30,750	1000 SF	384	221	163
Cinema/Entertainment				0		
Residential	215+221	315	Dwelling Unit	18	11	7
Hotel	310	300	Rooms	166	85	81
All Other Land Uses ²	945	5,600	1000 SF	305	153	153
				1,007	517	491

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office	1.00	0%	0%	1.00	0%	0%
Retail	1.50	0%	0%	1.50	0%	0%
Restaurant	1.50	0%	0%	1.50	0%	0%
Cinema/Entertainment	1.50	0%	0%	1.50	0%	0%
Residential	1.00	0%	0%	1.00	0%	0%
Hotel	1.00	0%	0%	1.00	0%	0%
All Other Land Uses ²	1.50	0%	0%	1.50	0%	0%

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		800	800		600	
Retail					700	
Restaurant					700	
Cinema/Entertainment					700	
Residential		800	800			
Hotel					650	

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		4	2	0	0	0
Retail	1		16	0	5	3
Restaurant	3	28		0	2	17
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	1	0		0
Hotel	0	1	17	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	1,389	723	666
Internal Capture Percentage	15%	14%	15%
External Vehicle-Trips ⁵	852	439	413
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	40%	12%
Retail	63%	45%
Restaurant	11%	20%
Cinema/Entertainment	N/A	N/A
Residential	64%	43%
Hotel	24%	22%

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Table C1-A. Internal Capture Calculations (Phase 1)

Project Name:	Taylor Gateway
Analysis Period:	PM Street Peak Hour

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	10.10366972	10	1.00	49.3296816	49
Retail	1.50	37.39825	56	1.50	37.39825	56
Restaurant	1.50	221.037815	332	1.50	162.761685	244
Cinema/Entertainment	1.50	0	0	1.50	0	0
Residential	1.00	10.9129	11	1.00	6.9771	7
Hotel	1.00	84.7722	85	1.00	81.4478	81

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		8	2	0	1	0
Retail	1		16	2	15	3
Restaurant	7	100		20	44	17
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	1	0		0
Hotel	0	13	55	0	2	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		4	5	0	0	0
Retail	3		96	0	5	14
Restaurant	3	28		0	2	60
Cinema/Entertainment	1	2	10		0	1
Residential	6	5	38	0		10
Hotel	0	1	17	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	4	6	10	6	0	0
Retail	35	21	56	14	0	0
Restaurant	36	296	332	197	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	7	4	11	4	0	0
Hotel	20	65	85	65	0	0
All Other Land Uses ³	0	229	229	153	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	6	43	49	43	0	0
Retail	25	31	56	21	0	0
Restaurant	50	194	244	129	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	3	4	7	4	0	0
Hotel	18	63	81	63	0	0
All Other Land Uses ³	0	229	229	153	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

²Person-Trips

³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Table C1-A. Internal Capture Calculations (Phase 1)

Table 7.1a Adjusted Internal Trip Capture Rates for Trip Origins within a Multi-Use Development			
Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
From OFFICE	To Office	0.0%	0.0%
	To Retail	28.0%	16.4%
	To Restaurant	63.0%	3.3%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	1.0%	2.0%
	To Hotel	0.0%	0.0%
From RETAIL	To Office	29.0%	2.0%
	To Retail	0.0%	0.0%
	To Restaurant	13.0%	29.0%
	To Cinema/Entertainment	0.0%	4.0%
	To Residential	14.0%	26.0%
	To Hotel	0.0%	5.0%
From RESTAURANT	To Office	31.0%	3.0%
	To Retail	14.0%	41.0%
	To Restaurant	0.0%	0.0%
	To Cinema/Entertainment	0.0%	8.0%
	To Residential	4.0%	18.0%
	To Hotel	3.0%	7.0%
From CINEMA/ENTERTAINMENT	To Office	0.0%	2.0%
	To Retail	0.0%	21.0%
	To Restaurant	0.0%	31.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	8.0%
	To Hotel	0.0%	2.0%
From RESIDENTIAL	To Office	2.0%	4.0%
	To Retail	1.0%	34.4%
	To Restaurant	20.0%	17.2%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	0.0%
	To Hotel	0.0%	3.0%
From HOTEL	To Office	75.0%	0.0%
	To Retail	14.0%	16.0%
	To Restaurant	9.0%	68.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	2.0%
	To Hotel	0.0%	0.0%

Table C1-A. Internal Capture Calculations (Phase 1)

Table 7.2a Adjusted Internal Trip Capture Rates for Trip Destinations within a Multi-Use Development			
Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
To OFFICE	From Office	0.0%	0.0%
	From Retail	4.0%	31.0%
	From Restaurant	14.0%	30.0%
	From Cinema/Entertainment	0.0%	6.0%
	From Residential	3.0%	57.0%
	From Hotel	3.0%	0.0%
To RETAIL	From Office	32.0%	6.6%
	From Retail	0.0%	0.0%
	From Restaurant	8.0%	50.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	17.0%	8.2%
	From Hotel	4.0%	2.0%
To RESTAURANT	From Office	23.0%	1.6%
	From Retail	50.0%	29.0%
	From Restaurant	0.0%	0.0%
	From Cinema/Entertainment	0.0%	3.0%
	From Residential	20.0%	11.5%
	From Hotel	6.0%	5.0%
To CINEMA/ENTERTAINMENT	From Office	0.0%	1.0%
	From Retail	0.0%	26.0%
	From Restaurant	0.0%	32.0%
	From Cinema/Entertainment	0.0%	0.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To RESIDENTIAL	From Office	0.0%	4.0%
	From Retail	2.0%	46.0%
	From Restaurant	5.0%	16.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To HOTEL	From Office	0.0%	0.0%
	From Retail	0.0%	17.0%
	From Restaurant	4.0%	71.0%
	From Cinema/Entertainment	0.0%	1.0%
	From Residential	0.0%	12.0%
	From Hotel	0.0%	0.0%

Table C2. Trip Distribution & Assignment, Phase 1 Development

GLOBAL ORIGINS/DESTINATIONS								
Origins+Peak Hour Volume			Destinations+Peak Hour Volume					
	AM	PM		AM	PM			
From US 79, West of FM 973	865	781	To US 79, West of FM 973	792	594			
From US 79, East of South Rio Grande Street	743	471	To US 79, East of South Rio Grande Street	487	871			
From FM 973, South of Wesley Miller Lane	276	453	To FM 973, South of Wesley Miller Lane	360	336			
From South Rio Grande Street, North of US 79	5	6	To South Rio Grande Street, North of US 79	9	4			
From South Rio Grande Street, South of US 79	26	16	To South Rio Grande Street, South of US 79	11	28			
From Streamwood Trail, West of FM 973	111	75	To Streamwood Trail, West of FM 973	39	127			
From Wesley Miller, West of FM 973	12	8	To Wesley Miller, West of FM 973	4	14			
From Taylor HS Driveway, East of FM 973	69	15	To Taylor HS Driveway, East of FM 973	176	3			
TRIP DISTRIBUTION (NEW TRIPS)								
FROM (ENTERING DEVELOPMENT)	Existing Total Volume AM Peak	Manually Estimated Trip Distribution (%)	Volume Based Trip Distribution Percentage	AM Peak Development Volume*	Existing Total Volume PM Peak	Manually Estimated Trip Distribution (%)	Volume Based Trip Distribution Percentage	PM Peak Development Volume*
From US 79, West of FM 973	865	50.0%	41.0%	175	781	50.0%	42.8%	118
From US 79, East of South Rio Grande Street	743	20.0%	35.3%	70	471	20.0%	25.8%	47
From FM 973, South of Wesley Miller Lane	276	18.0%	13.1%	63	453	18.0%	24.8%	42
From South Rio Grande Street, North of US 79	5	1.0%	0.2%	4	6	1.0%	0.3%	2
From South Rio Grande Street, South of US 79	26	2.0%	1.2%	7	16	2.0%	0.9%	5
From Streamwood Trail, West of FM 973	111	4.0%	5.3%	14	75	4.0%	4.1%	9
From Wesley Miller, West of FM 973	12	1.0%	0.6%	4	8	1.0%	0.5%	2
From Taylor HS Driveway, East of FM 973	69	4.0%	3.3%	14	15	4.0%	0.8%	9
Total	2108	100.0%	100.0%	350	1825	100.0%	100.0%	235
TO (EXITING DEVELOPMENT)	Existing Total Volume AM Peak	Manually Estimated Trip Distribution (%)	Volume Based Trip Distribution Percentage	AM Peak Development Volume*	Existing Total Volume PM Peak	Manually Estimated Trip Distribution (%)	Volume Based Trip Distribution Percentage	PM Peak Development Volume*
To US 79, West of FM 973	792	50.0%	42.2%	130	594	50.0%	30.0%	104
To US 79, East of South Rio Grande Street	487	20.0%	25.9%	52	871	20.0%	44.0%	42
To FM 973, South of Wesley Miller Lane	360	18.0%	19.2%	47	336	18.0%	17.0%	37
To South Rio Grande Street, North of US 79	9	1.0%	0.5%	3	4	1.0%	0.2%	2
To South Rio Grande Street, South of US 79	11	2.0%	0.6%	5	28	2.0%	1.4%	4
To Streamwood Trail, West of FM 973	39	4.0%	2.1%	10	127	4.0%	6.4%	8
To Wesley Miller, West of FM 973	4	1.0%	0.2%	3	14	1.0%	0.7%	2
To Taylor HS Driveway, East of FM 973	176	4.0%	9.4%	10	3	4.0%	0.2%	8
Total	1879	100.0%	100.0%	259	1977	100.0%	100.0%	208
*Development volumes and sum totals rounded to whole vehicles								
TRIP DISTRIBUTION (PASS-BY/DIVERTED LINK TRIPS)								
PASS-BY TRIP PATH	Existing Total Volume AM Peak	Manually Estimated Trip Distribution (%)	Volume Based Trip Distribution Percentage	AM Peak Development Volume*	Existing Total Volume PM Peak	Manually Estimated Trip Distribution (%)	Volume Based Trip Distribution Percentage	PM Peak Development Volume*
EB to EB US 79	308	25.0%	15.1%	42	587	40.0%	33.9%	84
WB to WB US 79	477	15.0%	23.4%	25	345	10.0%	19.9%	21
NB FM 973 to EB US 79	130	5.0%	6.4%	8	234	15.0%	13.5%	31
NB FM 973 to WB US 79	314	15.0%	15.4%	25	249	15.0%	14.4%	31
WB US 79 to SB FM 973	261	10.0%	12.8%	17	132	10.0%	7.6%	21
EB US 79 to SB FM 973	551	30.0%	27.0%	51	187	10.0%	10.8%	21
Total	2041	100.0%	100.0%	169	1734	100.0%	100.0%	209
*Development volumes and sum totals rounded to whole vehicle								

TRIP DISTRIBUTION DETAILS - NEW TRIPS																
FROM (ENTERING DEVELOPMENT)	ROUTE (ENTERING DEVELOPMENT)											AM PEAK HOUR	PM PEAK HOUR	AM PEAK HOUR	PM PEAK HOUR	
	AM Percent Dist.	PM Percent Dist.	Int01: US 79 at FM 973	Int02: US 79 at Driveway 1A	Int03: US 79 at Driveway 2A	Int04: US 79 at Crossover	Int05: US 79 at S Rio Grande St	Int06: FM973 at Driveway 1B (R/R0)	Int07: FM973 at Driveway 2B	Int08: FM973 at Taylor HS Driveway	Int09: FM973 at Streamwood	Int10: FM973 at Wesley Miller	Vehicles	Vehicles	Percent of Entering Vehicles	Percent of Entering Vehicles
From US 79, West of FM 973																
via US 79 Driveway 2A	85.0%	85.0%		EBT	EBR								149	100	42.50%	42.50%
via FM 973 Driveway 2B	15.0%	15.0%		EBT					SBT	SBL			26	18	7.50%	7.50%
From US 79, East of South Rio Grande Street																
via US 79 Driveway 2A	85.0%	85.0%		WBT EBT	WBT EBR	WBT	WBT						60	40	17.00%	17.00%
via FM 973 Driveway 2B	15.0%	15.0%		WBL	WBT	WBT	WBT		SBT	SBL			11	7	3.00%	3.00%
From FM 973, South of Wesley Miller Lane																
via FM 973 Driveway 1B	80.0%	80.0%							NBR	NBT			50	34	14.40%	14.40%
via FM 973 Driveway 2B	20.0%	20.0%								NBR	NBT	NBT	13	8	3.60%	3.60%
From South Rio Grande Street, North of US 79																
via US 79 Driveway 2A	85.0%	85.0%		WBT EBT	WBT EBR	WBT	SBR						3	2	0.85%	0.85%
via FM 973 Driveway 2B	15.0%	15.0%		WBL	WBT	WBT	SBR		SBT	SBL			1	0	0.15%	0.15%
From South Rio Grande Street, South of US 79																
via US 79 Driveway 2A	85.0%	85.0%		WBT EBT	WBT EBR	WBT	NBL						6	4	1.70%	1.70%
via FM 973 Driveway 2B	15.0%	15.0%		WBL	WBT	WBT	NBL		SBT	SBL			1	1	0.30%	0.30%
From Streamwood Trail, West of FM 973																
via FM 973 Driveway 1B	60.0%	60.0%							NBR	NBT	NBT	EBL	8	6	2.40%	2.40%
via FM 973 Driveway 2B	40.0%	40.0%								NBR	NBT	EBL	6	4	1.60%	1.60%
From Wesley Miller, West of FM 973																
via FM 973 Driveway 1B	60.0%	60.0%							NBR	NBT	NBT	NBT	2	1	0.60%	0.60%
via FM 973 Driveway 2B	40.0%	40.0%								NBR	NBT	EBL	1	1	0.40%	0.40%
From Taylor HS Driveway, East of FM 973																
via FM 973 Driveway 1B	60.0%	60.0%							NBR	NBT	WBR		8	6	2.40%	2.40%
via FM 973 Driveway 2B	40.0%	40.0%								NBR	WBR		6	4	1.60%	1.60%
TO (EXITING DEVELOPMENT)	ROUTE (EXITING DEVELOPMENT)											AM PEAK HOUR	PM PEAK HOUR	AM PEAK HOUR	PM PEAK HOUR	
	AM Percent Dist.	PM Percent Dist.	Int01: US 79 at FM 973	Int02: US 79 at Driveway 1A	Int03: US 79 at Driveway 2A	Int04: US 79 at Crossover	Int05: US 79 at S Rio Grande St	Int06: FM973 at Driveway 1B (R/R0)	Int07: FM973 at Driveway 2B	Int08: FM973 at Taylor HS Driveway	Int09: FM973 at Streamwood	Int10: FM973 at Wesley Miller	Vehicles	Vehicles	Percent of Exiting Vehicles	Percent of Exiting Vehicles
To US 79, West of FM 973																
via US 79 Driveway 2A	45.0%	45.0%	WBT	WBT	NBR WBT	EBU							58	47	22.50%	22.50%
via FM 973 Driveway 1B	30.0%	30.0%	NBL						WBR				39	31	15.00%	15.00%
via FM 973 Driveway 2B	25.0%	25.0%	NBL						NBT	WBR			32	26	12.50%	12.50%
To US 79, East of South Rio Grande Street																
via US 79 Driveway 2A	85.0%	85.0%			NBR	EBT	EBT						44	35	17.00%	17.00%
via FM 973 Driveway 1B	5.0%	5.0%	NBR	EBT	EBT	EBT	EBT	WBR					3	2	1.00%	1.00%
via FM 973 Driveway 2B	10.0%	10.0%	NBR	EBT	EBT	EBT	EBT	NBT	WBR				5	4	2.00%	2.00%
To FM 973, South of Wesley Miller Lane																
via FM 973 Driveway 2B	100.0%	100.0%							WBL	SBT	SBT	SBT	47	37	18.00%	18.00%
To South Rio Grande Street, North of US 79																
via US 79 Driveway 2A	85.0%	85.0%			NBR	EBT	EBL						2	2	0.85%	0.85%
via FM 973 Driveway 1B	5.0%	5.0%	NBR	EBT	EBT	EBT	EBL	WBR					0	0	0.05%	0.05%
via FM 973 Driveway 2B	10.0%	10.0%	NBR	EBT	EBT	EBT	EBL	NBT	WBR				0	0	0.10%	0.10%
To South Rio Grande Street, South of US 79																
via US 79 Driveway 2A	85.0%	85.0%			NBR	EBT	EBT	EBR					4	4	1.70%	1.70%
via FM 973 Driveway 1B	5.0%	5.0%	NBR	EBT	EBT	EBT	EBR	WBR					0	0	0.10%	0.10%
via FM 973 Driveway 2B	10.0%	10.0%	NBR	EBT	EBT	EBT	EBR	NBT	WBR				1	0	0.20%	0.20%
To Streamwood Trail, West of FM 973																
via FM 973 Driveway 2B	100.0%	100.0%							WBL	SBT	SBR		10	8	4.00%	4.00%
To Wesley Miller, West of FM 973																
via FM 973 Driveway 2B	100.0%	100.0%							WBL	SBT	SBT	SBR	3	2	1.00%	1.00%
To Taylor HS Driveway, East of FM 973																
via FM 973 Driveway 2B	100.0%	100.0%							WBL	SBL			10	8	4.00%	4.00%

PASS-BY TRIPS	ROUTE (EXITING DEVELOPMENT)										AM PEAK HOUR Vehicles	PM PEAK HOUR Vehicles
	AM Percent Dist.	PM Percent Dist.	Int01: US 79 at FM 973	Int02: US 79 at Driveway 1A	Int03: US 79 at Driveway 2A	Int04: US 79 at Crossover	Int05: US 79 at S Rio Grande St	Int06: FM973 at Driveway 1B (R/R0)	Int07: FM973 at Driveway 2B	Int08: FM973 at Taylor HS Driveway	Int09: FM973 at Streamwood	Int10: FM973 at Wesley Miller
EB to EB US 79	100.0%	100.0%									42	84
via US 79 Driveway 2A	100.0%	100.0%			+EBR,-EBT,+NBR						42	84
WB to WB US 79	100.0%	100.0%									25	21
via US 79 Driveway 2A	80.0%	80.0%			+WBU						20	17
via FM 973 Driveway 2B	20.0%	20.0%			+WBL,-WBT,-NBL						5	4
NB FM 973 to EB US 79											8	31
via FM 973 Driveway 1B	100.0%	100.0%			-EBT,-NBR						8	31
NB FM 973 to WB US 79											25	31
via FM 973 Driveway 1B	100.0%	100.0%									25	31
WB US 79 to SB FM 973											17	21
via FM 973 Driveway 2B	100.0%	100.0%									17	21
EB US 79 to SB FM 973											51	21
via FM 973 Driveway 2B	100.0%	100.0%									51	21

Table C3. Trip Generation Calculations - Phase 1+2

Trip Rates															
Development Description	ITE Trip Generation Land Use Number	Trip Generation Land Use	Independent Variable	Value	Use Rate	Use Curve	Weekday			Weekday AM Peak Hour of Adjacent Roadway			Weekday PM Peak Hour of Adjacent Roadway		
							24-Hr Trip Rate*	Percent		Trip Rate*	Percent		Trip Rate*	Percent	
								Entering	Exiting		Entering	Exiting		Entering	Exiting
Fast-food w/Drive Through (Lot 1)	934	Fast-Food Restaurant w/Drive Through	1000 SF	4.400	24/AM/PM	---	467.48	50%	50%	44.61	51%	49%	33.03	52%	48%
C-Store w/Gas (Lot 2+3)	945	Convenience Store/Gas Station	1000 SF	5.600	AM/PM	24	700.43	50%	50%	56.52	50%	50%	54.52	50%	50%
Restaurant (Lots 4+5+8+9)	932	High-Turnover Sit Down Restaurants	1000 SF	26.350	24/AM/PM	---	107.20	50%	50%	9.57	55%	45%	9.05	61%	39%
Retail (Lots 4+5)	822	Strip Retail Plaza	1000 SF	11.350	24/AM/PM	---	54.45	50%	50%	2.36	60%	40%	6.59	50%	50%
Multifamily (Lots 8+9+10+11)	221	Multifamily Mid-Rise	Dwelling Unit	45	---	24/AM/PM	4.54	50%	50%	0.37	23%	77%	0.39	61%	39%
Live-Work Commercial (Office) (Lots 10+11)	710	General Office Building	1000 SF	29.000	---	24/AM/PM	10.84	50%	50%	1.52	88%	12%	1.44	17%	83%
Hotel 1 (Lot 6)	310	Hotel	Rooms	150	---	24/AM/PM	7.99	50%	50%	0.46	56%	44%	0.59	51%	49%
Hotel 2 (Lot 7)	310	Hotel	Rooms	150	---	24/AM/PM	7.99	50%	50%	0.46	56%	44%	0.59	51%	49%
Multifamily (Lots 12,13,14,15)	221	Multifamily Mid-Rise	Dwelling Unit	240	---	24/AM/PM	4.54	50%	50%	0.37	23%	77%	0.39	61%	39%
Townhouse (Lots 16+17)	215	Single-Family Attached Housing	Dwelling Unit	30	---	24/AM/PM	7.20	50%	50%	0.48	31%	69%	0.57	57%	43%
Trip End Calculations															
Development Description	ITE Trip Generation Land Use Number	Trip Generation Land Use	Independent Variable	Value	Use Rate	Use Curve	Weekday			Weekday AM Peak Hour of Adjacent Roadway			Weekday PM Peak Hour of Adjacent Roadway		
							24-Hr Trip Ends	Trips		Peak Hour Trips	Trips		Peak Hour Trips	Trips	
								Entering	Exiting		Entering	Exiting		Entering	Exiting
Fast-food w/Drive Through (Lot 1)	934	Fast-Food Restaurant w/Drive Through	1000 SF	4.400	24/AM/PM	---	2,057	1,028	1,028	196	100	96	145	76	70
C-Store w/Gas (Lot 2+3)	945	Convenience Store/Gas Station	1000 SF	5.600	AM/PM	24	3,690	1,845	1,845	317	158	158	305	153	153
Restaurant (Lots 4+5+8+9)	932	High-Turnover Sit Down Restaurants	1000 SF	26.350	24/AM/PM	---	2,825	1,412	1,412	252	139	113	238	145	93
Retail (Lots 4+5)	822	Strip Retail Plaza	1000 SF	11.350	24/AM/PM	---	618	309	309	27	16	11	75	37	37
Multifamily (Lots 8+9+10+11)	221	Multifamily Mid-Rise	Dwelling Unit	45	---	24/AM/PM	168	84	84	8	2	6	18	11	7
Live-Work Commercial (Office) (Lots 10+11)	710	General Office Building	1000 SF	29.000	---	24/AM/PM	395	198	198	58	51	7	59	10	49
Hotel 1 (Lot 6)	310	Hotel	Rooms	150	---	24/AM/PM	1,202	601	601	68	38	30	83	42	41
Hotel 2 (Lot 7)	310	Hotel	Rooms	150	---	24/AM/PM	1,202	601	601	68	38	30	83	42	41
Multifamily (Lots 12,13,14,15)	221	Multifamily Mid-Rise	Dwelling Unit	240	---	24/AM/PM	1,098	549	549	94	22	72	94	57	37
Townhouse (Lots 16+17)	215	Single-Family Attached Housing	Dwelling Unit	30	---	24/AM/PM	178	89	89	10	3	7	14	8	6
Trip End Totals							Weekday			Weekday AM Peak Hour of Adjacent Roadway			Weekday PM Peak Hour of Adjacent Roadway		
Trip Totals							24-Hr Trip Ends	Trips		Peak Hour Trips	Trips		Peak Hour Trips	Trips	
							13,434	6,717	6,717	1,097	566	531	1,115	582	533
*trip rates shown for information only, fitted curves used for trip generation															
Trip Adjustment Factors							Net Phase 2 Trips:								
Adjustment Factor		Time Period		Factor			1,276	638	638	104	25	79	108	65	43
Internal Capture Rates:							-								
Weekday AM Peak Hour of Adjacent Roadway Entering				7.0%		updated									
Weekday AM Peak Hour of Adjacent Roadway Exiting				7.0%											
Weekday PM Peak Hour of Adjacent Roadway Entering				18.0%											
Weekday PM Peak Hour of Adjacent Roadway Exiting				19.0%											
Pass-By Trips:							-								
Weekday AM Peak Hour of Adjacent Roadway		50.0%		LU 934			(98)								
Weekday PM Peak Hour of Adjacent Roadway		55.0%		LU 934			(80)								
Weekday AM Peak Hour of Adjacent Roadway		76.0%		LU 945			(241)								
Weekday PM Peak Hour of Adjacent Roadway		75.0%		LU 945			(229)								
Weekday AM Peak Hour of Adjacent Roadway		0.0%		LU 932			-								
Weekday PM Peak Hour of Adjacent Roadway		43.0%		LU 932			(103)								
Weekday AM Peak Hour of Adjacent Roadway		0.0%		LU 822 (Using LU 821)			-								
Weekday PM Peak Hour of Adjacent Roadway		40.0%		LU 822 (Using LU 821)			(7)								
Trip Totals															
Trip Type										Weekday AM Peak Hour of Adjacent Roadway			Weekday PM Peak Hour of Adjacent Roadway		
										Total Trips	Trips*		Total Trips	Trips*	
Total Trips, Pre-Capture/Pass-By:										1,097	566	531	1,115	582	533
Total Trips, Captured Within Development:										77	40	37	206	105	101
Total Trips, New & Pass-By										1,020	527	493	909	477	432
Total Trips, Pass-By, Existing on Roadway Network:										339	169	169	419	209	209
Total Trips, New on Roadway Network:										681	357	324	491	268	223
*trip estimates subject to roundoff error															

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	Taylor Gateway			Organization:	Voigt Associates, Inc.
Project Location:	US 79 at FM 973, Taylor TX			Performed By:	Anthony Voigt, P.E., PTOE
Scenario Description:	Phase 2 Buildout (AM Peak Hour)			Date:	02/22/2024
Analysis Year:	2027			Checked By:	
Analysis Period:	AM Street Peak Hour			Date:	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office	710	29,000	1000 SF	58	51	7
Retail	822	11,350	1000 SF	27	16	11
Restaurant	932+934	30,750	1000 SF	448	239	210
Cinema/Entertainment				0		
Residential	215+221	315	Dwelling Unit	112	27	86
Hotel	310	300	Rooms	135	76	59
All Other Land Uses ²	945	5,600	1000 SF	317	158	158
				1,097	566	531

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office	1.00	0%	0%	1.00	0%	0%
Retail	1.50	0%	0%	1.50	0%	0%
Restaurant	1.50	0%	0%	1.50	0%	0%
Cinema/Entertainment	1.50	0%	0%	1.50	0%	0%
Residential	1.00	0%	0%	1.00	0%	0%
Hotel	1.00	0%	0%	1.00	0%	0%
All Other Land Uses ²	1.50	0%	0%	1.50	0%	0%

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	4	0	0	0
Retail	2		2	0	1	0
Restaurant	7	2		0	1	3
Cinema/Entertainment	0	0	0		0	0
Residential	2	1	17	0		0
Hotel	2	1	5	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	1,492	773	719
Internal Capture Percentage	7%	7%	7%
External Vehicle-Trips ⁵	1,010	526	484
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	25%	86%
Retail	25%	31%
Restaurant	8%	4%
Cinema/Entertainment	N/A	N/A
Residential	7%	23%
Hotel	4%	14%

¹ Land Use Codes (LUCs) from <i>Trip Generation Manual</i> , published by the Institute of Transportation Engineers.
² Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
³ Enter trips assuming no transit or non-motorized trips (as assumed in ITE <i>Trip Generation Manual</i>).
⁴ Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.
⁵ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.
⁶ Person-Trips
*Indicates computation that has been rounded to the nearest whole number.
Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Table C3-A. Phase 1+2 Internal
Capture Calculations

Project Name:	Taylor Gateway
Analysis Period:	AM Street Peak Hour

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	50.80735067	51	1.00	6.928275091	7
Retail	1.50	16.0716	24	1.50	10.7144	16
Restaurant	1.50	238.798065	358	1.50	209.655435	314
Cinema/Entertainment	1.50	0	0	1.50	0	0
Residential	1.00	26.5704	27	1.00	85.5096	86
Hotel	1.00	75.656	76	1.00	59.444	59

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	4	0	0	0
Retail	5		2	0	2	0
Restaurant	97	44		0	13	9
Cinema/Entertainment	0	0	0		0	0
Residential	2	1	17	0		0
Hotel	44	8	5	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		8	82	0	0	0
Retail	2		179	0	1	0
Restaurant	7	2		0	1	3
Cinema/Entertainment	0	0	0		0	0
Residential	2	4	72	0		0
Hotel	2	1	21	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	13	38	51	38	0	0
Retail	6	18	24	12	0	0
Restaurant	28	330	358	220	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	2	25	27	25	0	0
Hotel	3	73	76	73	0	0
All Other Land Uses ³	0	237	237	158	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	6	1	7	1	0	0
Retail	5	11	16	7	0	0
Restaurant	13	301	314	201	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	20	66	86	66	0	0
Hotel	8	51	59	51	0	0
All Other Land Uses ³	0	237	237	158	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

²Person-Trips

³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Table C3-A. Phase 1+2 Internal
Capture Calculations

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	Taylor Gateway			Organization:	Voigt Associates, Inc.
Project Location:	US 79 at FM 973, Taylor TX			Performed By:	Anthony Voigt, P.E., PTOE
Scenario Description:	Phase 2 Buildout (PM Peak Hour)			Date:	02/22/2024
Analysis Year:	2027			Checked By:	
Analysis Period:	PM Street Peak Hour			Date:	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office	710	29,000	1000 SF	59	10	49
Retail	822	11,350	1000 SF	75	37	37
Restaurant	932+934	30,750	1000 SF	384	221	163
Cinema/Entertainment				0		
Residential	215+221	315	Dwelling Unit	126	76	50
Hotel	310	300	Rooms	166	85	81
All Other Land Uses ²	945	5,600	1000 SF	305	153	153
				1,115	582	533

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office	1.00	0%	0%	1.00	0%	0%
Retail	1.50	0%	0%	1.50	0%	0%
Restaurant	1.50	0%	0%	1.50	0%	0%
Cinema/Entertainment	1.50	0%	0%	1.50	0%	0%
Residential	1.00	0%	0%	1.00	0%	0%
Hotel	1.00	0%	0%	1.00	0%	0%
All Other Land Uses ²	1.50	0%	0%	1.50	0%	0%

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		800	800		600	
Retail					700	
Restaurant					700	
Cinema/Entertainment					700	
Residential		800	800			
Hotel					650	

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		4	2	0	1	0
Retail	1		16	0	15	3
Restaurant	3	28		0	12	17
Cinema/Entertainment	0	0	0		0	0
Residential	2	5	9	0		2
Hotel	0	1	17	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	1,497	788	709
Internal Capture Percentage	18%	18%	19%
External Vehicle-Trips ⁵	899	472	427
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	60%	14%
Retail	68%	63%
Restaurant	13%	25%
Cinema/Entertainment	N/A	N/A
Residential	37%	36%
Hotel	26%	22%

¹ Land Use Codes (LUCs) from <i>Trip Generation Manual</i> , published by the Institute of Transportation Engineers.
² Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
³ Enter trips assuming no transit or non-motorized trips (as assumed in ITE <i>Trip Generation Manual</i>).
⁴ Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be
⁵ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.
⁶ Person-Trips
*Indicates computation that has been rounded to the nearest whole number.
Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Table C3-A. Phase 1+2 Internal
Capture Calculations

Project Name:	Taylor Gateway
Analysis Period:	PM Street Peak Hour

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	10.10366972	10	1.00	49.3296816	49
Retail	1.50	37.39825	56	1.50	37.39825	56
Restaurant	1.50	221.037815	332	1.50	162.761685	244
Cinema/Entertainment	1.50	0	0	1.50	0	0
Residential	1.00	76.2362	76	1.00	49.6638	50
Hotel	1.00	84.7722	85	1.00	81.4478	81

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		8	2	0	1	0
Retail	1		16	2	15	3
Restaurant	7	100		20	44	17
Cinema/Entertainment	0	0	0		0	0
Residential	2	17	9	0		2
Hotel	0	13	55	0	2	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		4	5	0	3	0
Retail	3		96	0	35	14
Restaurant	3	28		0	12	60
Cinema/Entertainment	1	2	10		3	1
Residential	6	5	38	0		10
Hotel	0	1	17	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	6	4	10	4	0	0
Retail	38	18	56	12	0	0
Restaurant	44	288	332	192	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	28	48	76	48	0	0
Hotel	22	63	85	63	0	0
All Other Land Uses ³	0	229	229	153	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	7	42	49	42	0	0
Retail	35	21	56	14	0	0
Restaurant	60	184	244	123	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	18	32	50	32	0	0
Hotel	18	63	81	63	0	0
All Other Land Uses ³	0	229	229	153	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

²Person-Trips

³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Table C3-A. Phase 1+2 Internal

Table 7.1a Adjusted Internal Trip Capture Rates for Trip Origins within a Multi-Use Development			
Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
From OFFICE	To Office	0.0%	0.0%
	To Retail	28.0%	16.4%
	To Restaurant	63.0%	3.3%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	1.0%	2.0%
	To Hotel	0.0%	0.0%
From RETAIL	To Office	29.0%	2.0%
	To Retail	0.0%	0.0%
	To Restaurant	13.0%	29.0%
	To Cinema/Entertainment	0.0%	4.0%
	To Residential	14.0%	26.0%
	To Hotel	0.0%	5.0%
From RESTAURANT	To Office	31.0%	3.0%
	To Retail	14.0%	41.0%
	To Restaurant	0.0%	0.0%
	To Cinema/Entertainment	0.0%	8.0%
	To Residential	4.0%	18.0%
	To Hotel	3.0%	7.0%
From CINEMA/ENTERTAINMENT	To Office	0.0%	2.0%
	To Retail	0.0%	21.0%
	To Restaurant	0.0%	31.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	8.0%
	To Hotel	0.0%	2.0%
From RESIDENTIAL	To Office	2.0%	4.0%
	To Retail	1.0%	34.4%
	To Restaurant	20.0%	17.2%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	0.0%
	To Hotel	0.0%	3.0%
From HOTEL	To Office	75.0%	0.0%
	To Retail	14.0%	16.0%
	To Restaurant	9.0%	68.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	2.0%
	To Hotel	0.0%	0.0%

Table C3-A. Phase 1+2 Internal

Table 7.2a Adjusted Internal Trip Capture Rates for Trip Destinations within a Multi-Use Development			
Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
To OFFICE	From Office	0.0%	0.0%
	From Retail	4.0%	31.0%
	From Restaurant	14.0%	30.0%
	From Cinema/Entertainment	0.0%	6.0%
	From Residential	3.0%	57.0%
	From Hotel	3.0%	0.0%
To RETAIL	From Office	32.0%	6.6%
	From Retail	0.0%	0.0%
	From Restaurant	8.0%	50.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	17.0%	8.2%
	From Hotel	4.0%	2.0%
To RESTAURANT	From Office	23.0%	1.6%
	From Retail	50.0%	29.0%
	From Restaurant	0.0%	0.0%
	From Cinema/Entertainment	0.0%	3.0%
	From Residential	20.0%	11.5%
	From Hotel	6.0%	5.0%
To CINEMA/ENTERTAINMENT	From Office	0.0%	1.0%
	From Retail	0.0%	26.0%
	From Restaurant	0.0%	32.0%
	From Cinema/Entertainment	0.0%	0.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To RESIDENTIAL	From Office	0.0%	4.0%
	From Retail	2.0%	46.0%
	From Restaurant	5.0%	16.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To HOTEL	From Office	0.0%	0.0%
	From Retail	0.0%	17.0%
	From Restaurant	4.0%	71.0%
	From Cinema/Entertainment	0.0%	1.0%
	From Residential	0.0%	12.0%
	From Hotel	0.0%	0.0%

Table C4. Trip Distribution & Assignment, Phase 1+2 Development

GLOBAL ORIGINS/DESTINATIONS								
Origins-Peak Hour Volume			Destinations-Peak Hour Volume					
	AM	PM		AM	PM		AM	PM
From US 79, West of FM 973	865	781	To US 79, West of FM 973	792	594			
From US 79, East of South Rio Grande Street	743	471	To US 79, East of South Rio Grande Street	487	871			
From FM 973, South of Wesley Miller Lane	276	453	To FM 973, South of Wesley Miller Lane	360	336			
From South Rio Grande Street, North of US 79	5	6	To South Rio Grande Street, North of US 79	9	4			
From South Rio Grande Street, South of US 79	26	16	To South Rio Grande Street, South of US 79	11	28			
From Streamwood Trail, West of FM 973	111	75	To Streamwood Trail, West of FM 973	39	127			
From Wesley Miller, West of FM 973	12	8	To Wesley Miller, West of FM 973	4	14			
From Taylor HS Driveway, East of FM 973	69	15	To Taylor HS Driveway, East of FM 973	176	3			
TRIP DISTRIBUTION (NEW TRIPS)								
FROM (ENTERING DEVELOPMENT)	Existing Total Volume AM Peak	Manually Estimated Trip Distribution (%)	Volume Based Trip Distribution Percentage	AM Peak Development Volume*	Existing Total Volume PM Peak	Manually Estimated Trip Distribution (%)	Volume Based Trip Distribution Percentage	PM Peak Development Volume*
From US 79, West of FM 973	865	50.0%	41.0%	179	781	50.0%	42.8%	134
From US 79, East of South Rio Grande Street	743	20.0%	35.3%	71	471	20.0%	25.8%	54
From FM 973, South of Wesley Miller Lane	276	18.0%	13.1%	64	453	18.0%	24.8%	48
From South Rio Grande Street, North of US 79	5	1.0%	0.2%	4	6	1.0%	0.3%	3
From South Rio Grande Street, South of US 79	26	2.0%	1.2%	7	16	2.0%	0.9%	5
From Streamwood Trail, West of FM 973	111	4.0%	5.3%	14	75	4.0%	4.1%	11
From Wesley Miller, West of FM 973	12	1.0%	0.6%	4	8	1.0%	0.5%	3
From Taylor HS Driveway, East of FM 973	69	4.0%	3.3%	14	15	4.0%	0.8%	11
Total	2108	100.0%	100.0%	357	1825	100.0%	100.0%	288
TO (EXITING DEVELOPMENT)								
	Existing Total Volume AM Peak	Manually Estimated Trip Distribution (%)	Volume Based Trip Distribution Percentage	AM Peak Development Volume*	Existing Total Volume PM Peak	Manually Estimated Trip Distribution (%)	Volume Based Trip Distribution Percentage	PM Peak Development Volume*
To US 79, West of FM 973	792	50.0%	42.2%	162	594	50.0%	30.0%	111
To US 79, East of South Rio Grande Street	487	20.0%	25.9%	65	871	20.0%	44.0%	45
To FM 973, South of Wesley Miller Lane	360	18.0%	19.2%	58	336	18.0%	17.0%	40
To South Rio Grande Street, North of US 79	9	1.0%	0.5%	3	4	1.0%	0.2%	2
To South Rio Grande Street, South of US 79	11	2.0%	0.6%	6	28	2.0%	1.4%	4
To Streamwood Trail, West of FM 973	39	4.0%	2.1%	13	127	4.0%	6.4%	9
To Wesley Miller, West of FM 973	4	1.0%	0.2%	3	14	1.0%	0.7%	2
To Taylor HS Driveway, East of FM 973	176	4.0%	9.4%	13	3	4.0%	0.2%	9
Total	1879	100.0%	100.0%	324	1977	100.0%	100.0%	223
*Development volumes and sum totals rounded to whole vehicles								
TRIP DISTRIBUTION (PASS-BY/DIVERTED LINK TRIPS)								
PASS-BY TRIP PATH	Existing Total Volume AM Peak	Manually Estimated Trip Distribution (%)	Volume Based Trip Distribution Percentage	AM Peak Development Volume*	Existing Total Volume PM Peak	Manually Estimated Trip Distribution (%)	Volume Based Trip Distribution Percentage	PM Peak Development Volume*
EB to EB US 79	308	25.0%	15.1%	42	587	40.0%	33.9%	84
WB to WB US 79	477	15.0%	23.4%	25	345	10.0%	19.9%	21
NB FM 973 to EB US 79	130	5.0%	6.4%	8	234	15.0%	13.5%	31
NB FM 973 to WB US 79	314	15.0%	15.4%	25	249	15.0%	14.4%	31
WB US 79 to SB FM 973	261	10.0%	12.8%	17	132	10.0%	7.6%	21
EB US 79 to SB FM 973	551	30.0%	27.0%	51	187	10.0%	10.8%	21
Total	2041	100.0%	100.0%	169	1734	100.0%	100.0%	209
*Development volumes and sum totals rounded to whole vehicle								

TRIP DISTRIBUTION DETAILS - NEW TRIPS													
ROUTE (ENTERING DEVELOPMENT)												AM PEAK HOUR Vehicles	PM PEAK HOUR Vehicles
FROM (ENTERING DEVELOPMENT)	AM Percent Dist.	PM Percent Dist.	In01: US 79 at FM 973	In02: US 79 at Driveway 1A	In03: US 79 at Driveway 2A	In04: US 79 at Crossover	In05: US 79 at S Rio Grande St	In06: FM973 at Driveway 1B (R/R0)	In07: FM973 at Driveway 2B	In08: FM973 at Taylor HS Driveway	In09: FM973 at Streamwood	In10: FM973 at Wesley Miller	AM PEAK HOUR Percent of Entering Vehicles
From US 79, West of FM 973													
via US 79 Driveway 2A	85.0%	85.0%	EBT	EBT	EBR								152
via FM 973 Driveway 2B	15.0%	15.0%	EBT					SBT	SBL				27
From US 79, East of South Rio Grande Street													114
via US 79 Driveway 2A	85.0%	85.0%		WBT EBT	WBT EBR	WBT	WBT						61
via FM 973 Driveway 2B	15.0%	15.0%	WBL	WBT	WBT	WBT	WBT	SBT	SBL				8
From FM 973, South of Wesley Miller Lane													46
via FM 973 Driveway 1B	80.0%	80.0%											11
via FM 973 Driveway 2B	20.0%	20.0%						NBR	NBT	NBT	NBT	NBT	39
From South Rio Grande Street, North of US 79													10
via US 79 Driveway 2A	85.0%	85.0%		WBT EBT	WBT EBR	WBT	SBR						51
via FM 973 Driveway 2B	15.0%	15.0%	WBL	WBT	WBT	WBT	SBR	SBT	SBL				13
From South Rio Grande Street, South of US 79													6
via US 79 Driveway 2A	85.0%	85.0%		WBT EBT	WBT EBR	WBT	NBL						5
via FM 973 Driveway 2B	15.0%	15.0%	WBL	WBT	WBT	WBT	NBL	SBT	SBL				1
From Streamwood Trail, West of FM 973													6
via FM 973 Driveway 1B	60.0%	60.0%						NBR	NBT	NBT	EBL		9
via FM 973 Driveway 2B	40.0%	40.0%						NBR	NBR	NBT	EBL		6
From Wesley Miller, West of FM 973													2
via FM 973 Driveway 1B	60.0%	60.0%						NBR	NBT	NBT	NBT	EBL	2
via FM 973 Driveway 2B	40.0%	40.0%						NBR	NBR	NBT	NBT	EBL	1
From Taylor HS Driveway, East of FM 973													6
via FM 973 Driveway 1B	60.0%	60.0%						NBR	NBT	WBR			9
via FM 973 Driveway 2B	40.0%	40.0%						NBR	NBR	WBR			6
ROUTE (EXITING DEVELOPMENT)													
TO (EXITING DEVELOPMENT)	AM Percent Dist.	PM Percent Dist.	In01: US 79 at FM 973	In02: US 79 at Driveway 1A	In03: US 79 at Driveway 2A	In04: US 79 at Crossover	In05: US 79 at S Rio Grande St	In06: FM973 at Driveway 1B (R/R0)	In07: FM973 at Driveway 2B	In08: FM973 at Taylor HS Driveway	In09: FM973 at Streamwood	In10: FM973 at Wesley Miller	AM PEAK HOUR Percent of Exiting Vehicles
To US 79, West of FM 973													
via US 79 Driveway 2A	45.0%	45.0%	WBT	WBT	NBR WBT	EBU							73
via FM 973 Driveway 1B	30.0%	30.0%	NBL					WBR					50
via FM 973 Driveway 2B	25.0%	25.0%	NBL					NBT	WBR				33
To US 79, East of South Rio Grande Street													28
via US 79 Driveway 2A	85.0%	85.0%			NBR	EBT	EBT						55
via FM 973 Driveway 1B	5.0%	5.0%	NBR	EBT	NBR	EBT	EBT	WBR					3
via FM 973 Driveway 2B	10.0%	10.0%	NBR	EBT	EBT	EBT	EBT	NBT	WBR				2
To FM 973, South of Wesley Miller Lane													6
via FM 973 Driveway 2B	100.0%	100.0%							WBL	SBT	SBT	SBT	4
To South Rio Grande Street, North of US 79													58
via US 79 Driveway 2A	85.0%	85.0%			NBR	EBT	EBL						3
via FM 973 Driveway 1B	5.0%	5.0%	NBR	EBT	EBT	EBT	EBL	WBR					2
via FM 973 Driveway 2B	10.0%	10.0%	NBR	EBT	EBT	EBT	EBL	NBT	WBR				0
To South Rio Grande Street, South of US 79													0
via US 79 Driveway 2A	85.0%	85.0%			NBR	EBT	EBR						8
via FM 973 Driveway 1B	5.0%	5.0%	NBR	EBT	EBT	EBT	EBR	WBR					4
via FM 973 Driveway 2B	10.0%	10.0%	NBR	EBT	EBT	EBT	EBR	NBT	WBR				0
To Streamwood Trail, West of FM 973													6
via FM 973 Driveway 2B	100.0%	100.0%							WBL	SBT	SBR		4
To Wesley Miller, West of FM 973													0
via FM 973 Driveway 2B	100.0%	100.0%							WBL	SBT	SBT	SBR	0
To Taylor HS Driveway, East of FM 973													1
via FM 973 Driveway 2B	100.0%	100.0%							WBL	SBT			0
													13
													9
													4.00%
													4.00%

PASS-BY TRIPS													
ROUTE (EXITING DEVELOPMENT)												AM PEAK HOUR Vehicles	PM PEAK HOUR Vehicles
PASS-BY TRIPS	AM Percent Dist.	PM Percent Dist.	In01: US 79 at FM 973	In02: US 79 at Driveway 1A	In03: US 79 at Driveway 2A	In04: US 79 at Crossover	In05: US 79 at S Rio Grande St	In06: FM973 at Driveway 1B (R/R0)	In07: FM973 at Driveway 2B	In08: FM973 at Taylor HS Driveway	In09: FM973 at Streamwood	In10: FM973 at Wesley Miller	
EB to EB US 79													42
via US 79 Driveway 2A	100.0%	100.0%				+EBR,EBT,+NBR							84
WB to WB US 79													42
via US 79 Driveway 2A													25
via FM 973 Driveway 2B	80.0%	80.0%	+WBU		+EBR,+NBR,+WBT	+EBU							17
NB FM 973 to EB US 79	20.0%	20.0%	+WBL,+WBT,+NBL					+SBT,+NBT	+SBL,+WBR				5
via FM 973 Driveway 1B	100.0%	100.0%											8
via FM 973 Driveway 2B													31
NB FM 973 to WB US 79													8
via FM 973 Driveway 1B	100.0%	100.0%											31
via FM 973 Driveway 2B													25
WB US 79 to SB FM 973													31
via FM 973 Driveway 2B	100.0%	100.0%											25
EB US 79 to SB FM 973													17
via FM 973 Driveway 2B	100.0%	100.0%											21
													17
													21
													51
													21

Table C5. Trip Generation Calculations, Castlewood Subdivision (Background)

Trip Rates															
Development Description	ITE Trip Generation Land Use Number	Trip Generation Land Use	Independent Variable	Value	Use Rate	Use Curve	Weekday			Weekday AM Peak Hour of Adjacent Roadway			Weekday PM Peak Hour of Adjacent Roadway		
							24-Hr Trip Rate*	Percent		Trip Rate*	Percent		Trip Rate*	Percent	
								Entering	Exiting		Entering	Exiting		Entering	Exiting
Castlewood Subdivision	210	Single-Family Detached Housing	Dwelling Unit	239	--	24/AM/PM	9.43	50%	50%	0.70	26%	74%	0.94	63%	37%
Trip End Calculations															
Development Description	ITE Trip Generation Land Use Number	Trip Generation Land Use	Independent Variable	Value	Use Rate	Use Curve	Weekday			Weekday AM Peak Hour of Adjacent Roadway			Weekday PM Peak Hour of Adjacent Roadway		
							24-Hr Trip Ends	Trips		Peak Hour Trips	Trips		Peak Hour Trips	Trips	
								Entering	Exiting		Entering	Exiting		Entering	Exiting
Castlewood Subdivision	210	Single-Family Detached Housing	Dwelling Unit	239	--	24/AM/PM	2,254	1,127	1,127	167	43	124	225	142	83
Trip End Totals															
Trip Totals							Weekday			Weekday AM Peak Hour of Adjacent Roadway			Weekday PM Peak Hour of Adjacent Roadway		
							24-Hr Trip Ends	Trips		Peak Hour Trips	Trips		Peak Hour Trips	Trips	
								Entering	Exiting		Entering	Exiting		Entering	Exiting
							2,254	1,127	1,127	167	43	124	225	142	83

*trip rates shown for information only, fitted curves used for trip generation

Trip Adjustment Factors		
Adjustment Factor	Time Period	Factor
Internal Capture Rates:	Weekday	-
Weekday AM Peak Hour of Adjacent Roadway		0.0%
Weekday PM Peak Hour of Adjacent Roadway		0.0%
Pass-By Trips:	Weekday	-
Weekday AM Peak Hour of Adjacent Roadway		0.0%
Weekday PM Peak Hour of Adjacent Roadway		0.0%

Trip Totals						
Trip Type	Weekday AM Peak Hour of Adjacent Roadway			Weekday PM Peak Hour of Adjacent Roadway		
	Total Trips	Trips*		Total Trips	Trips*	
		Entering	Exiting		Entering	Exiting
Total Trips, Pre-Capture/Pass-By:	167	43	124	225	142	83
Total Trips, Captured Within Development:	-	-	-	-	-	-
Total Trips, New & Pass-By	167	43	124	225	142	83
Total Trips, Pass-By, Existing on Roadway Network:	-	-	-	-	-	-
Total Trips, New on Roadway Network:	167	43	124	225	142	83

*trip estimates subject to roundoff error

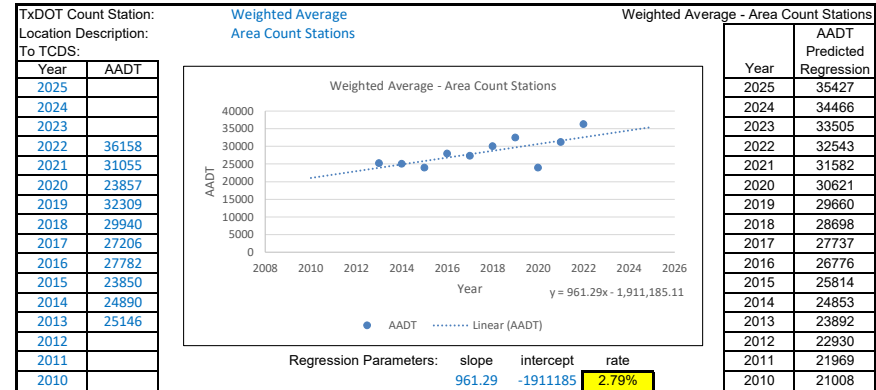
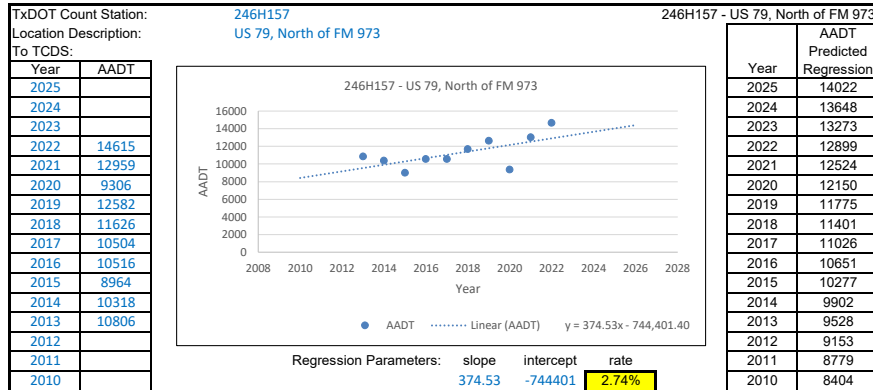
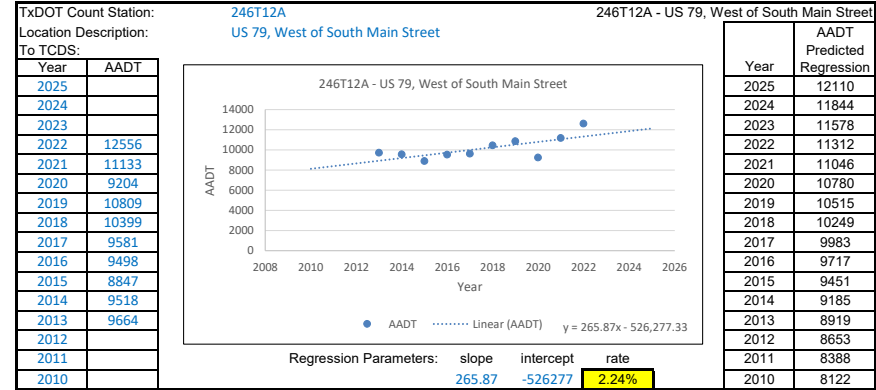
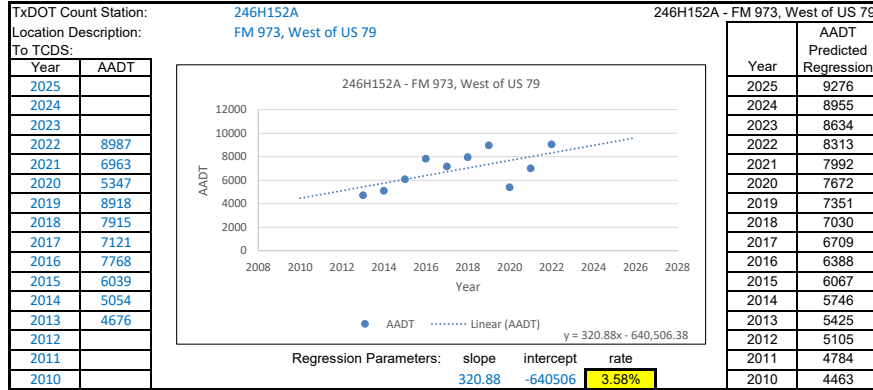
Table C6. Trip Distribution & Assignment, Castlewood Subdivision

GLOBAL ORIGINS/DESTINATIONS								
Origins-Peak Hour Volume			Destinations-Peak Hour Volume					
	AM	PM		AM	PM			
From US 79, West of FM 973	865	781	To US 79, West of FM 973	792	594			
From US 79, East of South Rio Grande Street	743	471	To US 79, East of South Rio Grande Street	487	871			
From FM 973, South of Wesley Miller Lane	276	453	To FM 973, South of Wesley Miller Lane	360	336			
From South Rio Grande Street, North of US 79	5	6	To South Rio Grande Street, North of US 79	9	4			
From South Rio Grande Street, South of US 79	26	16	To South Rio Grande Street, South of US 79	11	28			
From Streamwood Trail, West of FM 973	111	75	To Streamwood Trail, West of FM 973	39	127			
From Wesley Miller, West of FM 973	12	8	To Wesley Miller, West of FM 973	4	14			
From Taylor HS Driveway, East of FM 973	69	15	To Taylor HS Driveway, East of FM 973	176	3			
TRIP DISTRIBUTION (NEW TRIPS)								
FROM (ENTERING DEVELOPMENT)	Existing Total Volume AM Peak	Manually Estimated Trip Distribution (%)	Volume Based Trip Distribution Percentage	AM Peak Development Volume*	Existing Total Volume PM Peak	Manually Estimated Trip Distribution (%)	Volume Based Trip Distribution Percentage	PM Peak Development Volume*
From US 79, West of FM 973	865	50.0%	41.0%	22	781	50.0%	42.8%	71
From US 79, East of South Rio Grande Street	743	15.0%	35.3%	7	471	15.0%	25.8%	21
From FM 973, South of Wesley Miller Lane	276	30.0%	13.1%	13	453	30.0%	24.8%	42
From Taylor HS Driveway, East of FM 973	69	5.0%	3.3%	2	15	5.0%	0.8%	7
Total	2108	100.0%	100.0%	43	1825	100.0%	100.0%	142
TO (EXITING DEVELOPMENT)	Existing Total Volume AM Peak	Manually Estimated Trip Distribution (%)	Volume Based Trip Distribution Percentage	AM Peak Development Volume*	Existing Total Volume PM Peak	Manually Estimated Trip Distribution (%)	Volume Based Trip Distribution Percentage	PM Peak Development Volume*
To US 79, West of FM 973	792	50.0%	42.2%	62	594	50.0%	30.0%	42
To US 79, East of South Rio Grande Street	487	15.0%	25.9%	19	871	15.0%	44.0%	12
To FM 973, South of Wesley Miller Lane	360	30.0%	19.2%	37	336	30.0%	17.0%	25
To Taylor HS Driveway, East of FM 973	176	5.0%	9.4%	6	3	5.0%	0.2%	4
Total	1879	100.0%	100.0%	124	1977	100.0%	100.0%	83

*Development volumes and sum totals rounded to whole vehicles

TRIP DISTRIBUTION DETAILS - NEW TRIPS															
ROUTE (ENTERING DEVELOPMENT)												AM PEAK HOUR Vehicles	PM PEAK HOUR Vehicles	AM PEAK HOUR Percent of Entering Vehicles	PM PEAK HOUR Percent of Entering Vehicles
FROM (ENTERING DEVELOPMENT)	AM Percent Dist.	PM Percent Dist.	Int01: US 79 at FM 973	Int02: US 79 at Driveway 1A	Int03: US 79 at Driveway 2A	Int04: US 79 at Crossover	Int05: US 79 at S Rio Grande St	Int06: FM973 at Driveway 1B	Int07: FM973 at Driveway 2B	Int08: FM973 at Taylor HS Driveway	Int09: FM973 at Streamwood	Int10: FM973 at Wesley Miller			
From US 79, West of FM 973															
via Streamwood Trail	90.0%	90.0%	EBR					SBT	SBT	SBT	SBR	SBT	20	64	45.00%
via Wesley Miller	10.0%	10.0%	EBR					SBT	SBT	SBT	SBT	SBR	2	7	5.00%
From US 79, East of South Rio Grande Street															
via Streamwood Trail	90.0%	90.0%	WBL	WBT	WBT	WBT	WBT	SBT	SBT	SBT	SBR	SBT	6	19	13.50%
via Wesley Miller	10.0%	10.0%	WBL	WBT	WBT	WBT	WBT	SBT	SBT	SBT	SBT	SBR	1	2	1.50%
From FM 973, South of Wesley Miller Lane															
via Streamwood Trail	90.0%	90.0%									NBL	NBT	12	38	27.00%
via Wesley Miller	10.0%	10.0%									NBL	NBT	1	4	3.00%
From Taylor HS Driveway, East of FM 973															
via Streamwood Trail	90.0%	90.0%								WBL	SBR	SBT	2	6	4.50%
via Wesley Miller	10.0%	10.0%								WBL	SBT	SBR	0	1	0.50%
ROUTE (EXITING DEVELOPMENT)												AM PEAK HOUR Vehicles	PM PEAK HOUR Vehicles	AM PEAK HOUR Percent of Exiting Vehicles	PM PEAK HOUR Percent of Exiting Vehicles
TO (EXITING DEVELOPMENT)	AM Percent Dist.	PM Percent Dist.	Int01: US 79 at FM 973	Int02: US 79 at Driveway 1A	Int03: US 79 at Driveway 2A	Int04: US 79 at Crossover	Int05: US 79 at S Rio Grande St	Int06: FM973 at Driveway 1B	Int07: FM973 at Driveway 2B	Int08: FM973 at Taylor HS Driveway	Int09: FM973 at Streamwood	Int10: FM973 at Wesley Miller			
To US 79, West of FM 973															
via Streamwood Trail	90.0%	90.0%	NBL					NBT	NBT	NBT	EBL	NBT	56	37	45.00%
via Wesley Miller	10.0%	10.0%	NBL					NBT	NBT	NBT	NBT	EBL	6	4	5.00%
To US 79, East of South Rio Grande Street															
via Streamwood Trail	90.0%	90.0%	NBR	EBT	EBT	EBT	EBT	NBT	NBT	NBT	EBL	NBT	17	11	13.50%
via Wesley Miller	10.0%	10.0%	NBR	EBT	EBT	EBT	EBT	NBT	NBT	NBT	NBT	EBL	2	1	1.50%
To FM 973, South of Wesley Miller Lane															
via Streamwood Trail	90.0%	90.0%									EBR	SBT	33	22	27.00%
via Wesley Miller	10.0%	10.0%										EBR	4	2	3.00%
To Taylor HS Driveway, East of FM 973															
via Streamwood Trail	90.0%	90.0%								NBR	EBL	EBL	6	4	4.50%
via Wesley Miller	10.0%	10.0%								NBR	NBT	EBL	1	0	0.50%

Table C7. Background Traffic Growth Rate Calculations



Overall Average:	2.86%
Weighted Average:	2.79%
Use in Analysis:	5.00%

Table C8. Existing (2022) Peak Hour Turning Movement Counts

1. US 79 at FM 973

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				FM 973				Private Driveway			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	308	551	6	261	477	2	0	314	0	130	0	0	0	1	0
PM Peak	0	587	187	7	132	345	2	0	249	0	234	0	0	0	0	0

2. US 79 at Driveway 1A (REMOVED)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 1A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak		438				740										
PM Peak		821				479										

3. US 79 at Driveway 2A (Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 2A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak		438				740										
PM Peak		821				479										

4. US 79 at Crossover West of South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				<<NO APPROACH>>				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	454	0	2	0	778	0	0	0	0	0	0	0	0	0	0
PM Peak	0	840	0	0	0	501	0	0	0	0	0	0	0	0	0	0

5. US 79 at South Rio Grande Street

Seasonal Adjustment

AM Pe 1.147 PM Pe 1.138

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				South Rio Grande Street				South Rio Grande Street			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	3	479	5	0	6	736	1	0	23	6	1	0	2	2	1	0
PM Peak	2	847	22	0	5	467	0	0	14	2	2	0	1	6	0	0

6. FM 973 at Driveway 1B (East Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 1B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak										444				812		
PM Peak										483				319		

7. FM 973 at Driveway 2B (West Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 2B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak										444				812		
PM Peak										483				319		

8. FM 973 at Taylor High School Driveway

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Taylor High School Driveway				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	3	0	66	0	0	392	5	0	171	649	0	1
PM Peak	0	0	0	0	1	0	14	0	0	473	0	0	3	333	0	0

9. FM 973 at Streamwood Trail

	Eastbound				Westbound				Northbound				Southbound			
	Streamwood Trail				<<NO APPROACH>>				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	1	0	0	0	0	0	0	0	0	395	0	1	0	649	1	0
PM Peak	0	0	0	0	0	0	0	0	0	468	0	0	0	337	0	0

10. FM 973 at Wesley Miller Lane

	Eastbound				Westbound				Northbound				Southbound			
	Wesley Miller Lane				Wesley Miller Lane				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	1	0	15	0	154	0	1	241	34	0	306	344	0	0
PM Peak	0	0	1	0	4	0	12	0	0	453	0	0	2	331	1	0

Table C9-A. Projected Peak Hour New Site Trips, Castlewood Subdivision

1. US 79 at FM 973

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				FM 973				Private Driveway			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	22	0	7	0	0	0	62	0	19	0	0	0	0	0
PM Peak	0	0	71	0	21	0	0	0	42	0	12	0	0	0	0	0

2. US 79 at Driveway 1A (REMOVED)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 1A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	19	0	0	0	7	0	0	0	0	0	0	0	0	0	0
PM Peak	0	12	0	0	0	21	0	0	0	0	0	0	0	0	0	0

3. US 79 at Driveway 2A (Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 2A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	19	0	0	0	7	0	0	0	0	0	0	0	0	0	0
PM Peak	0	12	0	0	0	21	0	0	0	0	0	0	0	0	0	0

4. US 79 at Crossover West of South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				<<NO APPROACH>>				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	19	0	0	0	7	0	0	0	0	0	0	0	0	0	0
PM Peak	0	12	0	0	0	21	0	0	0	0	0	0	0	0	0	0

5. US 79 at South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				South Rio Grande Street				South Rio Grande Street			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	19	0	0	0	7	0	0	0	0	0	0	0	0	0	0
PM Peak	0	12	0	0	0	21	0	0	0	0	0	0	0	0	0	0

6. FM 973 at Driveway 1B (East Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 1B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	0	0	0	80	0	0	0	28	0	0
PM Peak	0	0	0	0	0	0	0	0	0	54	0	0	0	92	0	0

7. FM 973 at Driveway 2B (West Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 2B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	0	0	0	80	0	0	0	28	0	0
PM Peak	0	0	0	0	0	0	0	0	0	54	0	0	0	92	0	0

8. FM 973 at Taylor High School Driveway

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Taylor High School Driveway				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	2	0	0	0	0	80	6	0	0	28	0	0
PM Peak	0	0	0	0	7	0	0	0	0	54	4	0	0	92	0	0

9. FM 973 at Streamwood Trail

	Eastbound				Westbound				Northbound				Southbound			
	Streamwood Trail				<<NO APPROACH>>				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	78	0	33	0	0	0	0	0	12	9	0	0	0	3	27	0
PM Peak	52	0	22	0	0	0	0	0	38	6	0	0	0	10	89	0

10. FM 973 at Wesley Miller Lane

	Eastbound				Westbound				Northbound				Southbound			
	Wesley Miller Lane				Wesley Miller Lane				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	9	0	4	0	0	0	0	0	1	12	0	0	0	33	3	0
PM Peak	6	0	2	0	0	0	0	0	4	38	0	0	0	22	10	0

Table C9-B. Projected Peak Hour New Site Trips, Samsung Plant (Phase 1)
As provided by City of Taylor
1. US 79 at FM 973

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				FM 973				Private Driveway			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak			73		146				10		21					
PM Peak			4		7				61		123					

2. US 79 at Driveway 1A (REMOVED)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 1A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak		21			146											
PM Peak		123			7											

3. US 79 at Driveway 2A (Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 2A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak		21			146											
PM Peak		123			7											

4. US 79 at Crossover West of South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				<<NO APPROACH>>				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak		21			146											
PM Peak		123			7											

5. US 79 at South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				South Rio Grande Street				South Rio Grande Street			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak		21			146											
PM Peak		123			7											

6. FM 973 at Driveway 1B (East Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 1B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak									31				219			
PM Peak									184				11			

7. FM 973 at Driveway 2B (West Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 2B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak									31				219			
PM Peak									184				11			

8. FM 973 at Taylor High School Driveway

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Taylor High School Driveway				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak									31				219			
PM Peak									184				11			

9. FM 973 at Streamwood Trail

	Eastbound				Westbound				Northbound				Southbound			
	Streamwood Trail				<<NO APPROACH>>				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak									31				219			
PM Peak									184				11			

10. FM 973 at Wesley Miller Lane

	Eastbound				Westbound				Northbound				Southbound			
	Wesley Miller Lane				Wesley Miller Lane				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak									31				219			
PM Peak									184				11			

Table C10. Projected 2025 Peak Hour Turning Movement Counts (Phase 1 Build-Out Year without development)

1. US 79 at FM 973

Adjustment Factor: 1.150

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				FM 973				Private Driveway			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	354	728	7	453	549	2	0	433	0	189	0	0	0	1	0
PM Peak	0	675	290	8	180	397	2	0	389	0	405	0	0	0	0	0

2. US 79 at Driveway 1A (REMOVED)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 1A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	543	0	0	0	1004	0	0	0	0	0	0	0	0	0	0
PM Peak	0	1080	0	0	0	579	0	0	0	0	0	0	0	0	0	0

3. US 79 at Driveway 2A (Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 2A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	543	0	0	0	1004	0	0	0	0	0	0	0	0	0	0
PM Peak	0	1080	0	0	0	579	0	0	0	0	0	0	0	0	0	0

4. US 79 at Crossover West of South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				<<NO APPROACH>>				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	562	0	2	0	1047	0	0	0	0	0	0	0	0	0	0
PM Peak	0	1101	0	0	0	604	0	0	0	0	0	0	0	0	0	0

5. US 79 at South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				South Rio Grande Street				South Rio Grande Street			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	4	591	5	0	7	999	1	0	26	7	1	0	3	3	1	0
PM Peak	3	1109	25	0	5	565	0	0	16	3	3	0	1	7	0	0

6. FM 973 at Driveway 1B (East Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 1B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	0	0	0	622	0	0	0	1181	0	0
PM Peak	0	0	0	0	0	0	0	0	0	793	0	0	0	470	0	0

7. FM 973 at Driveway 2B (West Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 2B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	0	0	0	622	0	0	0	1181	0	0
PM Peak	0	0	0	0	0	0	0	0	0	793	0	0	0	470	0	0

8. FM 973 at Taylor High School Driveway

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Taylor High School Driveway				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	6	0	76	0	0	562	12	0	197	994	0	1
PM Peak	0	0	0	0	8	0	16	0	0	782	4	0	3	486	0	0

9. FM 973 at Streamwood Trail

	Eastbound				Westbound				Northbound				Southbound			
	Streamwood Trail				<<NO APPROACH>>				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	79	0	33	0	0	0	0	0	12	494	0	1	0	968	29	0
PM Peak	52	0	22	0	0	0	0	0	38	728	0	0	0	408	89	0

10. FM 973 at Wesley Miller Lane

	Eastbound				Westbound				Northbound				Southbound			
	Wesley Miller Lane				Wesley Miller Lane				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	9	0	5	0	17	0	177	0	2	320	39	0	352	648	3	0
PM Peak	6	0	4	0	5	0	14	0	4	743	0	0	2	414	11	0

Table C11. Projected 2027 Peak Hour Turning Movement Counts (Phase 2 Build-Out Year without development)

1. US 79 at FM 973

Adjustment Factor: 1.250

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				FM 973				Private Driveway			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	385	783	8	479	596	3	0	464	0	202	0	0	0	1	0
PM Peak	0	734	378	9	332	431	3	0	363	0	326	0	0	0	0	0

2. US 79 at Driveway 1A (REMOVED)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 1A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	587	0	0	0	1078	0	0	0	0	0	0	0	0	0	0
PM Peak	0	1060	0	0	0	766	0	0	0	0	0	0	0	0	0	0

3. US 79 at Driveway 2A (Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 2A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	587	0	0	0	1078	0	0	0	0	0	0	0	0	0	0
PM Peak	0	1060	0	0	0	766	0	0	0	0	0	0	0	0	0	0

4. US 79 at Crossover West of South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				<<NO APPROACH>>				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	607	0	3	0	1125	0	0	0	0	0	0	0	0	0	0
PM Peak	0	1083	0	0	0	793	0	0	0	0	0	0	0	0	0	0

5. US 79 at South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				South Rio Grande Street				South Rio Grande Street			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	4	639	6	0	7	1073	1	0	29	7	1	0	3	3	1	0
PM Peak	3	1092	27	0	6	751	0	0	17	3	3	0	1	7	0	0

6. FM 973 at Driveway 1B (East Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 1B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	0	0	0	666	0	0	0	1262	0	0
PM Peak	0	0	0	0	0	0	0	0	0	689	0	0	0	710	0	0

7. FM 973 at Driveway 2B (West Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 2B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	0	0	0	666	0	0	0	1262	0	0
PM Peak	0	0	0	0	0	0	0	0	0	689	0	0	0	710	0	0

8. FM 973 at Taylor High School Driveway

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Taylor High School Driveway				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	6	0	83	0	0	601	12	0	214	1059	0	1
PM Peak	0	0	0	0	8	0	18	0	0	676	4	0	4	727	0	0

9. FM 973 at Streamwood Trail

	Eastbound				Westbound				Northbound				Southbound			
	Streamwood Trail				<<NO APPROACH>>				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	79	0	33	0	0	0	0	0	12	533	0	1	0	1033	29	0
PM Peak	52	0	22	0	0	0	0	0	38	622	0	0	0	650	89	0

10. FM 973 at Wesley Miller Lane

	Eastbound				Westbound				Northbound				Southbound			
	Wesley Miller Lane				Wesley Miller Lane				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	9	0	5	0	19	0	193	0	3	344	43	0	383	682	3	0
PM Peak	6	0	4	0	5	0	15	0	4	635	0	0	3	655	11	0

Table C12. Projected Peak Hour New Site Trips, Phase 1 of Development

1. US 79 at FM 973

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				FM 973				Private Driveway			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	175	0	0	12	58	0	0	71	0	9	0	0	0	0	0
PM Peak	0	118	0	0	8	47	0	0	57	0	7	0	0	0	0	0

2. US 79 at Driveway 1A (REMOVED)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 1A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	226	0	0	0	139	0	0	0	0	0	0	0	0	0	0
PM Peak	0	153	0	0	0	101	0	0	0	0	0	0	0	0	0	0

3. US 79 at Driveway 2A (Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 2A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	9	217	0	0	139	0	0	0	0	109	0	0	0	0	0
PM Peak	0	7	146	0	0	101	0	0	0	0	87	0	0	0	0	0

4. US 79 at Crossover West of South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				<<NO APPROACH>>				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	60	0	58	0	81	0	0	0	0	0	0	0	0	0	0
PM Peak	0	48	0	47	0	54	0	0	0	0	0	0	0	0	0	0

5. US 79 at South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				South Rio Grande Street				South Rio Grande Street			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	3	52	5	0	0	70	0	0	7	0	0	0	0	0	4	0
PM Peak	2	42	4	0	0	47	0	0	5	0	0	0	0	0	2	0

6. FM 973 at Driveway 1B (East Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 1B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	42	0	0	38	69	0	0	38	0	0
PM Peak	0	0	0	0	0	0	34	0	0	31	47	0	0	26	0	0

7. FM 973 at Driveway 2B (West Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 2B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	70	0	38	0	0	69	25	0	38	0	0	0
PM Peak	0	0	0	0	56	0	31	0	0	47	17	0	26	0	0	0

8. FM 973 at Taylor High School Driveway

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Taylor High School Driveway				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	14	0	0	81	0	0	10	60	0	0
PM Peak	0	0	0	0	0	0	9	0	0	54	0	0	8	48	0	0

9. FM 973 at Streamwood Trail

	Eastbound				Westbound				Northbound				Southbound			
	Streamwood Trail				<<NO APPROACH>>				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	14	0	0	0	0	0	0	0	0	67	0	0	0	49	10	0
PM Peak	9	0	0	0	0	0	0	0	0	45	0	0	0	39	8	0

10. FM 973 at Wesley Miller Lane

	Eastbound				Westbound				Northbound				Southbound			
	Wesley Miller Lane				Wesley Miller Lane				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	4	0	0	0	0	0	0	0	0	63	0	0	0	47	3	0
PM Peak	2	0	0	0	0	0	0	0	0	42	0	0	0	37	2	0

Table C13. Projected Peak Hour New Site Trips, Phase 1+2 of Development

1. US 79 at FM 973

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				FM 973				Private Driveway			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	179	0	0	12	73	0	0	89	0	11	0	0	0	0	0
PM Peak	0	134	0	0	9	50	0	0	61	0	8	0	0	0	0	0

2. US 79 at Driveway 1A (REMOVED)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 1A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	233	0	0	0	155	0	0	0	0	0	0	0	0	0	0
PM Peak	0	174	0	0	0	112	0	0	0	0	0	0	0	0	0	0

3. US 79 at Driveway 2A (Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 2A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	11	222	0	0	155	0	0	0	0	136	0	0	0	0	0
PM Peak	0	8	166	0	0	112	0	0	0	0	94	0	0	0	0	0

4. US 79 at Crossover West of South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				<<NO APPROACH>>				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	75	0	73	0	82	0	0	0	0	0	0	0	0	0	0
PM Peak	0	51	0	50	0	62	0	0	0	0	0	0	0	0	0	0

5. US 79 at South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				South Rio Grande Street				South Rio Grande Street			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	3	65	6	0	0	71	0	0	7	0	0	0	0	0	4	0
PM Peak	2	45	4	0	0	54	0	0	5	0	0	0	0	0	3	0

6. FM 973 at Driveway 1B (East Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 1B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	52	0	0	48	71	0	0	39	0	0
PM Peak	0	0	0	0	0	0	36	0	0	33	53	0	0	29	0	0

7. FM 973 at Driveway 2B (West Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 2B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	87	0	48	0	0	71	26	0	39	0	0	0
PM Peak	0	0	0	0	60	0	33	0	0	53	19	0	29	0	0	0

8. FM 973 at Taylor High School Driveway

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Taylor High School Driveway				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	14	0	0	82	0	0	13	75	0	0
PM Peak	0	0	0	0	0	0	11	0	0	62	0	0	9	51	0	0

9. FM 973 at Streamwood Trail

	Eastbound				Westbound				Northbound				Southbound			
	Streamwood Trail				<<NO APPROACH>>				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	14	0	0	0	0	0	0	0	0	68	0	0	0	62	13	0
PM Peak	11	0	0	0	0	0	0	0	0	51	0	0	0	42	9	0

10. FM 973 at Wesley Miller Lane

	Eastbound				Westbound				Northbound				Southbound			
	Wesley Miller Lane				Wesley Miller Lane				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	4	0	0	0	0	0	0	0	0	64	0	0	0	58	3	0
PM Peak	3	0	0	0	0	0	0	0	0	48	0	0	0	40	2	0

Table C14. Projected Peak Hour Pass-By Trips, Phase 1 of Development

1. US 79 at FM 973

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				FM 973				Private Driveway			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	5	-5	0	0	5	0	-8	0	0	0	0	0
PM Peak	0	0	0	0	4	-4	0	0	4	0	-31	0	0	0	0	0

2. US 79 at Driveway 1A (REMOVED)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 1A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

3. US 79 at Driveway 2A (Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 2A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	-51	63	0	0	20	0	0	0	0	71	0	0	0	0	0
PM Peak	0	-115	100	0	0	17	0	0	0	0	132	0	0	0	0	0

4. US 79 at Crossover West of South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				<<NO APPROACH>>				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

5. US 79 at South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				South Rio Grande Street				South Rio Grande Street			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

6. FM 973 at Driveway 1B (East Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 1B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	25	0	0	-29	34	0	0	5	0	0
PM Peak	0	0	0	0	0	0	31	0	0	-59	63	0	0	4	0	0

7. FM 973 at Driveway 2B (West Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 2B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	68	0	5	0	0	0	0	0	73	-68	0	0
PM Peak	0	0	0	0	42	0	4	0	0	0	0	0	46	-42	0	0

8. FM 973 at Taylor High School Driveway

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Taylor High School Driveway				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

9. FM 973 at Streamwood Trail

	Eastbound				Westbound				Northbound				Southbound			
	Streamwood Trail				<<NO APPROACH>>				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

10. FM 973 at Wesley Miller Lane

	Eastbound				Westbound				Northbound				Southbound			
	Wesley Miller Lane				Wesley Miller Lane				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table C15. Projected Peak Hour Pass-By Trips, Phase 1+2 of Development

1. US 79 at FM 973

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				FM 973				Private Driveway			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	5	-5	0	0	5	0	-8	0	0	0	0	0
PM Peak	0	0	0	0	4	-4	0	0	4	0	-31	0	0	0	0	0

2. US 79 at Driveway 1A (REMOVED)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 1A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

3. US 79 at Driveway 2A (Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 2A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	-51	63	0	0	20	0	0	0	0	71	0	0	0	0	0
PM Peak	0	-115	100	0	0	17	0	0	0	0	132	0	0	0	0	0

4. US 79 at Crossover West of South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				<<NO APPROACH>>				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

5. US 79 at South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				South Rio Grande Street				South Rio Grande Street			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

6. FM 973 at Driveway 1B (East Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 1B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	25	0	0	-29	34	0	0	5	0	0
PM Peak	0	0	0	0	0	0	31	0	0	-59	63	0	0	4	0	0

7. FM 973 at Driveway 2B (West Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 2B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	68	0	5	0	0	0	0	0	73	-68	0	0
PM Peak	0	0	0	0	42	0	4	0	0	0	0	0	46	-42	0	0

8. FM 973 at Taylor High School Driveway

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Taylor High School Driveway				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

9. FM 973 at Streamwood Trail

	Eastbound				Westbound				Northbound				Southbound			
	Streamwood Trail				<<NO APPROACH>>				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

10. FM 973 at Wesley Miller Lane

	Eastbound				Westbound				Northbound				Southbound			
	Wesley Miller Lane				Wesley Miller Lane				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table C16. Projected 2025 Peak Hour Turning Movement Counts (w/Phase 1 development)

1. US 79 at FM 973

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				FM 973				Private Driveway			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	529	728	7	470	602	2	0	509	0	190	0	0	0	1	0
PM Peak	0	793	290	8	192	439	2	0	450	0	380	0	0	0	0	0

2. US 79 at Driveway 1A (REMOVED)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 1A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	770	0	0	0	1142	0	0	0	0	0	0	0	0	0	0
PM Peak	0	1233	0	0	0	680	0	0	0	0	0	0	0	0	0	0

3. US 79 at Driveway 2A (Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 2A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	501	280	0	0	1163	0	0	0	0	180	0	0	0	0	0
PM Peak	0	972	246	0	0	697	0	0	0	0	219	0	0	0	0	0

4. US 79 at Crossover West of South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				<<NO APPROACH>>				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	621	0	61	0	1128	0	0	0	0	0	0	0	0	0	0
PM Peak	0	1149	0	47	0	658	0	0	0	0	0	0	0	0	0	0

5. US 79 at South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				South Rio Grande Street				South Rio Grande Street			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	7	643	10	0	7	1069	1	0	33	7	1	0	3	3	5	0
PM Peak	5	1151	29	0	5	612	0	0	20	3	3	0	1	7	2	0

6. FM 973 at Driveway 1B (East Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 1B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	67	0	0	632	103	0	0	1225	0	0
PM Peak	0	0	0	0	0	0	65	0	0	766	109	0	0	500	0	0

7. FM 973 at Driveway 2B (West Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 2B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	138	0	43	0	0	691	25	0	111	1113	0	0
PM Peak	0	0	0	0	98	0	35	0	0	840	17	0	72	428	0	0

8. FM 973 at Taylor High School Driveway

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Taylor High School Driveway				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	6	0	90	0	0	643	12	0	207	1053	0	1
PM Peak	0	0	0	0	8	0	26	0	0	836	4	0	12	534	0	0

9. FM 973 at Streamwood Trail

	Eastbound				Westbound				Northbound				Southbound			
	Streamwood Trail				<<NO APPROACH>>				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	93	0	33	0	0	0	0	0	12	561	0	1	0	1018	39	0
PM Peak	62	0	22	0	0	0	0	0	38	773	0	0	0	448	97	0

10. FM 973 at Wesley Miller Lane

	Eastbound				Westbound				Northbound				Southbound			
	Wesley Miller Lane				Wesley Miller Lane				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	12	0	5	0	17	0	177	0	2	383	39	0	352	695	6	0
PM Peak	8	0	4	0	5	0	14	0	4	786	0	0	2	451	13	0

Table C17. Projected 2027 Peak Hour Turning Movement Counts (w/Phase 1+2 development)

1. US 79 at FM 973

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				FM 973				Private Driveway			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	564	783	8	496	664	3	0	559	0	205	0	0	0	1	0
PM Peak	0	868	378	9	346	477	3	0	428	0	302	0	0	0	0	0

2. US 79 at Driveway 1A (REMOVED)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 1A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	820	0	0	0	1233	0	0	0	0	0	0	0	0	0	0
PM Peak	0	1234	0	0	0	878	0	0	0	0	0	0	0	0	0	0

3. US 79 at Driveway 2A (Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				Driveway 2A				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	547	284	0	0	1253	0	0	0	0	207	0	0	0	0	0
PM Peak	0	952	267	0	0	894	0	0	0	0	225	0	0	0	0	0

4. US 79 at Crossover West of South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				<<NO APPROACH>>				<<NO APPROACH>>			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	682	0	75	0	1207	0	0	0	0	0	0	0	0	0	0
PM Peak	0	1135	0	50	0	855	0	0	0	0	0	0	0	0	0	0

5. US 79 at South Rio Grande Street

	Eastbound				Westbound				Northbound				Southbound			
	US 79				US 79				South Rio Grande Street				South Rio Grande Street			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	8	704	12	0	7	1144	1	0	36	7	1	0	3	3	5	0
PM Peak	5	1137	31	0	6	804	0	0	22	3	3	0	1	7	3	0

6. FM 973 at Driveway 1B (East Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 1B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	0	0	78	0	0	686	105	0	0	1306	0	0
PM Peak	0	0	0	0	0	0	67	0	0	663	116	0	0	743	0	0

7. FM 973 at Driveway 2B (West Site Driveway)

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Driveway 2B				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	155	0	53	0	0	737	26	0	112	1195	0	0
PM Peak	0	0	0	0	102	0	37	0	0	742	19	0	75	668	0	0

8. FM 973 at Taylor High School Driveway

	Eastbound				Westbound				Northbound				Southbound			
	<<NO APPROACH>>				Taylor High School Driveway				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	0	0	0	0	6	0	97	0	0	684	12	0	227	1133	0	1
PM Peak	0	0	0	0	8	0	28	0	0	738	4	0	13	778	0	0

9. FM 973 at Streamwood Trail

	Eastbound				Westbound				Northbound				Southbound			
	Streamwood Trail				<<NO APPROACH>>				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	94	0	33	0	0	0	0	0	12	601	0	1	0	1095	42	0
PM Peak	63	0	22	0	0	0	0	0	38	673	0	0	0	692	98	0

10. FM 973 at Wesley Miller Lane

	Eastbound				Westbound				Northbound				Southbound			
	Wesley Miller Lane				Wesley Miller Lane				FM 973				FM 973			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U
AM Peak	12	0	5	0	19	0	193	0	3	408	43	0	383	741	6	0
PM Peak	8	0	4	0	5	0	15	0	4	684	0	0	3	695	13	0

Appendix D – Traffic Simulation Output

Appendix D. Traffic Simulation Output

Existing Conditions (2022, October), AM & PM

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2022 AM Peak Hour
Existing Conditions

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	6	0	308	551	261	477	2	314	0	130	0	0
Future Volume (vph)	6	0	308	551	261	477	2	314	0	130	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		0	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.999				0.850		0.865
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1805	3312	1553	1719	3371	0	0	1671	1568	0	1644
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1805	3312	1553	1719	3371	0	0	1671	1568	0	1644
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				586						143		381
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1070			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Adj. Flow (vph)	6	0	328	586	278	507	2	334	0	138	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	6	328	586	278	509	0	0	334	138	0	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			0			0
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
Page 1

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.94
Heavy Vehicles (%)	0%
Adj. Flow (vph)	1
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2022 AM Peak Hour
Existing Conditions

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	15.0	15.0	5.0	15.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	16.0	21.0	21.0	11.0	21.0		12.0	12.0	12.0	11.0	11.0
Total Split (s)	31.0	31.0	61.0	61.0	31.0	61.0		57.0	57.0	57.0	11.0	11.0
Total Split (%)	19.4%	19.4%	38.1%	38.1%	19.4%	38.1%		35.6%	35.6%	35.6%	6.9%	6.9%
Maximum Green (s)	25.0	25.0	55.0	55.0	25.0	55.0		50.0	50.0	50.0	5.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0	2.0	2.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)		10.3	19.6	19.6	25.8	49.2			23.4	23.4		5.2
Actuated g/C Ratio		0.11	0.22	0.22	0.29	0.55			0.26	0.26		0.06
v/c Ratio		0.03	0.46	0.74	0.57	0.28			0.77	0.27		0.00
Control Delay		45.0	33.9	9.3	36.8	14.6			44.3	6.1		0.0
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Delay		45.0	33.9	9.3	36.8	14.6			44.3	6.1		0.0
LOS		D	C	A	D	B			D	A		A
Approach Delay			18.3			22.5			33.1			
Approach LOS			B			C			C			

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 90

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 23.0

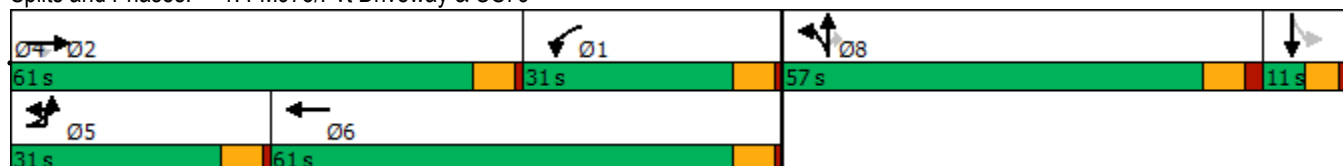
Intersection LOS: C

Intersection Capacity Utilization 67.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79



Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2022 AM Peak Hour
Existing Conditions

								
Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Protected Phases	5	2		1	6	8		4
Permitted Phases			2				8	
Minimum Initial (s)	10.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0
Minimum Split (s)	16.0	21.0	21.0	11.0	21.0	12.0	12.0	11.0
Total Split (s)	31.0	61.0	61.0	31.0	61.0	57.0	57.0	11.0
Total Split (%)	19.4%	38.1%	38.1%	19.4%	38.1%	35.6%	35.6%	6.9%
Maximum Green (s)	25.0	55.0	55.0	25.0	55.0	50.0	50.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	10.0	31.1	31.1	25.0	46.1	37.8	37.8	5.0
90th %ile Term Code	Min	Gap	Gap	Max	Hold	Gap	Gap	Max
70th %ile Green (s)	0.0	21.3	21.3	25.0	52.3	26.2	26.2	0.0
70th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip
50th %ile Green (s)	0.0	17.3	17.3	25.0	48.3	22.1	22.1	0.0
50th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip
30th %ile Green (s)	0.0	15.0	15.0	24.6	45.6	18.8	18.8	0.0
30th %ile Term Code	Skip	Min	Min	Gap	Hold	Gap	Gap	Skip
10th %ile Green (s)	0.0	15.0	15.0	25.0	46.0	14.9	14.9	0.0
10th %ile Term Code	Skip	Min	Min	Max	Hold	Gap	Gap	Skip
Intersection Summary								
Cycle Length: 160								
Actuated Cycle Length: 90								
Control Type: Actuated-Uncoordinated								
90th %ile Actuated Cycle: 123.9								
70th %ile Actuated Cycle: 91.5								
50th %ile Actuated Cycle: 83.4								
30th %ile Actuated Cycle: 77.4								
10th %ile Actuated Cycle: 73.9								

Queues

1: FM973/Pvt Driveway & US79

2022 AM Peak Hour

Existing Conditions

								
Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	6	328	586	278	509	334	138	1
v/c Ratio	0.03	0.46	0.74	0.57	0.28	0.77	0.27	0.00
Control Delay	45.0	33.9	9.3	36.8	14.6	44.3	6.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.0	33.9	9.3	36.8	14.6	44.3	6.1	0.0
Queue Length 50th (ft)	3	80	0	121	63	160	0	0
Queue Length 95th (ft)	19	161	107	#349	206	338	44	0
Internal Link Dist (ft)		854			990	556		491
Turn Bay Length (ft)	100		615	880				
Base Capacity (vph)	518	2092	1197	493	2130	959	961	453
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.16	0.49	0.56	0.24	0.35	0.14	0.00

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2022 AM Peak Hour

Existing Conditions

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	6	0	308	551	261	477	2	314	0	130	0	0
Future Volume (vph)	6	0	308	551	261	477	2	314	0	130	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95			1.00	1.00		1.00
Frt		1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.86
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00		1.00
Satd. Flow (prot)		1805	3312	1553	1719	3373			1671	1568		1644
Flt Permitted		0.95	1.00	1.00	0.95	1.00			0.95	1.00		1.00
Satd. Flow (perm)		1805	3312	1553	1719	3373			1671	1568		1644
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	6	0	328	586	278	507	2	334	0	138	0	0
RTOR Reduction (vph)	0	0	0	471	0	0	0	0	0	106	0	1
Lane Group Flow (vph)	0	6	328	115	278	509	0	0	334	32	0	0
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		1.5	19.6	19.6	31.1	49.2			23.4	23.4		0.7
Effective Green, g (s)		1.5	19.6	19.6	31.1	49.2			23.4	23.4		0.7
Actuated g/C Ratio		0.02	0.20	0.20	0.31	0.49			0.23	0.23		0.01
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0			3.0	3.0		2.0
Lane Grp Cap (vph)		27	650	304	535	1662			391	367		11
v/s Ratio Prot		0.00	c0.10		c0.16	0.15			c0.20			c0.00
v/s Ratio Perm				0.07						0.02		
v/c Ratio		0.22	0.50	0.38	0.52	0.31			0.85	0.09		0.00
Uniform Delay, d1		48.6	35.8	34.8	28.2	15.1			36.6	29.9		49.2
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		1.5	0.2	0.3	0.4	0.0			16.4	0.1		0.0
Delay (s)		50.1	36.0	35.1	28.6	15.1			53.0	30.0		49.2
Level of Service		D	D	D	C	B			D	C		D
Approach Delay (s)			35.5			19.9			46.2			49.2
Approach LOS			D			B			D			D
Intersection Summary												
HCM 2000 Control Delay			32.2			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			99.8			Sum of lost time (s)			25.0			
Intersection Capacity Utilization			67.7%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2022 AM Peak Hour
Existing Conditions

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	1
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
4: US79 & Crossover

2022 AM Peak Hour
Existing Conditions

								
Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	2	0	454	0	778	0	0	0
Future Volume (vph)	2	0	454	0	778	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		100		0	0	0
Storage Lanes		1		1		0	1	0
Taper Length (ft)		100		100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frt								
Flt Protected		0.950						
Satd. Flow (prot)	0	1805	3282	1900	3374	0	1900	0
Flt Permitted		0.950						
Satd. Flow (perm)	0	1805	3282	1900	3374	0	1900	0
Link Speed (mph)			65		65		30	
Link Distance (ft)			739		504		317	
Travel Time (s)			7.8		5.3		7.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	10%	0%	7%	0%	0%	0%
Adj. Flow (vph)	2	0	499	0	855	0	0	0
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	2	499	0	855	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			60		60		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	
Intersection Summary								
Area Type:	Other							
Control Type:	Unsignalized							
Intersection Capacity Utilization	24.8%				ICU Level of Service A			
Analysis Period (min)	15							

HCM Unsignalized Intersection Capacity Analysis

4: US79 & Crossover

2022 AM Peak Hour
Existing Conditions

								
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (veh/h)	2	0	454	0	778	0	0	0
Future Volume (Veh/h)	2	0	454	0	778	0	0	0
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	499	0	855	0	0	0
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage veh			2		2			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	855		0			1104	428
vC1, stage 1 conf vol							855	
vC2, stage 2 conf vol							250	
vCu, unblocked vol	0	855		0			1104	428
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	100		0			100	100
cM capacity (veh/h)	0	793		0			362	581
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	
Volume Total	0	250	250	428	428	0	0	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.15	0.15	0.25	0.25	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lane LOS							A	
Approach Delay (s)	0.0			0.0			0.0	
Approach LOS							A	
Intersection Summary								
Average Delay			0.0					
Intersection Capacity Utilization			24.8%		ICU Level of Service		A	
Analysis Period (min)			15					

Intersection								
Int Delay, s/veh	0							
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	2	0	454	0	778	0	0	0
Future Vol, veh/h	2	0	454	0	778	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	100	-	100	-	-	0	-
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	10	0	7	0	0	0
Mvmt Flow	2	0	499	0	855	0	0	0
Major/Minor	Major1		Major2		Minor2			
Conflicting Flow All	855	855	0	499	-	0	1109	428
Stage 1	-	-	-	-	-	-	855	-
Stage 2	-	-	-	-	-	-	254	-
Critical Hdwy	6.4	4.1	-	6.4	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	2.2	-	2.5	-	-	3.5	3.3
Pot Cap-1 Maneuver	418	793	-	702	-	0	207	581
Stage 1	-	-	-	-	-	0	382	-
Stage 2	-	-	-	-	-	0	771	-
Platoon blocked, %			-		-			
Mov Cap-1 Maneuver	418	418	-	702	-	-	206	581
Mov Cap-2 Maneuver	-	-	-	-	-	-	206	-
Stage 1	-	-	-	-	-	-	380	-
Stage 2	-	-	-	-	-	-	771	-
Approach	EB		WB		SB			
HCM Control Delay, s	0.1		0		0			
HCM LOS	A							
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	SBLn1			
Capacity (veh/h)	418	-	702	-	-			
HCM Lane V/C Ratio	0.005	-	-	-	-			
HCM Control Delay (s)	13.7	-	0	-	0			
HCM Lane LOS	B	-	A	-	A			
HCM 95th %tile Q(veh)	0	-	0	-	-			

Lanes, Volumes, Timings
5: S Rio Grande & US79

2022 AM Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	3	479	5	6	736	1	23	6	1	2	2	1
Future Volume (vph)	3	479	5	6	736	1	23	6	1	2	2	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		350	175		330	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.996			0.973	
Flt Protected	0.950			0.950				0.963			0.980	
Satd. Flow (prot)	1805	3539	1615	1805	3374	1615	0	1822	0	0	1812	0
Flt Permitted	0.950			0.950				0.963			0.980	
Satd. Flow (perm)	1805	3539	1615	1805	3374	1615	0	1822	0	0	1812	0
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		572			566			552			557	
Travel Time (s)		6.0			5.9			12.5			12.7	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	544	6	7	836	1	26	7	1	2	2	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	544	6	7	836	1	0	34	0	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		60			60			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	30.3%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis

5: S Rio Grande & US79

2022 AM Peak Hour

Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	479	5	6	736	1	23	6	1	2	2	1
Future Volume (Veh/h)	3	479	5	6	736	1	23	6	1	2	2	1
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	3	544	6	7	836	1	26	7	1	2	2	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	Raised			Raised								
Median storage veh	2			2								
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	836			544			983	1400	272	1132	1400	418
vC1, stage 1 conf vol							550	550		850	850	
vC2, stage 2 conf vol							433	850		282	550	
vCu, unblocked vol	836			544			983	1400	272	1132	1400	418
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			94	98	100	99	99	100
cM capacity (veh/h)	807			1035			406	321	732	304	322	589
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	3	272	272	6	7	418	418	1	34	5		
Volume Left	3	0	0	0	7	0	0	0	26	2		
Volume Right	0	0	0	6	0	0	0	1	1	1		
cSH	807	1700	1700	1700	1035	1700	1700	1700	390	345		
Volume to Capacity	0.00	0.16	0.16	0.00	0.01	0.25	0.25	0.00	0.09	0.01		
Queue Length 95th (ft)	0	0	0	0	1	0	0	0	7	1		
Control Delay (s)	9.5	0.0	0.0	0.0	8.5	0.0	0.0	0.0	15.1	15.6		
Lane LOS	A				A				C	C		
Approach Delay (s)	0.1				0.1				15.1	15.6		
Approach LOS									C	C		
Intersection Summary												
Average Delay	0.5											
Intersection Capacity Utilization	30.3%			ICU Level of Service						A		
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	479	5	6	736	1	23	6	1	2	2	1
Future Vol, veh/h	3	479	5	6	736	1	23	6	1	2	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	Free
Storage Length	200	-	350	175	-	330	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	2	0	0	7	0	0	0	0	0	0	0
Mvmt Flow	3	544	6	7	836	1	26	7	1	2	2	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	836	0	0	544	0	0	983	1400	-	1132	1400	-
Stage 1	-	-	-	-	-	-	550	550	-	850	850	-
Stage 2	-	-	-	-	-	-	433	850	-	282	550	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	-	7.5	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	-	3.5	4	-
Pot Cap-1 Maneuver	807	-	-	1035	-	-	206	142	0	160	142	0
Stage 1	-	-	-	-	-	-	492	519	0	326	380	0
Stage 2	-	-	-	-	-	-	577	380	0	707	519	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	807	-	-	1035	-	-	202	140	-	153	140	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	202	140	-	153	140	-
Stage 1	-	-	-	-	-	-	490	517	-	325	377	-
Stage 2	-	-	-	-	-	-	570	377	-	695	517	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.1								
HCM LOS							-			-		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	807	-	-	1035	-	-	-				
HCM Lane V/C Ratio	-	0.004	-	-	0.007	-	-	-				
HCM Control Delay (s)	-	9.5	-	-	8.5	-	-	-				
HCM Lane LOS	-	A	-	-	A	-	-	-				
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-				

Lanes, Volumes, Timings
8: FM973 & Taylor HS

2022 AM Peak Hour
Existing Conditions

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	3	66	392	5	171	649
Future Volume (vph)	3	66	392	5	171	649
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.872		0.998			
Flt Protected	0.998				0.950	
Satd. Flow (prot)	1653	0	1757	0	1805	1792
Flt Permitted	0.998				0.950	
Satd. Flow (perm)	1653	0	1757	0	1805	1792
Link Speed (mph)	30		65			65
Link Distance (ft)	376		460			672
Travel Time (s)	8.5		4.8			7.0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Adj. Flow (vph)	4	78	461	6	201	764
Shared Lane Traffic (%)						
Lane Group Flow (vph)	82	0	467	0	201	764
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	45.1%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

8: FM973 & Taylor HS

2022 AM Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	3	66	392	5	171	649
Future Volume (Veh/h)	3	66	392	5	171	649
Sign Control	Stop		Free		Free	Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	4	78	461	6	201	764
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1630	464			467	
vC1, stage 1 conf vol	464					
vC2, stage 2 conf vol	1166					
vCu, unblocked vol	1630	464			467	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	87			82	
cM capacity (veh/h)	230	602			1105	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	82	467	201	764		
Volume Left	4	0	201	0		
Volume Right	78	6	0	0		
cSH	558	1700	1105	1700		
Volume to Capacity	0.15	0.27	0.18	0.45		
Queue Length 95th (ft)	13	0	17	0		
Control Delay (s)	12.6	0.0	9.0	0.0		
Lane LOS	B		A			
Approach Delay (s)	12.6	0.0	1.9			
Approach LOS	B					
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			45.1%		ICU Level of Service	A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	66	392	5	171	649
Future Vol, veh/h	3	66	392	5	171	649
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	8	0	0	6
Mvmt Flow	4	78	461	6	201	764
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1630	464	0	0	467	0
Stage 1	464	-	-	-	-	-
Stage 2	1166	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	113	602	-	-	1105	-
Stage 1	637	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	92	602	-	-	1105	-
Mov Cap-2 Maneuver	193	-	-	-	-	-
Stage 1	637	-	-	-	-	-
Stage 2	245	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	12.7	0		1.9		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	- 551		1105	-	
HCM Lane V/C Ratio	-	- 0.147		0.182	-	
HCM Control Delay (s)	-	- 12.7		9	-	
HCM Lane LOS	-	- B		A	-	
HCM 95th %tile Q(veh)	-	- 0.5		0.7	-	

Lanes, Volumes, Timings
9: FM973 & Streamwood

2022 AM Peak Hour
Existing Conditions

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	0	0	395	649	1
Future Volume (vph)	1	0	0	395	649	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			250
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850
Flt Protected	0.950					
Satd. Flow (prot)	1805	0	1900	1759	1810	1615
Flt Permitted	0.950					
Satd. Flow (perm)	1805	0	1900	1759	1810	1615
Link Speed (mph)	30			65	65	
Link Distance (ft)	373			724	460	
Travel Time (s)	8.5			7.6	4.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	8%	5%	0%
Adj. Flow (vph)	1	0	0	439	721	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1	0	0	439	721	1
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 44.2%				ICU Level of Service A		
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis

9: FM973 & Streamwood

2022 AM Peak Hour
Existing Conditions

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	0	0	395	649	1
Future Volume (Veh/h)	1	0	0	395	649	1
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1	0	0	439	721	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1160	721	722			
vC1, stage 1 conf vol	721					
vC2, stage 2 conf vol	439					
vCu, unblocked vol	1160	721	722			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	424	431	889			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	1	0	439	721	1	
Volume Left	1	0	0	0	0	
Volume Right	0	0	0	0	1	
cSH	424	1700	1700	1700	1700	
Volume to Capacity	0.00	0.00	0.26	0.42	0.00	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	13.5	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	13.5	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	44.2%			ICU Level of Service	A	
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	0	0	395	649	1
Future Vol, veh/h	1	0	0	395	649	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	8	5	0
Mvmt Flow	1	0	0	439	721	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1160	721	722	0	-	0
Stage 1	721	-	-	-	-	-
Stage 2	439	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	218	431	889	-	-	-
Stage 1	485	-	-	-	-	-
Stage 2	654	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	218	431	889	-	-	-
Mov Cap-2 Maneuver	350	-	-	-	-	-
Stage 1	485	-	-	-	-	-
Stage 2	654	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	15.3	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	889	-	350	-	-	
HCM Lane V/C Ratio	-	-	0.003	-	-	
HCM Control Delay (s)	0	-	15.3	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2022 AM Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	15	0	154	1	241	34	306	344	0
Future Volume (vph)	0	0	1	15	0	154	1	241	34	306	344	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	400		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865			0.877			0.981				
Flt Protected					0.996		0.950			0.950		
Satd. Flow (prot)	0	1644	0	0	1660	0	1805	1673	0	1805	1712	0
Flt Permitted					0.996		0.950			0.950		
Satd. Flow (perm)	0	1644	0	0	1660	0	1805	1673	0	1805	1712	0
Link Speed (mph)		30			30			65			65	
Link Distance (ft)		574			560			730			724	
Travel Time (s)		13.0			12.7			7.7			7.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%	11%	0%
Adj. Flow (vph)	0	0	1	17	0	175	1	274	39	348	391	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	192	0	1	313	0	348	391	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	58.7%						ICU Level of Service B					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

10: FM973 & Wesley Miller

2022 AM Peak Hour
Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	1	15	0	154	1	241	34	306	344	0
Future Volume (Veh/h)	0	0	1	15	0	154	1	241	34	306	344	0
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	1	17	0	175	1	274	39	348	391	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	TWLTL						TWLTL					
Median storage veh	2						2					
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1538	1402	391	1384	1382	294	391	313				
vC1, stage 1 conf vol	1087	1087		296	296							
vC2, stage 2 conf vol	451	315		1088	1087							
vCu, unblocked vol	1538	1402	391	1384	1382	294	391	313				
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1	4.1				
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2	2.2				
p0 queue free %	100	100	100	91	100	77	100	72				
cM capacity (veh/h)	99	191	662	183	204	751	1179	1259				
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	1	192	1	313	348	391						
Volume Left	0	17	1	0	348	0						
Volume Right	1	175	0	39	0	0						
cSH	662	589	1179	1700	1259	1700						
Volume to Capacity	0.00	0.33	0.00	0.18	0.28	0.23						
Queue Length 95th (ft)	0	35	0	0	28	0						
Control Delay (s)	10.4	14.0	8.1	0.0	8.9	0.0						
Lane LOS	B	B	A		A							
Approach Delay (s)	10.4	14.0	0.0		4.2							
Approach LOS	B	B										
Intersection Summary												
Average Delay	4.7											
Intersection Capacity Utilization	58.7%			ICU Level of Service			B					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Vol, veh/h	0	0	1	15	0	154	1	241	34	306	344	0
Future Vol, veh/h	0	0	1	15	0	154	1	241	34	306	344	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	400	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	13	0	0	11	0
Mvmt Flow	0	0	1	17	0	175	1	274	39	348	391	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1470	1402	391	1384	1383	294	391	0	0	313	0	0
Stage 1	1087	1087	-	296	296	-	-	-	-	-	-	-
Stage 2	383	315	-	1088	1087	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	106	141	662	122	145	750	1179	-	-	1259	-	-
Stage 1	264	295	-	717	672	-	-	-	-	-	-	-
Stage 2	644	659	-	264	295	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	64	102	662	96	105	750	1179	-	-	1259	-	-
Mov Cap-2 Maneuver	64	102	-	96	105	-	-	-	-	-	-	-
Stage 1	264	214	-	716	671	-	-	-	-	-	-	-
Stage 2	493	658	-	191	214	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	18	0	4.2
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1179	-	-	662	467	1259	-
HCM Lane V/C Ratio	0.001	-	-	0.002	0.411	0.276	-
HCM Control Delay (s)	8.1	-	-	10.4	18	8.9	-
HCM Lane LOS	A	-	-	B	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0	2	1.1	-

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2022 PM Peak Hour
Existing Conditions

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	0	587	187	132	345	2	249	0	234	0	0
Future Volume (vph)	7	0	587	187	132	345	2	249	0	234	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		0	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.999				0.850		
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1805	3471	1455	1719	3341	0	0	1703	1583	0	1900
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1805	3471	1455	1719	3341	0	0	1703	1583	0	1900
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				205						257		
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1070			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	4%	11%	5%	8%	0%	6%	0%	2%	0%	0%
Adj. Flow (vph)	8	0	645	205	145	379	2	274	0	257	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	8	645	205	145	381	0	0	274	257	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			0			0
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
Page 1

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.91
Heavy Vehicles (%)	0%
Adj. Flow (vph)	0
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2022 PM Peak Hour
Existing Conditions

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	15.0	15.0	5.0	15.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	16.0	21.0	21.0	11.0	21.0		12.0	12.0	12.0	11.0	11.0
Total Split (s)	31.0	31.0	61.0	61.0	31.0	61.0		57.0	57.0	57.0	11.0	11.0
Total Split (%)	19.4%	19.4%	38.1%	38.1%	19.4%	38.1%		35.6%	35.6%	35.6%	6.9%	6.9%
Maximum Green (s)	25.0	25.0	55.0	55.0	25.0	55.0		50.0	50.0	50.0	5.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0	2.0	2.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)		10.6	24.1	24.1	12.3	40.5			19.9	19.9		
Actuated g/C Ratio		0.14	0.32	0.32	0.16	0.53			0.26	0.26		
v/c Ratio		0.03	0.59	0.34	0.53	0.22			0.62	0.43		
Control Delay		38.7	25.4	5.3	40.1	11.7			33.4	6.1		
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0	0.0		
Total Delay		38.7	25.4	5.3	40.1	11.7			33.4	6.1		
LOS		D	C	A	D	B			C	A		
Approach Delay			20.7			19.6			20.2			
Approach LOS			C			B			C			

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 76.4

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 20.3

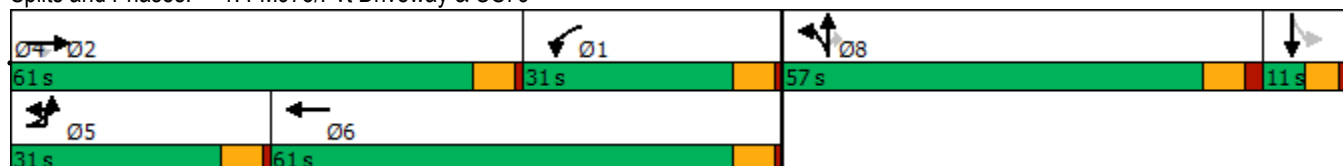
Intersection LOS: C

Intersection Capacity Utilization 53.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79





Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2022 PM Peak Hour
Existing Conditions



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	Ø4
Protected Phases	5	2		1	6	8		4
Permitted Phases			2				8	
Minimum Initial (s)	10.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0
Minimum Split (s)	16.0	21.0	21.0	11.0	21.0	12.0	12.0	11.0
Total Split (s)	31.0	61.0	61.0	31.0	61.0	57.0	57.0	11.0
Total Split (%)	19.4%	38.1%	38.1%	19.4%	38.1%	35.6%	35.6%	7%
Maximum Green (s)	25.0	55.0	55.0	25.0	55.0	50.0	50.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	10.0	36.6	36.6	19.5	46.1	31.7	31.7	0.0
90th %ile Term Code	Min	Gap	Gap	Gap	Hold	Gap	Gap	Skip
70th %ile Green (s)	0.0	28.0	28.0	14.6	48.6	23.3	23.3	0.0
70th %ile Term Code	Skip	Gap	Gap	Gap	Hold	Gap	Gap	Skip
50th %ile Green (s)	0.0	23.4	23.4	12.0	41.4	19.2	19.2	0.0
50th %ile Term Code	Skip	Gap	Gap	Gap	Hold	Gap	Gap	Skip
30th %ile Green (s)	0.0	19.4	19.4	9.7	35.1	15.7	15.7	0.0
30th %ile Term Code	Skip	Gap	Gap	Gap	Hold	Gap	Gap	Skip
10th %ile Green (s)	0.0	15.0	15.0	7.2	28.2	11.8	11.8	0.0
10th %ile Term Code	Skip	Min	Min	Gap	Hold	Gap	Gap	Skip
Intersection Summary								
Cycle Length: 160								
Actuated Cycle Length: 76.4								
Control Type: Actuated-Uncoordinated								
90th %ile Actuated Cycle: 106.8								
70th %ile Actuated Cycle: 84.9								
50th %ile Actuated Cycle: 73.6								
30th %ile Actuated Cycle: 63.8								
10th %ile Actuated Cycle: 53								

Queues
1: FM973/Pvt Driveway & US79

2022 PM Peak Hour
Existing Conditions

							
Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	8	645	205	145	381	274	257
v/c Ratio	0.03	0.59	0.34	0.53	0.22	0.62	0.43
Control Delay	38.7	25.4	5.3	40.1	11.7	33.4	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	25.4	5.3	40.1	11.7	33.4	6.1
Queue Length 50th (ft)	3	127	0	61	41	110	0
Queue Length 95th (ft)	21	243	50	153	120	242	58
Internal Link Dist (ft)		854			990	556	
Turn Bay Length (ft)	100		615	880			
Base Capacity (vph)	625	2618	1148	595	2520	1179	1175
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.25	0.18	0.24	0.15	0.23	0.22
Intersection Summary							

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2022 PM Peak Hour
Existing Conditions

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	0	587	187	132	345	2	249	0	234	0	0
Future Volume (vph)	7	0	587	187	132	345	2	249	0	234	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95			1.00	1.00		
Frt		1.00	1.00	0.85	1.00	1.00			1.00	0.85		
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00		
Satd. Flow (prot)		1805	3471	1455	1719	3341			1703	1583		
Flt Permitted		0.95	1.00	1.00	0.95	1.00			0.95	1.00		
Satd. Flow (perm)		1805	3471	1455	1719	3341			1703	1583		
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	8	0	645	205	145	379	2	274	0	257	0	0
RTOR Reduction (vph)	0	0	0	144	0	0	0	0	0	194	0	0
Lane Group Flow (vph)	0	8	645	61	145	381	0	0	274	63	0	0
Heavy Vehicles (%)	0%	0%	4%	11%	5%	8%	0%	6%	0%	2%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		1.4	24.1	24.1	17.8	40.5			19.9	19.9		
Effective Green, g (s)		1.4	24.1	24.1	17.8	40.5			19.9	19.9		
Actuated g/C Ratio		0.02	0.30	0.30	0.22	0.50			0.25	0.25		
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0			3.0	3.0		
Lane Grp Cap (vph)		31	1035	433	378	1674			419	389		
v/s Ratio Prot		0.00	c0.19		c0.08	0.11			c0.16			
v/s Ratio Perm				0.04						0.04		
v/c Ratio		0.26	0.62	0.14	0.38	0.23			0.65	0.16		
Uniform Delay, d1		39.2	24.4	20.8	26.8	11.3			27.4	23.9		
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00		
Incremental Delay, d2		1.6	0.8	0.1	0.2	0.0			3.6	0.2		
Delay (s)		40.8	25.3	20.8	27.1	11.4			31.0	24.1		
Level of Service		D	C	C	C	B			C	C		
Approach Delay (s)			24.4			15.7			27.7			0.0
Approach LOS			C			B			C			A
Intersection Summary												
HCM 2000 Control Delay			22.9			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			80.8			Sum of lost time (s)			25.0			
Intersection Capacity Utilization			53.2%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2022 PM Peak Hour
Existing Conditions

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
4: US79 & Crossover

2022 PM Peak Hour
Existing Conditions

							
Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	0	840	0	501	0	0	0
Future Volume (vph)	0	840	0	501	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100		0	0	0
Storage Lanes	1		1		0	1	0
Taper Length (ft)	100		100			100	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frt							
Flt Protected							
Satd. Flow (prot)	1900	3471	1900	3374	0	1900	0
Flt Permitted							
Satd. Flow (perm)	1900	3471	1900	3374	0	1900	0
Link Speed (mph)		65		65		30	
Link Distance (ft)		739		504		317	
Travel Time (s)		7.8		5.3		7.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	4%	0%	7%	0%	0%	0%
Adj. Flow (vph)	0	923	0	551	0	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	923	0	551	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)		60		60		12	
Link Offset(ft)		0		0		0	
Crosswalk Width(ft)		16		16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9		9	15	9
Sign Control		Free		Free		Stop	
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization	26.6%			ICU Level of Service A			
Analysis Period (min)	15						

HCM Unsignalized Intersection Capacity Analysis

4: US79 & Crossover

2022 PM Peak Hour
Existing Conditions

							
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		 		 		 	
Traffic Volume (veh/h)	0	840	0	501	0	0	0
Future Volume (Veh/h)	0	840	0	501	0	0	0
Sign Control		Free		Free		Stop	
Grade		0%		0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	923	0	551	0	0	0
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type		Raised		Raised			
Median storage (veh)		2		2			
Upstream signal (ft)							
pX, platoon unblocked			0.00				
vC, conflicting volume	551		0			1012	276
vC1, stage 1 conf vol						551	
vC2, stage 2 conf vol						462	
vCu, unblocked vol	551		0			1012	276
tC, single (s)	4.1		0.0			6.8	6.9
tC, 2 stage (s)						5.8	
tF (s)	2.2		0.0			3.5	3.3
p0 queue free %	100		0			100	100
cM capacity (veh/h)	1029		0			451	728
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	0	462	462	276	276	0	0
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.27	0.27	0.16	0.16	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS							A
Approach Delay (s)	0.0			0.0			0.0
Approach LOS							A
Intersection Summary							
Average Delay			0.0				
Intersection Capacity Utilization			26.6%		ICU Level of Service		A
Analysis Period (min)			15				

Intersection							
Int Delay, s/veh	0						
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	0	840	0	501	0	0	0
Future Vol, veh/h	0	840	0	501	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	100	-	100	-	-	0	-
Veh in Median Storage, #	-	0	-	0	-	0	-
Grade, %	-	0	-	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91
Heavy Vehicles, %	0	4	0	7	0	0	0
Mvmt Flow	0	923	0	551	0	0	0
Major/Minor	Major1		Major2		Minor2		
Conflicting Flow All	551	0	923	-	0	1013	276
Stage 1	-	-	-	-	-	551	-
Stage 2	-	-	-	-	-	462	-
Critical Hdwy	4.1	-	6.4	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	2.5	-	-	3.5	3.3
Pot Cap-1 Maneuver	1029	-	378	-	0	239	727
Stage 1	-	-	-	-	0	547	-
Stage 2	-	-	-	-	0	607	-
Platoon blocked, %		-		-			
Mov Cap-1 Maneuver	1029	-	378	-	-	239	727
Mov Cap-2 Maneuver	-	-	-	-	-	239	-
Stage 1	-	-	-	-	-	547	-
Stage 2	-	-	-	-	-	607	-
Approach	EB		WB		SB		
HCM Control Delay, s	0		0			0	
HCM LOS						A	
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	SBLn1		
Capacity (veh/h)	1029	-	378	-	-		
HCM Lane V/C Ratio	-	-	-	-	-		
HCM Control Delay (s)	0	-	0	-	0		
HCM Lane LOS	A	-	A	-	A		
HCM 95th %tile Q(veh)	0	-	0	-	-		

Lanes, Volumes, Timings
5: S Rio Grande & US79

2022 PM Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	2	847	22	5	467	0	14	2	2	1	6	0
Future Volume (vph)	2	847	22	5	467	0	14	2	2	1	6	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		350	175		330	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.986				
Flt Protected	0.950			0.950				0.962			0.994	
Satd. Flow (prot)	1805	3539	1615	1805	3374	1900	0	1802	0	0	1889	0
Flt Permitted	0.950			0.950				0.962			0.994	
Satd. Flow (perm)	1805	3539	1615	1805	3374	1900	0	1802	0	0	1889	0
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		572			566			552			557	
Travel Time (s)		6.0			5.9			12.5			12.7	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	2	963	25	6	531	0	16	2	2	1	7	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	963	25	6	531	0	0	20	0	0	8	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		60			60			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	33.9%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis

5: S Rio Grande & US79

2022 PM Peak Hour
Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	2	847	22	5	467	0	14	2	2	1	6	0
Future Volume (Veh/h)	2	847	22	5	467	0	14	2	2	1	6	0
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	2	962	25	6	531	0	16	2	2	1	7	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	Raised			Raised								
Median storage (veh)	2			2								
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	531			962			1247	1509	481	1029	1509	266
vC1, stage 1 conf vol							966	966		543	543	
vC2, stage 2 conf vol							281	543		486	966	
vCu, unblocked vol	531			962			1247	1509	481	1029	1509	266
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			94	99	100	100	98	100
cM capacity (veh/h)	1047			724			263	293	537	391	290	739
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	2	481	481	25	6	266	266	0	20	8		
Volume Left	2	0	0	0	6	0	0	0	16	1		
Volume Right	0	0	0	25	0	0	0	0	2	0		
cSH	1047	1700	1700	1700	724	1700	1700	1700	280	300		
Volume to Capacity	0.00	0.28	0.28	0.01	0.01	0.16	0.16	0.00	0.07	0.03		
Queue Length 95th (ft)	0	0	0	0	1	0	0	0	6	2		
Control Delay (s)	8.4	0.0	0.0	0.0	10.0	0.0	0.0	0.0	18.9	17.3		
Lane LOS	A				B				C	C		
Approach Delay (s)	0.0				0.1				18.9	17.3		
Approach LOS									C	C		
Intersection Summary												
Average Delay	0.4											
Intersection Capacity Utilization	33.9%			ICU Level of Service						A		
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	847	22	5	467	0	14	2	2	1	6	0
Future Vol, veh/h	2	847	22	5	467	0	14	2	2	1	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	Free
Storage Length	200	-	350	175	-	330	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	2	0	0	7	0	0	0	0	0	0	0
Mvmt Flow	2	963	25	6	531	0	16	2	2	1	7	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	531	0	0	963	0	0	1248	1510	-	1030	1510	-
Stage 1	-	-	-	-	-	-	967	967	-	543	543	-
Stage 2	-	-	-	-	-	-	281	543	-	487	967	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	-	7.5	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	-	3.5	4	-
Pot Cap-1 Maneuver	1047	-	-	723	-	-	132	122	0	190	122	0
Stage 1	-	-	-	-	-	-	277	335	0	497	523	0
Stage 2	-	-	-	-	-	-	708	523	0	536	335	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1047	-	-	723	-	-	125	121	-	186	121	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	125	121	-	186	121	-
Stage 1	-	-	-	-	-	-	276	334	-	496	519	-
Stage 2	-	-	-	-	-	-	693	519	-	531	334	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1								
HCM LOS							-			-		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	1047	-	-	723	-	-	-				
HCM Lane V/C Ratio	-	0.002	-	-	0.008	-	-	-				
HCM Control Delay (s)	-	8.4	-	-	10	-	-	-				
HCM Lane LOS	-	A	-	-	B	-	-	-				
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-				

Lanes, Volumes, Timings
8: FM973 & Taylor HS

2022 PM Peak Hour
Existing Conditions

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1	14	473	0	3	333
Future Volume (vph)	1	14	473	0	3	333
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.874					
Flt Protected	0.997				0.950	
Satd. Flow (prot)	1656	0	1827	0	1805	1712
Flt Permitted	0.997				0.950	
Satd. Flow (perm)	1656	0	1827	0	1805	1712
Link Speed (mph)	30		65			65
Link Distance (ft)	376		460			672
Travel Time (s)	8.5		4.8			7.0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%
Adj. Flow (vph)	1	14	488	0	3	343
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	0	488	0	3	343
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	34.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

8: FM973 & Taylor HS

2022 PM Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	14	473	0	3	333
Future Volume (Veh/h)	1	14	473	0	3	333
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	1	14	488	0	3	343
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	837	488			488	
vC1, stage 1 conf vol	488					
vC2, stage 2 conf vol	349					
vCu, unblocked vol	837	488			488	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	540	584			1086	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	15	488	3	343		
Volume Left	1	0	3	0		
Volume Right	14	0	0	0		
cSH	581	1700	1086	1700		
Volume to Capacity	0.03	0.29	0.00	0.20		
Queue Length 95th (ft)	2	0	0	0		
Control Delay (s)	11.4	0.0	8.3	0.0		
Lane LOS	B		A			
Approach Delay (s)	11.4	0.0	0.1			
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			34.9%		ICU Level of Service	A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	14	473	0	3	333
Future Vol, veh/h	1	14	473	0	3	333
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	4	0	0	11
Mvmt Flow	1	14	488	0	3	343
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	837	488	0	0	488	0
Stage 1	488	-	-	-	-	-
Stage 2	349	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	339	584	-	-	1086	-
Stage 1	621	-	-	-	-	-
Stage 2	719	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	338	584	-	-	1086	-
Mov Cap-2 Maneuver	456	-	-	-	-	-
Stage 1	621	-	-	-	-	-
Stage 2	717	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	11.5	0		0.1		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	- 573		1086	-	
HCM Lane V/C Ratio	-	- 0.027		0.003	-	
HCM Control Delay (s)	-	- 11.5		8.3	-	
HCM Lane LOS	-	- B		A	-	
HCM 95th %tile Q(veh)	-	- 0.1		0	-	

Lanes, Volumes, Timings
9: FM973 & Streamwood

2022 PM Peak Hour
Existing Conditions

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	468	337	0
Future Volume (vph)	0	0	0	468	337	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			250
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1900	0	1900	1827	1696	1900
Flt Permitted						
Satd. Flow (perm)	1900	0	1900	1827	1696	1900
Link Speed (mph)	30			65	65	
Link Distance (ft)	373			724	460	
Travel Time (s)	8.5			7.6	4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	4%	12%	0%
Adj. Flow (vph)	0	0	0	509	366	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	509	366	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	28.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

9: FM973 & Streamwood

2022 PM Peak Hour
Existing Conditions

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	468	337	0
Future Volume (Veh/h)	0	0	0	468	337	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	509	366	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLT	TWLT	
Median storage (veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	875	366	366			
vC1, stage 1 conf vol	366					
vC2, stage 2 conf vol	509					
vCu, unblocked vol	875	366	366			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	526	684	1204			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	0	0	509	366	0	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.00	0.30	0.22	0.00	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s)	0.0	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			28.0%	ICU Level of Service		A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	468	337	0
Future Vol, veh/h	0	0	0	468	337	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	4	12	0
Mvmt Flow	0	0	0	509	366	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	875	366	366	0	-	0
Stage 1	366	-	-	-	-	-
Stage 2	509	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	322	684	1204	-	-	-
Stage 1	706	-	-	-	-	-
Stage 2	608	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	322	684	1204	-	-	-
Mov Cap-2 Maneuver	444	-	-	-	-	-
Stage 1	706	-	-	-	-	-
Stage 2	608	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1204	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2022 PM Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	4	0	12	0	453	0	2	331	1
Future Volume (vph)	0	0	1	4	0	12	0	453	0	2	331	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	400		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865			0.897							
Flt Protected					0.988					0.950		
Satd. Flow (prot)	0	1644	0	0	1684	0	1900	1827	0	1805	1712	0
Flt Permitted					0.988					0.950		
Satd. Flow (perm)	0	1644	0	0	1684	0	1900	1827	0	1805	1712	0
Link Speed (mph)		30			30			65			65	
Link Distance (ft)		574			560			730			724	
Travel Time (s)		13.0			12.7			7.7			7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	11%	0%
Adj. Flow (vph)	0	0	1	4	0	13	0	492	0	2	360	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	17	0	0	492	0	2	361	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	35.2%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis

10: FM973 & Wesley Miller

2022 PM Peak Hour
Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	1	4	0	12	0	453	0	2	331	1
Future Volume (Veh/h)	0	0	1	4	0	12	0	453	0	2	331	1
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	1	4	0	13	0	492	0	2	360	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							TWLTL			TWLTL		
Median storage veh							2			2		
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	870	856	360	857	857	492	361				492	
vC1, stage 1 conf vol	364	364		492	492							
vC2, stage 2 conf vol	505	492		365	365							
vCu, unblocked vol	870	856	360	857	857	492	361				492	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	100	100	99	100	98	100				100	
cM capacity (veh/h)	467	474	689	481	475	581	1209				1082	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	1	17	0	492	2	361						
Volume Left	0	4	0	0	2	0						
Volume Right	1	13	0	0	0	1						
cSH	689	554	1700	1700	1082	1700						
Volume to Capacity	0.00	0.03	0.00	0.29	0.00	0.21						
Queue Length 95th (ft)	0	2	0	0	0	0						
Control Delay (s)	10.2	11.7	0.0	0.0	8.3	0.0						
Lane LOS	B	B			A							
Approach Delay (s)	10.2	11.7	0.0	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay	0.3											
Intersection Capacity Utilization	35.2%			ICU Level of Service				A				
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	1	4	0	12	0	453	0	2	331	1
Future Vol, veh/h	0	0	1	4	0	12	0	453	0	2	331	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	400	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	4	0	0	11	0
Mvmt Flow	0	0	1	4	0	13	0	492	0	2	360	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	864	857	361	857	857	492	361	0	0	492	0	0
Stage 1	365	365	-	492	492	-	-	-	-	-	-	-
Stage 2	499	492	-	365	365	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	277	297	688	280	297	581	1209	-	-	1082	-	-
Stage 1	658	627	-	562	551	-	-	-	-	-	-	-
Stage 2	557	551	-	658	627	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	270	296	688	279	296	581	1209	-	-	1082	-	-
Mov Cap-2 Maneuver	270	296	-	279	296	-	-	-	-	-	-	-
Stage 1	658	626	-	562	551	-	-	-	-	-	-	-
Stage 2	544	551	-	656	626	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.2		13.2		0		0					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1209	-	-	688	457	1082	-	-				
HCM Lane V/C Ratio	-	-	-	0.002	0.038	0.002	-	-				
HCM Control Delay (s)	0	-	-	10.2	13.2	8.3	-	-				
HCM Lane LOS	A	-	-	B	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-				

Appendix D. Traffic Simulation Output

Phase 1 Buildout Year (2025) Projected Conditions without Development, AM & PM

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 AM Peak Hour
Phase 1 Build-Out Year w/o Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	0	354	728	453	549	2	433	0	189	0	0
Future Volume (vph)	7	0	354	728	453	549	2	433	0	189	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		0	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.999				0.850		0.865
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1805	3312	1553	1719	3371	0	0	1671	1568	0	1644
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1805	3312	1553	1719	3371	0	0	1671	1568	0	1644
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				755						157		316
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1072			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Adj. Flow (vph)	7	0	377	774	482	584	2	461	0	201	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	7	377	774	482	586	0	0	461	201	0	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			0			0
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
Page 1

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.94
Heavy Vehicles (%)	0%
Adj. Flow (vph)	1
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 AM Peak Hour
Phase 1 Build-Out Year w/o Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	15.0	15.0	5.0	15.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	16.0	21.0	21.0	11.0	21.0		12.0	12.0	12.0	11.0	11.0
Total Split (s)	31.0	31.0	61.0	61.0	31.0	61.0		57.0	57.0	57.0	11.0	11.0
Total Split (%)	19.4%	19.4%	38.1%	38.1%	19.4%	38.1%		35.6%	35.6%	35.6%	6.9%	6.9%
Maximum Green (s)	25.0	25.0	55.0	55.0	25.0	55.0		50.0	50.0	50.0	5.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0	2.0	2.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)		10.5	26.9	26.9	26.2	57.0			36.4	36.4		5.2
Actuated g/C Ratio		0.09	0.24	0.24	0.24	0.51			0.33	0.33		0.05
v/c Ratio		0.04	0.47	0.82	1.19	0.34			0.84	0.32		0.00
Control Delay		58.6	38.1	11.2	145.6	19.0			50.9	10.0		0.0
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Delay		58.6	38.1	11.2	145.6	19.0			50.9	10.0		0.0
LOS		E	D	B	F	B			D	A		A
Approach Delay			20.3			76.2			38.5			
Approach LOS			C			E			D			

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 110.8

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.19

Intersection Signal Delay: 45.1

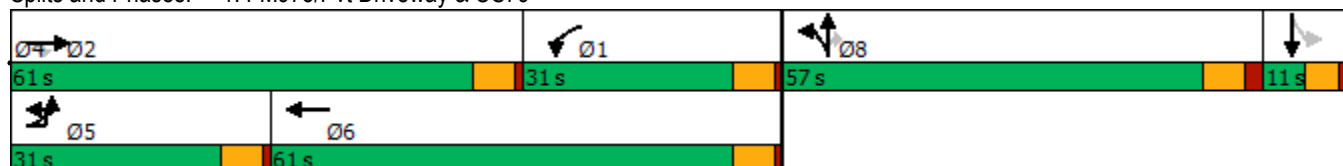
Intersection LOS: D

Intersection Capacity Utilization 89.3%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79



Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2025 AM Peak Hour
Phase 1 Build-Out Year w/o Development



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Protected Phases	5	2		1	6	8		4
Permitted Phases			2				8	
Minimum Initial (s)	10.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0
Minimum Split (s)	16.0	21.0	21.0	11.0	21.0	12.0	12.0	11.0
Total Split (s)	31.0	61.0	61.0	31.0	61.0	57.0	57.0	11.0
Total Split (%)	19.4%	38.1%	38.1%	19.4%	38.1%	35.6%	35.6%	6.9%
Maximum Green (s)	25.0	55.0	55.0	25.0	55.0	50.0	50.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	10.0	50.6	50.6	25.0	65.6	50.0	50.0	5.0
90th %ile Term Code	Min	Gap	Gap	Max	Hold	Max	Max	Max
70th %ile Green (s)	0.0	28.7	28.7	25.0	59.7	43.0	43.0	0.0
70th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip
50th %ile Green (s)	0.0	24.8	24.8	25.0	55.8	35.9	35.9	0.0
50th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip
30th %ile Green (s)	0.0	20.5	20.5	25.0	51.5	30.3	30.3	0.0
30th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip
10th %ile Green (s)	0.0	15.4	15.4	25.0	46.4	23.7	23.7	0.0
10th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip
Intersection Summary								
Cycle Length: 160								
Actuated Cycle Length: 110.8								
Control Type: Actuated-Uncoordinated								
90th %ile Actuated Cycle: 155.6								
70th %ile Actuated Cycle: 115.7								
50th %ile Actuated Cycle: 104.7								
30th %ile Actuated Cycle: 94.8								
10th %ile Actuated Cycle: 83.1								

Queues

1: FM973/Pvt Driveway & US79

2025 AM Peak Hour

Phase 1 Build-Out Year w/o Development



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	7	377	774	482	586	461	201	1
v/c Ratio	0.04	0.47	0.82	1.19	0.34	0.84	0.32	0.00
Control Delay	58.6	38.1	11.2	145.6	19.0	50.9	10.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.6	38.1	11.2	145.6	19.0	50.9	10.0	0.0
Queue Length 50th (ft)	4	114	10	~387	111	278	20	0
Queue Length 95th (ft)	25	202	154	#952	271	#631	97	0
Internal Link Dist (ft)		854			992	556		491
Turn Bay Length (ft)	100		615	880				
Base Capacity (vph)	426	1719	1169	405	1828	788	822	378
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.22	0.66	1.19	0.32	0.59	0.24	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2025 AM Peak Hour
Phase 1 Build-Out Year w/o Development

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	0	354	728	453	549	2	433	0	189	0	0
Future Volume (vph)	7	0	354	728	453	549	2	433	0	189	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95			1.00	1.00		1.00
Frt		1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.86
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00		1.00
Satd. Flow (prot)		1805	3312	1553	1719	3373			1671	1568		1644
Flt Permitted		0.95	1.00	1.00	0.95	1.00			0.95	1.00		1.00
Satd. Flow (perm)		1805	3312	1553	1719	3373			1671	1568		1644
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	7	0	377	774	482	584	2	461	0	201	0	0
RTOR Reduction (vph)	0	0	0	587	0	0	0	0	0	110	0	1
Lane Group Flow (vph)	0	7	377	187	482	586	0	0	461	91	0	0
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		1.4	26.8	26.8	31.6	57.0			36.4	36.4		0.7
Effective Green, g (s)		1.4	26.8	26.8	31.6	57.0			36.4	36.4		0.7
Actuated g/C Ratio		0.01	0.22	0.22	0.26	0.47			0.30	0.30		0.01
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0			3.0	3.0		2.0
Lane Grp Cap (vph)		20	736	345	450	1595			504	473		9
v/s Ratio Prot		0.00	0.11		c0.28	0.17			c0.28			c0.00
v/s Ratio Perm				c0.12						0.06		
v/c Ratio		0.35	0.51	0.54	1.07	0.37			0.91	0.19		0.00
Uniform Delay, d1		59.1	41.1	41.4	44.5	20.3			40.6	31.2		59.6
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		3.8	0.3	0.9	62.7	0.1			21.1	0.2		0.0
Delay (s)		62.9	41.4	42.4	107.2	20.3			61.7	31.4		59.6
Level of Service		E	D	D	F	C			E	C		E
Approach Delay (s)			42.2			59.5			52.5			59.6
Approach LOS			D			E			D			E
Intersection Summary												
HCM 2000 Control Delay			50.9									
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			120.5						25.0			
Intersection Capacity Utilization			89.3%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2025 AM Peak Hour
Phase 1 Build-Out Year w/o Development

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	1
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
4: US79 & Crossover

2025 AM Peak Hour
Phase 1 Build-Out Year w/o Development

								
Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	2	0	562	0	1047	0	0	0
Future Volume (vph)	2	0	562	0	1047	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		100		0	0	0
Storage Lanes		1		1		0	1	0
Taper Length (ft)		100		100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frt								
Flt Protected		0.950						
Satd. Flow (prot)	0	1805	3282	1900	3374	0	1900	0
Flt Permitted		0.950						
Satd. Flow (perm)	0	1805	3282	1900	3374	0	1900	0
Link Speed (mph)			65		65		30	
Link Distance (ft)			739		504		317	
Travel Time (s)			7.8		5.3		7.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	10%	0%	7%	0%	0%	0%
Adj. Flow (vph)	2	0	618	0	1151	0	0	0
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	2	618	0	1151	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			60		60		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	
Intersection Summary								
Area Type:	Other							
Control Type: Unsignalized								
Intersection Capacity Utilization 32.3%								
ICU Level of Service A								
Analysis Period (min) 15								

HCM Unsignalized Intersection Capacity Analysis

4: US79 & Crossover

2025 AM Peak Hour
Phase 1 Build-Out Year w/o Development



Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔↔	↔	↔↔		↔	
Traffic Volume (veh/h)	2	0	562	0	1047	0	0	0
Future Volume (Veh/h)	2	0	562	0	1047	0	0	0
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	618	0	1151	0	0	0
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage veh			2		2			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	1151		0			1460	576
vC1, stage 1 conf vol							1151	
vC2, stage 2 conf vol							309	
vCu, unblocked vol	0	1151		0			1460	576
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	100		0			100	100
cM capacity (veh/h)	0	614		0			255	466
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	
Volume Total	0	309	309	576	576	0	0	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.18	0.18	0.34	0.34	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lane LOS							A	
Approach Delay (s)	0.0			0.0			0.0	
Approach LOS							A	
Intersection Summary								
Average Delay			0.0					
Intersection Capacity Utilization			32.3%		ICU Level of Service		A	
Analysis Period (min)			15					

Intersection								
Int Delay, s/veh	0							
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	2	0	562	0	1047	0	0	0
Future Vol, veh/h	2	0	562	0	1047	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	100	-	100	-	-	0	-
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	10	0	7	0	0	0
Mvmt Flow	2	0	618	0	1151	0	0	0
Major/Minor	Major1		Major2		Minor2			
Conflicting Flow All	1151	1151	0	618	-	0	1464	576
Stage 1	-	-	-	-	-	-	1151	-
Stage 2	-	-	-	-	-	-	313	-
Critical Hdwy	6.4	4.1	-	6.4	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	2.2	-	2.5	-	-	3.5	3.3
Pot Cap-1 Maneuver	270	614	-	590	-	0	121	466
Stage 1	-	-	-	-	-	0	268	-
Stage 2	-	-	-	-	-	0	721	-
Platoon blocked, %			-		-			
Mov Cap-1 Maneuver	270	270	-	590	-	-	120	466
Mov Cap-2 Maneuver	-	-	-	-	-	-	120	-
Stage 1	-	-	-	-	-	-	266	-
Stage 2	-	-	-	-	-	-	721	-
Approach	EB		WB		SB			
HCM Control Delay, s	0.1		0		0			
HCM LOS					A			
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	SBLn1			
Capacity (veh/h)	270	-	590	-	-			
HCM Lane V/C Ratio	0.008	-	-	-	-			
HCM Control Delay (s)	18.4	-	0	-	0			
HCM Lane LOS	C	-	A	-	A			
HCM 95th %tile Q(veh)	0	-	0	-	-			

Lanes, Volumes, Timings
5: S Rio Grande & US79

2025 AM Peak Hour
Phase 1 Build-Out Year w/o Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	591	5	7	999	1	26	7	1	3	3	1
Future Volume (vph)	4	591	5	7	999	1	26	7	1	3	3	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		350	175		330	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.997			0.981	
Flt Protected	0.950			0.950				0.963			0.979	
Satd. Flow (prot)	1805	3539	1615	1805	3374	1615	0	1824	0	0	1825	0
Flt Permitted	0.950			0.950				0.963			0.979	
Satd. Flow (perm)	1805	3539	1615	1805	3374	1615	0	1824	0	0	1825	0
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		572			566			552			557	
Travel Time (s)		6.0			5.9			12.5			12.7	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	5	672	6	8	1135	1	30	8	1	3	3	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	672	6	8	1135	1	0	39	0	0	7	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		60			60			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	37.6%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis

5: S Rio Grande & US79

2025 AM Peak Hour
Phase 1 Build-Out Year w/o Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	591	5	7	999	1	26	7	1	3	3	1
Future Volume (Veh/h)	4	591	5	7	999	1	26	7	1	3	3	1
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	5	672	6	8	1135	1	30	8	1	3	3	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	Raised			Raised								
Median storage veh	2			2								
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1135			672			1267	1833	336	1501	1833	568
vC1, stage 1 conf vol							682	682		1151	1151	
vC2, stage 2 conf vol							585	1151		350	682	
vCu, unblocked vol	1135			672			1267	1833	336	1501	1833	568
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			91	97	100	99	99	100
cM capacity (veh/h)	623			928			319	233	666	201	236	471
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	5	336	336	6	8	568	568	1	39	7		
Volume Left	5	0	0	0	8	0	0	0	30	3		
Volume Right	0	0	0	6	0	0	0	1	1	1		
cSH	623	1700	1700	1700	928	1700	1700	1700	301	235		
Volume to Capacity	0.01	0.20	0.20	0.00	0.01	0.33	0.33	0.00	0.13	0.03		
Queue Length 95th (ft)	1	0	0	0	1	0	0	0	11	2		
Control Delay (s)	10.8	0.0	0.0	0.0	8.9	0.0	0.0	0.0	18.8	20.8		
Lane LOS	B				A				C	C		
Approach Delay (s)	0.1				0.1				18.8	20.8		
Approach LOS									C	C		
Intersection Summary												
Average Delay	0.5											
Intersection Capacity Utilization	37.6%			ICU Level of Service			A					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	591	5	7	999	1	26	7	1	3	3	1
Future Vol, veh/h	4	591	5	7	999	1	26	7	1	3	3	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	Free
Storage Length	200	-	350	175	-	330	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	2	0	0	7	0	0	0	0	0	0	0
Mvmt Flow	5	672	6	8	1135	1	30	8	1	3	3	1

Major/Minor	Major1			Major2			Minor1		Minor2			
Conflicting Flow All	1135	0	0	672	0	0	1267	1833	-	1501	1833	-
Stage 1	-	-	-	-	-	-	682	682	-	1151	1151	-
Stage 2	-	-	-	-	-	-	585	1151	-	350	682	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	-	7.5	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	-	3.5	4	-
Pot Cap-1 Maneuver	623	-	-	928	-	-	128	77	0	86	77	0
Stage 1	-	-	-	-	-	-	411	453	0	214	275	0
Stage 2	-	-	-	-	-	-	469	275	0	645	453	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	623	-	-	928	-	-	122	76	-	78	76	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	122	76	-	78	76	-
Stage 1	-	-	-	-	-	-	408	449	-	212	273	-
Stage 2	-	-	-	-	-	-	459	273	-	628	449	-

Approach	EB			WB			NB		SB			
HCM Control Delay, s	0.1			0.1								
HCM LOS							-			-		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	623	-	-	928	-	-	-
HCM Lane V/C Ratio	-	0.007	-	-	0.009	-	-	-
HCM Control Delay (s)	-	10.8	-	-	8.9	-	-	-
HCM Lane LOS	-	B	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

Lanes, Volumes, Timings
8: FM973 & Taylor HS

2025 AM Peak Hour
Phase 1 Build-Out Year w/o Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	76	562	12	197	994
Future Volume (vph)	6	76	562	12	197	994
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.875		0.997			
Flt Protected	0.996				0.950	
Satd. Flow (prot)	1656	0	1757	0	1805	1792
Flt Permitted	0.996				0.950	
Satd. Flow (perm)	1656	0	1757	0	1805	1792
Link Speed (mph)	30		65			65
Link Distance (ft)	376		460			672
Travel Time (s)	8.5		4.8			7.0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Adj. Flow (vph)	7	89	661	14	232	1169
Shared Lane Traffic (%)						
Lane Group Flow (vph)	96	0	675	0	232	1169
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	64.0%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

8: FM973 & Taylor HS

2025 AM Peak Hour
Phase 1 Build-Out Year w/o Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	76	562	12	197	994
Future Volume (Veh/h)	6	76	562	12	197	994
Sign Control	Stop		Free		Free	Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	7	89	661	14	232	1169
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2301	668			675	
vC1, stage 1 conf vol	668					
vC2, stage 2 conf vol	1633					
vCu, unblocked vol	2301	668			675	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	81			75	
cM capacity (veh/h)	126	462			926	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	96	675	232	1169		
Volume Left	7	0	232	0		
Volume Right	89	14	0	0		
cSH	387	1700	926	1700		
Volume to Capacity	0.25	0.40	0.25	0.69		
Queue Length 95th (ft)	24	0	25	0		
Control Delay (s)	17.4	0.0	10.2	0.0		
Lane LOS	C		B			
Approach Delay (s)	17.4	0.0	1.7			
Approach LOS	C					
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			64.0%		ICU Level of Service	C
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	76	562	12	197	994
Future Vol, veh/h	6	76	562	12	197	994
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	8	0	0	6
Mvmt Flow	7	89	661	14	232	1169
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	2301	668	0	0	675	0
Stage 1	668	-	-	-	-	-
Stage 2	1633	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	43	462	-	-	926	-
Stage 1	513	-	-	-	-	-
Stage 2	177	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	32	462	-	-	926	-
Mov Cap-2 Maneuver	105	-	-	-	-	-
Stage 1	513	-	-	-	-	-
Stage 2	133	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	18.1	0		1.7		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	370	926	-	
HCM Lane V/C Ratio	-	-	0.261	0.25	-	
HCM Control Delay (s)	-	-	18.1	10.2	-	
HCM Lane LOS	-	-	C	B	-	
HCM 95th %tile Q(veh)	-	-	1	1	-	

Lanes, Volumes, Timings
9: FM973 & Streamwood

2025 AM Peak Hour
Phase 1 Build-Out Year w/o Development

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	79	33	12	494	968	29
Future Volume (vph)	79	33	12	494	968	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			250
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.960					0.850
Flt Protected	0.966		0.950			
Satd. Flow (prot)	1762	0	1805	1759	1810	1615
Flt Permitted	0.966		0.950			
Satd. Flow (perm)	1762	0	1805	1759	1810	1615
Link Speed (mph)	30			65	65	
Link Distance (ft)	373			724	460	
Travel Time (s)	8.5			7.6	4.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	8%	5%	0%
Adj. Flow (vph)	88	37	13	549	1076	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	13	549	1076	32
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 64.0%				ICU Level of Service C		
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis

9: FM973 & Streamwood

2025 AM Peak Hour
Phase 1 Build-Out Year w/o Development

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	79	33	12	494	968	29
Future Volume (Veh/h)	79	33	12	494	968	29
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	88	37	13	549	1076	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL		TWLTL	
Median storage veh			2		2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1651	1076	1108			
vC1, stage 1 conf vol	1076					
vC2, stage 2 conf vol	575					
vCu, unblocked vol	1651	1076	1108			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	70	86	98			
cM capacity (veh/h)	292	269	638			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	125	13	549	1076	32	
Volume Left	88	13	0	0	0	
Volume Right	37	0	0	0	32	
cSH	284	638	1700	1700	1700	
Volume to Capacity	0.44	0.02	0.32	0.63	0.02	
Queue Length 95th (ft)	53	2	0	0	0	
Control Delay (s)	27.2	10.8	0.0	0.0	0.0	
Lane LOS	D	B				
Approach Delay (s)	27.2	0.2		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			64.0%	ICU Level of Service		C
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	79	33	12	494	968	29
Future Vol, veh/h	79	33	12	494	968	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	8	5	0
Mvmt Flow	88	37	13	549	1076	32

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1651	1076	1108	0	-	0
Stage 1	1076	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	110	269	638	-	-	-
Stage 1	330	-	-	-	-	-
Stage 2	567	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	108	269	638	-	-	-
Mov Cap-2 Maneuver	232	-	-	-	-	-
Stage 1	323	-	-	-	-	-
Stage 2	567	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	34.6	0.3	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	638	-	242	-	-
HCM Lane V/C Ratio	0.021	-	0.514	-	-
HCM Control Delay (s)	10.8	-	34.6	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	2.7	-	-

Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2025 AM Peak Hour
Phase 1 Build-Out Year w/o Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	0	5	17	0	177	2	320	39	352	648	3
Future Volume (vph)	9	0	5	17	0	177	2	320	39	352	648	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	400		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.949			0.877			0.984			0.999	
Flt Protected		0.970			0.996		0.950			0.950		
Satd. Flow (prot)	0	1749	0	0	1660	0	1805	1675	0	1805	1711	0
Flt Permitted		0.970			0.996		0.950			0.950		
Satd. Flow (perm)	0	1749	0	0	1660	0	1805	1675	0	1805	1711	0
Link Speed (mph)		30			30			65			65	
Link Distance (ft)		574			560			730			724	
Travel Time (s)		13.0			12.7			7.7			7.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%	11%	0%
Adj. Flow (vph)	10	0	6	19	0	201	2	364	44	400	736	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	220	0	2	408	0	400	739	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	60.4%						ICU Level of Service B					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

10: FM973 & Wesley Miller

2025 AM Peak Hour
Phase 1 Build-Out Year w/o Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	0	5	17	0	177	2	320	39	352	648	3
Future Volume (Veh/h)	9	0	5	17	0	177	2	320	39	352	648	3
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	10	0	6	19	0	201	2	364	44	400	736	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							TWLTL			TWLTL		
Median storage veh							2			2		
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2106	1950	738	1932	1929	386	739				408	
vC1, stage 1 conf vol	1538	1538		390	390							
vC2, stage 2 conf vol	569	412		1542	1539							
vCu, unblocked vol	2106	1950	738	1932	1929	386	739				408	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	48	100	99	79	100	70	100				66	
cM capacity (veh/h)	19	105	421	89	112	666	876				1162	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	16	220	2	408	400	739						
Volume Left	10	19	2	0	400	0						
Volume Right	6	201	0	44	0	3						
cSH	30	428	876	1700	1162	1700						
Volume to Capacity	0.53	0.51	0.00	0.24	0.34	0.43						
Queue Length 95th (ft)	43	71	0	0	39	0						
Control Delay (s)	217.6	22.0	9.1	0.0	9.7	0.0						
Lane LOS	F	C	A		A							
Approach Delay (s)	217.6	22.0	0.0		3.4							
Approach LOS	F	C										
Intersection Summary												
Average Delay			6.8									
Intersection Capacity Utilization			60.4%		ICU Level of Service				B			
Analysis Period (min)			15									

Intersection												
Int Delay, s/veh	11.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	0	5	17	0	177	2	320	39	352	648	3
Future Vol, veh/h	9	0	5	17	0	177	2	320	39	352	648	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	400	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	13	0	0	11	0
Mvmt Flow	10	0	6	19	0	201	2	364	44	400	736	3
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2029	1950	738	1931	1929	386	739	0	0	408	0	0
Stage 1	1538	1538	-	390	390	-	-	-	-	-	-	-
Stage 2	491	412	-	1541	1539	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	43	65	421	51	67	666	876	-	-	1162	-	-
Stage 1	146	179	-	638	611	-	-	-	-	-	-	-
Stage 2	563	598	-	146	179	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	22	43	421	37	44	666	876	-	-	1162	-	-
Mov Cap-2 Maneuver	22	43	-	37	44	-	-	-	-	-	-	-
Stage 1	146	117	-	637	610	-	-	-	-	-	-	-
Stage 2	392	597	-	94	117	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	190.6		59.5		0.1		3.4					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	876	-	-	33	268	1162	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.482	0.823	0.344	-	-				
HCM Control Delay (s)	9.1	-	-	190.6	59.5	9.7	-	-				
HCM Lane LOS	A	-	-	F	F	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	1.6	6.6	1.6	-	-				

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/o Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	0	675	286	173	397	2	328	0	282	0	0
Future Volume (vph)	8	0	675	286	173	397	2	328	0	282	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		0	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.999				0.850		
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1805	3471	1455	1719	3340	0	0	1703	1583	0	1900
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1805	3471	1455	1719	3340	0	0	1703	1583	0	1900
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				314						310		
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1070			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	4%	11%	5%	8%	0%	6%	0%	2%	0%	0%
Adj. Flow (vph)	9	0	742	314	190	436	2	360	0	310	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	742	314	190	438	0	0	360	310	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			0			0
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
Page 1

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/o Development

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.91
Heavy Vehicles (%)	0%
Adj. Flow (vph)	0
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/o Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	15.0	15.0	5.0	15.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	16.0	21.0	21.0	11.0	21.0		12.0	12.0	12.0	11.0	11.0
Total Split (s)	31.0	31.0	61.0	61.0	31.0	61.0		57.0	57.0	57.0	11.0	11.0
Total Split (%)	19.4%	19.4%	38.1%	38.1%	19.4%	38.1%		35.6%	35.6%	35.6%	6.9%	6.9%
Maximum Green (s)	25.0	25.0	55.0	55.0	25.0	55.0		50.0	50.0	50.0	5.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0	2.0	2.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)		10.7	32.8	32.8	16.8	53.8			28.7	28.7		
Actuated g/C Ratio		0.11	0.33	0.33	0.17	0.55			0.29	0.29		
v/c Ratio		0.05	0.64	0.45	0.65	0.24			0.73	0.46		
Control Delay		53.5	32.0	5.5	53.5	14.0			42.8	5.9		
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0	0.0		
Total Delay		53.5	32.0	5.5	53.5	14.0			42.8	5.9		
LOS		D	C	A	D	B			D	A		
Approach Delay			24.4			25.9			25.7			
Approach LOS			C			C			C			

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 98.7

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 25.2

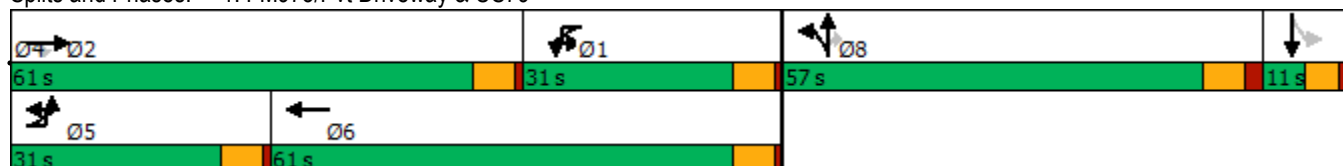
Intersection LOS: C

Intersection Capacity Utilization 62.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79



Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/o Development



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	Ø4
Protected Phases	5	2		1	6	8		4
Permitted Phases			2				8	
Minimum Initial (s)	10.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0
Minimum Split (s)	16.0	21.0	21.0	11.0	21.0	12.0	12.0	11.0
Total Split (s)	31.0	61.0	61.0	31.0	61.0	57.0	57.0	11.0
Total Split (%)	19.4%	38.1%	38.1%	19.4%	38.1%	35.6%	35.6%	7%
Maximum Green (s)	25.0	55.0	55.0	25.0	55.0	50.0	50.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	10.0	49.6	49.6	25.0	64.6	45.1	45.1	0.0
90th %ile Term Code	Min	Gap	Gap	Max	Hold	Gap	Gap	Skip
70th %ile Green (s)	0.0	39.3	39.3	20.9	66.2	35.2	35.2	0.0
70th %ile Term Code	Skip	Gap	Gap	Gap	Hold	Gap	Gap	Skip
50th %ile Green (s)	0.0	31.9	31.9	16.6	54.5	27.7	27.7	0.0
50th %ile Term Code	Skip	Gap	Gap	Gap	Hold	Gap	Gap	Skip
30th %ile Green (s)	0.0	26.5	26.5	13.4	45.9	22.4	22.4	0.0
30th %ile Term Code	Skip	Gap	Gap	Gap	Hold	Gap	Gap	Skip
10th %ile Green (s)	0.0	19.3	19.3	9.5	34.8	16.2	16.2	0.0
10th %ile Term Code	Skip	Gap	Gap	Gap	Hold	Gap	Gap	Skip

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 98.7

Control Type: Actuated-Uncoordinated

90th %ile Actuated Cycle: 138.7

70th %ile Actuated Cycle: 114.4

50th %ile Actuated Cycle: 95.2

30th %ile Actuated Cycle: 81.3

10th %ile Actuated Cycle: 64

Queues

1: FM973/Pvt Driveway & US79

2025 PM Peak Hour

Phase 1 Build-Out Year w/o Development

							
Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	9	742	314	190	438	360	310
v/c Ratio	0.05	0.64	0.45	0.65	0.24	0.73	0.46
Control Delay	53.5	32.0	5.5	53.5	14.0	42.8	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.5	32.0	5.5	53.5	14.0	42.8	5.9
Queue Length 50th (ft)	5	197	0	108	64	195	0
Queue Length 95th (ft)	27	354	65	245	164	391	66
Internal Link Dist (ft)		854			990	556	
Turn Bay Length (ft)	100		615	880			
Base Capacity (vph)	491	2076	996	467	2109	926	1002
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.36	0.32	0.41	0.21	0.39	0.31
Intersection Summary							

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/o Development

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	0	675	286	173	397	2	328	0	282	0	0
Future Volume (vph)	8	0	675	286	173	397	2	328	0	282	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95			1.00	1.00		
Frt		1.00	1.00	0.85	1.00	1.00			1.00	0.85		
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00		
Satd. Flow (prot)		1805	3471	1455	1719	3341			1703	1583		
Flt Permitted		0.95	1.00	1.00	0.95	1.00			0.95	1.00		
Satd. Flow (perm)		1805	3471	1455	1719	3341			1703	1583		
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	9	0	742	314	190	436	2	360	0	310	0	0
RTOR Reduction (vph)	0	0	0	214	0	0	0	0	0	224	0	0
Lane Group Flow (vph)	0	9	742	100	190	438	0	0	360	86	0	0
Heavy Vehicles (%)	0%	0%	4%	11%	5%	8%	0%	6%	0%	2%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		1.4	32.8	32.8	22.4	53.8			28.7	28.7		
Effective Green, g (s)		1.4	32.8	32.8	22.4	53.8			28.7	28.7		
Actuated g/C Ratio		0.01	0.32	0.32	0.22	0.52			0.28	0.28		
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0			3.0	3.0		
Lane Grp Cap (vph)		24	1106	463	374	1746			474	441		
v/s Ratio Prot		0.00	c0.21		c0.11	0.13			c0.21			
v/s Ratio Perm				0.07						0.05		
v/c Ratio		0.38	0.67	0.22	0.51	0.25			0.76	0.20		
Uniform Delay, d1		50.3	30.4	25.6	35.4	13.5			33.9	28.3		
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00		
Incremental Delay, d2		3.6	1.3	0.1	0.4	0.0			6.9	0.2		
Delay (s)		53.9	31.6	25.7	35.8	13.5			40.8	28.5		
Level of Service		D	C	C	D	B			D	C		
Approach Delay (s)			30.1			20.3			35.1			0.0
Approach LOS			C			C			D			A
Intersection Summary												
HCM 2000 Control Delay			28.9			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			102.9			Sum of lost time (s)			25.0			
Intersection Capacity Utilization			62.2%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/o Development

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
4: US79 & Crossover

2025 PM Peak Hour
Phase 1 Build-Out Year w/o Development

							
Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	0	978	0	597	0	0	0
Future Volume (vph)	0	978	0	597	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100		0	0	0
Storage Lanes	1		1		0	1	0
Taper Length (ft)	100		100			100	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frt							
Flt Protected							
Satd. Flow (prot)	1900	3471	1900	3374	0	1900	0
Flt Permitted							
Satd. Flow (perm)	1900	3471	1900	3374	0	1900	0
Link Speed (mph)		65		65		30	
Link Distance (ft)		739		504		317	
Travel Time (s)		7.8		5.3		7.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	7%	0%	0%	0%
Adj. Flow (vph)	0	1052	0	642	0	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1052	0	642	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)		60		60		12	
Link Offset(ft)		0		0		0	
Crosswalk Width(ft)		16		16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9		9	15	9
Sign Control		Free		Free		Stop	
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization	30.4%			ICU Level of Service A			
Analysis Period (min)	15						

HCM Unsignalized Intersection Capacity Analysis

4: US79 & Crossover

2025 PM Peak Hour
Phase 1 Build-Out Year w/o Development

							
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	0	978	0	597	0	0	0
Future Volume (Veh/h)	0	978	0	597	0	0	0
Sign Control		Free		Free		Stop	
Grade		0%		0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	1052	0	642	0	0	0
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type		Raised		Raised			
Median storage (veh)		2		2			
Upstream signal (ft)							
pX, platoon unblocked			0.00				
vC, conflicting volume	642		0			1168	321
vC1, stage 1 conf vol						642	
vC2, stage 2 conf vol						526	
vCu, unblocked vol	642		0			1168	321
tC, single (s)	4.1		0.0			6.8	6.9
tC, 2 stage (s)						5.8	
tF (s)	2.2		0.0			3.5	3.3
p0 queue free %	100		0			100	100
cM capacity (veh/h)	952		0			402	681
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	0	526	526	321	321	0	0
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.31	0.31	0.19	0.19	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS							A
Approach Delay (s)	0.0			0.0			0.0
Approach LOS							A
Intersection Summary							
Average Delay			0.0				
Intersection Capacity Utilization			30.4%		ICU Level of Service		A
Analysis Period (min)			15				

Intersection							
Int Delay, s/veh	0						
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	0	978	0	597	0	0	0
Future Vol, veh/h	0	978	0	597	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	100	-	100	-	-	0	-
Veh in Median Storage, #	-	0	-	0	-	0	-
Grade, %	-	0	-	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93
Heavy Vehicles, %	0	4	0	7	0	0	0
Mvmt Flow	0	1052	0	642	0	0	0
Major/Minor	Major1		Major2		Minor2		
Conflicting Flow All	642	0	1052	-	0	1168	321
Stage 1	-	-	-	-	-	642	-
Stage 2	-	-	-	-	-	526	-
Critical Hdwy	4.1	-	6.4	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	2.5	-	-	3.5	3.3
Pot Cap-1 Maneuver	952	-	313	-	0	189	681
Stage 1	-	-	-	-	0	492	-
Stage 2	-	-	-	-	0	563	-
Platoon blocked, %		-		-			
Mov Cap-1 Maneuver	952	-	313	-	-	189	681
Mov Cap-2 Maneuver	-	-	-	-	-	189	-
Stage 1	-	-	-	-	-	492	-
Stage 2	-	-	-	-	-	563	-
Approach	EB		WB		SB		
HCM Control Delay, s	0		0		0		
HCM LOS					A		
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	SBLn1		
Capacity (veh/h)	952	-	313	-	-		
HCM Lane V/C Ratio	-	-	-	-	-		
HCM Control Delay (s)	0	-	0	-	0		
HCM Lane LOS	A	-	A	-	A		
HCM 95th %tile Q(veh)	0	-	0	-	-		

Lanes, Volumes, Timings
5: S Rio Grande & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/o Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	3	986	25	5	558	0	16	3	3	1	7	0
Future Volume (vph)	3	986	25	5	558	0	16	3	3	1	7	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		350	175		330	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.983				
Flt Protected	0.950			0.950				0.964			0.994	
Satd. Flow (prot)	1805	3539	1615	1805	3374	1900	0	1800	0	0	1889	0
Flt Permitted	0.950			0.950				0.964			0.994	
Satd. Flow (perm)	1805	3539	1615	1805	3374	1900	0	1800	0	0	1889	0
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		572			566			552			557	
Travel Time (s)		6.0			5.9			12.5			12.7	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	1120	28	6	634	0	18	3	3	1	8	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	1120	28	6	634	0	0	24	0	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		60			60			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	38.8%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis

5: S Rio Grande & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/o Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	986	25	5	558	0	16	3	3	1	7	0
Future Volume (Veh/h)	3	986	25	5	558	0	16	3	3	1	7	0
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	3	1120	28	6	634	0	18	3	3	1	8	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	Raised			Raised								
Median storage veh	2			2								
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	634			1120			1459	1772	560	1214	1772	317
vC1, stage 1 conf vol							1126	1126		646	646	
vC2, stage 2 conf vol							333	646		568	1126	
vCu, unblocked vol	634			1120			1459	1772	560	1214	1772	317
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			91	99	99	100	97	100
cM capacity (veh/h)	959			631			210	245	477	334	242	685
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	3	560	560	28	6	317	317	0	24	9		
Volume Left	3	0	0	0	6	0	0	0	18	1		
Volume Right	0	0	0	28	0	0	0	0	3	0		
cSH	959	1700	1700	1700	631	1700	1700	1700	230	249		
Volume to Capacity	0.00	0.33	0.33	0.02	0.01	0.19	0.19	0.00	0.10	0.04		
Queue Length 95th (ft)	0	0	0	0	1	0	0	0	9	3		
Control Delay (s)	8.8	0.0	0.0	0.0	10.8	0.0	0.0	0.0	22.5	20.0		
Lane LOS	A				B				C	C		
Approach Delay (s)	0.0				0.1				22.5	20.0		
Approach LOS									C	C		
Intersection Summary												
Average Delay	0.4											
Intersection Capacity Utilization	38.8%			ICU Level of Service						A		
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	986	25	5	558	0	16	3	3	1	7	0
Future Vol, veh/h	3	986	25	5	558	0	16	3	3	1	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	Free
Storage Length	200	-	350	175	-	330	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	2	0	0	7	0	0	0	0	0	0	0
Mvmt Flow	3	1120	28	6	634	0	18	3	3	1	8	0

Major/Minor	Major1			Major2			Minor1		Minor2			
Conflicting Flow All	634	0	0	1120	0	0	1459	1772	-	1214	1772	-
Stage 1	-	-	-	-	-	-	1126	1126	-	646	646	-
Stage 2	-	-	-	-	-	-	333	646	-	568	1126	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	-	7.5	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	-	3.5	4	-
Pot Cap-1 Maneuver	959	-	-	631	-	-	92	84	0	140	84	0
Stage 1	-	-	-	-	-	-	222	282	0	431	470	0
Stage 2	-	-	-	-	-	-	660	470	0	480	282	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	959	-	-	631	-	-	84	83	-	134	83	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	84	83	-	134	83	-
Stage 1	-	-	-	-	-	-	221	281	-	430	465	-
Stage 2	-	-	-	-	-	-	643	465	-	473	281	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	959	-	-	631	-	-	-
HCM Lane V/C Ratio	-	0.004	-	-	0.009	-	-	-
HCM Control Delay (s)	-	8.8	-	-	10.8	-	-	-
HCM Lane LOS	-	A	-	-	B	-	-	-
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

Lanes, Volumes, Timings
8: FM973 & Taylor HS

2025 PM Peak Hour
Phase 1 Build-Out Year w/o Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	8	16	598	4	3	475
Future Volume (vph)	8	16	598	4	3	475
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.910		0.999			
Flt Protected	0.984				0.950	
Satd. Flow (prot)	1701	0	1826	0	1805	1712
Flt Permitted	0.984				0.950	
Satd. Flow (perm)	1701	0	1826	0	1805	1712
Link Speed (mph)	30		65			65
Link Distance (ft)	376		460			672
Travel Time (s)	8.5		4.8			7.0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%
Adj. Flow (vph)	8	16	616	4	3	490
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	0	620	0	3	490
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	41.7%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

8: FM973 & Taylor HS

2025 PM Peak Hour
Phase 1 Build-Out Year w/o Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	16	598	4	3	475
Future Volume (Veh/h)	8	16	598	4	3	475
Sign Control	Stop		Free		Free	Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	8	16	616	4	3	490
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1114	618			620	
vC1, stage 1 conf vol	618					
vC2, stage 2 conf vol	496					
vCu, unblocked vol	1114	618			620	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	97			100	
cM capacity (veh/h)	448	493			970	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	24	620	3	490		
Volume Left	8	0	3	0		
Volume Right	16	4	0	0		
cSH	477	1700	970	1700		
Volume to Capacity	0.05	0.36	0.00	0.29		
Queue Length 95th (ft)	4	0	0	0		
Control Delay (s)	12.9	0.0	8.7	0.0		
Lane LOS	B		A			
Approach Delay (s)	12.9	0.0	0.1			
Approach LOS	B					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			41.7%		ICU Level of Service	A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	16	598	4	3	475
Future Vol, veh/h	8	16	598	4	3	475
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	4	0	0	11
Mvmt Flow	8	16	616	4	3	490
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1114	618	0	0	620	0
Stage 1	618	-	-	-	-	-
Stage 2	496	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	232	493	-	-	970	-
Stage 1	542	-	-	-	-	-
Stage 2	616	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	231	493	-	-	970	-
Mov Cap-2 Maneuver	368	-	-	-	-	-
Stage 1	542	-	-	-	-	-
Stage 2	614	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	13.6	0		0.1		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	443	970	-	
HCM Lane V/C Ratio	-	-	0.056	0.003	-	
HCM Control Delay (s)	-	-	13.6	8.7	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.2	0	-	

Lanes, Volumes, Timings
9: FM973 & Streamwood

2025 PM Peak Hour
Phase 1 Build-Out Year w/o Development

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	52	22	38	544	397	89
Future Volume (vph)	52	22	38	544	397	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			250
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.960					0.850
Flt Protected	0.966		0.950			
Satd. Flow (prot)	1762	0	1805	1827	1696	1615
Flt Permitted	0.966		0.950			
Satd. Flow (perm)	1762	0	1805	1827	1696	1615
Link Speed (mph)	30			65	65	
Link Distance (ft)	373			724	460	
Travel Time (s)	8.5			7.6	4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	4%	12%	0%
Adj. Flow (vph)	57	24	41	591	432	97
Shared Lane Traffic (%)						
Lane Group Flow (vph)	81	0	41	591	432	97
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	39.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

9: FM973 & Streamwood

2025 PM Peak Hour
Phase 1 Build-Out Year w/o Development

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	52	22	38	544	397	89
Future Volume (Veh/h)	52	22	38	544	397	89
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	24	41	591	432	97
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1105	432	529			
vC1, stage 1 conf vol	432					
vC2, stage 2 conf vol	673					
vCu, unblocked vol	1105	432	529			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	96	96			
cM capacity (veh/h)	430	628	1048			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	81	41	591	432	97	
Volume Left	57	41	0	0	0	
Volume Right	24	0	0	0	97	
cSH	475	1048	1700	1700	1700	
Volume to Capacity	0.17	0.04	0.35	0.25	0.06	
Queue Length 95th (ft)	15	3	0	0	0	
Control Delay (s)	14.1	8.6	0.0	0.0	0.0	
Lane LOS	B	A				
Approach Delay (s)	14.1	0.6		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			39.5%	ICU Level of Service		A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	52	22	38	544	397	89
Future Vol, veh/h	52	22	38	544	397	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	4	12	0
Mvmt Flow	57	24	41	591	432	97

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1105	432	529	0	-	0
Stage 1	432	-	-	-	-	-
Stage 2	673	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	235	628	1048	-	-	-
Stage 1	659	-	-	-	-	-
Stage 2	511	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	226	628	1048	-	-	-
Mov Cap-2 Maneuver	359	-	-	-	-	-
Stage 1	633	-	-	-	-	-
Stage 2	511	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.9	0.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1048	-	411	-	-
HCM Lane V/C Ratio	0.039	-	0.196	-	-
HCM Control Delay (s)	8.6	-	15.9	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2025 PM Peak Hour
Phase 1 Build-Out Year w/o Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	0	4	5	0	14	4	559	0	2	403	11
Future Volume (vph)	6	0	4	5	0	14	4	559	0	2	403	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	400		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.951			0.899						0.996	
Flt Protected		0.969			0.988		0.950			0.950		
Satd. Flow (prot)	0	1751	0	0	1688	0	1805	1827	0	1805	1709	0
Flt Permitted		0.969			0.988		0.950			0.950		
Satd. Flow (perm)	0	1751	0	0	1688	0	1805	1827	0	1805	1709	0
Link Speed (mph)		30			30			65			65	
Link Distance (ft)		574			560			730			724	
Travel Time (s)		13.0			12.7			7.7			7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	11%	0%
Adj. Flow (vph)	7	0	4	5	0	15	4	608	0	2	438	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	11	0	0	20	0	4	608	0	2	450	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	39.4%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis

10: FM973 & Wesley Miller

2025 PM Peak Hour
Phase 1 Build-Out Year w/o Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	4	5	0	14	4	559	0	2	403	11
Future Volume (Veh/h)	6	0	4	5	0	14	4	559	0	2	403	11
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	0	4	5	0	15	4	608	0	2	438	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							TWLTL			TWLTL		
Median storage veh							2			2		
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1079	1064	444	1062	1070	608	450				608	
vC1, stage 1 conf vol	448	448		616	616							
vC2, stage 2 conf vol	631	616		446	454							
vCu, unblocked vol	1079	1064	444	1062	1070	608	450				608	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	98	100	99	99	100	97	100				100	
cM capacity (veh/h)	391	410	618	405	409	499	1121				980	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	11	20	4	608	2	450						
Volume Left	7	5	4	0	2	0						
Volume Right	4	15	0	0	0	12						
cSH	451	472	1121	1700	980	1700						
Volume to Capacity	0.02	0.04	0.00	0.36	0.00	0.26						
Queue Length 95th (ft)	2	3	0	0	0	0						
Control Delay (s)	13.2	13.0	8.2	0.0	8.7	0.0						
Lane LOS	B	B	A		A							
Approach Delay (s)	13.2	13.0	0.1		0.0							
Approach LOS	B	B										
Intersection Summary												
Average Delay	0.4											
Intersection Capacity Utilization	39.4%			ICU Level of Service			A					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	6	0	4	5	0	14	4	559	0	2	403	11
Future Vol, veh/h	6	0	4	5	0	14	4	559	0	2	403	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	400	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	4	0	0	11	0
Mvmt Flow	7	0	4	5	0	15	4	608	0	2	438	12

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1072	1064	444	1066	1070	608	450	0	0	608	0	0
Stage 1	448	448	-	616	616	-	-	-	-	-	-	-
Stage 2	624	616	-	450	454	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	200	225	618	202	223	499	1121	-	-	980	-	-
Stage 1	594	576	-	481	485	-	-	-	-	-	-	-
Stage 2	477	485	-	592	573	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	193	224	618	200	222	499	1121	-	-	980	-	-
Mov Cap-2 Maneuver	193	224	-	200	222	-	-	-	-	-	-	-
Stage 1	592	575	-	479	483	-	-	-	-	-	-	-
Stage 2	461	483	-	587	572	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	19.1		15.7		0.1		0	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1121	-	-	266 358	980	-	-
HCM Lane V/C Ratio	0.004	-	-	0.041 0.058	0.002	-	-
HCM Control Delay (s)	8.2	-	-	19.1 15.7	8.7	-	-
HCM Lane LOS	A	-	-	C C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1 0.2	0	-	-

Appendix D. Traffic Simulation Output

- Phase 1 Buildout Year (2025) Projected Conditions with Development, AM & PM
 - No Mitigation (Existing Timings at FM 973 at US 79)

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	0	529	728	470	602	2	509	0	190	0	0
Future Volume (vph)	7	0	529	728	470	602	2	509	0	190	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		0	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850						0.850		0.865
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1805	3312	1553	1719	3375	0	0	1671	1568	0	1644
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1805	3312	1553	1719	3375	0	0	1671	1568	0	1644
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				754						143		289
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1072			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Adj. Flow (vph)	7	0	563	774	500	640	2	541	0	202	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	7	563	774	500	642	0	0	541	202	0	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			0			0
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
Page 1

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.94
Heavy Vehicles (%)	0%
Adj. Flow (vph)	1
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	15.0	15.0	5.0	15.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	16.0	21.0	21.0	11.0	21.0		12.0	12.0	12.0	11.0	11.0
Total Split (s)	31.0	31.0	61.0	61.0	31.0	61.0		57.0	57.0	57.0	11.0	11.0
Total Split (%)	19.4%	19.4%	38.1%	38.1%	19.4%	38.1%		35.6%	35.6%	35.6%	6.9%	6.9%
Maximum Green (s)	25.0	25.0	55.0	55.0	25.0	55.0		50.0	50.0	50.0	5.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0	2.0	2.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)		10.1	36.4	36.4	25.3	65.0			50.5	50.5		5.1
Actuated g/C Ratio		0.08	0.27	0.27	0.19	0.49			0.38	0.38		0.04
v/c Ratio		0.05	0.62	0.80	1.54	0.39			0.85	0.30		0.00
Control Delay		65.3	45.2	10.1	292.2	22.7			53.8	12.0		0.0
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Delay		65.3	45.2	10.1	292.2	22.7			53.8	12.0		0.0
LOS		E	D	B	F	C			D	B		A
Approach Delay			25.1			140.7			42.4			
Approach LOS			C			F			D			

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 133.2

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.54

Intersection Signal Delay: 69.9

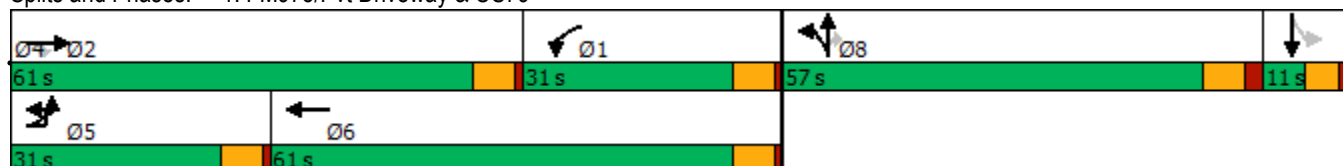
Intersection LOS: E

Intersection Capacity Utilization 91.4%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79





Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Protected Phases	5	2		1	6	8		4
Permitted Phases			2				8	
Minimum Initial (s)	10.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0
Minimum Split (s)	16.0	21.0	21.0	11.0	21.0	12.0	12.0	11.0
Total Split (s)	31.0	61.0	61.0	31.0	61.0	57.0	57.0	11.0
Total Split (%)	19.4%	38.1%	38.1%	19.4%	38.1%	35.6%	35.6%	6.9%
Maximum Green (s)	25.0	55.0	55.0	25.0	55.0	50.0	50.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	10.0	55.0	55.0	25.0	70.0	50.0	50.0	5.0
90th %ile Term Code	Min	Max	Max	Max	Hold	Max	Max	Max
70th %ile Green (s)	0.0	40.8	40.8	25.0	71.8	50.0	50.0	0.0
70th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip
50th %ile Green (s)	0.0	35.2	35.2	25.0	66.2	50.0	50.0	0.0
50th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip
30th %ile Green (s)	0.0	29.8	29.8	25.0	60.8	50.0	50.0	0.0
30th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip
10th %ile Green (s)	0.0	24.4	24.4	25.0	55.4	50.0	50.0	0.0
10th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 133.2

Control Type: Actuated-Uncoordinated

90th %ile Actuated Cycle: 160

70th %ile Actuated Cycle: 134.8

50th %ile Actuated Cycle: 129.2

30th %ile Actuated Cycle: 123.8

10th %ile Actuated Cycle: 118.4

Queues
1: FM973/Pvt Driveway & US79

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

								
Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	7	563	774	500	642	541	202	1
v/c Ratio	0.05	0.62	0.80	1.54	0.39	0.85	0.30	0.00
Control Delay	65.3	45.2	10.1	292.2	22.7	53.8	12.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.3	45.2	10.1	292.2	22.7	53.8	12.0	0.0
Queue Length 50th (ft)	6	218	12	~586	160	407	31	0
Queue Length 95th (ft)	25	305	150	#1034	290	#843	115	0
Internal Link Dist (ft)		854			992	556		491
Turn Bay Length (ft)	100		615	880				
Base Capacity (vph)	342	1381	1087	325	1648	633	683	340
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.41	0.71	1.54	0.39	0.85	0.30	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	0	529	728	470	602	2	509	0	190	0	0
Future Volume (vph)	7	0	529	728	470	602	2	509	0	190	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95			1.00	1.00		1.00
Frt		1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.86
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00		1.00
Satd. Flow (prot)		1805	3312	1553	1719	3373			1671	1568		1644
Flt Permitted		0.95	1.00	1.00	0.95	1.00			0.95	1.00		1.00
Satd. Flow (perm)		1805	3312	1553	1719	3373			1671	1568		1644
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	7	0	563	774	500	640	2	541	0	202	0	0
RTOR Reduction (vph)	0	0	0	562	0	0	0	0	0	93	0	1
Lane Group Flow (vph)	0	7	563	212	500	642	0	0	541	109	0	0
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		1.7	36.4	36.4	30.4	65.1			50.5	50.5		0.8
Effective Green, g (s)		1.7	36.4	36.4	30.4	65.1			50.5	50.5		0.8
Actuated g/C Ratio		0.01	0.25	0.25	0.21	0.45			0.35	0.35		0.01
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0			3.0	3.0		2.0
Lane Grp Cap (vph)		21	842	395	365	1534			589	553		9
v/s Ratio Prot		0.00	c0.17		c0.29	0.19			c0.32			c0.00
v/s Ratio Perm				0.14						0.07		
v/c Ratio		0.33	0.67	0.54	1.37	0.42			0.92	0.20		0.00
Uniform Delay, d1		70.1	47.9	46.1	56.3	26.3			44.3	32.2		70.8
Progression Factor		1.00	1.00	1.00	0.98	0.97			1.00	1.00		1.00
Incremental Delay, d2		3.4	1.6	0.7	183.0	0.1			19.3	0.2		0.0
Delay (s)		73.5	49.5	46.8	238.4	25.7			63.6	32.4		70.8
Level of Service		E	D	D	F	C			E	C		E
Approach Delay (s)			48.1			118.8			55.1			70.8
Approach LOS			D			F			E			E
Intersection Summary												
HCM 2000 Control Delay			74.7		HCM 2000 Level of Service				E			
HCM 2000 Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			143.1		Sum of lost time (s)				25.0			
Intersection Capacity Utilization			91.4%		ICU Level of Service				F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	1
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
3: Driveway 2A & US79

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (vph)	501	280	0	1163	0	180
Future Volume (vph)	501	280	0	1163	0	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	0		0	0
Storage Lanes		1	0		0	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.865
Flt Protected						
Satd. Flow (prot)	3282	1615	0	3374	0	1644
Flt Permitted						
Satd. Flow (perm)	3282	1615	0	3374	0	1644
Link Speed (mph)	65			65	30	
Link Distance (ft)	1072			739	365	
Travel Time (s)	11.2			7.8	8.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	10%	0%	0%	7%	0%	0%
Adj. Flow (vph)	545	304	0	1264	0	196
Shared Lane Traffic (%)						
Lane Group Flow (vph)	545	304	0	1264	0	196
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	60			60	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

3: Driveway 2A & US79

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Volume (veh/h)	501	280	0	1163	0	180
Future Volume (Veh/h)	501	280	0	1163	0	180
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	545	304	0	1264	0	196
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh	2			2		
Upstream signal (ft)	1072					
pX, platoon unblocked			0.91		0.91	0.91
vC, conflicting volume			849		1177	272
vC1, stage 1 conf vol					545	
vC2, stage 2 conf vol					632	
vCu, unblocked vol			642		1002	10
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	80
cM capacity (veh/h)			869		433	981
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	272	272	304	632	632	196
Volume Left	0	0	0	0	0	0
Volume Right	0	0	304	0	0	196
cSH	1700	1700	1700	1700	1700	981
Volume to Capacity	0.16	0.16	0.18	0.37	0.37	0.20
Queue Length 95th (ft)	0	0	0	0	0	19
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.6
Lane LOS						A
Approach Delay (s)	0.0			0.0		9.6
Approach LOS						A
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			35.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM 6th TWSC
3: Driveway 2A & US79

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Vol, veh/h	501	280	0	1163	0	180
Future Vol, veh/h	501	280	0	1163	0	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	0	0	7	0	0
Mvmt Flow	545	304	0	1264	0	196
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	273
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	731
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	731
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		11.7	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	731	-	-	-		
HCM Lane V/C Ratio	0.268	-	-	-		
HCM Control Delay (s)	11.7	-	-	-		
HCM Lane LOS	B	-	-	-		
HCM 95th %tile Q(veh)	1.1	-	-	-		

Lanes, Volumes, Timings
4: US79 & Crossover

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

								
Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	61	0	621	0	1128	0	0	0
Future Volume (vph)	61	0	621	0	1128	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		100		0	0	0
Storage Lanes		1		1		0	1	0
Taper Length (ft)		100		100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frt								
Flt Protected		0.950						
Satd. Flow (prot)	0	1805	3282	1900	3374	0	1900	0
Flt Permitted		0.950						
Satd. Flow (perm)	0	1805	3282	1900	3374	0	1900	0
Link Speed (mph)			65		65		30	
Link Distance (ft)			739		504		317	
Travel Time (s)			7.8		5.3		7.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	10%	0%	7%	0%	0%	0%
Adj. Flow (vph)	67	0	682	0	1240	0	0	0
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	67	682	0	1240	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			60		60		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	
Intersection Summary								
Area Type:	Other							
Control Type: Unsignalized								
Intersection Capacity Utilization 41.2%								
ICU Level of Service A								
Analysis Period (min) 15								

HCM Unsignalized Intersection Capacity Analysis

4: US79 & Crossover

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development



Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔↔	↔	↔↔		↔	
Traffic Volume (veh/h)	61	0	621	0	1128	0	0	0
Future Volume (Veh/h)	61	0	621	0	1128	0	0	0
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	682	0	1240	0	0	0
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage veh			2		2			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	1240		0			1581	620
vC1, stage 1 conf vol							1240	
vC2, stage 2 conf vol							341	
vCu, unblocked vol	0	1240		0			1581	620
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	100		0			100	100
cM capacity (veh/h)	0	569		0			229	436
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	
Volume Total	0	341	341	620	620	0	0	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.20	0.20	0.36	0.36	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lane LOS							A	
Approach Delay (s)	0.0			0.0			0.0	
Approach LOS							A	
Intersection Summary								
Average Delay			0.0					
Intersection Capacity Utilization			41.2%		ICU Level of Service		A	
Analysis Period (min)			15					

Intersection								
Int Delay, s/veh	0.9							
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	61	0	621	0	1128	0	0	0
Future Vol, veh/h	61	0	621	0	1128	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	100	-	100	-	-	0	-
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	10	0	7	0	0	0
Mvmt Flow	67	0	682	0	1240	0	0	0
Major/Minor	Major1		Major2		Minor2			
Conflicting Flow All	1240	1240	0	682	-	0	1715	620
Stage 1	-	-	-	-	-	-	1240	-
Stage 2	-	-	-	-	-	-	475	-
Critical Hdwy	6.4	4.1	-	6.4	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	2.2	-	2.5	-	-	3.5	3.3
Pot Cap-1 Maneuver	237	569	-	538	-	0	83	436
Stage 1	-	-	-	-	-	0	240	-
Stage 2	-	-	-	-	-	0	597	-
Platoon blocked, %			-		-			
Mov Cap-1 Maneuver	237	237	-	538	-	-	60	436
Mov Cap-2 Maneuver	-	-	-	-	-	-	60	-
Stage 1	-	-	-	-	-	-	172	-
Stage 2	-	-	-	-	-	-	597	-
Approach	EB		WB		SB			
HCM Control Delay, s	2.3		0		0			
HCM LOS					A			
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	SBLn1			
Capacity (veh/h)	237	-	538	-	-			
HCM Lane V/C Ratio	0.283	-	-	-	-			
HCM Control Delay (s)	26.1	-	0	-	0			
HCM Lane LOS	D	-	A	-	A			
HCM 95th %tile Q(veh)	1.1	-	0	-	-			

Lanes, Volumes, Timings
5: S Rio Grande & US79

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	643	10	7	1069	1	33	7	1	3	3	5
Future Volume (vph)	7	643	10	7	1069	1	33	7	1	3	3	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		350	175		330	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.997			0.932	
Flt Protected	0.950			0.950				0.961			0.988	
Satd. Flow (prot)	1805	3539	1615	1805	3374	1615	0	1820	0	0	1750	0
Flt Permitted	0.950			0.950				0.961			0.988	
Satd. Flow (perm)	1805	3539	1615	1805	3374	1615	0	1820	0	0	1750	0
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		572			566			552			557	
Travel Time (s)		6.0			5.9			12.5			12.7	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	8	731	11	8	1215	1	38	8	1	3	3	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	731	11	8	1215	1	0	47	0	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		60			60			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	41.8%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis

5: S Rio Grande & US79

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	643	10	7	1069	1	33	7	1	3	3	5
Future Volume (Veh/h)	7	643	10	7	1069	1	33	7	1	3	3	5
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	8	731	11	8	1215	1	38	8	1	3	3	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	Raised			Raised								
Median storage veh	2			2								
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1215			731			1372	1978	366	1616	1978	608
vC1, stage 1 conf vol							747	747		1231	1231	
vC2, stage 2 conf vol							625	1231		386	747	
vCu, unblocked vol	1215			731			1372	1978	366	1616	1978	608
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			87	96	100	98	99	99
cM capacity (veh/h)	581			883			289	210	637	180	214	444
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	8	366	366	11	8	608	608	1	47	12		
Volume Left	8	0	0	0	8	0	0	0	38	3		
Volume Right	0	0	0	11	0	0	0	1	1	6		
cSH	581	1700	1700	1700	883	1700	1700	1700	275	271		
Volume to Capacity	0.01	0.21	0.21	0.01	0.01	0.36	0.36	0.00	0.17	0.04		
Queue Length 95th (ft)	1	0	0	0	1	0	0	0	15	3		
Control Delay (s)	11.3	0.0	0.0	0.0	9.1	0.0	0.0	0.0	20.8	18.9		
Lane LOS	B				A				C	C		
Approach Delay (s)	0.1				0.1				20.8	18.9		
Approach LOS									C	C		
Intersection Summary												
Average Delay	0.7											
Intersection Capacity Utilization	41.8%			ICU Level of Service						A		
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	643	10	7	1069	1	33	7	1	3	3	5
Future Vol, veh/h	7	643	10	7	1069	1	33	7	1	3	3	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	Free
Storage Length	200	-	350	175	-	330	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	2	0	0	7	0	0	0	0	0	0	0
Mvmt Flow	8	731	11	8	1215	1	38	8	1	3	3	6

Major/Minor	Major1			Major2			Minor1		Minor2			
Conflicting Flow All	1215	0	0	731	0	0	1372	1978	-	1617	1978	-
Stage 1	-	-	-	-	-	-	747	747	-	1231	1231	-
Stage 2	-	-	-	-	-	-	625	1231	-	386	747	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	-	7.5	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	-	3.5	4	-
Pot Cap-1 Maneuver	581	-	-	883	-	-	107	63	0	70	63	0
Stage 1	-	-	-	-	-	-	376	423	0	191	252	0
Stage 2	-	-	-	-	-	-	444	252	0	614	423	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	581	-	-	883	-	-	101	62	-	62	62	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	101	62	-	62	62	-
Stage 1	-	-	-	-	-	-	371	417	-	188	250	-
Stage 2	-	-	-	-	-	-	434	250	-	594	417	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	581	-	-	883	-	-	-
HCM Lane V/C Ratio	-	0.014	-	-	0.009	-	-	-
HCM Control Delay (s)	-	11.3	-	-	9.1	-	-	-
HCM Lane LOS	-	B	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

Lanes, Volumes, Timings
6: FM973 & Driveway 1B

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	67	632	103	0	1225
Future Volume (vph)	0	67	632	103	0	1225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		250	100	
Storage Lanes	0	0		1	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865		0.850		
Flt Protected						
Satd. Flow (prot)	0	1644	1759	1615	0	1792
Flt Permitted						
Satd. Flow (perm)	0	1644	1759	1615	0	1792
Link Speed (mph)	30		55			55
Link Distance (ft)	429		545			636
Travel Time (s)	9.8		6.8			7.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Adj. Flow (vph)	0	73	687	112	0	1332
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	73	687	112	0	1332
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	Yes		Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	67.8%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: FM973 & Driveway 1B

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	67	632	103	0	1225
Future Volume (Veh/h)	0	67	632	103	0	1225
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	73	687	112	0	1332
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)					636	
pX, platoon unblocked						
vC, conflicting volume	2019	687			799	
vC1, stage 1 conf vol	687					
vC2, stage 2 conf vol	1332					
vCu, unblocked vol	2019	687			799	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	84			100	
cM capacity (veh/h)	223	450			833	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1		
Volume Total	73	687	112	1332		
Volume Left	0	0	0	0		
Volume Right	73	0	112	0		
cSH	450	1700	1700	1700		
Volume to Capacity	0.16	0.40	0.07	0.78		
Queue Length 95th (ft)	14	0	0	0		
Control Delay (s)	14.5	0.0	0.0	0.0		
Lane LOS	B					
Approach Delay (s)	14.5	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			67.8%		ICU Level of Service	C
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗	↗		↗
Traffic Vol, veh/h	0	67	632	103	0	1225
Future Vol, veh/h	0	67	632	103	0	1225
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	250	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	8	0	0	6
Mvmt Flow	0	73	687	112	0	1332
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	687	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	450	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	450	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	14.5	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	450		-		
HCM Lane V/C Ratio	-	0.162		-		
HCM Control Delay (s)	-	14.5		-		
HCM Lane LOS	-	B		-		
HCM 95th %tile Q(veh)	-	0.6		-		

Lanes, Volumes, Timings
7: FM973 & Driveway 2B

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	138	43	691	25	111	1113
Future Volume (vph)	138	43	691	25	111	1113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		250	150	
Storage Lanes	1	1		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	1615	1759	1615	1805	1792
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1805	1615	1759	1615	1805	1792
Link Speed (mph)	30		55			55
Link Distance (ft)	223		672			545
Travel Time (s)	5.1		8.3			6.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Adj. Flow (vph)	150	47	751	27	121	1210
Shared Lane Traffic (%)						
Lane Group Flow (vph)	150	47	751	27	121	1210
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	72.9%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: FM973 & Driveway 2B

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	138	43	691	25	111	1113
Future Volume (Veh/h)	138	43	691	25	111	1113
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	150	47	751	27	121	1210
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)	4					
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1181					
pX, platoon unblocked						
vC, conflicting volume	2203	751			778	
vC1, stage 1 conf vol	751					
vC2, stage 2 conf vol	1452					
vCu, unblocked vol	2203	751			778	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	12	89			86	
cM capacity (veh/h)	171	414			848	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	197	751	27	121	1210	
Volume Left	150	0	0	121	0	
Volume Right	47	0	27	0	0	
cSH	219	1700	1700	848	1700	
Volume to Capacity	0.90	0.44	0.02	0.14	0.71	
Queue Length 95th (ft)	183	0	0	12	0	
Control Delay (s)	83.0	0.0	0.0	10.0	0.0	
Lane LOS	F			A		
Approach Delay (s)	83.0	0.0		0.9		
Approach LOS	F					
Intersection Summary						
Average Delay	7.6					
Intersection Capacity Utilization	72.9%			ICU Level of Service		C
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	11.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	138	43	691	25	111	1113
Future Vol, veh/h	138	43	691	25	111	1113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	250	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	8	0	0	6
Mvmt Flow	150	47	751	27	121	1210
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	2203	751	0	0	778	0
Stage 1	751	-	-	-	-	-
Stage 2	1452	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 50	414	-	-	848	-
Stage 1	470	-	-	-	-	-
Stage 2	217	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 43	414	-	-	848	-
Mov Cap-2 Maneuver	~ 137	-	-	-	-	-
Stage 1	470	-	-	-	-	-
Stage 2	186	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	131.9	0		0.9		
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	137	414	848	-
HCM Lane V/C Ratio	-	-	1.095	0.113	0.142	-
HCM Control Delay (s)	-	-	168.4	14.8	9.9	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	8.4	0.4	0.5	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Lanes, Volumes, Timings
8: FM973 & Taylor HS

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	90	643	12	207	1053
Future Volume (vph)	6	90	643	12	207	1053
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.873		0.998			
Flt Protected	0.997				0.950	
Satd. Flow (prot)	1654	0	1758	0	1805	1792
Flt Permitted	0.997				0.950	
Satd. Flow (perm)	1654	0	1758	0	1805	1792
Link Speed (mph)	30		65			65
Link Distance (ft)	376		460			672
Travel Time (s)	8.5		4.8			7.0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Adj. Flow (vph)	7	106	756	14	244	1239
Shared Lane Traffic (%)						
Lane Group Flow (vph)	113	0	770	0	244	1239
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	68.0%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

8: FM973 & Taylor HS

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	90	643	12	207	1053
Future Volume (Veh/h)	6	90	643	12	207	1053
Sign Control	Stop		Free		Free	Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	7	106	756	14	244	1239
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT			TWLT
Median storage veh			2			2
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2490	763			770	
vC1, stage 1 conf vol	763					
vC2, stage 2 conf vol	1727					
vCu, unblocked vol	2490	763			770	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	74			71	
cM capacity (veh/h)	108	408			854	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	113	770	244	1239		
Volume Left	7	0	244	0		
Volume Right	106	14	0	0		
cSH	348	1700	854	1700		
Volume to Capacity	0.32	0.45	0.29	0.73		
Queue Length 95th (ft)	34	0	30	0		
Control Delay (s)	20.3	0.0	10.9	0.0		
Lane LOS	C		B			
Approach Delay (s)	20.3	0.0	1.8			
Approach LOS	C					
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization			68.0%	ICU Level of Service	C	
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	90	643	12	207	1053
Future Vol, veh/h	6	90	643	12	207	1053
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	8	0	0	6
Mvmt Flow	7	106	756	14	244	1239
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	2490	763	0	0	770	0
Stage 1	763	-	-	-	-	-
Stage 2	1727	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	33	408	-	-	854	-
Stage 1	464	-	-	-	-	-
Stage 2	159	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	24	408	-	-	854	-
Mov Cap-2 Maneuver	90	-	-	-	-	-
Stage 1	464	-	-	-	-	-
Stage 2	114	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	21.2	0		1.8		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-	334	854	-	
HCM Lane V/C Ratio	-	-	0.338	0.285	-	
HCM Control Delay (s)	-	-	21.2	10.9	-	
HCM Lane LOS	-	-	C	B	-	
HCM 95th %tile Q(veh)	-	-	1.5	1.2	-	

Lanes, Volumes, Timings
9: FM973 & Streamwood

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	93	33	12	561	1018	39
Future Volume (vph)	93	33	12	561	1018	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			250
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.964					0.850
Flt Protected	0.965		0.950			
Satd. Flow (prot)	1767	0	1805	1759	1810	1615
Flt Permitted	0.965		0.950			
Satd. Flow (perm)	1767	0	1805	1759	1810	1615
Link Speed (mph)	30			65	65	
Link Distance (ft)	373			724	460	
Travel Time (s)	8.5			7.6	4.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	8%	5%	0%
Adj. Flow (vph)	103	37	13	623	1131	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	140	0	13	623	1131	43
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	67.4%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

9: FM973 & Streamwood

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	93	33	12	561	1018	39
Future Volume (Veh/h)	93	33	12	561	1018	39
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	103	37	13	623	1131	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1780	1131	1174			
vC1, stage 1 conf vol	1131					
vC2, stage 2 conf vol	649					
vCu, unblocked vol	1780	1131	1174			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	62	85	98			
cM capacity (veh/h)	271	250	602			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	140	13	623	1131	43	
Volume Left	103	13	0	0	0	
Volume Right	37	0	0	0	43	
cSH	265	602	1700	1700	1700	
Volume to Capacity	0.53	0.02	0.37	0.67	0.03	
Queue Length 95th (ft)	71	2	0	0	0	
Control Delay (s)	32.9	11.1	0.0	0.0	0.0	
Lane LOS	D	B				
Approach Delay (s)	32.9	0.2		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			67.4%	ICU Level of Service		C
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	93	33	12	561	1018	39
Future Vol, veh/h	93	33	12	561	1018	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	8	5	0
Mvmt Flow	103	37	13	623	1131	43
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1780	1131	1174	0	-	0
Stage 1	1131	-	-	-	-	-
Stage 2	649	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	~ 91	250	602	-	-	-
Stage 1	311	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 89	250	602	-	-	-
Mov Cap-2 Maneuver	213	-	-	-	-	-
Stage 1	304	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	45.4		0.2		0	
HCM LOS	E					
Minor Lane/Major Mvmt	NBL		NBT	EBLn1	SBT	SBR
Capacity (veh/h)	602		-	222	-	-
HCM Lane V/C Ratio	0.022		-	0.631	-	-
HCM Control Delay (s)	11.1		-	45.4	-	-
HCM Lane LOS	B		-	E	-	-
HCM 95th %tile Q(veh)	0.1		-	3.8	-	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	0	5	17	0	177	2	383	39	352	695	6
Future Volume (vph)	12	0	5	17	0	177	2	383	39	352	695	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	400		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.877			0.986			0.999	
Flt Protected		0.966			0.996		0.950			0.950		
Satd. Flow (prot)	0	1760	0	0	1660	0	1805	1676	0	1805	1711	0
Flt Permitted		0.966			0.996		0.950			0.950		
Satd. Flow (perm)	0	1760	0	0	1660	0	1805	1676	0	1805	1711	0
Link Speed (mph)		30			30			65			65	
Link Distance (ft)		574			560			730			724	
Travel Time (s)		13.0			12.7			7.7			7.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%	11%	0%
Adj. Flow (vph)	14	0	6	19	0	201	2	435	44	400	790	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	0	0	220	0	2	479	0	400	797	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	63.7%											
Analysis Period (min)	15											
	ICU Level of Service B											

HCM Unsignalized Intersection Capacity Analysis

10: FM973 & Wesley Miller

2025 AM Peak Hour
Phase 1 Build-Out Year w/Development

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	12	0	5	17	0	177	2	383	39	352	695	6	
Future Volume (Veh/h)	12	0	5	17	0	177	2	383	39	352	695	6	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
Hourly flow rate (vph)	14	0	6	19	0	201	2	435	44	400	790	7	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)													
Median type							TWLTL			TWLTL			
Median storage veh							2			2			
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	2234	2076	794	2057	2058	457	797				479		
vC1, stage 1 conf vol	1594	1594		461	461								
vC2, stage 2 conf vol	640	483		1596	1597								
vCu, unblocked vol	2234	2076	794	2057	2058	457	797				479		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5								
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2		
p0 queue free %	5	100	98	76	100	67	100				63		
cM capacity (veh/h)	15	91	391	80	101	608	834				1094		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2							
Volume Total	20	220	2	479	400	797							
Volume Left	14	19	2	0	400	0							
Volume Right	6	201	0	44	0	7							
cSH	21	388	834	1700	1094	1700							
Volume to Capacity	0.97	0.57	0.00	0.28	0.37	0.47							
Queue Length 95th (ft)	67	85	0	0	42	0							
Control Delay (s)	446.3	25.8	9.3	0.0	10.2	0.0							
Lane LOS	F	D	A		B								
Approach Delay (s)	446.3	25.8	0.0		3.4								
Approach LOS	F	D											
Intersection Summary													
Average Delay				9.7									
Intersection Capacity Utilization				63.7%	ICU Level of Service				B				
Analysis Period (min)				15									

Intersection												
Int Delay, s/veh	17.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Vol, veh/h	12	0	5	17	0	177	2	383	39	352	695	6
Future Vol, veh/h	12	0	5	17	0	177	2	383	39	352	695	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	400	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	13	0	0	11	0
Mvmt Flow	14	0	6	19	0	201	2	435	44	400	790	7

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2156	2077	794	2058	2058	457	797	0	0	479	0	0
Stage 1	1594	1594	-	461	461	-	-	-	-	-	-	-
Stage 2	562	483	-	1597	1597	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	35	54	391	41	56	608	834	-	-	1094	-	-
Stage 1	136	168	-	584	569	-	-	-	-	-	-	-
Stage 2	515	556	-	135	168	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	17	34	391	29	35	608	834	-	-	1094	-	-
Mov Cap-2 Maneuver	17	34	-	29	35	-	-	-	-	-	-	-
Stage 1	136	107	-	583	568	-	-	-	-	-	-	-
Stage 2	344	555	-	84	107	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	348.3	106.2	0	3.4
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	834	-	-	24 221	1094	-	-
HCM Lane V/C Ratio	0.003	-	-	0.805 0.998	0.366	-	-
HCM Control Delay (s)	9.3	-	-	\$ 348.3 106.2	10.2	-	-
HCM Lane LOS	A	-	-	F F	B	-	-
HCM 95th %tile Q(veh)	0	-	-	2.4 9.1	1.7	-	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	0	793	290	192	439	2	450	0	380	0	0
Future Volume (vph)	8	0	793	290	192	439	2	450	0	380	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		0	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.999				0.850		
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1805	3471	1455	1719	3340	0	0	1703	1583	0	1900
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1805	3471	1455	1719	3340	0	0	1703	1583	0	1900
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				319						367		
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1070			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	4%	11%	5%	8%	0%	6%	0%	2%	0%	0%
Adj. Flow (vph)	9	0	871	319	211	482	2	495	0	418	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	871	319	211	484	0	0	495	418	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			0			0
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

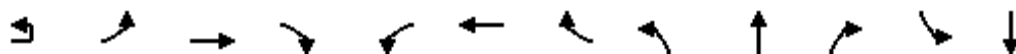
Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
Page 1

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.91
Heavy Vehicles (%)	0%
Adj. Flow (vph)	0
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases					2						8	4
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	7.0	7.0	10.0	10.0	7.0	10.0		8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	13.5	13.5	24.5	24.5	13.5	24.5		25.0	25.0	25.0	25.0	25.0
Total Split (s)	13.5	13.5	36.0	36.0	23.0	45.5		36.0	36.0	36.0	25.0	25.0
Total Split (%)	11.3%	11.3%	30.0%	30.0%	19.2%	37.9%		30.0%	30.0%	30.0%	20.8%	20.8%
Maximum Green (s)	7.0	7.0	29.5	29.5	16.5	39.0		29.0	29.0	29.0	18.0	18.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	
Total Lost Time (s)		6.5	6.5	6.5	6.5	6.5			7.0	7.0	7.0	
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)		7.0	29.5	29.5	15.9	49.2			29.0	29.0		
Actuated g/C Ratio		0.07	0.31	0.31	0.17	0.52			0.31	0.31		
v/c Ratio		0.07	0.80	0.47	0.73	0.28			0.95	0.56		
Control Delay		42.2	36.7	5.5	53.1	14.2			62.1	7.9		
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0	0.0		
Total Delay		42.2	36.7	5.5	53.1	14.2			62.1	7.9		
LOS		D	D	A	D	B			E	A		
Approach Delay			28.5			26.0			37.3			
Approach LOS			C			C			D			

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 94.4

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 30.7

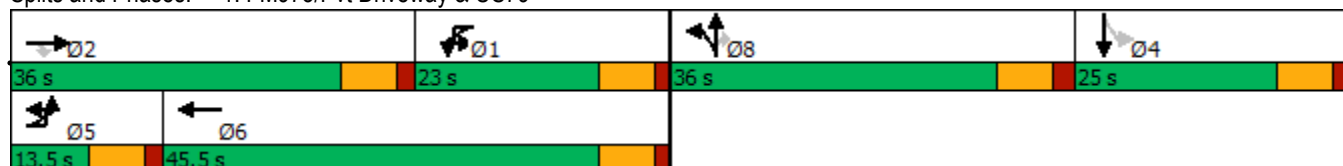
Intersection LOS: C

Intersection Capacity Utilization 74.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79



Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	Ø4
Protected Phases	5	2		1	6	8		4
Permitted Phases			2				8	
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	8.0	8.0	8.0
Minimum Split (s)	13.5	24.5	24.5	13.5	24.5	25.0	25.0	25.0
Total Split (s)	13.5	36.0	36.0	23.0	45.5	36.0	36.0	25.0
Total Split (%)	11.3%	30.0%	30.0%	19.2%	37.9%	30.0%	30.0%	21%
Maximum Green (s)	7.0	29.5	29.5	16.5	39.0	29.0	29.0	18.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	7.0	29.5	29.5	16.5	39.0	29.0	29.0	0.0
90th %ile Term Code	Max	Max	Max	Max	Hold	Max	Max	Skip
70th %ile Green (s)	0.0	29.5	29.5	16.5	52.5	29.0	29.0	0.0
70th %ile Term Code	Skip	Max	Max	Max	Hold	Max	Max	Skip
50th %ile Green (s)	0.0	29.5	29.5	16.5	52.5	29.0	29.0	0.0
50th %ile Term Code	Skip	Max	Max	Max	Hold	Max	Max	Skip
30th %ile Green (s)	0.0	29.5	29.5	16.5	52.5	29.0	29.0	0.0
30th %ile Term Code	Skip	Max	Max	Max	Hold	Max	Max	Skip
10th %ile Green (s)	0.0	29.5	29.5	13.5	49.5	29.0	29.0	0.0
10th %ile Term Code	Skip	Max	Max	Gap	Hold	Max	Max	Skip
Intersection Summary								
Cycle Length: 120								
Actuated Cycle Length: 94.4								
Control Type: Actuated-Uncoordinated								
90th %ile Actuated Cycle: 95								
70th %ile Actuated Cycle: 95								
50th %ile Actuated Cycle: 95								
30th %ile Actuated Cycle: 95								
10th %ile Actuated Cycle: 92								

Queues
1: FM973/Pvt Driveway & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

							
Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	9	871	319	211	484	495	418
v/c Ratio	0.07	0.80	0.47	0.73	0.28	0.95	0.56
Control Delay	42.2	36.7	5.5	53.1	14.2	62.1	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	36.7	5.5	53.1	14.2	62.1	7.9
Queue Length 50th (ft)	5	253	0	119	74	291	22
Queue Length 95th (ft)	20	328	60	m#216	m142	#491	103
Internal Link Dist (ft)		854			990	556	
Turn Bay Length (ft)	100		615	880			
Base Capacity (vph)	134	1084	673	300	1741	522	740
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.80	0.47	0.70	0.28	0.95	0.56
Intersection Summary							
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.							
m Volume for 95th percentile queue is metered by upstream signal.							

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	0	793	290	192	439	2	450	0	380	0	0
Future Volume (vph)	8	0	793	290	192	439	2	450	0	380	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5	6.5	6.5	6.5			7.0	7.0		
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95			1.00	1.00		
Frt		1.00	1.00	0.85	1.00	1.00			1.00	0.85		
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00		
Satd. Flow (prot)		1805	3471	1455	1719	3342			1703	1583		
Flt Permitted		0.95	1.00	1.00	0.95	1.00			0.95	1.00		
Satd. Flow (perm)		1805	3471	1455	1719	3342			1703	1583		
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	9	0	871	319	211	482	2	495	0	418	0	0
RTOR Reduction (vph)	0	0	0	225	0	0	0	0	0	260	0	0
Lane Group Flow (vph)	0	9	871	94	211	484	0	0	495	158	0	0
Heavy Vehicles (%)	0%	0%	4%	11%	5%	8%	0%	6%	0%	2%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		1.4	29.5	29.5	21.1	49.2			29.0	29.0		
Effective Green, g (s)		1.4	29.5	29.5	21.1	49.2			29.0	29.0		
Actuated g/C Ratio		0.01	0.30	0.30	0.21	0.49			0.29	0.29		
Clearance Time (s)		6.5	6.5	6.5	6.5	6.5			7.0	7.0		
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0			3.0	3.0		
Lane Grp Cap (vph)		25	1028	430	364	1650			495	460		
v/s Ratio Prot		0.00	c0.25		c0.12	0.14			c0.29			
v/s Ratio Perm				0.06						0.10		
v/c Ratio		0.36	0.85	0.22	0.58	0.29			1.00	0.34		
Uniform Delay, d1		48.7	32.9	26.4	35.3	14.9			35.3	27.8		
Progression Factor		1.00	1.00	1.00	1.00	1.01			1.00	1.00		
Incremental Delay, d2		8.7	6.6	0.3	2.2	0.1			40.5	0.4		
Delay (s)		57.3	39.5	26.6	37.4	15.2			75.8	28.2		
Level of Service		E	D	C	D	B			E	C		
Approach Delay (s)			36.2			21.9			54.0			0.0
Approach LOS			D			C			D			A
Intersection Summary												
HCM 2000 Control Delay			38.5			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			99.6			Sum of lost time (s)			27.0			
Intersection Capacity Utilization			74.2%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
3: Driveway 2A & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (vph)	972	246	0	697	0	219
Future Volume (vph)	972	246	0	697	0	219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	0		0	0
Storage Lanes		1	0		0	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.865
Flt Protected						
Satd. Flow (prot)	3471	1615	0	3374	0	1644
Flt Permitted						
Satd. Flow (perm)	3471	1615	0	3374	0	1644
Link Speed (mph)	65			65	30	
Link Distance (ft)	1070			739	365	
Travel Time (s)	11.2			7.8	8.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	0%	0%	7%	0%	0%
Adj. Flow (vph)	1057	267	0	758	0	238
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1057	267	0	758	0	238
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	60			60	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 47.1%				ICU Level of Service A		
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis

3: Driveway 2A & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (veh/h)	972	246	0	697	0	219
Future Volume (Veh/h)	972	246	0	697	0	219
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1057	267	0	758	0	238
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised		Raised			
Median storage veh)	2		2			
Upstream signal (ft)	1070					
pX, platoon unblocked			0.79		0.79	0.79
vC, conflicting volume			1324		1436	528
vC1, stage 1 conf vol					1057	
vC2, stage 2 conf vol					379	
vCu, unblocked vol			884		1025	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	72
cM capacity (veh/h)			613		388	864
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	528	528	267	379	379	238
Volume Left	0	0	0	0	0	0
Volume Right	0	0	267	0	0	238
cSH	1700	1700	1700	1700	1700	864
Volume to Capacity	0.31	0.31	0.16	0.22	0.22	0.28
Queue Length 95th (ft)	0	0	0	0	0	28
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.7
Lane LOS						B
Approach Delay (s)	0.0				0.0	10.7
Approach LOS						B
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			47.1%	ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
3: Driveway 2A & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

Intersection						
Int Delay, s/veh	1.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Vol, veh/h	972	246	0	697	0	219
Future Vol, veh/h	972	246	0	697	0	219
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	0	0	7	0	0
Mvmt Flow	1057	267	0	758	0	238
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	529
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	499
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	499
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		18.6	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	499	-	-	-		
HCM Lane V/C Ratio	0.477	-	-	-		
HCM Control Delay (s)	18.6	-	-	-		
HCM Lane LOS	C	-	-	-		
HCM 95th %tile Q(veh)	2.5	-	-	-		

Lanes, Volumes, Timings
4: US79 & Crossover

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

								
Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	47	0	1149	0	658	0	0	0
Future Volume (vph)	47	0	1149	0	658	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		100		0	0	0
Storage Lanes		1		1		0	1	0
Taper Length (ft)		100		100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frt								
Flt Protected		0.950						
Satd. Flow (prot)	0	1805	3471	1900	3374	0	1900	0
Flt Permitted		0.950						
Satd. Flow (perm)	0	1805	3471	1900	3374	0	1900	0
Link Speed (mph)			65		65		30	
Link Distance (ft)			739		504		317	
Travel Time (s)			7.8		5.3		7.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	4%	0%	7%	0%	0%	0%
Adj. Flow (vph)	51	0	1235	0	708	0	0	0
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	51	1235	0	708	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			60		60		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	
Intersection Summary								
Area Type:	Other							
Control Type:	Unsignalized							
Intersection Capacity Utilization	41.8%				ICU Level of Service A			
Analysis Period (min)	15							

HCM Unsignalized Intersection Capacity Analysis

4: US79 & Crossover

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development



Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔↔	↔	↔↔		↔	
Traffic Volume (veh/h)	47	0	1149	0	658	0	0	0
Future Volume (Veh/h)	47	0	1149	0	658	0	0	0
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	1235	0	708	0	0	0
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage veh			2		2			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	708		0			1326	354
vC1, stage 1 conf vol							708	
vC2, stage 2 conf vol							618	
vCu, unblocked vol	0	708		0			1326	354
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	100		0			100	100
cM capacity (veh/h)	0	900		0			360	648
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	
Volume Total	0	618	618	354	354	0	0	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.36	0.36	0.21	0.21	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lane LOS							A	
Approach Delay (s)	0.0			0.0			0.0	
Approach LOS							A	
Intersection Summary								
Average Delay			0.0					
Intersection Capacity Utilization			41.8%		ICU Level of Service		A	
Analysis Period (min)			15					

Intersection								
Int Delay, s/veh	0.3							
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	47	0	1149	0	658	0	0	0
Future Vol, veh/h	47	0	1149	0	658	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	100	-	100	-	-	0	-
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	4	0	7	0	0	0
Mvmt Flow	51	0	1235	0	708	0	0	0
Major/Minor	Major1		Major2		Minor2			
Conflicting Flow All	708	708	0	1235	-	0	1428	354
Stage 1	-	-	-	-	-	-	708	-
Stage 2	-	-	-	-	-	-	720	-
Critical Hdwy	6.4	4.1	-	6.4	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	2.2	-	2.5	-	-	3.5	3.3
Pot Cap-1 Maneuver	518	900	-	239	-	0	128	648
Stage 1	-	-	-	-	-	0	455	-
Stage 2	-	-	-	-	-	0	448	-
Platoon blocked, %			-		-			
Mov Cap-1 Maneuver	518	518	-	239	-	-	115	648
Mov Cap-2 Maneuver	-	-	-	-	-	-	115	-
Stage 1	-	-	-	-	-	-	410	-
Stage 2	-	-	-	-	-	-	448	-
Approach	EB		WB		SB			
HCM Control Delay, s	0.5		0		0			
HCM LOS					A			
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	SBLn1			
Capacity (veh/h)	518	-	239	-	-			
HCM Lane V/C Ratio	0.098	-	-	-	-			
HCM Control Delay (s)	12.7	-	0	-	0			
HCM Lane LOS	B	-	A	-	A			
HCM 95th %tile Q(veh)	0.3	-	0	-	-			

Lanes, Volumes, Timings
5: S Rio Grande & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	5	1151	29	5	612	0	20	3	3	1	7	2
Future Volume (vph)	5	1151	29	5	612	0	20	3	3	1	7	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		350	175		330	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.986			0.975	
Flt Protected	0.950			0.950				0.962			0.995	
Satd. Flow (prot)	1805	3539	1615	1805	3374	1900	0	1802	0	0	1843	0
Flt Permitted	0.950			0.950				0.962			0.995	
Satd. Flow (perm)	1805	3539	1615	1805	3374	1900	0	1802	0	0	1843	0
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		572			566			552			557	
Travel Time (s)		6.0			5.9			12.5			12.7	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	6	1308	33	6	695	0	23	3	3	1	8	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	1308	33	6	695	0	0	29	0	0	11	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		60			60			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	45.4%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

5: S Rio Grande & US79

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1151	29	5	612	0	20	3	3	1	7	2
Future Volume (Veh/h)	5	1151	29	5	612	0	20	3	3	1	7	2
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	6	1308	33	6	695	0	23	3	3	1	8	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	Raised			Raised								
Median storage (veh)	2			2								
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	695			1308			1684	2027	654	1374	2027	348
vC1, stage 1 conf vol							1320	1320		707	707	
vC2, stage 2 conf vol							364	707		668	1320	
vCu, unblocked vol	695			1308			1684	2027	654	1374	2027	348
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			86	99	99	100	96	100
cM capacity (veh/h)	910			536			160	201	414	292	197	654
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	6	654	654	33	6	348	348	0	29	11		
Volume Left	6	0	0	0	6	0	0	0	23	1		
Volume Right	0	0	0	33	0	0	0	0	3	2		
cSH	910	1700	1700	1700	536	1700	1700	1700	175	234		
Volume to Capacity	0.01	0.38	0.38	0.02	0.01	0.20	0.20	0.00	0.17	0.05		
Queue Length 95th (ft)	0	0	0	0	1	0	0	0	14	4		
Control Delay (s)	9.0	0.0	0.0	0.0	11.8	0.0	0.0	0.0	29.6	21.2		
Lane LOS	A				B				D	C		
Approach Delay (s)	0.0				0.1				29.6	21.2		
Approach LOS									D	C		
Intersection Summary												
Average Delay	0.6											
Intersection Capacity Utilization	45.4%			ICU Level of Service			A					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1151	29	5	612	0	20	3	3	1	7	2
Future Vol, veh/h	5	1151	29	5	612	0	20	3	3	1	7	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	Free
Storage Length	200	-	350	175	-	330	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	2	0	0	7	0	0	0	0	0	0	0
Mvmt Flow	6	1308	33	6	695	0	23	3	3	1	8	2
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	695	0	0	1308	0	0	1684	2027	-	1375	2027	-
Stage 1	-	-	-	-	-	-	1320	1320	-	707	707	-
Stage 2	-	-	-	-	-	-	364	707	-	668	1320	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	-	7.5	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	-	3.5	4	-
Pot Cap-1 Maneuver	910	-	-	536	-	-	63	58	0	106	58	0
Stage 1	-	-	-	-	-	-	168	228	0	397	441	0
Stage 2	-	-	-	-	-	-	633	441	0	419	228	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	910	-	-	536	-	-	56	57	-	100	57	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	56	57	-	100	57	-
Stage 1	-	-	-	-	-	-	167	226	-	394	436	-
Stage 2	-	-	-	-	-	-	614	436	-	410	226	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1								
HCM LOS							-			-		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	910	-	-	536	-	-	-				
HCM Lane V/C Ratio	-	0.006	-	-	0.011	-	-	-				
HCM Control Delay (s)	-	9	-	-	11.8	-	-	-				
HCM Lane LOS	-	A	-	-	B	-	-	-				
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-				

Lanes, Volumes, Timings
6: FM973 & Driveway 1B

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	65	766	109	0	500
Future Volume (vph)	0	65	766	109	0	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		250	100	
Storage Lanes	0	0		1	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865		0.850		
Flt Protected						
Satd. Flow (prot)	0	1644	1827	1615	0	1712
Flt Permitted						
Satd. Flow (perm)	0	1644	1827	1615	0	1712
Link Speed (mph)	30		55			55
Link Distance (ft)	429		545			636
Travel Time (s)	9.8		6.8			7.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%
Adj. Flow (vph)	0	71	833	118	0	543
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	71	833	118	0	543
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	Yes		Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	51.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: FM973 & Driveway 1B

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	65	766	109	0	500
Future Volume (Veh/h)	0	65	766	109	0	500
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	71	833	118	0	543
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)					636	
pX, platoon unblocked						
vC, conflicting volume	1376	833			951	
vC1, stage 1 conf vol	833					
vC2, stage 2 conf vol	543					
vCu, unblocked vol	1376	833			951	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	81			100	
cM capacity (veh/h)	368	372			730	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1		
Volume Total	71	833	118	543		
Volume Left	0	0	0	0		
Volume Right	71	0	118	0		
cSH	372	1700	1700	1700		
Volume to Capacity	0.19	0.49	0.07	0.32		
Queue Length 95th (ft)	17	0	0	0		
Control Delay (s)	17.0	0.0	0.0	0.0		
Lane LOS	C					
Approach Delay (s)	17.0	0.0		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			51.0%		ICU Level of Service	A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗	↗		↗
Traffic Vol, veh/h	0	65	766	109	0	500
Future Vol, veh/h	0	65	766	109	0	500
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	250	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	0	0	11
Mvmt Flow	0	71	833	118	0	543
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	833	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	372	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	372	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	16.9	0	0			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	-	372	-		
HCM Lane V/C Ratio	-	-	0.19	-		
HCM Control Delay (s)	-	-	16.9	-		
HCM Lane LOS	-	-	C	-		
HCM 95th %tile Q(veh)	-	-	0.7	-		

Lanes, Volumes, Timings
7: FM973 & Driveway 2B

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	98	35	840	17	72	428
Future Volume (vph)	98	35	840	17	72	428
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		250	150	
Storage Lanes	1	1		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	1615	1827	1615	1805	1712
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1805	1615	1827	1615	1805	1712
Link Speed (mph)	30		55			55
Link Distance (ft)	223		672			545
Travel Time (s)	5.1		8.3			6.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%
Adj. Flow (vph)	107	38	913	18	78	465
Shared Lane Traffic (%)						
Lane Group Flow (vph)	107	38	913	18	78	465
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	63.6%			ICU Level of Service B		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: FM973 & Driveway 2B

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	98	35	840	17	72	428
Future Volume (Veh/h)	98	35	840	17	72	428
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	107	38	913	18	78	465
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		4				
Median type			TWLT			TWLT
Median storage (veh)			2			2
Upstream signal (ft)						1181
pX, platoon unblocked						
vC, conflicting volume	1534	913			931	
vC1, stage 1 conf vol	913					
vC2, stage 2 conf vol	621					
vCu, unblocked vol	1534	913			931	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	66	89			90	
cM capacity (veh/h)	318	334			743	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	145	913	18	78	465	
Volume Left	107	0	0	78	0	
Volume Right	38	0	18	0	0	
cSH	431	1700	1700	743	1700	
Volume to Capacity	0.34	0.54	0.01	0.10	0.27	
Queue Length 95th (ft)	37	0	0	9	0	
Control Delay (s)	20.7	0.0	0.0	10.4	0.0	
Lane LOS	C			B		
Approach Delay (s)	20.7	0.0		1.5		
Approach LOS	C					
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			63.6%		ICU Level of Service	B
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	2.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	98	35	840	17	72	428
Future Vol, veh/h	98	35	840	17	72	428
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	250	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	0	0	11
Mvmt Flow	107	38	913	18	78	465
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1534	913	0	0	931	0
Stage 1	913	-	-	-	-	-
Stage 2	621	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	129	334	-	-	743	-
Stage 1	395	-	-	-	-	-
Stage 2	540	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	115	334	-	-	743	-
Mov Cap-2 Maneuver	250	-	-	-	-	-
Stage 1	395	-	-	-	-	-
Stage 2	483	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	26.4	0	1.5			
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 250 334	743	-		
HCM Lane V/C Ratio	-	- 0.426 0.114	0.105	-		
HCM Control Delay (s)	-	- 29.7 17.2	10.4	-		
HCM Lane LOS	-	- D C	B	-		
HCM 95th %tile Q(veh)	-	- 2 0.4	0.4	-		

Lanes, Volumes, Timings
8: FM973 & Taylor HS

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	8	26	836	4	12	534
Future Volume (vph)	8	26	836	4	12	534
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.896		0.999			
Flt Protected	0.989				0.950	
Satd. Flow (prot)	1684	0	1825	0	1805	1712
Flt Permitted	0.989				0.950	
Satd. Flow (perm)	1684	0	1825	0	1805	1712
Link Speed (mph)	30		65			65
Link Distance (ft)	376		460			672
Travel Time (s)	8.5		4.8			7.0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%
Adj. Flow (vph)	8	27	862	4	12	551
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	0	866	0	12	551
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	54.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

8: FM973 & Taylor HS

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	26	836	4	12	534
Future Volume (Veh/h)	8	26	836	4	12	534
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	8	27	862	4	12	551
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1439	864			866	
vC1, stage 1 conf vol	864					
vC2, stage 2 conf vol	575					
vCu, unblocked vol	1439	864			866	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	92			98	
cM capacity (veh/h)	352	357			786	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	35	866	12	551		
Volume Left	8	0	12	0		
Volume Right	27	4	0	0		
cSH	356	1700	786	1700		
Volume to Capacity	0.10	0.51	0.02	0.32		
Queue Length 95th (ft)	8	0	1	0		
Control Delay (s)	16.2	0.0	9.7	0.0		
Lane LOS	C		A			
Approach Delay (s)	16.2	0.0	0.2			
Approach LOS	C					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			54.2%		ICU Level of Service	A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	26	836	4	12	534
Future Vol, veh/h	8	26	836	4	12	534
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	4	0	0	11
Mvmt Flow	8	27	862	4	12	551

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1439	864	0	0	866
Stage 1	864	-	-	-	-
Stage 2	575	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	148	357	-	-	786
Stage 1	416	-	-	-	-
Stage 2	567	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	146	357	-	-	786
Mov Cap-2 Maneuver	282	-	-	-	-
Stage 1	416	-	-	-	-
Stage 2	558	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	336	786
HCM Lane V/C Ratio	-	-	0.104	0.016
HCM Control Delay (s)	-	-	17	9.7
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.3	0

Lanes, Volumes, Timings
9: FM973 & Streamwood

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	62	22	38	773	448	97
Future Volume (vph)	62	22	38	773	448	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			250
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.964					0.850
Flt Protected	0.964		0.950			
Satd. Flow (prot)	1766	0	1805	1827	1696	1615
Flt Permitted	0.964		0.950			
Satd. Flow (perm)	1766	0	1805	1827	1696	1615
Link Speed (mph)	30			65	65	
Link Distance (ft)	373			724	460	
Travel Time (s)	8.5			7.6	4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	4%	12%	0%
Adj. Flow (vph)	67	24	41	840	487	105
Shared Lane Traffic (%)						
Lane Group Flow (vph)	91	0	41	840	487	105
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	52.1%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

9: FM973 & Streamwood

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	62	22	38	773	448	97
Future Volume (Veh/h)	62	22	38	773	448	97
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	67	24	41	840	487	105
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLT	TWLT	
Median storage veh				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1409	487	592			
vC1, stage 1 conf vol	487					
vC2, stage 2 conf vol	922					
vCu, unblocked vol	1409	487	592			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	80	96	96			
cM capacity (veh/h)	336	585	994			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	91	41	840	487	105	
Volume Left	67	41	0	0	0	
Volume Right	24	0	0	0	105	
cSH	378	994	1700	1700	1700	
Volume to Capacity	0.24	0.04	0.49	0.29	0.06	
Queue Length 95th (ft)	23	3	0	0	0	
Control Delay (s)	17.5	8.8	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	17.5	0.4		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay	1.2					
Intersection Capacity Utilization	52.1%			ICU Level of Service		A
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	62	22	38	773	448	97
Future Vol, veh/h	62	22	38	773	448	97
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	4	12	0
Mvmt Flow	67	24	41	840	487	105

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1409	487	592	0	-	0
Stage 1	487	-	-	-	-	-
Stage 2	922	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	154	585	994	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	391	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	148	585	994	-	-	-
Mov Cap-2 Maneuver	279	-	-	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	391	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.5	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	994	-	323	-	-
HCM Lane V/C Ratio	0.042	-	0.283	-	-
HCM Control Delay (s)	8.8	-	20.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.1	-	-

Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	0	4	5	0	14	4	786	0	2	451	13
Future Volume (vph)	8	0	4	5	0	14	4	786	0	2	451	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	400		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.958			0.899						0.996	
Flt Protected		0.967			0.988		0.950			0.950		
Satd. Flow (prot)	0	1760	0	0	1688	0	1805	1827	0	1805	1710	0
Flt Permitted		0.967			0.988		0.950			0.950		
Satd. Flow (perm)	0	1760	0	0	1688	0	1805	1827	0	1805	1710	0
Link Speed (mph)		30			30			65			65	
Link Distance (ft)		574			560			730			724	
Travel Time (s)		13.0			12.7			7.7			7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	11%	0%
Adj. Flow (vph)	9	0	4	5	0	15	4	854	0	2	490	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	13	0	0	20	0	4	854	0	2	504	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	51.4%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis

10: FM973 & Wesley Miller

2025 PM Peak Hour
Phase 1 Build-Out Year w/Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	0	4	5	0	14	4	786	0	2	451	13
Future Volume (Veh/h)	8	0	4	5	0	14	4	786	0	2	451	13
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	0	4	5	0	15	4	854	0	2	490	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							TWLTL			TWLTL		
Median storage veh							2			2		
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1378	1363	497	1360	1370	854	504				854	
vC1, stage 1 conf vol	501	501		862	862							
vC2, stage 2 conf vol	877	862		498	508							
vCu, unblocked vol	1378	1363	497	1360	1370	854	504				854	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	97	100	99	98	100	96	100				100	
cM capacity (veh/h)	293	326	577	308	326	361	1071				794	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	13	20	4	854	2	504						
Volume Left	9	5	4	0	2	0						
Volume Right	4	15	0	0	0	14						
cSH	345	347	1071	1700	794	1700						
Volume to Capacity	0.04	0.06	0.00	0.50	0.00	0.30						
Queue Length 95th (ft)	3	5	0	0	0	0						
Control Delay (s)	15.8	16.0	8.4	0.0	9.5	0.0						
Lane LOS	C	C	A		A							
Approach Delay (s)	15.8	16.0	0.0		0.0							
Approach LOS	C	C										
Intersection Summary												
Average Delay				0.4								
Intersection Capacity Utilization				51.4%	ICU Level of Service				A			
Analysis Period (min)				15								

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	8	0	4	5	0	14	4	786	0	2	451	13
Future Vol, veh/h	8	0	4	5	0	14	4	786	0	2	451	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	400	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	4	0	0	11	0
Mvmt Flow	9	0	4	5	0	15	4	854	0	2	490	14

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1371	1363	497	1365	1370	854	504	0	0	854	0	0
Stage 1	501	501	-	862	862	-	-	-	-	-	-	-
Stage 2	870	862	-	503	508	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	125	149	577	126	148	361	1071	-	-	794	-	-
Stage 1	556	546	-	353	375	-	-	-	-	-	-	-
Stage 2	349	375	-	555	542	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	119	148	577	124	147	361	1071	-	-	794	-	-
Mov Cap-2 Maneuver	119	148	-	124	147	-	-	-	-	-	-	-
Stage 1	554	544	-	352	374	-	-	-	-	-	-	-
Stage 2	333	374	-	549	540	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	29.2		21.4		0		0	
HCM LOS	D		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1071	-	-	162 240	794	-	-
HCM Lane V/C Ratio	0.004	-	-	0.081 0.086	0.003	-	-
HCM Control Delay (s)	8.4	-	-	29.2 21.4	9.5	-	-
HCM Lane LOS	A	-	-	D C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3 0.3	0	-	-

Appendix D. Traffic Simulation Output

- Phase 1 Buildout Year (2025) Projected Conditions with Development, AM & PM
 - Mitigation:
 - With Traffic Signal at FM 973 at Driveway 2B
 - With Traffic Signal at FM 973 at Wesley Miller Lane
 - With Existing Timings at FM 973 at US 79

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	0	529	728	470	602	2	509	0	190	0	0
Future Volume (vph)	7	0	529	728	470	602	2	509	0	190	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		0	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850						0.850		0.865
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1805	3312	1553	1719	3375	0	0	1671	1568	0	1644
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1805	3312	1553	1719	3375	0	0	1671	1568	0	1644
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				754						143		289
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1072			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Adj. Flow (vph)	7	0	563	774	500	640	2	541	0	202	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	7	563	774	500	642	0	0	541	202	0	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			0			0
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.94
Heavy Vehicles (%)	0%
Adj. Flow (vph)	1
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	15.0	15.0	5.0	15.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	16.0	21.0	21.0	11.0	21.0		12.0	12.0	12.0	11.0	11.0
Total Split (s)	31.0	31.0	61.0	61.0	31.0	61.0		57.0	57.0	57.0	11.0	11.0
Total Split (%)	19.4%	19.4%	38.1%	38.1%	19.4%	38.1%		35.6%	35.6%	35.6%	6.9%	6.9%
Maximum Green (s)	25.0	25.0	55.0	55.0	25.0	55.0		50.0	50.0	50.0	5.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0	2.0	2.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)		10.1	36.4	36.4	25.3	65.0			50.5	50.5		5.1
Actuated g/C Ratio		0.08	0.27	0.27	0.19	0.49			0.38	0.38		0.04
v/c Ratio		0.05	0.62	0.80	1.54	0.39			0.85	0.30		0.00
Control Delay		65.3	45.2	10.1	292.2	22.7			53.8	12.0		0.0
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Delay		65.3	45.2	10.1	292.2	22.7			53.8	12.0		0.0
LOS		E	D	B	F	C			D	B		A
Approach Delay			25.1			140.7			42.4			
Approach LOS			C			F			D			

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 133.2

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.54

Intersection Signal Delay: 69.9

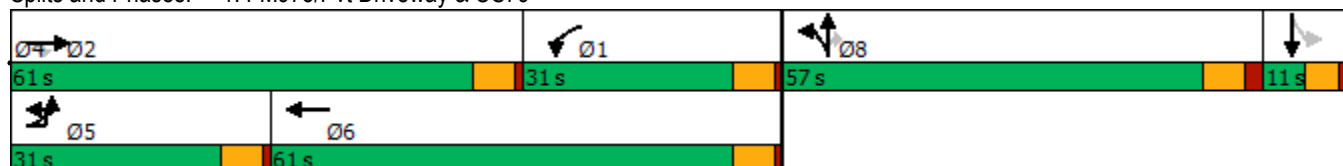
Intersection LOS: E

Intersection Capacity Utilization 91.4%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79



Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

								
Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Protected Phases	5	2		1	6	8		4
Permitted Phases			2				8	
Minimum Initial (s)	10.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0
Minimum Split (s)	16.0	21.0	21.0	11.0	21.0	12.0	12.0	11.0
Total Split (s)	31.0	61.0	61.0	31.0	61.0	57.0	57.0	11.0
Total Split (%)	19.4%	38.1%	38.1%	19.4%	38.1%	35.6%	35.6%	6.9%
Maximum Green (s)	25.0	55.0	55.0	25.0	55.0	50.0	50.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	10.0	55.0	55.0	25.0	70.0	50.0	50.0	5.0
90th %ile Term Code	Min	Max	Max	Max	Hold	Max	Max	Max
70th %ile Green (s)	0.0	40.8	40.8	25.0	71.8	50.0	50.0	0.0
70th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip
50th %ile Green (s)	0.0	35.2	35.2	25.0	66.2	50.0	50.0	0.0
50th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip
30th %ile Green (s)	0.0	29.8	29.8	25.0	60.8	50.0	50.0	0.0
30th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip
10th %ile Green (s)	0.0	24.4	24.4	25.0	55.4	50.0	50.0	0.0
10th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip
Intersection Summary								
Cycle Length: 160								
Actuated Cycle Length: 133.2								
Control Type: Actuated-Uncoordinated								
90th %ile Actuated Cycle: 160								
70th %ile Actuated Cycle: 134.8								
50th %ile Actuated Cycle: 129.2								
30th %ile Actuated Cycle: 123.8								
10th %ile Actuated Cycle: 118.4								

Queues
1: FM973/Pvt Driveway & US79

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

								
Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	7	563	774	500	642	541	202	1
v/c Ratio	0.05	0.62	0.80	1.54	0.39	0.85	0.30	0.00
Control Delay	65.3	45.2	10.1	292.2	22.7	53.8	12.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.3	45.2	10.1	292.2	22.7	53.8	12.0	0.0
Queue Length 50th (ft)	6	218	12	~586	160	407	31	0
Queue Length 95th (ft)	25	305	150	#1034	290	#843	115	0
Internal Link Dist (ft)		854			992	556		491
Turn Bay Length (ft)	100		615	880				
Base Capacity (vph)	342	1381	1087	325	1648	633	683	340
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.41	0.71	1.54	0.39	0.85	0.30	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	0	529	728	470	602	2	509	0	190	0	0
Future Volume (vph)	7	0	529	728	470	602	2	509	0	190	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95			1.00	1.00		1.00
Frt		1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.86
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00		1.00
Satd. Flow (prot)		1805	3312	1553	1719	3373			1671	1568		1644
Flt Permitted		0.95	1.00	1.00	0.95	1.00			0.95	1.00		1.00
Satd. Flow (perm)		1805	3312	1553	1719	3373			1671	1568		1644
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	7	0	563	774	500	640	2	541	0	202	0	0
RTOR Reduction (vph)	0	0	0	562	0	0	0	0	0	93	0	1
Lane Group Flow (vph)	0	7	563	212	500	642	0	0	541	109	0	0
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		1.7	36.4	36.4	30.4	65.1			50.5	50.5		0.8
Effective Green, g (s)		1.7	36.4	36.4	30.4	65.1			50.5	50.5		0.8
Actuated g/C Ratio		0.01	0.25	0.25	0.21	0.45			0.35	0.35		0.01
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0			3.0	3.0		2.0
Lane Grp Cap (vph)		21	842	395	365	1534			589	553		9
v/s Ratio Prot		0.00	c0.17		c0.29	0.19			c0.32			c0.00
v/s Ratio Perm				0.14						0.07		
v/c Ratio		0.33	0.67	0.54	1.37	0.42			0.92	0.20		0.00
Uniform Delay, d1		70.1	47.9	46.1	56.3	26.3			44.3	32.2		70.8
Progression Factor		1.00	1.00	1.00	0.98	0.97			1.00	1.00		1.00
Incremental Delay, d2		3.4	1.6	0.7	183.0	0.1			19.3	0.2		0.0
Delay (s)		73.5	49.5	46.8	238.4	25.7			63.6	32.4		70.8
Level of Service		E	D	D	F	C			E	C		E
Approach Delay (s)			48.1			118.8			55.1			70.8
Approach LOS			D			F			E			E
Intersection Summary												
HCM 2000 Control Delay			74.7			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			143.1			Sum of lost time (s)			25.0			
Intersection Capacity Utilization			91.4%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	1
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
3: Driveway 2A & US79

2025 AM Peak Hour (w/New Signalized)

Phase 1 Build-Out Year w/Development

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (vph)	501	280	0	1163	0	180
Future Volume (vph)	501	280	0	1163	0	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	0		0	0
Storage Lanes		1	0		0	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.865
Flt Protected						
Satd. Flow (prot)	3282	1615	0	3374	0	1644
Flt Permitted						
Satd. Flow (perm)	3282	1615	0	3374	0	1644
Link Speed (mph)	65			65	30	
Link Distance (ft)	1072			739	365	
Travel Time (s)	11.2			7.8	8.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	10%	0%	0%	7%	0%	0%
Adj. Flow (vph)	545	304	0	1264	0	196
Shared Lane Traffic (%)						
Lane Group Flow (vph)	545	304	0	1264	0	196
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	60			60	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

3: Driveway 2A & US79

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (veh/h)	501	280	0	1163	0	180
Future Volume (Veh/h)	501	280	0	1163	0	180
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	545	304	0	1264	0	196
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised		Raised			
Median storage veh)	2		2			
Upstream signal (ft)	1072					
pX, platoon unblocked			0.91		0.91	0.91
vC, conflicting volume			849		1177	272
vC1, stage 1 conf vol					545	
vC2, stage 2 conf vol					632	
vCu, unblocked vol			642		1002	10
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	80
cM capacity (veh/h)			869		433	981
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	272	272	304	632	632	196
Volume Left	0	0	0	0	0	0
Volume Right	0	0	304	0	0	196
cSH	1700	1700	1700	1700	1700	981
Volume to Capacity	0.16	0.16	0.18	0.37	0.37	0.20
Queue Length 95th (ft)	0	0	0	0	0	19
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.6
Lane LOS						A
Approach Delay (s)	0.0				0.0	9.6
Approach LOS						A
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			35.5%	ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
3: Driveway 2A & US79

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Vol, veh/h	501	280	0	1163	0	180
Future Vol, veh/h	501	280	0	1163	0	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	0	0	7	0	0
Mvmt Flow	545	304	0	1264	0	196
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	273
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	731
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	731
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		11.7	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	731	-	-	-		
HCM Lane V/C Ratio	0.268	-	-	-		
HCM Control Delay (s)	11.7	-	-	-		
HCM Lane LOS	B	-	-	-		
HCM 95th %tile Q(veh)	1.1	-	-	-		

Lanes, Volumes, Timings
4: US79 & Crossover

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

								
Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	61	0	621	0	1128	0	0	0
Future Volume (vph)	61	0	621	0	1128	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		100		0	0	0
Storage Lanes		1		1		0	1	0
Taper Length (ft)		100		100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frt								
Flt Protected		0.950						
Satd. Flow (prot)	0	1805	3282	1900	3374	0	1900	0
Flt Permitted		0.950						
Satd. Flow (perm)	0	1805	3282	1900	3374	0	1900	0
Link Speed (mph)			65		65		30	
Link Distance (ft)			739		504		317	
Travel Time (s)			7.8		5.3		7.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	10%	0%	7%	0%	0%	0%
Adj. Flow (vph)	67	0	682	0	1240	0	0	0
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	67	682	0	1240	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			60		60		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	
Intersection Summary								
Area Type:	Other							
Control Type: Unsignalized								
Intersection Capacity Utilization 41.2%				ICU Level of Service A				
Analysis Period (min) 15								

HCM Unsignalized Intersection Capacity Analysis 4: US79 & Crossover

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

								
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (veh/h)	61	0	621	0	1128	0	0	0
Future Volume (Veh/h)	61	0	621	0	1128	0	0	0
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	682	0	1240	0	0	0
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage veh			2		2			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	1240		0			1581	620
vC1, stage 1 conf vol							1240	
vC2, stage 2 conf vol							341	
vCu, unblocked vol	0	1240		0			1581	620
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	100		0			100	100
cM capacity (veh/h)	0	569		0			229	436
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	
Volume Total	0	341	341	620	620	0	0	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.20	0.20	0.36	0.36	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lane LOS							A	
Approach Delay (s)	0.0			0.0			0.0	
Approach LOS							A	
Intersection Summary								
Average Delay			0.0					
Intersection Capacity Utilization			41.2%		ICU Level of Service		A	
Analysis Period (min)			15					

Intersection								
Int Delay, s/veh	0.9							
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	61	0	621	0	1128	0	0	0
Future Vol, veh/h	61	0	621	0	1128	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	100	-	100	-	-	0	-
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	10	0	7	0	0	0
Mvmt Flow	67	0	682	0	1240	0	0	0
Major/Minor	Major1		Major2			Minor2		
Conflicting Flow All	1240	1240	0	682	-	0	1715	620
Stage 1	-	-	-	-	-	-	1240	-
Stage 2	-	-	-	-	-	-	475	-
Critical Hdwy	6.4	4.1	-	6.4	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	2.2	-	2.5	-	-	3.5	3.3
Pot Cap-1 Maneuver	237	569	-	538	-	0	83	436
Stage 1	-	-	-	-	-	0	240	-
Stage 2	-	-	-	-	-	0	597	-
Platoon blocked, %			-		-			
Mov Cap-1 Maneuver	237	237	-	538	-	-	60	436
Mov Cap-2 Maneuver	-	-	-	-	-	-	60	-
Stage 1	-	-	-	-	-	-	172	-
Stage 2	-	-	-	-	-	-	597	-
Approach	EB		WB			SB		
HCM Control Delay, s	2.3		0			0		
HCM LOS						A		
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	SBLn1			
Capacity (veh/h)	237	-	538	-	-			
HCM Lane V/C Ratio	0.283	-	-	-	-			
HCM Control Delay (s)	26.1	-	0	-	0			
HCM Lane LOS	D	-	A	-	A			
HCM 95th %tile Q(veh)	1.1	-	0	-	-			

Lanes, Volumes, Timings
5: S Rio Grande & US79

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	643	10	7	1069	1	33	7	1	3	3	5
Future Volume (vph)	7	643	10	7	1069	1	33	7	1	3	3	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		350	175		330	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.997			0.932	
Flt Protected	0.950			0.950				0.961			0.988	
Satd. Flow (prot)	1805	3539	1615	1805	3374	1615	0	1820	0	0	1750	0
Flt Permitted	0.950			0.950				0.961			0.988	
Satd. Flow (perm)	1805	3539	1615	1805	3374	1615	0	1820	0	0	1750	0
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		572			566			552			557	
Travel Time (s)		6.0			5.9			12.5			12.7	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	8	731	11	8	1215	1	38	8	1	3	3	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	731	11	8	1215	1	0	47	0	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		60			60			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	41.8%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis 5: S Rio Grande & US79

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	643	10	7	1069	1	33	7	1	3	3	5
Future Volume (Veh/h)	7	643	10	7	1069	1	33	7	1	3	3	5
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	8	731	11	8	1215	1	38	8	1	3	3	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	Raised			Raised								
Median storage veh	2			2								
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1215			731			1372	1978	366	1616	1978	608
vC1, stage 1 conf vol							747	747		1231	1231	
vC2, stage 2 conf vol							625	1231		386	747	
vCu, unblocked vol	1215			731			1372	1978	366	1616	1978	608
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			87	96	100	98	99	99
cM capacity (veh/h)	581			883			289	210	637	180	214	444
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	8	366	366	11	8	608	608	1	47	12		
Volume Left	8	0	0	0	8	0	0	0	38	3		
Volume Right	0	0	0	11	0	0	0	1	1	6		
cSH	581	1700	1700	1700	883	1700	1700	1700	275	271		
Volume to Capacity	0.01	0.21	0.21	0.01	0.01	0.36	0.36	0.00	0.17	0.04		
Queue Length 95th (ft)	1	0	0	0	1	0	0	0	15	3		
Control Delay (s)	11.3	0.0	0.0	0.0	9.1	0.0	0.0	0.0	20.8	18.9		
Lane LOS	B				A				C	C		
Approach Delay (s)	0.1				0.1				20.8	18.9		
Approach LOS									C	C		
Intersection Summary												
Average Delay	0.7											
Intersection Capacity Utilization	41.8%			ICU Level of Service						A		
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	643	10	7	1069	1	33	7	1	3	3	5
Future Vol, veh/h	7	643	10	7	1069	1	33	7	1	3	3	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	Free
Storage Length	200	-	350	175	-	330	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	2	0	0	7	0	0	0	0	0	0	0
Mvmt Flow	8	731	11	8	1215	1	38	8	1	3	3	6

Major/Minor	Major1			Major2			Minor1		Minor2			
Conflicting Flow All	1215	0	0	731	0	0	1372	1978	-	1617	1978	-
Stage 1	-	-	-	-	-	-	747	747	-	1231	1231	-
Stage 2	-	-	-	-	-	-	625	1231	-	386	747	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	-	7.5	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	-	3.5	4	-
Pot Cap-1 Maneuver	581	-	-	883	-	-	107	63	0	70	63	0
Stage 1	-	-	-	-	-	-	376	423	0	191	252	0
Stage 2	-	-	-	-	-	-	444	252	0	614	423	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	581	-	-	883	-	-	101	62	-	62	62	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	101	62	-	62	62	-
Stage 1	-	-	-	-	-	-	371	417	-	188	250	-
Stage 2	-	-	-	-	-	-	434	250	-	594	417	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	581	-	-	883	-	-	-
HCM Lane V/C Ratio	-	0.014	-	-	0.009	-	-	-
HCM Control Delay (s)	-	11.3	-	-	9.1	-	-	-
HCM Lane LOS	-	B	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

Lanes, Volumes, Timings
6: FM973 & Driveway 1B

2025 AM Peak Hour (w/New Signalized)

Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	67	632	103	0	1225
Future Volume (vph)	0	67	632	103	0	1225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		250	100	
Storage Lanes	0	0		1	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865		0.850		
Flt Protected						
Satd. Flow (prot)	0	1644	1759	1615	0	1792
Flt Permitted						
Satd. Flow (perm)	0	1644	1759	1615	0	1792
Link Speed (mph)	30		55			55
Link Distance (ft)	429		545			636
Travel Time (s)	9.8		6.8			7.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Adj. Flow (vph)	0	73	687	112	0	1332
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	73	687	112	0	1332
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	Yes		Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	67.8%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 6: FM973 & Driveway 1B

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	67	632	103	0	1225
Future Volume (Veh/h)	0	67	632	103	0	1225
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	73	687	112	0	1332
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)			545		636	
pX, platoon unblocked	0.64	0.64			0.64	
vC, conflicting volume	2019	687			799	
vC1, stage 1 conf vol	687					
vC2, stage 2 conf vol	1332					
vCu, unblocked vol	2308	235			409	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	86			100	
cM capacity (veh/h)	216	520			746	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1		
Volume Total	73	687	112	1332		
Volume Left	0	0	0	0		
Volume Right	73	0	112	0		
cSH	520	1700	1700	1700		
Volume to Capacity	0.14	0.40	0.07	0.78		
Queue Length 95th (ft)	12	0	0	0		
Control Delay (s)	13.0	0.0	0.0	0.0		
Lane LOS	B					
Approach Delay (s)	13.0	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			67.8%		ICU Level of Service	C
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗	↗		↗
Traffic Vol, veh/h	0	67	632	103	0	1225
Future Vol, veh/h	0	67	632	103	0	1225
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	250	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	8	0	0	6
Mvmt Flow	0	73	687	112	0	1332
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	687	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	450	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	450	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	14.5	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	450		-		
HCM Lane V/C Ratio	-	0.162		-		
HCM Control Delay (s)	-	14.5		-		
HCM Lane LOS	-	B		-		
HCM 95th %tile Q(veh)	-	0.6		-		

Lanes, Volumes, Timings
7: FM973 & Driveway 2B

2025 AM Peak Hour (w/New Signalized)

Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	138	43	691	25	111	1113
Future Volume (vph)	138	43	691	25	111	1113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		250	150	
Storage Lanes	1	1		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	1615	1759	1615	1805	1792
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1805	1615	1759	1615	1805	1792
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		47		27		
Link Speed (mph)	30		55			55
Link Distance (ft)	223		672			545
Travel Time (s)	5.1		8.3			6.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Adj. Flow (vph)	150	47	751	27	121	1210
Shared Lane Traffic (%)						
Lane Group Flow (vph)	150	47	751	27	121	1210
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	3	1	1	3
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	50	50	250	50	50	250
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	6	50	50	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			122			122
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Detector 3 Position(ft)			244			244
Detector 3 Size(ft)			6			6

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Lanes, Volumes, Timings
7: FM973 & Driveway 2B

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex			Cl+Ex		
Detector 3 Channel						
Detector 3 Extend (s)	0.0			0.0		
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.0	23.0	24.0	24.0	13.0	24.0
Total Split (s)	23.0	23.0	44.0	44.0	13.0	57.0
Total Split (%)	28.8%	28.8%	55.0%	55.0%	16.3%	71.3%
Maximum Green (s)	18.0	18.0	38.0	38.0	7.0	51.0
Yellow Time (s)	3.5	3.5	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	6.0
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Act Effect Green (s)	12.0	12.0	41.0	41.0	10.0	57.0
Actuated g/C Ratio	0.15	0.15	0.51	0.51	0.12	0.71
v/c Ratio	0.55	0.17	0.83	0.03	0.54	0.95
Control Delay	38.8	10.3	19.9	0.5	46.4	28.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	10.3	19.9	0.5	46.4	28.9
LOS	D	B	B	A	D	C
Approach Delay	32.0		19.2			30.5
Approach LOS	C		B			C

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 22 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 26.8

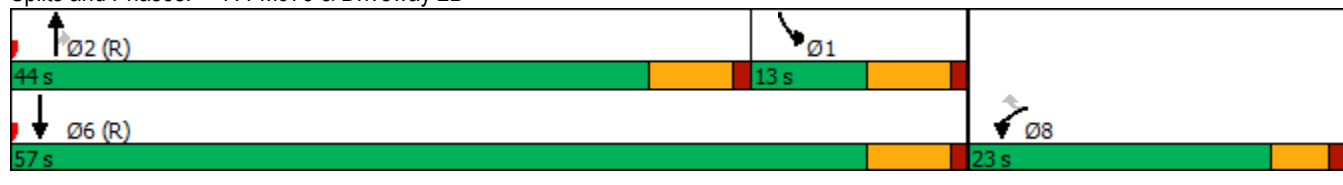
Intersection LOS: C

Intersection Capacity Utilization 75.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 7: FM973 & Driveway 2B



Scenario 1 5:57 pm 08/19/2022 Baseline

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Phasings
7: FM973 & Driveway 2B

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Minimum Initial (s)	8.0	8.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.0	23.0	24.0	24.0	13.0	24.0
Total Split (s)	23.0	23.0	44.0	44.0	13.0	57.0
Total Split (%)	28.8%	28.8%	55.0%	55.0%	16.3%	71.3%
Maximum Green (s)	18.0	18.0	38.0	38.0	7.0	51.0
Yellow Time (s)	3.5	3.5	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.0	1.0	1.0	1.0
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Walk Time (s)						
Flash Dont Walk (s)						
Pedestrian Calls (#/hr)						
90th %ile Green (s)	16.4	16.4	39.6	39.6	7.0	52.6
90th %ile Term Code	Gap	Gap	Coord	Coord	Max	Coord
70th %ile Green (s)	13.7	13.7	42.3	42.3	7.0	55.3
70th %ile Term Code	Gap	Gap	Coord	Coord	Max	Coord
50th %ile Green (s)	11.9	11.9	44.1	44.1	7.0	57.1
50th %ile Term Code	Gap	Gap	Coord	Coord	Max	Coord
30th %ile Green (s)	10.1	10.1	40.8	40.8	12.1	58.9
30th %ile Term Code	Gap	Gap	Coord	Coord	Hold	Coord
10th %ile Green (s)	8.0	8.0	38.2	38.2	16.8	61.0
10th %ile Term Code	Min	Min	Coord	Coord	Hold	Coord
Intersection Summary						
Cycle Length: 80						
Actuated Cycle Length: 80						
Offset: 22 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Green						
Control Type: Actuated-Coordinated						

Queues
7: FM973 & Driveway 2B

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	150	47	751	27	121	1210
v/c Ratio	0.55	0.17	0.83	0.03	0.54	0.95
Control Delay	38.8	10.3	19.9	0.5	46.4	28.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	10.3	19.9	0.5	46.4	28.9
Queue Length 50th (ft)	71	0	283	0	60	438
Queue Length 95th (ft)	120	27	#536	m0	#147	#893
Internal Link Dist (ft)	143		592			465
Turn Bay Length (ft)		100		250	150	
Base Capacity (vph)	406	399	901	840	225	1276
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.12	0.83	0.03	0.54	0.95
Intersection Summary						
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.						
m Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis

7: FM973 & Driveway 2B

2025 AM Peak Hour (w/New Signalized)

Phase 1 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	138	43	691	25	111	1113
Future Volume (vph)	138	43	691	25	111	1113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1615	1759	1615	1805	1792
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1805	1615	1759	1615	1805	1792
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	150	47	751	27	121	1210
RTOR Reduction (vph)	0	40	0	13	0	0
Lane Group Flow (vph)	150	7	751	14	121	1210
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	12.0	12.0	41.0	41.0	10.0	57.0
Effective Green, g (s)	12.0	12.0	41.0	41.0	10.0	57.0
Actuated g/C Ratio	0.15	0.15	0.51	0.51	0.12	0.71
Clearance Time (s)	5.0	5.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	270	242	901	827	225	1276
v/s Ratio Prot	c0.08		0.43		0.07	c0.68
v/s Ratio Perm		0.00		0.01		
v/c Ratio	0.56	0.03	0.83	0.02	0.54	0.95
Uniform Delay, d1	31.5	29.0	16.6	9.6	32.8	10.2
Progression Factor	1.00	1.00	0.61	0.11	1.00	1.00
Incremental Delay, d2	2.5	0.0	8.2	0.0	2.5	15.5
Delay (s)	34.0	29.1	18.3	1.0	35.3	25.7
Level of Service	C	C	B	A	D	C
Approach Delay (s)	32.8		17.7			26.6
Approach LOS	C		B			C
Intersection Summary						
HCM 2000 Control Delay			24.1		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.96			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	17.0
Intersection Capacity Utilization			75.4%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Signalized Intersection Capacity Analysis

7: FM973 & Driveway 2B

2025 AM Peak Hour (w/New Signalized)

Phase 1 Build-Out Year w/Development

									
Movement	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations									
Traffic Volume (veh/h)	138	43	691	25	111	1113			
Future Volume (veh/h)	138	43	691	25	111	1113			
Number	3	18	2	12	1	6			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00	1.00		1.00	1.00				
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No		No			No			
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1900	1900	1781	1900	1900	1811			
Adj Flow Rate, veh/h	150	47	751	27	121	1210			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	8	0	0	6			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	199	177	812	734	401	1363			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.11	0.11	0.46	0.46	0.22	0.75			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	40.2	33.4	38.4	12.1	26.4	16.3			
Ln Grp LOS	D	C	D	B	C	B			
Approach Vol, veh/h	197		778			1331			
Approach Delay, s/veh	38.6		37.5			17.2			
Approach LOS	D		D			B			
Timer:		1	2	3	4	5	6	7	8
Assigned Phs		2	1	8			6		
Case No		7.0	2.0	9.0			4.0		
Phs Duration (G+Y+Rc), s		42.5	23.7	13.8			66.2		
Change Period (Y+Rc), s		6.0	6.0	5.0			6.0		
Max Green (Gmax), s		38.0	7.0	18.0			51.0		
Max Allow Headway (MAH), s		6.9	4.1	4.4			6.9		
Max Q Clear (g_c+1), s		33.7	6.5	8.4			41.9		
Green Ext Time (g_e), s		2.7	0.0	0.5			7.9		
Prob of Phs Call (p_c)		1.00	0.93	0.99			1.00		
Prob of Max Out (p_x)		1.00	1.00	0.04			0.96		
Left-Turn Movement Data									
Assigned Mvmt		5	1	3					
Mvmt Sat Flow, veh/h		0	1810	1810					
Through Movement Data									
Assigned Mvmt		2		8			6		
Mvmt Sat Flow, veh/h		1781		0			1811		
Right-Turn Movement Data									
Assigned Mvmt		12		18			16		
Mvmt Sat Flow, veh/h		1610		1610			0		
Left Lane Group Data									
Assigned Mvmt		5	1	3	0	0	0	0	0
Lane Assignment		L (Prot)		L					

Scenario 1 5:57 pm 08/19/2022 Baseline

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HCM 6th Signalized Intersection Capacity Analysis 7: FM973 & Driveway 2B

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

Lanes in Grp	0	1	1	0	0	0	0	0
Grp Vol (v), veh/h	0	121	150	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1810	1810	0	0	0	0	0
Q Serve Time (g_s), s	0.0	4.5	6.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.5	6.4	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1810	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	36.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	401	199	0	0	0	0	0
V/C Ratio (X)	0.00	0.30	0.75	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	401	407	0	0	0	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	26.0	34.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	5.7	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.4	40.2	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.7	2.8	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.8	3.1	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.30	0.49	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	2	0	8	0	0	6	0	0
Lane Assignment	T					T		
Lanes in Grp	1	0	0	0	0	1	0	0
Grp Vol (v), veh/h	751	0	0	0	0	1210	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	0	0	1811	0	0
Q Serve Time (g_s), s	31.7	0.0	0.0	0.0	0.0	39.9	0.0	0.0
Cycle Q Clear Time (g_c), s	31.7	0.0	0.0	0.0	0.0	39.9	0.0	0.0
Lane Grp Cap (c), veh/h	812	0	0	0	0	1363	0	0
V/C Ratio (X)	0.93	0.00	0.00	0.00	0.00	0.89	0.00	0.00
Avail Cap (c_a), veh/h	846	0	0	0	0	1363	0	0
Upstream Filter (I)	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	20.5	0.0	0.0	0.0	0.0	7.4	0.0	0.0
Incr Delay (d2), s/veh	17.9	0.0	0.0	0.0	0.0	8.9	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	38.4	0.0	0.0	0.0	0.0	16.3	0.0	0.0
1st-Term Q (Q1), veh/ln	10.5	0.0	0.0	0.0	0.0	5.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	4.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 7: FM973 & Driveway 2B

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	14.5	0.0	0.0	0.0	0.0	8.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.63	0.00	0.00	0.00	0.00	0.49	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	12	0	18	0	0	16	0	0
Lane Assignment	R		R					
Lanes in Grp	1	0	1	0	0	0	0	0
Grp Vol (v), veh/h	27	0	47	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1610	0	1610	0	0	0	0	0
Q Serve Time (g_s), s	0.7	0.0	2.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.7	0.0	2.1	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	734	0	177	0	0	0	0	0
V/C Ratio (X)	0.04	0.00	0.27	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	765	0	362	0	0	0	0	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	12.1	0.0	32.6	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	12.1	0.0	33.4	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.8	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.2	0.0	0.9	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.02	0.00	0.21	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	25.9
HCM 6th LOS	C

Lanes, Volumes, Timings
8: FM973 & Taylor HS

2025 AM Peak Hour (w/New Signalized)

Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	90	643	12	207	1053
Future Volume (vph)	6	90	643	12	207	1053
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.873		0.998			
Flt Protected	0.997				0.950	
Satd. Flow (prot)	1654	0	1758	0	1805	1792
Flt Permitted	0.997				0.950	
Satd. Flow (perm)	1654	0	1758	0	1805	1792
Link Speed (mph)	30		65			65
Link Distance (ft)	376		460			672
Travel Time (s)	8.5		4.8			7.0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Adj. Flow (vph)	7	106	756	14	244	1239
Shared Lane Traffic (%)						
Lane Group Flow (vph)	113	0	770	0	244	1239
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	68.0%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 8: FM973 & Taylor HS

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	90	643	12	207	1053
Future Volume (Veh/h)	6	90	643	12	207	1053
Sign Control	Stop		Free		Free	Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	7	106	756	14	244	1239
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL		TWLTL	
Median storage veh			2		2	
Upstream signal (ft)			1184		672	
pX, platoon unblocked	0.43	0.78			0.78	
vC, conflicting volume	2490	763			770	
vC1, stage 1 conf vol	763					
vC2, stage 2 conf vol	1727					
vCu, unblocked vol	2622	550			559	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	65	75			69	
cM capacity (veh/h)	20	418			793	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	113	770	244	1239		
Volume Left	7	0	244	0		
Volume Right	106	14	0	0		
cSH	186	1700	793	1700		
Volume to Capacity	0.61	0.45	0.31	0.73		
Queue Length 95th (ft)	85	0	33	0		
Control Delay (s)	50.5	0.0	11.5	0.0		
Lane LOS	F		B			
Approach Delay (s)	50.5	0.0	1.9			
Approach LOS	F					
Intersection Summary						
Average Delay			3.6			
Intersection Capacity Utilization			68.0%	ICU Level of Service		C
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	90	643	12	207	1053
Future Vol, veh/h	6	90	643	12	207	1053
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	8	0	0	6
Mvmt Flow	7	106	756	14	244	1239
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	2490	763	0	0	770	0
Stage 1	763	-	-	-	-	-
Stage 2	1727	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	33	408	-	-	854	-
Stage 1	464	-	-	-	-	-
Stage 2	159	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	24	408	-	-	854	-
Mov Cap-2 Maneuver	90	-	-	-	-	-
Stage 1	464	-	-	-	-	-
Stage 2	114	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	21.2	0		1.8		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-	334	854	-	
HCM Lane V/C Ratio	-	-	0.338	0.285	-	
HCM Control Delay (s)	-	-	21.2	10.9	-	
HCM Lane LOS	-	-	C	B	-	
HCM 95th %tile Q(veh)	-	-	1.5	1.2	-	

Lanes, Volumes, Timings
9: FM973 & Streamwood

2025 AM Peak Hour (w/New Signalized)

Phase 1 Build-Out Year w/Development

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	93	33	12	561	1018	39
Future Volume (vph)	93	33	12	561	1018	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			250
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.964					0.850
Flt Protected	0.965		0.950			
Satd. Flow (prot)	1767	0	1805	1759	1810	1615
Flt Permitted	0.965		0.950			
Satd. Flow (perm)	1767	0	1805	1759	1810	1615
Link Speed (mph)	30			65	65	
Link Distance (ft)	373			724	460	
Travel Time (s)	8.5			7.6	4.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	8%	5%	0%
Adj. Flow (vph)	103	37	13	623	1131	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	140	0	13	623	1131	43
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	67.4%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

9: FM973 & Streamwood

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	93	33	12	561	1018	39
Future Volume (Veh/h)	93	33	12	561	1018	39
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	103	37	13	623	1131	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLT	TWLT	
Median storage (veh)				2	2	
Upstream signal (ft)				724	1132	
pX, platoon unblocked	0.50	0.39	0.39			
vC, conflicting volume	1780	1131	1174			
vC1, stage 1 conf vol	1131					
vC2, stage 2 conf vol	649					
vCu, unblocked vol	1007	543	655			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	52	82	96			
cM capacity (veh/h)	216	210	363			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	140	13	623	1131	43	
Volume Left	103	13	0	0	0	
Volume Right	37	0	0	0	43	
cSH	214	363	1700	1700	1700	
Volume to Capacity	0.65	0.04	0.37	0.67	0.03	
Queue Length 95th (ft)	99	3	0	0	0	
Control Delay (s)	48.7	15.3	0.0	0.0	0.0	
Lane LOS	E	C				
Approach Delay (s)	48.7	0.3		0.0		
Approach LOS	E					
Intersection Summary						
Average Delay			3.6			
Intersection Capacity Utilization			67.4%	ICU Level of Service		C
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	93	33	12	561	1018	39
Future Vol, veh/h	93	33	12	561	1018	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	8	5	0
Mvmt Flow	103	37	13	623	1131	43
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1780	1131	1174	0	-	0
Stage 1	1131	-	-	-	-	-
Stage 2	649	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	~ 91	250	602	-	-	-
Stage 1	311	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 89	250	602	-	-	-
Mov Cap-2 Maneuver	213	-	-	-	-	-
Stage 1	304	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	45.4	0.2		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	602	-	222	-	-	
HCM Lane V/C Ratio	0.022	-	0.631	-	-	
HCM Control Delay (s)	11.1	-	45.4	-	-	
HCM Lane LOS	B	-	E	-	-	
HCM 95th %tile Q(veh)	0.1	-	3.8	-	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	0	5	17	0	177	2	383	39	352	695	6
Future Volume (vph)	12	0	5	17	0	177	2	383	39	352	695	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	400		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.877			0.986			0.999	
Flt Protected		0.966			0.996		0.950			0.950		
Satd. Flow (prot)	0	1760	0	0	1660	0	1805	1676	0	1805	1711	0
Flt Permitted		0.438			0.969		0.950			0.950		
Satd. Flow (perm)	0	798	0	0	1615	0	1805	1676	0	1805	1711	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		205			205			7			1	
Link Speed (mph)		30			30			65			65	
Link Distance (ft)		574			560			730			724	
Travel Time (s)		13.0			12.7			7.7			7.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%	11%	0%
Adj. Flow (vph)	14	0	6	19	0	201	2	435	44	400	790	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	0	0	220	0	2	479	0	400	797	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
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Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		7.0	10.0		7.0	10.0	
Minimum Split (s)	24.0	24.0		23.0	23.0		13.0	24.0		13.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		13.0	32.0		24.0	43.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		16.3%	40.0%		30.0%	53.8%	
Maximum Green (s)	19.0	19.0		19.0	19.0		7.0	26.0		18.0	37.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effect Green (s)		9.3			9.3		7.0	29.3		24.4	57.1	
Actuated g/C Ratio		0.12			0.12		0.09	0.37		0.30	0.71	
v/c Ratio		0.07			0.60		0.01	0.77		0.73	0.65	
Control Delay		0.5			13.4		33.5	33.8		28.4	8.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		0.5			13.4		33.5	33.8		28.4	8.4	
LOS		A			B		C	C		C	A	
Approach Delay		0.5			13.4			33.8			15.1	
Approach LOS		A			B			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 19.4

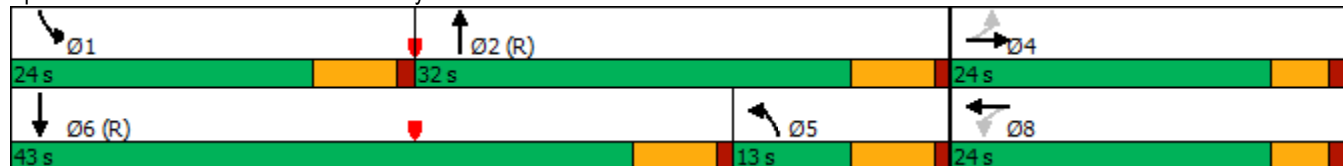
Intersection LOS: B

Intersection Capacity Utilization 68.6%

ICU Level of Service C

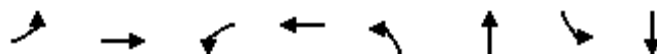
Analysis Period (min) 15

Splits and Phases: 10: FM973 & Wesley Miller



Phasings
10: FM973 & Wesley Miller

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Minimum Initial (s)	8.0	8.0	8.0	8.0	7.0	10.0	7.0	10.0
Minimum Split (s)	24.0	24.0	23.0	23.0	13.0	24.0	13.0	24.0
Total Split (s)	24.0	24.0	24.0	24.0	13.0	32.0	24.0	43.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	16.3%	40.0%	30.0%	53.8%
Maximum Green (s)	19.0	19.0	19.0	19.0	7.0	26.0	18.0	37.0
Yellow Time (s)	3.5	3.5	3.5	3.5	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	1.0	1.0	1.0
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	13.3	13.3	13.3	13.3	7.0	26.0	23.7	42.7
90th %ile Term Code	Hold	Hold	Gap	Gap	Max	Coord	Max	Coord
70th %ile Green (s)	9.1	9.1	9.1	9.1	0.0	26.9	27.0	59.9
70th %ile Term Code	Hold	Hold	Gap	Gap	Skip	Coord	Gap	Coord
50th %ile Green (s)	8.0	8.0	8.0	8.0	0.0	29.7	25.3	61.0
50th %ile Term Code	Hold	Hold	Min	Min	Skip	Coord	Gap	Coord
30th %ile Green (s)	8.0	8.0	8.0	8.0	0.0	30.8	24.2	61.0
30th %ile Term Code	Hold	Hold	Min	Min	Skip	Coord	Gap	Coord
10th %ile Green (s)	8.0	8.0	8.0	8.0	0.0	33.3	21.7	61.0
10th %ile Term Code	Hold	Hold	Min	Min	Skip	Coord	Gap	Coord
Intersection Summary								
Cycle Length: 80								
Actuated Cycle Length: 80								
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green								
Control Type: Actuated-Coordinated								

Queues
10: FM973 & Wesley Miller

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	20	220	2	479	400	797
v/c Ratio	0.07	0.60	0.01	0.77	0.73	0.65
Control Delay	0.5	13.4	33.5	33.8	28.4	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.5	13.4	33.5	33.8	28.4	8.4
Queue Length 50th (ft)	0	7	1	203	156	88
Queue Length 95th (ft)	0	61	8	#379	m191	m312
Internal Link Dist (ft)	494	480		650		644
Turn Bay Length (ft)			80		400	
Base Capacity (vph)	345	539	157	619	550	1221
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.41	0.01	0.77	0.73	0.65

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

10: FM973 & Wesley Miller

2025 AM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	0	5	17	0	177	2	383	39	352	695	6
Future Volume (vph)	12	0	5	17	0	177	2	383	39	352	695	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.88		1.00	0.99		1.00	1.00	
Flt Protected		0.97			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1761			1658		1805	1676		1805	1711	
Flt Permitted		0.44			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		798			1613		1805	1676		1805	1711	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	14	0	6	19	0	201	2	435	44	400	790	7
RTOR Reduction (vph)	0	18	0	0	181	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	2	0	0	39	0	2	475	0	400	797	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%	11%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		9.3			9.3		1.4	29.3		24.4	52.3	
Effective Green, g (s)		9.3			9.3		1.4	29.3		24.4	52.3	
Actuated g/C Ratio		0.12			0.12		0.02	0.37		0.30	0.65	
Clearance Time (s)		5.0			5.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		92			187		31	613		550	1118	
v/s Ratio Prot							0.00	c0.28		0.22	c0.47	
v/s Ratio Perm		0.00			c0.02							
v/c Ratio		0.03			0.21		0.06	0.77		0.73	0.71	
Uniform Delay, d1		31.3			32.0		38.7	22.4		24.8	9.0	
Progression Factor		1.00			1.00		1.00	1.00		0.90	0.64	
Incremental Delay, d2		0.1			0.6		0.9	9.2		3.0	2.4	
Delay (s)		31.4			32.6		39.5	31.7		25.3	8.2	
Level of Service		C			C		D	C		C	A	
Approach Delay (s)		31.4			32.6			31.7			13.9	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM 2000 Control Delay		20.7				HCM 2000 Level of Service		C				
HCM 2000 Volume to Capacity ratio		0.71										
Actuated Cycle Length (s)		80.0				Sum of lost time (s)		17.0				
Intersection Capacity Utilization		68.6%				ICU Level of Service		C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	0	793	290	192	439	2	450	0	380	0	0
Future Volume (vph)	8	0	793	290	192	439	2	450	0	380	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		0	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.999				0.850		
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1805	3471	1455	1719	3340	0	0	1703	1583	0	1900
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1805	3471	1455	1719	3340	0	0	1703	1583	0	1900
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				319						304		
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1070			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	4%	11%	5%	8%	0%	6%	0%	2%	0%	0%
Adj. Flow (vph)	9	0	871	319	211	482	2	495	0	418	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	871	319	211	484	0	0	495	418	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			0			0
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
Page 1

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.91
Heavy Vehicles (%)	0%
Adj. Flow (vph)	0
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	15.0	15.0	5.0	15.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	16.0	21.0	21.0	11.0	21.0		12.0	12.0	12.0	11.0	11.0
Total Split (s)	31.0	31.0	61.0	61.0	31.0	61.0		57.0	57.0	57.0	11.0	11.0
Total Split (%)	19.4%	19.4%	38.1%	38.1%	19.4%	38.1%		35.6%	35.6%	35.6%	6.9%	6.9%
Maximum Green (s)	25.0	25.0	55.0	55.0	25.0	55.0		50.0	50.0	50.0	5.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0	2.0	2.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)		10.4	42.8	42.8	20.4	66.7			44.0	44.0		
Actuated g/C Ratio		0.08	0.34	0.34	0.16	0.53			0.35	0.35		
v/c Ratio		0.06	0.74	0.45	0.76	0.28			0.84	0.56		
Control Delay		64.5	42.4	5.5	71.3	17.8			53.7	13.1		
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0	0.0		
Total Delay		64.5	42.4	5.5	71.3	17.8			53.7	13.1		
LOS		E	D	A	E	B			D	B		
Approach Delay			32.7			34.1			35.1			
Approach LOS			C			C			D			

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 126.9

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 33.8

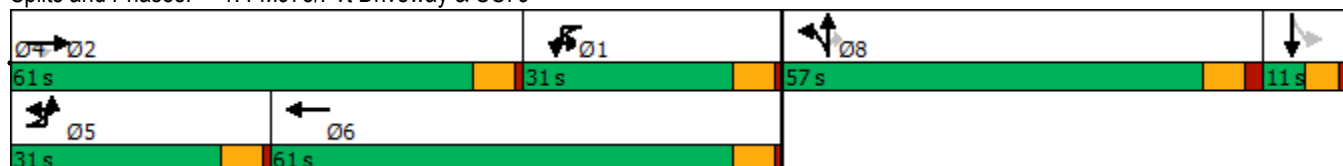
Intersection LOS: C

Intersection Capacity Utilization 73.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79



Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	Ø4
Protected Phases	5	2		1	6	8		4
Permitted Phases			2				8	
Minimum Initial (s)	10.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0
Minimum Split (s)	16.0	21.0	21.0	11.0	21.0	12.0	12.0	11.0
Total Split (s)	31.0	61.0	61.0	31.0	61.0	57.0	57.0	11.0
Total Split (%)	19.4%	38.1%	38.1%	19.4%	38.1%	35.6%	35.6%	7%
Maximum Green (s)	25.0	55.0	55.0	25.0	55.0	50.0	50.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	10.0	55.0	55.0	25.0	70.0	50.0	50.0	0.0
90th %ile Term Code	Min	Max	Max	Max	Hold	Max	Max	Skip
70th %ile Green (s)	0.0	50.5	50.5	25.0	81.5	50.0	50.0	0.0
70th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip
50th %ile Green (s)	0.0	44.6	44.6	22.1	72.7	50.0	50.0	0.0
50th %ile Term Code	Skip	Gap	Gap	Gap	Hold	Max	Max	Skip
30th %ile Green (s)	0.0	38.0	38.0	18.2	62.2	41.0	41.0	0.0
30th %ile Term Code	Skip	Gap	Gap	Gap	Hold	Gap	Gap	Skip
10th %ile Green (s)	0.0	27.8	27.8	12.7	46.5	29.6	29.6	0.0
10th %ile Term Code	Skip	Gap	Gap	Gap	Hold	Gap	Gap	Skip

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 126.9

Control Type: Actuated-Uncoordinated

90th %ile Actuated Cycle: 149

70th %ile Actuated Cycle: 144.5

50th %ile Actuated Cycle: 135.7

30th %ile Actuated Cycle: 116.2

10th %ile Actuated Cycle: 89.1

Queues
1: FM973/Pvt Driveway & US79

2025 PM Peak Hour (w/New Signalized)

Phase 1 Build-Out Year w/Development

							
Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	9	871	319	211	484	495	418
v/c Ratio	0.06	0.74	0.45	0.76	0.28	0.84	0.56
Control Delay	64.5	42.4	5.5	71.3	17.8	53.7	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.5	42.4	5.5	71.3	17.8	53.7	13.1
Queue Length 50th (ft)	8	361	0	179	114	387	69
Queue Length 95th (ft)	28	451	65	#304	186	#649	195
Internal Link Dist (ft)		854			990	556	
Turn Bay Length (ft)	100		615	880			
Base Capacity (vph)	368	1558	829	350	1818	695	826
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.56	0.38	0.60	0.27	0.71	0.51

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	0	793	290	192	439	2	450	0	380	0	0
Future Volume (vph)	8	0	793	290	192	439	2	450	0	380	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95			1.00	1.00		
Frt		1.00	1.00	0.85	1.00	1.00			1.00	0.85		
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00		
Satd. Flow (prot)		1805	3471	1455	1719	3342			1703	1583		
Flt Permitted		0.95	1.00	1.00	0.95	1.00			0.95	1.00		
Satd. Flow (perm)		1805	3471	1455	1719	3342			1703	1583		
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	9	0	871	319	211	482	2	495	0	418	0	0
RTOR Reduction (vph)	0	0	0	215	0	0	0	0	0	202	0	0
Lane Group Flow (vph)	0	9	871	104	211	484	0	0	495	216	0	0
Heavy Vehicles (%)	0%	0%	4%	11%	5%	8%	0%	6%	0%	2%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		1.7	42.8	42.8	25.6	66.7			44.0	44.0		
Effective Green, g (s)		1.7	42.8	42.8	25.6	66.7			44.0	44.0		
Actuated g/C Ratio		0.01	0.33	0.33	0.19	0.51			0.33	0.33		
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0			3.0	3.0		
Lane Grp Cap (vph)		23	1130	473	334	1696			570	530		
v/s Ratio Prot		0.00	c0.25		c0.12	0.14			c0.29			
v/s Ratio Perm				0.07						0.14		
v/c Ratio		0.39	0.77	0.22	0.63	0.29			0.87	0.41		
Uniform Delay, d1		64.3	39.9	32.2	48.6	18.6			41.0	33.7		
Progression Factor		1.00	1.00	1.00	0.98	0.97			1.00	1.00		
Incremental Delay, d2		4.0	3.0	0.1	2.9	0.0			13.2	0.5		
Delay (s)		68.3	42.9	32.3	50.4	18.1			54.2	34.2		
Level of Service		E	D	C	D	B			D	C		
Approach Delay (s)			40.3			27.9			45.0			0.0
Approach LOS			D			C			D			A
Intersection Summary												
HCM 2000 Control Delay			38.8									HCM 2000 Level of Service D
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			131.4						25.0			Sum of lost time (s)
Intersection Capacity Utilization			73.3%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
3: Driveway 2A & US79

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (vph)	972	246	0	697	0	219
Future Volume (vph)	972	246	0	697	0	219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	0		0	0
Storage Lanes		1	0		0	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.865
Flt Protected						
Satd. Flow (prot)	3471	1615	0	3374	0	1644
Flt Permitted						
Satd. Flow (perm)	3471	1615	0	3374	0	1644
Link Speed (mph)	65			65	30	
Link Distance (ft)	1070			739	365	
Travel Time (s)	11.2			7.8	8.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	0%	0%	7%	0%	0%
Adj. Flow (vph)	1057	267	0	758	0	238
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1057	267	0	758	0	238
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	60			60	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	47.1%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

3: Driveway 2A & US79

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (veh/h)	972	246	0	697	0	219
Future Volume (Veh/h)	972	246	0	697	0	219
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1057	267	0	758	0	238
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised		Raised			
Median storage veh)	2		2			
Upstream signal (ft)	1070					
pX, platoon unblocked			0.80		0.80	0.80
vC, conflicting volume			1324		1436	528
vC1, stage 1 conf vol					1057	
vC2, stage 2 conf vol					379	
vCu, unblocked vol			892		1033	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	73
cM capacity (veh/h)			611		386	867
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	528	528	267	379	379	238
Volume Left	0	0	0	0	0	0
Volume Right	0	0	267	0	0	238
cSH	1700	1700	1700	1700	1700	867
Volume to Capacity	0.31	0.31	0.16	0.22	0.22	0.27
Queue Length 95th (ft)	0	0	0	0	0	28
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.7
Lane LOS						B
Approach Delay (s)	0.0			0.0	10.7	
Approach LOS						B
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			47.1%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM 6th TWSC
3: Driveway 2A & US79

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

Intersection						
Int Delay, s/veh	1.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Vol, veh/h	972	246	0	697	0	219
Future Vol, veh/h	972	246	0	697	0	219
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	0	0	7	0	0
Mvmt Flow	1057	267	0	758	0	238
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	529
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	499
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	499
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		18.6	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	499	-	-	-		
HCM Lane V/C Ratio	0.477	-	-	-		
HCM Control Delay (s)	18.6	-	-	-		
HCM Lane LOS	C	-	-	-		
HCM 95th %tile Q(veh)	2.5	-	-	-		

Lanes, Volumes, Timings
4: US79 & Crossover

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

								
Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	47	0	1149	0	658	0	0	0
Future Volume (vph)	47	0	1149	0	658	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		100		0	0	0
Storage Lanes		1		1		0	1	0
Taper Length (ft)		100		100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frt								
Flt Protected		0.950						
Satd. Flow (prot)	0	1805	3471	1900	3374	0	1900	0
Flt Permitted		0.950						
Satd. Flow (perm)	0	1805	3471	1900	3374	0	1900	0
Link Speed (mph)			65		65		30	
Link Distance (ft)			739		504		317	
Travel Time (s)			7.8		5.3		7.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	4%	0%	7%	0%	0%	0%
Adj. Flow (vph)	51	0	1235	0	708	0	0	0
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	51	1235	0	708	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			60		60		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	
Intersection Summary								
Area Type:	Other							
Control Type:	Unsignalized							
Intersection Capacity Utilization	41.8%				ICU Level of Service A			
Analysis Period (min)	15							

HCM Unsignalized Intersection Capacity Analysis 4: US79 & Crossover

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development



Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔↔	↔	↔↔		↔	
Traffic Volume (veh/h)	47	0	1149	0	658	0	0	0
Future Volume (Veh/h)	47	0	1149	0	658	0	0	0
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	1235	0	708	0	0	0
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage veh			2		2			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	708		0			1326	354
vC1, stage 1 conf vol							708	
vC2, stage 2 conf vol							618	
vCu, unblocked vol	0	708		0			1326	354
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	100		0			100	100
cM capacity (veh/h)	0	900		0			360	648
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	
Volume Total	0	618	618	354	354	0	0	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.36	0.36	0.21	0.21	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lane LOS							A	
Approach Delay (s)	0.0			0.0			0.0	
Approach LOS							A	
Intersection Summary								
Average Delay			0.0					
Intersection Capacity Utilization			41.8%		ICU Level of Service		A	
Analysis Period (min)			15					

Intersection								
Int Delay, s/veh	0.3							
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	47	0	1149	0	658	0	0	0
Future Vol, veh/h	47	0	1149	0	658	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	100	-	100	-	-	0	-
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	4	0	7	0	0	0
Mvmt Flow	51	0	1235	0	708	0	0	0
Major/Minor	Major1		Major2		Minor2			
Conflicting Flow All	708	708	0	1235	-	0	1428	354
Stage 1	-	-	-	-	-	-	708	-
Stage 2	-	-	-	-	-	-	720	-
Critical Hdwy	6.4	4.1	-	6.4	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	2.2	-	2.5	-	-	3.5	3.3
Pot Cap-1 Maneuver	518	900	-	239	-	0	128	648
Stage 1	-	-	-	-	-	0	455	-
Stage 2	-	-	-	-	-	0	448	-
Platoon blocked, %			-		-			
Mov Cap-1 Maneuver	518	518	-	239	-	-	115	648
Mov Cap-2 Maneuver	-	-	-	-	-	-	115	-
Stage 1	-	-	-	-	-	-	410	-
Stage 2	-	-	-	-	-	-	448	-
Approach	EB		WB		SB			
HCM Control Delay, s	0.5		0		0			
HCM LOS					A			
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	SBLn1			
Capacity (veh/h)	518	-	239	-	-			
HCM Lane V/C Ratio	0.098	-	-	-	-			
HCM Control Delay (s)	12.7	-	0	-	0			
HCM Lane LOS	B	-	A	-	A			
HCM 95th %tile Q(veh)	0.3	-	0	-	-			

Lanes, Volumes, Timings
5: S Rio Grande & US79

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1151	29	5	612	0	20	3	3	1	7	2
Future Volume (vph)	5	1151	29	5	612	0	20	3	3	1	7	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		350	175		330	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.986			0.975	
Flt Protected	0.950			0.950				0.962			0.995	
Satd. Flow (prot)	1805	3539	1615	1805	3374	1900	0	1802	0	0	1843	0
Flt Permitted	0.950			0.950				0.962			0.995	
Satd. Flow (perm)	1805	3539	1615	1805	3374	1900	0	1802	0	0	1843	0
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		572			566			552			557	
Travel Time (s)		6.0			5.9			12.5			12.7	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	6	1308	33	6	695	0	23	3	3	1	8	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	1308	33	6	695	0	0	29	0	0	11	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		60			60			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignalized												
Intersection Capacity Utilization 45.4%												
ICU Level of Service A												
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis 5: S Rio Grande & US79

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1151	29	5	612	0	20	3	3	1	7	2
Future Volume (Veh/h)	5	1151	29	5	612	0	20	3	3	1	7	2
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	6	1308	33	6	695	0	23	3	3	1	8	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	Raised			Raised								
Median storage veh	2			2								
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	695			1308			1684	2027	654	1374	2027	348
vC1, stage 1 conf vol							1320	1320		707	707	
vC2, stage 2 conf vol							364	707		668	1320	
vCu, unblocked vol	695			1308			1684	2027	654	1374	2027	348
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			86	99	99	100	96	100
cM capacity (veh/h)	910			536			160	201	414	292	197	654
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	6	654	654	33	6	348	348	0	29	11		
Volume Left	6	0	0	0	6	0	0	0	23	1		
Volume Right	0	0	0	33	0	0	0	0	3	2		
cSH	910	1700	1700	1700	536	1700	1700	1700	175	234		
Volume to Capacity	0.01	0.38	0.38	0.02	0.01	0.20	0.20	0.00	0.17	0.05		
Queue Length 95th (ft)	0	0	0	0	1	0	0	0	14	4		
Control Delay (s)	9.0	0.0	0.0	0.0	11.8	0.0	0.0	0.0	29.6	21.2		
Lane LOS	A				B				D	C		
Approach Delay (s)	0.0				0.1				29.6	21.2		
Approach LOS									D	C		
Intersection Summary												
Average Delay	0.6											
Intersection Capacity Utilization	45.4%			ICU Level of Service			A					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1151	29	5	612	0	20	3	3	1	7	2
Future Vol, veh/h	5	1151	29	5	612	0	20	3	3	1	7	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	Free
Storage Length	200	-	350	175	-	330	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	2	0	0	7	0	0	0	0	0	0	0
Mvmt Flow	6	1308	33	6	695	0	23	3	3	1	8	2
Major/Minor	Major1			Major2			Minor1		Minor2			
Conflicting Flow All	695	0	0	1308	0	0	1684	2027	-	1375	2027	-
Stage 1	-	-	-	-	-	-	1320	1320	-	707	707	-
Stage 2	-	-	-	-	-	-	364	707	-	668	1320	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	-	7.5	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	-	3.5	4	-
Pot Cap-1 Maneuver	910	-	-	536	-	-	63	58	0	106	58	0
Stage 1	-	-	-	-	-	-	168	228	0	397	441	0
Stage 2	-	-	-	-	-	-	633	441	0	419	228	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	910	-	-	536	-	-	56	57	-	100	57	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	56	57	-	100	57	-
Stage 1	-	-	-	-	-	-	167	226	-	394	436	-
Stage 2	-	-	-	-	-	-	614	436	-	410	226	-
Approach	EB			WB			NB		SB			
HCM Control Delay, s	0			0.1								
HCM LOS							-		-			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	910	-	-	536	-	-	-				
HCM Lane V/C Ratio	-	0.006	-	-	0.011	-	-	-				
HCM Control Delay (s)	-	9	-	-	11.8	-	-	-				
HCM Lane LOS	-	A	-	-	B	-	-	-				
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-				

Lanes, Volumes, Timings
6: FM973 & Driveway 1B

2025 PM Peak Hour (w/New Signalized)

Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	65	766	109	0	500
Future Volume (vph)	0	65	766	109	0	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		250	100	
Storage Lanes	0	0		1	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865		0.850		
Flt Protected						
Satd. Flow (prot)	0	1644	1827	1615	0	1712
Flt Permitted						
Satd. Flow (perm)	0	1644	1827	1615	0	1712
Link Speed (mph)	30		55			55
Link Distance (ft)	429		545			636
Travel Time (s)	9.8		6.8			7.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%
Adj. Flow (vph)	0	71	833	118	0	543
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	71	833	118	0	543
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	Yes		Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	51.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: FM973 & Driveway 1B

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	65	766	109	0	500
Future Volume (Veh/h)	0	65	766	109	0	500
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	71	833	118	0	543
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)			545		636	
pX, platoon unblocked	0.57	0.57			0.57	
vC, conflicting volume	1376	833			951	
vC1, stage 1 conf vol	833					
vC2, stage 2 conf vol	543					
vCu, unblocked vol	1283	334			540	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	83			100	
cM capacity (veh/h)	346	408			594	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1		
Volume Total	71	833	118	543		
Volume Left	0	0	0	0		
Volume Right	71	0	118	0		
cSH	408	1700	1700	1700		
Volume to Capacity	0.17	0.49	0.07	0.32		
Queue Length 95th (ft)	16	0	0	0		
Control Delay (s)	15.7	0.0	0.0	0.0		
Lane LOS	C					
Approach Delay (s)	15.7	0.0		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			51.0%		ICU Level of Service	A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗	↗		↗
Traffic Vol, veh/h	0	65	766	109	0	500
Future Vol, veh/h	0	65	766	109	0	500
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	250	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	0	0	11
Mvmt Flow	0	71	833	118	0	543
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	833	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	372	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	372	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	16.9	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	372		-		
HCM Lane V/C Ratio	-	0.19		-		
HCM Control Delay (s)	-	16.9		-		
HCM Lane LOS	-	C		-		
HCM 95th %tile Q(veh)	-	0.7		-		

Lanes, Volumes, Timings
7: FM973 & Driveway 2B

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	98	35	840	17	72	428
Future Volume (vph)	98	35	840	17	72	428
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		250	150	
Storage Lanes	1	1		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	1615	1827	1615	1805	1712
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1805	1615	1827	1615	1805	1712
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		38		18		
Link Speed (mph)	30		55			55
Link Distance (ft)	223		672			545
Travel Time (s)	5.1		8.3			6.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%
Adj. Flow (vph)	107	38	913	18	78	465
Shared Lane Traffic (%)						
Lane Group Flow (vph)	107	38	913	18	78	465
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	3	1	1	3
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	50	50	250	50	50	250
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	6	50	50	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			122			122
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Detector 3 Position(ft)			244			244
Detector 3 Size(ft)			6			6

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
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Lanes, Volumes, Timings
7: FM973 & Driveway 2B

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 3 Type			Cl+Ex		Cl+Ex	
Detector 3 Channel						
Detector 3 Extend (s)			0.0		0.0	
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.0	23.0	24.0	24.0	13.0	24.0
Total Split (s)	23.0	23.0	44.0	44.0	13.0	57.0
Total Split (%)	28.8%	28.8%	55.0%	55.0%	16.3%	71.3%
Maximum Green (s)	18.0	18.0	38.0	38.0	7.0	51.0
Yellow Time (s)	3.5	3.5	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Act Effct Green (s)	10.4	10.4	50.1	50.1	8.9	62.4
Actuated g/C Ratio	0.13	0.13	0.63	0.63	0.11	0.78
v/c Ratio	0.46	0.16	0.80	0.02	0.39	0.35
Control Delay	38.0	11.8	23.0	3.0	38.4	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	11.8	23.0	3.0	38.4	4.8
LOS	D	B	C	A	D	A
Approach Delay	31.1		22.6			9.6
Approach LOS	C		C			A

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 21 (26%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 19.0

Intersection LOS: B

Intersection Capacity Utilization 70.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 7: FM973 & Driveway 2B



Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
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Phasings
7: FM973 & Driveway 2B

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Minimum Initial (s)	8.0	8.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.0	23.0	24.0	24.0	13.0	24.0
Total Split (s)	23.0	23.0	44.0	44.0	13.0	57.0
Total Split (%)	28.8%	28.8%	55.0%	55.0%	16.3%	71.3%
Maximum Green (s)	18.0	18.0	38.0	38.0	7.0	51.0
Yellow Time (s)	3.5	3.5	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.0	1.0	1.0	1.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Walk Time (s)						
Flash Dont Walk (s)						
Pedestrian Calls (#/hr)						
90th %ile Green (s)	13.9	13.9	38.0	38.0	11.1	55.1
90th %ile Term Code	Gap	Gap	Coord	Coord	Max	Coord
70th %ile Green (s)	11.6	11.6	41.3	41.3	10.1	57.4
70th %ile Term Code	Gap	Gap	Coord	Coord	Gap	Coord
50th %ile Green (s)	10.1	10.1	44.1	44.1	8.8	58.9
50th %ile Term Code	Gap	Gap	Coord	Coord	Gap	Coord
30th %ile Green (s)	8.5	8.5	47.0	47.0	7.5	60.5
30th %ile Term Code	Gap	Gap	Coord	Coord	Gap	Coord
10th %ile Green (s)	0.0	0.0	74.0	74.0	0.0	74.0
10th %ile Term Code	Skip	Skip	Coord	Coord	Skip	Coord
Intersection Summary						
Cycle Length: 80						
Actuated Cycle Length: 80						
Offset: 21 (26%), Referenced to phase 2:NBT and 6:SBT, Start of Green						
Control Type: Actuated-Coordinated						

Queues
7: FM973 & Driveway 2B

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	107	38	913	18	78	465
v/c Ratio	0.46	0.16	0.80	0.02	0.39	0.35
Control Delay	38.0	11.8	23.0	3.0	38.4	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	11.8	23.0	3.0	38.4	4.8
Queue Length 50th (ft)	51	0	380	0	37	67
Queue Length 95th (ft)	93	25	#716	m1	76	132
Internal Link Dist (ft)	143		592			465
Turn Bay Length (ft)		100		250	150	
Base Capacity (vph)	406	392	1143	1017	200	1335
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.10	0.80	0.02	0.39	0.35
Intersection Summary						
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.						
m Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis

7: FM973 & Driveway 2B

2025 PM Peak Hour (w/New Signalized)

Phase 1 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	98	35	840	17	72	428
Future Volume (vph)	98	35	840	17	72	428
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1615	1827	1615	1805	1712
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1805	1615	1827	1615	1805	1712
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	107	38	913	18	78	465
RTOR Reduction (vph)	0	34	0	7	0	0
Lane Group Flow (vph)	107	4	913	11	78	465
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	8.8	8.8	46.7	46.7	7.5	60.2
Effective Green, g (s)	8.8	8.8	46.7	46.7	7.5	60.2
Actuated g/C Ratio	0.11	0.11	0.58	0.58	0.09	0.75
Clearance Time (s)	5.0	5.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	198	177	1066	942	169	1288
v/s Ratio Prot	c0.06		c0.50		0.04	c0.27
v/s Ratio Perm		0.00		0.01		
v/c Ratio	0.54	0.02	0.86	0.01	0.46	0.36
Uniform Delay, d1	33.7	31.8	13.9	7.0	34.3	3.4
Progression Factor	1.00	1.00	0.95	0.59	1.00	1.00
Incremental Delay, d2	3.0	0.1	8.1	0.0	2.0	0.8
Delay (s)	36.7	31.8	21.3	4.1	36.3	4.2
Level of Service	D	C	C	A	D	A
Approach Delay (s)	35.4		20.9			8.8
Approach LOS	D		C			A
Intersection Summary						
HCM 2000 Control Delay			18.2		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.77			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	17.0
Intersection Capacity Utilization			70.9%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Signalized Intersection Capacity Analysis

7: FM973 & Driveway 2B

2025 PM Peak Hour (w/New Signalized)

Phase 1 Build-Out Year w/Development

									
Movement	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations									
Traffic Volume (veh/h)	98	35	840	17	72	428			
Future Volume (veh/h)	98	35	840	17	72	428			
Number	3	18	2	12	1	6			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00	1.00		1.00	1.00				
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No		No			No			
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1900	1900	1841	1900	1900	1737			
Adj Flow Rate, veh/h	107	38	913	18	78	465			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	4	0	0	11			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	174	155	1140	997	130	1331			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.10	0.10	0.62	0.62	0.07	0.77			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	38.3	34.3	17.4	5.9	40.3	3.7			
Ln Grp LOS	D	C	B	A	D	A			
Approach Vol, veh/h	145		931			543			
Approach Delay, s/veh	37.2		17.2			9.0			
Approach LOS	D		B			A			
Timer:		1	2	3	4	5	6	7	8
Assigned Phs		1	2	8			6		
Case No		2.0	7.0	9.0			4.0		
Phs Duration (G+Y+Rc), s		11.8	55.6	12.7			67.3		
Change Period (Y+Rc), s		6.0	6.0	5.0			6.0		
Max Green (Gmax), s		7.0	38.0	18.0			51.0		
Max Allow Headway (MAH), s		4.1	6.9	4.4			7.0		
Max Q Clear (g_c+l1), s		5.3	32.0	6.5			8.8		
Green Ext Time (g_e), s		0.0	4.4	0.4			6.3		
Prob of Phs Call (p_c)		0.82	1.00	0.96			1.00		
Prob of Max Out (p_x)		1.00	1.00	0.01			0.00		
Left-Turn Movement Data									
Assigned Mvmt		1	5	3					
Mvmt Sat Flow, veh/h		1810	0	1810					
Through Movement Data									
Assigned Mvmt			2	8			6		
Mvmt Sat Flow, veh/h			1841	0			1737		
Right-Turn Movement Data									
Assigned Mvmt			12	18			16		
Mvmt Sat Flow, veh/h			1610	1610			0		
Left Lane Group Data									
Assigned Mvmt		1	5	3	0	0	0	0	0
Lane Assignment		L (Prot)		L					

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
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HCM 6th Signalized Intersection Capacity Analysis 7: FM973 & Driveway 2B

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

Lanes in Grp	1	0	1	0	0	0	0	0
Grp Vol (v), veh/h	78	0	107	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1810	0	1810	0	0	0	0	0
Q Serve Time (g_s), s	3.3	0.0	4.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	3.3	0.0	4.5	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1810	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	49.6	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	130	0	174	0	0	0	0	0
V/C Ratio (X)	0.60	0.00	0.62	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	158	0	407	0	0	0	0	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	36.0	0.0	34.7	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.3	0.0	3.5	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	40.3	0.0	38.3	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.4	0.0	2.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	1.5	0.0	2.1	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.25	0.00	0.34	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment	T			T				
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	913	0	0	0	465	0	0
Grp Sat Flow (s), veh/h/ln	0	1841	0	0	0	1737	0	0
Q Serve Time (g_s), s	0.0	30.0	0.0	0.0	0.0	6.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	30.0	0.0	0.0	0.0	6.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	1140	0	0	0	1331	0	0
V/C Ratio (X)	0.00	0.80	0.00	0.00	0.00	0.35	0.00	0.00
Avail Cap (c_a), veh/h	0	1140	0	0	0	1331	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.5	0.0	0.0	0.0	3.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	5.9	0.0	0.0	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.4	0.0	0.0	0.0	3.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.1	0.0	0.0	0.0	0.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	1.9	0.0	0.0	0.0	0.3	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 7: FM973 & Driveway 2B

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	10.0	0.0	0.0	0.0	1.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.42	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment		R	R					
Lanes in Grp	0	1	1	0	0	0	0	0
Grp Vol (v), veh/h	0	18	38	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1610	1610	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.3	1.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.3	1.7	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	997	155	0	0	0	0	0
V/C Ratio (X)	0.00	0.02	0.25	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	997	362	0	0	0	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	5.9	33.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	5.9	34.3	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.7	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.7	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.18	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	16.2
HCM 6th LOS	B

Lanes, Volumes, Timings
8: FM973 & Taylor HS

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	8	26	836	4	12	534
Future Volume (vph)	8	26	836	4	12	534
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.896		0.999			
Flt Protected	0.989				0.950	
Satd. Flow (prot)	1684	0	1825	0	1805	1712
Flt Permitted	0.989				0.950	
Satd. Flow (perm)	1684	0	1825	0	1805	1712
Link Speed (mph)	30		65			65
Link Distance (ft)	376		460			672
Travel Time (s)	8.5		4.8			7.0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%
Adj. Flow (vph)	8	27	862	4	12	551
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	0	866	0	12	551
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	54.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 8: FM973 & Taylor HS

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	26	836	4	12	534
Future Volume (Veh/h)	8	26	836	4	12	534
Sign Control	Stop		Free		Free	Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	8	27	862	4	12	551
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL		TWLTL	
Median storage veh			2		2	
Upstream signal (ft)			1184		672	
pX, platoon unblocked	0.78	0.74			0.74	
vC, conflicting volume	1439	864			866	
vC1, stage 1 conf vol	864					
vC2, stage 2 conf vol	575					
vCu, unblocked vol	1177	641			644	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	92			98	
cM capacity (veh/h)	343	354			704	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	35	866	12	551		
Volume Left	8	0	12	0		
Volume Right	27	4	0	0		
cSH	352	1700	704	1700		
Volume to Capacity	0.10	0.51	0.02	0.32		
Queue Length 95th (ft)	8	0	1	0		
Control Delay (s)	16.4	0.0	10.2	0.0		
Lane LOS	C		B			
Approach Delay (s)	16.4	0.0	0.2			
Approach LOS	C					
Intersection Summary						
Average Delay		0.5				
Intersection Capacity Utilization		54.2%		ICU Level of Service		A
Analysis Period (min)		15				

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	26	836	4	12	534
Future Vol, veh/h	8	26	836	4	12	534
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	4	0	0	11
Mvmt Flow	8	27	862	4	12	551
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1439	864	0	0	866	0
Stage 1	864	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	148	357	-	-	786	-
Stage 1	416	-	-	-	-	-
Stage 2	567	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	146	357	-	-	786	-
Mov Cap-2 Maneuver	282	-	-	-	-	-
Stage 1	416	-	-	-	-	-
Stage 2	558	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	17	0		0.2		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-		336	786	
HCM Lane V/C Ratio	-	-		0.104	0.016	
HCM Control Delay (s)	-	-		17	9.7	
HCM Lane LOS	-	-		C	A	
HCM 95th %tile Q(veh)	-	-		0.3	0	

Lanes, Volumes, Timings
9: FM973 & Streamwood

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	62	22	38	773	448	97
Future Volume (vph)	62	22	38	773	448	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			250
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.964					0.850
Flt Protected	0.964		0.950			
Satd. Flow (prot)	1766	0	1805	1827	1696	1615
Flt Permitted	0.964		0.950			
Satd. Flow (perm)	1766	0	1805	1827	1696	1615
Link Speed (mph)	30			65	65	
Link Distance (ft)	373			724	460	
Travel Time (s)	8.5			7.6	4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	4%	12%	0%
Adj. Flow (vph)	67	24	41	840	487	105
Shared Lane Traffic (%)						
Lane Group Flow (vph)	91	0	41	840	487	105
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 52.1%				ICU Level of Service A		
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis

9: FM973 & Streamwood

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	62	22	38	773	448	97
Future Volume (Veh/h)	62	22	38	773	448	97
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	67	24	41	840	487	105
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLT	TWLT	
Median storage veh				2	2	
Upstream signal (ft)				724	1132	
pX, platoon unblocked	0.76	0.96	0.96			
vC, conflicting volume	1409	487	592			
vC1, stage 1 conf vol	487					
vC2, stage 2 conf vol	922					
vCu, unblocked vol	1265	446	555			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	79	96	96			
cM capacity (veh/h)	314	593	985			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	91	41	840	487	105	
Volume Left	67	41	0	0	0	
Volume Right	24	0	0	0	105	
cSH	358	985	1700	1700	1700	
Volume to Capacity	0.25	0.04	0.49	0.29	0.06	
Queue Length 95th (ft)	25	3	0	0	0	
Control Delay (s)	18.4	8.8	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	18.4	0.4		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			52.1%	ICU Level of Service		A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	62	22	38	773	448	97
Future Vol, veh/h	62	22	38	773	448	97
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	4	12	0
Mvmt Flow	67	24	41	840	487	105

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1409	487	592	0	-	0
Stage 1	487	-	-	-	-	-
Stage 2	922	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	154	585	994	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	391	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	148	585	994	-	-	-
Mov Cap-2 Maneuver	279	-	-	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	391	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.5	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	994	-	323	-	-
HCM Lane V/C Ratio	0.042	-	0.283	-	-
HCM Control Delay (s)	8.8	-	20.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.1	-	-

Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	0	4	5	0	14	4	786	0	2	451	13
Future Volume (vph)	8	0	4	5	0	14	4	786	0	2	451	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	400		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.958			0.899						0.996	
Flt Protected		0.967			0.988		0.950			0.950		
Satd. Flow (prot)	0	1760	0	0	1688	0	1805	1827	0	1805	1710	0
Flt Permitted					0.910		0.950			0.950		
Satd. Flow (perm)	0	1820	0	0	1554	0	1805	1827	0	1805	1710	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		123			123						2	
Link Speed (mph)		30			30			65			65	
Link Distance (ft)		574			560			730			724	
Travel Time (s)		13.0			12.7			7.7			7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	11%	0%
Adj. Flow (vph)	9	0	4	5	0	15	4	854	0	2	490	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	13	0	0	20	0	4	854	0	2	504	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
Page 36

Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		7.0	10.0		7.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		13.0	22.5		13.0	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		13.0	44.5		13.0	44.5	
Total Split (%)	28.1%	28.1%		28.1%	28.1%		16.3%	55.6%		16.3%	55.6%	
Maximum Green (s)	17.5	17.5		17.5	17.5		7.0	38.5		7.0	38.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effect Green (s)		8.0			8.0		7.0	69.8		7.0	69.8	
Actuated g/C Ratio		0.10			0.10		0.09	0.87		0.09	0.87	
v/c Ratio		0.04			0.08		0.03	0.54		0.01	0.34	
Control Delay		0.2			0.6		33.8	6.6		32.5	4.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		0.2			0.6		33.8	6.6		32.5	4.3	
LOS		A			A		C	A		C	A	
Approach Delay		0.3			0.6			6.7			4.5	
Approach LOS		A			A			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 5.7

Intersection LOS: A

Intersection Capacity Utilization 57.2%

ICU Level of Service B

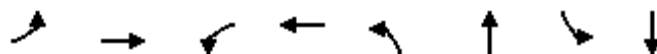
Analysis Period (min) 15

Splits and Phases: 10: FM973 & Wesley Miller



Phasings
10: FM973 & Wesley Miller

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Minimum Initial (s)	8.0	8.0	8.0	8.0	7.0	10.0	7.0	10.0
Minimum Split (s)	22.5	22.5	22.5	22.5	13.0	22.5	13.0	22.5
Total Split (s)	22.5	22.5	22.5	22.5	13.0	44.5	13.0	44.5
Total Split (%)	28.1%	28.1%	28.1%	28.1%	16.3%	55.6%	16.3%	55.6%
Maximum Green (s)	17.5	17.5	17.5	17.5	7.0	38.5	7.0	38.5
Yellow Time (s)	3.5	3.5	3.5	3.5	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	1.0	1.0	1.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	8.0	8.0	8.0	8.0	7.0	48.0	7.0	48.0
90th %ile Term Code	Min	Min	Min	Min	Min	Coord	Min	Coord
70th %ile Green (s)	8.0	8.0	8.0	8.0	0.0	61.0	0.0	61.0
70th %ile Term Code	Hold	Hold	Min	Min	Skip	Coord	Skip	Coord
50th %ile Green (s)	0.0	0.0	0.0	0.0	0.0	74.0	0.0	74.0
50th %ile Term Code	Skip	Skip	Skip	Skip	Skip	Coord	Skip	Coord
30th %ile Green (s)	0.0	0.0	0.0	0.0	0.0	74.0	0.0	74.0
30th %ile Term Code	Skip	Skip	Skip	Skip	Skip	Coord	Skip	Coord
10th %ile Green (s)	0.0	0.0	0.0	0.0	0.0	74.0	0.0	74.0
10th %ile Term Code	Skip	Skip	Skip	Skip	Skip	Coord	Skip	Coord
Intersection Summary								
Cycle Length: 80								
Actuated Cycle Length: 80								
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green								
Control Type: Actuated-Coordinated								

Queues
10: FM973 & Wesley Miller

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

	→	←	↖	↑	↘	↓
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	13	20	4	854	2	504
v/c Ratio	0.04	0.08	0.03	0.54	0.01	0.34
Control Delay	0.2	0.6	33.8	6.6	32.5	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.2	0.6	33.8	6.6	32.5	4.3
Queue Length 50th (ft)	0	0	2	0	1	0
Queue Length 95th (ft)	0	0	11	454	m3	152
Internal Link Dist (ft)	494	480		650		644
Turn Bay Length (ft)			80		400	
Base Capacity (vph)	494	436	157	1594	157	1492
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.05	0.03	0.54	0.01	0.34
Intersection Summary						
m Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis

10: FM973 & Wesley Miller

2025 PM Peak Hour (w/New Signalized)
Phase 1 Build-Out Year w/Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	0	4	5	0	14	4	786	0	2	451	13
Future Volume (vph)	8	0	4	5	0	14	4	786	0	2	451	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.90		1.00	1.00		1.00	1.00	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1760			1687		1805	1827		1805	1709	
Flt Permitted		1.00			0.91		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1821			1554		1805	1827		1805	1709	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	0	4	5	0	15	4	854	0	2	490	14
RTOR Reduction (vph)	0	12	0	0	19	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	1	0	0	1	0	4	854	0	2	503	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	11%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		3.2			3.2		1.4	58.4		1.4	58.4	
Effective Green, g (s)		3.2			3.2		1.4	58.4		1.4	58.4	
Actuated g/C Ratio		0.04			0.04		0.02	0.73		0.02	0.73	
Clearance Time (s)		5.0			5.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		72			62		31	1333		31	1247	
v/s Ratio Prot							c0.00	c0.47		0.00	0.29	
v/s Ratio Perm		0.00			c0.00							
v/c Ratio		0.01			0.01		0.13	0.64		0.06	0.40	
Uniform Delay, d1		36.9			36.9		38.7	5.5		38.7	4.1	
Progression Factor		1.00			1.00		1.00	1.00		0.97	1.00	
Incremental Delay, d2		0.0			0.1		1.9	2.4		0.9	0.9	
Delay (s)		36.9			37.0		40.6	7.9		38.3	5.1	
Level of Service		D			D		D	A		D	A	
Approach Delay (s)		36.9			37.0			8.0			5.2	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay		7.7			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.60										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			17.0				
Intersection Capacity Utilization		57.2%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Appendix D. Traffic Simulation Output

- Phase 1 Buildout Year (2025) Projected Conditions with Development, AM Only
 - Mitigation:
 - With Optimized Timings at FM 973 at US 79
 - With Traffic Signal at FM 973 at Driveway 2B (half cycle to US 79 intersection)
 - With Traffic Signal at FM 973 at Wesley Miller Lane (half cycle to US 79 intersection)

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 AM Peak Hour (w/New Signals, Optimized)
Phase 1 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	0	529	728	470	602	2	509	0	190	0	0
Future Volume (vph)	7	0	529	728	470	602	2	509	0	190	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		0	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850						0.850		0.865
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1805	3312	1553	1719	3375	0	0	1671	1568	0	1644
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1805	3312	1553	1719	3375	0	0	1671	1568	0	1644
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				651						164		204
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1072			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Adj. Flow (vph)	7	0	563	774	500	640	2	541	0	202	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	7	563	774	500	642	0	0	541	202	0	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			0			0
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.94
Heavy Vehicles (%)	0%
Adj. Flow (vph)	1
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 AM Peak Hour (w/New Signals, Optimized)
Phase 1 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	15.0	15.0	5.0	15.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	16.0	21.0	21.0	11.0	21.0		12.0	12.0	12.0	11.0	11.0
Total Split (s)	16.0	16.0	35.0	35.0	44.0	63.0		50.0	50.0	50.0	11.0	11.0
Total Split (%)	11.4%	11.4%	25.0%	25.0%	31.4%	45.0%		35.7%	35.7%	35.7%	7.9%	7.9%
Maximum Green (s)	10.0	10.0	29.0	29.0	38.0	57.0		43.0	43.0	43.0	5.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0	2.0	2.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)		10.0	28.1	28.1	38.1	69.2			43.1	43.1		5.0
Actuated g/C Ratio		0.08	0.22	0.22	0.29	0.53			0.33	0.33		0.04
v/c Ratio		0.05	0.79	0.92	1.00	0.36			0.98	0.32		0.00
Control Delay		59.1	57.6	25.3	84.7	19.3			77.2	9.6		0.0
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Delay		59.1	57.6	25.3	84.7	19.3			77.2	9.6		0.0
LOS		E	E	C	F	B			E	A		A
Approach Delay			39.0			47.9			58.8			
Approach LOS			D			D			E			

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 130.3

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 46.7

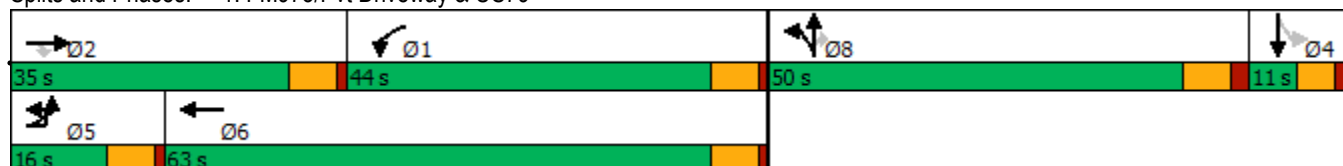
Intersection LOS: D

Intersection Capacity Utilization 91.4%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79



Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2025 AM Peak Hour (w/New Signals, Optimized)
Phase 1 Build-Out Year w/Development

								
Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Protected Phases	5	2		1	6	8		4
Permitted Phases			2				8	
Minimum Initial (s)	10.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0
Minimum Split (s)	16.0	21.0	21.0	11.0	21.0	12.0	12.0	11.0
Total Split (s)	16.0	35.0	35.0	44.0	63.0	50.0	50.0	11.0
Total Split (%)	11.4%	25.0%	25.0%	31.4%	45.0%	35.7%	35.7%	7.9%
Maximum Green (s)	10.0	29.0	29.0	38.0	57.0	43.0	43.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	10.0	29.0	29.0	38.0	57.0	43.0	43.0	5.0
90th %ile Term Code	Max	Max	Max	Max	Hold	Max	Max	Max
70th %ile Green (s)	0.0	29.0	29.0	38.0	73.0	43.0	43.0	0.0
70th %ile Term Code	Skip	Max	Max	Max	Hold	Max	Max	Skip
50th %ile Green (s)	0.0	29.0	29.0	38.0	73.0	43.0	43.0	0.0
50th %ile Term Code	Skip	Max	Max	Max	Hold	Max	Max	Skip
30th %ile Green (s)	0.0	29.0	29.0	38.0	73.0	43.0	43.0	0.0
30th %ile Term Code	Skip	Max	Max	Max	Hold	Max	Max	Skip
10th %ile Green (s)	0.0	24.3	24.3	38.0	68.3	43.0	43.0	0.0
10th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip
Intersection Summary								
Cycle Length: 140								
Actuated Cycle Length: 130.3								
Control Type: Actuated-Uncoordinated								
90th %ile Actuated Cycle: 140								
70th %ile Actuated Cycle: 129								
50th %ile Actuated Cycle: 129								
30th %ile Actuated Cycle: 129								
10th %ile Actuated Cycle: 124.3								

Queues
1: FM973/Pvt Driveway & US79

2025 AM Peak Hour (w/New Signals, Optimized)
Phase 1 Build-Out Year w/Development

								
Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	7	563	774	500	642	541	202	1
v/c Ratio	0.05	0.79	0.92	1.00	0.36	0.98	0.32	0.00
Control Delay	59.1	57.6	25.3	84.7	19.3	77.2	9.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.1	57.6	25.3	84.7	19.3	77.2	9.6	0.0
Queue Length 50th (ft)	6	233	107	417	140	445	22	0
Queue Length 95th (ft)	23	331	#419	#732	271	#766	89	0
Internal Link Dist (ft)		854			992	556		491
Turn Bay Length (ft)	100		615	880				
Base Capacity (vph)	138	738	851	502	1791	552	628	259
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.76	0.91	1.00	0.36	0.98	0.32	0.00

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis 2025 AM Peak Hour (w/New Signals, Optimized)

1: FM973/Pvt Driveway & US79

Phase 1 Build-Out Year w/Development

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	0	529	728	470	602	2	509	0	190	0	0
Future Volume (vph)	7	0	529	728	470	602	2	509	0	190	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95			1.00	1.00		1.00
Frt		1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.86
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00		1.00
Satd. Flow (prot)		1805	3312	1553	1719	3373			1671	1568		1644
Flt Permitted		0.95	1.00	1.00	0.95	1.00			0.95	1.00		1.00
Satd. Flow (perm)		1805	3312	1553	1719	3373			1671	1568		1644
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	7	0	563	774	500	640	2	541	0	202	0	0
RTOR Reduction (vph)	0	0	0	520	0	0	0	0	0	114	0	1
Lane Group Flow (vph)	0	7	563	254	500	642	0	0	541	88	0	0
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		1.9	28.1	28.1	42.9	69.1			43.1	43.1		0.9
Effective Green, g (s)		1.9	28.1	28.1	42.9	69.1			43.1	43.1		0.9
Actuated g/C Ratio		0.01	0.20	0.20	0.31	0.49			0.31	0.31		0.01
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0			3.0	3.0		2.0
Lane Grp Cap (vph)		24	664	311	526	1664			514	482		10
v/s Ratio Prot		0.00	c0.17		c0.29	0.19			c0.32			c0.00
v/s Ratio Perm				0.16						0.06		
v/c Ratio		0.29	0.85	0.82	0.95	0.39			1.05	0.18		0.00
Uniform Delay, d1		68.4	53.9	53.5	47.5	22.2			48.4	35.5		69.1
Progression Factor		1.00	1.00	1.00	0.98	0.97			1.00	1.00		1.00
Incremental Delay, d2		2.5	9.5	14.4	27.0	0.1			54.2	0.2		0.0
Delay (s)		70.8	63.3	67.8	73.5	21.6			102.7	35.7		69.1
Level of Service		E	E	E	E	C			F	D		E
Approach Delay (s)			66.0			44.3			84.5			69.1
Approach LOS			E			D			F			E
Intersection Summary												
HCM 2000 Control Delay			62.6		HCM 2000 Level of Service				E			
HCM 2000 Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			140.0		Sum of lost time (s)				25.0			
Intersection Capacity Utilization			91.4%		ICU Level of Service				F			
Analysis Period (min)			15									
c Critical Lane Group												

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	1
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
3: Driveway 2A & US79

2025 AM Peak Hour (w/New Signals, Optimized)

Phase 1 Build-Out Year w/Development

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (vph)	501	280	0	1163	0	180
Future Volume (vph)	501	280	0	1163	0	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	0		0	0
Storage Lanes		1	0		0	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.865
Flt Protected						
Satd. Flow (prot)	3282	1615	0	3374	0	1644
Flt Permitted						
Satd. Flow (perm)	3282	1615	0	3374	0	1644
Link Speed (mph)	65			65	30	
Link Distance (ft)	1072			739	365	
Travel Time (s)	11.2			7.8	8.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	10%	0%	0%	7%	0%	0%
Adj. Flow (vph)	545	304	0	1264	0	196
Shared Lane Traffic (%)						
Lane Group Flow (vph)	545	304	0	1264	0	196
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	60			60	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 35.5%				ICU Level of Service A		
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis 2025 AM Peak Hour (w/New Signals, Optimized)

3: Driveway 2A & US79

Phase 1 Build-Out Year w/Development

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (veh/h)	501	280	0	1163	0	180
Future Volume (Veh/h)	501	280	0	1163	0	180
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	545	304	0	1264	0	196
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh)	2			2		
Upstream signal (ft)	1072					
pX, platoon unblocked			0.90		0.90	0.90
vC, conflicting volume			849		1177	272
vC1, stage 1 conf vol					545	
vC2, stage 2 conf vol					632	
vCu, unblocked vol			617		980	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	80
cM capacity (veh/h)			878		436	985
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	272	272	304	632	632	196
Volume Left	0	0	0	0	0	0
Volume Right	0	0	304	0	0	196
cSH	1700	1700	1700	1700	1700	985
Volume to Capacity	0.16	0.16	0.18	0.37	0.37	0.20
Queue Length 95th (ft)	0	0	0	0	0	18
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.6
Lane LOS						A
Approach Delay (s)	0.0			0.0		
Approach LOS						A
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			35.5%	ICU Level of Service		A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Vol, veh/h	501	280	0	1163	0	180
Future Vol, veh/h	501	280	0	1163	0	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	0	0	7	0	0
Mvmt Flow	545	304	0	1264	0	196
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	273
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	731
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	731
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		11.7	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	731	-	-	-		
HCM Lane V/C Ratio	0.268	-	-	-		
HCM Control Delay (s)	11.7	-	-	-		
HCM Lane LOS	B	-	-	-		
HCM 95th %tile Q(veh)	1.1	-	-	-		

Lanes, Volumes, Timings
4: US79 & Crossover

2025 AM Peak Hour (w/New Signals, Optimized)
Phase 1 Build-Out Year w/Development

								
Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	61	0	621	0	1128	0	0	0
Future Volume (vph)	61	0	621	0	1128	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		100		0	0	0
Storage Lanes		1		1		0	1	0
Taper Length (ft)		100		100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frt								
Flt Protected		0.950						
Satd. Flow (prot)	0	1805	3282	1900	3374	0	1900	0
Flt Permitted		0.950						
Satd. Flow (perm)	0	1805	3282	1900	3374	0	1900	0
Link Speed (mph)			65		65		30	
Link Distance (ft)			739		504		317	
Travel Time (s)			7.8		5.3		7.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	10%	0%	7%	0%	0%	0%
Adj. Flow (vph)	67	0	682	0	1240	0	0	0
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	67	682	0	1240	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			60		60		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	
Intersection Summary								
Area Type:	Other							
Control Type: Unsignalized								
Intersection Capacity Utilization 41.2%								
ICU Level of Service A								
Analysis Period (min) 15								

HCM Unsignalized Intersection Capacity Analysis 2025 AM Peak Hour (w/New Signals, Optimized)

4: US79 & Crossover

Phase 1 Build-Out Year w/Development



Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔↔	↔	↔↔		↔	
Traffic Volume (veh/h)	61	0	621	0	1128	0	0	0
Future Volume (Veh/h)	61	0	621	0	1128	0	0	0
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	682	0	1240	0	0	0
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage veh			2		2			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	1240		0			1581	620
vC1, stage 1 conf vol							1240	
vC2, stage 2 conf vol							341	
vCu, unblocked vol	0	1240		0			1581	620
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	100		0			100	100
cM capacity (veh/h)	0	569		0			229	436
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	
Volume Total	0	341	341	620	620	0	0	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.20	0.20	0.36	0.36	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lane LOS							A	
Approach Delay (s)	0.0			0.0			0.0	
Approach LOS							A	
Intersection Summary								
Average Delay			0.0					
Intersection Capacity Utilization			41.2%		ICU Level of Service			A
Analysis Period (min)			15					

Intersection								
Int Delay, s/veh	0.9							
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	61	0	621	0	1128	0	0	0
Future Vol, veh/h	61	0	621	0	1128	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	100	-	100	-	-	0	-
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	10	0	7	0	0	0
Mvmt Flow	67	0	682	0	1240	0	0	0
Major/Minor	Major1		Major2			Minor2		
Conflicting Flow All	1240	1240	0	682	-	0	1715	620
Stage 1	-	-	-	-	-	-	1240	-
Stage 2	-	-	-	-	-	-	475	-
Critical Hdwy	6.4	4.1	-	6.4	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	2.2	-	2.5	-	-	3.5	3.3
Pot Cap-1 Maneuver	237	569	-	538	-	0	83	436
Stage 1	-	-	-	-	-	0	240	-
Stage 2	-	-	-	-	-	0	597	-
Platoon blocked, %			-		-			
Mov Cap-1 Maneuver	237	237	-	538	-	-	60	436
Mov Cap-2 Maneuver	-	-	-	-	-	-	60	-
Stage 1	-	-	-	-	-	-	172	-
Stage 2	-	-	-	-	-	-	597	-
Approach	EB		WB			SB		
HCM Control Delay, s	2.3		0			0		
HCM LOS						A		
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	SBLn1			
Capacity (veh/h)	237	-	538	-	-			
HCM Lane V/C Ratio	0.283	-	-	-	-			
HCM Control Delay (s)	26.1	-	0	-	0			
HCM Lane LOS	D	-	A	-	A			
HCM 95th %tile Q(veh)	1.1	-	0	-	-			

Lanes, Volumes, Timings
5: S Rio Grande & US79

2025 AM Peak Hour (w/New Signals, Optimized)
Phase 1 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	7	643	10	7	1069	1	33	7	1	3	3	5
Future Volume (vph)	7	643	10	7	1069	1	33	7	1	3	3	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		350	175		330	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.997			0.932	
Flt Protected	0.950			0.950				0.961			0.988	
Satd. Flow (prot)	1805	3539	1615	1805	3374	1615	0	1820	0	0	1750	0
Flt Permitted	0.950			0.950				0.961			0.988	
Satd. Flow (perm)	1805	3539	1615	1805	3374	1615	0	1820	0	0	1750	0
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		572			566			552			557	
Travel Time (s)		6.0			5.9			12.5			12.7	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	8	731	11	8	1215	1	38	8	1	3	3	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	731	11	8	1215	1	0	47	0	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		60			60			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	41.8%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis 2025 AM Peak Hour (w/New Signals, Optimized) 5: S Rio Grande & US79 Phase 1 Build-Out Year w/Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	643	10	7	1069	1	33	7	1	3	3	5
Future Volume (Veh/h)	7	643	10	7	1069	1	33	7	1	3	3	5
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	8	731	11	8	1215	1	38	8	1	3	3	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	Raised			Raised								
Median storage veh	2			2								
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1215			731			1372	1978	366	1616	1978	608
vC1, stage 1 conf vol							747	747		1231	1231	
vC2, stage 2 conf vol							625	1231		386	747	
vCu, unblocked vol	1215			731			1372	1978	366	1616	1978	608
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			87	96	100	98	99	99
cM capacity (veh/h)	581			883			289	210	637	180	214	444
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	8	366	366	11	8	608	608	1	47	12		
Volume Left	8	0	0	0	8	0	0	0	38	3		
Volume Right	0	0	0	11	0	0	0	1	1	6		
cSH	581	1700	1700	1700	883	1700	1700	1700	275	271		
Volume to Capacity	0.01	0.21	0.21	0.01	0.01	0.36	0.36	0.00	0.17	0.04		
Queue Length 95th (ft)	1	0	0	0	1	0	0	0	15	3		
Control Delay (s)	11.3	0.0	0.0	0.0	9.1	0.0	0.0	0.0	20.8	18.9		
Lane LOS	B				A				C	C		
Approach Delay (s)	0.1				0.1				20.8	18.9		
Approach LOS									C	C		
Intersection Summary												
Average Delay	0.7											
Intersection Capacity Utilization	41.8%			ICU Level of Service						A		
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	643	10	7	1069	1	33	7	1	3	3	5
Future Vol, veh/h	7	643	10	7	1069	1	33	7	1	3	3	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	Free
Storage Length	200	-	350	175	-	330	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	2	0	0	7	0	0	0	0	0	0	0
Mvmt Flow	8	731	11	8	1215	1	38	8	1	3	3	6

Major/Minor	Major1			Major2			Minor1		Minor2			
Conflicting Flow All	1215	0	0	731	0	0	1372	1978	-	1617	1978	-
Stage 1	-	-	-	-	-	-	747	747	-	1231	1231	-
Stage 2	-	-	-	-	-	-	625	1231	-	386	747	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	-	7.5	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	-	3.5	4	-
Pot Cap-1 Maneuver	581	-	-	883	-	-	107	63	0	70	63	0
Stage 1	-	-	-	-	-	-	376	423	0	191	252	0
Stage 2	-	-	-	-	-	-	444	252	0	614	423	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	581	-	-	883	-	-	101	62	-	62	62	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	101	62	-	62	62	-
Stage 1	-	-	-	-	-	-	371	417	-	188	250	-
Stage 2	-	-	-	-	-	-	434	250	-	594	417	-

Approach	EB			WB			NB		SB			
HCM Control Delay, s	0.1			0.1								
HCM LOS							-		-			

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	581	-	-	883	-	-	-
HCM Lane V/C Ratio	-	0.014	-	-	0.009	-	-	-
HCM Control Delay (s)	-	11.3	-	-	9.1	-	-	-
HCM Lane LOS	-	B	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

Lanes, Volumes, Timings
6: FM973 & Driveway 1B

2025 AM Peak Hour (w/New Signals, Optimized)

Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	67	632	103	0	1225
Future Volume (vph)	0	67	632	103	0	1225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		250	100	
Storage Lanes	0	0		1	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865		0.850		
Flt Protected						
Satd. Flow (prot)	0	1644	1759	1615	0	1792
Flt Permitted						
Satd. Flow (perm)	0	1644	1759	1615	0	1792
Link Speed (mph)	30		55			55
Link Distance (ft)	429		545			636
Travel Time (s)	9.8		6.8			7.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Adj. Flow (vph)	0	73	687	112	0	1332
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	73	687	112	0	1332
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	Yes		Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	67.8%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 2025 AM Peak Hour (w/New Signals, Optimized) 6: FM973 & Driveway 1B Phase 1 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	67	632	103	0	1225
Future Volume (Veh/h)	0	67	632	103	0	1225
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	73	687	112	0	1332
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)			545		636	
pX, platoon unblocked	0.66	0.66			0.66	
vC, conflicting volume	2019	687			799	
vC1, stage 1 conf vol	687					
vC2, stage 2 conf vol	1332					
vCu, unblocked vol	2283	273			442	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	86			100	
cM capacity (veh/h)	216	511			748	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1		
Volume Total	73	687	112	1332		
Volume Left	0	0	0	0		
Volume Right	73	0	112	0		
cSH	511	1700	1700	1700		
Volume to Capacity	0.14	0.40	0.07	0.78		
Queue Length 95th (ft)	12	0	0	0		
Control Delay (s)	13.2	0.0	0.0	0.0		
Lane LOS	B					
Approach Delay (s)	13.2	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			67.8%		ICU Level of Service	C
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗	↗		↗
Traffic Vol, veh/h	0	67	632	103	0	1225
Future Vol, veh/h	0	67	632	103	0	1225
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	250	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	8	0	0	6
Mvmt Flow	0	73	687	112	0	1332
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	687	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	450	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	450	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	14.5	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	450		-		
HCM Lane V/C Ratio	-	0.162		-		
HCM Control Delay (s)	-	14.5		-		
HCM Lane LOS	-	B		-		
HCM 95th %tile Q(veh)	-	0.6		-		

Lanes, Volumes, Timings
7: FM973 & Driveway 2B

2025 AM Peak Hour (w/New Signals, Optimized)

Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	138	43	691	25	111	1113
Future Volume (vph)	138	43	691	25	111	1113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		250	150	
Storage Lanes	1	1		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	1615	1759	1615	1805	1792
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1805	1615	1759	1615	1805	1792
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		47		27		
Link Speed (mph)	30		55			55
Link Distance (ft)	223		672			545
Travel Time (s)	5.1		8.3			6.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Adj. Flow (vph)	150	47	751	27	121	1210
Shared Lane Traffic (%)						
Lane Group Flow (vph)	150	47	751	27	121	1210
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	3	1	1	3
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	50	50	250	50	50	250
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	6	50	50	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			122			122
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Detector 3 Position(ft)			244			244
Detector 3 Size(ft)			6			6

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Lanes, Volumes, Timings
7: FM973 & Driveway 2B

2025 AM Peak Hour (w/New Signals, Optimized)
Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex			Cl+Ex		
Detector 3 Channel						
Detector 3 Extend (s)	0.0			0.0		
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.0	23.0	24.0	24.0	13.0	24.0
Total Split (s)	23.0	23.0	34.0	34.0	13.0	47.0
Total Split (%)	32.9%	32.9%	48.6%	48.6%	18.6%	67.1%
Maximum Green (s)	18.0	18.0	28.0	28.0	7.0	41.0
Yellow Time (s)	3.5	3.5	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	6.0
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Act Effect Green (s)	11.3	11.3	41.1	41.1	7.0	51.5
Actuated g/C Ratio	0.16	0.16	0.59	0.59	0.10	0.74
v/c Ratio	0.52	0.16	0.73	0.03	0.67	0.92
Control Delay	32.7	9.2	22.8	9.1	51.1	25.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.7	9.2	22.8	9.1	51.1	25.5
LOS	C	A	C	A	D	C
Approach Delay	27.1		22.3			27.8
Approach LOS	C		C			C

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 25.9

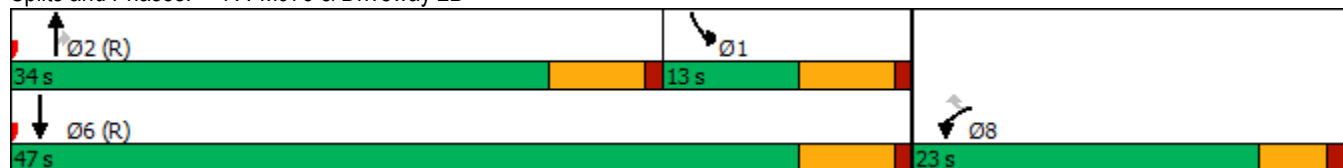
Intersection LOS: C

Intersection Capacity Utilization 75.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 7: FM973 & Driveway 2B



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Phasings
7: FM973 & Driveway 2B

2025 AM Peak Hour (w/New Signals, Optimized)
Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Minimum Initial (s)	8.0	8.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.0	23.0	24.0	24.0	13.0	24.0
Total Split (s)	23.0	23.0	34.0	34.0	13.0	47.0
Total Split (%)	32.9%	32.9%	48.6%	48.6%	18.6%	67.1%
Maximum Green (s)	18.0	18.0	28.0	28.0	7.0	41.0
Yellow Time (s)	3.5	3.5	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.0	1.0	1.0	1.0
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Walk Time (s)						
Flash Dont Walk (s)						
Pedestrian Calls (#/hr)						
90th %ile Green (s)	15.3	15.3	30.7	30.7	7.0	43.7
90th %ile Term Code	Gap	Gap	Coord	Coord	Max	Coord
70th %ile Green (s)	12.8	12.8	33.2	33.2	7.0	46.2
70th %ile Term Code	Gap	Gap	Coord	Coord	Max	Coord
50th %ile Green (s)	11.1	11.1	34.9	34.9	7.0	47.9
50th %ile Term Code	Gap	Gap	Coord	Coord	Max	Coord
30th %ile Green (s)	9.3	9.3	36.7	36.7	7.0	49.7
30th %ile Term Code	Gap	Gap	Coord	Coord	Max	Coord
10th %ile Green (s)	0.0	0.0	64.0	64.0	0.0	64.0
10th %ile Term Code	Skip	Skip	Coord	Coord	Skip	Coord
Intersection Summary						
Cycle Length: 70						
Actuated Cycle Length: 70						
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green						
Control Type: Actuated-Coordinated						

Queues
7: FM973 & Driveway 2B

2025 AM Peak Hour (w/New Signals, Optimized)

Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	150	47	751	27	121	1210
v/c Ratio	0.52	0.16	0.73	0.03	0.67	0.92
Control Delay	32.7	9.2	22.8	9.1	51.1	25.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.7	9.2	22.8	9.1	51.1	25.5
Queue Length 50th (ft)	60	0	216	1	51	417
Queue Length 95th (ft)	105	24	m#435	m9	#125	#824
Internal Link Dist (ft)	143		592			465
Turn Bay Length (ft)		100		250	150	
Base Capacity (vph)	464	450	1032	959	180	1318
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.10	0.73	0.03	0.67	0.92
Intersection Summary						
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.						
m Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis 2025 AM Peak Hour (w/New Signals, Optimized) 7: FM973 & Driveway 2B

Phase 1 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	138	43	691	25	111	1113
Future Volume (vph)	138	43	691	25	111	1113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1615	1759	1615	1805	1792
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1805	1615	1759	1615	1805	1792
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	150	47	751	27	121	1210
RTOR Reduction (vph)	0	40	0	12	0	0
Lane Group Flow (vph)	150	7	751	15	121	1210
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	9.7	9.7	37.7	37.7	5.6	49.3
Effective Green, g (s)	9.7	9.7	37.7	37.7	5.6	49.3
Actuated g/C Ratio	0.14	0.14	0.54	0.54	0.08	0.70
Clearance Time (s)	5.0	5.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	250	223	947	869	144	1262
v/s Ratio Prot	c0.08		0.43		0.07	c0.68
v/s Ratio Perm		0.00		0.01		
v/c Ratio	0.60	0.03	0.79	0.02	0.84	0.96
Uniform Delay, d1	28.3	26.1	13.0	7.5	31.8	9.4
Progression Factor	1.00	1.00	1.12	1.90	1.00	1.00
Incremental Delay, d2	3.8	0.1	5.9	0.0	33.4	17.2
Delay (s)	32.2	26.1	20.4	14.4	65.2	26.6
Level of Service	C	C	C	B	E	C
Approach Delay (s)	30.7		20.2			30.1
Approach LOS	C		C			C
Intersection Summary						
HCM 2000 Control Delay			26.8		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			1.00			
Actuated Cycle Length (s)			70.0		Sum of lost time (s)	17.0
Intersection Capacity Utilization			75.4%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Signalized Intersection Capacity Analysis 2025 AM Peak Hour (w/New Signals, Optimized)
7: FM973 & Driveway 2B Phase 1 Build-Out Year w/Development

									
Movement	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations									
Traffic Volume (veh/h)	138	43	691	25	111	1113			
Future Volume (veh/h)	138	43	691	25	111	1113			
Number	3	18	2	12	1	6			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00	1.00		1.00	1.00				
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No		No			No			
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1900	1900	1781	1900	1900	1811			
Adj Flow Rate, veh/h	150	47	751	27	121	1210			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	8	0	0	6			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	205	183	713	644	441	1321			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.11	0.11	0.40	0.40	0.24	0.73			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	34.9	29.1	69.8	12.9	21.8	19.1			
Ln Grp LOS	C	C	F	B	C	B			
Approach Vol, veh/h	197		778			1331			
Approach Delay, s/veh	33.5		67.8			19.4			
Approach LOS	C		E			B			
Timer:		1	2	3	4	5	6	7	8
Assigned Phs		2	1	8			6		
Case No		7.0	2.0	9.0			4.0		
Phs Duration (G+Y+Rc), s		34.0	23.1	12.9			57.1		
Change Period (Y+Rc), s		6.0	6.0	5.0			6.0		
Max Green (Gmax), s		28.0	7.0	18.0			41.0		
Max Allow Headway (MAH), s		6.9	4.1	4.4			6.9		
Max Q Clear (g_c+1), s		30.0	5.8	7.6			40.1		
Green Ext Time (g_e), s		0.0	0.0	0.5			0.8		
Prob of Phs Call (p_c)		1.00	0.90	0.98			1.00		
Prob of Max Out (p_x)		1.00	1.00	0.02			1.00		
Left-Turn Movement Data									
Assigned Mvmt		5	1	3					
Mvmt Sat Flow, veh/h		0	1810	1810					
Through Movement Data									
Assigned Mvmt		2		8			6		
Mvmt Sat Flow, veh/h		1781		0			1811		
Right-Turn Movement Data									
Assigned Mvmt		12		18			16		
Mvmt Sat Flow, veh/h		1610		1610			0		
Left Lane Group Data									
Assigned Mvmt		5	1	3	0	0	0	0	0
Lane Assignment		L (Prot)		L					

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HCM 6th Signalized Intersection Capacity Analysis 2025 AM Peak Hour (w/New Signals, Optimized) 7: FM973 & Driveway 2B Phase 1 Build-Out Year w/Development

Lanes in Grp	0	1	1	0	0	0	0	0
Grp Vol (v), veh/h	0	121	150	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1810	1810	0	0	0	0	0
Q Serve Time (g_s), s	0.0	3.8	5.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.8	5.6	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1810	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	441	205	0	0	0	0	0
V/C Ratio (X)	0.00	0.27	0.73	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	441	465	0	0	0	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	21.5	30.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	4.9	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.8	34.9	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.4	2.3	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.4	2.6	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.24	0.42	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	2	0	8	0	0	6	0	0
Lane Assignment	T					T		
Lanes in Grp	1	0	0	0	0	1	0	0
Grp Vol (v), veh/h	751	0	0	0	0	1210	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	0	0	1811	0	0
Q Serve Time (g_s), s	28.0	0.0	0.0	0.0	0.0	38.1	0.0	0.0
Cycle Q Clear Time (g_c), s	28.0	0.0	0.0	0.0	0.0	38.1	0.0	0.0
Lane Grp Cap (c), veh/h	713	0	0	0	0	1321	0	0
V/C Ratio (X)	1.05	0.00	0.00	0.00	0.00	0.92	0.00	0.00
Avail Cap (c_a), veh/h	713	0	0	0	0	1321	0	0
Upstream Filter (I)	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	21.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0
Incr Delay (d2), s/veh	48.8	0.0	0.0	0.0	0.0	11.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	69.8	0.0	0.0	0.0	0.0	19.1	0.0	0.0
1st-Term Q (Q1), veh/ln	9.1	0.0	0.0	0.0	0.0	4.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	9.7	0.0	0.0	0.0	0.0	4.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 2025 AM Peak Hour (w/New Signals, Optimized)
 7: FM973 & Driveway 2B Phase 1 Build-Out Year w/Development

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	18.7	0.0	0.0	0.0	0.0	8.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.81	0.00	0.00	0.00	0.00	0.48	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	9.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	12	0	18	0	0	16	0	0
Lane Assignment	R		R					
Lanes in Grp	1	0	1	0	0	0	0	0
Grp Vol (v), veh/h	27	0	47	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1610	0	1610	0	0	0	0	0
Q Serve Time (g_s), s	0.7	0.0	1.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.7	0.0	1.9	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	644	0	183	0	0	0	0	0
V/C Ratio (X)	0.04	0.00	0.26	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	644	0	414	0	0	0	0	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	12.8	0.0	28.3	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.7	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	12.9	0.0	29.1	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.7	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.2	0.0	0.7	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.02	0.00	0.18	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	36.9
HCM 6th LOS	D

Lanes, Volumes, Timings
8: FM973 & Taylor HS

2025 AM Peak Hour (w/New Signals, Optimized)

Phase 1 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	90	643	12	207	1053
Future Volume (vph)	6	90	643	12	207	1053
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.873		0.998			
Flt Protected	0.997				0.950	
Satd. Flow (prot)	1654	0	1758	0	1805	1792
Flt Permitted	0.997				0.950	
Satd. Flow (perm)	1654	0	1758	0	1805	1792
Link Speed (mph)	30		65			65
Link Distance (ft)	376		460			672
Travel Time (s)	8.5		4.8			7.0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Adj. Flow (vph)	7	106	756	14	244	1239
Shared Lane Traffic (%)						
Lane Group Flow (vph)	113	0	770	0	244	1239
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	68.0%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 2025 AM Peak Hour (w/New Signals, Optimized)

8: FM973 & Taylor HS

Phase 1 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	90	643	12	207	1053
Future Volume (Veh/h)	6	90	643	12	207	1053
Sign Control	Stop		Free		Free	Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	7	106	756	14	244	1239
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)			1184		672	
pX, platoon unblocked	0.45	0.76			0.76	
vC, conflicting volume	2490	763			770	
vC1, stage 1 conf vol	763					
vC2, stage 2 conf vol	1727					
vCu, unblocked vol	2485	528			538	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	67	75			69	
cM capacity (veh/h)	21	420			789	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	113	770	244	1239		
Volume Left	7	0	244	0		
Volume Right	106	14	0	0		
cSH	193	1700	789	1700		
Volume to Capacity	0.58	0.45	0.31	0.73		
Queue Length 95th (ft)	80	0	33	0		
Control Delay (s)	46.9	0.0	11.6	0.0		
Lane LOS	E		B			
Approach Delay (s)	46.9	0.0	1.9			
Approach LOS	E					
Intersection Summary						
Average Delay		3.4				
Intersection Capacity Utilization		68.0%		ICU Level of Service	C	
Analysis Period (min)		15				

Intersection						
Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	90	643	12	207	1053
Future Vol, veh/h	6	90	643	12	207	1053
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	8	0	0	6
Mvmt Flow	7	106	756	14	244	1239
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	2490	763	0	0	770	0
Stage 1	763	-	-	-	-	-
Stage 2	1727	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	33	408	-	-	854	-
Stage 1	464	-	-	-	-	-
Stage 2	159	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	24	408	-	-	854	-
Mov Cap-2 Maneuver	90	-	-	-	-	-
Stage 1	464	-	-	-	-	-
Stage 2	114	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	21.2	0		1.8		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	334	854	-	
HCM Lane V/C Ratio	-	-	0.338	0.285	-	
HCM Control Delay (s)	-	-	21.2	10.9	-	
HCM Lane LOS	-	-	C	B	-	
HCM 95th %tile Q(veh)	-	-	1.5	1.2	-	

Lanes, Volumes, Timings
9: FM973 & Streamwood

2025 AM Peak Hour (w/New Signals, Optimized)

Phase 1 Build-Out Year w/Development

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	93	33	12	561	1018	39
Future Volume (vph)	93	33	12	561	1018	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			250
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.964					0.850
Flt Protected	0.965		0.950			
Satd. Flow (prot)	1767	0	1805	1759	1810	1615
Flt Permitted	0.965		0.950			
Satd. Flow (perm)	1767	0	1805	1759	1810	1615
Link Speed (mph)	30			65	65	
Link Distance (ft)	373			724	460	
Travel Time (s)	8.5			7.6	4.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	8%	5%	0%
Adj. Flow (vph)	103	37	13	623	1131	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	140	0	13	623	1131	43
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	67.4%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 2025 AM Peak Hour (w/New Signals, Optimized) 9: FM973 & Streamwood

Phase 1 Build-Out Year w/Development

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	93	33	12	561	1018	39
Future Volume (Veh/h)	93	33	12	561	1018	39
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	103	37	13	623	1131	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage (veh)				2	2	
Upstream signal (ft)				724	1132	
pX, platoon unblocked	0.50	0.37	0.37			
vC, conflicting volume	1780	1131	1174			
vC1, stage 1 conf vol	1131					
vC2, stage 2 conf vol	649					
vCu, unblocked vol	898	499	616			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	53	83	96			
cM capacity (veh/h)	218	212	359			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	140	13	623	1131	43	
Volume Left	103	13	0	0	0	
Volume Right	37	0	0	0	43	
cSH	217	359	1700	1700	1700	
Volume to Capacity	0.65	0.04	0.37	0.67	0.03	
Queue Length 95th (ft)	97	3	0	0	0	
Control Delay (s)	47.7	15.4	0.0	0.0	0.0	
Lane LOS	E	C				
Approach Delay (s)	47.7	0.3		0.0		
Approach LOS	E					
Intersection Summary						
Average Delay			3.5			
Intersection Capacity Utilization			67.4%	ICU Level of Service		C
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	93	33	12	561	1018	39
Future Vol, veh/h	93	33	12	561	1018	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	8	5	0
Mvmt Flow	103	37	13	623	1131	43
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1780	1131	1174	0	-	0
Stage 1	1131	-	-	-	-	-
Stage 2	649	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	~ 91	250	602	-	-	-
Stage 1	311	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 89	250	602	-	-	-
Mov Cap-2 Maneuver	213	-	-	-	-	-
Stage 1	304	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	45.4	0.2		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	602	-	222	-	-	
HCM Lane V/C Ratio	0.022	-	0.631	-	-	
HCM Control Delay (s)	11.1	-	45.4	-	-	
HCM Lane LOS	B	-	E	-	-	
HCM 95th %tile Q(veh)	0.1	-	3.8	-	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2025 AM Peak Hour (w/New Signals, Optimized)
Phase 1 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	0	5	17	0	177	2	383	39	352	695	6
Future Volume (vph)	12	0	5	17	0	177	2	383	39	352	695	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	400		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.877			0.986			0.999	
Flt Protected		0.966			0.996		0.950			0.950		
Satd. Flow (prot)	0	1760	0	0	1660	0	1805	1676	0	1805	1711	0
Flt Permitted		0.486			0.968		0.950			0.950		
Satd. Flow (perm)	0	886	0	0	1613	0	1805	1676	0	1805	1711	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		234			234			7			1	
Link Speed (mph)		30			30			65			65	
Link Distance (ft)		574			560			730			724	
Travel Time (s)		13.0			12.7			7.7			7.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%	11%	0%
Adj. Flow (vph)	14	0	6	19	0	201	2	435	44	400	790	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	0	0	220	0	2	479	0	400	797	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
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Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2025 AM Peak Hour (w/New Signals, Optimized)
Phase 1 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			5			1		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		7.0	10.0		7.0	10.0	
Minimum Split (s)	24.0	24.0		23.0	23.0		13.0	24.0		13.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		13.0	25.0		21.0	33.0	
Total Split (%)	34.3%	34.3%		34.3%	34.3%		18.6%	35.7%		30.0%	47.1%	
Maximum Green (s)	19.0	19.0		19.0	19.0		7.0	19.0		15.0	27.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effect Green (s)		8.7			8.7		7.0	21.0		23.3	47.7	
Actuated g/C Ratio		0.12			0.12		0.10	0.30		0.33	0.68	
v/c Ratio		0.06			0.54		0.01	0.94		0.67	0.68	
Control Delay		0.4			9.2		28.5	55.3		20.9	14.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		0.4			9.2		28.5	55.3		20.9	14.5	
LOS		A			A		C	E		C	B	
Approach Delay		0.4			9.2			55.1			16.6	
Approach LOS		A			A			E			B	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 25.3

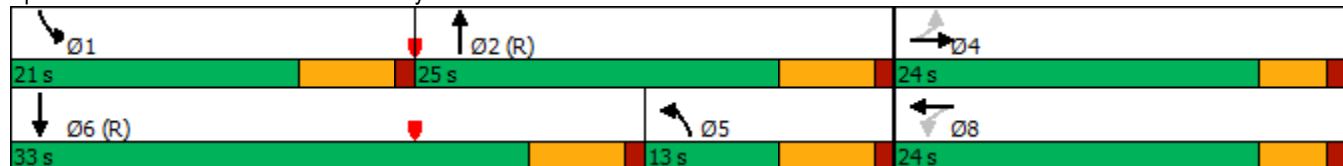
Intersection LOS: C

Intersection Capacity Utilization 68.6%

ICU Level of Service C

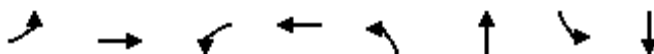
Analysis Period (min) 15

Splits and Phases: 10: FM973 & Wesley Miller



Phasings
10: FM973 & Wesley Miller

2025 AM Peak Hour (w/New Signals, Optimized)
Phase 1 Build-Out Year w/Development



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Minimum Initial (s)	8.0	8.0	8.0	8.0	7.0	10.0	7.0	10.0
Minimum Split (s)	24.0	24.0	23.0	23.0	13.0	24.0	13.0	24.0
Total Split (s)	24.0	24.0	24.0	24.0	13.0	25.0	21.0	33.0
Total Split (%)	34.3%	34.3%	34.3%	34.3%	18.6%	35.7%	30.0%	47.1%
Maximum Green (s)	19.0	19.0	19.0	19.0	7.0	19.0	15.0	27.0
Yellow Time (s)	3.5	3.5	3.5	3.5	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	1.0	1.0	1.0
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	11.4	11.4	11.4	11.4	7.0	19.0	22.6	34.6
90th %ile Term Code	Hold	Hold	Gap	Gap	Max	Coord	Max	Coord
70th %ile Green (s)	8.0	8.0	8.0	8.0	0.0	20.3	24.7	51.0
70th %ile Term Code	Hold	Hold	Min	Min	Skip	Coord	Gap	Coord
50th %ile Green (s)	8.0	8.0	8.0	8.0	0.0	21.5	23.5	51.0
50th %ile Term Code	Hold	Hold	Min	Min	Skip	Coord	Gap	Coord
30th %ile Green (s)	8.0	8.0	8.0	8.0	0.0	22.0	23.0	51.0
30th %ile Term Code	Hold	Hold	Min	Min	Skip	Coord	Gap	Coord
10th %ile Green (s)	8.0	8.0	8.0	8.0	0.0	22.4	22.6	51.0
10th %ile Term Code	Hold	Hold	Min	Min	Skip	Coord	Gap	Coord

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Queues
10: FM973 & Wesley Miller

2025 AM Peak Hour (w/New Signals, Optimized)
Phase 1 Build-Out Year w/Development



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	20	220	2	479	400	797
v/c Ratio	0.06	0.54	0.01	0.94	0.67	0.68
Control Delay	0.4	9.2	28.5	55.3	20.9	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.4	9.2	28.5	55.3	20.9	14.5
Queue Length 50th (ft)	0	0	1	195	133	225
Queue Length 95th (ft)	0	45	7	#387	m176	m#442
Internal Link Dist (ft)	494	480		650		644
Turn Bay Length (ft)			80		400	
Base Capacity (vph)	410	608	180	508	600	1166
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.36	0.01	0.94	0.67	0.68

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis 2025 AM Peak Hour (w/New Signals, Optimized)

10: FM973 & Wesley Miller

Phase 1 Build-Out Year w/Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	0	5	17	0	177	2	383	39	352	695	6
Future Volume (vph)	12	0	5	17	0	177	2	383	39	352	695	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.88		1.00	0.99		1.00	1.00	
Flt Protected		0.97			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1761			1658		1805	1676		1805	1711	
Flt Permitted		0.49			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		886			1613		1805	1676		1805	1711	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	14	0	6	19	0	201	2	435	44	400	790	7
RTOR Reduction (vph)	0	18	0	0	193	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	2	0	0	27	0	2	474	0	400	797	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%	11%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		8.7			8.7		1.4	21.0		23.3	42.9	
Effective Green, g (s)		8.7			8.7		1.4	21.0		23.3	42.9	
Actuated g/C Ratio		0.12			0.12		0.02	0.30		0.33	0.61	
Clearance Time (s)		5.0			5.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		110			200		36	502		600	1048	
v/s Ratio Prot							0.00	c0.28		0.22	c0.47	
v/s Ratio Perm		0.00			c0.02							
v/c Ratio		0.02			0.14		0.06	0.94		0.67	0.76	
Uniform Delay, d1		26.9			27.3		33.7	23.9		20.0	9.8	
Progression Factor		1.00			1.00		1.00	1.00		0.82	1.27	
Incremental Delay, d2		0.1			0.3		0.6	28.5		1.9	3.5	
Delay (s)		27.0			27.6		34.3	52.4		18.3	16.0	
Level of Service		C			C		C	D		B	B	
Approach Delay (s)		27.0			27.6			52.3			16.8	
Approach LOS		C			C			D			B	
Intersection Summary												
HCM 2000 Control Delay		27.0			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.78										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			17.0				
Intersection Capacity Utilization		68.6%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Appendix D. Traffic Simulation Output

- Phase 1 Buildout Year (2025) Projected Conditions with Development, AM & PM
 - Mitigation:
 - With Dual Left Turn and Right Turn Only Lane on Northbound FM 973 Approach to US 79 and with Optimized Timings at FM 973 at US 79
 - With Traffic Signal at FM 973 at Driveway 2B (half cycle to US 79 intersection)
 - With Traffic Signal at FM 973 at Wesley Miller Lane (half cycle to US 79 intersection)

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 AM Peak Hour (w/LTx2 on FM 973/79)

Phase 1 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	0	529	728	470	602	2	509	0	190	0	0
Future Volume (vph)	7	0	529	728	470	602	2	509	0	190	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		450	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Frt				0.850						0.850		0.865
Flt Protected		0.950			0.950			0.950	0.950			
Satd. Flow (prot)	0	1805	3312	1553	1719	3375	0	1588	1588	1568	0	1644
Flt Permitted		0.950			0.950			0.950	0.950			
Satd. Flow (perm)	0	1805	3312	1553	1719	3375	0	1588	1588	1568	0	1644
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				754						202		289
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1072			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Adj. Flow (vph)	7	0	563	774	500	640	2	541	0	202	0	0
Shared Lane Traffic (%)								50%				
Lane Group Flow (vph)	0	7	563	774	500	642	0	270	271	202	0	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			12			12
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
Page 1

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.94
Heavy Vehicles (%)	0%
Adj. Flow (vph)	1
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 AM Peak Hour (w/LTx2 on FM 973/79)
Phase 1 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	15.0	15.0	5.0	15.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	16.0	21.0	21.0	11.0	21.0		12.0	12.0	12.0	11.0	11.0
Total Split (s)	31.0	31.0	61.0	61.0	31.0	61.0		57.0	57.0	57.0	11.0	11.0
Total Split (%)	19.4%	19.4%	38.1%	38.1%	19.4%	38.1%		35.6%	35.6%	35.6%	6.9%	6.9%
Maximum Green (s)	25.0	25.0	55.0	55.0	25.0	55.0		50.0	50.0	50.0	5.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0		7.0	7.0	7.0		6.0
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0	2.0	2.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)		10.5	32.6	32.6	26.3	63.0		24.6	24.6	24.6		5.3
Actuated g/C Ratio		0.10	0.31	0.31	0.25	0.60		0.23	0.23	0.23		0.05
v/c Ratio		0.04	0.55	0.77	1.16	0.32		0.73	0.73	0.39		0.00
Control Delay		56.1	32.6	8.8	133.1	13.4		50.8	51.0	7.4		0.0
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
Total Delay		56.1	32.6	8.8	133.1	13.4		50.8	51.0	7.4		0.0
LOS		E	C	A	F	B		D	D	A		A
Approach Delay			19.0			65.8			39.1			
Approach LOS			B			E			D			

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 105

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 40.2

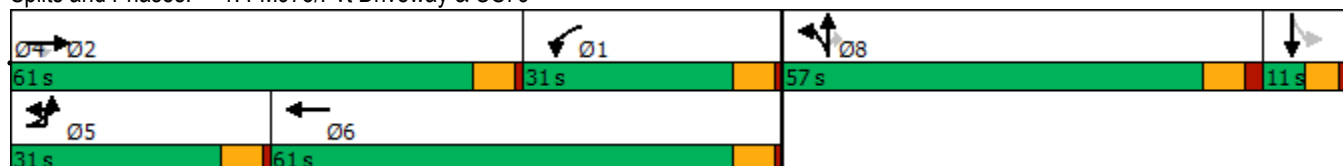
Intersection LOS: D

Intersection Capacity Utilization 90.3%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79



Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2025 AM Peak Hour (w/LTx2 on FM 973/79)

Phase 1 Build-Out Year w/Development

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Protected Phases	5	2		1	6	8	8		4
Permitted Phases			2					8	
Minimum Initial (s)	10.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	21.0	21.0	11.0	21.0	12.0	12.0	12.0	11.0
Total Split (s)	31.0	61.0	61.0	31.0	61.0	57.0	57.0	57.0	11.0
Total Split (%)	19.4%	38.1%	38.1%	19.4%	38.1%	35.6%	35.6%	35.6%	6.9%
Maximum Green (s)	25.0	55.0	55.0	25.0	55.0	50.0	50.0	50.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None	None
Walk Time (s)									
Flash Dont Walk (s)									
Pedestrian Calls (#/hr)									
90th %ile Green (s)	10.0	54.2	54.2	25.0	69.2	41.7	41.7	41.7	5.0
90th %ile Term Code	Min	Gap	Gap	Max	Hold	Gap	Gap	Gap	Max
70th %ile Green (s)	0.0	37.1	37.1	25.0	68.1	28.4	28.4	28.4	0.0
70th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Gap	Skip
50th %ile Green (s)	0.0	31.0	31.0	25.0	62.0	23.7	23.7	23.7	0.0
50th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Gap	Skip
30th %ile Green (s)	0.0	25.2	25.2	25.0	56.2	18.7	18.7	18.7	0.0
30th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Gap	Skip
10th %ile Green (s)	0.0	19.9	19.9	25.0	50.9	14.2	14.2	14.2	0.0
10th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Gap	Skip
Intersection Summary									
Cycle Length: 160									
Actuated Cycle Length: 105									
Control Type: Actuated-Uncoordinated									
90th %ile Actuated Cycle: 150.9									
70th %ile Actuated Cycle: 109.5									
50th %ile Actuated Cycle: 98.7									
30th %ile Actuated Cycle: 87.9									
10th %ile Actuated Cycle: 78.1									

Queues

2025 AM Peak Hour (w/LTx2 on FM 973/79)

1: FM973/Pvt Driveway & US79

Phase 1 Build-Out Year w/Development

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	7	563	774	500	642	270	271	202	1
v/c Ratio	0.04	0.55	0.77	1.16	0.32	0.73	0.73	0.39	0.00
Control Delay	56.1	32.6	8.8	133.1	13.4	50.8	51.0	7.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.1	32.6	8.8	133.1	13.4	50.8	51.0	7.4	0.0
Queue Length 50th (ft)	4	153	9	~374	86	164	165	0	0
Queue Length 95th (ft)	24	283	141	#968	264	353	354	62	0
Internal Link Dist (ft)		854			992		556		491
Turn Bay Length (ft)	100		615	880		250		450	
Base Capacity (vph)	452	1824	1194	430	2060	795	795	885	356
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.31	0.65	1.16	0.31	0.34	0.34	0.23	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis 2025 AM Peak Hour (w/LTx2 on FM 973/79)

1: FM973/Pvt Driveway & US79

Phase 1 Build-Out Year w/Development

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	0	529	728	470	602	2	509	0	190	0	0
Future Volume (vph)	7	0	529	728	470	602	2	509	0	190	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0		7.0	7.0	7.0		6.0
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00
Frt		1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.86
Flt Protected		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00
Satd. Flow (prot)		1805	3312	1553	1719	3373		1588	1588	1568		1644
Flt Permitted		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00
Satd. Flow (perm)		1805	3312	1553	1719	3373		1588	1588	1568		1644
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	7	0	563	774	500	640	2	541	0	202	0	0
RTOR Reduction (vph)	0	0	0	540	0	0	0	0	0	159	0	1
Lane Group Flow (vph)	0	7	563	234	500	642	0	270	271	43	0	0
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		1.4	32.6	32.6	31.8	63.0		24.6	24.6	24.6		0.7
Effective Green, g (s)		1.4	32.6	32.6	31.8	63.0		24.6	24.6	24.6		0.7
Actuated g/C Ratio		0.01	0.28	0.28	0.28	0.55		0.21	0.21	0.21		0.01
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0		7.0	7.0	7.0		6.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0		2.0
Lane Grp Cap (vph)		22	941	441	476	1852		340	340	336		10
v/s Ratio Prot		0.00	c0.17		c0.29	0.19		0.17	c0.17			c0.00
v/s Ratio Perm				0.15						0.03		
v/c Ratio		0.32	0.60	0.53	1.05	0.35		0.79	0.80	0.13		0.00
Uniform Delay, d1		56.2	35.4	34.6	41.5	14.4		42.7	42.7	36.4		56.7
Progression Factor		1.00	1.00	1.00	0.98	0.98		1.00	1.00	1.00		1.00
Incremental Delay, d2		3.0	0.7	0.6	55.1	0.0		12.0	12.2	0.2		0.0
Delay (s)		59.2	36.1	35.2	95.9	14.1		54.7	54.9	36.6		56.7
Level of Service		E	D	D	F	B		D	D	D		E
Approach Delay (s)			35.7			49.9			49.8			56.7
Approach LOS			D			D			D			E
Intersection Summary												
HCM 2000 Control Delay			44.0									HCM 2000 Level of Service D
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			114.7							25.0		
Intersection Capacity Utilization			90.3%									ICU Level of Service E
Analysis Period (min)			15									
c Critical Lane Group												

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	1
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 PM Peak Hour (w/LTx2 on FM 973/79))

Phase 1 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	0	793	290	192	439	2	450	0	380	0	0
Future Volume (vph)	8	0	793	290	192	439	2	450	0	380	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		450	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.999				0.850		
Flt Protected		0.950			0.950			0.950	0.950			
Satd. Flow (prot)	0	1805	3471	1455	1719	3340	0	1618	1618	1583	0	1900
Flt Permitted		0.950			0.950			0.950	0.950			
Satd. Flow (perm)	0	1805	3471	1455	1719	3340	0	1618	1618	1583	0	1900
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				319						418		
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1070			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	4%	11%	5%	8%	0%	6%	0%	2%	0%	0%
Adj. Flow (vph)	9	0	871	319	211	482	2	495	0	418	0	0
Shared Lane Traffic (%)								50%				
Lane Group Flow (vph)	0	9	871	319	211	484	0	247	248	418	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			12			12
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
Page 1

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 PM Peak Hour (w/LTx2 on FM 973/79))
Phase 1 Build-Out Year w/Development

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.91
Heavy Vehicles (%)	0%
Adj. Flow (vph)	0
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2025 PM Peak Hour (w/LTx2 on FM 973/79))
Phase 1 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	15.0	15.0	5.0	15.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	16.0	21.0	21.0	11.0	21.0		12.0	12.0	12.0	11.0	11.0
Total Split (s)	16.0	16.0	64.0	64.0	38.0	86.0		47.0	47.0	47.0	11.0	11.0
Total Split (%)	10.0%	10.0%	40.0%	40.0%	23.8%	53.8%		29.4%	29.4%	29.4%	6.9%	6.9%
Maximum Green (s)	10.0	10.0	58.0	58.0	32.0	80.0		40.0	40.0	40.0	5.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0		7.0	7.0	7.0		6.0
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0	2.0	2.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)		10.8	37.8	37.8	18.6	60.6		23.9	23.9	23.9		
Actuated g/C Ratio		0.11	0.38	0.38	0.18	0.60		0.24	0.24	0.24		
v/c Ratio		0.05	0.67	0.43	0.67	0.24		0.64	0.65	0.60		
Control Delay		55.4	30.2	4.7	52.3	10.9		46.0	46.2	7.7		
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		
Total Delay		55.4	30.2	4.7	52.3	10.9		46.0	46.2	7.7		
LOS		E	C	A	D	B		D	D	A		
Approach Delay			23.6			23.5			28.5			
Approach LOS			C			C			C			

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 100.8

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 25.2

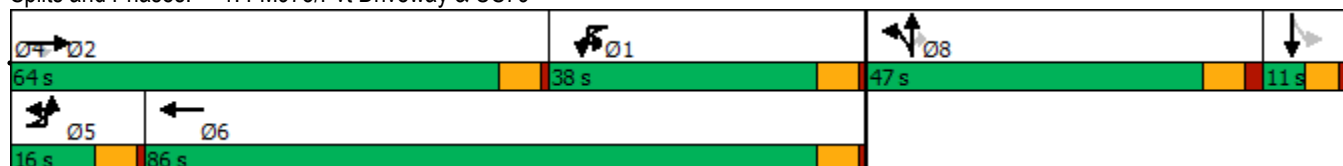
Intersection LOS: C

Intersection Capacity Utilization 71.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79



Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2025 PM Peak Hour (w/LTx2 on FM 973/79))

Phase 1 Build-Out Year w/Development



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	Ø4
Protected Phases	5	2		1	6	8	8		4
Permitted Phases			2					8	
Minimum Initial (s)	10.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	21.0	21.0	11.0	21.0	12.0	12.0	12.0	11.0
Total Split (s)	16.0	64.0	64.0	38.0	86.0	47.0	47.0	47.0	11.0
Total Split (%)	10.0%	40.0%	40.0%	23.8%	53.8%	29.4%	29.4%	29.4%	7%
Maximum Green (s)	10.0	58.0	58.0	32.0	80.0	40.0	40.0	40.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None	None
Walk Time (s)									
Flash Dont Walk (s)									
Pedestrian Calls (#/hr)									
90th %ile Green (s)	10.0	58.0	58.0	29.6	77.6	38.5	38.5	38.5	0.0
90th %ile Term Code	Max	Max	Max	Gap	Hold	Gap	Gap	Gap	Skip
70th %ile Green (s)	0.0	45.0	45.0	22.7	73.7	29.3	29.3	29.3	0.0
70th %ile Term Code	Skip	Gap	Gap	Gap	Hold	Gap	Gap	Gap	Skip
50th %ile Green (s)	0.0	36.8	36.8	18.1	60.9	23.0	23.0	23.0	0.0
50th %ile Term Code	Skip	Gap	Gap	Gap	Hold	Gap	Gap	Gap	Skip
30th %ile Green (s)	0.0	29.9	29.9	14.4	50.3	18.7	18.7	18.7	0.0
30th %ile Term Code	Skip	Gap	Gap	Gap	Hold	Gap	Gap	Gap	Skip
10th %ile Green (s)	0.0	21.9	21.9	10.2	38.1	12.8	12.8	12.8	0.0
10th %ile Term Code	Skip	Gap	Gap	Gap	Hold	Gap	Gap	Gap	Skip

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 100.8

Control Type: Actuated-Uncoordinated

90th %ile Actuated Cycle: 145.1

70th %ile Actuated Cycle: 116

50th %ile Actuated Cycle: 96.9

30th %ile Actuated Cycle: 82

10th %ile Actuated Cycle: 63.9

Queues

2025 PM Peak Hour (w/LTx2 on FM 973/79))

1: FM973/Pvt Driveway & US79

Phase 1 Build-Out Year w/Development

								
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	9	871	319	211	484	247	248	418
v/c Ratio	0.05	0.67	0.43	0.67	0.24	0.64	0.65	0.60
Control Delay	55.4	30.2	4.7	52.3	10.9	46.0	46.2	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.4	30.2	4.7	52.3	10.9	46.0	46.2	7.7
Queue Length 50th (ft)	5	230	0	120	60	144	145	0
Queue Length 95th (ft)	28	417	61	273	157	313	315	88
Internal Link Dist (ft)		854			990		556	
Turn Bay Length (ft)	100		615	880		250		450
Base Capacity (vph)	193	2161	1026	590	2700	694	694	918
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.40	0.31	0.36	0.18	0.36	0.36	0.46
Intersection Summary								

HCM Signalized Intersection Capacity Analysis 2025 PM Peak Hour (w/LTx2 on FM 973/79))

1: FM973/Pvt Driveway & US79

Phase 1 Build-Out Year w/Development

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	0	793	290	192	439	2	450	0	380	0	0
Future Volume (vph)	8	0	793	290	192	439	2	450	0	380	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0		7.0	7.0	7.0		
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		
Frt		1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		
Flt Protected		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		
Satd. Flow (prot)		1805	3471	1455	1719	3342		1618	1618	1583		
Flt Permitted		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		
Satd. Flow (perm)		1805	3471	1455	1719	3342		1618	1618	1583		
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	9	0	871	319	211	482	2	495	0	418	0	0
RTOR Reduction (vph)	0	0	0	204	0	0	0	0	0	323	0	0
Lane Group Flow (vph)	0	9	871	115	211	484	0	247	248	95	0	0
Heavy Vehicles (%)	0%	0%	4%	11%	5%	8%	0%	6%	0%	2%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		1.4	37.8	37.8	24.2	60.6		23.9	23.9	23.9		
Effective Green, g (s)		1.4	37.8	37.8	24.2	60.6		23.9	23.9	23.9		
Actuated g/C Ratio		0.01	0.36	0.36	0.23	0.58		0.23	0.23	0.23		
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0		7.0	7.0	7.0		
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0		
Lane Grp Cap (vph)		24	1250	524	396	1930		368	368	360		
v/s Ratio Prot		0.00	c0.25		c0.12	0.14		0.15	c0.15			
v/s Ratio Perm				0.08						0.06		
v/c Ratio		0.38	0.70	0.22	0.53	0.25		0.67	0.67	0.26		
Uniform Delay, d1		51.3	28.7	23.3	35.4	10.9		36.9	36.9	33.3		
Progression Factor		1.00	1.00	1.00	0.98	0.98		1.00	1.00	1.00		
Incremental Delay, d2		3.6	1.4	0.1	0.7	0.0		4.8	4.8	0.4		
Delay (s)		54.9	30.0	23.4	35.5	10.7		41.7	41.8	33.7		
Level of Service		D	C	C	D	B		D	D	C		
Approach Delay (s)			28.5			18.3			38.0			0.0
Approach LOS			C			B			D			A
Intersection Summary												
HCM 2000 Control Delay			29.0			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			104.9			Sum of lost time (s)			25.0			
Intersection Capacity Utilization			71.9%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Appendix D. Traffic Simulation Output

- Phase 2 Buildout Year (2027) Projected Conditions without Development, AM & PM

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2027 AM Peak Hour
Phase 2 Build-Out Year w/o Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	0	385	783	479	596	3	464	0	202	0	0
Future Volume (vph)	8	0	385	783	479	596	3	464	0	202	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		0	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.999				0.850		0.865
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1805	3312	1553	1719	3371	0	0	1671	1568	0	1644
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1805	3312	1553	1719	3371	0	0	1671	1568	0	1644
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				754						157		296
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1072			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Adj. Flow (vph)	9	0	410	833	510	634	3	494	0	215	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	410	833	510	637	0	0	494	215	0	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			0			0
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.94
Heavy Vehicles (%)	0%
Adj. Flow (vph)	1
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2027 AM Peak Hour
Phase 2 Build-Out Year w/o Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	15.0	15.0	5.0	15.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	16.0	21.0	21.0	11.0	21.0		12.0	12.0	12.0	11.0	11.0
Total Split (s)	31.0	31.0	61.0	61.0	31.0	61.0		57.0	57.0	57.0	11.0	11.0
Total Split (%)	19.4%	19.4%	38.1%	38.1%	19.4%	38.1%		35.6%	35.6%	35.6%	6.9%	6.9%
Maximum Green (s)	25.0	25.0	55.0	55.0	25.0	55.0		50.0	50.0	50.0	5.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0	2.0	2.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)		10.4	31.2	31.2	25.9	60.9			42.5	42.5		5.2
Actuated g/C Ratio		0.09	0.26	0.26	0.21	0.50			0.35	0.35		0.04
v/c Ratio		0.06	0.48	0.87	1.39	0.38			0.84	0.33		0.00
Control Delay		63.6	39.8	16.0	226.2	21.0			51.9	11.5		0.0
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Delay		63.6	39.8	16.0	226.2	21.0			51.9	11.5		0.0
LOS		E	D	B	F	C			D	B		A
Approach Delay			24.1			112.2			39.6			
Approach LOS			C			F			D			

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 121

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.39

Intersection Signal Delay: 60.2

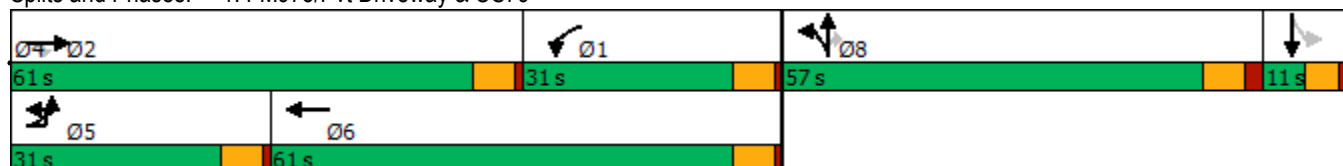
Intersection LOS: E

Intersection Capacity Utilization 94.2%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79



Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2027 AM Peak Hour
Phase 2 Build-Out Year w/o Development



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Protected Phases	5	2		1	6	8		4
Permitted Phases			2				8	
Minimum Initial (s)	10.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0
Minimum Split (s)	16.0	21.0	21.0	11.0	21.0	12.0	12.0	11.0
Total Split (s)	31.0	61.0	61.0	31.0	61.0	57.0	57.0	11.0
Total Split (%)	19.4%	38.1%	38.1%	19.4%	38.1%	35.6%	35.6%	6.9%
Maximum Green (s)	25.0	55.0	55.0	25.0	55.0	50.0	50.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	10.0	55.0	55.0	25.0	70.0	50.0	50.0	5.0
90th %ile Term Code	Min	Max	Max	Max	Hold	Max	Max	Max
70th %ile Green (s)	0.0	38.9	38.9	25.0	69.9	50.0	50.0	0.0
70th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip
50th %ile Green (s)	0.0	27.1	27.1	25.0	58.1	44.0	44.0	0.0
50th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip
30th %ile Green (s)	0.0	23.2	23.2	25.0	54.2	37.7	37.7	0.0
30th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip
10th %ile Green (s)	0.0	17.9	17.9	25.0	48.9	30.0	30.0	0.0
10th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 121

Control Type: Actuated-Uncoordinated

90th %ile Actuated Cycle: 160

70th %ile Actuated Cycle: 132.9

50th %ile Actuated Cycle: 115.1

30th %ile Actuated Cycle: 104.9

10th %ile Actuated Cycle: 91.9

Queues

1: FM973/Pvt Driveway & US79

2027 AM Peak Hour

Phase 2 Build-Out Year w/o Development

								
Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	9	410	833	510	637	494	215	1
v/c Ratio	0.06	0.48	0.87	1.39	0.38	0.84	0.33	0.00
Control Delay	63.6	39.8	16.0	226.2	21.0	51.9	11.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.6	39.8	16.0	226.2	21.0	51.9	11.5	0.0
Queue Length 50th (ft)	6	140	47	~499	146	317	27	0
Queue Length 95th (ft)	30	218	271	#1046	296	#735	116	0
Internal Link Dist (ft)		854			992	556		491
Turn Bay Length (ft)	100		615	880				
Base Capacity (vph)	387	1562	1130	368	1746	716	761	353
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.26	0.74	1.39	0.36	0.69	0.28	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2027 AM Peak Hour
Phase 2 Build-Out Year w/o Development

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	0	385	783	479	596	3	464	0	202	0	0
Future Volume (vph)	8	0	385	783	479	596	3	464	0	202	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95			1.00	1.00		1.00
Frt		1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.86
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00		1.00
Satd. Flow (prot)		1805	3312	1553	1719	3372			1671	1568		1644
Flt Permitted		0.95	1.00	1.00	0.95	1.00			0.95	1.00		1.00
Satd. Flow (perm)		1805	3312	1553	1719	3372			1671	1568		1644
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	9	0	410	833	510	634	3	494	0	215	0	0
RTOR Reduction (vph)	0	0	0	574	0	0	0	0	0	106	0	1
Lane Group Flow (vph)	0	9	410	259	510	637	0	0	494	109	0	0
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		1.5	31.2	31.2	31.2	60.9			42.5	42.5		0.8
Effective Green, g (s)		1.5	31.2	31.2	31.2	60.9			42.5	42.5		0.8
Actuated g/C Ratio		0.01	0.24	0.24	0.24	0.47			0.33	0.33		0.01
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0			3.0	3.0		2.0
Lane Grp Cap (vph)		20	790	370	410	1571			543	509		10
v/s Ratio Prot		0.00	0.12		c0.30	0.19			c0.30			c0.00
v/s Ratio Perm				c0.17						0.07		
v/c Ratio		0.45	0.52	0.70	1.24	0.41			0.91	0.21		0.00
Uniform Delay, d1		64.2	43.2	45.5	49.7	23.0			42.3	32.0		64.6
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		5.8	0.2	4.6	128.8	0.1			19.1	0.2		0.0
Delay (s)		69.9	43.5	50.1	178.6	23.0			61.4	32.2		64.6
Level of Service		E	D	D	F	C			E	C		E
Approach Delay (s)			48.1			92.2			52.5			64.6
Approach LOS			D			F			D			E
Intersection Summary												
HCM 2000 Control Delay			65.4		HCM 2000 Level of Service				E			
HCM 2000 Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			130.7		Sum of lost time (s)				25.0			
Intersection Capacity Utilization			94.2%		ICU Level of Service				F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2027 AM Peak Hour
Phase 2 Build-Out Year w/o Development

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	1
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
4: US79 & Crossover

2027 AM Peak Hour
Phase 2 Build-Out Year w/o Development

								
Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	3	0	607	0	1125	0	0	0
Future Volume (vph)	3	0	607	0	1125	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		100		0	0	0
Storage Lanes		1		1		0	1	0
Taper Length (ft)		100		100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frt								
Flt Protected		0.950						
Satd. Flow (prot)	0	1805	3282	1900	3374	0	1900	0
Flt Permitted		0.950						
Satd. Flow (perm)	0	1805	3282	1900	3374	0	1900	0
Link Speed (mph)			65		65		30	
Link Distance (ft)			739		504		317	
Travel Time (s)			7.8		5.3		7.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	10%	0%	7%	0%	0%	0%
Adj. Flow (vph)	3	0	667	0	1236	0	0	0
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	3	667	0	1236	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			60		60		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	
Intersection Summary								
Area Type:	Other							
Control Type:	Unsignalized							
Intersection Capacity Utilization	34.4%				ICU Level of Service A			
Analysis Period (min)	15							

HCM Unsignalized Intersection Capacity Analysis

4: US79 & Crossover

2027 AM Peak Hour
Phase 2 Build-Out Year w/o Development

								
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (veh/h)	3	0	607	0	1125	0	0	0
Future Volume (Veh/h)	3	0	607	0	1125	0	0	0
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	667	0	1236	0	0	0
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage (veh)			2		2			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	1236		0			1570	618
vC1, stage 1 conf vol							1236	
vC2, stage 2 conf vol							334	
vCu, unblocked vol	0	1236		0			1570	618
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	100		0			100	100
cM capacity (veh/h)	0	571		0			230	437
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	
Volume Total	0	334	334	618	618	0	0	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.20	0.20	0.36	0.36	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lane LOS							A	
Approach Delay (s)	0.0			0.0			0.0	
Approach LOS							A	
Intersection Summary								
Average Delay			0.0					
Intersection Capacity Utilization			34.4%		ICU Level of Service		A	
Analysis Period (min)			15					

Intersection								
Int Delay, s/veh	0							
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	3	0	607	0	1125	0	0	0
Future Vol, veh/h	3	0	607	0	1125	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	100	-	100	-	-	0	-
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	10	0	7	0	0	0
Mvmt Flow	3	0	667	0	1236	0	0	0
Major/Minor	Major1		Major2		Minor2			
Conflicting Flow All	1236	1236	0	667	-	0	1576	618
Stage 1	-	-	-	-	-	-	1236	-
Stage 2	-	-	-	-	-	-	340	-
Critical Hdwy	6.4	4.1	-	6.4	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	2.2	-	2.5	-	-	3.5	3.3
Pot Cap-1 Maneuver	238	571	-	550	-	0	102	437
Stage 1	-	-	-	-	-	0	241	-
Stage 2	-	-	-	-	-	0	698	-
Platoon blocked, %			-		-			
Mov Cap-1 Maneuver	238	238	-	550	-	-	101	437
Mov Cap-2 Maneuver	-	-	-	-	-	-	101	-
Stage 1	-	-	-	-	-	-	238	-
Stage 2	-	-	-	-	-	-	698	-
Approach	EB		WB		SB			
HCM Control Delay, s	0.1		0		0			
HCM LOS					A			
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	SBLn1			
Capacity (veh/h)	238	-	550	-	-			
HCM Lane V/C Ratio	0.014	-	-	-	-			
HCM Control Delay (s)	20.3	-	0	-	0			
HCM Lane LOS	C	-	A	-	A			
HCM 95th %tile Q(veh)	0	-	0	-	-			

Lanes, Volumes, Timings
5: S Rio Grande & US79

2027 AM Peak Hour
Phase 2 Build-Out Year w/o Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	4	639	6	7	1073	1	29	7	1	3	3	1
Future Volume (vph)	4	639	6	7	1073	1	29	7	1	3	3	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		350	175		330	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.997			0.981	
Flt Protected	0.950			0.950				0.962			0.979	
Satd. Flow (prot)	1805	3539	1615	1805	3374	1615	0	1822	0	0	1825	0
Flt Permitted	0.950			0.950				0.962			0.979	
Satd. Flow (perm)	1805	3539	1615	1805	3374	1615	0	1822	0	0	1825	0
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		572			566			552			557	
Travel Time (s)		6.0			5.9			12.5			12.7	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	5	726	7	8	1219	1	33	8	1	3	3	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	726	7	8	1219	1	0	42	0	0	7	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		60			60			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	39.8%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis

5: S Rio Grande & US79

2027 AM Peak Hour
Phase 2 Build-Out Year w/o Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	639	6	7	1073	1	29	7	1	3	3	1
Future Volume (Veh/h)	4	639	6	7	1073	1	29	7	1	3	3	1
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	5	726	7	8	1219	1	33	8	1	3	3	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	Raised			Raised								
Median storage veh	2			2								
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1219			726			1363	1971	363	1612	1971	610
vC1, stage 1 conf vol							736	736		1235	1235	
vC2, stage 2 conf vol							627	1235		377	736	
vCu, unblocked vol	1219			726			1363	1971	363	1612	1971	610
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			89	96	100	98	99	100
cM capacity (veh/h)	579			886			295	212	640	179	215	443
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	5	363	363	7	8	610	610	1	42	7		
Volume Left	5	0	0	0	8	0	0	0	33	3		
Volume Right	0	0	0	7	0	0	0	1	1	1		
cSH	579	1700	1700	1700	886	1700	1700	1700	278	212		
Volume to Capacity	0.01	0.21	0.21	0.00	0.01	0.36	0.36	0.00	0.15	0.03		
Queue Length 95th (ft)	1	0	0	0	1	0	0	0	13	3		
Control Delay (s)	11.3	0.0	0.0	0.0	9.1	0.0	0.0	0.0	20.3	22.5		
Lane LOS	B				A				C	C		
Approach Delay (s)	0.1				0.1				20.3	22.5		
Approach LOS									C	C		
Intersection Summary												
Average Delay	0.6											
Intersection Capacity Utilization	39.8%			ICU Level of Service						A		
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	639	6	7	1073	1	29	7	1	3	3	1
Future Vol, veh/h	4	639	6	7	1073	1	29	7	1	3	3	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	Free
Storage Length	200	-	350	175	-	330	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	2	0	0	7	0	0	0	0	0	0	0
Mvmt Flow	5	726	7	8	1219	1	33	8	1	3	3	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1219	0	0	726	0	0	1363	1971	-	1612	1971	-
Stage 1	-	-	-	-	-	-	736	736	-	1235	1235	-
Stage 2	-	-	-	-	-	-	627	1235	-	377	736	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	-	7.5	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	-	3.5	4	-
Pot Cap-1 Maneuver	579	-	-	886	-	-	109	63	0	71	63	0
Stage 1	-	-	-	-	-	-	381	428	0	190	251	0
Stage 2	-	-	-	-	-	-	443	251	0	622	428	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	579	-	-	886	-	-	103	62	-	63	62	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	103	62	-	63	62	-
Stage 1	-	-	-	-	-	-	378	424	-	188	249	-
Stage 2	-	-	-	-	-	-	433	249	-	605	424	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	579	-	-	886	-	-	-
HCM Lane V/C Ratio	-	0.008	-	-	0.009	-	-	-
HCM Control Delay (s)	-	11.3	-	-	9.1	-	-	-
HCM Lane LOS	-	B	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

Lanes, Volumes, Timings
8: FM973 & Taylor HS

2027 AM Peak Hour
Phase 2 Build-Out Year w/o Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	83	601	12	214	1059
Future Volume (vph)	6	83	601	12	214	1059
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.874		0.997			
Flt Protected	0.997				0.950	
Satd. Flow (prot)	1656	0	1757	0	1805	1792
Flt Permitted	0.997				0.950	
Satd. Flow (perm)	1656	0	1757	0	1805	1792
Link Speed (mph)	30		65			65
Link Distance (ft)	376		460			672
Travel Time (s)	8.5		4.8			7.0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Adj. Flow (vph)	7	98	707	14	252	1246
Shared Lane Traffic (%)						
Lane Group Flow (vph)	105	0	721	0	252	1246
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 67.9%			ICU Level of Service C			
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis

8: FM973 & Taylor HS

2027 AM Peak Hour
Phase 2 Build-Out Year w/o Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	83	601	12	214	1059
Future Volume (Veh/h)	6	83	601	12	214	1059
Sign Control	Stop		Free		Free	Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	7	98	707	14	252	1246
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2464	714			721	
vC1, stage 1 conf vol	714					
vC2, stage 2 conf vol	1750					
vCu, unblocked vol	2464	714			721	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	77			72	
cM capacity (veh/h)	106	435			890	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	105	721	252	1246		
Volume Left	7	0	252	0		
Volume Right	98	14	0	0		
cSH	360	1700	890	1700		
Volume to Capacity	0.29	0.42	0.28	0.73		
Queue Length 95th (ft)	30	0	29	0		
Control Delay (s)	19.1	0.0	10.6	0.0		
Lane LOS	C		B			
Approach Delay (s)	19.1	0.0	1.8			
Approach LOS	C					
Intersection Summary						
Average Delay		2.0				
Intersection Capacity Utilization		67.9%		ICU Level of Service		C
Analysis Period (min)		15				

Intersection						
Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	83	601	12	214	1059
Future Vol, veh/h	6	83	601	12	214	1059
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	8	0	0	6
Mvmt Flow	7	98	707	14	252	1246
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	2464	714	0	0	721	0
Stage 1	714	-	-	-	-	-
Stage 2	1750	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	34	435	-	-	890	-
Stage 1	489	-	-	-	-	-
Stage 2	155	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	24	435	-	-	890	-
Mov Cap-2 Maneuver	89	-	-	-	-	-
Stage 1	489	-	-	-	-	-
Stage 2	111	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	19.9	0	1.8			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	345	890	-	
HCM Lane V/C Ratio	-	-	0.303	0.283	-	
HCM Control Delay (s)	-	-	19.9	10.6	-	
HCM Lane LOS	-	-	C	B	-	
HCM 95th %tile Q(veh)	-	-	1.3	1.2	-	

Lanes, Volumes, Timings
9: FM973 & Streamwood

2027 AM Peak Hour
Phase 2 Build-Out Year w/o Development

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	79	33	12	533	1033	29
Future Volume (vph)	79	33	12	533	1033	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			250
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.960					0.850
Flt Protected	0.966		0.950			
Satd. Flow (prot)	1762	0	1805	1759	1810	1615
Flt Permitted	0.966		0.950			
Satd. Flow (perm)	1762	0	1805	1759	1810	1615
Link Speed (mph)	30			65	65	
Link Distance (ft)	373			724	460	
Travel Time (s)	8.5			7.6	4.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	8%	5%	0%
Adj. Flow (vph)	88	37	13	592	1148	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	13	592	1148	32
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	67.4%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

9: FM973 & Streamwood

2027 AM Peak Hour
Phase 2 Build-Out Year w/o Development

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	79	33	12	533	1033	29
Future Volume (Veh/h)	79	33	12	533	1033	29
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	88	37	13	592	1148	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1766	1148	1180			
vC1, stage 1 conf vol	1148					
vC2, stage 2 conf vol	618					
vCu, unblocked vol	1766	1148	1180			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	67	85	98			
cM capacity (veh/h)	269	244	599			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	125	13	592	1148	32	
Volume Left	88	13	0	0	0	
Volume Right	37	0	0	0	32	
cSH	261	599	1700	1700	1700	
Volume to Capacity	0.48	0.02	0.35	0.68	0.02	
Queue Length 95th (ft)	60	2	0	0	0	
Control Delay (s)	30.8	11.1	0.0	0.0	0.0	
Lane LOS	D	B				
Approach Delay (s)	30.8	0.2		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization			67.4%		ICU Level of Service	C
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	2.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	79	33	12	533	1033	29
Future Vol, veh/h	79	33	12	533	1033	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	8	5	0
Mvmt Flow	88	37	13	592	1148	32
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1766	1148	1180	0	-	0
Stage 1	1148	-	-	-	-	-
Stage 2	618	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	93	244	599	-	-	-
Stage 1	305	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	91	244	599	-	-	-
Mov Cap-2 Maneuver	213	-	-	-	-	-
Stage 1	298	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	40.4	0.2		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	599	-	221	-	-	
HCM Lane V/C Ratio	0.022	-	0.563	-	-	
HCM Control Delay (s)	11.1	-	40.4	-	-	
HCM Lane LOS	B	-	E	-	-	
HCM 95th %tile Q(veh)	0.1	-	3.1	-	-	

Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2027 AM Peak Hour
Phase 2 Build-Out Year w/o Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	0	5	19	0	193	3	344	43	383	682	3
Future Volume (vph)	9	0	5	19	0	193	3	344	43	383	682	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	400		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.949			0.877			0.983			0.999	
Flt Protected		0.970			0.995		0.950			0.950		
Satd. Flow (prot)	0	1749	0	0	1658	0	1805	1674	0	1805	1711	0
Flt Permitted		0.970			0.995		0.950			0.950		
Satd. Flow (perm)	0	1749	0	0	1658	0	1805	1674	0	1805	1711	0
Link Speed (mph)		30			30			65			65	
Link Distance (ft)		574			560			730			724	
Travel Time (s)		13.0			12.7			7.7			7.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%	11%	0%
Adj. Flow (vph)	10	0	6	22	0	219	3	391	49	435	775	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	241	0	3	440	0	435	778	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	64.7%											
Analysis Period (min)	15											
	ICU Level of Service C											

HCM Unsignalized Intersection Capacity Analysis

10: FM973 & Wesley Miller

2027 AM Peak Hour
Phase 2 Build-Out Year w/o Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	0	5	19	0	193	3	344	43	383	682	3
Future Volume (Veh/h)	9	0	5	19	0	193	3	344	43	383	682	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	10	0	6	22	0	219	3	391	49	435	775	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh								2			2	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2262	2092	776	2072	2070	416	778			440		
vC1, stage 1 conf vol	1646	1646		422	422							
vC2, stage 2 conf vol	616	446		1651	1648							
vCu, unblocked vol	2262	2092	776	2072	2070	416	778			440		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	26	100	99	69	100	66	100			62		
cM capacity (veh/h)	14	83	400	71	91	641	848			1131		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	16	241	3	440	435	778						
Volume Left	10	22	3	0	435	0						
Volume Right	6	219	0	49	0	3						
cSH	21	371	848	1700	1131	1700						
Volume to Capacity	0.76	0.65	0.00	0.26	0.38	0.46						
Queue Length 95th (ft)	54	110	0	0	46	0						
Control Delay (s)	366.5	31.0	9.3	0.0	10.2	0.0						
Lane LOS	F	D	A		B							
Approach Delay (s)	366.5	31.0	0.1		3.6							
Approach LOS	F	D										
Intersection Summary												
Average Delay			9.3									
Intersection Capacity Utilization			64.7%		ICU Level of Service					C		
Analysis Period (min)			15									

Intersection												
Int Delay, s/veh	22.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	0	5	19	0	193	3	344	43	383	682	3
Future Vol, veh/h	9	0	5	19	0	193	3	344	43	383	682	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	400	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	13	0	0	11	0
Mvmt Flow	10	0	6	22	0	219	3	391	49	435	775	3
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2178	2093	777	2072	2070	416	778	0	0	440	0	0
Stage 1	1647	1647	-	422	422	-	-	-	-	-	-	-
Stage 2	531	446	-	1650	1648	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	34	53	400	40	55	641	848	-	-	1131	-	-
Stage 1	127	158	-	613	592	-	-	-	-	-	-	-
Stage 2	536	577	-	126	158	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	16	32	400	28	34	641	848	-	-	1131	-	-
Mov Cap-2 Maneuver	16	32	-	28	34	-	-	-	-	-	-	-
Stage 1	126	97	-	611	590	-	-	-	-	-	-	-
Stage 2	351	575	-	76	97	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s\$	303.9		142.7		0.1		3.6					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	848	-	-	24	216	1131	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.663	1.115	0.385	-	-				
HCM Control Delay (s)	9.3	-	-	\$ 303.9	142.7	10.2	-	-				
HCM Lane LOS	A	-	-	F	F	B	-	-				
HCM 95th %tile Q(veh)	0	-	-	2	11.2	1.8	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/o Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	9	0	734	378	332	431	3	363	0	326	0	0
Future Volume (vph)	9	0	734	378	332	431	3	363	0	326	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		0	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.999				0.850		
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1805	3471	1455	1719	3341	0	0	1703	1583	0	1900
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1805	3471	1455	1719	3341	0	0	1703	1583	0	1900
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				415						323		
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1070			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	4%	11%	5%	8%	0%	6%	0%	2%	0%	0%
Adj. Flow (vph)	10	0	807	415	365	474	3	399	0	358	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	807	415	365	477	0	0	399	358	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			0			0
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
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Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.91
Heavy Vehicles (%)	0%
Adj. Flow (vph)	0
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/o Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	15.0	15.0	5.0	15.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	16.0	21.0	21.0	11.0	21.0		12.0	12.0	12.0	11.0	11.0
Total Split (s)	31.0	31.0	61.0	61.0	31.0	61.0		57.0	57.0	57.0	11.0	11.0
Total Split (%)	19.4%	19.4%	38.1%	38.1%	19.4%	38.1%		35.6%	35.6%	35.6%	6.9%	6.9%
Maximum Green (s)	25.0	25.0	55.0	55.0	25.0	55.0		50.0	50.0	50.0	5.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0	2.0	2.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)		10.3	39.6	39.6	25.8	69.0			34.3	34.3		
Actuated g/C Ratio		0.09	0.33	0.33	0.22	0.58			0.29	0.29		
v/c Ratio		0.06	0.70	0.55	0.98	0.25			0.81	0.52		
Control Delay		61.2	38.6	5.7	91.7	14.9			54.4	8.4		
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0	0.0		
Total Delay		61.2	38.6	5.7	91.7	14.9			54.4	8.4		
LOS		E	D	A	F	B			D	A		
Approach Delay			27.7			48.2			32.6			
Approach LOS			C			D			C			

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 119.3

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 35.1

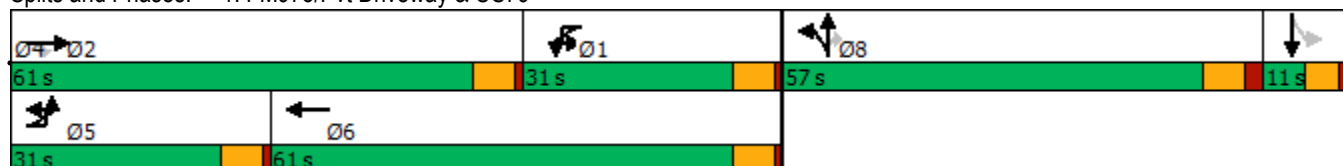
Intersection LOS: D

Intersection Capacity Utilization 74.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79





Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/o Development



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	Ø4
Protected Phases	5	2		1	6	8		4
Permitted Phases			2				8	
Minimum Initial (s)	10.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0
Minimum Split (s)	16.0	21.0	21.0	11.0	21.0	12.0	12.0	11.0
Total Split (s)	31.0	61.0	61.0	31.0	61.0	57.0	57.0	11.0
Total Split (%)	19.4%	38.1%	38.1%	19.4%	38.1%	35.6%	35.6%	7%
Maximum Green (s)	25.0	55.0	55.0	25.0	55.0	50.0	50.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	10.0	55.0	55.0	25.0	70.0	50.0	50.0	0.0
90th %ile Term Code	Min	Max	Max	Max	Hold	Max	Max	Skip
70th %ile Green (s)	0.0	47.0	47.0	25.0	78.0	41.6	41.6	0.0
70th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip
50th %ile Green (s)	0.0	39.9	39.9	25.0	70.9	34.8	34.8	0.0
50th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip
30th %ile Green (s)	0.0	33.2	33.2	25.0	64.2	27.8	27.8	0.0
30th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip
10th %ile Green (s)	0.0	26.0	26.0	25.0	57.0	21.1	21.1	0.0
10th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 119.3

Control Type: Actuated-Uncoordinated

90th %ile Actuated Cycle: 149

70th %ile Actuated Cycle: 132.6

50th %ile Actuated Cycle: 118.7

30th %ile Actuated Cycle: 105

10th %ile Actuated Cycle: 91.1

Queues
1: FM973/Pvt Driveway & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/o Development

							
Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	10	807	415	365	477	399	358
v/c Ratio	0.06	0.70	0.55	0.98	0.25	0.81	0.52
Control Delay	61.2	38.6	5.7	91.7	14.9	54.4	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.2	38.6	5.7	91.7	14.9	54.4	8.4
Queue Length 50th (ft)	7	280	0	~285	85	282	19
Queue Length 95th (ft)	30	410	75	#650	191	464	106
Internal Link Dist (ft)		854			990	556	
Turn Bay Length (ft)	100		615	880			
Base Capacity (vph)	389	1648	908	371	1932	735	867
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.49	0.46	0.98	0.25	0.54	0.41
Intersection Summary							
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.							
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.							

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/o Development

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	9	0	734	378	332	431	3	363	0	326	0	0
Future Volume (vph)	9	0	734	378	332	431	3	363	0	326	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95			1.00	1.00		
Frt		1.00	1.00	0.85	1.00	1.00			1.00	0.85		
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00		
Satd. Flow (prot)		1805	3471	1455	1719	3341			1703	1583		
Flt Permitted		0.95	1.00	1.00	0.95	1.00			0.95	1.00		
Satd. Flow (perm)		1805	3471	1455	1719	3341			1703	1583		
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	10	0	807	415	365	474	3	399	0	358	0	0
RTOR Reduction (vph)	0	0	0	282	0	0	0	0	0	234	0	0
Lane Group Flow (vph)	0	10	807	133	365	477	0	0	399	124	0	0
Heavy Vehicles (%)	0%	0%	4%	11%	5%	8%	0%	6%	0%	2%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		1.6	39.6	39.6	31.0	69.0			34.3	34.3		
Effective Green, g (s)		1.6	39.6	39.6	31.0	69.0			34.3	34.3		
Actuated g/C Ratio		0.01	0.32	0.32	0.25	0.56			0.28	0.28		
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0			3.0	3.0		
Lane Grp Cap (vph)		23	1109	465	430	1860			471	438		
v/s Ratio Prot		0.01	c0.23		c0.21	0.14			c0.23			
v/s Ratio Perm				0.09						0.08		
v/c Ratio		0.43	0.73	0.29	0.85	0.26			0.85	0.28		
Uniform Delay, d1		60.7	37.4	31.6	44.2	14.2			42.3	35.2		
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00		
Incremental Delay, d2		4.7	2.0	0.1	13.9	0.0			13.2	0.4		
Delay (s)		65.4	39.4	31.7	58.1	14.2			55.5	35.5		
Level of Service		E	D	C	E	B			E	D		
Approach Delay (s)			37.0			33.2			46.1			0.0
Approach LOS			D			C			D			A
Intersection Summary												
HCM 2000 Control Delay			38.3									HCM 2000 Level of Service D
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			123.9						25.0			Sum of lost time (s)
Intersection Capacity Utilization			74.7%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/o Development

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
4: US79 & Crossover

2027 PM Peak Hour
Phase 2 Build-Out Year w/o Development

							
Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	0	1083	0	793	0	0	0
Future Volume (vph)	0	1083	0	793	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100		0	0	0
Storage Lanes	1		1		0	1	0
Taper Length (ft)	100		100			100	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frt							
Flt Protected							
Satd. Flow (prot)	1900	3471	1900	3374	0	1900	0
Flt Permitted							
Satd. Flow (perm)	1900	3471	1900	3374	0	1900	0
Link Speed (mph)		65		65		30	
Link Distance (ft)		739		504		317	
Travel Time (s)		7.8		5.3		7.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	7%	0%	0%	0%
Adj. Flow (vph)	0	1165	0	853	0	0	0
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1165	0	853	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)		60		60		12	
Link Offset(ft)		0		0		0	
Crosswalk Width(ft)		16		16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9		9	15	9
Sign Control		Free		Free		Stop	
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization	33.3%			ICU Level of Service A			
Analysis Period (min)	15						

HCM Unsignalized Intersection Capacity Analysis

4: US79 & Crossover

2027 PM Peak Hour
Phase 2 Build-Out Year w/o Development

							
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	0	1083	0	793	0	0	0
Future Volume (Veh/h)	0	1083	0	793	0	0	0
Sign Control		Free		Free		Stop	
Grade		0%		0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	1165	0	853	0	0	0
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type		Raised		Raised			
Median storage (veh)		2		2			
Upstream signal (ft)							
pX, platoon unblocked			0.00				
vC, conflicting volume	853		0			1436	426
vC1, stage 1 conf vol						853	
vC2, stage 2 conf vol						582	
vCu, unblocked vol	853		0			1436	426
tC, single (s)	4.1		0.0			6.8	6.9
tC, 2 stage (s)						5.8	
tF (s)	2.2		0.0			3.5	3.3
p0 queue free %	100		0			100	100
cM capacity (veh/h)	795		0			324	582
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	0	582	582	426	426	0	0
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.34	0.34	0.25	0.25	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS							A
Approach Delay (s)	0.0			0.0			0.0
Approach LOS							A
Intersection Summary							
Average Delay			0.0				
Intersection Capacity Utilization			33.3%		ICU Level of Service		A
Analysis Period (min)			15				

Intersection							
Int Delay, s/veh	0						
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	0	1083	0	793	0	0	0
Future Vol, veh/h	0	1083	0	793	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	100	-	100	-	-	0	-
Veh in Median Storage, #	-	0	-	0	-	0	-
Grade, %	-	0	-	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93
Heavy Vehicles, %	0	4	0	7	0	0	0
Mvmt Flow	0	1165	0	853	0	0	0
Major/Minor	Major1		Major2		Minor2		
Conflicting Flow All	853	0	1165	-	0	1436	427
Stage 1	-	-	-	-	-	853	-
Stage 2	-	-	-	-	-	583	-
Critical Hdwy	4.1	-	6.4	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	2.5	-	-	3.5	3.3
Pot Cap-1 Maneuver	795	-	265	-	0	127	582
Stage 1	-	-	-	-	0	383	-
Stage 2	-	-	-	-	0	527	-
Platoon blocked, %		-		-			
Mov Cap-1 Maneuver	795	-	265	-	-	127	582
Mov Cap-2 Maneuver	-	-	-	-	-	127	-
Stage 1	-	-	-	-	-	383	-
Stage 2	-	-	-	-	-	527	-
Approach	EB		WB		SB		
HCM Control Delay, s	0		0			0	
HCM LOS						A	
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	SBLn1		
Capacity (veh/h)	795	-	265	-	-		
HCM Lane V/C Ratio	-	-	-	-	-		
HCM Control Delay (s)	0	-	0	-	0		
HCM Lane LOS	A	-	A	-	A		
HCM 95th %tile Q(veh)	0	-	0	-	-		

Lanes, Volumes, Timings
5: S Rio Grande & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/o Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1092	27	6	751	0	17	3	3	1	7	0
Future Volume (vph)	3	1092	27	6	751	0	17	3	3	1	7	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		350	175		330	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.984				
Flt Protected	0.950			0.950				0.963			0.994	
Satd. Flow (prot)	1805	3539	1615	1805	3374	1900	0	1800	0	0	1889	0
Flt Permitted	0.950			0.950				0.963			0.994	
Satd. Flow (perm)	1805	3539	1615	1805	3374	1900	0	1800	0	0	1889	0
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		572			566			552			557	
Travel Time (s)		6.0			5.9			12.5			12.7	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	1241	31	7	853	0	19	3	3	1	8	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	1241	31	7	853	0	0	25	0	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		60			60			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	42.0%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis

5: S Rio Grande & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/o Development

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 			 			 		
Traffic Volume (veh/h)	3	1092	27	6	751	0	17	3	3	1	7	0	
Future Volume (Veh/h)	3	1092	27	6	751	0	17	3	3	1	7	0	
Sign Control	Free		Free		Stop		Stop						
Grade	0%		0%		0%		0%						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
Hourly flow rate (vph)	3	1241	31	7	853	0	19	3	3	1	8	0	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)													
Median type	Raised		Raised										
Median storage (veh)	2		2										
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	853			1241			1692	2114	620	1495	2114	426	
vC1, stage 1 conf vol							1247	1247		867	867		
vC2, stage 2 conf vol							444	867		628	1247		
vCu, unblocked vol	853			1241			1692	2114	620	1495	2114	426	
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9	
tC, 2 stage (s)							6.5	5.5		6.5	5.5		
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	100			99			89	99	99	100	96	100	
cM capacity (veh/h)	795			568			175	204	435	259	200	582	
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1			
Volume Total	3	620	620	31	7	426	426	0	25	9			
Volume Left	3	0	0	0	7	0	0	0	19	1			
Volume Right	0	0	0	31	0	0	0	0	3	0			
cSH	795	1700	1700	1700	568	1700	1700	1700	192	205			
Volume to Capacity	0.00	0.36	0.36	0.02	0.01	0.25	0.25	0.00	0.13	0.04			
Queue Length 95th (ft)	0	0	0	0	1	0	0	0	11	3			
Control Delay (s)	9.5	0.0	0.0	0.0	11.4	0.0	0.0	0.0	26.5	23.3			
Lane LOS	A				B				D	C			
Approach Delay (s)	0.0				0.1				26.5	23.3			
Approach LOS									D	C			
Intersection Summary													
Average Delay	0.5												
Intersection Capacity Utilization	42.0%			ICU Level of Service						A			
Analysis Period (min)	15												

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1092	27	6	751	0	17	3	3	1	7	0
Future Vol, veh/h	3	1092	27	6	751	0	17	3	3	1	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	Free
Storage Length	200	-	350	175	-	330	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	2	0	0	7	0	0	0	0	0	0	0
Mvmt Flow	3	1241	31	7	853	0	19	3	3	1	8	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	853	0	0	1241	0	0	1692	2114	-	1495	2114	-
Stage 1	-	-	-	-	-	-	1247	1247	-	867	867	-
Stage 2	-	-	-	-	-	-	445	867	-	628	1247	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	-	7.5	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	-	3.5	4	-
Pot Cap-1 Maneuver	795	-	-	568	-	-	62	51	0	87	51	0
Stage 1	-	-	-	-	-	-	187	247	0	318	373	0
Stage 2	-	-	-	-	-	-	567	373	0	442	247	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	795	-	-	568	-	-	54	50	-	81	50	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	54	50	-	81	50	-
Stage 1	-	-	-	-	-	-	186	246	-	317	369	-
Stage 2	-	-	-	-	-	-	548	369	-	434	246	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	795	-	-	568	-	-	-
HCM Lane V/C Ratio	-	0.004	-	-	0.012	-	-	-
HCM Control Delay (s)	-	9.5	-	-	11.4	-	-	-
HCM Lane LOS	-	A	-	-	B	-	-	-
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

Lanes, Volumes, Timings
8: FM973 & Taylor HS

2027 PM Peak Hour
Phase 2 Build-Out Year w/o Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	8	18	676	4	4	727
Future Volume (vph)	8	18	676	4	4	727
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.905		0.999			
Flt Protected	0.985				0.950	
Satd. Flow (prot)	1694	0	1825	0	1805	1712
Flt Permitted	0.985				0.950	
Satd. Flow (perm)	1694	0	1825	0	1805	1712
Link Speed (mph)	30		65			65
Link Distance (ft)	376		460			672
Travel Time (s)	8.5		4.8			7.0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%
Adj. Flow (vph)	8	19	697	4	4	749
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	0	701	0	4	749
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	48.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 8: FM973 & Taylor HS

2027 PM Peak Hour
Phase 2 Build-Out Year w/o Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	18	676	4	4	727
Future Volume (Veh/h)	8	18	676	4	4	727
Sign Control	Stop		Free		Free	Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	8	19	697	4	4	749
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1456	699			701	
vC1, stage 1 conf vol	699					
vC2, stage 2 conf vol	757					
vCu, unblocked vol	1456	699			701	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	96			100	
cM capacity (veh/h)	359	443			905	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	27	701	4	749		
Volume Left	8	0	4	0		
Volume Right	19	4	0	0		
cSH	414	1700	905	1700		
Volume to Capacity	0.07	0.41	0.00	0.44		
Queue Length 95th (ft)	5	0	0	0		
Control Delay (s)	14.3	0.0	9.0	0.0		
Lane LOS	B		A			
Approach Delay (s)	14.3	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			48.3%		ICU Level of Service	A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	18	676	4	4	727
Future Vol, veh/h	8	18	676	4	4	727
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	4	0	0	11
Mvmt Flow	8	19	697	4	4	749
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1456	699	0	0	701	0
Stage 1	699	-	-	-	-	-
Stage 2	757	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	144	443	-	-	905	-
Stage 1	497	-	-	-	-	-
Stage 2	467	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	143	443	-	-	905	-
Mov Cap-2 Maneuver	284	-	-	-	-	-
Stage 1	497	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	15.2	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	378	905	-	
HCM Lane V/C Ratio	-	-	0.071	0.005	-	
HCM Control Delay (s)	-	-	15.2	9	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.2	0	-	

Lanes, Volumes, Timings
9: FM973 & Streamwood

2027 PM Peak Hour
Phase 2 Build-Out Year w/o Development

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	52	22	38	622	650	89
Future Volume (vph)	52	22	38	622	650	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			250
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.960					0.850
Flt Protected	0.966		0.950			
Satd. Flow (prot)	1762	0	1805	1827	1696	1615
Flt Permitted	0.966		0.950			
Satd. Flow (perm)	1762	0	1805	1827	1696	1615
Link Speed (mph)	30			65	65	
Link Distance (ft)	373			724	460	
Travel Time (s)	8.5			7.6	4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	4%	12%	0%
Adj. Flow (vph)	57	24	41	676	707	97
Shared Lane Traffic (%)						
Lane Group Flow (vph)	81	0	41	676	707	97
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 45.1%				ICU Level of Service A		
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis

9: FM973 & Streamwood

2027 PM Peak Hour
Phase 2 Build-Out Year w/o Development

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	52	22	38	622	650	89
Future Volume (Veh/h)	52	22	38	622	650	89
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	24	41	676	707	97
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1465	707	804			
vC1, stage 1 conf vol	707					
vC2, stage 2 conf vol	758					
vCu, unblocked vol	1465	707	804			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	84	95	95			
cM capacity (veh/h)	347	439	829			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	81	41	676	707	97	
Volume Left	57	41	0	0	0	
Volume Right	24	0	0	0	97	
cSH	370	829	1700	1700	1700	
Volume to Capacity	0.22	0.05	0.40	0.42	0.06	
Queue Length 95th (ft)	21	4	0	0	0	
Control Delay (s)	17.4	9.6	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	17.4	0.5		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			45.1%	ICU Level of Service		A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	52	22	38	622	650	89
Future Vol, veh/h	52	22	38	622	650	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	4	12	0
Mvmt Flow	57	24	41	676	707	97

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1465	707	804	0	-	0
Stage 1	707	-	-	-	-	-
Stage 2	758	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	143	439	829	-	-	-
Stage 1	493	-	-	-	-	-
Stage 2	466	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	136	439	829	-	-	-
Mov Cap-2 Maneuver	275	-	-	-	-	-
Stage 1	469	-	-	-	-	-
Stage 2	466	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.7	0.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	829	-	309	-	-
HCM Lane V/C Ratio	0.05	-	0.26	-	-
HCM Control Delay (s)	9.6	-	20.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1	-	-

Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2027 PM Peak Hour
Phase 2 Build-Out Year w/o Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	0	4	5	0	15	4	635	0	3	655	11
Future Volume (vph)	6	0	4	5	0	15	4	635	0	3	655	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	400		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.951			0.897						0.998	
Flt Protected		0.969			0.988		0.950			0.950		
Satd. Flow (prot)	0	1751	0	0	1684	0	1805	1827	0	1805	1711	0
Flt Permitted		0.969			0.988		0.950			0.950		
Satd. Flow (perm)	0	1751	0	0	1684	0	1805	1827	0	1805	1711	0
Link Speed (mph)		30			30			65			65	
Link Distance (ft)		574			560			730			724	
Travel Time (s)		13.0			12.7			7.7			7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	11%	0%
Adj. Flow (vph)	7	0	4	5	0	16	4	690	0	3	712	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	11	0	0	21	0	4	690	0	3	724	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	45.1%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis

10: FM973 & Wesley Miller

2027 PM Peak Hour
Phase 2 Build-Out Year w/o Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	4	5	0	15	4	635	0	3	655	11
Future Volume (Veh/h)	6	0	4	5	0	15	4	635	0	3	655	11
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	0	4	5	0	16	4	690	0	3	712	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							TWLTL			TWLTL		
Median storage veh							2			2		
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1438	1422	718	1420	1428	690	724				690	
vC1, stage 1 conf vol	724	724		698	698							
vC2, stage 2 conf vol	714	698		722	730							
vCu, unblocked vol	1438	1422	718	1420	1428	690	724				690	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	98	100	99	98	100	96	100				100	
cM capacity (veh/h)	303	328	432	311	326	449	888				914	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	11	21	4	690	3	724						
Volume Left	7	5	4	0	3	0						
Volume Right	4	16	0	0	0	12						
cSH	340	406	888	1700	914	1700						
Volume to Capacity	0.03	0.05	0.00	0.41	0.00	0.43						
Queue Length 95th (ft)	3	4	0	0	0	0						
Control Delay (s)	15.9	14.4	9.1	0.0	9.0	0.0						
Lane LOS	C	B	A		A							
Approach Delay (s)	15.9	14.4	0.1		0.0							
Approach LOS	C	B										
Intersection Summary												
Average Delay	0.4											
Intersection Capacity Utilization	45.1%			ICU Level of Service					A			
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	6	0	4	5	0	15	4	635	0	3	655	11
Future Vol, veh/h	6	0	4	5	0	15	4	635	0	3	655	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	400	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	4	0	0	11	0
Mvmt Flow	7	0	4	5	0	16	4	690	0	3	712	12

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1430	1422	718	1424	1428	690	724	0	0	690	0	0
Stage 1	724	724	-	698	698	-	-	-	-	-	-	-
Stage 2	706	698	-	726	730	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	113	137	432	115	136	449	888	-	-	914	-	-
Stage 1	420	433	-	434	445	-	-	-	-	-	-	-
Stage 2	430	445	-	419	431	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	108	136	432	113	135	449	888	-	-	914	-	-
Mov Cap-2 Maneuver	108	136	-	113	135	-	-	-	-	-	-	-
Stage 1	418	432	-	432	443	-	-	-	-	-	-	-
Stage 2	413	443	-	413	430	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	30.1		20.2		0.1		0	
HCM LOS	D		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	888	-	-	154	258	914	-
HCM Lane V/C Ratio	0.005	-	-	0.071	0.084	0.004	-
HCM Control Delay (s)	9.1	-	-	30.1	20.2	9	-
HCM Lane LOS	A	-	-	D	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0	-

Appendix D. Traffic Simulation Output

- Phase 2 Buildout Year (2027) Projected Conditions with Development, AM & PM
 - No Mitigation (Existing Timings at FM 973 at US 79)

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	0	564	783	496	664	3	559	0	205	0	0
Future Volume (vph)	8	0	564	783	496	664	3	559	0	205	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		0	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.999				0.850		0.865
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1805	3312	1553	1719	3371	0	0	1671	1568	0	1644
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1805	3312	1553	1719	3371	0	0	1671	1568	0	1644
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				753						143		267
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1072			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Adj. Flow (vph)	9	0	600	833	528	706	3	595	0	218	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	600	833	528	709	0	0	595	218	0	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			0			0
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

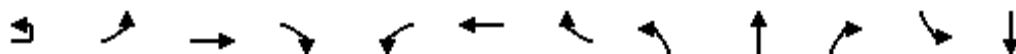
Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
Page 1

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.94
Heavy Vehicles (%)	0%
Adj. Flow (vph)	1
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases					2					8	4	
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	15.0	15.0	5.0	15.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	16.0	21.0	21.0	11.0	21.0		12.0	12.0	12.0	11.0	11.0
Total Split (s)	31.0	31.0	61.0	61.0	31.0	61.0		57.0	57.0	57.0	11.0	11.0
Total Split (%)	19.4%	19.4%	38.1%	38.1%	19.4%	38.1%		35.6%	35.6%	35.6%	6.9%	6.9%
Maximum Green (s)	25.0	25.0	55.0	55.0	25.0	55.0		50.0	50.0	50.0	5.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0		7.0		7.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0	2.0	2.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)	10.1		39.3	39.3	25.2	67.8		50.4		50.4	5.0	
Actuated g/C Ratio	0.07		0.29	0.29	0.19	0.50		0.37		0.37	0.04	
v/c Ratio	0.07		0.63	0.85	1.66	0.42		0.96		0.32	0.00	
Control Delay	66.2		44.8	14.3	343.7	22.8		70.4		13.8	0.0	
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	66.2		44.8	14.3	343.7	22.8		70.4		13.8	0.0	
LOS	E		D	B	F	C		E		B	A	
Approach Delay	27.3				159.8				55.2			
Approach LOS	C				F				E			

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 136

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.66

Intersection Signal Delay: 80.7

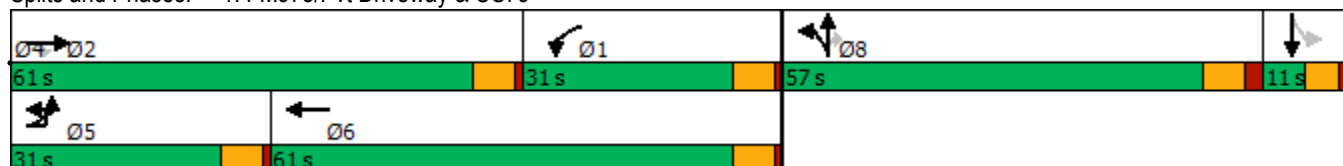
Intersection LOS: F

Intersection Capacity Utilization 96.5%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79



Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Protected Phases	5	2		1	6	8		4
Permitted Phases			2				8	
Minimum Initial (s)	10.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0
Minimum Split (s)	16.0	21.0	21.0	11.0	21.0	12.0	12.0	11.0
Total Split (s)	31.0	61.0	61.0	31.0	61.0	57.0	57.0	11.0
Total Split (%)	19.4%	38.1%	38.1%	19.4%	38.1%	35.6%	35.6%	6.9%
Maximum Green (s)	25.0	55.0	55.0	25.0	55.0	50.0	50.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	10.0	55.0	55.0	25.0	70.0	50.0	50.0	5.0
90th %ile Term Code	Min	Max	Max	Max	Hold	Max	Max	Max
70th %ile Green (s)	0.0	45.5	45.5	25.0	76.5	50.0	50.0	0.0
70th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip
50th %ile Green (s)	0.0	38.8	38.8	25.0	69.8	50.0	50.0	0.0
50th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip
30th %ile Green (s)	0.0	33.2	33.2	25.0	64.2	50.0	50.0	0.0
30th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip
10th %ile Green (s)	0.0	26.7	26.7	25.0	57.7	50.0	50.0	0.0
10th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip
Intersection Summary								
Cycle Length: 160								
Actuated Cycle Length: 136								
Control Type: Actuated-Uncoordinated								
90th %ile Actuated Cycle: 160								
70th %ile Actuated Cycle: 139.5								
50th %ile Actuated Cycle: 132.8								
30th %ile Actuated Cycle: 127.2								
10th %ile Actuated Cycle: 120.7								

Queues
1: FM973/Pvt Driveway & US79

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

								
Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	9	600	833	528	709	595	218	1
v/c Ratio	0.07	0.63	0.85	1.66	0.42	0.96	0.32	0.00
Control Delay	66.2	44.8	14.3	343.7	22.8	70.4	13.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.2	44.8	14.3	343.7	22.8	70.4	13.8	0.0
Queue Length 50th (ft)	7	235	52	~660	181	493	42	0
Queue Length 95th (ft)	30	328	273	#1097	324	#966	133	0
Internal Link Dist (ft)		854			992	556		491
Turn Bay Length (ft)	100		615	880				
Base Capacity (vph)	334	1351	1079	318	1681	619	671	318
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.44	0.77	1.66	0.42	0.96	0.32	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	0	564	783	496	664	3	559	0	205	0	0
Future Volume (vph)	8	0	564	783	496	664	3	559	0	205	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95			1.00	1.00		1.00
Frt		1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.86
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00		1.00
Satd. Flow (prot)		1805	3312	1553	1719	3373			1671	1568		1644
Flt Permitted		0.95	1.00	1.00	0.95	1.00			0.95	1.00		1.00
Satd. Flow (perm)		1805	3312	1553	1719	3373			1671	1568		1644
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	9	0	600	833	528	706	3	595	0	218	0	0
RTOR Reduction (vph)	0	0	0	550	0	0	0	0	0	94	0	1
Lane Group Flow (vph)	0	9	600	283	528	709	0	0	595	124	0	0
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		1.7	39.3	39.3	30.3	67.9			50.5	50.5		0.9
Effective Green, g (s)		1.7	39.3	39.3	30.3	67.9			50.5	50.5		0.9
Actuated g/C Ratio		0.01	0.27	0.27	0.21	0.47			0.35	0.35		0.01
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0			3.0	3.0		2.0
Lane Grp Cap (vph)		21	891	418	356	1568			577	542		10
v/s Ratio Prot		0.00	0.18		c0.31	0.21			c0.36			c0.00
v/s Ratio Perm				c0.18						0.08		
v/c Ratio		0.43	0.67	0.68	1.48	0.45			1.03	0.23		0.00
Uniform Delay, d1		71.7	47.6	47.7	57.9	26.5			47.8	33.9		72.1
Progression Factor		1.00	1.00	1.00	0.98	0.97			1.00	1.00		1.00
Incremental Delay, d2		5.0	1.6	3.4	232.0	0.1			45.7	0.2		0.0
Delay (s)		76.7	49.2	51.1	288.7	25.8			93.5	34.1		72.1
Level of Service		E	D	D	F	C			F	C		E
Approach Delay (s)			50.5			138.0			77.6			72.1
Approach LOS			D			F			E			E
Intersection Summary												
HCM 2000 Control Delay			87.8			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			146.0			Sum of lost time (s)			25.0			
Intersection Capacity Utilization			96.5%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	1
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
3: Driveway 2A & US79

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (vph)	547	284	0	1253	0	207
Future Volume (vph)	547	284	0	1253	0	207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	0		0	0
Storage Lanes		1	0		0	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.865
Flt Protected						
Satd. Flow (prot)	3282	1615	0	3374	0	1644
Flt Permitted						
Satd. Flow (perm)	3282	1615	0	3374	0	1644
Link Speed (mph)	65			65	30	
Link Distance (ft)	1072			739	365	
Travel Time (s)	11.2			7.8	8.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	10%	0%	0%	7%	0%	0%
Adj. Flow (vph)	595	309	0	1362	0	225
Shared Lane Traffic (%)						
Lane Group Flow (vph)	595	309	0	1362	0	225
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	60			60	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	38.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

3: Driveway 2A & US79

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (veh/h)	547	284	0	1253	0	207
Future Volume (Veh/h)	547	284	0	1253	0	207
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	595	309	0	1362	0	225
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised		Raised			
Median storage veh)	2		2			
Upstream signal (ft)	1072					
pX, platoon unblocked			0.89		0.89	0.89
vC, conflicting volume			904		1276	298
vC1, stage 1 conf vol					595	
vC2, stage 2 conf vol					681	
vCu, unblocked vol			654		1071	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	77
cM capacity (veh/h)			842		409	975
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	298	298	309	681	681	225
Volume Left	0	0	0	0	0	0
Volume Right	0	0	309	0	0	225
cSH	1700	1700	1700	1700	1700	975
Volume to Capacity	0.17	0.17	0.18	0.40	0.40	0.23
Queue Length 95th (ft)	0	0	0	0	0	22
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.8
Lane LOS						A
Approach Delay (s)	0.0				0.0	9.8
Approach LOS						A
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			38.0%	ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
3: Driveway 2A & US79

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

Intersection						
Int Delay, s/veh	1.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Vol, veh/h	547	284	0	1253	0	207
Future Vol, veh/h	547	284	0	1253	0	207
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	0	0	7	0	0
Mvmt Flow	595	309	0	1362	0	225
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	298
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	704
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	704
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		12.5	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	704	-	-	-		
HCM Lane V/C Ratio	0.32	-	-	-		
HCM Control Delay (s)	12.5	-	-	-		
HCM Lane LOS	B	-	-	-		
HCM 95th %tile Q(veh)	1.4	-	-	-		

Lanes, Volumes, Timings
4: US79 & Crossover

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

								
Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	75	0	682	0	1207	0	0	0
Future Volume (vph)	75	0	682	0	1207	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		100		0	0	0
Storage Lanes		1		1		0	1	0
Taper Length (ft)		100		100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frt								
Flt Protected		0.950						
Satd. Flow (prot)	0	1805	3282	1900	3374	0	1900	0
Flt Permitted		0.950						
Satd. Flow (perm)	0	1805	3282	1900	3374	0	1900	0
Link Speed (mph)			65		65		30	
Link Distance (ft)			739		504		317	
Travel Time (s)			7.8		5.3		7.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	10%	0%	7%	0%	0%	0%
Adj. Flow (vph)	82	0	749	0	1326	0	0	0
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	82	749	0	1326	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			60		60		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	
Intersection Summary								
Area Type:	Other							
Control Type: Unsignalized								
Intersection Capacity Utilization 44.2%				ICU Level of Service A				
Analysis Period (min) 15								

HCM Unsignalized Intersection Capacity Analysis

4: US79 & Crossover

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development



Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔↔	↔	↔↔		↔	
Traffic Volume (veh/h)	75	0	682	0	1207	0	0	0
Future Volume (Veh/h)	75	0	682	0	1207	0	0	0
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	749	0	1326	0	0	0
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage veh			2		2			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	1326		0			1700	663
vC1, stage 1 conf vol							1326	
vC2, stage 2 conf vol							374	
vCu, unblocked vol	0	1326		0			1700	663
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	100		0			100	100
cM capacity (veh/h)	0	527		0			206	409
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	
Volume Total	0	374	374	663	663	0	0	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.22	0.22	0.39	0.39	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lane LOS							A	
Approach Delay (s)	0.0			0.0			0.0	
Approach LOS							A	
Intersection Summary								
Average Delay			0.0					
Intersection Capacity Utilization			44.2%		ICU Level of Service			A
Analysis Period (min)			15					

Intersection								
Int Delay, s/veh	1.3							
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	75	0	682	0	1207	0	0	0
Future Vol, veh/h	75	0	682	0	1207	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	100	-	100	-	-	0	-
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	10	0	7	0	0	0
Mvmt Flow	82	0	749	0	1326	0	0	0
Major/Minor	Major1		Major2		Minor2			
Conflicting Flow All	1326	1326	0	749	-	0	1865	663
Stage 1	-	-	-	-	-	-	1326	-
Stage 2	-	-	-	-	-	-	539	-
Critical Hdwy	6.4	4.1	-	6.4	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	2.2	-	2.5	-	-	3.5	3.3
Pot Cap-1 Maneuver	209	527	-	488	-	0	66	409
Stage 1	-	-	-	-	-	0	216	-
Stage 2	-	-	-	-	-	0	555	-
Platoon blocked, %			-		-			
Mov Cap-1 Maneuver	209	209	-	488	-	-	40	409
Mov Cap-2 Maneuver	-	-	-	-	-	-	40	-
Stage 1	-	-	-	-	-	-	131	-
Stage 2	-	-	-	-	-	-	555	-
Approach	EB		WB		SB			
HCM Control Delay, s	3.3		0		0			
HCM LOS					A			
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	SBLn1			
Capacity (veh/h)	209	-	488	-	-			
HCM Lane V/C Ratio	0.394	-	-	-	-			
HCM Control Delay (s)	33	-	0	-	0			
HCM Lane LOS	D	-	A	-	A			
HCM 95th %tile Q(veh)	1.8	-	0	-	-			

Lanes, Volumes, Timings
5: S Rio Grande & US79

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	8	704	12	7	1144	1	36	7	1	3	3	5
Future Volume (vph)	8	704	12	7	1144	1	36	7	1	3	3	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		350	175		330	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.997			0.932	
Flt Protected	0.950			0.950				0.961			0.988	
Satd. Flow (prot)	1805	3539	1615	1805	3374	1615	0	1820	0	0	1750	0
Flt Permitted	0.950			0.950				0.961			0.988	
Satd. Flow (perm)	1805	3539	1615	1805	3374	1615	0	1820	0	0	1750	0
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		572			566			552			557	
Travel Time (s)		6.0			5.9			12.5			12.7	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	9	800	14	8	1300	1	41	8	1	3	3	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	800	14	8	1300	1	0	50	0	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		60			60			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	44.4%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis

5: S Rio Grande & US79

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	704	12	7	1144	1	36	7	1	3	3	5
Future Volume (Veh/h)	8	704	12	7	1144	1	36	7	1	3	3	5
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	9	800	14	8	1300	1	41	8	1	3	3	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	Raised			Raised								
Median storage veh	2			2								
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1300			800			1486	2134	400	1738	2134	650
vC1, stage 1 conf vol							818	818		1316	1316	
vC2, stage 2 conf vol							668	1316		422	818	
vCu, unblocked vol	1300			800			1486	2134	400	1738	2134	650
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			84	96	100	98	98	99
cM capacity (veh/h)	540			832			262	189	605	159	194	417
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	9	400	400	14	8	650	650	1	50	12		
Volume Left	9	0	0	0	8	0	0	0	41	3		
Volume Right	0	0	0	14	0	0	0	1	1	6		
cSH	540	1700	1700	1700	832	1700	1700	1700	249	246		
Volume to Capacity	0.02	0.24	0.24	0.01	0.01	0.38	0.38	0.00	0.20	0.05		
Queue Length 95th (ft)	1	0	0	0	1	0	0	0	18	4		
Control Delay (s)	11.8	0.0	0.0	0.0	9.4	0.0	0.0	0.0	23.0	20.4		
Lane LOS	B				A				C	C		
Approach Delay (s)	0.1				0.1				23.0	20.4		
Approach LOS									C	C		
Intersection Summary												
Average Delay	0.7											
Intersection Capacity Utilization	44.4%			ICU Level of Service						A		
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	704	12	7	1144	1	36	7	1	3	3	5
Future Vol, veh/h	8	704	12	7	1144	1	36	7	1	3	3	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	Free
Storage Length	200	-	350	175	-	330	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	2	0	0	7	0	0	0	0	0	0	0
Mvmt Flow	9	800	14	8	1300	1	41	8	1	3	3	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1300	0	0	800	0	0	1486	2134	-	1738	2134	-
Stage 1	-	-	-	-	-	-	818	818	-	1316	1316	-
Stage 2	-	-	-	-	-	-	668	1316	-	422	818	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	-	7.5	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	-	3.5	4	-
Pot Cap-1 Maneuver	540	-	-	832	-	-	88	50	0	57	50	0
Stage 1	-	-	-	-	-	-	340	393	0	169	229	0
Stage 2	-	-	-	-	-	-	419	229	0	585	393	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	540	-	-	832	-	-	82	49	-	49	49	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	82	49	-	49	49	-
Stage 1	-	-	-	-	-	-	334	386	-	166	227	-
Stage 2	-	-	-	-	-	-	409	227	-	563	386	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	540	-	-	832	-	-	-
HCM Lane V/C Ratio	-	0.017	-	-	0.01	-	-	-
HCM Control Delay (s)	-	11.8	-	-	9.4	-	-	-
HCM Lane LOS	-	B	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	-

Lanes, Volumes, Timings
6: FM973 & Driveway 1B

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	78	686	105	0	1306
Future Volume (vph)	0	78	686	105	0	1306
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		250	100	
Storage Lanes	0	0		1	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865		0.850		
Flt Protected						
Satd. Flow (prot)	0	1644	1759	1615	0	1792
Flt Permitted						
Satd. Flow (perm)	0	1644	1759	1615	0	1792
Link Speed (mph)	30		55			55
Link Distance (ft)	429		545			636
Travel Time (s)	9.8		6.8			7.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Adj. Flow (vph)	0	85	746	114	0	1420
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	85	746	114	0	1420
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	Yes		Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	72.1%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: FM973 & Driveway 1B

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	78	686	105	0	1306
Future Volume (Veh/h)	0	78	686	105	0	1306
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	85	746	114	0	1420
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL		TWLTL	
Median storage veh			2		2	
Upstream signal (ft)					636	
pX, platoon unblocked						
vC, conflicting volume	2166	746			860	
vC1, stage 1 conf vol	746					
vC2, stage 2 conf vol	1420					
vCu, unblocked vol	2166	746			860	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	80			100	
cM capacity (veh/h)	202	417			790	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1		
Volume Total	85	746	114	1420		
Volume Left	0	0	0	0		
Volume Right	85	0	114	0		
cSH	417	1700	1700	1700		
Volume to Capacity	0.20	0.44	0.07	0.84		
Queue Length 95th (ft)	19	0	0	0		
Control Delay (s)	15.8	0.0	0.0	0.0		
Lane LOS	C					
Approach Delay (s)	15.8	0.0		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			72.1%		ICU Level of Service	C
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗	↗		↗
Traffic Vol, veh/h	0	78	686	105	0	1306
Future Vol, veh/h	0	78	686	105	0	1306
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	250	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	8	0	0	6
Mvmt Flow	0	85	746	114	0	1420
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	746	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	417	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	417	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	15.8	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	417		-		
HCM Lane V/C Ratio	-	0.203		-		
HCM Control Delay (s)	-	15.8		-		
HCM Lane LOS	-	C		-		
HCM 95th %tile Q(veh)	-	0.8		-		

Lanes, Volumes, Timings
7: FM973 & Driveway 2B

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	155	53	737	26	112	1195
Future Volume (vph)	155	53	737	26	112	1195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		250	150	
Storage Lanes	1	1		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	1615	1759	1615	1805	1792
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1805	1615	1759	1615	1805	1792
Link Speed (mph)	30		55			55
Link Distance (ft)	223		672			545
Travel Time (s)	5.1		8.3			6.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Adj. Flow (vph)	168	58	801	28	122	1299
Shared Lane Traffic (%)						
Lane Group Flow (vph)	168	58	801	28	122	1299
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	78.1%			ICU Level of Service D		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: FM973 & Driveway 2B

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	155	53	737	26	112	1195
Future Volume (Veh/h)	155	53	737	26	112	1195
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	168	58	801	28	122	1299
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		4				
Median type			TWLT			TWLT
Median storage (veh)			2			2
Upstream signal (ft)						1181
pX, platoon unblocked						
vC, conflicting volume	2344	801			829	
vC1, stage 1 conf vol	801					
vC2, stage 2 conf vol	1543					
vCu, unblocked vol	2344	801			829	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	85			85	
cM capacity (veh/h)	153	388			811	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	226	801	28	122	1299	
Volume Left	168	0	0	122	0	
Volume Right	58	0	28	0	0	
cSH	194	1700	1700	811	1700	
Volume to Capacity	1.17	0.47	0.02	0.15	0.76	
Queue Length 95th (ft)	286	0	0	13	0	
Control Delay (s)	166.2	0.0	0.0	10.2	0.0	
Lane LOS	F			B		
Approach Delay (s)	166.2	0.0		0.9		
Approach LOS	F					
Intersection Summary						
Average Delay			15.7			
Intersection Capacity Utilization			78.1%		ICU Level of Service	D
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	19.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	155	53	737	26	112	1195
Future Vol, veh/h	155	53	737	26	112	1195
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	250	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	8	0	0	6
Mvmt Flow	168	58	801	28	122	1299
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	2344	801	0	0	829	0
Stage 1	801	-	-	-	-	-
Stage 2	1543	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 40	388	-	-	811	-
Stage 1	445	-	-	-	-	-
Stage 2	196	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 34	388	-	-	811	-
Mov Cap-2 Maneuver	~ 123	-	-	-	-	-
Stage 1	445	-	-	-	-	-
Stage 2	~ 167	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	209.4	0		0.9		
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	123	388	811	-
HCM Lane V/C Ratio	-	-	1.37	0.148	0.15	-
HCM Control Delay (s)	-	-	275.5	15.9	10.2	-
HCM Lane LOS	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	11.3	0.5	0.5	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Lanes, Volumes, Timings
8: FM973 & Taylor HS

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	97	684	12	227	1133
Future Volume (vph)	6	97	684	12	227	1133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.873		0.998			
Flt Protected	0.997				0.950	
Satd. Flow (prot)	1654	0	1758	0	1805	1792
Flt Permitted	0.997				0.950	
Satd. Flow (perm)	1654	0	1758	0	1805	1792
Link Speed (mph)	30		65			65
Link Distance (ft)	376		460			672
Travel Time (s)	8.5		4.8			7.0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Adj. Flow (vph)	7	114	805	14	267	1333
Shared Lane Traffic (%)						
Lane Group Flow (vph)	121	0	819	0	267	1333
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	72.6%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

8: FM973 & Taylor HS

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	97	684	12	227	1133
Future Volume (Veh/h)	6	97	684	12	227	1133
Sign Control	Stop		Free		Free	Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	7	114	805	14	267	1333
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2679	812			819	
vC1, stage 1 conf vol	812					
vC2, stage 2 conf vol	1867					
vCu, unblocked vol	2679	812			819	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	70			67	
cM capacity (veh/h)	87	382			818	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	121	819	267	1333		
Volume Left	7	0	267	0		
Volume Right	114	14	0	0		
cSH	320	1700	818	1700		
Volume to Capacity	0.38	0.48	0.33	0.78		
Queue Length 95th (ft)	43	0	36	0		
Control Delay (s)	23.0	0.0	11.5	0.0		
Lane LOS	C		B			
Approach Delay (s)	23.0	0.0	1.9			
Approach LOS	C					
Intersection Summary						
Average Delay		2.3				
Intersection Capacity Utilization		72.6%		ICU Level of Service		C
Analysis Period (min)		15				

Intersection						
Int Delay, s/veh	2.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	97	684	12	227	1133
Future Vol, veh/h	6	97	684	12	227	1133
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	8	0	0	6
Mvmt Flow	7	114	805	14	267	1333
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	2679	812	0	0	819	0
Stage 1	812	-	-	-	-	-
Stage 2	1867	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	25	382	-	-	818	-
Stage 1	440	-	-	-	-	-
Stage 2	136	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	17	382	-	-	818	-
Mov Cap-2 Maneuver	74	-	-	-	-	-
Stage 1	440	-	-	-	-	-
Stage 2	92	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	24.2	0		1.9		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	307	818	-	
HCM Lane V/C Ratio	-	-	0.395	0.326	-	
HCM Control Delay (s)	-	-	24.2	11.5	-	
HCM Lane LOS	-	-	C	B	-	
HCM 95th %tile Q(veh)	-	-	1.8	1.4	-	

Lanes, Volumes, Timings
9: FM973 & Streamwood

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	94	33	12	601	1095	42
Future Volume (vph)	94	33	12	601	1095	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			250
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.965					0.850
Flt Protected	0.964		0.950			
Satd. Flow (prot)	1767	0	1805	1759	1810	1615
Flt Permitted	0.964		0.950			
Satd. Flow (perm)	1767	0	1805	1759	1810	1615
Link Speed (mph)	30			65	65	
Link Distance (ft)	373			724	460	
Travel Time (s)	8.5			7.6	4.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	8%	5%	0%
Adj. Flow (vph)	104	37	13	668	1217	47
Shared Lane Traffic (%)						
Lane Group Flow (vph)	141	0	13	668	1217	47
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	71.5%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

9: FM973 & Streamwood

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	94	33	12	601	1095	42
Future Volume (Veh/h)	94	33	12	601	1095	42
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	104	37	13	668	1217	47
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLT	TWLT	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1911	1217	1264			
vC1, stage 1 conf vol	1217					
vC2, stage 2 conf vol	694					
vCu, unblocked vol	1911	1217	1264			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	58	83	98			
cM capacity (veh/h)	247	223	557			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	141	13	668	1217	47	
Volume Left	104	13	0	0	0	
Volume Right	37	0	0	0	47	
cSH	240	557	1700	1700	1700	
Volume to Capacity	0.59	0.02	0.39	0.72	0.03	
Queue Length 95th (ft)	84	2	0	0	0	
Control Delay (s)	39.4	11.6	0.0	0.0	0.0	
Lane LOS	E	B				
Approach Delay (s)	39.4	0.2		0.0		
Approach LOS	E					
Intersection Summary						
Average Delay			2.7			
Intersection Capacity Utilization			71.5%	ICU Level of Service		C
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	94	33	12	601	1095	42
Future Vol, veh/h	94	33	12	601	1095	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	8	5	0
Mvmt Flow	104	37	13	668	1217	47
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1911	1217	1264	0	-	0
Stage 1	1217	-	-	-	-	-
Stage 2	694	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	~ 76	223	557	-	-	-
Stage 1	283	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 74	223	557	-	-	-
Mov Cap-2 Maneuver	193	-	-	-	-	-
Stage 1	276	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	57.3		0.2		0	
HCM LOS	F					
Minor Lane/Major Mvmt	NBL		NBT	EBLn1	SBT	SBR
Capacity (veh/h)	557		-	200	-	-
HCM Lane V/C Ratio	0.024		-	0.706	-	-
HCM Control Delay (s)	11.6		-	57.3	-	-
HCM Lane LOS	B		-	F	-	-
HCM 95th %tile Q(veh)	0.1		-	4.5	-	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	0	5	19	0	193	3	408	43	383	741	6
Future Volume (vph)	12	0	5	19	0	193	3	408	43	383	741	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	400		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.877			0.986			0.999	
Flt Protected		0.966			0.995		0.950			0.950		
Satd. Flow (prot)	0	1760	0	0	1658	0	1805	1676	0	1805	1711	0
Flt Permitted		0.966			0.995		0.950			0.950		
Satd. Flow (perm)	0	1760	0	0	1658	0	1805	1676	0	1805	1711	0
Link Speed (mph)		30			30			65			65	
Link Distance (ft)		574			560			730			724	
Travel Time (s)		13.0			12.7			7.7			7.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%	11%	0%
Adj. Flow (vph)	14	0	6	22	0	219	3	464	49	435	842	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	0	0	241	0	3	513	0	435	849	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	68.0%											
Analysis Period (min)	15											
	ICU Level of Service C											

HCM Unsignalized Intersection Capacity Analysis

10: FM973 & Wesley Miller

2027 AM Peak Hour
Phase 2 Build-Out Year w/Development

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	12	0	5	19	0	193	3	408	43	383	741	6	
Future Volume (Veh/h)	12	0	5	19	0	193	3	408	43	383	741	6	
Sign Control		Stop			Stop			Free			Free		
Grade		0%			0%			0%			0%		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
Hourly flow rate (vph)	14	0	6	22	0	219	3	464	49	435	842	7	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)													
Median type								TWLTL					TWLTL
Median storage veh								2					2
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	2404	2234	846	2212	2214	488	849					513	
vC1, stage 1 conf vol	1716	1716		494	494								
vC2, stage 2 conf vol	689	519		1718	1719								
vCu, unblocked vol	2404	2234	846	2212	2214	488	849					513	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1					4.1	
tC, 2 stage (s)	6.1	5.5		6.1	5.5								
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2					2.2	
p0 queue free %	0	100	98	65	100	62	100					59	
cM capacity (veh/h)	10	68	365	62	81	583	798					1063	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2							
Volume Total	20	241	3	513	435	849							
Volume Left	14	22	3	0	435	0							
Volume Right	6	219	0	49	0	7							
cSH	14	330	798	1700	1063	1700							
Volume to Capacity	1.44	0.73	0.00	0.30	0.41	0.50							
Queue Length 95th (ft)	79	136	0	0	51	0							
Control Delay (s)	784.2	40.3	9.5	0.0	10.7	0.0							
Lane LOS	F	E	A		B								
Approach Delay (s)	784.2	40.3	0.1		3.6								
Approach LOS	F	E											
Intersection Summary													
Average Delay			14.6										
Intersection Capacity Utilization			68.0%	ICU Level of Service				C					
Analysis Period (min)			15										

Intersection												
Int Delay, s/veh	39.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	0	5	19	0	193	3	408	43	383	741	6
Future Vol, veh/h	12	0	5	19	0	193	3	408	43	383	741	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	400	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	13	0	0	11	0
Mvmt Flow	14	0	6	22	0	219	3	464	49	435	842	7
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2320	2235	846	2214	2214	489	849	0	0	513	0	0
Stage 1	1716	1716	-	495	495	-	-	-	-	-	-	-
Stage 2	604	519	-	1719	1719	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	27	43	365	32	44	583	798	-	-	1063	-	-
Stage 1	115	146	-	560	549	-	-	-	-	-	-	-
Stage 2	489	536	-	115	146	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 11	25	365	~ 21	26	583	798	-	-	1063	-	-
Mov Cap-2 Maneuver	~ 11	25	-	~ 21	26	-	-	-	-	-	-	-
Stage 1	115	86	-	558	547	-	-	-	-	-	-	-
Stage 2	304	534	-	67	86	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s\$	688.3		262.1		0.1		3.6					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	798	-	-	15	172	1063	-	-				
HCM Lane V/C Ratio	0.004	-	-	1.288	1.401	0.409	-	-				
HCM Control Delay (s)	9.5	-	-	\$ 688.3	262.1	10.7	-	-				
HCM Lane LOS	A	-	-	F	F	B	-	-				
HCM 95th %tile Q(veh)	0	-	-	3	14.7	2	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	9	0	868	378	346	477	3	428	0	302	0	0
Future Volume (vph)	9	0	868	378	346	477	3	428	0	302	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		0	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.999				0.850		
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1805	3471	1455	1719	3341	0	0	1703	1583	0	1900
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1805	3471	1455	1719	3341	0	0	1703	1583	0	1900
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				415						254		
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1070			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	4%	11%	5%	8%	0%	6%	0%	2%	0%	0%
Adj. Flow (vph)	10	0	954	415	380	524	3	470	0	332	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	954	415	380	527	0	0	470	332	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			0			0
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

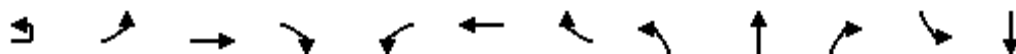
Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
Page 1

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.91
Heavy Vehicles (%)	0%
Adj. Flow (vph)	0
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases					2						8	4
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	15.0	15.0	5.0	15.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	16.0	21.0	21.0	11.0	21.0		12.0	12.0	12.0	11.0	11.0
Total Split (s)	31.0	31.0	61.0	61.0	31.0	61.0		57.0	57.0	57.0	11.0	11.0
Total Split (%)	19.4%	19.4%	38.1%	38.1%	19.4%	38.1%		35.6%	35.6%	35.6%	6.9%	6.9%
Maximum Green (s)	25.0	25.0	55.0	55.0	25.0	55.0		50.0	50.0	50.0	5.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0		7.0		7.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0	2.0	2.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)	10.2		47.9	47.9	25.4	73.6		43.1		43.1		
Actuated g/C Ratio	0.08		0.35	0.35	0.19	0.54		0.32		0.32		
v/c Ratio	0.07		0.78	0.53	1.18	0.29		0.87		0.49		
Control Delay	66.2		44.6	5.5	156.3	18.9		61.8		12.0		
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0		0.0		
Total Delay	66.2		44.6	5.5	156.3	18.9		61.8		12.0		
LOS	E		D	A	F	B		E		B		
Approach Delay			33.0			76.5		41.2				
Approach LOS			C			E		D				

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 135.7

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.18

Intersection Signal Delay: 47.9

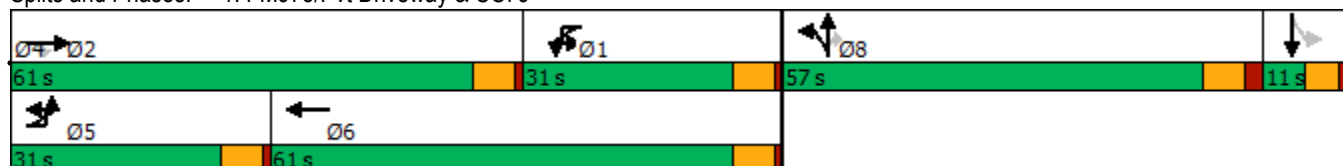
Intersection LOS: D

Intersection Capacity Utilization 82.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79





Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	Ø4
Protected Phases	5	2		1	6	8		4
Permitted Phases			2				8	
Minimum Initial (s)	10.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0
Minimum Split (s)	16.0	21.0	21.0	11.0	21.0	12.0	12.0	11.0
Total Split (s)	31.0	61.0	61.0	31.0	61.0	57.0	57.0	11.0
Total Split (%)	19.4%	38.1%	38.1%	19.4%	38.1%	35.6%	35.6%	7%
Maximum Green (s)	25.0	55.0	55.0	25.0	55.0	50.0	50.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	10.0	55.0	55.0	25.0	70.0	50.0	50.0	0.0
90th %ile Term Code	Min	Max	Max	Max	Hold	Max	Max	Skip
70th %ile Green (s)	10.0	55.0	55.0	25.0	70.0	50.0	50.0	0.0
70th %ile Term Code	Min	Max	Max	Max	Hold	Max	Max	Skip
50th %ile Green (s)	0.0	53.0	53.0	25.0	84.0	47.8	47.8	0.0
50th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip
30th %ile Green (s)	0.0	44.5	44.5	25.0	75.5	40.1	40.1	0.0
30th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip
10th %ile Green (s)	0.0	33.7	33.7	25.0	64.7	29.5	29.5	0.0
10th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 135.7

Control Type: Actuated-Uncoordinated

90th %ile Actuated Cycle: 149

70th %ile Actuated Cycle: 149

50th %ile Actuated Cycle: 144.8

30th %ile Actuated Cycle: 128.6

10th %ile Actuated Cycle: 107.2

Queues
1: FM973/Pvt Driveway & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

							
Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	10	954	415	380	527	470	332
v/c Ratio	0.07	0.78	0.53	1.18	0.29	0.87	0.49
Control Delay	66.2	44.6	5.5	156.3	18.9	61.8	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.2	44.6	5.5	156.3	18.9	61.8	12.0
Queue Length 50th (ft)	9	412	0	~454	121	410	52
Queue Length 95th (ft)	30	506	75	#689	205	#595	143
Internal Link Dist (ft)		854			990	556	
Turn Bay Length (ft)	100		615	880			
Base Capacity (vph)	337	1429	843	321	1811	637	751
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.67	0.49	1.18	0.29	0.74	0.44
Intersection Summary							
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.							
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.							

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	9	0	868	378	346	477	3	428	0	302	0	0
Future Volume (vph)	9	0	868	378	346	477	3	428	0	302	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95			1.00	1.00		
Frt		1.00	1.00	0.85	1.00	1.00			1.00	0.85		
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00		
Satd. Flow (prot)		1805	3471	1455	1719	3341			1703	1583		
Flt Permitted		0.95	1.00	1.00	0.95	1.00			0.95	1.00		
Satd. Flow (perm)		1805	3471	1455	1719	3341			1703	1583		
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	10	0	954	415	380	524	3	470	0	332	0	0
RTOR Reduction (vph)	0	0	0	272	0	0	0	0	0	175	0	0
Lane Group Flow (vph)	0	10	954	143	380	527	0	0	470	157	0	0
Heavy Vehicles (%)	0%	0%	4%	11%	5%	8%	0%	6%	0%	2%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		3.6	47.9	47.9	29.3	73.6			43.1	43.1		
Effective Green, g (s)		3.6	47.9	47.9	29.3	73.6			43.1	43.1		
Actuated g/C Ratio		0.03	0.34	0.34	0.21	0.53			0.31	0.31		
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0			3.0	3.0		
Lane Grp Cap (vph)		46	1193	500	361	1765			526	489		
v/s Ratio Prot		0.01	c0.27		c0.22	0.16			c0.28			
v/s Ratio Perm				0.10						0.10		
v/c Ratio		0.22	0.80	0.29	1.05	0.30			0.89	0.32		
Uniform Delay, d1		66.5	41.4	33.2	55.0	18.4			45.9	36.9		
Progression Factor		1.00	1.00	1.00	0.98	0.97			1.00	1.00		
Incremental Delay, d2		0.9	3.6	0.1	61.9	0.0			17.4	0.4		
Delay (s)		67.3	44.9	33.4	115.7	17.9			63.3	37.3		
Level of Service		E	D	C	F	B			E	D		
Approach Delay (s)			41.6			58.9			52.5			0.0
Approach LOS			D			E			D			A
Intersection Summary												
HCM 2000 Control Delay			49.5			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			139.3			Sum of lost time (s)			25.0			
Intersection Capacity Utilization			82.7%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
3: Driveway 2A & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↗		↑↑		↑↗
Traffic Volume (vph)	952	267	0	894	0	225
Future Volume (vph)	952	267	0	894	0	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	0		0	0
Storage Lanes		1	0		0	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.865
Flt Protected						
Satd. Flow (prot)	3471	1615	0	3374	0	1644
Flt Permitted						
Satd. Flow (perm)	3471	1615	0	3374	0	1644
Link Speed (mph)	65			65	30	
Link Distance (ft)	1070			739	365	
Travel Time (s)	11.2			7.8	8.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	0%	0%	7%	0%	0%
Adj. Flow (vph)	1035	290	0	972	0	245
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1035	290	0	972	0	245
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	60			60	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 46.9%				ICU Level of Service A		
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis

3: Driveway 2A & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (veh/h)	952	267	0	894	0	225
Future Volume (Veh/h)	952	267	0	894	0	225
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1035	290	0	972	0	245
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised		Raised			
Median storage veh)	2		2			
Upstream signal (ft)	1070					
pX, platoon unblocked			0.77		0.77	0.77
vC, conflicting volume			1325		1521	518
vC1, stage 1 conf vol					1035	
vC2, stage 2 conf vol					486	
vCu, unblocked vol			833		1086	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	71
cM capacity (veh/h)			625		391	843
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	518	518	290	486	486	245
Volume Left	0	0	0	0	0	0
Volume Right	0	0	290	0	0	245
cSH	1700	1700	1700	1700	1700	843
Volume to Capacity	0.30	0.30	0.17	0.29	0.29	0.29
Queue Length 95th (ft)	0	0	0	0	0	30
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.0
Lane LOS						B
Approach Delay (s)	0.0			0.0	11.0	
Approach LOS						B
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			46.9%	ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
3: Driveway 2A & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

Intersection						
Int Delay, s/veh	1.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Vol, veh/h	952	267	0	894	0	225
Future Vol, veh/h	952	267	0	894	0	225
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	0	0	7	0	0
Mvmt Flow	1035	290	0	972	0	245
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	518
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	508
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	508
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		18.5	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	508	-	-	-		
HCM Lane V/C Ratio	0.481	-	-	-		
HCM Control Delay (s)	18.5	-	-	-		
HCM Lane LOS	C	-	-	-		
HCM 95th %tile Q(veh)	2.6	-	-	-		

Lanes, Volumes, Timings
4: US79 & Crossover

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

								
Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	50	0	1135	0	855	0	0	0
Future Volume (vph)	50	0	1135	0	855	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		100		0	0	0
Storage Lanes		1		1		0	1	0
Taper Length (ft)		100		100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frt								
Flt Protected		0.950						
Satd. Flow (prot)	0	1805	3471	1900	3374	0	1900	0
Flt Permitted		0.950						
Satd. Flow (perm)	0	1805	3471	1900	3374	0	1900	0
Link Speed (mph)			65		65		30	
Link Distance (ft)			739		504		317	
Travel Time (s)			7.8		5.3		7.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	4%	0%	7%	0%	0%	0%
Adj. Flow (vph)	54	0	1220	0	919	0	0	0
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	54	1220	0	919	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			60		60		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	
Intersection Summary								
Area Type:	Other							
Control Type:	Unsignalized							
Intersection Capacity Utilization	41.4%				ICU Level of Service A			
Analysis Period (min)	15							

HCM Unsignalized Intersection Capacity Analysis

4: US79 & Crossover

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development



Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↔	↕	↔	↕		↔	
Traffic Volume (veh/h)	50	0	1135	0	855	0	0	0
Future Volume (Veh/h)	50	0	1135	0	855	0	0	0
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	1220	0	919	0	0	0
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage veh			2		2			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	919		0			1529	460
vC1, stage 1 conf vol							919	
vC2, stage 2 conf vol							610	
vCu, unblocked vol	0	919		0			1529	460
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	100		0			100	100
cM capacity (veh/h)	0	751		0			301	554
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	
Volume Total	0	610	610	460	460	0	0	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.36	0.36	0.27	0.27	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lane LOS							A	
Approach Delay (s)	0.0			0.0			0.0	
Approach LOS							A	
Intersection Summary								
Average Delay			0.0					
Intersection Capacity Utilization			41.4%		ICU Level of Service		A	
Analysis Period (min)			15					

Intersection								
Int Delay, s/veh	0.4							
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	50	0	1135	0	855	0	0	0
Future Vol, veh/h	50	0	1135	0	855	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	100	-	100	-	-	0	-
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	4	0	7	0	0	0
Mvmt Flow	54	0	1220	0	919	0	0	0
Major/Minor	Major1		Major2		Minor2			
Conflicting Flow All	919	919	0	1220	-	0	1637	460
Stage 1	-	-	-	-	-	-	919	-
Stage 2	-	-	-	-	-	-	718	-
Critical Hdwy	6.4	4.1	-	6.4	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	2.2	-	2.5	-	-	3.5	3.3
Pot Cap-1 Maneuver	380	751	-	244	-	0	93	554
Stage 1	-	-	-	-	-	0	354	-
Stage 2	-	-	-	-	-	0	449	-
Platoon blocked, %			-		-			
Mov Cap-1 Maneuver	380	380	-	244	-	-	80	554
Mov Cap-2 Maneuver	-	-	-	-	-	-	80	-
Stage 1	-	-	-	-	-	-	304	-
Stage 2	-	-	-	-	-	-	449	-
Approach	EB		WB		SB			
HCM Control Delay, s	0.7		0		0			
HCM LOS					A			
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	SBLn1			
Capacity (veh/h)	380	-	244	-	-			
HCM Lane V/C Ratio	0.141	-	-	-	-			
HCM Control Delay (s)	16	-	0	-	0			
HCM Lane LOS	C	-	A	-	A			
HCM 95th %tile Q(veh)	0.5	-	0	-	-			

Lanes, Volumes, Timings
5: S Rio Grande & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1137	31	6	804	0	22	3	3	1	7	3
Future Volume (vph)	5	1137	31	6	804	0	22	3	3	1	7	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		350	175		330	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.987			0.966	
Flt Protected	0.950			0.950				0.961			0.996	
Satd. Flow (prot)	1805	3539	1615	1805	3374	1900	0	1802	0	0	1828	0
Flt Permitted	0.950			0.950				0.961			0.996	
Satd. Flow (perm)	1805	3539	1615	1805	3374	1900	0	1802	0	0	1828	0
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		572			566			552			557	
Travel Time (s)		6.0			5.9			12.5			12.7	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	6	1292	35	7	914	0	25	3	3	1	8	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	1292	35	7	914	0	0	31	0	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		60			60			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	46.1%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis

5: S Rio Grande & US79

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1137	31	6	804	0	22	3	3	1	7	3
Future Volume (Veh/h)	5	1137	31	6	804	0	22	3	3	1	7	3
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	6	1292	35	7	914	0	25	3	3	1	8	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	Raised			Raised								
Median storage veh	2			2								
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	914			1292			1779	2232	646	1588	2232	457
vC1, stage 1 conf vol							1304	1304		928	928	
vC2, stage 2 conf vol							475	928		660	1304	
vCu, unblocked vol	914			1292			1779	2232	646	1588	2232	457
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			84	98	99	100	96	99
cM capacity (veh/h)	754			543			161	189	419	238	186	556
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	6	646	646	35	7	457	457	0	31	12		
Volume Left	6	0	0	0	7	0	0	0	25	1		
Volume Right	0	0	0	35	0	0	0	0	3	3		
cSH	754	1700	1700	1700	543	1700	1700	1700	174	228		
Volume to Capacity	0.01	0.38	0.38	0.02	0.01	0.27	0.27	0.00	0.18	0.05		
Queue Length 95th (ft)	1	0	0	0	1	0	0	0	16	4		
Control Delay (s)	9.8	0.0	0.0	0.0	11.7	0.0	0.0	0.0	30.2	21.7		
Lane LOS	A				B				D	C		
Approach Delay (s)	0.0				0.1				30.2	21.7		
Approach LOS									D	C		
Intersection Summary												
Average Delay	0.6											
Intersection Capacity Utilization	46.1%			ICU Level of Service						A		
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1137	31	6	804	0	22	3	3	1	7	3
Future Vol, veh/h	5	1137	31	6	804	0	22	3	3	1	7	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	Free
Storage Length	200	-	350	175	-	330	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	2	0	0	7	0	0	0	0	0	0	0
Mvmt Flow	6	1292	35	7	914	0	25	3	3	1	8	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	914	0	0	1292	0	0	1779	2232	-	1588	2232	-
Stage 1	-	-	-	-	-	-	1304	1304	-	928	928	-
Stage 2	-	-	-	-	-	-	475	928	-	660	1304	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	-	7.5	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	-	3.5	4	-
Pot Cap-1 Maneuver	754	-	-	543	-	-	53	43	0	74	43	0
Stage 1	-	-	-	-	-	-	172	232	0	292	349	0
Stage 2	-	-	-	-	-	-	545	349	0	423	232	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	754	-	-	543	-	-	45	42	-	68	42	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	45	42	-	68	42	-
Stage 1	-	-	-	-	-	-	171	230	-	290	344	-
Stage 2	-	-	-	-	-	-	526	344	-	413	230	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	754	-	-	543	-	-	-
HCM Lane V/C Ratio	-	0.008	-	-	0.013	-	-	-
HCM Control Delay (s)	-	9.8	-	-	11.7	-	-	-
HCM Lane LOS	-	A	-	-	B	-	-	-
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

Lanes, Volumes, Timings
6: FM973 & Driveway 1B

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	67	663	116	0	743
Future Volume (vph)	0	67	663	116	0	743
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		250	100	
Storage Lanes	0	0		1	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865		0.850		
Flt Protected						
Satd. Flow (prot)	0	1644	1827	1615	0	1712
Flt Permitted						
Satd. Flow (perm)	0	1644	1827	1615	0	1712
Link Speed (mph)	30		55			55
Link Distance (ft)	429		545			636
Travel Time (s)	9.8		6.8			7.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%
Adj. Flow (vph)	0	73	721	126	0	808
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	73	721	126	0	808
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	Yes		Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	45.7%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: FM973 & Driveway 1B

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	67	663	116	0	743
Future Volume (Veh/h)	0	67	663	116	0	743
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	73	721	126	0	808
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)					636	
pX, platoon unblocked						
vC, conflicting volume	1529	721			847	
vC1, stage 1 conf vol	721					
vC2, stage 2 conf vol	808					
vCu, unblocked vol	1529	721			847	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	83			100	
cM capacity (veh/h)	343	431			799	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1		
Volume Total	73	721	126	808		
Volume Left	0	0	0	0		
Volume Right	73	0	126	0		
cSH	431	1700	1700	1700		
Volume to Capacity	0.17	0.42	0.07	0.48		
Queue Length 95th (ft)	15	0	0	0		
Control Delay (s)	15.1	0.0	0.0	0.0		
Lane LOS	C					
Approach Delay (s)	15.1	0.0		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay		0.6				
Intersection Capacity Utilization		45.7%		ICU Level of Service		A
Analysis Period (min)		15				

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗	↗		↗
Traffic Vol, veh/h	0	67	663	116	0	743
Future Vol, veh/h	0	67	663	116	0	743
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	250	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	0	0	11
Mvmt Flow	0	73	721	126	0	808
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	721	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	431	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	431	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	15	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	431		-		
HCM Lane V/C Ratio	-	0.169		-		
HCM Control Delay (s)	-	15		-		
HCM Lane LOS	-	C		-		
HCM 95th %tile Q(veh)	-	0.6		-		

Lanes, Volumes, Timings
7: FM973 & Driveway 2B

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	102	37	742	19	75	668
Future Volume (vph)	102	37	742	19	75	668
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		250	150	
Storage Lanes	1	1		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	1615	1827	1615	1805	1712
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1805	1615	1827	1615	1805	1712
Link Speed (mph)	30		55			55
Link Distance (ft)	223		672			545
Travel Time (s)	5.1		8.3			6.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%
Adj. Flow (vph)	111	40	807	21	82	726
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	40	807	21	82	726
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	58.9%			ICU Level of Service B		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: FM973 & Driveway 2B

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	102	37	742	19	75	668
Future Volume (Veh/h)	102	37	742	19	75	668
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	111	40	807	21	82	726
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		4				
Median type			TWLTL			TWLTL
Median storage veh			2			2
Upstream signal (ft)						1181
pX, platoon unblocked						
vC, conflicting volume	1697	807			828	
vC1, stage 1 conf vol	807					
vC2, stage 2 conf vol	890					
vCu, unblocked vol	1697	807			828	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	61	90			90	
cM capacity (veh/h)	288	385			812	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	151	807	21	82	726	
Volume Left	111	0	0	82	0	
Volume Right	40	0	21	0	0	
cSH	392	1700	1700	812	1700	
Volume to Capacity	0.39	0.47	0.01	0.10	0.43	
Queue Length 95th (ft)	44	0	0	8	0	
Control Delay (s)	22.6	0.0	0.0	9.9	0.0	
Lane LOS	C			A		
Approach Delay (s)	22.6	0.0		1.0		
Approach LOS	C					
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			58.9%		ICU Level of Service	B
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	102	37	742	19	75	668
Future Vol, veh/h	102	37	742	19	75	668
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	250	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	0	0	11
Mvmt Flow	111	40	807	21	82	726
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1697	807	0	0	828	0
Stage 1	807	-	-	-	-	-
Stage 2	890	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 103	385	-	-	812	-
Stage 1	442	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 93	385	-	-	812	-
Mov Cap-2 Maneuver	224	-	-	-	-	-
Stage 1	442	-	-	-	-	-
Stage 2	363	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	30.4	0		1		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	224	385	812	-
HCM Lane V/C Ratio	-	-	0.495	0.104	0.1	-
HCM Control Delay (s)	-	-	35.9	15.4	9.9	-
HCM Lane LOS	-	-	E	C	A	-
HCM 95th %tile Q(veh)	-	-	2.5	0.3	0.3	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Lanes, Volumes, Timings
8: FM973 & Taylor HS

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	8	28	738	4	13	778
Future Volume (vph)	8	28	738	4	13	778
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.894		0.999			
Flt Protected	0.989				0.950	
Satd. Flow (prot)	1680	0	1825	0	1805	1712
Flt Permitted	0.989				0.950	
Satd. Flow (perm)	1680	0	1825	0	1805	1712
Link Speed (mph)	30		65			65
Link Distance (ft)	376		460			672
Travel Time (s)	8.5		4.8			7.0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%
Adj. Flow (vph)	8	29	761	4	13	802
Shared Lane Traffic (%)						
Lane Group Flow (vph)	37	0	765	0	13	802
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	50.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 8: FM973 & Taylor HS

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	28	738	4	13	778
Future Volume (Veh/h)	8	28	738	4	13	778
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	8	29	761	4	13	802
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL		TWLTL	
Median storage veh			2		2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1591	763			765	
vC1, stage 1 conf vol	763					
vC2, stage 2 conf vol	828					
vCu, unblocked vol	1591	763			765	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	93			98	
cM capacity (veh/h)	327	408			857	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	37	765	13	802		
Volume Left	8	0	13	0		
Volume Right	29	4	0	0		
cSH	387	1700	857	1700		
Volume to Capacity	0.10	0.45	0.02	0.47		
Queue Length 95th (ft)	8	0	1	0		
Control Delay (s)	15.3	0.0	9.3	0.0		
Lane LOS	C		A			
Approach Delay (s)	15.3	0.0	0.1			
Approach LOS	C					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			50.9%		ICU Level of Service	A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	28	738	4	13	778
Future Vol, veh/h	8	28	738	4	13	778
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	4	0	0	11
Mvmt Flow	8	29	761	4	13	802
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1591	763	0	0	765	0
Stage 1	763	-	-	-	-	-
Stage 2	828	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	119	408	-	-	857	-
Stage 1	464	-	-	-	-	-
Stage 2	432	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	117	408	-	-	857	-
Mov Cap-2 Maneuver	256	-	-	-	-	-
Stage 1	464	-	-	-	-	-
Stage 2	426	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	16.1	0		0.2		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	360	857	-	
HCM Lane V/C Ratio	-	-	0.103	0.016	-	
HCM Control Delay (s)	-	-	16.1	9.3	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.3	0	-	

Lanes, Volumes, Timings
9: FM973 & Streamwood

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	63	22	38	673	692	98
Future Volume (vph)	63	22	38	673	692	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			250
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.965					0.850
Flt Protected	0.964		0.950			
Satd. Flow (prot)	1767	0	1805	1827	1696	1615
Flt Permitted	0.964		0.950			
Satd. Flow (perm)	1767	0	1805	1827	1696	1615
Link Speed (mph)	30			65	65	
Link Distance (ft)	373			724	460	
Travel Time (s)	8.5			7.6	4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	4%	12%	0%
Adj. Flow (vph)	68	24	41	732	752	107
Shared Lane Traffic (%)						
Lane Group Flow (vph)	92	0	41	732	752	107
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	47.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

9: FM973 & Streamwood

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	63	22	38	673	692	98
Future Volume (Veh/h)	63	22	38	673	692	98
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	68	24	41	732	752	107
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLT	TWLT	
Median storage veh				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1566	752	859			
vC1, stage 1 conf vol	752					
vC2, stage 2 conf vol	814					
vCu, unblocked vol	1566	752	859			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	79	94	95			
cM capacity (veh/h)	325	413	791			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	92	41	732	752	107	
Volume Left	68	41	0	0	0	
Volume Right	24	0	0	0	107	
cSH	344	791	1700	1700	1700	
Volume to Capacity	0.27	0.05	0.43	0.44	0.06	
Queue Length 95th (ft)	27	4	0	0	0	
Control Delay (s)	19.3	9.8	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	19.3	0.5		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			47.9%	ICU Level of Service		A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	63	22	38	673	692	98
Future Vol, veh/h	63	22	38	673	692	98
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	4	12	0
Mvmt Flow	68	24	41	732	752	107
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1566	752	859	0	-	0
Stage 1	752	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	124	413	791	-	-	-
Stage 1	469	-	-	-	-	-
Stage 2	439	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	118	413	791	-	-	-
Mov Cap-2 Maneuver	256	-	-	-	-	-
Stage 1	445	-	-	-	-	-
Stage 2	439	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	23.7	0.5		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	791	-	284	-	-	
HCM Lane V/C Ratio	0.052	-	0.325	-	-	
HCM Control Delay (s)	9.8	-	23.7	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.4	-	-	

Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	0	4	5	0	15	4	684	0	3	695	13
Future Volume (vph)	8	0	4	5	0	15	4	684	0	3	695	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	400		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.958			0.897						0.997	
Flt Protected		0.967			0.988		0.950			0.950		
Satd. Flow (prot)	0	1760	0	0	1684	0	1805	1827	0	1805	1710	0
Flt Permitted		0.967			0.988		0.950			0.950		
Satd. Flow (perm)	0	1760	0	0	1684	0	1805	1827	0	1805	1710	0
Link Speed (mph)		30			30			65			65	
Link Distance (ft)		574			560			730			724	
Travel Time (s)		13.0			12.7			7.7			7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	11%	0%
Adj. Flow (vph)	9	0	4	5	0	16	4	743	0	3	755	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	13	0	0	21	0	4	743	0	3	769	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 47.4%	ICU Level of Service A											
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis

10: FM973 & Wesley Miller

2027 PM Peak Hour
Phase 2 Build-Out Year w/Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	0	4	5	0	15	4	684	0	3	695	13
Future Volume (Veh/h)	8	0	4	5	0	15	4	684	0	3	695	13
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	0	4	5	0	16	4	743	0	3	755	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	TWLTL						TWLTL					
Median storage veh	2						2					
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1535	1519	762	1516	1526	743	769				743	
vC1, stage 1 conf vol	768	768		751	751							
vC2, stage 2 conf vol	767	751		765	775							
vCu, unblocked vol	1535	1519	762	1516	1526	743	769				743	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	97	100	99	98	100	96	100				100	
cM capacity (veh/h)	281	308	408	290	307	418	854				873	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	13	21	4	743	3	769						
Volume Left	9	5	4	0	3	0						
Volume Right	4	16	0	0	0	14						
cSH	311	378	854	1700	873	1700						
Volume to Capacity	0.04	0.06	0.00	0.44	0.00	0.45						
Queue Length 95th (ft)	3	4	0	0	0	0						
Control Delay (s)	17.1	15.1	9.2	0.0	9.1	0.0						
Lane LOS	C	C	A		A							
Approach Delay (s)	17.1	15.1	0.0		0.0							
Approach LOS	C	C										
Intersection Summary												
Average Delay	0.4											
Intersection Capacity Utilization	47.4%			ICU Level of Service				A				
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	8	0	4	5	0	15	4	684	0	3	695	13
Future Vol, veh/h	8	0	4	5	0	15	4	684	0	3	695	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	400	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	4	0	0	11	0
Mvmt Flow	9	0	4	5	0	16	4	743	0	3	755	14

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1527	1519	762	1521	1526	743	769	0	0	743	0	0
Stage 1	768	768	-	751	751	-	-	-	-	-	-	-
Stage 2	759	751	-	770	775	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	97	120	408	98	119	418	854	-	-	873	-	-
Stage 1	397	414	-	406	421	-	-	-	-	-	-	-
Stage 2	402	421	-	396	411	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	93	119	408	96	118	418	854	-	-	873	-	-
Mov Cap-2 Maneuver	93	119	-	96	118	-	-	-	-	-	-	-
Stage 1	395	413	-	404	419	-	-	-	-	-	-	-
Stage 2	385	419	-	390	410	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	37.1		22.5		0.1		0	
HCM LOS	E		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	854	-	-	125 227	873	-	-
HCM Lane V/C Ratio	0.005	-	-	0.104 0.096	0.004	-	-
HCM Control Delay (s)	9.2	-	-	37.1 22.5	9.1	-	-
HCM Lane LOS	A	-	-	E C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3 0.3	0	-	-

Appendix D. Traffic Simulation Output

- Phase 2 Buildout Year (2027) Projected Conditions with Development, AM & PM
 - Mitigation:
 - With Traffic Signal at FM 973 at Driveway 2B
 - With Traffic Signal at FM 973 at Wesley Miller Lane
 - With Existing Timings at FM 973 at US 79

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	0	564	783	496	664	3	559	0	205	0	0
Future Volume (vph)	8	0	564	783	496	664	3	559	0	205	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		0	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.999				0.850		0.865
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1805	3312	1553	1719	3371	0	0	1671	1568	0	1644
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1805	3312	1553	1719	3371	0	0	1671	1568	0	1644
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				753						143		267
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1072			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Adj. Flow (vph)	9	0	600	833	528	706	3	595	0	218	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	600	833	528	709	0	0	595	218	0	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			0			0
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
Page 1

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.94
Heavy Vehicles (%)	0%
Adj. Flow (vph)	1
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	15.0	15.0	5.0	15.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	16.0	21.0	21.0	11.0	21.0		12.0	12.0	12.0	11.0	11.0
Total Split (s)	31.0	31.0	61.0	61.0	31.0	61.0		57.0	57.0	57.0	11.0	11.0
Total Split (%)	19.4%	19.4%	38.1%	38.1%	19.4%	38.1%		35.6%	35.6%	35.6%	6.9%	6.9%
Maximum Green (s)	25.0	25.0	55.0	55.0	25.0	55.0		50.0	50.0	50.0	5.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0	2.0	2.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)		10.1	39.3	39.3	25.2	67.8			50.4	50.4		5.0
Actuated g/C Ratio		0.07	0.29	0.29	0.19	0.50			0.37	0.37		0.04
v/c Ratio		0.07	0.63	0.85	1.66	0.42			0.96	0.32		0.00
Control Delay		66.2	44.8	14.3	343.7	22.8			70.4	13.8		0.0
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Delay		66.2	44.8	14.3	343.7	22.8			70.4	13.8		0.0
LOS		E	D	B	F	C			E	B		A
Approach Delay			27.3			159.8			55.2			
Approach LOS			C			F			E			

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 136

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.66

Intersection Signal Delay: 80.7

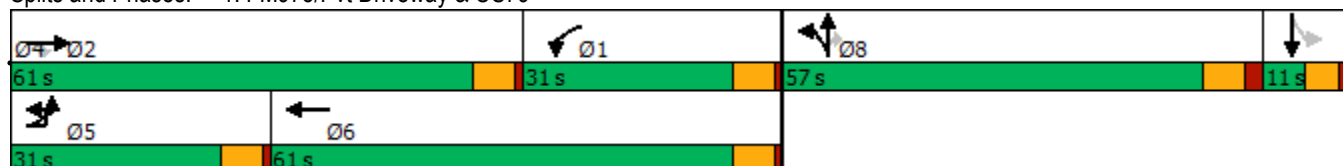
Intersection LOS: F

Intersection Capacity Utilization 96.5%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79



Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

								
Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Protected Phases	5	2		1	6	8		4
Permitted Phases			2				8	
Minimum Initial (s)	10.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0
Minimum Split (s)	16.0	21.0	21.0	11.0	21.0	12.0	12.0	11.0
Total Split (s)	31.0	61.0	61.0	31.0	61.0	57.0	57.0	11.0
Total Split (%)	19.4%	38.1%	38.1%	19.4%	38.1%	35.6%	35.6%	6.9%
Maximum Green (s)	25.0	55.0	55.0	25.0	55.0	50.0	50.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	10.0	55.0	55.0	25.0	70.0	50.0	50.0	5.0
90th %ile Term Code	Min	Max	Max	Max	Hold	Max	Max	Max
70th %ile Green (s)	0.0	45.5	45.5	25.0	76.5	50.0	50.0	0.0
70th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip
50th %ile Green (s)	0.0	38.8	38.8	25.0	69.8	50.0	50.0	0.0
50th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip
30th %ile Green (s)	0.0	33.2	33.2	25.0	64.2	50.0	50.0	0.0
30th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip
10th %ile Green (s)	0.0	26.7	26.7	25.0	57.7	50.0	50.0	0.0
10th %ile Term Code	Skip	Gap	Gap	Max	Hold	Max	Max	Skip
Intersection Summary								
Cycle Length: 160								
Actuated Cycle Length: 136								
Control Type: Actuated-Uncoordinated								
90th %ile Actuated Cycle: 160								
70th %ile Actuated Cycle: 139.5								
50th %ile Actuated Cycle: 132.8								
30th %ile Actuated Cycle: 127.2								
10th %ile Actuated Cycle: 120.7								

Queues

2027 AM Peak Hour (w/New Signalized)

1: FM973/Pvt Driveway & US79

Phase 2 Build-Out Year w/Development



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	9	600	833	528	709	595	218	1
v/c Ratio	0.07	0.63	0.85	1.66	0.42	0.96	0.32	0.00
Control Delay	66.2	44.8	14.3	343.7	22.8	70.4	13.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.2	44.8	14.3	343.7	22.8	70.4	13.8	0.0
Queue Length 50th (ft)	7	235	52	~660	181	493	42	0
Queue Length 95th (ft)	30	328	273	#1097	324	#966	133	0
Internal Link Dist (ft)		854			992	556		491
Turn Bay Length (ft)	100		615	880				
Base Capacity (vph)	334	1351	1079	318	1681	619	671	318
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.44	0.77	1.66	0.42	0.96	0.32	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	0	564	783	496	664	3	559	0	205	0	0
Future Volume (vph)	8	0	564	783	496	664	3	559	0	205	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95			1.00	1.00		1.00
Frt		1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.86
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00		1.00
Satd. Flow (prot)		1805	3312	1553	1719	3373			1671	1568		1644
Flt Permitted		0.95	1.00	1.00	0.95	1.00			0.95	1.00		1.00
Satd. Flow (perm)		1805	3312	1553	1719	3373			1671	1568		1644
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	9	0	600	833	528	706	3	595	0	218	0	0
RTOR Reduction (vph)	0	0	0	550	0	0	0	0	0	94	0	1
Lane Group Flow (vph)	0	9	600	283	528	709	0	0	595	124	0	0
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		1.7	39.3	39.3	30.3	67.9			50.5	50.5		0.9
Effective Green, g (s)		1.7	39.3	39.3	30.3	67.9			50.5	50.5		0.9
Actuated g/C Ratio		0.01	0.27	0.27	0.21	0.47			0.35	0.35		0.01
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0			3.0	3.0		2.0
Lane Grp Cap (vph)		21	891	418	356	1568			577	542		10
v/s Ratio Prot		0.00	0.18		c0.31	0.21			c0.36			c0.00
v/s Ratio Perm				c0.18						0.08		
v/c Ratio		0.43	0.67	0.68	1.48	0.45			1.03	0.23		0.00
Uniform Delay, d1		71.7	47.6	47.7	57.9	26.5			47.8	33.9		72.1
Progression Factor		1.00	1.00	1.00	0.98	0.97			1.00	1.00		1.00
Incremental Delay, d2		5.0	1.6	3.4	232.0	0.1			45.7	0.2		0.0
Delay (s)		76.7	49.2	51.1	288.7	25.8			93.5	34.1		72.1
Level of Service		E	D	D	F	C			F	C		E
Approach Delay (s)			50.5			138.0			77.6			72.1
Approach LOS			D			F			E			E
Intersection Summary												
HCM 2000 Control Delay			87.8			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			146.0			Sum of lost time (s)			25.0			
Intersection Capacity Utilization			96.5%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	1
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
3: Driveway 2A & US79

2027 AM Peak Hour (w/New Signalized)

Phase 2 Build-Out Year w/Development

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (vph)	547	284	0	1253	0	207
Future Volume (vph)	547	284	0	1253	0	207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	0		0	0
Storage Lanes		1	0		0	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.865
Flt Protected						
Satd. Flow (prot)	3282	1615	0	3374	0	1644
Flt Permitted						
Satd. Flow (perm)	3282	1615	0	3374	0	1644
Link Speed (mph)	65			65	30	
Link Distance (ft)	1072			739	365	
Travel Time (s)	11.2			7.8	8.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	10%	0%	0%	7%	0%	0%
Adj. Flow (vph)	595	309	0	1362	0	225
Shared Lane Traffic (%)						
Lane Group Flow (vph)	595	309	0	1362	0	225
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	60			60	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	38.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 3: Driveway 2A & US79

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Volume (veh/h)	547	284	0	1253	0	207
Future Volume (Veh/h)	547	284	0	1253	0	207
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	595	309	0	1362	0	225
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised		Raised			
Median storage veh	2		2			
Upstream signal (ft)	1072					
pX, platoon unblocked			0.89		0.89	0.89
vC, conflicting volume			904		1276	298
vC1, stage 1 conf vol					595	
vC2, stage 2 conf vol					681	
vCu, unblocked vol			654		1071	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	77
cM capacity (veh/h)			842		409	975
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	298	298	309	681	681	225
Volume Left	0	0	0	0	0	0
Volume Right	0	0	309	0	0	225
cSH	1700	1700	1700	1700	1700	975
Volume to Capacity	0.17	0.17	0.18	0.40	0.40	0.23
Queue Length 95th (ft)	0	0	0	0	0	22
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.8
Lane LOS						A
Approach Delay (s)	0.0			0.0	9.8	
Approach LOS						A
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			38.0%		ICU Level of Service	A
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	1.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Vol, veh/h	547	284	0	1253	0	207
Future Vol, veh/h	547	284	0	1253	0	207
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	0	0	7	0	0
Mvmt Flow	595	309	0	1362	0	225
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	298
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	704
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	704
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		12.5	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	704	-	-	-		
HCM Lane V/C Ratio	0.32	-	-	-		
HCM Control Delay (s)	12.5	-	-	-		
HCM Lane LOS	B	-	-	-		
HCM 95th %tile Q(veh)	1.4	-	-	-		

Lanes, Volumes, Timings
4: US79 & Crossover

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

								
Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	75	0	682	0	1207	0	0	0
Future Volume (vph)	75	0	682	0	1207	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		100		0	0	0
Storage Lanes		1		1		0	1	0
Taper Length (ft)		100		100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frt								
Flt Protected		0.950						
Satd. Flow (prot)	0	1805	3282	1900	3374	0	1900	0
Flt Permitted		0.950						
Satd. Flow (perm)	0	1805	3282	1900	3374	0	1900	0
Link Speed (mph)			65		65		30	
Link Distance (ft)			739		504		317	
Travel Time (s)			7.8		5.3		7.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	10%	0%	7%	0%	0%	0%
Adj. Flow (vph)	82	0	749	0	1326	0	0	0
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	82	749	0	1326	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			60		60		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	
Intersection Summary								
Area Type:	Other							
Control Type: Unsignalized								
Intersection Capacity Utilization 44.2%								
ICU Level of Service A								
Analysis Period (min) 15								

HCM Unsignalized Intersection Capacity Analysis 4: US79 & Crossover

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

								
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (veh/h)	75	0	682	0	1207	0	0	0
Future Volume (Veh/h)	75	0	682	0	1207	0	0	0
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	749	0	1326	0	0	0
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage veh			2		2			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	1326		0			1700	663
vC1, stage 1 conf vol							1326	
vC2, stage 2 conf vol							374	
vCu, unblocked vol	0	1326		0			1700	663
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	100		0			100	100
cM capacity (veh/h)	0	527		0			206	409
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	
Volume Total	0	374	374	663	663	0	0	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.22	0.22	0.39	0.39	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lane LOS							A	
Approach Delay (s)	0.0			0.0			0.0	
Approach LOS							A	
Intersection Summary								
Average Delay			0.0					
Intersection Capacity Utilization			44.2%		ICU Level of Service		A	
Analysis Period (min)			15					

Intersection								
Int Delay, s/veh	1.3							
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	75	0	682	0	1207	0	0	0
Future Vol, veh/h	75	0	682	0	1207	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	100	-	100	-	-	0	-
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	10	0	7	0	0	0
Mvmt Flow	82	0	749	0	1326	0	0	0
Major/Minor	Major1		Major2		Minor2			
Conflicting Flow All	1326	1326	0	749	-	0	1865	663
Stage 1	-	-	-	-	-	-	1326	-
Stage 2	-	-	-	-	-	-	539	-
Critical Hdwy	6.4	4.1	-	6.4	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	2.2	-	2.5	-	-	3.5	3.3
Pot Cap-1 Maneuver	209	527	-	488	-	0	66	409
Stage 1	-	-	-	-	-	0	216	-
Stage 2	-	-	-	-	-	0	555	-
Platoon blocked, %			-		-			
Mov Cap-1 Maneuver	209	209	-	488	-	-	40	409
Mov Cap-2 Maneuver	-	-	-	-	-	-	40	-
Stage 1	-	-	-	-	-	-	131	-
Stage 2	-	-	-	-	-	-	555	-
Approach	EB		WB		SB			
HCM Control Delay, s	3.3		0		0			
HCM LOS					A			
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	SBLn1			
Capacity (veh/h)	209	-	488	-	-			
HCM Lane V/C Ratio	0.394	-	-	-	-			
HCM Control Delay (s)	33	-	0	-	0			
HCM Lane LOS	D	-	A	-	A			
HCM 95th %tile Q(veh)	1.8	-	0	-	-			

Lanes, Volumes, Timings
5: S Rio Grande & US79

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	8	704	12	7	1144	1	36	7	1	3	3	5
Future Volume (vph)	8	704	12	7	1144	1	36	7	1	3	3	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		350	175		330	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.997			0.932	
Flt Protected	0.950			0.950				0.961			0.988	
Satd. Flow (prot)	1805	3539	1615	1805	3374	1615	0	1820	0	0	1750	0
Flt Permitted	0.950			0.950				0.961			0.988	
Satd. Flow (perm)	1805	3539	1615	1805	3374	1615	0	1820	0	0	1750	0
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		572			566			552			557	
Travel Time (s)		6.0			5.9			12.5			12.7	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	9	800	14	8	1300	1	41	8	1	3	3	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	800	14	8	1300	1	0	50	0	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		60			60			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	44.4%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 5: S Rio Grande & US79

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	8	704	12	7	1144	1	36	7	1	3	3	5
Future Volume (Veh/h)	8	704	12	7	1144	1	36	7	1	3	3	5
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	9	800	14	8	1300	1	41	8	1	3	3	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	Raised			Raised								
Median storage (veh)	2			2								
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1300			800			1486	2134	400	1738	2134	650
vC1, stage 1 conf vol							818	818		1316	1316	
vC2, stage 2 conf vol							668	1316		422	818	
vCu, unblocked vol	1300			800			1486	2134	400	1738	2134	650
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			84	96	100	98	98	99
cM capacity (veh/h)	540			832			262	189	605	159	194	417
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	9	400	400	14	8	650	650	1	50	12		
Volume Left	9	0	0	0	8	0	0	0	41	3		
Volume Right	0	0	0	14	0	0	0	1	1	6		
cSH	540	1700	1700	1700	832	1700	1700	1700	249	246		
Volume to Capacity	0.02	0.24	0.24	0.01	0.01	0.38	0.38	0.00	0.20	0.05		
Queue Length 95th (ft)	1	0	0	0	1	0	0	0	18	4		
Control Delay (s)	11.8	0.0	0.0	0.0	9.4	0.0	0.0	0.0	23.0	20.4		
Lane LOS	B				A				C	C		
Approach Delay (s)	0.1				0.1				23.0	20.4		
Approach LOS									C	C		
Intersection Summary												
Average Delay	0.7											
Intersection Capacity Utilization	44.4%			ICU Level of Service			A					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	704	12	7	1144	1	36	7	1	3	3	5
Future Vol, veh/h	8	704	12	7	1144	1	36	7	1	3	3	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	Free
Storage Length	200	-	350	175	-	330	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	2	0	0	7	0	0	0	0	0	0	0
Mvmt Flow	9	800	14	8	1300	1	41	8	1	3	3	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1300	0	0	800	0	0	1486	2134	-	1738	2134	-
Stage 1	-	-	-	-	-	-	818	818	-	1316	1316	-
Stage 2	-	-	-	-	-	-	668	1316	-	422	818	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	-	7.5	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	-	3.5	4	-
Pot Cap-1 Maneuver	540	-	-	832	-	-	88	50	0	57	50	0
Stage 1	-	-	-	-	-	-	340	393	0	169	229	0
Stage 2	-	-	-	-	-	-	419	229	0	585	393	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	540	-	-	832	-	-	82	49	-	49	49	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	82	49	-	49	49	-
Stage 1	-	-	-	-	-	-	334	386	-	166	227	-
Stage 2	-	-	-	-	-	-	409	227	-	563	386	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	540	-	-	832	-	-	-
HCM Lane V/C Ratio	-	0.017	-	-	0.01	-	-	-
HCM Control Delay (s)	-	11.8	-	-	9.4	-	-	-
HCM Lane LOS	-	B	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	-

Lanes, Volumes, Timings
6: FM973 & Driveway 1B

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	78	686	105	0	1306
Future Volume (vph)	0	78	686	105	0	1306
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		250	100	
Storage Lanes	0	0		1	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865		0.850		
Flt Protected						
Satd. Flow (prot)	0	1644	1759	1615	0	1792
Flt Permitted						
Satd. Flow (perm)	0	1644	1759	1615	0	1792
Link Speed (mph)	30		55			55
Link Distance (ft)	429		545			636
Travel Time (s)	9.8		6.8			7.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Adj. Flow (vph)	0	85	746	114	0	1420
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	85	746	114	0	1420
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	Yes		Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	72.1%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 6: FM973 & Driveway 1B

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	78	686	105	0	1306
Future Volume (Veh/h)	0	78	686	105	0	1306
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	85	746	114	0	1420
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)			545		636	
pX, platoon unblocked	0.59	0.59			0.59	
vC, conflicting volume	2166	746			860	
vC1, stage 1 conf vol	746					
vC2, stage 2 conf vol	1420					
vCu, unblocked vol	2623	229			421	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	82			100	
cM capacity (veh/h)	195	484			682	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1		
Volume Total	85	746	114	1420		
Volume Left	0	0	0	0		
Volume Right	85	0	114	0		
cSH	484	1700	1700	1700		
Volume to Capacity	0.18	0.44	0.07	0.84		
Queue Length 95th (ft)	16	0	0	0		
Control Delay (s)	14.0	0.0	0.0	0.0		
Lane LOS	B					
Approach Delay (s)	14.0	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay		0.5				
Intersection Capacity Utilization		72.1%		ICU Level of Service		C
Analysis Period (min)		15				

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗	↗		↗
Traffic Vol, veh/h	0	78	686	105	0	1306
Future Vol, veh/h	0	78	686	105	0	1306
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	250	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	8	0	0	6
Mvmt Flow	0	85	746	114	0	1420

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	746	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.2	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.3	-
Pot Cap-1 Maneuver	0	417	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	417	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	417	-
HCM Lane V/C Ratio	-	0.203	-
HCM Control Delay (s)	-	15.8	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	0.8	-

Lanes, Volumes, Timings
7: FM973 & Driveway 2B

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	155	53	737	26	112	1195
Future Volume (vph)	155	53	737	26	112	1195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		250	150	
Storage Lanes	1	1		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	1615	1759	1615	1805	1792
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1805	1615	1759	1615	1805	1792
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		58		28		
Link Speed (mph)	30		55			55
Link Distance (ft)	223		672			545
Travel Time (s)	5.1		8.3			6.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Adj. Flow (vph)	168	58	801	28	122	1299
Shared Lane Traffic (%)						
Lane Group Flow (vph)	168	58	801	28	122	1299
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	3	1	1	3
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	50	50	250	50	50	250
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	6	50	50	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			122			122
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Detector 3 Position(ft)			244			244
Detector 3 Size(ft)			6			6

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
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Lanes, Volumes, Timings
7: FM973 & Driveway 2B

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex			Cl+Ex		
Detector 3 Channel						
Detector 3 Extend (s)	0.0			0.0		
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.0	23.0	24.0	24.0	13.0	24.0
Total Split (s)	23.0	23.0	44.0	44.0	13.0	57.0
Total Split (%)	28.8%	28.8%	55.0%	55.0%	16.3%	71.3%
Maximum Green (s)	18.0	18.0	38.0	38.0	7.0	51.0
Yellow Time (s)	3.5	3.5	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Act Effect Green (s)	12.7	12.7	40.9	40.9	9.4	56.3
Actuated g/C Ratio	0.16	0.16	0.51	0.51	0.12	0.70
v/c Ratio	0.59	0.19	0.89	0.03	0.58	1.03
Control Delay	39.1	9.4	23.6	2.1	46.6	49.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.1	9.4	23.6	2.1	46.6	49.0
LOS	D	A	C	A	D	D
Approach Delay	31.5		22.8			48.8
Approach LOS	C		C			D

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 7 (9%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 38.5
Intersection Capacity Utilization 80.6%
Analysis Period (min) 15

Intersection LOS: D

ICU Level of Service D

Splits and Phases: 7: FM973 & Driveway 2B



Scenario 1 5:57 pm 08/19/2022 Baseline

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Phasings
7: FM973 & Driveway 2B

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Minimum Initial (s)	8.0	8.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.0	23.0	24.0	24.0	13.0	24.0
Total Split (s)	23.0	23.0	44.0	44.0	13.0	57.0
Total Split (%)	28.8%	28.8%	55.0%	55.0%	16.3%	71.3%
Maximum Green (s)	18.0	18.0	38.0	38.0	7.0	51.0
Yellow Time (s)	3.5	3.5	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.0	1.0	1.0	1.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Walk Time (s)						
Flash Dont Walk (s)						
Pedestrian Calls (#/hr)						
90th %ile Green (s)	17.4	17.4	38.0	38.0	7.6	51.6
90th %ile Term Code	Gap	Gap	Coord	Coord	Max	Coord
70th %ile Green (s)	14.7	14.7	38.0	38.0	10.3	54.3
70th %ile Term Code	Gap	Gap	Coord	Coord	Max	Coord
50th %ile Green (s)	12.7	12.7	38.7	38.7	11.6	56.3
50th %ile Term Code	Gap	Gap	Coord	Coord	Gap	Coord
30th %ile Green (s)	10.7	10.7	42.4	42.4	9.9	58.3
30th %ile Term Code	Gap	Gap	Coord	Coord	Gap	Coord
10th %ile Green (s)	8.0	8.0	47.5	47.5	7.5	61.0
10th %ile Term Code	Min	Min	Coord	Coord	Gap	Coord
Intersection Summary						
Cycle Length: 80						
Actuated Cycle Length: 80						
Offset: 7 (9%), Referenced to phase 2:NBT and 6:SBT, Start of Green						
Control Type: Actuated-Coordinated						

Queues
7: FM973 & Driveway 2B

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	168	58	801	28	122	1299
v/c Ratio	0.59	0.19	0.89	0.03	0.58	1.03
Control Delay	39.1	9.4	23.6	2.1	46.6	49.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.1	9.4	23.6	2.1	46.6	49.0
Queue Length 50th (ft)	79	0	144	0	57	~706
Queue Length 95th (ft)	130	29	m#565	m2	#142	#1003
Internal Link Dist (ft)	143		592			465
Turn Bay Length (ft)		100		250	150	
Base Capacity (vph)	406	408	899	839	211	1261
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.14	0.89	0.03	0.58	1.03
Intersection Summary						
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.						
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.						
m Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis

7: FM973 & Driveway 2B

2027 AM Peak Hour (w/New Signalized)

Phase 2 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	155	53	737	26	112	1195
Future Volume (vph)	155	53	737	26	112	1195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1615	1759	1615	1805	1792
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1805	1615	1759	1615	1805	1792
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	168	58	801	28	122	1299
RTOR Reduction (vph)	0	49	0	14	0	0
Lane Group Flow (vph)	168	9	801	14	122	1299
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	12.7	12.7	40.9	40.9	9.4	56.3
Effective Green, g (s)	12.7	12.7	40.9	40.9	9.4	56.3
Actuated g/C Ratio	0.16	0.16	0.51	0.51	0.12	0.70
Clearance Time (s)	5.0	5.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	286	256	899	825	212	1261
v/s Ratio Prot	c0.09		0.46		0.07	c0.72
v/s Ratio Perm		0.01		0.01		
v/c Ratio	0.59	0.04	0.89	0.02	0.58	1.03
Uniform Delay, d1	31.2	28.5	17.5	9.6	33.4	11.9
Progression Factor	1.00	1.00	0.47	0.44	1.00	1.00
Incremental Delay, d2	3.1	0.1	11.6	0.0	3.7	33.4
Delay (s)	34.3	28.5	19.9	4.3	37.2	45.2
Level of Service	C	C	B	A	D	D
Approach Delay (s)	32.8		19.4			44.5
Approach LOS	C		B			D
Intersection Summary						
HCM 2000 Control Delay			35.0		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			1.04			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	17.0
Intersection Capacity Utilization			80.6%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Signalized Intersection Capacity Analysis 7: FM973 & Driveway 2B

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

									
Movement	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations									
Traffic Volume (veh/h)	155	53	737	26	112	1195			
Future Volume (veh/h)	155	53	737	26	112	1195			
Number	3	18	2	12	1	6			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00	1.00		1.00	1.00				
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No		No			No			
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1900	1900	1781	1900	1900	1811			
Adj Flow Rate, veh/h	168	58	801	28	122	1299			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	8	0	0	6			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	219	195	1036	936	154	1343			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.12	0.12	0.58	0.58	0.09	0.74			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	39.6	32.9	18.4	7.2	58.8	27.4			
Ln Grp LOS	D	C	B	A	E	C			
Approach Vol, veh/h	226		829			1421			
Approach Delay, s/veh	37.9		18.0			30.1			
Approach LOS	D		B			C			
Timer:		1	2	3	4	5	6	7	8
Assigned Phs		1	2	8			6		
Case No		2.0	7.0	9.0			4.0		
Phs Duration (G+Y+Rc), s		12.8	52.5	14.7			65.3		
Change Period (Y+Rc), s		6.0	6.0	5.0			6.0		
Max Green (Gmax), s		7.0	38.0	18.0			51.0		
Max Allow Headway (MAH), s		4.1	6.9	4.4			6.9		
Max Q Clear (g_c+I1), s		7.3	29.4	9.2			54.5		
Green Ext Time (g_e), s		0.0	5.3	0.5			0.0		
Prob of Phs Call (p_c)		0.93	1.00	0.99			1.00		
Prob of Max Out (p_x)		1.00	0.89	0.07			1.00		
Left-Turn Movement Data									
Assigned Mvmt		1	5	3					
Mvmt Sat Flow, veh/h		1810	0	1810					
Through Movement Data									
Assigned Mvmt			2	8			6		
Mvmt Sat Flow, veh/h			1781	0			1811		
Right-Turn Movement Data									
Assigned Mvmt			12	18			16		
Mvmt Sat Flow, veh/h			1610	1610			0		
Left Lane Group Data									
Assigned Mvmt		1	5	3	0	0	0	0	0
Lane Assignment		L (Prot)		L					

Scenario 1 5:57 pm 08/19/2022 Baseline

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HCM 6th Signalized Intersection Capacity Analysis 7: FM973 & Driveway 2B

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

Lanes in Grp	1	0	1	0	0	0	0	0
Grp Vol (v), veh/h	122	0	168	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1810	0	1810	0	0	0	0	0
Q Serve Time (g_s), s	5.3	0.0	7.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	5.3	0.0	7.2	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1810	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	46.5	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	154	0	219	0	0	0	0	0
V/C Ratio (X)	0.79	0.00	0.77	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	158	0	407	0	0	0	0	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	35.9	0.0	34.1	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	22.9	0.0	5.6	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	58.8	0.0	39.6	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	2.1	0.0	3.1	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	1.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	3.1	0.0	3.4	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.52	0.00	0.55	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment	T			T				
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	801	0	0	0	1299	0	0
Grp Sat Flow (s), veh/h/ln	0	1781	0	0	0	1811	0	0
Q Serve Time (g_s), s	0.0	27.4	0.0	0.0	0.0	52.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	27.4	0.0	0.0	0.0	52.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	1036	0	0	0	1343	0	0
V/C Ratio (X)	0.00	0.77	0.00	0.00	0.00	0.97	0.00	0.00
Avail Cap (c_a), veh/h	0	1036	0	0	0	1343	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.7	0.0	0.0	0.0	9.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	5.6	0.0	0.0	0.0	17.9	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.4	0.0	0.0	0.0	27.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.7	0.0	0.0	0.0	8.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	1.6	0.0	0.0	0.0	6.7	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 7: FM973 & Driveway 2B

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	9.3	0.0	0.0	0.0	14.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.40	0.00	0.00	0.00	0.80	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment		R	R					
Lanes in Grp	0	1	1	0	0	0	0	0
Grp Vol (v), veh/h	0	28	58	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1610	1610	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.6	2.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.6	2.6	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	936	195	0	0	0	0	0
V/C Ratio (X)	0.00	0.03	0.30	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	936	362	0	0	0	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.1	32.1	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.8	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.2	32.9	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.2	1.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.2	1.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.26	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	26.7
HCM 6th LOS	C

Lanes, Volumes, Timings
8: FM973 & Taylor HS

2027 AM Peak Hour (w/New Signalized)

Phase 2 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	97	684	12	227	1133
Future Volume (vph)	6	97	684	12	227	1133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.873		0.998			
Flt Protected	0.997				0.950	
Satd. Flow (prot)	1654	0	1758	0	1805	1792
Flt Permitted	0.997				0.950	
Satd. Flow (perm)	1654	0	1758	0	1805	1792
Link Speed (mph)	30		65			65
Link Distance (ft)	376		460			672
Travel Time (s)	8.5		4.8			7.0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	8%	0%	0%	6%
Adj. Flow (vph)	7	114	805	14	267	1333
Shared Lane Traffic (%)						
Lane Group Flow (vph)	121	0	819	0	267	1333
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	72.6%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 8: FM973 & Taylor HS

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	97	684	12	227	1133
Future Volume (Veh/h)	6	97	684	12	227	1133
Sign Control	Stop		Free		Free	Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	7	114	805	14	267	1333
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)			1184		672	
pX, platoon unblocked	0.44	0.75			0.75	
vC, conflicting volume	2679	812			819	
vC1, stage 1 conf vol	812					
vC2, stage 2 conf vol	1867					
vCu, unblocked vol	2870	577			586	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	33	71			64	
cM capacity (veh/h)	10	388			744	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	121	819	267	1333		
Volume Left	7	0	267	0		
Volume Right	114	14	0	0		
cSH	126	1700	744	1700		
Volume to Capacity	0.96	0.48	0.36	0.78		
Queue Length 95th (ft)	161	0	41	0		
Control Delay (s)	137.2	0.0	12.5	0.0		
Lane LOS	F		B			
Approach Delay (s)	137.2	0.0	2.1			
Approach LOS	F					
Intersection Summary						
Average Delay		7.9				
Intersection Capacity Utilization		72.6%		ICU Level of Service		C
Analysis Period (min)		15				

Intersection						
Int Delay, s/veh	2.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	97	684	12	227	1133
Future Vol, veh/h	6	97	684	12	227	1133
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	8	0	0	6
Mvmt Flow	7	114	805	14	267	1333
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	2679	812	0	0	819	0
Stage 1	812	-	-	-	-	-
Stage 2	1867	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	25	382	-	-	818	-
Stage 1	440	-	-	-	-	-
Stage 2	136	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	17	382	-	-	818	-
Mov Cap-2 Maneuver	74	-	-	-	-	-
Stage 1	440	-	-	-	-	-
Stage 2	92	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	24.2	0		1.9		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	- 307		818	-	
HCM Lane V/C Ratio	-	- 0.395		0.326	-	
HCM Control Delay (s)	-	- 24.2		11.5	-	
HCM Lane LOS	-	- C		B	-	
HCM 95th %tile Q(veh)	-	- 1.8		1.4	-	

Lanes, Volumes, Timings
9: FM973 & Streamwood

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	94	33	12	601	1095	42
Future Volume (vph)	94	33	12	601	1095	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			250
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.965					0.850
Flt Protected	0.964		0.950			
Satd. Flow (prot)	1767	0	1805	1759	1810	1615
Flt Permitted	0.964		0.950			
Satd. Flow (perm)	1767	0	1805	1759	1810	1615
Link Speed (mph)	30			65	65	
Link Distance (ft)	373			724	460	
Travel Time (s)	8.5			7.6	4.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	8%	5%	0%
Adj. Flow (vph)	104	37	13	668	1217	47
Shared Lane Traffic (%)						
Lane Group Flow (vph)	141	0	13	668	1217	47
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	71.5%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

9: FM973 & Streamwood

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	94	33	12	601	1095	42
Future Volume (Veh/h)	94	33	12	601	1095	42
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	104	37	13	668	1217	47
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLT	TWLT	
Median storage (veh)				2	2	
Upstream signal (ft)				724	1132	
pX, platoon unblocked	0.47	0.34	0.34			
vC, conflicting volume	1911	1217	1264			
vC1, stage 1 conf vol	1217					
vC2, stage 2 conf vol	694					
vCu, unblocked vol	1110	669	807			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	38	76	95			
cM capacity (veh/h)	169	157	282			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	141	13	668	1217	47	
Volume Left	104	13	0	0	0	
Volume Right	37	0	0	0	47	
cSH	165	282	1700	1700	1700	
Volume to Capacity	0.85	0.05	0.39	0.72	0.03	
Queue Length 95th (ft)	148	4	0	0	0	
Control Delay (s)	90.8	18.4	0.0	0.0	0.0	
Lane LOS	F	C				
Approach Delay (s)	90.8	0.4		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay			6.3			
Intersection Capacity Utilization			71.5%	ICU Level of Service		C
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	94	33	12	601	1095	42
Future Vol, veh/h	94	33	12	601	1095	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	8	5	0
Mvmt Flow	104	37	13	668	1217	47
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1911	1217	1264	0	-	0
Stage 1	1217	-	-	-	-	-
Stage 2	694	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	~ 76	223	557	-	-	-
Stage 1	283	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 74	223	557	-	-	-
Mov Cap-2 Maneuver	193	-	-	-	-	-
Stage 1	276	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	57.3		0.2		0	
HCM LOS	F					
Minor Lane/Major Mvmt	NBL		NBT	EBLn1	SBT	SBR
Capacity (veh/h)	557		-	200	-	-
HCM Lane V/C Ratio	0.024		-	0.706	-	-
HCM Control Delay (s)	11.6		-	57.3	-	-
HCM Lane LOS	B		-	F	-	-
HCM 95th %tile Q(veh)	0.1		-	4.5	-	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	0	5	19	0	193	3	408	43	383	741	6
Future Volume (vph)	12	0	5	19	0	193	3	408	43	383	741	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	400		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.877			0.986			0.999	
Flt Protected		0.966			0.995		0.950			0.950		
Satd. Flow (prot)	0	1760	0	0	1658	0	1805	1676	0	1805	1711	0
Flt Permitted		0.448			0.966		0.950			0.950		
Satd. Flow (perm)	0	816	0	0	1610	0	1805	1676	0	1805	1711	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		205			219			7			1	
Link Speed (mph)		30			30			65			65	
Link Distance (ft)		574			560			730			724	
Travel Time (s)		13.0			12.7			7.7			7.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%	11%	0%
Adj. Flow (vph)	14	0	6	22	0	219	3	464	49	435	842	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	0	0	241	0	3	513	0	435	849	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
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Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		7.0	10.0		7.0	10.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		13.0	24.0		14.5	24.0	
Total Split (s)	23.0	23.0		23.0	23.0		13.0	30.6		26.4	44.0	
Total Split (%)	28.8%	28.8%		28.8%	28.8%		16.3%	38.3%		33.0%	55.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		7.0	24.6		20.4	38.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effect Green (s)		9.6			9.6		7.0	28.6		24.8	56.8	
Actuated g/C Ratio		0.12			0.12		0.09	0.36		0.31	0.71	
v/c Ratio		0.07			0.63		0.02	0.85		0.78	0.70	
Control Delay		0.5			14.1		33.7	41.2		30.1	14.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		0.5			14.1		33.7	41.2		30.1	14.7	
LOS		A			B		C	D		C	B	
Approach Delay		0.5			14.1			41.2			19.9	
Approach LOS		A			B			D			B	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 24.4

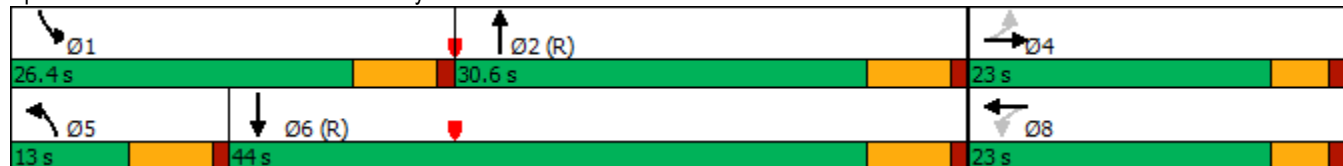
Intersection LOS: C

Intersection Capacity Utilization 72.2%

ICU Level of Service C

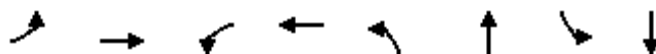
Analysis Period (min) 15

Splits and Phases: 10: FM973 & Wesley Miller



Phasings
10: FM973 & Wesley Miller

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Minimum Initial (s)	8.0	8.0	8.0	8.0	7.0	10.0	7.0	10.0
Minimum Split (s)	23.0	23.0	23.0	23.0	13.0	24.0	14.5	24.0
Total Split (s)	23.0	23.0	23.0	23.0	13.0	30.6	26.4	44.0
Total Split (%)	28.8%	28.8%	28.8%	28.8%	16.3%	38.3%	33.0%	55.0%
Maximum Green (s)	18.0	18.0	18.0	18.0	7.0	24.6	20.4	38.0
Yellow Time (s)	3.5	3.5	3.5	3.5	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	1.0	1.0	1.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	14.1	14.1	14.1	14.1	7.0	24.6	24.3	41.9
90th %ile Term Code	Hold	Hold	Gap	Gap	Min	Coord	Max	Coord
70th %ile Green (s)	9.7	9.7	9.7	9.7	0.0	24.6	28.7	59.3
70th %ile Term Code	Hold	Hold	Gap	Gap	Skip	Coord	Max	Coord
50th %ile Green (s)	8.0	8.0	8.0	8.0	0.0	28.7	26.3	61.0
50th %ile Term Code	Hold	Hold	Min	Min	Skip	Coord	Gap	Coord
30th %ile Green (s)	8.0	8.0	8.0	8.0	0.0	30.4	24.6	61.0
30th %ile Term Code	Hold	Hold	Min	Min	Skip	Coord	Gap	Coord
10th %ile Green (s)	8.0	8.0	8.0	8.0	0.0	34.7	20.3	61.0
10th %ile Term Code	Hold	Hold	Min	Min	Skip	Coord	Gap	Coord
Intersection Summary								
Cycle Length: 80								
Actuated Cycle Length: 80								
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green								
Control Type: Actuated-Coordinated								

Queues
10: FM973 & Wesley Miller

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	20	241	3	513	435	849
v/c Ratio	0.07	0.63	0.02	0.85	0.78	0.70
Control Delay	0.5	14.1	33.7	41.2	30.1	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.5	14.1	33.7	41.2	30.1	14.7
Queue Length 50th (ft)	0	10	1	229	200	238
Queue Length 95th (ft)	0	66	9	#435	m236	m388
Internal Link Dist (ft)	494	480		650		644
Turn Bay Length (ft)			80		400	
Base Capacity (vph)	342	531	157	603	561	1215
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.45	0.02	0.85	0.78	0.70

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

10: FM973 & Wesley Miller

2027 AM Peak Hour (w/New Signalized)
Phase 2 Build-Out Year w/Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	0	5	19	0	193	3	408	43	383	741	6
Future Volume (vph)	12	0	5	19	0	193	3	408	43	383	741	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.88		1.00	0.99		1.00	1.00	
Flt Protected		0.97			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1761			1659		1805	1676		1805	1711	
Flt Permitted		0.45			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		816			1611		1805	1676		1805	1711	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	14	0	6	22	0	219	3	464	49	435	842	7
RTOR Reduction (vph)	0	18	0	0	193	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	2	0	0	48	0	3	509	0	435	849	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%	11%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		9.6			9.6		1.4	28.6		24.8	52.0	
Effective Green, g (s)		9.6			9.6		1.4	28.6		24.8	52.0	
Actuated g/C Ratio		0.12			0.12		0.02	0.36		0.31	0.65	
Clearance Time (s)		5.0			5.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		97			193		31	599		559	1112	
v/s Ratio Prot							0.00	c0.30		c0.24	c0.50	
v/s Ratio Perm		0.00			c0.03							
v/c Ratio		0.02			0.25		0.10	0.85		0.78	0.76	
Uniform Delay, d1		31.1			31.9		38.7	23.7		25.1	9.7	
Progression Factor		1.00			1.00		1.00	1.00		0.94	1.35	
Incremental Delay, d2		0.1			0.7		1.4	14.0		3.7	2.7	
Delay (s)		31.2			32.6		40.0	37.7		27.3	15.8	
Level of Service		C			C		D	D		C	B	
Approach Delay (s)		31.2			32.6			37.7			19.7	
Approach LOS		C			C			D			B	
Intersection Summary												
HCM 2000 Control Delay		25.8			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.74										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			17.0				
Intersection Capacity Utilization		72.2%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	9	0	868	378	346	477	3	428	0	302	0	0
Future Volume (vph)	9	0	868	378	346	477	3	428	0	302	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		0	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.999				0.850		
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1805	3471	1455	1719	3341	0	0	1703	1583	0	1900
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1805	3471	1455	1719	3341	0	0	1703	1583	0	1900
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				415						254		
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1070			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	4%	11%	5%	8%	0%	6%	0%	2%	0%	0%
Adj. Flow (vph)	10	0	954	415	380	524	3	470	0	332	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	954	415	380	527	0	0	470	332	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			0			0
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
Page 1

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.91
Heavy Vehicles (%)	0%
Adj. Flow (vph)	0
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	15.0	15.0	5.0	15.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	16.0	21.0	21.0	11.0	21.0		12.0	12.0	12.0	11.0	11.0
Total Split (s)	31.0	31.0	61.0	61.0	31.0	61.0		57.0	57.0	57.0	11.0	11.0
Total Split (%)	19.4%	19.4%	38.1%	38.1%	19.4%	38.1%		35.6%	35.6%	35.6%	6.9%	6.9%
Maximum Green (s)	25.0	25.0	55.0	55.0	25.0	55.0		50.0	50.0	50.0	5.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		6.0
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0	2.0	2.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)		10.2	47.9	47.9	25.4	73.6			43.1	43.1		
Actuated g/C Ratio		0.08	0.35	0.35	0.19	0.54			0.32	0.32		
v/c Ratio		0.07	0.78	0.53	1.18	0.29			0.87	0.49		
Control Delay		66.2	44.6	5.5	156.3	18.9			61.8	12.0		
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0	0.0		
Total Delay		66.2	44.6	5.5	156.3	18.9			61.8	12.0		
LOS		E	D	A	F	B			E	B		
Approach Delay			33.0			76.5			41.2			
Approach LOS			C			E			D			

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 135.7

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.18

Intersection Signal Delay: 47.9

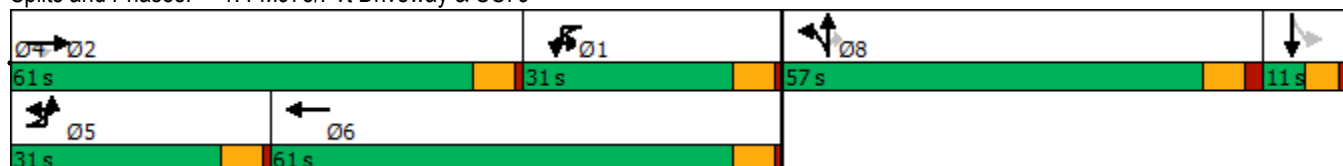
Intersection LOS: D

Intersection Capacity Utilization 82.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79



Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	Ø4
Protected Phases	5	2		1	6	8		4
Permitted Phases			2				8	
Minimum Initial (s)	10.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0
Minimum Split (s)	16.0	21.0	21.0	11.0	21.0	12.0	12.0	11.0
Total Split (s)	31.0	61.0	61.0	31.0	61.0	57.0	57.0	11.0
Total Split (%)	19.4%	38.1%	38.1%	19.4%	38.1%	35.6%	35.6%	7%
Maximum Green (s)	25.0	55.0	55.0	25.0	55.0	50.0	50.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	10.0	55.0	55.0	25.0	70.0	50.0	50.0	0.0
90th %ile Term Code	Min	Max	Max	Max	Hold	Max	Max	Skip
70th %ile Green (s)	10.0	55.0	55.0	25.0	70.0	50.0	50.0	0.0
70th %ile Term Code	Min	Max	Max	Max	Hold	Max	Max	Skip
50th %ile Green (s)	0.0	53.0	53.0	25.0	84.0	47.8	47.8	0.0
50th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip
30th %ile Green (s)	0.0	44.5	44.5	25.0	75.5	40.1	40.1	0.0
30th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip
10th %ile Green (s)	0.0	33.7	33.7	25.0	64.7	29.5	29.5	0.0
10th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Skip

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 135.7

Control Type: Actuated-Uncoordinated

90th %ile Actuated Cycle: 149

70th %ile Actuated Cycle: 149

50th %ile Actuated Cycle: 144.8

30th %ile Actuated Cycle: 128.6

10th %ile Actuated Cycle: 107.2

Queues
1: FM973/Pvt Driveway & US79

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

							
Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	10	954	415	380	527	470	332
v/c Ratio	0.07	0.78	0.53	1.18	0.29	0.87	0.49
Control Delay	66.2	44.6	5.5	156.3	18.9	61.8	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.2	44.6	5.5	156.3	18.9	61.8	12.0
Queue Length 50th (ft)	9	412	0	~454	121	410	52
Queue Length 95th (ft)	30	506	75	#689	205	#595	143
Internal Link Dist (ft)		854			990	556	
Turn Bay Length (ft)	100		615	880			
Base Capacity (vph)	337	1429	843	321	1811	637	751
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.67	0.49	1.18	0.29	0.74	0.44
Intersection Summary							
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.							
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.							

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	9	0	868	378	346	477	3	428	0	302	0	0
Future Volume (vph)	9	0	868	378	346	477	3	428	0	302	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95			1.00	1.00		
Frt		1.00	1.00	0.85	1.00	1.00			1.00	0.85		
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00		
Satd. Flow (prot)		1805	3471	1455	1719	3341			1703	1583		
Flt Permitted		0.95	1.00	1.00	0.95	1.00			0.95	1.00		
Satd. Flow (perm)		1805	3471	1455	1719	3341			1703	1583		
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	10	0	954	415	380	524	3	470	0	332	0	0
RTOR Reduction (vph)	0	0	0	272	0	0	0	0	0	175	0	0
Lane Group Flow (vph)	0	10	954	143	380	527	0	0	470	157	0	0
Heavy Vehicles (%)	0%	0%	4%	11%	5%	8%	0%	6%	0%	2%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		3.6	47.9	47.9	29.3	73.6			43.1	43.1		
Effective Green, g (s)		3.6	47.9	47.9	29.3	73.6			43.1	43.1		
Actuated g/C Ratio		0.03	0.34	0.34	0.21	0.53			0.31	0.31		
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0			3.0	3.0		
Lane Grp Cap (vph)		46	1193	500	361	1765			526	489		
v/s Ratio Prot		0.01	c0.27		c0.22	0.16			c0.28			
v/s Ratio Perm				0.10						0.10		
v/c Ratio		0.22	0.80	0.29	1.05	0.30			0.89	0.32		
Uniform Delay, d1		66.5	41.4	33.2	55.0	18.4			45.9	36.9		
Progression Factor		1.00	1.00	1.00	0.98	0.97			1.00	1.00		
Incremental Delay, d2		0.9	3.6	0.1	61.9	0.0			17.4	0.4		
Delay (s)		67.3	44.9	33.4	115.7	17.9			63.3	37.3		
Level of Service		E	D	C	F	B			E	D		
Approach Delay (s)			41.6			58.9			52.5			0.0
Approach LOS			D			E			D			A
Intersection Summary												
HCM 2000 Control Delay			49.5			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			139.3			Sum of lost time (s)			25.0			
Intersection Capacity Utilization			82.7%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
3: Driveway 2A & US79

2027 PM Peak Hour (w/New Signals)

Phase 2 Build-Out Year w/Development

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (vph)	952	267	0	894	0	225
Future Volume (vph)	952	267	0	894	0	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	0		0	0
Storage Lanes		1	0		0	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.865
Flt Protected						
Satd. Flow (prot)	3471	1615	0	3374	0	1644
Flt Permitted						
Satd. Flow (perm)	3471	1615	0	3374	0	1644
Link Speed (mph)	65			65	30	
Link Distance (ft)	1070			739	365	
Travel Time (s)	11.2			7.8	8.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	0%	0%	7%	0%	0%
Adj. Flow (vph)	1035	290	0	972	0	245
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1035	290	0	972	0	245
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	60			60	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 46.9%						
ICU Level of Service A						
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis 3: Driveway 2A & US79

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (veh/h)	952	267	0	894	0	225
Future Volume (Veh/h)	952	267	0	894	0	225
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1035	290	0	972	0	245
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised		Raised			
Median storage veh)	2		2			
Upstream signal (ft)	1070					
pX, platoon unblocked			0.77		0.77	0.77
vC, conflicting volume			1325		1521	518
vC1, stage 1 conf vol					1035	
vC2, stage 2 conf vol					486	
vCu, unblocked vol			833		1086	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	71
cM capacity (veh/h)			625		391	843
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	518	518	290	486	486	245
Volume Left	0	0	0	0	0	0
Volume Right	0	0	290	0	0	245
cSH	1700	1700	1700	1700	1700	843
Volume to Capacity	0.30	0.30	0.17	0.29	0.29	0.29
Queue Length 95th (ft)	0	0	0	0	0	30
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.0
Lane LOS						B
Approach Delay (s)	0.0				0.0	11.0
Approach LOS						B
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			46.9%	ICU Level of Service		A
Analysis Period (min)			15			

HCM 6th TWSC
3: Driveway 2A & US79

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

Intersection						
Int Delay, s/veh	1.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Vol, veh/h	952	267	0	894	0	225
Future Vol, veh/h	952	267	0	894	0	225
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	0	0	7	0	0
Mvmt Flow	1035	290	0	972	0	245
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	518
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	508
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	508
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		18.5	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	508	-	-	-		
HCM Lane V/C Ratio	0.481	-	-	-		
HCM Control Delay (s)	18.5	-	-	-		
HCM Lane LOS	C	-	-	-		
HCM 95th %tile Q(veh)	2.6	-	-	-		

Lanes, Volumes, Timings
4: US79 & Crossover

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

								
Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	50	0	1135	0	855	0	0	0
Future Volume (vph)	50	0	1135	0	855	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		100		0	0	0
Storage Lanes		1		1		0	1	0
Taper Length (ft)		100		100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frt								
Flt Protected		0.950						
Satd. Flow (prot)	0	1805	3471	1900	3374	0	1900	0
Flt Permitted		0.950						
Satd. Flow (perm)	0	1805	3471	1900	3374	0	1900	0
Link Speed (mph)			65		65		30	
Link Distance (ft)			739		504		317	
Travel Time (s)			7.8		5.3		7.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	4%	0%	7%	0%	0%	0%
Adj. Flow (vph)	54	0	1220	0	919	0	0	0
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	54	1220	0	919	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			60		60		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	
Intersection Summary								
Area Type:	Other							
Control Type:	Unsignalized							
Intersection Capacity Utilization	41.4%				ICU Level of Service A			
Analysis Period (min)	15							

HCM Unsignalized Intersection Capacity Analysis

4: US79 & Crossover

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development



Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔↔	↔	↔↔		↔	
Traffic Volume (veh/h)	50	0	1135	0	855	0	0	0
Future Volume (Veh/h)	50	0	1135	0	855	0	0	0
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	1220	0	919	0	0	0
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage veh			2		2			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	919		0			1529	460
vC1, stage 1 conf vol							919	
vC2, stage 2 conf vol							610	
vCu, unblocked vol	0	919		0			1529	460
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	100		0			100	100
cM capacity (veh/h)	0	751		0			301	554
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	
Volume Total	0	610	610	460	460	0	0	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.36	0.36	0.27	0.27	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lane LOS							A	
Approach Delay (s)	0.0			0.0			0.0	
Approach LOS							A	
Intersection Summary								
Average Delay			0.0					
Intersection Capacity Utilization			41.4%		ICU Level of Service		A	
Analysis Period (min)			15					

Intersection								
Int Delay, s/veh	0.4							
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	50	0	1135	0	855	0	0	0
Future Vol, veh/h	50	0	1135	0	855	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	100	-	100	-	-	0	-
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	4	0	7	0	0	0
Mvmt Flow	54	0	1220	0	919	0	0	0
Major/Minor	Major1		Major2		Minor2			
Conflicting Flow All	919	919	0	1220	-	0	1637	460
Stage 1	-	-	-	-	-	-	919	-
Stage 2	-	-	-	-	-	-	718	-
Critical Hdwy	6.4	4.1	-	6.4	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	2.2	-	2.5	-	-	3.5	3.3
Pot Cap-1 Maneuver	380	751	-	244	-	0	93	554
Stage 1	-	-	-	-	-	0	354	-
Stage 2	-	-	-	-	-	0	449	-
Platoon blocked, %			-		-			
Mov Cap-1 Maneuver	380	380	-	244	-	-	80	554
Mov Cap-2 Maneuver	-	-	-	-	-	-	80	-
Stage 1	-	-	-	-	-	-	304	-
Stage 2	-	-	-	-	-	-	449	-
Approach	EB		WB		SB			
HCM Control Delay, s	0.7		0		0			
HCM LOS					A			
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	SBLn1			
Capacity (veh/h)	380	-	244	-	-			
HCM Lane V/C Ratio	0.141	-	-	-	-			
HCM Control Delay (s)	16	-	0	-	0			
HCM Lane LOS	C	-	A	-	A			
HCM 95th %tile Q(veh)	0.5	-	0	-	-			

Lanes, Volumes, Timings
5: S Rio Grande & US79

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	5	1137	31	6	804	0	22	3	3	1	7	3
Future Volume (vph)	5	1137	31	6	804	0	22	3	3	1	7	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		350	175		330	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.987			0.966	
Flt Protected	0.950			0.950				0.961			0.996	
Satd. Flow (prot)	1805	3539	1615	1805	3374	1900	0	1802	0	0	1828	0
Flt Permitted	0.950			0.950				0.961			0.996	
Satd. Flow (perm)	1805	3539	1615	1805	3374	1900	0	1802	0	0	1828	0
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		572			566			552			557	
Travel Time (s)		6.0			5.9			12.5			12.7	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	6	1292	35	7	914	0	25	3	3	1	8	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	1292	35	7	914	0	0	31	0	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		60			60			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	46.1%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis 5: S Rio Grande & US79

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1137	31	6	804	0	22	3	3	1	7	3
Future Volume (Veh/h)	5	1137	31	6	804	0	22	3	3	1	7	3
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	6	1292	35	7	914	0	25	3	3	1	8	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	Raised			Raised								
Median storage (veh)	2			2								
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	914			1292			1779	2232	646	1588	2232	457
vC1, stage 1 conf vol							1304	1304		928	928	
vC2, stage 2 conf vol							475	928		660	1304	
vCu, unblocked vol	914			1292			1779	2232	646	1588	2232	457
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			84	98	99	100	96	99
cM capacity (veh/h)	754			543			161	189	419	238	186	556
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	6	646	646	35	7	457	457	0	31	12		
Volume Left	6	0	0	0	7	0	0	0	25	1		
Volume Right	0	0	0	35	0	0	0	0	3	3		
cSH	754	1700	1700	1700	543	1700	1700	1700	174	228		
Volume to Capacity	0.01	0.38	0.38	0.02	0.01	0.27	0.27	0.00	0.18	0.05		
Queue Length 95th (ft)	1	0	0	0	1	0	0	0	16	4		
Control Delay (s)	9.8	0.0	0.0	0.0	11.7	0.0	0.0	0.0	30.2	21.7		
Lane LOS	A				B				D	C		
Approach Delay (s)	0.0				0.1				30.2	21.7		
Approach LOS									D	C		
Intersection Summary												
Average Delay	0.6											
Intersection Capacity Utilization	46.1%			ICU Level of Service			A					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1137	31	6	804	0	22	3	3	1	7	3
Future Vol, veh/h	5	1137	31	6	804	0	22	3	3	1	7	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	Free
Storage Length	200	-	350	175	-	330	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	2	0	0	7	0	0	0	0	0	0	0
Mvmt Flow	6	1292	35	7	914	0	25	3	3	1	8	3
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	914	0	0	1292	0	0	1779	2232	-	1588	2232	-
Stage 1	-	-	-	-	-	-	1304	1304	-	928	928	-
Stage 2	-	-	-	-	-	-	475	928	-	660	1304	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	-	7.5	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	-	3.5	4	-
Pot Cap-1 Maneuver	754	-	-	543	-	-	53	43	0	74	43	0
Stage 1	-	-	-	-	-	-	172	232	0	292	349	0
Stage 2	-	-	-	-	-	-	545	349	0	423	232	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	754	-	-	543	-	-	45	42	-	68	42	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	45	42	-	68	42	-
Stage 1	-	-	-	-	-	-	171	230	-	290	344	-
Stage 2	-	-	-	-	-	-	526	344	-	413	230	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1								
HCM LOS							-			-		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	754	-	-	543	-	-	-				
HCM Lane V/C Ratio	-	0.008	-	-	0.013	-	-	-				
HCM Control Delay (s)	-	9.8	-	-	11.7	-	-	-				
HCM Lane LOS	-	A	-	-	B	-	-	-				
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-				

Lanes, Volumes, Timings
6: FM973 & Driveway 1B

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	67	663	116	0	743
Future Volume (vph)	0	67	663	116	0	743
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		250	100	
Storage Lanes	0	0		1	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865		0.850		
Flt Protected						
Satd. Flow (prot)	0	1644	1827	1615	0	1712
Flt Permitted						
Satd. Flow (perm)	0	1644	1827	1615	0	1712
Link Speed (mph)	30		55			55
Link Distance (ft)	429		545			636
Travel Time (s)	9.8		6.8			7.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%
Adj. Flow (vph)	0	73	721	126	0	808
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	73	721	126	0	808
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	Yes		Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	45.7%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 6: FM973 & Driveway 1B

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	67	663	116	0	743
Future Volume (Veh/h)	0	67	663	116	0	743
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	73	721	126	0	808
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)			545		636	
pX, platoon unblocked	0.67	0.67			0.67	
vC, conflicting volume	1529	721			847	
vC1, stage 1 conf vol	721					
vC2, stage 2 conf vol	808					
vCu, unblocked vol	1543	332			521	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	85			100	
cM capacity (veh/h)	329	476			704	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1		
Volume Total	73	721	126	808		
Volume Left	0	0	0	0		
Volume Right	73	0	126	0		
cSH	476	1700	1700	1700		
Volume to Capacity	0.15	0.42	0.07	0.48		
Queue Length 95th (ft)	13	0	0	0		
Control Delay (s)	13.9	0.0	0.0	0.0		
Lane LOS	B					
Approach Delay (s)	13.9	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay		0.6				
Intersection Capacity Utilization		45.7%		ICU Level of Service	A	
Analysis Period (min)		15				

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗	↗		↗
Traffic Vol, veh/h	0	67	663	116	0	743
Future Vol, veh/h	0	67	663	116	0	743
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	250	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	0	0	11
Mvmt Flow	0	73	721	126	0	808
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	721	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	431	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	431	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	15	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	431		-		
HCM Lane V/C Ratio	-	0.169		-		
HCM Control Delay (s)	-	15		-		
HCM Lane LOS	-	C		-		
HCM 95th %tile Q(veh)	-	0.6		-		

Lanes, Volumes, Timings
7: FM973 & Driveway 2B

2027 PM Peak Hour (w/New Signals)

Phase 2 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	102	37	742	19	75	668
Future Volume (vph)	102	37	742	19	75	668
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		250	150	
Storage Lanes	1	1		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	1615	1827	1615	1805	1712
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1805	1615	1827	1615	1805	1712
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		40		21		
Link Speed (mph)	30		55			55
Link Distance (ft)	223		672			545
Travel Time (s)	5.1		8.3			6.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%
Adj. Flow (vph)	111	40	807	21	82	726
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	40	807	21	82	726
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	3	1	1	3
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	50	50	250	50	50	250
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	6	50	50	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			122			122
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Detector 3 Position(ft)			244			244
Detector 3 Size(ft)			6			6

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Lanes, Volumes, Timings
7: FM973 & Driveway 2B

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex			Cl+Ex		
Detector 3 Channel						
Detector 3 Extend (s)	0.0			0.0		
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.0	23.0	24.0	24.0	17.0	24.0
Total Split (s)	23.0	23.0	40.0	40.0	17.0	57.0
Total Split (%)	28.8%	28.8%	50.0%	50.0%	21.3%	71.3%
Maximum Green (s)	18.0	18.0	34.0	34.0	11.0	51.0
Yellow Time (s)	3.5	3.5	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Act Effect Green (s)	10.5	10.5	49.6	49.6	9.2	62.3
Actuated g/C Ratio	0.13	0.13	0.62	0.62	0.12	0.78
v/c Ratio	0.47	0.16	0.71	0.02	0.39	0.55
Control Delay	38.1	11.5	18.3	2.8	37.8	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.1	11.5	18.3	2.8	37.8	7.0
LOS	D	B	B	A	D	A
Approach Delay	31.1		17.9			10.1
Approach LOS	C		B			B

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 13 (16%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 15.5

Intersection LOS: B

Intersection Capacity Utilization 65.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 7: FM973 & Driveway 2B



Scenario 1 5:57 pm 08/19/2022 Baseline

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Phasings
7: FM973 & Driveway 2B

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Minimum Initial (s)	8.0	8.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.0	23.0	24.0	24.0	17.0	24.0
Total Split (s)	23.0	23.0	40.0	40.0	17.0	57.0
Total Split (%)	28.8%	28.8%	50.0%	50.0%	21.3%	71.3%
Maximum Green (s)	18.0	18.0	34.0	34.0	11.0	51.0
Yellow Time (s)	3.5	3.5	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.0	1.0	1.0	1.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Walk Time (s)						
Flash Dont Walk (s)						
Pedestrian Calls (#/hr)						
90th %ile Green (s)	14.1	14.1	36.6	36.6	12.3	54.9
90th %ile Term Code	Gap	Gap	Coord	Coord	Gap	Coord
70th %ile Green (s)	11.8	11.8	40.9	40.9	10.3	57.2
70th %ile Term Code	Gap	Gap	Coord	Coord	Gap	Coord
50th %ile Green (s)	10.2	10.2	43.8	43.8	9.0	58.8
50th %ile Term Code	Gap	Gap	Coord	Coord	Gap	Coord
30th %ile Green (s)	8.6	8.6	46.8	46.8	7.6	60.4
30th %ile Term Code	Gap	Gap	Coord	Coord	Gap	Coord
10th %ile Green (s)	0.0	0.0	74.0	74.0	0.0	74.0
10th %ile Term Code	Skip	Skip	Coord	Coord	Skip	Coord
Intersection Summary						
Cycle Length: 80						
Actuated Cycle Length: 80						
Offset: 13 (16%), Referenced to phase 2:NBT and 6:SBT, Start of Green						
Control Type: Actuated-Coordinated						

Queues
7: FM973 & Driveway 2B

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	111	40	807	21	82	726
v/c Ratio	0.47	0.16	0.71	0.02	0.39	0.55
Control Delay	38.1	11.5	18.3	2.8	37.8	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.1	11.5	18.3	2.8	37.8	7.0
Queue Length 50th (ft)	52	0	303	0	39	133
Queue Length 95th (ft)	96	26	#611	m1	77	265
Internal Link Dist (ft)	143		592			465
Turn Bay Length (ft)		100		250	150	
Base Capacity (vph)	406	394	1133	1009	254	1332
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.10	0.71	0.02	0.32	0.55
Intersection Summary						
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.						
m Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis

7: FM973 & Driveway 2B

2027 PM Peak Hour (w/New Signals)

Phase 2 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	102	37	742	19	75	668
Future Volume (vph)	102	37	742	19	75	668
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1615	1827	1615	1805	1712
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1805	1615	1827	1615	1805	1712
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	111	40	807	21	82	726
RTOR Reduction (vph)	0	36	0	9	0	0
Lane Group Flow (vph)	111	4	807	12	82	726
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	8.9	8.9	46.3	46.3	7.8	60.1
Effective Green, g (s)	8.9	8.9	46.3	46.3	7.8	60.1
Actuated g/C Ratio	0.11	0.11	0.58	0.58	0.10	0.75
Clearance Time (s)	5.0	5.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	200	179	1057	934	175	1286
v/s Ratio Prot	c0.06		c0.44		0.05	c0.42
v/s Ratio Perm		0.00		0.01		
v/c Ratio	0.56	0.02	0.76	0.01	0.47	0.56
Uniform Delay, d1	33.7	31.7	12.7	7.2	34.1	4.3
Progression Factor	1.00	1.00	0.84	0.56	1.00	1.00
Incremental Delay, d2	3.3	0.1	5.0	0.0	2.0	1.8
Delay (s)	37.0	31.7	15.6	4.0	36.1	6.1
Level of Service	D	C	B	A	D	A
Approach Delay (s)	35.6		15.4			9.1
Approach LOS	D		B			A
Intersection Summary						
HCM 2000 Control Delay			14.3		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.74			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	17.0
Intersection Capacity Utilization			65.7%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Signalized Intersection Capacity Analysis

7: FM973 & Driveway 2B

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

									
Movement	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations									
Traffic Volume (veh/h)	102	37	742	19	75	668			
Future Volume (veh/h)	102	37	742	19	75	668			
Number	3	18	2	12	1	6			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00	1.00		1.00	1.00				
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No		No			No			
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1900	1900	1841	1900	1900	1737			
Adj Flow Rate, veh/h	111	40	807	21	82	726			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	4	0	0	11			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	175	155	1137	994	133	1331			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.10	0.10	0.62	0.62	0.07	0.77			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	38.6	34.3	14.2	6.0	40.6	5.4			
Ln Grp LOS	D	C	B	A	D	A			
Approach Vol, veh/h	151		828			808			
Approach Delay, s/veh	37.5		14.0			8.9			
Approach LOS	D		B			A			
Timer:		1	2	3	4	5	6	7	8
Assigned Phs		1	2	8			6		
Case No		2.0	7.0	9.0			4.0		
Phs Duration (G+Y+Rc), s		11.9	55.4	12.7			67.3		
Change Period (Y+Rc), s		6.0	6.0	5.0			6.0		
Max Green (Gmax), s		11.0	34.0	18.0			51.0		
Max Allow Headway (MAH), s		4.1	6.9	4.4			7.0		
Max Q Clear (g_c+I1), s		5.5	25.9	6.7			15.4		
Green Ext Time (g_e), s		0.1	5.1	0.4			11.2		
Prob of Phs Call (p_c)		0.84	1.00	0.97			1.00		
Prob of Max Out (p_x)		0.23	0.92	0.01			0.10		
Left-Turn Movement Data									
Assigned Mvmt		1	5	3					
Mvmt Sat Flow, veh/h		1810	0	1810					
Through Movement Data									
Assigned Mvmt			2	8			6		
Mvmt Sat Flow, veh/h			1841	0			1737		
Right-Turn Movement Data									
Assigned Mvmt			12	18			16		
Mvmt Sat Flow, veh/h			1610	1610			0		
Left Lane Group Data									
Assigned Mvmt		1	5	3	0	0	0	0	0
Lane Assignment		L (Prot)		L					

Scenario 1 5:57 pm 08/19/2022 Baseline

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HCM 6th Signalized Intersection Capacity Analysis

7: FM973 & Driveway 2B

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

Lanes in Grp	1	0	1	0	0	0	0	0
Grp Vol (v), veh/h	82	0	111	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1810	0	1810	0	0	0	0	0
Q Serve Time (g_s), s	3.5	0.0	4.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	3.5	0.0	4.7	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1810	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	49.4	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	133	0	175	0	0	0	0	0
V/C Ratio (X)	0.62	0.00	0.64	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	249	0	407	0	0	0	0	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	36.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.6	0.0	3.8	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	40.6	0.0	38.6	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.4	0.0	2.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	1.6	0.0	2.2	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.27	0.00	0.36	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment	T			T				
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	807	0	0	0	726	0	0
Grp Sat Flow (s), veh/h/ln	0	1841	0	0	0	1737	0	0
Q Serve Time (g_s), s	0.0	23.9	0.0	0.0	0.0	13.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	23.9	0.0	0.0	0.0	13.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	1137	0	0	0	1331	0	0
V/C Ratio (X)	0.00	0.71	0.00	0.00	0.00	0.55	0.00	0.00
Avail Cap (c_a), veh/h	0	1137	0	0	0	1331	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	10.4	0.0	0.0	0.0	3.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.8	0.0	0.0	0.0	1.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.2	0.0	0.0	0.0	5.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	6.5	0.0	0.0	0.0	1.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	1.2	0.0	0.0	0.0	0.6	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 7: FM973 & Driveway 2B

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	7.6	0.0	0.0	0.0	2.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.32	0.00	0.00	0.00	0.12	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment		R	R					
Lanes in Grp	0	1	1	0	0	0	0	0
Grp Vol (v), veh/h	0	21	40	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1610	1610	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.4	1.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.4	1.8	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	994	155	0	0	0	0	0
V/C Ratio (X)	0.00	0.02	0.26	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	994	362	0	0	0	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	5.9	33.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	6.0	34.3	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.7	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.7	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.19	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	13.7
HCM 6th LOS	B

Lanes, Volumes, Timings
8: FM973 & Taylor HS

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	8	28	738	4	13	778
Future Volume (vph)	8	28	738	4	13	778
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.894		0.999			
Flt Protected	0.989				0.950	
Satd. Flow (prot)	1680	0	1825	0	1805	1712
Flt Permitted	0.989				0.950	
Satd. Flow (perm)	1680	0	1825	0	1805	1712
Link Speed (mph)	30		65			65
Link Distance (ft)	376		460			672
Travel Time (s)	8.5		4.8			7.0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	4%	0%	0%	11%
Adj. Flow (vph)	8	29	761	4	13	802
Shared Lane Traffic (%)						
Lane Group Flow (vph)	37	0	765	0	13	802
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	50.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 8: FM973 & Taylor HS

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	28	738	4	13	778
Future Volume (Veh/h)	8	28	738	4	13	778
Sign Control	Stop		Free		Free	Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	8	29	761	4	13	802
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage veh			2		2	
Upstream signal (ft)			1184		672	
pX, platoon unblocked	0.90	0.81			0.81	
vC, conflicting volume	1591	763			765	
vC1, stage 1 conf vol	763					
vC2, stage 2 conf vol	828					
vCu, unblocked vol	1130	588			591	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	93			98	
cM capacity (veh/h)	344	414			804	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	37	765	13	802		
Volume Left	8	0	13	0		
Volume Right	29	4	0	0		
cSH	397	1700	804	1700		
Volume to Capacity	0.09	0.45	0.02	0.47		
Queue Length 95th (ft)	8	0	1	0		
Control Delay (s)	15.0	0.0	9.6	0.0		
Lane LOS	C		A			
Approach Delay (s)	15.0	0.0	0.2			
Approach LOS	C					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			50.9%	ICU Level of Service	A	
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	28	738	4	13	778
Future Vol, veh/h	8	28	738	4	13	778
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	4	0	0	11
Mvmt Flow	8	29	761	4	13	802

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1591	763	0	0	765
Stage 1	763	-	-	-	-
Stage 2	828	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	119	408	-	-	857
Stage 1	464	-	-	-	-
Stage 2	432	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	117	408	-	-	857
Mov Cap-2 Maneuver	256	-	-	-	-
Stage 1	464	-	-	-	-
Stage 2	426	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.1	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	360	857
HCM Lane V/C Ratio	-	-	0.103	0.016
HCM Control Delay (s)	-	-	16.1	9.3
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.3	0

Lanes, Volumes, Timings
9: FM973 & Streamwood

2027 PM Peak Hour (w/New Signals)

Phase 2 Build-Out Year w/Development

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	63	22	38	673	692	98
Future Volume (vph)	63	22	38	673	692	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			250
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.965					0.850
Flt Protected	0.964		0.950			
Satd. Flow (prot)	1767	0	1805	1827	1696	1615
Flt Permitted	0.964		0.950			
Satd. Flow (perm)	1767	0	1805	1827	1696	1615
Link Speed (mph)	30			65	65	
Link Distance (ft)	373			724	460	
Travel Time (s)	8.5			7.6	4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	4%	12%	0%
Adj. Flow (vph)	68	24	41	732	752	107
Shared Lane Traffic (%)						
Lane Group Flow (vph)	92	0	41	732	752	107
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	47.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

9: FM973 & Streamwood

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	63	22	38	673	692	98
Future Volume (Veh/h)	63	22	38	673	692	98
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	68	24	41	732	752	107
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLT	TWLT	
Median storage veh				2	2	
Upstream signal (ft)				724	1132	
pX, platoon unblocked	0.88	0.84	0.84			
vC, conflicting volume	1566	752	859			
vC1, stage 1 conf vol	752					
vC2, stage 2 conf vol	814					
vCu, unblocked vol	1167	610	737			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	80	94	94			
cM capacity (veh/h)	335	419	738			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	92	41	732	752	107	
Volume Left	68	41	0	0	0	
Volume Right	24	0	0	0	107	
cSH	353	738	1700	1700	1700	
Volume to Capacity	0.26	0.06	0.43	0.44	0.06	
Queue Length 95th (ft)	26	4	0	0	0	
Control Delay (s)	18.8	10.2	0.0	0.0	0.0	
Lane LOS	C	B				
Approach Delay (s)	18.8	0.5		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay		1.2				
Intersection Capacity Utilization		47.9%		ICU Level of Service		A
Analysis Period (min)		15				

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	63	22	38	673	692	98
Future Vol, veh/h	63	22	38	673	692	98
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	4	12	0
Mvmt Flow	68	24	41	732	752	107
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1566	752	859	0	-	0
Stage 1	752	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	124	413	791	-	-	-
Stage 1	469	-	-	-	-	-
Stage 2	439	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	118	413	791	-	-	-
Mov Cap-2 Maneuver	256	-	-	-	-	-
Stage 1	445	-	-	-	-	-
Stage 2	439	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	23.7	0.5		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	791	-	284	-	-	
HCM Lane V/C Ratio	0.052	-	0.325	-	-	
HCM Control Delay (s)	9.8	-	23.7	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.4	-	-	

Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	0	4	5	0	15	4	684	0	3	695	13
Future Volume (vph)	8	0	4	5	0	15	4	684	0	3	695	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	80		0	400		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.958			0.897						0.997	
Flt Protected		0.967			0.988		0.950			0.950		
Satd. Flow (prot)	0	1760	0	0	1684	0	1805	1827	0	1805	1710	0
Flt Permitted					0.914		0.950			0.950		
Satd. Flow (perm)	0	1820	0	0	1558	0	1805	1827	0	1805	1710	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		123			123						2	
Link Speed (mph)		30			30			65			65	
Link Distance (ft)		574			560			730			724	
Travel Time (s)		13.0			12.7			7.7			7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	11%	0%
Adj. Flow (vph)	9	0	4	5	0	16	4	743	0	3	755	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	13	0	0	21	0	4	743	0	3	769	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
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Lanes, Volumes, Timings
10: FM973 & Wesley Miller

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		7.0	10.0		7.0	10.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		13.0	24.0		13.0	24.0	
Total Split (s)	23.0	23.0		23.0	23.0		13.0	44.0		13.0	44.0	
Total Split (%)	28.8%	28.8%		28.8%	28.8%		16.3%	55.0%		16.3%	55.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		7.0	38.0		7.0	38.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effect Green (s)		8.0			8.0		7.0	69.8		7.0	69.8	
Actuated g/C Ratio		0.10			0.10		0.09	0.87		0.09	0.87	
v/c Ratio		0.04			0.08		0.03	0.47		0.02	0.52	
Control Delay		0.2			0.6		33.8	5.5		30.7	5.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		0.2			0.6		33.8	5.5		30.7	5.8	
LOS		A			A		C	A		C	A	
Approach Delay		0.3			0.6			5.7			5.9	
Approach LOS		A			A			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 5.7

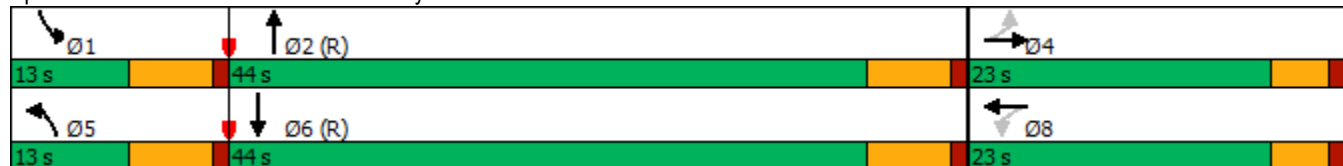
Intersection LOS: A

Intersection Capacity Utilization 53.2%

ICU Level of Service A

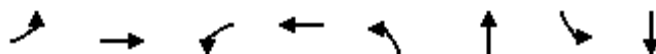
Analysis Period (min) 15

Splits and Phases: 10: FM973 & Wesley Miller



Phasings
10: FM973 & Wesley Miller

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Minimum Initial (s)	8.0	8.0	8.0	8.0	7.0	10.0	7.0	10.0
Minimum Split (s)	23.0	23.0	23.0	23.0	13.0	24.0	13.0	24.0
Total Split (s)	23.0	23.0	23.0	23.0	13.0	44.0	13.0	44.0
Total Split (%)	28.8%	28.8%	28.8%	28.8%	16.3%	55.0%	16.3%	55.0%
Maximum Green (s)	18.0	18.0	18.0	18.0	7.0	38.0	7.0	38.0
Yellow Time (s)	3.5	3.5	3.5	3.5	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	1.0	1.0	1.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)								
Flash Dont Walk (s)								
Pedestrian Calls (#/hr)								
90th %ile Green (s)	8.0	8.0	8.0	8.0	7.0	48.0	7.0	48.0
90th %ile Term Code	Min	Min	Min	Min	Min	Coord	Min	Coord
70th %ile Green (s)	8.0	8.0	8.0	8.0	0.0	61.0	0.0	61.0
70th %ile Term Code	Hold	Hold	Min	Min	Skip	Coord	Skip	Coord
50th %ile Green (s)	0.0	0.0	0.0	0.0	0.0	74.0	0.0	74.0
50th %ile Term Code	Skip	Skip	Skip	Skip	Skip	Coord	Skip	Coord
30th %ile Green (s)	0.0	0.0	0.0	0.0	0.0	74.0	0.0	74.0
30th %ile Term Code	Skip	Skip	Skip	Skip	Skip	Coord	Skip	Coord
10th %ile Green (s)	0.0	0.0	0.0	0.0	0.0	74.0	0.0	74.0
10th %ile Term Code	Skip	Skip	Skip	Skip	Skip	Coord	Skip	Coord
Intersection Summary								
Cycle Length: 80								
Actuated Cycle Length: 80								
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green								
Control Type: Actuated-Coordinated								

Queues
10: FM973 & Wesley Miller

2027 PM Peak Hour (w/New Signals)
Phase 2 Build-Out Year w/Development

	→	←	↖	↑	↘	↓
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	13	21	4	743	3	769
v/c Ratio	0.04	0.08	0.03	0.47	0.02	0.52
Control Delay	0.2	0.6	33.8	5.5	30.7	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.2	0.6	33.8	5.5	30.7	5.8
Queue Length 50th (ft)	0	0	2	0	1	0
Queue Length 95th (ft)	0	0	11	350	m4	267
Internal Link Dist (ft)	494	480		650		644
Turn Bay Length (ft)			80		400	
Base Capacity (vph)	504	445	157	1594	157	1492
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.05	0.03	0.47	0.02	0.52
Intersection Summary						
m Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis

10: FM973 & Wesley Miller

2027 PM Peak Hour (w/New Signals)

Phase 2 Build-Out Year w/Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	0	4	5	0	15	4	684	0	3	695	13
Future Volume (vph)	8	0	4	5	0	15	4	684	0	3	695	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.90		1.00	1.00		1.00	1.00	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1760			1685		1805	1827		1805	1710	
Flt Permitted		1.00			0.91		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1821			1558		1805	1827		1805	1710	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	0	4	5	0	16	4	743	0	3	755	14
RTOR Reduction (vph)	0	12	0	0	20	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	1	0	0	1	0	4	743	0	3	768	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	11%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		3.2			3.2		1.4	58.4		1.4	58.4	
Effective Green, g (s)		3.2			3.2		1.4	58.4		1.4	58.4	
Actuated g/C Ratio		0.04			0.04		0.02	0.73		0.02	0.73	
Clearance Time (s)		5.0			5.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		72			62		31	1333		31	1248	
v/s Ratio Prot							c0.00	0.41		0.00	c0.45	
v/s Ratio Perm		0.00			c0.00							
v/c Ratio		0.01			0.01		0.13	0.56		0.10	0.62	
Uniform Delay, d1		36.9			36.9		38.7	4.9		38.7	5.3	
Progression Factor		1.00			1.00		1.00	1.00		0.91	0.91	
Incremental Delay, d2		0.0			0.1		1.9	1.7		1.2	2.1	
Delay (s)		36.9			37.0		40.6	6.6		36.4	6.9	
Level of Service		D			D		D	A		D	A	
Approach Delay (s)		36.9			37.0			6.8			7.0	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay		7.6			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.57										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			17.0				
Intersection Capacity Utilization		53.2%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Appendix D. Traffic Simulation Output

- Phase 2 Buildout Year (2027) Projected Conditions with Development, AM & PM
 - Mitigation:
 - With Dual Left Turn and Right Turn Only Lane on Northbound FM 973 Approach to US 79 and with Optimized Timings at FM 973 at US 79
 - With Traffic Signal at FM 973 at Driveway 2B (half cycle to US 79 intersection)
 - With Traffic Signal at FM 973 at Wesley Miller Lane (half cycle to US 79 intersection)

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2027 AM Peak Hour (w/LTx2 on FM973/79)
Phase 2 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	0	564	783	496	664	3	559	0	205	0	0
Future Volume (vph)	8	0	564	783	496	664	3	559	0	205	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		450	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.999				0.850		0.865
Flt Protected		0.950			0.950			0.950	0.950			
Satd. Flow (prot)	0	1805	3312	1553	1719	3371	0	1588	1588	1568	0	1644
Flt Permitted		0.950			0.950			0.950	0.950			
Satd. Flow (perm)	0	1805	3312	1553	1719	3371	0	1588	1588	1568	0	1644
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				753						218		267
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1072			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Adj. Flow (vph)	9	0	600	833	528	706	3	595	0	218	0	0
Shared Lane Traffic (%)								50%				
Lane Group Flow (vph)	0	9	600	833	528	709	0	297	298	218	0	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			12			12
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
Page 1

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.94
Heavy Vehicles (%)	0%
Adj. Flow (vph)	1
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2027 AM Peak Hour (w/LTx2 on FM973/79)
Phase 2 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	15.0	15.0	5.0	15.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	16.0	21.0	21.0	11.0	21.0		12.0	12.0	12.0	11.0	11.0
Total Split (s)	31.0	31.0	61.0	61.0	31.0	61.0		57.0	57.0	57.0	11.0	11.0
Total Split (%)	19.4%	19.4%	38.1%	38.1%	19.4%	38.1%		35.6%	35.6%	35.6%	6.9%	6.9%
Maximum Green (s)	25.0	25.0	55.0	55.0	25.0	55.0		50.0	50.0	50.0	5.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0		7.0	7.0	7.0		6.0
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0	2.0	2.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)		10.5	36.0	36.0	26.2	66.2		27.7	27.7	27.7		5.2
Actuated g/C Ratio		0.09	0.32	0.32	0.24	0.59		0.25	0.25	0.25		0.05
v/c Ratio		0.05	0.56	0.82	1.31	0.35		0.75	0.75	0.39		0.00
Control Delay		59.1	34.0	12.4	190.3	14.8		52.8	53.0	7.0		0.0
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
Total Delay		59.1	34.0	12.4	190.3	14.8		52.8	53.0	7.0		0.0
LOS		E	C	B	F	B		D	D	A		A
Approach Delay			21.7			89.7			40.6			
Approach LOS			C			F			D			

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 111.4

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.31

Intersection Signal Delay: 50.2

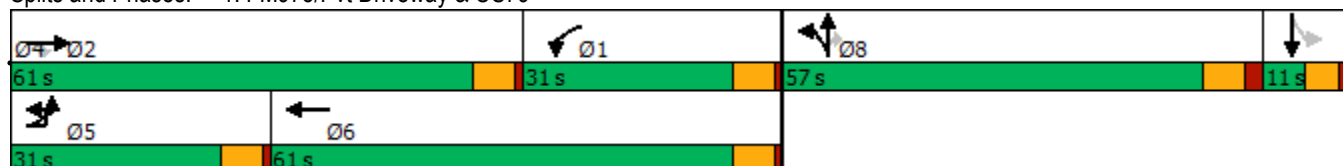
Intersection LOS: D

Intersection Capacity Utilization 95.1%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79



Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2027 AM Peak Hour (w/LTx2 on FM973/79)
Phase 2 Build-Out Year w/Development

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Protected Phases	5	2		1	6	8	8		4
Permitted Phases			2					8	
Minimum Initial (s)	10.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	21.0	21.0	11.0	21.0	12.0	12.0	12.0	11.0
Total Split (s)	31.0	61.0	61.0	31.0	61.0	57.0	57.0	57.0	11.0
Total Split (%)	19.4%	38.1%	38.1%	19.4%	38.1%	35.6%	35.6%	35.6%	6.9%
Maximum Green (s)	25.0	55.0	55.0	25.0	55.0	50.0	50.0	50.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None	None
Walk Time (s)									
Flash Dont Walk (s)									
Pedestrian Calls (#/hr)									
90th %ile Green (s)	10.0	55.0	55.0	25.0	70.0	45.7	45.7	45.7	5.0
90th %ile Term Code	Min	Max	Max	Max	Hold	Gap	Gap	Gap	Max
70th %ile Green (s)	0.0	42.3	42.3	25.0	73.3	32.4	32.4	32.4	0.0
70th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Gap	Skip
50th %ile Green (s)	0.0	34.9	34.9	25.0	65.9	26.7	26.7	26.7	0.0
50th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Gap	Skip
30th %ile Green (s)	0.0	28.9	28.9	25.0	59.9	22.1	22.1	22.1	0.0
30th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Gap	Skip
10th %ile Green (s)	0.0	22.1	22.1	25.0	53.1	15.8	15.8	15.8	0.0
10th %ile Term Code	Skip	Gap	Gap	Max	Hold	Gap	Gap	Gap	Skip
Intersection Summary									
Cycle Length: 160									
Actuated Cycle Length: 111.4									
Control Type: Actuated-Uncoordinated									
90th %ile Actuated Cycle: 155.7									
70th %ile Actuated Cycle: 118.7									
50th %ile Actuated Cycle: 105.6									
30th %ile Actuated Cycle: 95									
10th %ile Actuated Cycle: 81.9									

Queues

2027 AM Peak Hour (w/LTx2 on FM973/79)

1: FM973/Pvt Driveway & US79

Phase 2 Build-Out Year w/Development

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	9	600	833	528	709	297	298	218	1
v/c Ratio	0.05	0.56	0.82	1.31	0.35	0.75	0.75	0.39	0.00
Control Delay	59.1	34.0	12.4	190.3	14.8	52.8	53.0	7.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.1	34.0	12.4	190.3	14.8	52.8	53.0	7.0	0.0
Queue Length 50th (ft)	6	173	38	~461	107	194	195	0	0
Queue Length 95th (ft)	30	315	264	#1065	308	392	395	64	0
Internal Link Dist (ft)		854			992		556		491
Turn Bay Length (ft)	100		615	880		250		450	
Base Capacity (vph)	424	1714	1167	404	2017	746	746	853	332
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.35	0.71	1.31	0.35	0.40	0.40	0.26	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2027 AM Peak Hour (w/LTx2 on FM973/79)

Phase 2 Build-Out Year w/Development

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	0	564	783	496	664	3	559	0	205	0	0
Future Volume (vph)	8	0	564	783	496	664	3	559	0	205	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0		7.0	7.0	7.0		6.0
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00
Frt		1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.86
Flt Protected		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00
Satd. Flow (prot)		1805	3312	1553	1719	3373		1588	1588	1568		1644
Flt Permitted		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00
Satd. Flow (perm)		1805	3312	1553	1719	3373		1588	1588	1568		1644
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	9	0	600	833	528	706	3	595	0	218	0	0
RTOR Reduction (vph)	0	0	0	529	0	0	0	0	0	168	0	1
Lane Group Flow (vph)	0	9	600	304	528	709	0	297	298	50	0	0
Heavy Vehicles (%)	0%	0%	9%	4%	5%	7%	0%	8%	0%	3%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		NA
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		1.4	36.0	36.0	31.6	66.2		27.7	27.7	27.7		0.7
Effective Green, g (s)		1.4	36.0	36.0	31.6	66.2		27.7	27.7	27.7		0.7
Actuated g/C Ratio		0.01	0.30	0.30	0.26	0.55		0.23	0.23	0.23		0.01
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0		7.0	7.0	7.0		6.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0		2.0
Lane Grp Cap (vph)		20	985	462	448	1845		363	363	358		9
v/s Ratio Prot		0.00	0.18		c0.31	0.21		0.19	c0.19			c0.00
v/s Ratio Perm				c0.20						0.03		
v/c Ratio		0.45	0.61	0.66	1.18	0.38		0.82	0.82	0.14		0.00
Uniform Delay, d1		59.4	36.5	37.1	44.7	15.7		44.3	44.3	37.2		59.8
Progression Factor		1.00	1.00	1.00	0.98	0.97		1.00	1.00	1.00		1.00
Incremental Delay, d2		5.8	0.7	2.6	101.4	0.0		13.4	13.8	0.2		0.0
Delay (s)		65.2	37.2	39.7	145.3	15.3		57.6	58.1	37.3		59.8
Level of Service		E	D	D	F	B		E	E	D		E
Approach Delay (s)			38.8			70.8			52.4			59.8
Approach LOS			D			E			D			E
Intersection Summary												
HCM 2000 Control Delay			53.3		HCM 2000 Level of Service				D			
HCM 2000 Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			121.0		Sum of lost time (s)				25.0			
Intersection Capacity Utilization			95.1%		ICU Level of Service				F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: FM973/Pvt Driveway & US79

2027 AM Peak Hour (w/LTx2 on FM973/79)
Phase 2 Build-Out Year w/Development

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	1
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2027 PM Peak Hour (w/LTx2 on FM 973/79)
Phase 2 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	9	0	868	378	346	477	3	428	0	302	0	0
Future Volume (vph)	9	0	868	378	346	477	3	428	0	302	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		615	880		0	250		450	0	
Storage Lanes		1		1	1		0	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.999				0.850		
Flt Protected		0.950			0.950			0.950	0.950			
Satd. Flow (prot)	0	1805	3471	1455	1719	3341	0	1618	1618	1583	0	1900
Flt Permitted		0.950			0.950			0.950	0.950			
Satd. Flow (perm)	0	1805	3471	1455	1719	3341	0	1618	1618	1583	0	1900
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				415		1				332		
Link Speed (mph)			65			65			55			55
Link Distance (ft)			934			1070			636			571
Travel Time (s)			9.8			11.2			7.9			7.1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	4%	11%	5%	8%	0%	6%	0%	2%	0%	0%
Adj. Flow (vph)	10	0	954	415	380	524	3	470	0	332	0	0
Shared Lane Traffic (%)								50%				
Lane Group Flow (vph)	0	10	954	415	380	527	0	235	235	332	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			60			60			12			12
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	4	1	1	4		1	1	1	1	1
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	50	350	50	50	350		20	50	50	20	50
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	50	6	50	50	6		20	50	50	20	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			114			114						
Detector 2 Size(ft)			6			6						
Detector 2 Type			Cl+Ex			Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0						
Detector 3 Position(ft)			229			229						
Detector 3 Size(ft)			6			6						

Scenario 1 5:57 pm 08/19/2022 Baseline

Synchro 11 Report
Page 1

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.91
Heavy Vehicles (%)	0%
Adj. Flow (vph)	0
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	
Detector 3 Size(ft)	

Lanes, Volumes, Timings
1: FM973/Pvt Driveway & US79

2027 PM Peak Hour (w/LTx2 on FM 973/79)
Phase 2 Build-Out Year w/Development

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector 3 Type	Cl+Ex				Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)	0.0				0.0							
Detector 4 Position(ft)	344				344							
Detector 4 Size(ft)	6				6							
Detector 4 Type	Cl+Ex				Cl+Ex							
Detector 4 Channel												
Detector 4 Extend (s)	0.0				0.0							
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Detector Phase	5	5	2	2	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	15.0	15.0	5.0	15.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	16.0	21.0	21.0	11.0	21.0		12.0	12.0	12.0	11.0	11.0
Total Split (s)	16.0	16.0	60.0	60.0	51.0	95.0		38.0	38.0	38.0	11.0	11.0
Total Split (%)	10.0%	10.0%	37.5%	37.5%	31.9%	59.4%		23.8%	23.8%	23.8%	6.9%	6.9%
Maximum Green (s)	10.0	10.0	54.0	54.0	45.0	89.0		31.0	31.0	31.0	5.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0		7.0	7.0	7.0		6.0
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0	2.0	2.0
Recall Mode	None	None	Min	Min	None	Min		None	None	None	None	None
Act Effct Green (s)		10.5	45.4	45.4	32.9	79.2		24.3	24.3	24.3		
Actuated g/C Ratio		0.09	0.37	0.37	0.27	0.65		0.20	0.20	0.20		
v/c Ratio		0.06	0.74	0.52	0.82	0.24		0.73	0.73	0.57		
Control Delay		64.1	39.0	5.4	58.7	10.4		63.4	63.4	9.1		
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		
Total Delay		64.1	39.0	5.4	58.7	10.4		63.4	63.4	9.1		
LOS		E	D	A	E	B		E	E	A		
Approach Delay			29.1			30.6			40.9			
Approach LOS			C			C			D			

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 122.5

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 32.6

Intersection LOS: C

Intersection Capacity Utilization 77.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: FM973/Pvt Driveway & US79

			
60 s	51 s	38 s	11 s
			
16 s	95 s		

Lane Group	SBR
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Detector 4 Position(ft)	
Detector 4 Size(ft)	
Detector 4 Type	
Detector 4 Channel	
Detector 4 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Phasings
1: FM973/Pvt Driveway & US79

2027 PM Peak Hour (w/LTx2 on FM 973/79)
Phase 2 Build-Out Year w/Development



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	Ø4
Protected Phases	5	2		1	6	8	8		4
Permitted Phases			2					8	
Minimum Initial (s)	10.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	16.0	21.0	21.0	11.0	21.0	12.0	12.0	12.0	11.0
Total Split (s)	16.0	60.0	60.0	51.0	95.0	38.0	38.0	38.0	11.0
Total Split (%)	10.0%	37.5%	37.5%	31.9%	59.4%	23.8%	23.8%	23.8%	7%
Maximum Green (s)	10.0	54.0	54.0	45.0	89.0	31.0	31.0	31.0	5.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	None	None
Walk Time (s)									
Flash Dont Walk (s)									
Pedestrian Calls (#/hr)									
90th %ile Green (s)	10.0	54.0	54.0	45.0	89.0	31.0	31.0	31.0	0.0
90th %ile Term Code	Max	Max	Max	Max	Hold	Max	Max	Max	Skip
70th %ile Green (s)	10.0	54.0	54.0	40.4	84.4	31.0	31.0	31.0	0.0
70th %ile Term Code	Max	Max	Max	Gap	Hold	Max	Max	Max	Skip
50th %ile Green (s)	0.0	50.2	50.2	34.6	90.8	26.2	26.2	26.2	0.0
50th %ile Term Code	Skip	Gap	Gap	Gap	Hold	Gap	Gap	Gap	Skip
30th %ile Green (s)	0.0	40.0	40.0	27.7	73.7	20.4	20.4	20.4	0.0
30th %ile Term Code	Skip	Gap	Gap	Gap	Hold	Gap	Gap	Gap	Skip
10th %ile Green (s)	0.0	29.1	29.1	19.4	54.5	14.4	14.4	14.4	0.0
10th %ile Term Code	Skip	Gap	Gap	Gap	Hold	Gap	Gap	Gap	Skip

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 122.5

Control Type: Actuated-Uncoordinated

90th %ile Actuated Cycle: 149

70th %ile Actuated Cycle: 144.4

50th %ile Actuated Cycle: 130

30th %ile Actuated Cycle: 107.1

10th %ile Actuated Cycle: 81.9

Queues

2027 PM Peak Hour (w/LTx2 on FM 973/79)

1: FM973/Pvt Driveway & US79

Phase 2 Build-Out Year w/Development

								
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	10	954	415	380	527	235	235	332
v/c Ratio	0.06	0.74	0.52	0.82	0.24	0.73	0.73	0.57
Control Delay	64.1	39.0	5.4	58.7	10.4	63.4	63.4	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.1	39.0	5.4	58.7	10.4	63.4	63.4	9.1
Queue Length 50th (ft)	8	355	0	303	72	196	196	0
Queue Length 95th (ft)	30	513	76	461	151	330	330	87
Internal Link Dist (ft)		854			990		556	
Turn Bay Length (ft)	100		615	880		250		450
Base Capacity (vph)	154	1607	896	663	2501	430	430	664
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.59	0.46	0.57	0.21	0.55	0.55	0.50
Intersection Summary								

HCM Signalized Intersection Capacity Analysis 2027 PM Peak Hour (w/LTx2 on FM 973/79)

1: FM973/Pvt Driveway & US79

Phase 2 Build-Out Year w/Development

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	9	0	868	378	346	477	3	428	0	302	0	0
Future Volume (vph)	9	0	868	378	346	477	3	428	0	302	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0		7.0	7.0	7.0		
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		
Frt		1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		
Flt Protected		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		
Satd. Flow (prot)		1805	3471	1455	1719	3341		1618	1618	1583		
Flt Permitted		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		
Satd. Flow (perm)		1805	3471	1455	1719	3341		1618	1618	1583		
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	10	0	954	415	380	524	3	470	0	332	0	0
RTOR Reduction (vph)	0	0	0	265	0	0	0	0	0	268	0	0
Lane Group Flow (vph)	0	10	954	150	380	527	0	235	235	64	0	0
Heavy Vehicles (%)	0%	0%	4%	11%	5%	8%	0%	6%	0%	2%	0%	0%
Turn Type	Prot	Prot	NA	Perm	Prot	NA		Split	NA	Perm		
Protected Phases	5	5	2		1	6		8	8			4
Permitted Phases				2						8	4	
Actuated Green, G (s)		3.3	45.4	45.4	37.1	79.2		24.3	24.3	24.3		
Effective Green, g (s)		3.3	45.4	45.4	37.1	79.2		24.3	24.3	24.3		
Actuated g/C Ratio		0.03	0.36	0.36	0.29	0.63		0.19	0.19	0.19		
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0		7.0	7.0	7.0		
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0		3.0	3.0	3.0		
Lane Grp Cap (vph)		47	1252	525	506	2103		312	312	305		
v/s Ratio Prot		0.01	c0.27		c0.22	0.16		c0.15	0.15			
v/s Ratio Perm				0.10						0.04		
v/c Ratio		0.21	0.76	0.29	0.75	0.25		0.75	0.75	0.21		
Uniform Delay, d1		60.0	35.4	28.6	40.2	10.2		47.9	47.9	42.7		
Progression Factor		1.00	1.00	1.00	0.98	0.97		1.00	1.00	1.00		
Incremental Delay, d2		0.8	2.5	0.1	5.5	0.0		9.9	9.9	0.3		
Delay (s)		60.8	38.0	28.8	44.9	9.9		57.8	57.8	43.0		
Level of Service		E	D	C	D	A		E	E	D		
Approach Delay (s)			35.4			24.6			51.7			0.0
Approach LOS			D			C			D			A
Intersection Summary												
HCM 2000 Control Delay			36.4			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			125.8			Sum of lost time (s)			25.0			
Intersection Capacity Utilization			77.7%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Edition methodology supports speed limit in the range of 25 to 55 mph.

Appendix E – Traffic Signal Warrant Analysis

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use				
Source: ITE <i>Trip Generation Manual</i> , 11th Edition				
Land Use Code	221			
Land Use	Multifamily Housing Mid Rise			
Setting	General Urban/Suburban			
Time Period	Weekday			
Trip Type	Vehicle			
# Data Sites	6			
Time	% of 24-Hour Traffic		Est Daily Traffic:	
	Entering	Exiting	Entering Trips	Exiting Trips
12-1 AM	1.2%	0.4%	1	0
1-2 AM	0.6%	0.3%	0	0
2-3 AM	0.3%	0.1%	0	0
3-4 AM	0.2%	0.2%	0	0
4-5 AM	0.1%	0.5%	0	0
5-6 AM	0.4%	2.0%	0	2
6-7 AM	1.0%	7.8%	1	7
7-8 AM	2.5%	14.7%	2	12
8-9 AM	3.0%	12.5%	2	11
9-10 AM	2.2%	6.9%	2	6
10-11 AM	2.7%	4.6%	2	4
11-12 PM	3.4%	4.0%	3	3
12-1 PM	4.3%	4.8%	4	4
1-2 PM	4.4%	4.4%	4	4
2-3 PM	4.1%	3.7%	3	3
3-4 PM	5.9%	3.8%	5	3
4-5 PM	9.2%	5.1%	8	4
5-6 PM	13.1%	5.8%	11	5
6-7 PM	12.1%	6.0%	10	5
7-8 PM	9.4%	5.4%	8	5
8-9 PM	7.7%	3.1%	6	3
9-10 PM	6.5%	1.5%	5	1
10-11 PM	3.7%	1.6%	3	1
11-12 AM	2.1%	0.8%	2	1

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use				
Source: ITE <i>Trip Generation Manual</i> , 11th Edition				
Land Use Code	821 (as 820)			
Land Use	Shopping Plaza			
Setting	General Urban/Suburban			
Time Period	Weekday			
Trip Type	Vehicle			
# Data Sites	6			
Time	% of 24-Hour Traffic		Est Daily Traffic:	
	Entering	Exiting	Entering Trips	Exiting Trips
12-1 AM	0.1%	0.1%	0	0
1-2 AM	0.1%	0.1%	0	0
2-3 AM	0.1%	0.1%	0	0
3-4 AM	0.1%	0.1%	0	0
4-5 AM	0.1%	0.1%	0	0
5-6 AM	0.4%	0.4%	1	1
6-7 AM	0.6%	0.8%	2	3
7-8 AM	1.5%	1.9%	5	6
8-9 AM	2.3%	2.8%	7	9
9-10 AM	3.9%	4.8%	12	15
10-11 AM	9.8%	6.8%	18	21
11-12 PM	7.5%	8.2%	23	25
12-1 PM	8.9%	9.3%	27	29
1-2 PM	8.5%	8.4%	26	26
2-3 PM	7.9%	7.5%	24	23
3-4 PM	7.9%	7.8%	25	24
4-5 PM	8.3%	8.3%	26	26
5-6 PM	8.5%	8.4%	26	26
6-7 PM	7.4%	7.4%	23	23
7-8 PM	6.5%	6.3%	20	19
8-9 PM	5.1%	4.1%	16	13
9-10 PM	3.1%	1.8%	10	6
10-11 PM	3.6%	3.2%	11	10
11-12 AM	1.8%	1.6%	6	5

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use				
Source: ITE <i>Trip Generation Manual</i> , 11th Edition				
Land Use Code	934			
Land Use	Fast-Food w/Drive Through Window			
Setting	General Urban/Suburban			
Time Period	Weekday			
Trip Type	Vehicle			
# Data Sites	53			
Time	% of 24-Hour Traffic		Est Daily Traffic:	
	Entering	Exiting	Entering Trips	Exiting Trips
12-1 AM	0.8%	0.8%	2	2
1-2 AM	0.4%	0.5%	1	1
2-3 AM	0.3%	0.3%	1	1
3-4 AM	0.2%	0.3%	1	1
4-5 AM	0.3%	0.3%	1	1
5-6 AM	0.8%	0.7%	2	2
6-7 AM	2.3%	1.9%	7	6
7-8 AM	3.4%	3.1%	10	10
8-9 AM	3.5%	3.4%	11	11
9-10 AM	3.4%	3.3%	11	10
10-11 AM	4.0%	3.7%	12	11
11-12 PM	9.1%	7.7%	28	24
12-1 PM	11.9%	12.0%	37	37
1-2 PM	7.9%	8.7%	24	27
2-3 PM	5.9%	6.5%	18	20
3-4 PM	5.7%	5.7%	18	18
4-5 PM	5.9%	5.6%	18	17
5-6 PM	6.9%	6.5%	21	20
6-7 PM	7.4%	7.4%	23	23
7-8 PM	6.3%	6.6%	20	21
8-9 PM	5.6%	5.8%	17	18
9-10 PM	4.1%	4.6%	13	14
10-11 PM	2.5%	2.9%	8	9
11-12 AM	1.4%	1.8%	4	6

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use				
Source: ITE <i>Trip Generation Manual</i> , 11th Edition				
Land Use Code	310			
Land Use	Hotel			
Setting	General Urban/Suburban			
Time Period	Weekday			
Trip Type	Vehicle			
# Data Sites	1			
Time	% of 24-Hour Traffic		Est Daily Traffic:	
	Entering	Exiting	Entering Trips	Exiting Trips
12-1 AM			0	0
1-2 AM			0	0
2-3 AM			0	0
3-4 AM			0	0
4-5 AM			0	0
5-6 AM			0	0
6-7 AM	0.8%	2.2%	10	26
7-8 AM	2.4%	8.2%	29	99
8-9 AM	3.3%	6.3%	40	75
9-10 AM	4.8%	6.7%	57	81
10-11 AM	5.9%	7.8%	71	94
11-12 PM	7.4%	8.1%	89	98
12-1 PM	10.3%	6.2%	124	75
1-2 PM	10.7%	7.2%	129	87
2-3 PM	7.8%	8.0%	94	96
3-4 PM	8.2%	7.0%	99	84
4-5 PM	7.1%	7.6%	85	91
5-6 PM	8.8%	6.5%	106	79
6-7 PM	5.4%	4.8%	65	58
7-8 PM	5.8%	3.2%	70	38
8-9 PM	3.1%	3.2%	37	39
9-10 PM	2.1%	2.8%	26	33
10-11 PM	3.1%	1.8%	37	21
11-12 AM	1.5%	0.9%	18	11

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use				
Source: ITE <i>Trip Generation Manual</i> , 11th Edition				
Land Use Code	932			
Land Use	High Turnover Sit Down Restaurant			
Setting	General Urban/Suburban			
Time Period	Weekday			
Trip Type	Vehicle			
# Data Sites	37			
Time	% of 24-Hour Traffic		Est Daily Traffic:	
	Entering	Exiting	Entering Trips	Exiting Trips
12-1 AM	0.3%	0.8%	4	11
1-2 AM	0.1%	0.3%	2	4
2-3 AM	0.3%	0.2%	4	3
3-4 AM	0.2%	0.4%	3	5
4-5 AM	0.2%	0.3%	3	4
5-6 AM	0.7%	0.2%	10	3
6-7 AM	1.7%	0.9%	25	13
7-8 AM	2.7%	1.8%	39	26
8-9 AM	3.4%	3.1%	48	44
9-10 AM	4.0%	3.4%	57	48
10-11 AM	5.5%	4.4%	77	62
11-12 PM	12.1%	6.9%	171	98
12-1 PM	12.4%	12.3%	175	174
1-2 PM	6.5%	11.2%	91	158
2-3 PM	4.0%	5.1%	56	72
3-4 PM	3.3%	4.0%	47	56
4-5 PM	6.2%	3.9%	88	55
5-6 PM	10.2%	6.8%	144	97
6-7 PM	10.1%	8.7%	143	122
7-8 PM	7.2%	9.2%	101	130
8-9 PM	4.3%	7.1%	60	101
9-10 PM	2.6%	4.8%	37	68
10-11 PM	1.4%	2.9%	20	41
11-12 AM	0.5%	1.4%	7	19

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use				
Source: ITE <i>Trip Generation Manual</i> , 11th Edition				
Land Use Code	710			
Land Use	General Office			
Setting	General Urban/Suburban			
Time Period	Weekday			
Trip Type	Vehicle			
# Data Sites	11			
Time	% of 24-Hour Traffic		Est Daily Traffic:	
	Entering	Exiting	Entering Trips	Exiting Trips
12-1 AM	0.0	0.0	0	0
1-2 AM	0.0	0.0	0	0
2-3 AM	0.0	0.0	0	0
3-4 AM	0.0	0.0	0	0
4-5 AM	0.0	0.0	0	0
5-6 AM	0.0	0.0	1	0
6-7 AM	4.8%	0.5%	9	1
7-8 AM	13.6%	2.0%	27	4
8-9 AM	14.3%	3.4%	28	7
9-10 AM	4.8%	4.4%	12	81
10-11 AM	5.5%	6.0%	11	12
11-12 PM	6.9%	10.3%	12	20
12-1 PM	10.2%	10.3%	20	75
1-2 PM	9.0%	6.6%	18	13
2-3 PM	8.3%	6.5%	16	13
3-4 PM	7.3%	8.4%	14	17
4-5 PM	5.4%	15.2%	11	30
5-6 PM	4.0%	15.8%	8	31
6-7 PM	1.7%	2.6%	3	5
7-8 PM	0.9%	2.3%	2	5
8-9 PM	0.7%	1.3%	1	3
9-10 PM	0.5%	1.6%	1	3
10-11 PM	0.3%	2.1%	1	4
11-12 AM	0.4%	0.2%	1	0

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use				
Source: ITE <i>Trip Generation Manual</i> , 11th Edition				
Land Use Code	945			
Land Use	C-Store/Gas Station			
Setting	General Urban/Suburban			
Time Period	Weekday			
Trip Type	Vehicle			
# Data Sites	38			
Time	% of 24-Hour Traffic		Est Daily Traffic:	
	Entering	Exiting	Entering Trips	Exiting Trips
12-1 AM	0.9%	0.9%	16	17
1-2 AM	0.5%	0.5%	9	10
2-3 AM	0.4%	0.5%	8	9
3-4 AM	0.5%	0.6%	9	11
4-5 AM	1.0%	1.1%	18	20
5-6 AM	2.3%	2.2%	43	41
6-7 AM	4.7%	4.5%	87	84
7-8 AM	6.2%	6.1%	114	113
8-9 AM	5.8%	5.9%	107	109
9-10 AM	5.0%	5.1%	93	94
10-11 AM	5.2%	5.2%	95	95
11-12 PM	5.3%	5.2%	98	96
12-1 PM	5.8%	5.8%	106	108
1-2 PM	5.4%	5.3%	100	98
2-3 PM	6.1%	5.8%	112	108
3-4 PM	6.5%	6.4%	120	119
4-5 PM	7.2%	7.1%	133	130
5-6 PM	7.0%	6.9%	128	128
6-7 PM	6.5%	6.6%	119	121
7-8 PM	5.3%	5.3%	97	98
8-9 PM	4.3%	4.5%	79	82
9-10 PM	3.7%	3.7%	68	69
10-11 PM	2.7%	2.8%	50	52
11-12 AM	1.8%	1.9%	34	35

Trip Distribution, Overall Site, At Intersection Considered for Traffic Signal Warrants								
at FM 973/Driveway 2B								
Time	Total Site (excluding Fine Dining)		Distribution					
	Entering Trips	Exiting Trips	NBR	SBL	x	WBL	WBR	x
12-1 AM	24	31	1	5	0	10	3	0
1-2 AM	13	16	1	3	0	5	2	0
2-3 AM	14	13	1	3	0	4	1	0
3-4 AM	13	17	1	3	0	5	2	0
4-5 AM	23	26	1	5	0	8	3	0
5-6 AM	58	50	3	12	0	16	5	0
6-7 AM	140	139	7	30	0	44	15	0
7-8 AM	226	270	11	48	0	85	29	0
8-9 AM	243	265	12	52	0	83	28	0
9-10 AM	243	262	12	52	0	82	28	0
10-11 AM	287	299	14	61	0	94	32	0
11-12 PM	425	365	21	80	0	115	39	0
12-1 PM	494	444	24	105	0	140	48	0
1-2 PM	391	413	19	83	0	130	44	0
2-3 PM	324	335	16	69	0	105	36	0
3-4 PM	327	320	16	69	0	101	34	0
4-5 PM	369	353	18	78	0	111	38	0
5-6 PM	444	385	22	94	0	121	41	0
6-7 PM	386	357	19	82	0	112	38	0
7-8 PM	318	316	16	68	0	99	34	0
8-9 PM	218	258	11	46	0	81	28	0
9-10 PM	160	194	8	34	0	61	21	0
10-11 PM	129	138	6	27	0	43	15	0
11-12 AM	71	77	3	15	0	24	8	0

TRAFFIC SIGNAL WARRANT STUDY ANALYSIS INFORMATION

Municipality: Taylor
 County: Williamson
 TxDOT District: Austin

Analysis Date: 02/22/2024
 Conducted By: APV
 Agency/Company Name: Voigt Assoc., Inc.

Analysis Information

Analysis Condition (Existing/Future): Projected Conditions w/Development, Phase 2 Buildout (2027)

Data Collection Date: 10/25/2023

Day of the Week: Wednesday

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Major Street Information

Major Street Name and Route Number: FM 973

Major Street Approach #1 Direction: N-Bound

Major Street Approach #2 Direction: S-Bound

Number of Lanes for Moving Traffic on Each Major Street Approach: 1 LANE(S)

Speed Limit or 85th Percentile Speed on the Major Street: 55 MPH

Minor Street Information

Minor Street Name and Route Number: Driveway 2B

Minor Street Approach #1 Direction: N/A

Minor Street Approach #2 Direction: W-Bound

Number of Lanes for Moving Traffic on Each Minor Street Approach: 2 LANE(S)

TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS/SUMMARY

	Applicable?	Warrant Met?
Warrant 1, Eight-Hour Vehicular Volume	Yes	Yes
Warrant 2, Four-Hour Vehicular Volume	Yes	Yes
Warrant 3, Peak Hour	Yes	Yes
Warrant 4, Pedestrian Volume	No	N/A
Warrant 5, School Crossing	No	N/A
Warrant 6, Coordinated Signal System	No	N/A
Warrant 7, Crash Experience	No	N/A
Warrant 8, Roadway Network	No	N/A
Warrant 9, Intersection Near a Grade Crossing	No	N/A

Comments:

Warrant 1 (Eight Hour) met for 13 hours (8 required)
 Warrant 2 (Four Hour) met for 12 hours (4 required)
 Warrant 3 (Peak Hour) met for 9 hours (1 required, if applicable)

ENTER VOLUME DATA PER HOUR INTERVAL, PER APPROACH

Time Interval	Major Street Approach #1 (N-Bound)	Major Street Approach #2 (S-Bound)	Major Street Combined	Minor Street Approach #1 (N/A)	Minor Street Approach #2 (W-Bound)
Begin At	Volume	Volume	Total Volume	Volume	Volume
12:00 AM	26	5	32	0	13
1:00 AM	47	25	72	0	7
2:00 AM	67	24	91	0	5
3:00 AM	46	72	118	0	7
4:00 AM	144	300	444	0	11
5:00 AM	235	1607	1842	0	21
6:00 AM	297	1526	1823	0	58
7:00 AM	406	1050	1456	0	114
8:00 AM	493	914	1407	0	112
9:00 AM	255	410	665	0	111
10:00 AM	317	327	644	0	126
11:00 AM	693	521	1214	0	154
12:00 PM	692	934	1626	0	188
1:00 PM	443	550	992	0	174
2:00 PM	390	396	786	0	141
3:00 PM	659	506	1166	0	135
4:00 PM	1081	616	1697	0	149
5:00 PM	1131	518	1648	0	163
6:00 PM	954	394	1348	0	151
7:00 PM	425	293	718	0	133
8:00 PM	166	160	325	0	109
9:00 PM	133	154	287	0	82
10:00 PM	99	123	222	0	58
11:00 PM	50	16	66	0	33
Approach Totals:	9744	13452		0	2255

TxMUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME, W/O A+B COMBINATION

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	2 or More Lanes

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes
---	-----

Combination of Conditions A and B Necessary?*: No

**Only applicable for Warrant 1 if after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems. See Section 4C.02 of the 2011 Texas MUTCD for application.*

Condition A - Minimum Vehicular Volume									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or More	1	600	480	420	336	150	120	105	84
2 or More	2 or More	600	480	420	336	200	160	140	112
1	2 or More	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or More	1	900	720	630	504	75	60	53	42
2 or More	2 or More	900	720	630	504	100	80	70	56
1	2 or More	750	600	525	420	100	80	70	56

Condition A Evaluation

Number of Unique Hours Met: 7

Condition A Satisfied? No

Condition B Evaluation

Number of Unique Hours Met: 13

Condition B Satisfied? Yes

TxMUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME, W/COMBINATION A+B

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	2 or More Lanes

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes
---	-----

Combination of Conditions A and B Necessary?*: Yes

**Only applicable for Warrant 1 if after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems. See Section 4C.02 of the 2011 Texas MUTCD for application.*

Condition A - Minimum Vehicular Volume									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or More	1	600	480	420	336	150	120	105	84
2 or More	2 or More	600	480	420	336	200	160	140	112
1	2 or More	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or More	1	900	720	630	504	75	60	53	42
2 or More	2 or More	900	720	630	504	100	80	70	56
1	2 or More	750	600	525	420	100	80	70	56

Combination of Condition A and Condition B Evaluation

Number of Unique Hours Met for Condition A: 7

Number of Unique Hours Met for Condition B: 13

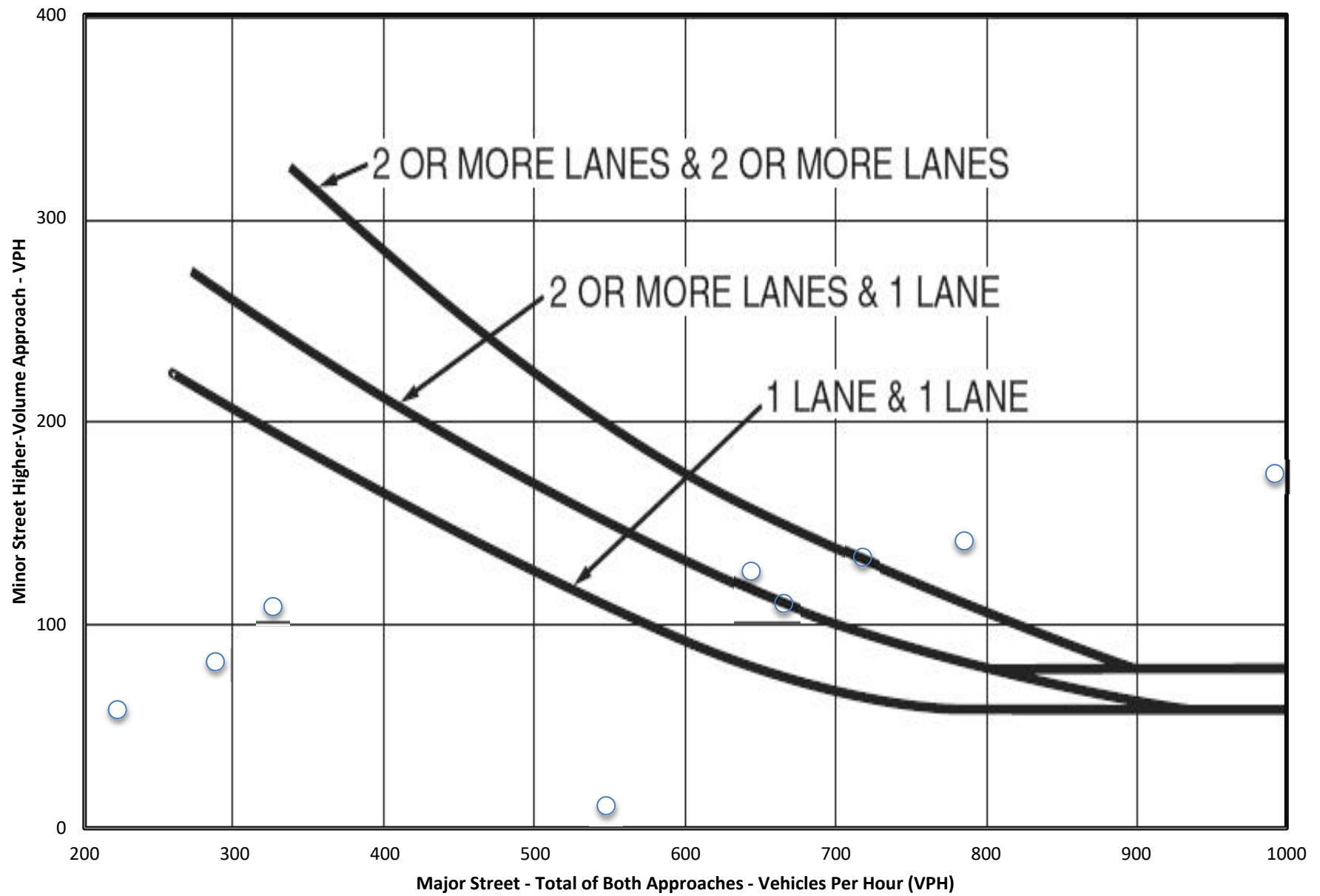
Combination of Condition A and Condition B Satisfied? No

TxMUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each Approach		Total Number of Unique Hours Met On Figure 4C-2
Major Street:	1 Lane	12
Minor Street:	2 or More Lanes	

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes
---	-----

Hourly Vehicular Volume			
Hour Interval	Major Street Combined	Highest Minor Street Approach	Hour Met?
Beginning At	Vehicles Per Hour (VPH)	Vehicles Per Hour (VPH)	
12:00 AM	32	13	
1:00 AM	72	7	
2:00 AM	91	5	
3:00 AM	118	7	
4:00 AM	547	11	
5:00 AM	4246	21	
6:00 AM	1823	58	
7:00 AM	1456	114	Met
8:00 AM	1407	112	Met
9:00 AM	665	111	
10:00 AM	644	126	Met
11:00 AM	1214	154	Met
12:00 PM	1626	188	Met
1:00 PM	992	174	Met
2:00 PM	786	141	Met
3:00 PM	1166	135	Met
4:00 PM	1697	149	Met
5:00 PM	1648	163	Met
6:00 PM	1348	151	Met
7:00 PM	718	133	Met
8:00 PM	325	109	
9:00 PM	287	82	
10:00 PM	222	58	
11:00 PM	66	33	

MUTCD Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

TxMUTCD WARRANT 3, PEAK HOUR

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	2 or More Lanes

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes
---	-----

Is this signal warrant being applied for an unusual case, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time?

Yes

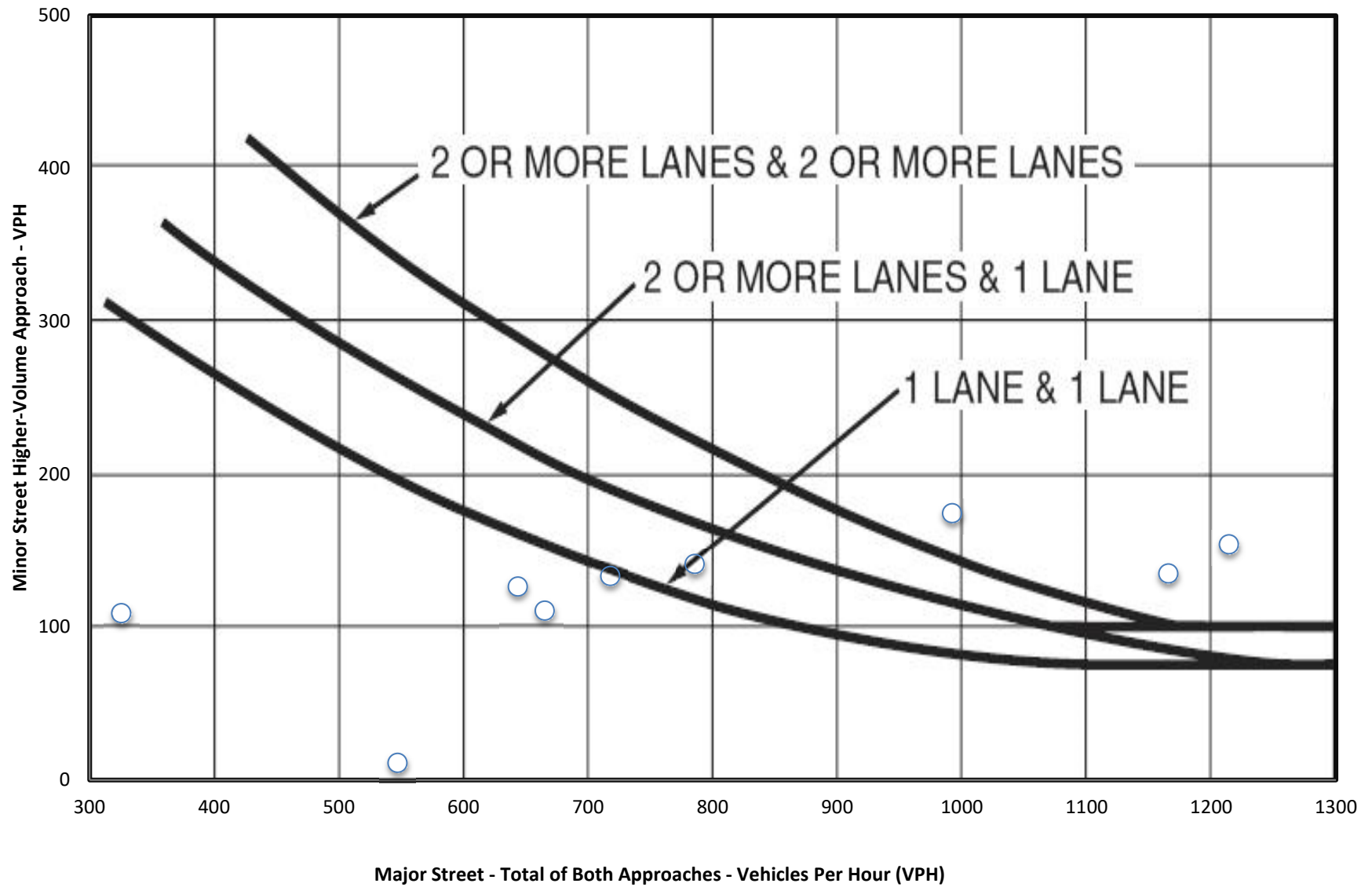
Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-minute periods) of an average day are present*

Does the total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach?	Yes
Does the volume on the same minor-street approach (one direction only) equal or exceed 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes?	Yes
Does the total entering volume serviced during the hour equal or exceed 650 vehicles per hour for intersection with three approaches or 800 vehicles per hour for intersections with four or more approaches?	Yes
<i>*If applicable, attach all supporting calculations and documentation.</i>	

**Total Number of Unique Hours Met
On Figure 4C-4**

9

Hourly Vehicular Volume			
Hour Interval	Major Street Combined	Highest Minor Street Approach	Hour Met?
Beginning At	Vehicles Per Hour (VPH)	Vehicles Per Hour (VPH)	
12:00 AM	32	13	
1:00 AM	72	7	
2:00 AM	91	5	
3:00 AM	118	7	
4:00 AM	547	11	
5:00 AM	4246	21	
6:00 AM	1823	58	
7:00 AM	1456	114	Met
8:00 AM	1407	112	Met
9:00 AM	665	111	
10:00 AM	644	126	
11:00 AM	1214	154	Met
12:00 PM	1626	188	Met
1:00 PM	992	174	Met
2:00 PM	786	141	
3:00 PM	1166	135	Met
4:00 PM	1697	149	Met
5:00 PM	1648	163	Met
6:00 PM	1348	151	Met
7:00 PM	718	133	
8:00 PM	325	109	
9:00 PM	287	82	
10:00 PM	222	58	
11:00 PM	66	33	

MUTCD Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

MUTCD WARRANT 4, PEDESTRIAN VOLUME

Built-up Isolated Community With Less Than 10,000 Population or Above 35 MPH on Major Street?

Yes

15th Percentile Pedestrian Crossing Speed Less than 3.5 f/s?*

No

**If applicable, attach all supporting calculations, documentation, and findings.*

Is the distance to the nearest traffic control signal or STOP sign controlling the major street that pedestrians desire to cross less than 300 feet?

No

If the distance to the nearest traffic control signal or STOP sign controlling the major street that pedestrians desire to cross is less than 300 feet, will the proposed traffic control signal restrict the progressive movement of traffic?*

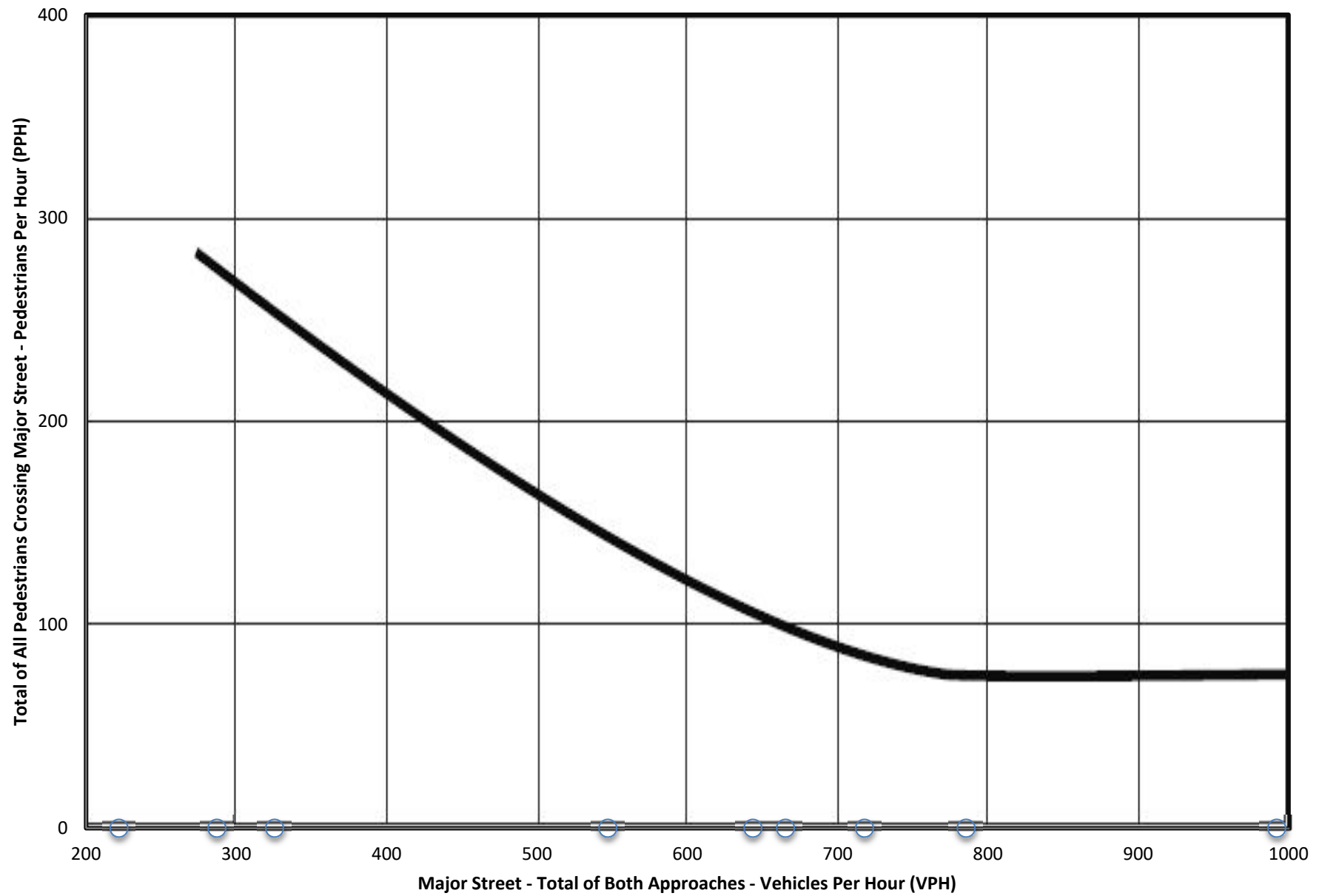
No

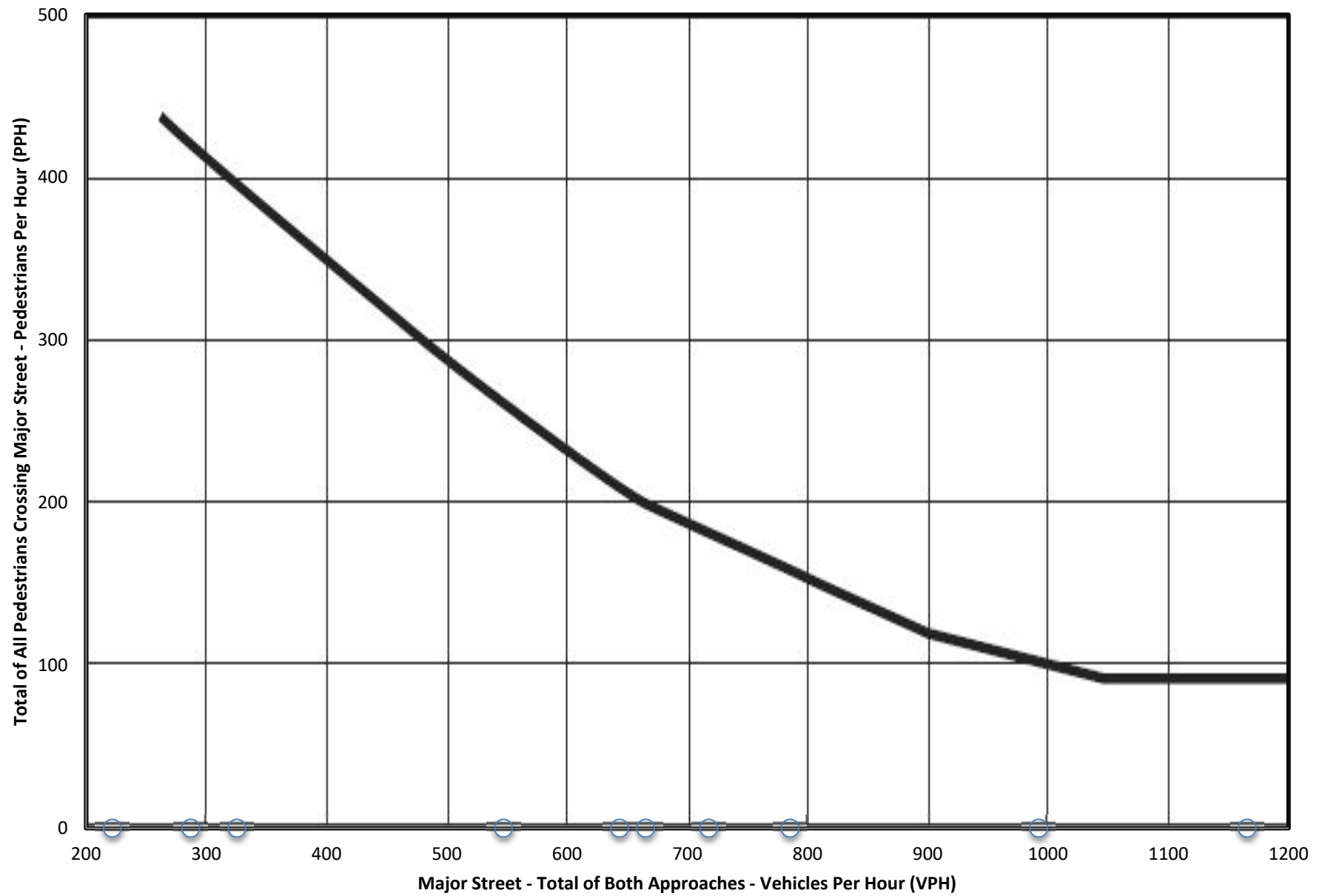
**If applicable, attach supporting justification.*

Total Number of Unique Hours Met for Criterion A: 0

Total Number of Unique Hours Met for Criterion B: 0

Hourly Vehicular & Pedestrian Volume				
Hour Interval	Major Street Combined	Total of All Pedestrians Crossing Major Street	Criterion A: 4-Hour	Criterion B: 1-Hour
Beginning At	Vehicles Per Hour (VPH)	Pedestrians Per Hour (PPH)	Hour Met on Figure 4C-6?	Hour Met on Figure 4C-8?
12:00 AM	32	0		
1:00 AM	72	0		
2:00 AM	91	0		
3:00 AM	118	0		
4:00 AM	547	0		
5:00 AM	4246	0		
6:00 AM	1823	0		
7:00 AM	1456	0		
8:00 AM	1407	0		
9:00 AM	665	0		
10:00 AM	644	0		
11:00 AM	1214	0		
12:00 PM	1626	0		
1:00 PM	992	0		
2:00 PM	786	0		
3:00 PM	1166	0		
4:00 PM	1697	0		
5:00 PM	1648	0		
6:00 PM	1348	0		
7:00 PM	718	0		
8:00 PM	325	0		
9:00 PM	287	0		
10:00 PM	222	0		
11:00 PM	66	0		

MUTCD Figure 4C-6. Warrant 4, Pedestrian Four-Hour Volume (70% Factor)

MUTCD Figure 4C-8. Warrant 4, Pedestrian Peak Hour (70% Factor)

TxMUTCD WARRANT 5, SCHOOL CROSSING

Do schoolchildren (elementary through high school students) cross the major street? No

Has consideration been given to implement other remedial measures, such as warning signs and flashers, school speed zones, school crossing guards, or a grade-separated crossing? No

Is the distance to the nearest traffic control signal along the major street less than 300 feet? No

If the distance to the nearest traffic control signal along the major street is less than 300 feet, will the proposed traffic control signal restrict the progressive movement of traffic? No

Minimum of 20 schoolchildren during the highest crossing hour? No

Has a traffic engineering study been conducted to determine the adequacy and frequency of gaps in the vehicular traffic stream as related to the number and size of groups of schoolchildren at an established school crossing across the major street? No

Pedestrian Gap Acceptance Engineering and Traffic Study Evaluation*

Data Collection Date: 10/25/2023
Day of the Week: Wednesday

Sufficient median for major street Crossing 1? Yes
Sufficient median for major street Crossing 2? Yes

Study Period	Study Duration (mins)	Crossing 1 (Stage 1)		Crossing 1 (Stage 2)		Crossing 2 (Stage 1)		Crossing 2 (Stage 2)	
		Total Adequate Gaps	Met?	Total Adequate Gaps	Met?	Total Adequate Gaps	Met?	Total Adequate Gaps	Met?
1 Morning			N/A		N/A		N/A		N/A
2 Afternoon			N/A		N/A		N/A		N/A
3			N/A		N/A		N/A		N/A
4			N/A		N/A		N/A		N/A
5			N/A		N/A		N/A		N/A
Summary:		Not Met		Not Met		Not Met		Not Met	

*Refer to ITE's Manual of Transportation Engineering Studies for specific details related to conducting a pedestrian gap acceptance engineering and traffic study. Attach all supplementary documentation and calculations.

TxMUTCD WARRANT 6, COORDINATED SIGNAL SYSTEM*

On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning. N/A

On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation. No

*Warrant 6 should not be applied where the resultant spacing of traffic control signals would be less than 1,000 feet.

TxMUTCD WARRANT 7, CRASH EXPERIENCE

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes
---	-----

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	2 or More Lanes

Has adequate trial of alternatives with satisfactory observance and enforcement failed to reduce the crash frequency? No

Five or more reportable and/or non-reportable crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period during the most recent 3 years of available crash data.* N/A
**If applicable, attach a summary of the crash data analysis used for this criterion.*

For each of any 8 hours of an average day, the vehicles per hour given in both the 80% columns of Condition A in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection. Yes

For each of any 8 hours of an average day, the vehicles per hour given in both the 80% columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection. Yes

The volume of pedestrian traffic is not less than 80% of the requirements specified in Warrant 4, the Pedestrian Volume warrant.* No
**If applicable, attach all supporting calculations and documentation.*

TxMUTCD WARRANT 8, ROADWAY NETWORK*

Is the major street classified as an Urban Extension, Principal Arterial, or Minor Arterial that is a reasonable connection between two Principal Arterials and/or Urban Extensions as shown on the official Functional Classification Map? Yes

Does the intersection have a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1,2, and 3 during an average weekday? Yes

Does the intersection have a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday)? No

Is the major street part of the street or highway system that serves as the principal roadway network for through traffic flow? Yes

Does the major street include rural or suburban highways outside, entering, or traversing a city? Yes

Does the major street appear as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study? Yes

TxMUTCD WARRANT 9, INTERSECTION NEAR A GRADE CROSSING

Does the grade crossing exist on an approach controlled by a STOP or Yield sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach? N/A

During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the minor-street approach that crosses the track (one direction only, approaching the intersection) falls above the applicable curve in Figure 4C-9 or 4C-10 for the existing combination of approach lanes over the track and the distance D. N/A

Number of approach lanes on the minor street approach that crosses the track: 1

Clear Storage Distance (D): 0 feet

Highest Traffic Volume Hour During Which Rail Traffic Uses the Crossing*

**If the rail traffic arrival times are unknown, the highest traffic volume hour of the day should be used.*

Major Street Volume (Total of Both Approaches): 0 vph
Actual Minor-Street Volume (One Direction Only, Approaching the Intersection): 0 vph

Apply Adjustment Factors to the Minor-Street Volume?: No

Minor-Street Approach Volume Adjustments*

**Refer to Section 4C.10 of the Texas MUTCD for details on the application of these adjustment factors.*

	Inputs	Adjustment Factor
Occurrences of Rail Traffic per Day:	1	0.67
% of High-Occupancy Buses (buses with at least 20 people) on Minor-Street Approach:	0%	1.00
% of Tractor-Trailer Trucks on Minor-Street Approach:	0% to 2.5%	0.50

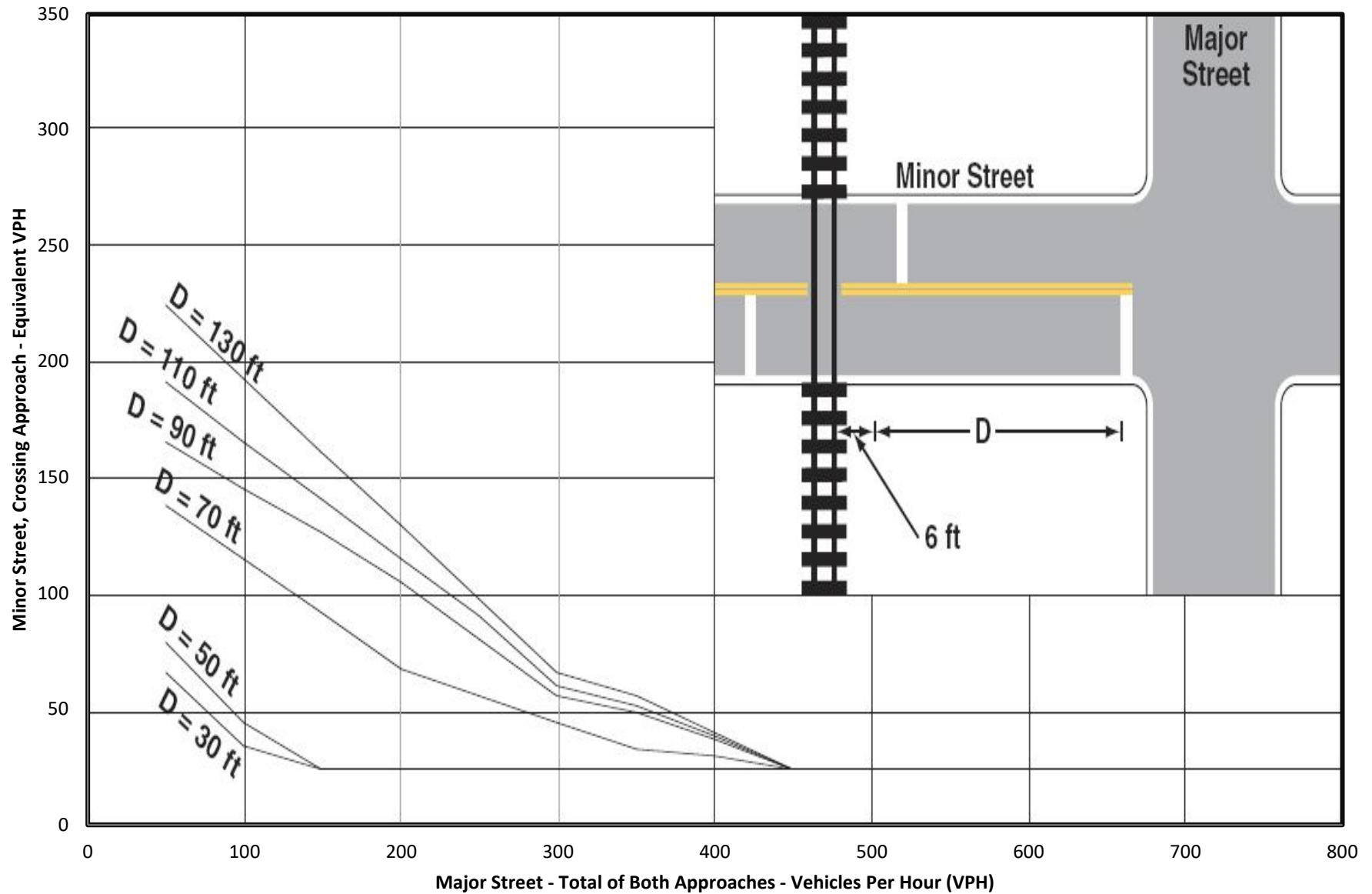
Adjusted Minor-Street Volume (One Direction Only, Approaching the Intersection): N/A vph

Traffic Volumes for Figure Comparison

Major Street Volume (Total of Both Approaches): 0 vph
Minor-Street Volume (One Direction Only, Approaching the Intersection): 0 vph

Applicable Figure for Comparison: Figure 4C-9

**MUTCD Figure 4C-9. Warrant 9, Intersection Near a Grade Crossing
(One Approach Lane at the Track Crossing)**



Appendix F – Selected Intersection Approach Photos



Photograph 1. US 79, Looking East, West of FM 973

Photograph Date: 7/9/2022



Photograph 2. FM 973, Looking South, South of US 79

Photograph Date: 7/9/2022



Photograph 3. FM 973, Looking South, at Taylor High School North Driveway

Photograph Date: 7/9/2022



**Photograph 4. FM 973, Looking North, North of Taylor High School North Driveway
Proposed site driveways to right.**

Photograph Date: 7/9/2022



Photograph 5. US 79, Looking East, East of FM 973
Proposed site driveways to right.

Photograph Date: 7/9/2022



**Photograph 5. US 79, Looking East, East of FM 973
Proposed site driveway (2A) to right.**

Photograph Date: 7/9/2022

Appendix G – Traffic Signal Timing Data



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Configuration Controller Sequence**Phase Ring Sequence and Assignment (MM) 1-1-1**

Hardware Alternate Sequence Enable: Yes

Phase Ring Sequence.....(Note: Sequences identical to the prior one are not printed)

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Sequence 1																
Ring 1	2	1	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 2																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 3																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 4																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 5																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 6																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 7																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 8																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 9																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 10																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 11																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 12																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 13																

Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.	.
Sequence 14																	
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.	.
Sequence 15																	
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.	.
Sequence 16																	
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.	.

Phases In Use/Exclusive Ped (MM) 1-2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phases In Use	X	X	X	X	X	X										
Exclusive Ped																

Phase Compatibility (MM) 1-1-2

Phase	
1	6
2	5
2	6
3	7
3	8
4	7
4	8
9	11
9	12
10	11
10	12
13	15
13	16
14	15
14	16

Phase and Overlap Descriptions

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Description																

Administration (MM) 1-7-1

Enable Controller/Cabinet No
 Interlock CRC
 CRC (16 bit) E6AA
 No

Enable Automatic Backup
to Datakey

Backup Prevent (MM) 1-1-3

Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Timing	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phases	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Simultaneous Gap (MM) 1-1-4

Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phase	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Must	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Gap	8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
With	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phase	10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Disable	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Load Switch Assignments (MM) 1-3

	Phase / Overlap	Type	Dimming				Power Up	Auto		Flash Together
			Red	Yellow	Green	Dark		Red	Yellow	
1	1	V				-	Auto	X		
2	2	V				-	Auto		X	X
3	3	V				-	Auto	X		
4	4	V				-	Auto	X		X
5	5	V				+	Auto	X		
6	6	V				+	Auto		X	X
7	7	V				+	Auto	X		
8	8	V				+	Auto	X		X
9	2	P				-	Auto			

10	4	P				-	Auto			
11	6	P				+	Auto			
12	8	P				+	Auto			
13	1	O				-	Auto		X	
14	2	O				+	Auto	X		X
15	3	O				-	Auto		X	
16	4	O				+	Auto	X		X



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Configuration Port 1 (SDLC)**Port 1 SDLC (MM) 1-4-1**

BIU	1	2	3	4	5	6	7	8
Term & Facility	X	X						
Detector Rack	X							

Enable TS2/MMU Type Cabinet: No

Enable MMU Extended Status: No

Enable SDLC Stop Time: No

Enable 3 Critical RFE's Lockup: No

MMU Program (MM) 1-4-2

Channel Can Serve With Channel	
Channel 1	Channel 2
1	5
1	6
1	11
1	15
2	5
2	6
2	9
2	11
2	13
2	15
3	7
3	8
3	12
3	16
4	7
4	8
4	10
4	12
4	14
4	16
5	9
5	13
6	9
6	11
6	13
6	15

7	10
7	14
8	10
8	12
8	14
8	16
9	11
9	13
9	15
10	12
10	14
10	16
11	13
11	15
12	14
12	16
13	15
14	16

Color Check Enable (MM) 1-4-3

Enable Color Check: No

MMU/LS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Green	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Yellow	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Red	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Secondary Stations/Tests (MM) 1-4-4

ID	1	2	3	4	5	6	7	8	MMU
Term & Facility									

ID	1	2	3	4	5	6	7	8	Diag
Detector Rack									

Enable SDLC Diagnostic Test: No



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Configuration Communications 1 (SDLC)**Ethernet Port Configuration
(MM) 1-5-1**

Controller IP: 10.2.1.101
 Subnet Mask: 255.255.255.0
 Default Gateway IP: 10.2.1.1
 Server IP: 10.148.3.231

NTCIP (MM) 1-5-5

NTCIP Backup Time (Sec): 0
 NTCIP UDP Port: 501
 Ethernet Priority: 1
 Port 2 Priority (Port C50S for 2070): 4
 Port 3A Priority (Port C21S for 2070): 2
 Port 3B Priority (Port C22S for 2070): 3

Port Configuration (MM) 1-5-2 to 1-5-4

Port	2 (C50S)	3A (C21S)	3B (C22S)
Protocol	TERMINAL	NTCIP	ECPIP
Enable	No	Yes	No
Data Rate (BPS)	9600	9600	1200
Data, Parity, Stop	8 N 1	8 N 1	8 N 1
Address	0	1	0
Telemetry Response Delay	0.0	0.0	0.9
Duplex - Half or Full	Half	Full	Full
Flow Control	Yes	No	Yes
Group Address	0	0	0
Single Flag Enable	Yes	Yes	Yes
RTS to CTS Delay	n/a	n/a	14.0
RTS Turn Off Delay	n/a	n/a	2.0
Dropout Time	10	10	10
Early RTS	n/a	n/a	No
Telemetry Mode	n/a	n/a	FSK
ATCS Railroad	0	n/a	n/a
ATCS Railroad Line	0	n/a	n/a
ATCS Group	0	n/a	n/a
Wayside Device	0	n/a	n/a
ATC Device	0	n/a	n/a
Wayside Subnode	0	n/a	n/a
ATC Subnode	0	n/a	n/a

ECPIP (MM) 1-5-6

Controller Address: 0
 Expanded System Detector Address: 0

**System Detector
Assignment**

System Detector	Local Detector
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MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Configuration Logging / Display**Event Logging (MM) 1-6-1**

Critical RFE's (MMU/TF)	Yes	3 Critical Errors Within 24 Hours	Yes
MMU Flash Faults	Yes	Local Flash Fault	Yes
Non-Critical RFE's (Det/Test)	Yes	Detector Errors	Yes
Coordination Errors	Yes	Controller Download	Yes
Preemption Events	Yes	TSP Events	Yes
Power On/Off	Yes	Low Battery	Yes
Access	Yes	Data Change	Yes
Online / Offline	Yes		

Alarm Event	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Enable Logging	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Display Options (MM) 1-7-2

Key Click Enable:	No
Backlight Enable:	Yes
LED Mode:	Auto
Display Mode:	Advanced
Screen Format:	Advanced
Trans Mode Pop-Up Disable:	No

Sign On (MM) 8-5

Sign On Message Line 1:
Sign On Message Line 2:

Software Modules (MM) 8-7

Application Version: 02.47.10
OS (Boot) Version: 01.12.05



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Logic Processor Page 1

Logic Statement Control (MM) 1-8-1

Logic #	Statement Control
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MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Logic Processor Page 2

Logic Statements (MM) 1-8-2



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Controller Timing Plan (MM) 2-1**Plan 1**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction																
Min Green	5	15	5	5	10	15	0	0	0	0	0	0	0	0	0	0
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	15	0	12	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	2.0	2.0	2.0	3.0	2.0	2.0	2.0	2.0	5.0	5.0	5.0	5.0	5.0	5.0	0.0	0.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	25	55	5	50	25	55	0	0	0	0	0	0	0	0	0	0
Max2	0	0	0	30	0	0	0	0	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clear	1.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction																
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 3

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction																
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 4

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction																
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Controller Overlaps**Vehicle Overlaps (MM) 2-2**

Overlap	Type	Lag Green	Yellow	Red	Adv. Green
---------	------	-----------	--------	-----	------------

Phases

Overlap	Phase	Included	Protect	Ped Protect	Not Overlap	Modifier	Lag X Phases	Lag 2 Phases	Flash Green
A	2	Yes	No	No	No		No	No	.
C	6	Yes	No	No	No		No	No	.

PPLT FYA

Overlap	Protected Phase (Left Turn)	Permissive Phase (Opposing Thru)	Flashing Arrow Output	Flashing Arrow Output CH	Delay Start of FYA	Delay Start of Clearance	Action Plan SF Bit Disable	Ped Protected Enable
---------	-----------------------------	----------------------------------	-----------------------	--------------------------	--------------------	--------------------------	----------------------------	----------------------

Guaranteed Minimum Time Data (MM) 2-4

Phase	Min Green	Walk	Ped Clear	Yellow	Red Clear	Overlap Green
A01	0	0	0	3.0	0.0	0
B02	0	0	0	3.0	0.0	0
C03	0	0	0	3.0	0.0	0
D04	0	0	0	3.0	0.0	0
E05	0	0	0	3.0	0.0	0
F06	0	0	0	3.0	0.0	0
G07	0	0	0	3.0	0.0	0
H08	0	0	0	3.0	0.0	0
I09	0	0	0	3.0	0.0	0
J10	0	7	10	3.0	0.0	0
K11	0	0	0	3.0	0.0	0
L12	0	7	12	3.0	0.0	0
M13	0	0	0	3.0	0.0	0
N14	0	0	0	3.0	0.0	0
O15	0	0	0	3.0	0.0	0
P16	0	0	0	3.0	0.0	0



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Controller Pedestrian Overlaps

Vehicle / Pedestrian Overlaps (MM) 2-3

Included	Pedestrian Overlaps
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MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Controller Start / Flash Data (MM) 2-5**Start Up**

Phase	Phase Setting
1	.
2	G
3	.
4	.
5	.
6	G
7	.
8	.
9	.
10	.
11	.
12	.
13	.
14	.
15	.
16	.

Overlap
A
B
C
D

Flash Thru Mon: No
 Flash Time: 0
 All Red: 6
 Power Start Seq: 2
 MUTCD Enabled: No
 Y->G: n/a

Automatic Flash

Entry
4

Exit
2
6

--

Overlap Exit

A
B
C
D

Flash Thru Mon: No

Exit Flash: W

Minimum Flash: 8

Minimum Recall: No

Cycle Through Phase: No



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Controller Options**Controller Options (MM) 2-6-1**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Grn Ph	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Guar Passage																
Non-Act I	X				X											
Non-Act II			X				X									
Dual Entry	X	X	X	X	X											
Cond Service																
Cond Reservice																
Ped Re-Service																
Rest In Walk	X															
Flashing Walk																
Ped Clr-Yel																
Ped Clr-Red																
IGRN + Veh Ext																

Ped Clear Protect: Off Unit Red Revert: 2.0 MUTCD 3 Seconds Don't Walk: No

Pre-Timed Mode (MM) 2-7

Enable Pre-Timed Mode: No Free Input Disables Pre-Timed: No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Pre-Timed																

Phase Recall Options (MM) 2-8**Plan # 1**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Lock Detector	X				X											
Vehicle Recall		X				X										
Ped Recall																
Max Recall																
Soft Recall																
No Rest																
AI Calc																



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Coordination Options**Options (MM) 3-1**

Manual Pattern	Auto	ECPI Coord	Yes
System Source	TBC	System Format	PTN
Splits In	Seconds	Offsets In	Seconds
Transition	Smooth	Max Select	MAXINH
Dwell / Add Time	0		
Delay Coord Wk-LZ	No	Force Off	Float
Offset Reference	Lead	Use Ped Time	No
Ped Recall	No	Ped Reservice	No
Local Zero	No	FO Added Ini	No
Override		Green	
Re-sync Count	0	Multisync	No

Auto Perm Minimum Green (Seconds) (MM) 3-4

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Split Demand (MM) 3-5

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Demand 1																
Demand 2																

Demand	1	2
Detector	0	0
Call Time (Sec)	0	0
Cycle Count	0	0



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Coordination Pattern Data
Coordinator Pattern Data (MM) 3-2



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Coordination Split Pattern
Split Pattern Data (MM) 3-3



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Preempt Plan

Preempt Plan (MM) 4-1

No Enabled Preempts



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

**Preempt Preempt Filtering
Enable Preempt Filtering &
TSP/SCP (MM) 4-2**

Input	Solid	Pulsing
1	...BYPASSED...	...BYPASSED...
2	...BYPASSED...	...BYPASSED...
3	PREEMPTION 3	PREEMPTION 7
4	PREEMPTION 4	PREEMPTION 8
5	PREEMPTION 5	PREEMPTION 9
6	PREEMPTION 6	PREEMPTION 10
7	...BYPASSED...	...BYPASSED...
8	...BYPASSED...	...BYPASSED...
9	...BYPASSED...	...BYPASSED...
10	...BYPASSED...	...BYPASSED...



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Preempt TSP/SCP Plan and Split**TSP / SCP Plan (MM) 4-3**

TSP/SCP Plan	Enable Option	Signal Type	Det Lock	Delay Time	Max Presence	PMT Enables Reservice	No Delay in TSP	Action SF Inhibit	Reservice Cycles	Bus Heading
1	No	Solid	No	0	0	No	False	0	0	NB
2	No	Solid	No	0	0	No	False	0	0	SB
3	No	Solid	No	0	0	No	False	0	0	EB
4	No	Solid	No	0	0	No	False	0	0	WB
5	No	Solid	No	0	0	No	False	0	0	.
6	No	Solid	No	0	0	No	False	0	0	.

Mode: TSP

Free Default Pattern: 120

Headway Allowance: 0

TSP/SCP Plan	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

TSP / SCP Split Pattern (MM) 4-4

TSP/SCP Split Pattern	Max Type	Phase															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
4	Max Reduction	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Time Base Clock/Calendar
Clock/Calendar Data (MM) 5-1

Manual Action Plan: 0
SYNC Reference Time: 00:00
SYNC Reference: Reference Time
Day Light Savings: USDLS
Time Reset Input Set Time: 3:30:00
Standard Time From GMT: 0



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Time Base Action Plan Action Plan (MM) 5-2

Action Plan - 1

Pattern	Free	Override Sys	No
Timing Plan	0	Sequence	2
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Action Plan - 2

Pattern 2 Override Sys No
 Timing Plan 0 Sequence 0
 Veh Detector Plan 0 Det Log None
 Flash No Red Rest No
 Veh Det Diag 0 Ped Det Diag 0
 Plan Plan
 Dimming Enable No Pmt Veh Priority No
 Ret
 Pmt Ped Priority No Pmt Queue Delay No
 Ret
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Action Plan - 3

Pattern 3 Override Sys No
 Timing Plan 0 Sequence 0
 Veh Detector Plan 0 Det Log None
 Flash No Red Rest No
 Veh Det Diag 0 Ped Det Diag 0
 Plan Plan
 Dimming Enable No Pmt Veh Priority No
 Ret
 Pmt Ped Priority No Pmt Queue Delay No
 Ret
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Action Plan - 4

Pattern	4	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Action Plan - 99

Pattern	Flash	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	Yes	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Action Plan - 100

Pattern	Free	Override Sys	No
Timing Plan	0	Sequence	2
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Time Base Day Plan/Schedule
Day Plan (MM) 5-3**Day Plan #1**

Event	Action Plan	Start Time
1	99	00:00
2	100	05:15
3	99	23:00

Day Plan #2

Event	Action Plan	Start Time
1	99	00:00
2	100	06:00
3	99	23:00

Schedule (MM) 5-4



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Time Base Exceptions

Exception Day Program (MM) 5-5

Excep Day	Float/Fixed	Mon/Mon	DOW/DOM	WOM/Year	Day Plan
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MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Detectors**Detectors - Pg 1****Veh Det Phase Assignment (MM) 6-1****Vehicle Detector Plan Number - 1**

Veh Detector	Assigned Phase	Called Phase	Type
1	6		P
2	1		N
3	4		N
5	3		N
6	2		P
7	5		N
11	2		N
12	6		N

Vehicle Detector Plan Number - 2

Veh Detector	Assigned Phase	Called Phase	Type
1	1		P
2	2		N
3	3		N
4	4		N
5	5		N
6	6		P
7	7		N
8	8		N
9	9		N
10	10		N
11	11		N
12	12		N
13	13		N
14	14		N
15	15		N
16	16		N

Vehicle Detector Plan Number - 3

Veh Detector	Assigned Phase	Called Phase	Type
1	1		P
2	2		N
3	3		N
4	4		N
5	5		N
6	6		P
7	7		N

8	8		N
9	9		N
10	10		N
11	11		N
12	12		N
13	13		N
14	14		N
15	15		N
16	16		N

Vehicle Detector Plan Number - 4

Veh Detector	Assigned Phase	Called Phase	Type
1	1		P
2	2		N
3	3		N
4	4		N
5	5		N
6	6		P
7	7		N
8	8		N
9	9		N
10	10		N
11	11		N
12	12		N
13	13		N
14	14		N
15	15		N
16	16		N

Vehicle Detector Setup (MM) 6-2

Veh Detector	Type	TS2 Detector	Description
1	P-PASSAGE	Yes	
2	N-NTCIP	Yes	
3	N-NTCIP	Yes	
4	N-NTCIP	Yes	
5	N-NTCIP	Yes	
6	P-PASSAGE	Yes	
7	N-NTCIP	Yes	
8	N-NTCIP	Yes	
9	N-NTCIP	Yes	
10	N-NTCIP	Yes	
11	N-NTCIP	Yes	
12	N-NTCIP	Yes	
13	N-NTCIP	Yes	
14	N-NTCIP	Yes	
15	N-NTCIP	Yes	
16	N-NTCIP	Yes	
17	N-NTCIP	Yes	
18	N-NTCIP	Yes	
19	N-NTCIP	Yes	

20	N-NTCIP	Yes	
21	N-NTCIP	Yes	
22	N-NTCIP	Yes	
23	N-NTCIP	Yes	
24	N-NTCIP	Yes	
25	G-GREEN EXT	Yes	

Vehicle Detector Plan Number - 1

Veh Detector	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim. / Discon. Time	Use Added Initial	Cross Switch Ph	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	0	No	Yes	8.0	Passage	0.0	0	No	0	None	No	No	No
5	3	No	Yes	10.0	Passage	0.0	0	No	0	None	No	No	No
6	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

Vehicle Detector Plan Number - 2

Veh Detector	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim. / Discon. Time	Use Added Initial	Cross Switch Ph	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	9	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	10	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	11	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	12	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	13	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	14	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	15	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	16	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

Vehicle Detector Plan Number - 3

Veh Detector	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim. / Discon. Time	Use Added Initial	Cross Switch Ph	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	9	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	10	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	11	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	12	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	13	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	14	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	15	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	16	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

Vehicle Detector Plan Number - 4

Veh Detector	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim. / Discon. Time	Use Added Initial	Cross Switch Ph	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	9	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	10	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	11	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	12	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	13	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	14	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	15	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	16	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

Ped Detector Phase Assignment (MM) 6-3**Mode: NTCIP**

Called Phase	Detector
1	1

Called Phase	Detector
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16



MOVING TRAFFIC FORWARD

US 79 @ FM 973 - US 79 @ FM 973 - Econolite Type - ASC/3

Detectors**Detectors - Pg 2****Log - Speed Detector Setup (MM) 6-4**

NTCIP Log ECPI Log Length Unit:
 Period: 60 Period: 0 Inches

Speed Detector	Local Detector	One/Two Detector	Vehicle Length	Trap length	Enable Log
1	0	1	0	0	No
2	0	1	0	0	No
3	0	1	0	0	No
4	0	1	0	0	No
5	0	1	0	0	No
6	0	1	0	0	No
7	0	1	0	0	No
8	0	1	0	0	No
9	0	1	0	0	No
10	0	1	0	0	No
11	0	1	0	0	No
12	0	1	0	0	No
13	0	1	0	0	No
14	0	1	0	0	No
15	0	1	0	0	No
16	0	1	0	0	No

Vehicle Detector Diagnostics (MM) 6-5**Veh Diagnostic Plan Number - 1**

Det	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay
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Veh Diagnostic Plan Number - 2

Det	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay
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Veh Diagnostic Plan Number - 3

Det	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay
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Veh Diagnostic Plan Number - 4

Det	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay
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Pedestrian Detector Diagnostics (MM) 6-6**Ped Diagnostic Plan Number - 1**

Det	Counts	Act	Pres	Multiplier
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Ped Diagnostic Plan Number - 2

Det	Counts	Act	Pres	Multiplier
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Ped Diagnostic Plan Number - 3

Det	Counts	Act	Pres	Multiplier
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Ped Diagnostic Plan Number - 4

Det	Counts	Act	Pres	Multiplier
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Appendix H – Pass-By Trip Support

Vehicle Pass-By Rates by Land Use									
Source: ITE Trip Generation Manual , 11th Edition									
Land Use Code	821								
Land Use	Shopping Plaza (40 - 150k)								
Setting	General Urban/Suburban								
Time Period	Weekday PM Peak Period								
# Data Sites	15								
Average Pass-By Rate	40%								
	Pass-By Characteristics for Individual Sites								
GLA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
45	Florida	1992	844	56	24	20	44	—	30
50	Florida	1992	555	41	41	18	59	—	30
52	Florida	1995	665	42	33	25	58	—	30
53	Florida	1993	162	59	—	—	41	—	30
57.23	Kentucky	1993	247	31	53	16	69	2659	34
60	Florida	1995	1583	40	38	22	60	—	30
69.4	Kentucky	1993	109	25	42	33	75	1559	34
77	Florida	1992	365	46	—	—	54	—	30
78	Florida	1991	702	55	23	22	45	—	30
82	Florida	1992	336	34	—	—	66	—	30
92.857	Kentucky	1993	133	22	50	28	78	3555	34
100.888	Kentucky	1993	281	28	50	22	72	2111	34
121.54	Kentucky	1993	210	53	30	17	47	2636	34
144	New Jersey	1990	176	32	44	24	68	—	24
146.8	Kentucky	1993	—	36	39	25	64	—	34

Vehicle Pass-By Rates by Land Use									
Source: ITE Trip Generation Manual , 11th Edition									
Land Use Code	932								
Land Use	High-Turnover (Sit-Down) Restaurant								
Setting	General Urban/Suburban								
Time Period	Weekday PM Peak Period								
# Data Sites	12								
Average Pass-By Rate	43%								
	Pass-By Characteristics for Individual Sites								
GFA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
2.9	Kentucky	1993	41	37	27	36	63	3935	2
3.1	Kentucky	1993	21	38	29	33	62	2580	2
4.6	Florida	1992	276	63	—	—	37	—	30
5	Florida	1992	65	58	—	—	42	—	30
5.3	Kentucky	1993	24	50	37	13	50	1615	2
5.7	Florida	1994	308	57	—	—	43	—	30
5.8	Florida	1992	150	32	—	—	68	—	30
6.2	Florida	1995	521	46	43	11	54	—	30
7.1	Indiana	1993	—	23	23	54	77	1565	2
8	Florida	1995	664	40	39	21	60	—	30
11	Florida	1996	267	38	43	19	62	—	30
12	Florida	1996	317	29	51	20	71	—	30

Vehicle Pass-By Rates by Land Use									
Source: ITE Trip Generation Manual , 11th Edition									
Land Use Code	934								
Land Use	Fast-Food Restaurant with Drive-Through Window								
Setting	General Urban/Suburban								
Time Period	Weekday AM Peak Period								
# Data Sites	5								
Average Pass-By Rate	50%								
	Pass-By Characteristics for Individual Sites								
GFA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
1.4	Kentucky	1993	—	62	Primary (%)	Diverted (%)	Total (%)	1407	2
3	Kentucky	1993	—	43	14	43	57	2903	2
3.3	--	1996	—	68	—	—	32	—	21
3.6	Kentucky	1993	—	32	47	21	68	437	2
4.2	Indiana	1993	—	46	23	31	54	1049	2

Vehicle Pass-By Rates by Land Use									
Source: ITE Trip Generation Manual , 11th Edition									
Land Use Code	934								
Land Use	Fast-Food Restaurant with Drive-Through Window								
Setting	General Urban/Suburban								
Time Period	Weekday PM Peak Period								
# Data Sites	11								
Average Pass-By Rate	55%								
	Pass-By Characteristics for Individual Sites								
GFA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
1.3	Kentucky	1993	—	68	22	10	32	2055	2
1.9	Kentucky	1993	33	67	24	9	33	2447	2
2.8	Florida	1995	47	66	—	—	34	—	30
2.9	Florida	1996	271	41	41	18	59	—	30
3	Kentucky	1993	—	31	31	38	69	4250	2
3.1	Florida	1995	28	71	—	—	29	—	30
3.1	Florida	1996	29	38	—	—	62	—	30
3.2	Florida	1996	202	40	39	21	60	—	30
3.3	—	1996	—	62	—	—	38	—	21
4.2	Indiana	1993	—	56	25	19	44	1632	2
4.3	Florida	1994	304	62	—	—	38	—	30

Vehicle Pass-By Rates by Land Use										
Source: ITE Trip Generation Manual , 11th Edition										
Land Use Code	945									
Land Use	Convenience Store/Gas Station									
Setting	General Urban/Suburban									
Time Period	Weekday AM Peak Period									
# Data Sites	16 Sites with between 2 and 8 VFP					28 Sites with between 9 and 20 VFP				
Average Pass-By Rate	60% for Sites with between 2 and 8 VFP					76% for Sites with between 9 and 20 VFP				
Pass-By Characteristics for Individual Sites										
			Survey		Pass-By	Non-Pass-By Trips			Adj Street Peak	
GFA (000)	VFP	State or Province	Year	# Interviews	Trip (%)	Primary (%)	Diverted (%)	Total (%)	Hour Volume	Source
2	8	Maryland	1992	46	87	13	0	13	2235	25
2.1	6	Maryland	1992	26	58	23	19	42	2080	25
2.1	6	Maryland	1992	26	58	23	19	42	2080	25
2.2	8	Maryland	1992	31	47	34	19	53	1785	25
2.2	< 8	Indiana	1993	79	56	6	38	44	635	2
2.2	8	Maryland	1992	35	78	9	13	22	7080	25
2.3	6	Maryland	1992	37	32	41	27	68	2080	25
2.3	< 8	Kentucky	1993	58	64	5	31	36	1255	2
2.3	6	Maryland	1992	37	32	41	27	68	2080	25
2.4	< 8	Kentucky	1993	—	48	17	35	52	1210	2
2.6	< 8	Kentucky	1993	—	72	15	13	28	940	2
2.8	< 8	Kentucky	1993	—	54	11	35	46	1240	2
3	< 8	Indiana	1993	62	74	10	16	26	790	2
3.6	< 8	Kentucky	1993	49	67	4	29	33	1985	2
3.7	< 8	Kentucky	1993	49	66	16	18	34	990	2
4.694	12	Maryland	2000	—	72	—	—	28	2440	30
4.694	12	Maryland	2000	—	78	—	—	22	1561	30
4.694	12	Maryland	2000	—	79	—	—	21	2764	30
4.848	12	Virginia	2000	—	55	—	—	45	1398	30
5.06	12	Pennsylvania	2000	—	84	—	—	16	3219	30
5.242	12	Virginia	2000	—	74	—	—	26	1160	30
5.242	12	Virginia	2000	—	71	—	—	29	548	30
5.488	12	Delaware	2000	—	80	—	—	20	—	30
5.5	12	Pennsylvania	2000	—	85	—	—	15	2975	30
4.2	< 8	Kentucky	1993	47	62	19	19	38	1705	2
4.694	16	Maryland	2000	—	90	—	—	10	2278	30
4.694	16	Delaware	2000	—	74	—	—	26	2185	30
4.694	16	Delaware	2000	—	58	—	—	42	962	30
4.694	16	Delaware	2000	—	84	—	—	16	2956	30
4.694	16	New Jersey	2000	—	79	—	—	21	1859	30
4.694	20	Delaware	2000	—	84	—	—	16	3864	30
4.848	16	Virginia	2000	—	68	—	—	32	2106	30
4.848	16	Virginia	2000	—	85	—	—	15	2676	30
4.848	16	Virginia	2000	—	75	—	—	25	3244	30
4.848	16	Virginia	2000	—	71	—	—	29	1663	30
4.993	16	Pennsylvania	2000	—	75	—	—	25	1991	30
5.094	16	New Jersey	2000	—	86	—	—	14	1260	30
5.5	16	Pennsylvania	2000	—	82	—	—	18	1570	30
5.543	16	Pennsylvania	2000	—	84	—	—	16	1933	30
5.565	16	Pennsylvania	2000	—	77	—	—	23	2262	30
5.565	16	Pennsylvania	2000	—	68	—	—	32	2854	30
5.565	16	New Jersey	2000	—	58	—	—	42	1253	30
5.565	16	New Jersey	2000	—	79	—	—	21	1928	30
5.565	16	New Jersey	2000	---	84	---	---	16	1953	30

Vehicle Pass-By Rates by Land Use										
Source: ITE Trip Generation Manual, 11th Edition										
Land Use Code	945									
Land Use	Convenience Store/Gas Station									
Setting	General Urban/Suburban									
Time Period	Weekday PM Peak Period									
# Data Sites	12 Sites with between 2 and 8 VFP					28 Sites with between 9 and 20 VFP				
Average Pass-By Rate	56% for Sites with between 2 and 8 VFP					75% for Sites with between 9 and 20 VFP				
Pass-By Characteristics for Individual Sites										
						Non-Pass-By Trips			Adj Street Peak	
GFA (000)	VFP	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Primary (%)	Diverted (%)	Total (%)	Hour Volume	Source
2.1	8	Maryland	1992	31	52	13	35	48	1785	25
2.1	6	Maryland	1992	30	53	20	27	47	1060	25
2.2	< 8	Indiana	1993	115	48	16	36	52	820	2
2.3	< 8	Kentucky	1993	67	57	16	27	43	1954	2
2.3	6	Maryland	1992	55	40	11	49	60	2760	25
2.4	< 8	Kentucky	1993	—	58	13	29	42	2655	2
2.6	< 8	Kentucky	1993	68	67	15	18	33	950	2
2.8	< 8	Kentucky	1993	—	62	11	27	38	2875	2
3	< 8	Indiana	1993	80	65	15	20	35	1165	2
3.6	< 8	Kentucky	1993	60	56	17	27	44	2505	2
3.7	< 8	Kentucky	1993	70	61	16	23	39	2175	2
4.2	< 8	Kentucky	1993	61	58	26	16	42	2300	2
4.694	12	Maryland	2000	—	78	—	—	22	3549	30
4.694	12	Maryland	2000	—	67	—	—	33	2272	30
4.694	12	Maryland	2000	—	66	—	—	34	3514	30
4.848	12	Virginia	2000	—	71	—	—	29	2350	30
5.06	12	Pennsylvania	2000	—	91	—	—	9	4181	30
5.242	12	Virginia	2000	—	70	—	—	30	2445	30
5.242	12	Virginia	2000	—	56	—	—	44	950	30
5.488	12	Delaware	2000	—	73	—	—	27	—	30
5.5	12	Pennsylvania	2000	—	84	—	—	16	4025	30
4.694	16	Maryland	2000	—	89	—	—	11	2755	30
4.694	16	Delaware	2000	—	73	—	—	27	1858	30
4.694	16	Delaware	2000	—	59	—	—	41	1344	30
4.694	16	Delaware	2000	—	72	—	—	28	3434	30
4.694	16	New Jersey	2000	—	81	—	—	19	1734	30
4.694	20	Delaware	2000	—	76	—	—	24	1616	30
4.848	16	Virginia	2000	—	67	—	—	33	2,954	30
4.848	16	Virginia	2000	—	78	—	—	22	3086	30
4.848	16	Virginia	2000	—	83	—	—	17	4143	30
4.848	16	Virginia	2000	—	73	—	—	27	2534	30
4.993	16	Pennsylvania	2000	—	72	—	—	28	2917	30
5.094	16	New Jersey	2000	—	86	—	—	14	1730	30
5.5	16	Pennsylvania	2000	—	90	—	—	10	2616	30
5.543	16	Pennsylvania	2000	—	87	—	—	13	2363	30
5.565	16	Pennsylvania	2000	—	81	—	—	19	2770	30
5.565	16	Pennsylvania	2000	—	76	—	—	24	3362	30
5.565	16	New Jersey	2000	—	61	—	—	39	1713	30
5.565	16	New Jersey	2000	—	86	—	—	14	1721	30
5.565	16	New Jersey	2000	---	81	---	---	19	2227	30

City of Taylor
PZ-2024-2212
Zoning Amendment
Staff Report

Item Details

Subject Property:	1120 W. Lake Drive
Total Acreage:	Approximately 1.240 acres
Legal Description:	Approximately 1.240 acres of land generally located at 1120 W. Lake Drive, more particularly described by the Williamson Central Appraisal District Parcel R017151, Murphy Addition, Hague Heights, Block 1, Lot 8-13, Taylor, Williamson County, Texas
Applicant:	Jonathan Downs, Smart Nest LLC
Property Owner(s):	Gabriel Neas
Request:	A request to rezone from the existing Place Type P2.5 – Large Lot to Place Type P3 – Neighborhood
Case History:	This is the first hearing of this request.

Overview of Applicant's Request & Background

The subject property currently consists of a single-family home located at the northeast corner of North Drive and W. Lake Drive. The subject property is shown to be developed as one parcel but is platted as six individual lots that have all come under one ownership. The Hague Heights Addition (1915) shows how the subject property and surrounding properties in the addition were intended to develop in a denser configuration. The applicant is requesting a Place Type change to Place Type P3 – Neighborhood to develop the remaining five lots as platted.

Location:

The subject property is a corner lot located at 1120 W. Lake Drive at the northeast corner of North Drive and West Lake Drive. The subject property is bounded by W. Lake Drive to the South, North Drive to the West, and Fisher Street to the North.

Physical and Natural Features:

The subject property consists of the six lots combined into a 1.240-acre parcel. The subject property consists of one single family home, additions of garage space and an inground pool surrounded by dense foliage all throughout the parcel.

Growth Sector Designations:

The subject property is located within Infill Growth Sector (G-5). The Infill Growth Sector is made up of areas that are already developed and served by infrastructure. They are also intended

for higher intensity uses than are currently in place (Envision Taylor Comprehensive Plan page 50).

Future Land Use and Zoning Designations:

The subject property is assigned the Future Land Use designation of Market Center – Neighborhood. The Market Centers are mixed-use areas anchored by a retail destination where surrounding residents go to get daily goods and services. As with all centers, Market Centers are envisioned as mixed-use and walkable places. Neighborhood, Community, and Regional Market Centers differ by the scale of the development but not in the types of uses or the walkable nature.

The subject property is currently zoned Place Type P2.5 – Large Lot. The P2.5 Large Lot Place Type includes properties that are one (1) acre or greater. Generally, the lots contain one (1) or more structures with large setbacks from the street. Properties may be entirely fenced but can be seen from the street edge. Generally, the properties are residential in nature. The proposed P3 Place Type does not have an area minimum and permits Detached and Attached Dwellings, Cottage Courts, Duplexes, Accessory Dwelling Units, Residential Accessories, and Civic Buildings.

The surrounding properties are:

Direction	Zoning District	Growth Sector	Future Land Use	Existing Land Use
North	P3 Neighborhood	Infill Neighborhood Sector (G-4)	Neighborhood Infill	Single Family Home
South	P3 Neighborhood	Infill Neighborhood Sector (G-4)	Neighborhood Infill	Single Family Home
East	P2.5 Large Lot	Infill Growth Sector (G-5)	Market: Neighborhood	Single Family Home
West	P2.5 Large Lot	Infill Growth Sector (G-5)	Market: Neighborhood	Single Family Home

Transportation

The subject property gains access off North Drive for the existing home (lot 10). Lots 8 and 9 will also take access off W. Lake Drive and Lots 11, 12, and 13 will have access off Fisher Street. W. Lake Drive is identified as a Community Boulevard and North Drive is identified as a Neighborhood Avenue. Community Boulevards connect neighborhoods with the surrounding community and are typically low-speed, moderate volume streets. Community Boulevards are primary routes connecting major areas of the city and they are typically moderate-speed, high-volume streets. Turning movements should be limited on Community Boulevards when possible.

Utilities

The subject property is located within the City of Taylor water and wastewater CCN. There are adequate water lines bounding the subject property (8-inch – 12-inch lines). There is a 6-inch wastewater line on W. Lake Drive and North Drive.

Public Notification

As required by the Local Government Code and the City of Taylor Code of Ordinances, all property owners within a 200-foot radius of the subject property were notified of the zoning map amendment request. Twenty-one (21) notices were mailed to the property owners and a legal notice advertising the public hearing was placed in the Taylor Press on Sunday, July 28, 2024.

Staff Analysis

The requested zoning map amendment to Place Type P2.5 – Large Lot to Place Type P3 - Neighborhood aims to provide housing that would be like the existing housing in the surrounding neighborhood. Upon analyzing the request, the proposed rezoning is consistent with the surrounding zoning of neighborhood homes to the north and south immediately adjacent to the subject property. The plat from 1915 depicts a total of six lots (8, 9, 10, 11, 12, and 13) that were merged into one parcel. The request is to activate the acreage as it was intended and previously platted to create further density in the area. A change of Place Type is required as the individual lots will be less than the area minimum (1 acre) required in the existing P2.5 Place Type. P3 aligns more accurately with the configuration of the platted lots from the 1915 Hague Heights Addition.

- **LU9** – Promote development patterns that maximize the use of existing infrastructure and land before expanding infrastructure to underdeveloped areas.
 - The proposed development on the subject property an existing lot as a neighborhood infill redevelopment with existing utilities.

Staff Recommendation

For the reasons stated in the staff analysis, staff recommends approval of the requested rezoning.

Planning and Zoning Commission Recommendation

The Planning and Zoning Commission is charged with reviewing all requests for rezonings and recommends to City Council either in favor of or opposition to each request. In determining a recommendation on a rezoning request, the Planning and Zoning Commission members consider the following factors:

Is the rezoning consistent with the Comprehensive Plan?

- The rezoning request is partially consistent with the Comprehensive Plan. It seeks to provide an increase in density and housing to the large lot but the P3 – Neighborhood Place Type will not activate

Is the rezoning compatible with the surrounding area?

- The rezoning is compatible with other adjacent properties as they are primarily P3 – Neighborhood Place Type which is to the north and south of the subject property.

Does the rezoning promote the public health, safety, or general welfare?

- Staff analysis determined that the rezoning of the subject property will promote public health, safety, and the general welfare. In addition, the Planning Principles and Policy Guide in the Comprehensive Plan aim to promote health, safety, and general welfare by managing growth, while promoting safe and orderly development.

Is adequate infrastructure available or planned to meet the needs of the proposed land use?

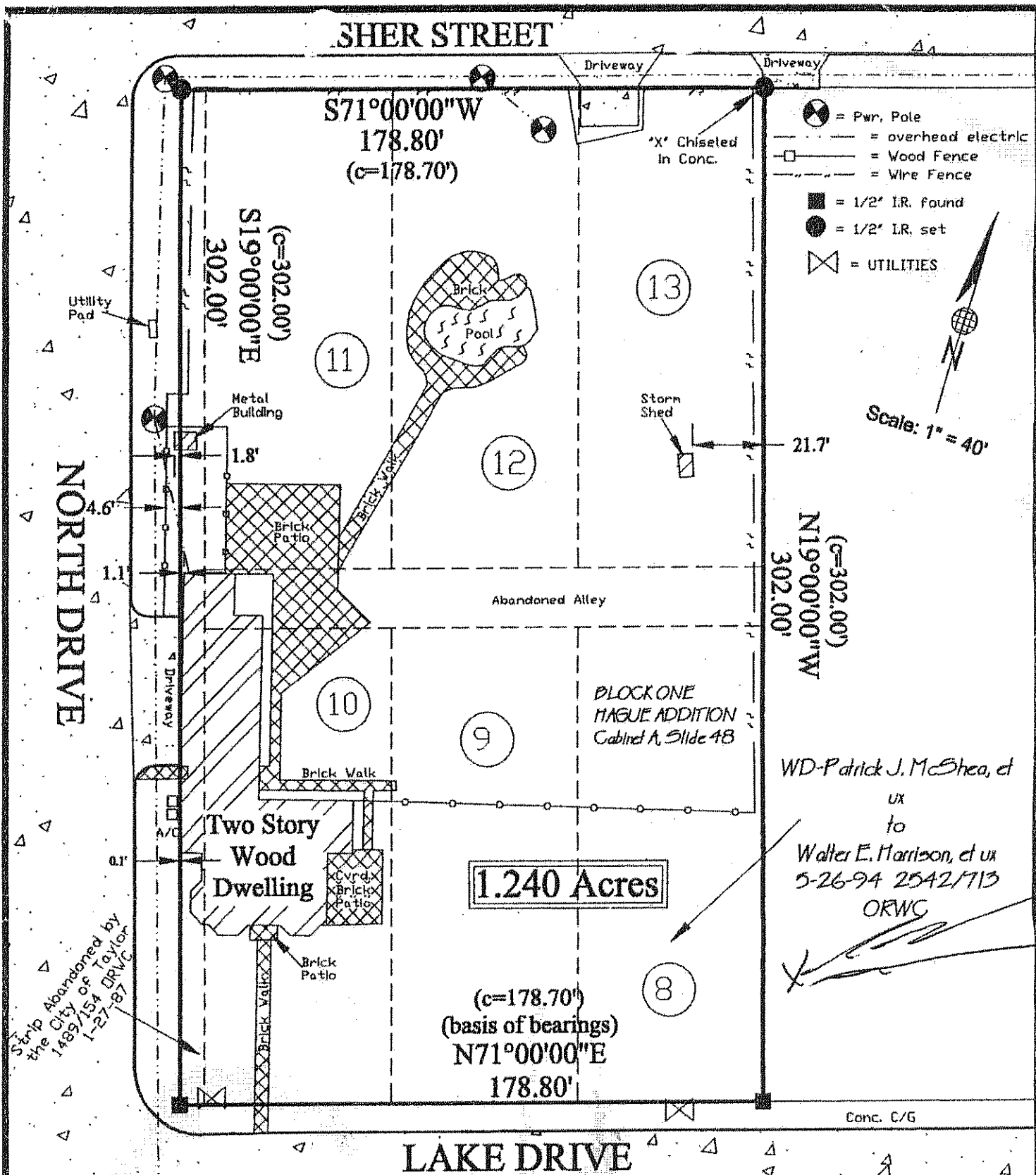
- There are existing public utilities adequate for infill development.

Do current conditions indicate that a rezoning is necessary?

- To proceed with development as platted in the Hague Heights Addition the request to rezone to P3 is necessary to meet minimum area requirements. Currently, P2.5 – Large Lot requires a minimum of one acre. The individual lots as platted will all be less than an acre and thus a rezoning is required.

Attachments:

1. Survey from Applicant
2. Hague Heights Addition Plat circa 1915
3. Location Map
4. Existing Zoning Map
5. Proposed Zoning Map
6. Growth Sectors Map
7. Future Land Use Map
8. Notification Map
9. Citizen Responses
10. Draft Ordinance
 - a. Exhibit A – Survey
 - b. Exhibit B – Proposed Zoning Map



This is to certify that, on this date, a true and accurate survey was made on the ground under my supervision of property located at No. 1120 Lake Drive in Williamson County, Texas, described as follows: Lots 8, 9, 10, 11, 12 and 13, Block 1, Hague Heights, according to the map or plat thereof recorded in Cabinet A, Slide 48, of the Plat Records of Williamson County, Texas, and those certain tracts of land abandoned by City of Taylor as conveyed in Deed recorded in Volume 1489, Page 157, Official Records Williamson County, Texas.

FLOOD NOTE: The property depicted hereon is / is not within a Special Flood Hazard Area as determined by the Federal Emergency Management Agency, the flood area being identified on F. I. R. M. Panel No. 48491 C0266 C effective 9-27-91 located in Zone "X".	BRYAN TECHNICAL SERVICES, INC. P. O. BOX 1371 TAYLOR, TEXAS 76574 512-365-2524 512-365-2526 (Fax) bbryan@ccai.com	NOTE: This tract is subject to easements, covenants, conditions, restrictions and right to create additional public utility easements across subject property as shown on foregoing plat.
--	--	---

	To: First American Title Insurance Company of Texas Re: Harrison, G.F.# 03010296, Proj. No. 01-752 SURVYOR'S CERTIFICATE The plat shown hereon is a true, correct and accurate representation of the property as determined by survey, the lines and dimensions of said property being as indicated by the plat; the size, location and type of buildings are as shown, all improvements being within the boundaries of the property, set back from the property lines the distances indicated. There are no encroachments, conflicts or protrusions, except as shown hereon, and said property has access to and from a dedicated roadway. DATE: December 28, 2001
--	--

State of Texas,

County of Williamson.

Know All Men By These Presents:-

That we, Annie Hague and Ed. R. Hague, husband and wife of Williamson County, Texas, do hereby certify that the above and foregoing map is a true and correct map of an addition made by us to the City of Taylor, Texas, in above said county, to be known as "Hague Heights" consisting of Blocks Numbered 1 and 2, and each Block consisting of 20 lots, numbered consecutively from 1 to 20, and all sales of said lots will be made with reference to said map.

In witness whereof we have hereto set our hands this the 30th day of March A.D. 1915.

Annie N. Hague,

Ed R Hague.

State of Texas,

County of Williamson.

Before me, Fred I Fisher, a Notary

Public in and for Williamson County,

Texas, on this day personally appeared Ed R Hague and Annie Hague, wife of said Ed R Hague known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they executed the same for the purposes and consideration therein expressed. And the said Annie Hague wife of the said Ed R Hague, having been examined by me privily and apart from her husband, and having the same fully explained to her she the said Annie Hague acknowledged such instrument to be her act and deed, and declared that she had willingly signed the same for the purposes and consideration therein expressed, and that she did not wish to retract it.

Given under my hand and seal of office, this 30th day of March A. D. 1915.

(L.S.)
623.

Fred I Fisher, Notary Public, in and for

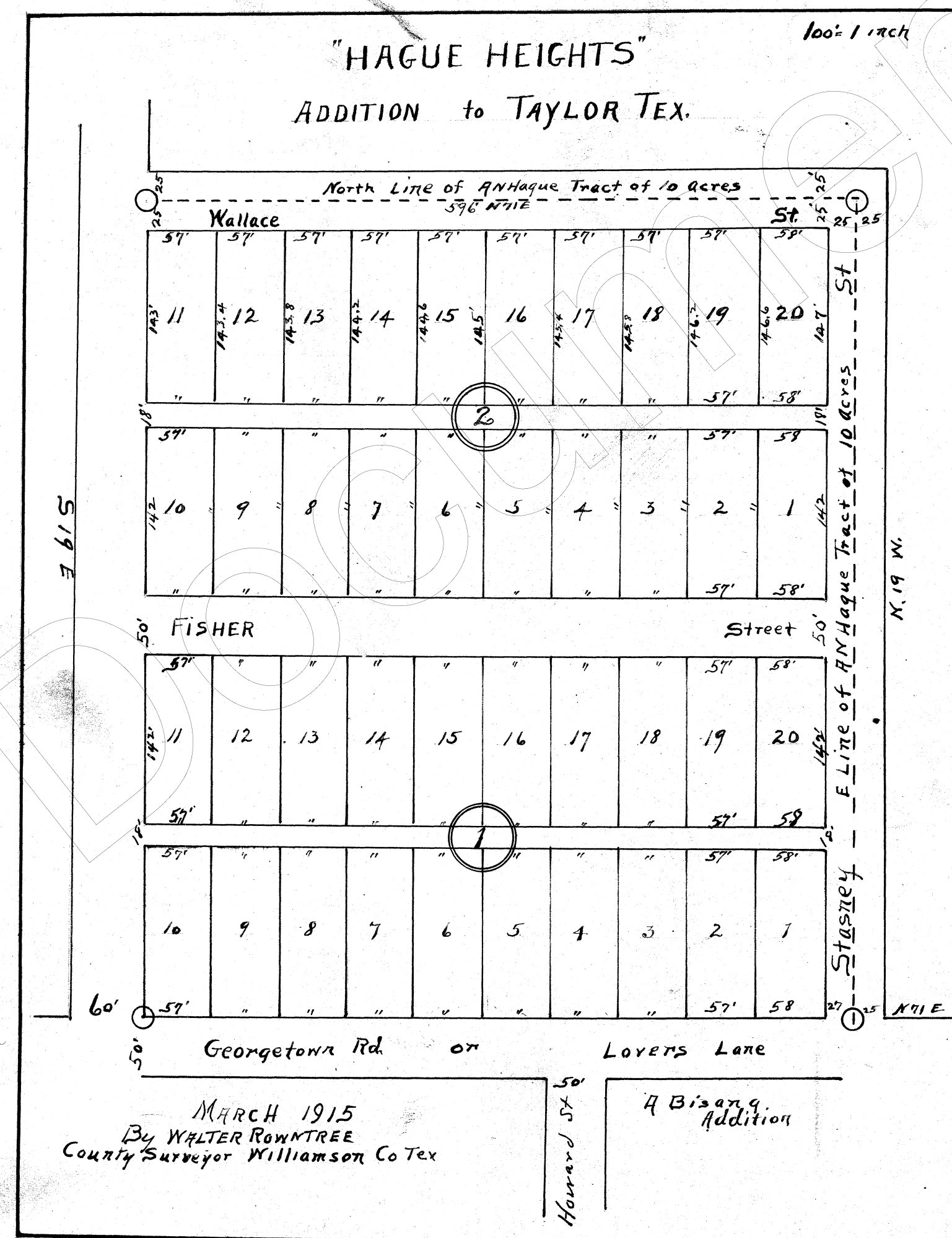
Williamson County, Texas.

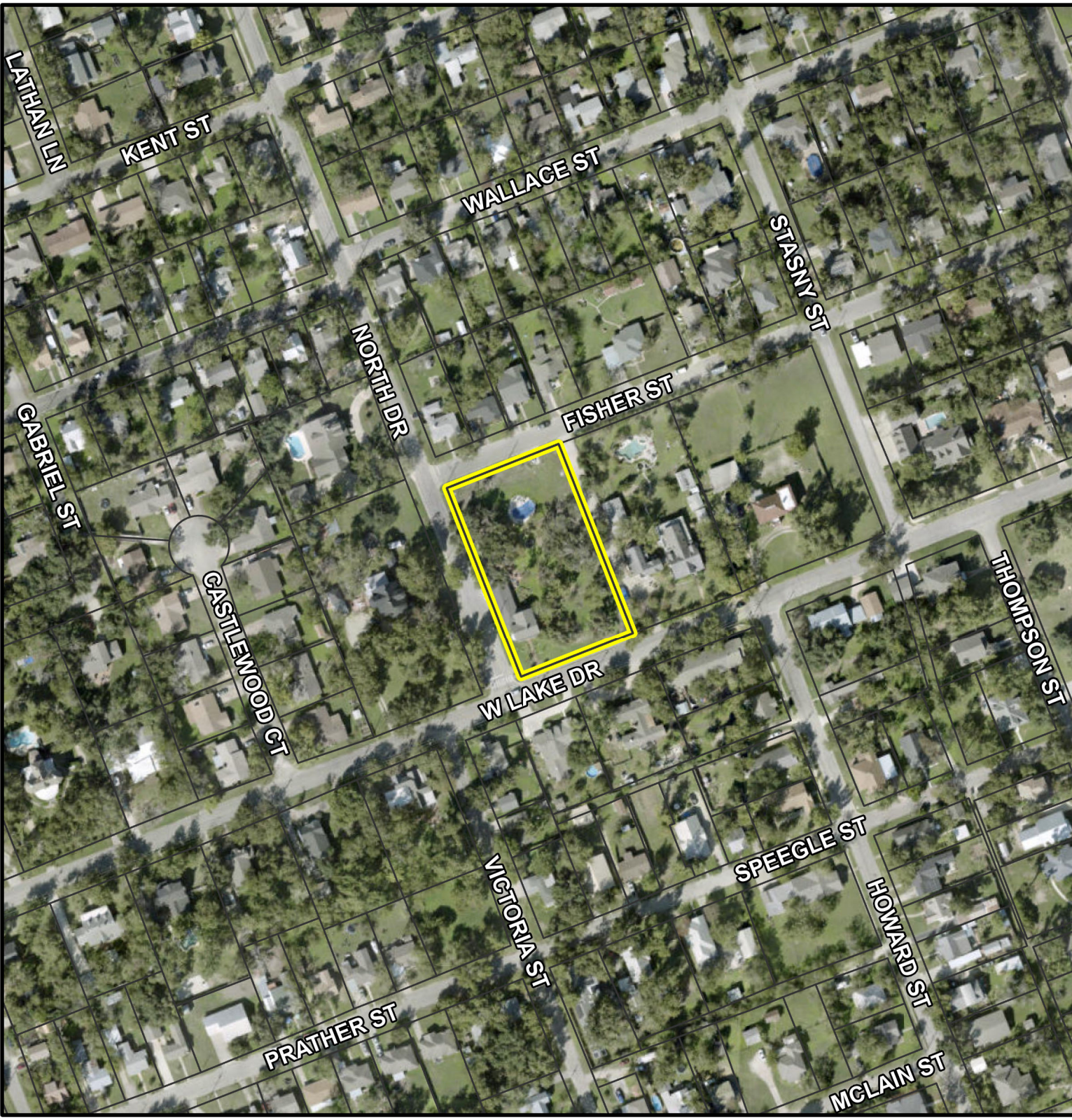
Filed for Record April 1st, 1915, at 8 o'clock A. M.

Recorded April 1st, 1915, at 9:30 o'clock A. M.

County Clerk, Williamson County, Texas.

By _____ Dept.

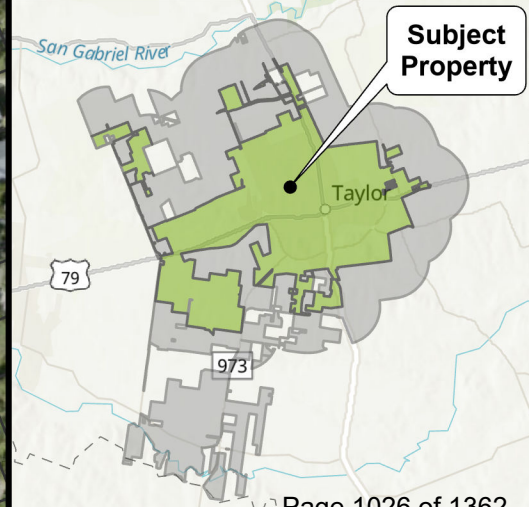




PZ-2024-2212

1120 W Lake Drive
Rezoning
Location Map
Approximately 1.24 acres

-  City Limits
-  Subject Property
-  Parcels

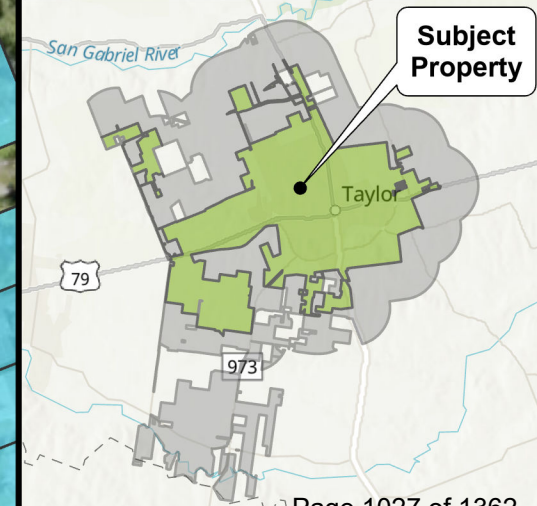




PZ-2024-2212

1120 W Lake Drive
Rezoning
Current Zoning Map
Approximately 39 acres

-  City Limits
-  Subject Property
-  Parcels
- Place Type Zoning**
 -  P2.5: Large Lot
 -  P3: Neighborhood

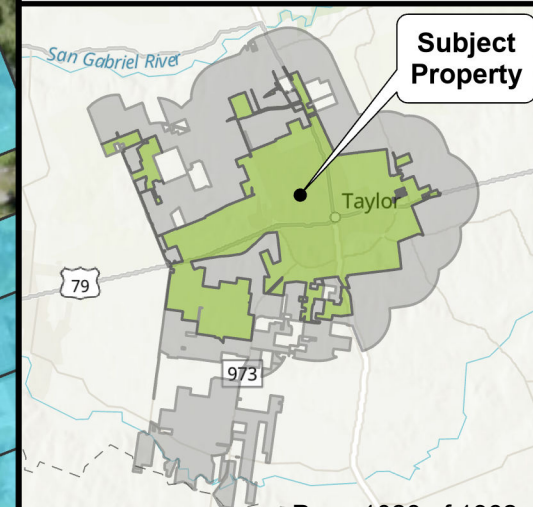




PZ-2024-2212

**1120 W Lake Drive
Rezoning
Proposed Zoning Map
Approximately 1.24 acres**

-  City Limits
-  Subject Property
-  Parcels
- Place Type Zoning**
 -  P2.5: Large Lot
 -  P3: Neighborhood





PZ-2024-2212

**1120 W Lake Drive
Rezoning
Growth Sector Map
Approximately 1.24 acres**

 City Limits

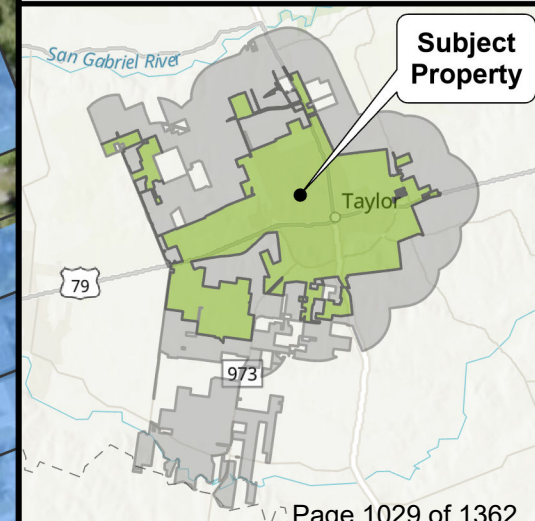
 Subject Property

 Parcels

Growth Sector

 Infill Neighborhood Sector (G-4)

 Infill Growth Sector (G-5)

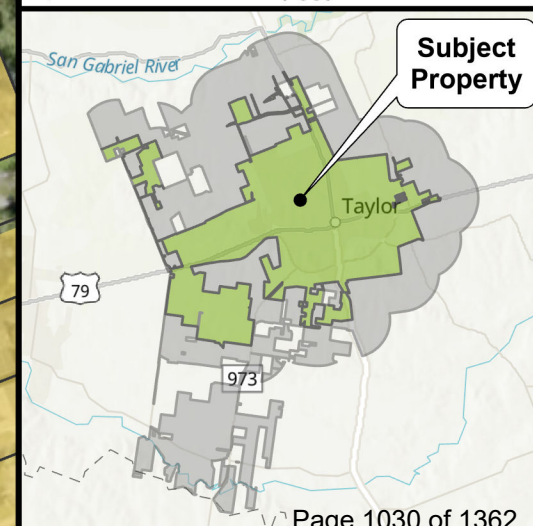




PZ-2024-2212

1120 W Lake Drive
Rezoning
Future Land Use Map
Approximately 1.24 acres

-  City Limits
-  Subject Property
-  Parcels
- Future Land Use**
 -  Neighborhood Infill
 -  Market: Neighborhood

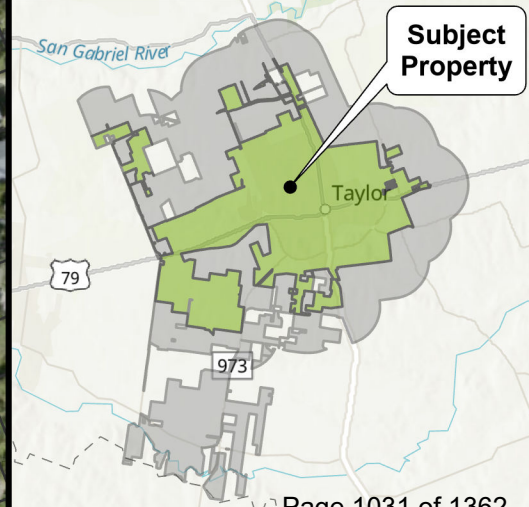




PZ-2024-2212

1120 W Lake Drive
Rezoning
Notification Map
Approximately 1.24 acres

- City Limits
- Subject Property
- 200-ft. Buffer
- Notified Properties
- Parcels



Zoning amendment Case PZ - 2024 - 2212

Ricky McDaniel <r.s.m.1040@gmail.com>

Mon 8/5/2024 4:04 PM

To:Planning <planning@taylortx.gov>

Caution! This message was sent from outside your organization.

As a resident of the adjacent property I do not approve the desired amendment and will be in attendance to express my concerns August 13 ,

Regards:

Jo Ann Jensen.

ORDINANCE NO. 2024-38

AN ORDINANCE CHANGING THE PLACE TYPE ZONING FROM P2.5 – LARGE LOT TO P3 – NEIGHBORHOOD ON PROPERTY GENERALLY LOCATED AT 1120 W. LAKE DRIVE, LEGALLY DESCRIBED AS HAGUE HEIGHTS ADDITION, BLOCK ONE, LOTS EIGHT THROUGH THIRTEEN, CONSISTING OF APPROXIMATELY 1.24 ACRES OF LAND, MORE PARTICULARLY DESCRIBED BY THE WILLIAMSON CENTRAL APPRAISAL DISTRICT PARCEL R017151, TAYLOR, WILLIAMSON COUNTY, TEXAS, AMENDING THE OFFICIAL ZONING MAP OF THE CITY OF TAYLOR, TEXAS, TO SHOW THE SPECIAL USE PERMIT APPROVED HEREIN; PROVIDING A SAVINGS CLAUSE.

WHEREAS, the Taylor City Council, after proper notice, conducted a public hearing on August 22, 2024, to consider the request made by the applicant, whose property is legally described in Exhibit “A” attached hereto and incorporated by reference herein for all purposes (“Properties”), to change the Place Type zoning from P2.5 – Large Lot to P3 – Neighborhood; and

WHEREAS, the Planning and Zoning Commission, after proper notice, conducted a public hearing on August 13, 2024, to consider the Place Type change request, and recommended the change to the City Council; and

WHEREAS, the City Council, after the public hearing, approves the request for the Place Type change.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF TAYLOR, TEXAS, that:

SECTION 1. The facts and recitations contained in the preamble of this Ordinance are hereby declared to be true and correct and are incorporated by reference herein and made a part hereof, as if copied verbatim.

SECTION 2. The Properties described in Exhibit “A” is changed from P2.5 – Large Lot to P3 – Neighborhood

SECTION 3. The Official Zoning map of the City of Taylor, Texas, is changed to show the Properties zoning district change from P2.5 – Large Lot to P3 – Neighborhood as shown in Exhibit “B” attached hereto and incorporated herein for all purposes.

SECTION 4. All other terms and conditions contained in the official zoning map, except as amended herein, shall continue and remain in full force and effect.

SECTION 5. Should any section, paragraph, clause, phrase, or provision of this Ordinance be adjudged invalid or held unconstitutional, the same shall not affect the validity of this Ordinance as a whole or any part of the provisions thereof, other than the part so decided to be invalid or unconstitutional.

SECTION 6. In accordance with Article VIII of the City Charter, Ordinance 2024-28 was introduced before the Taylor City Council on the 22th day of August, 2024.

PASSED, APPROVED, and ADOPTED on the _____ day of _____, 2024.

Brandt Rydell, Mayor

ATTEST:

Dianna McLean, City Clerk

APPROVED AS TO FORM:

Mark Schroeder,
City Attorney

CERTIFICATE

THE STATE OF TEXAS

COUNTY OF WILLIAMSON

I, Dianna McLean, being the current City Clerk of the City of Taylor, Texas, do hereby certify that the attached is a true and correct copy of Ordinance No. 2024-38, passed and approved by the City Council of the City of Taylor, Texas, on the _____ day of _____ 2024, and such Ordinance was duly introduced, passed, approved and adopted at meetings open to the public and notices of the meetings, giving the dates, places, and subject matter thereof, were posted as prescribed by Government Code Section 551.043.

Witness my hand and seal of office this _____ day of _____ 2024.

Dianna McLean
City Clerk

EXHIBIT A
(Metes & Bounds/Legal Description/Survey)

SHER STREET

S71°00'00"W
178.80'
(c=178.70')

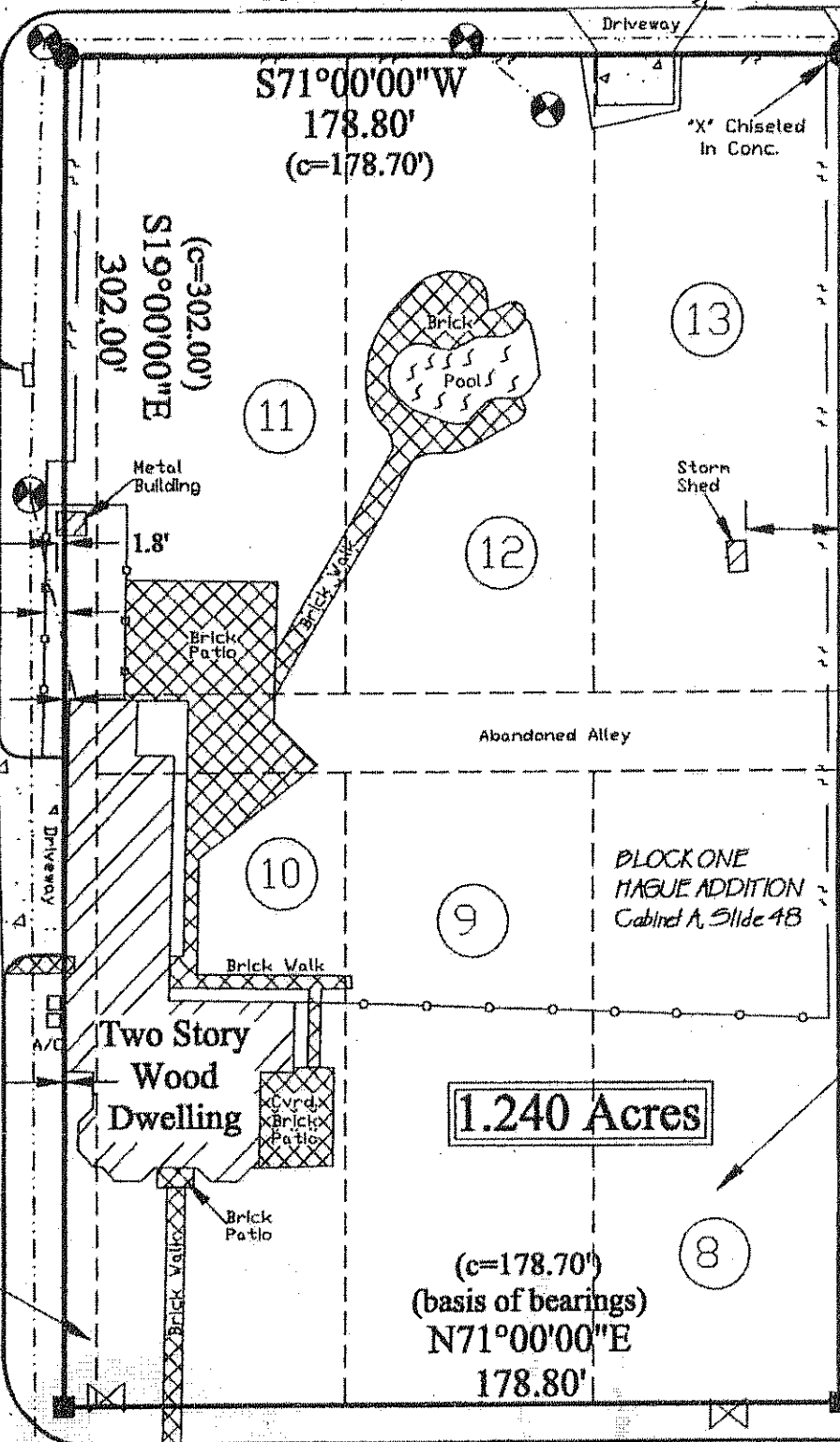
S19°00'00"E
(c=302.00')
302.00'

NORTH DRIVE

- ⊗ = Pwr. Pole
- = overhead electric
- = Wood Fence
- = Wire Fence
- = 1/2" I.R. found
- = 1/2" I.R. set
- ⊗ = UTILITIES

Scale: 1" = 40'

Strip Abandoned by
the City of Taylor
1-27-87
1489/154 DRWG



(c=302.00')
N19°00'00"W
302.00'

Block ONE
HAGUE ADDITION
Cabinet A, Slide 48

1.240 Acres

(c=178.70')
(basis of bearings)
N71°00'00"E
178.80'

WD-Patrick J. McShea, et
ux
to
Walter E. Harrison, et ux
5-26-94 2542/713
ORWC

Conc. C/G

LAKE DRIVE

This is to certify that, on this date, a true and accurate survey was made on the ground under my supervision of property located at No. 1120 Lake Drive in Williamson County, Texas, described as follows: Lots 8, 9, 10, 11, 12 and 13, Block 1, Hague Heights, according to the map or plat thereof recorded in Cabinet A, Slide 48, of the Plat Records of Williamson County, Texas, and those certain tracts of land abandoned by City of Taylor as conveyed in Deed recorded in Volume 1489, Page 157, Official Records Williamson County, Texas.

FLOOD NOTE:

The property depicted hereon is / is not within a Special Flood Hazard Area as determined by the Federal Emergency Management Agency, the flood area being identified on F. I. R. M. Panel No. 48491 C0266 C effective 9-27-91 located in Zone "X".

BRYAN TECHNICAL SERVICES, INC.
P. O. BOX 1371
TAYLOR, TEXAS 76574
512-365-2524
512-365-2526 (Fax)
bbryan@ccai.com

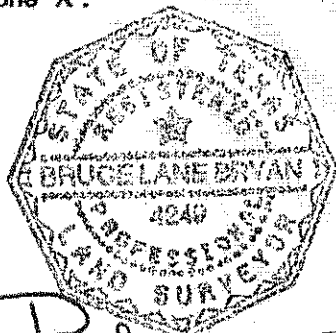
NOTE: This tract is subject to easements, covenants, conditions, restrictions and right to create additional public utility easements across subject property as shown on foregoing plat.

To: First American Title Insurance Company of Texas
Re: Harrison, G.F.# 03010296, Proj. No. 01-752

SURVYOR'S CERTIFICATE

The plat shown hereon is a true, correct and accurate representation of the property as determined by survey, the lines and dimensions of said property being as indicated by the plat; the size, location and type of buildings are as shown, all improvements being within the boundaries of the property, set back from the property lines the distances indicated. There are no encroachments, conflicts or protrusions, except as shown hereon, and said property has access to and from a dedicated roadway.

DATE: December 28, 2001

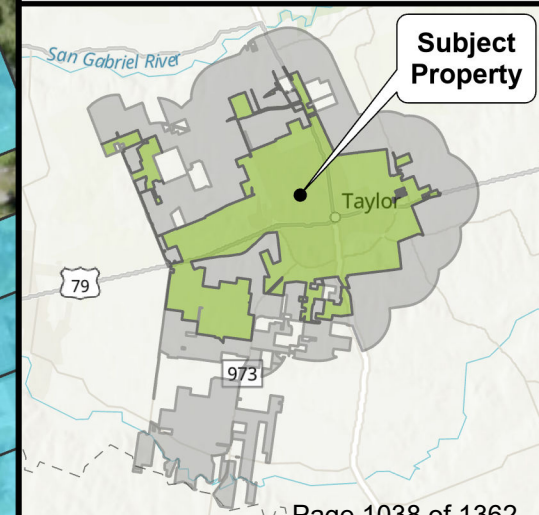




PZ-2024-2212

**1120 W Lake Drive
Rezoning
Proposed Zoning Map
Approximately 1.24 acres**

-  City Limits
-  Subject Property
-  Parcels
- Place Type Zoning**
 -  P2.5: Large Lot
 -  P3: Neighborhood



City of Taylor
PZ-2024-2213
Special Use Permit
Staff Report

Item Details

Subject Property:	520 W. 10 th Street
Total Acreage:	Approximately 0.37 acres
Legal Description:	Approximately 0.37 acres of land generally located at 520 W 10 th Street, Murphy Addition, Block 7, Lot 1, and 2(S/PT), more particularly described by the Williamson Central Appraisal District Parcel R017961, Taylor, Williamson County, Texas.
Property Owner:	Jared West
Request:	A request to obtain a Special Use Permit to use the property as lodging (short-term rental) without a full time, on-site operator.
Case History:	This is the first hearing of this request.

Overview of Applicant's Request & Background

The subject property is a one-story single-family home located at the northeast corner of Davis Street and W. 10th Street. The applicant is requesting a Special Use Permit to allow lodging (short-term rental) without a full-time, on-site operator. The Land Development Code (LDC) allows for lodging (short-term rental) by right if there is a full time, on-site operator and requires a Special Use Permit if there is no full time, on-site operator in Place Type P3- Neighborhood (Section 5.2.2.1 (1) (c)).

Location:

The subject property is located at 520 W. 10th Street at the northeast corner of Davis Street and West 10th Street.

Physical and Natural Features:

The subject property consists of a 0.37-acre corner lot with a single-family home, detached garage and a shed, in an established traditional neighborhood of single-family homes.

Growth Sector Designations:

The subject property is located within the Infill Neighborhood Sector (G-4). The Infill Neighborhood Sector consists of areas within the city that are already developed and served by infrastructure. Infill development is encouraged to generally match the character of the existing development while allowing for incremental increases in density.

Future Land Use and Zoning Designations:

The subject property is assigned the Future Land Use designation of Neighborhood Infill. Neighborhood Infill represents existing developed areas in Taylor that have access to existing streets and utility infrastructure. Infill development is anticipated to fill in vacant and underutilized lots within the City of Taylor. These areas are anticipated to accommodate a slight increase in density with the inclusion of accessory dwelling units and missing middle housing such as smaller lots, townhomes, and additional corner units. In addition to housing infill neighborhoods accommodate smaller neighborhood-oriented retail and services.

The subject property is currently zoned Place Type P3 - Neighborhood which allows lodging (short-term rental) by right if there is a full time, on-site operator and requires a Special Use Permit if there is no full time, on-site operator (section 5.2.2.1 (1) (c)). This district generally includes low-density residential areas.

The surrounding properties are:

Direction	Zoning District	Growth Sector	Future Land Use	Existing Land Use
North	P3 Neighborhood	Infill Neighborhood Sector (G-4)	Neighborhood Infill	Single Family Home
South	P3	Infill Neighborhood Sector (G-4)	Neighborhood Infill	Single Family Home
East	P3	Infill Neighborhood Sector (G-4)	Neighborhood Infill	Single Family Home
West	P3	Infill Neighborhood Sector (G-4)	Neighborhood Infill	Single Family Home

Transportation

The subject property gains access off Sycamore Street on the west lot line and fronts W. 10th Street.

Utilities

The subject property is located within the City of Taylor water and wastewater CCN. There is a 6-inch water line located on 10th Street and an 8-inch water line located on Davis Street. There is a 6-inch wastewater line located on 10th Street and on Davis Street.

Public Notification

As required by the Local Government Code and the City of Taylor Code of Ordinances, all property owners within a 200-foot radius of the subject property were notified of the zoning map amendment request. Twenty-nine (29) notices were mailed to the property owners and a legal notice advertising the public hearing was placed in the Taylor Press on Sunday, July 28, 2024.

Staff Analysis

The request for a Special Use Permit aims to allow the owner to use the property as a short-term rental without a full-time, on-site operator.

The applicant has experience managing a short-term rental without a full-time operator in other cities in Texas. The applicant is available to tenants 24/7 and screens potential tenants before renting the properties. The applicant has stated that exterior cameras and alarms will be provided on site.

The proposed short-term rental of this property by this applicant will need to comply with all performance and compatibility standards of Section 5.9 of the LDC.

Previous Special Use Permits for short term rentals without a full- time on- site operator in similar locations within a residential neighborhood have been approved with a 3-year time limit. This time limit was to allow an opportunity for any potential nuisances to be reviewed as part of the renewal of a Special Use Permit.

Staff Recommendation

For the reasons stated in the staff analysis, staff recommends approval of the requested Special Use Permit.

Planning and Zoning Commission Recommendation

The Planning and Zoning Commission is charged with reviewing all requests for rezonings and recommends to City Council either in favor of or opposition to each request. In determining a recommendation on a rezoning request, the Planning and Zoning Commission members consider the following factors:

Is the Special Use Permit consistent with the Comprehensive Plan?

- The Special Use Permit request is consistent with the Comprehensive Plan.

Is the Special Use Permit compatible with the surrounding area?

- The use is compatible with the area.

Does the Special Use Permit promote the public health, safety, or general welfare?

- Staff analysis determined that the subject property is in accord with the Planning Principles and Policy Guide in the Comprehensive Plan that aims to promote health, safety, and general welfare by managing growth, while promoting safe and orderly development.

Is adequate infrastructure available or planned to meet the needs of the proposed land use?

- Public utilities are available in the area.

Do current conditions indicate that a Special Use Permit is necessary?

- Conditions do indicate that a Special Use Permit is necessary to allow lodging without a full-time, on-site operator.

Attachments:

1. Letter of Intent from Applicant
2. Survey from Applicant
3. Location Map
4. Existing Zoning Map
5. Proposed Zoning Map
6. Growth Sectors Map
7. Future Land Use Map
8. Notification Map
9. Draft Ordinance
 - a. Exhibit A – Survey
 - b. Exhibit B – Proposed Zoning Map

Jared John West
520 W. 10th St.
Taylor, TX 76574
West4re@gmail.com

July 5, 2024

Courtney Peres
Planning Manager, Development Services
City of Taylor
400 Porter Street
Taylor, TX 76574

Dear Mrs. Peres:

I am submitting this letter of intent to have my house used as a short time rental in the Airbnb platform.

My property is located at:

Marigold Manor
520 West 10th St.
Taylor, TX 76574

Owning several properties in town, has helped me oversee the rate of growth that the City of Taylor is going through. I truly believe that by having more options available as short time rentals, will help the city have the availability for current and future tourism.

One of the homes we own is the “West Mansion”, formerly the “Clark Mansion” and “Booth Mansion”, located at 2112 W. Lake Drive. I bought that property back in 2017 along with my parents and fabulously restored it. It was in the Taylor Historical Tour in 2022, the neighbors loved the property.

I personally own another house that is being used as a short-term rental in the City of San Antonio. I manage the house and keep control over how the house is used to help the tenants have a great experience while visiting, and avoiding any inconveniences to the neighborhood while the house is rented.

I am currently working in having the house ready. I have invested more than \$35,000 in new landscaping, irrigation, and new driveways. I truly believe this home is a prize in the neighborhood.

I manage my properties and keep control of the tenants that use our houses. I do extensive background checks on guests through a system we have called “Forwarn”, to have a piece of mind on the tenants using the Property.

The Property will be operating without a full time onsite operator, I am fully reachable 24/7 through the short term rental platform. In addition, we have exterior cameras and an alarm system to keep the perimeters of the house secure. For parking, the house has a long driveway that can fit up to 7 cars, and two additional parking spaces in front of the garage. We do not intend in having more than a few guests at a time since the house is only a 3 bedroom.

I am projecting to be ready for operations and have the property in the Airbnb platform as soon as the permits are approved.

If you have any questions or concerns, please do not hesitate to reach out to my phone number provided.

Respectfully,

 *Jared West* 07/05/24

Jared John West
(512)296-0669

BEING 0.37 ACRES OF LAND, MORE OR LESS, OUT OF THE J. WINSET SURVEY, ABSTRACT NO. 661, WILLIAMSON COUNTY, TEXAS, BEING ALL OF LOT 1 AND A PORTION OF LOT 2, BLOCK 7, OF MURPHY ADDITION TO THE CITY OF TAYLOR, SAID PLAT RECORDED IN CABINET A, SLIDE 4A, PLAT RECORDS, WILLIAMSON COUNTY, TEXAS, ALSO BEING THAT TRACT CONVEYED TO DAVID HEFTA, BY DEED RECORDED IN DOCUMENT NO. 2004048232, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS.

JOB NO: 190970

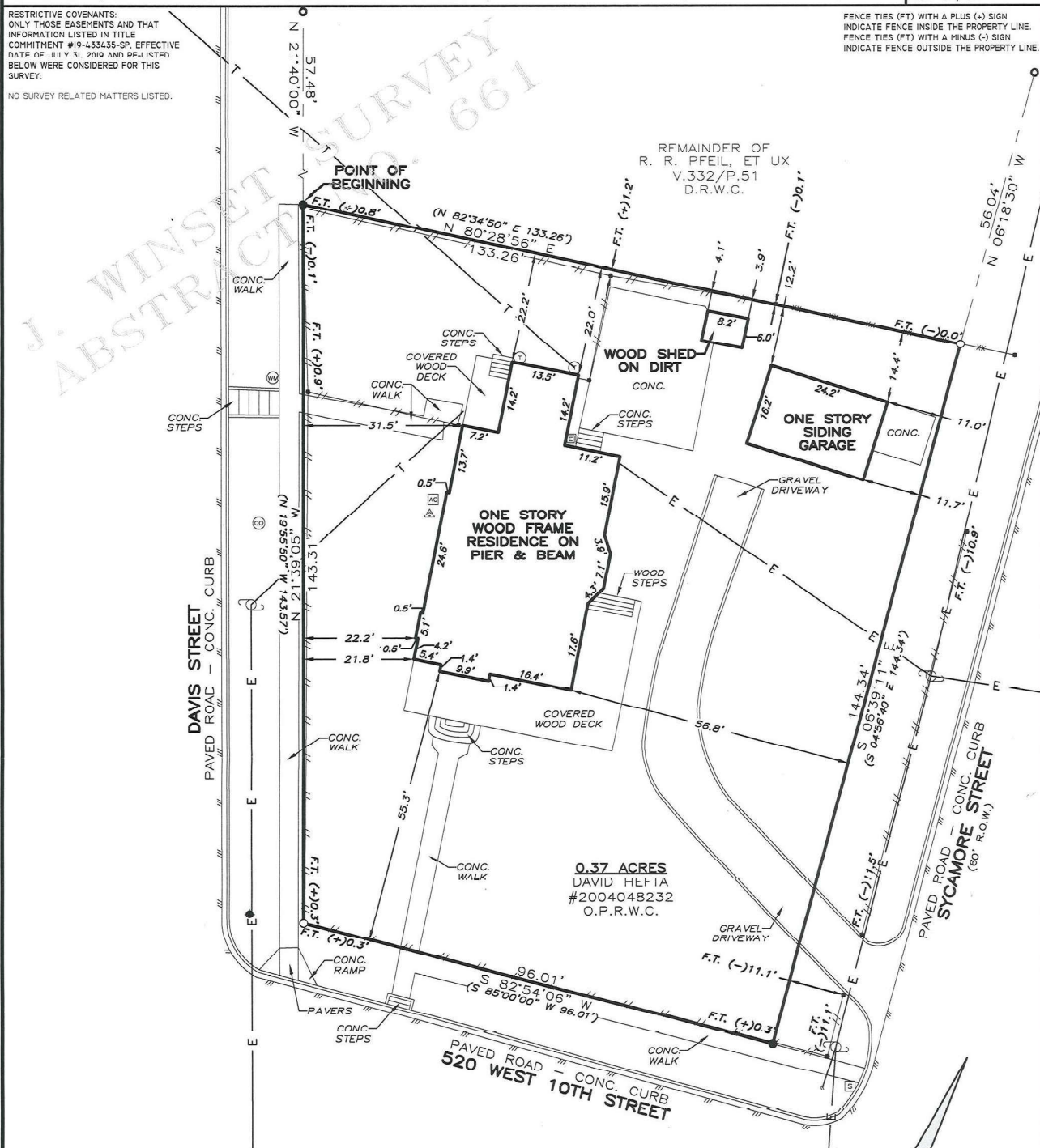
DRAWN: RCG

F.C.: JN/CR

RESTRICTIVE COVENANTS:
ONLY THOSE EASEMENTS AND THAT
INFORMATION LISTED IN TITLE
COMMITMENT #19-433435-SP, EFFECTIVE
DATE OF JULY 31, 2010 AND RE-LISTED
BELOW WERE CONSIDERED FOR THIS
SURVEY.

NO SURVEY RELATED MATTERS LISTED.

FENCE TIES (FT) WITH A PLUS (+) SIGN
INDICATE FENCE INSIDE THE PROPERTY LINE.
FENCE TIES (FT) WITH A MINUS (-) SIGN
INDICATE FENCE OUTSIDE THE PROPERTY LINE.



LEGEND	
● 1/2" IRON ROD FOUND	■ ELECTRIC
○ 1" BOLT FOUND	● FIRE HYDRANT
○ 1/2" IRON ROD SET WITH PINK CAP STAMPED "TLS"	▲ GAS METER
/// PAVEMENT	□ SIGN
-XX- CHAIN LINK FENCE	○ TELEPHONE
/// WOOD FENCE	○ WATER METER
○ UTILITY POLE	() RECORD INFORMATION
○ GUY ANCHOR	CONC. CONCRETE
—E— ELECTRIC LINES	R.O.W. RIGHT-OF-WAY
—T— TELEPHONE LINES	DEED RECORDS OF WILLIAMSON COUNTY, TEXAS
—A— AIR CONDITIONER	OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS
○ CLEANOUT	O.P.R.W.C.

Scale: 1" = 20'
BEARINGS CITED HEREON BASED ON
TEXAS STATE PLANE COORDINATE
SYSTEM, NORTH AMERICAN DATUM
1983/93, TEXAS CENTRAL ZONE.

CERTIFY TO: CAPITAL TITLE / FIRST NATIONAL TITLE INSURANCE COMPANY / JOHN HARVEY STENDAHL AND MELODY MAY STENDAHL / GF# 19-433435-SP
STATE OF TEXAS

8 KNOW ALL MEN BY THESE PRESENTS

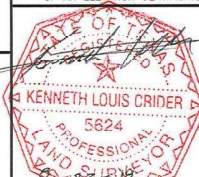
COUNTY OF WILLIAMSON
THAT SURVEYOR FOR TEXAS LAND SURVEYING, INC., HAVE THIS DATE CAUSED TO BE PERFORMED AN ON-THE-GROUND SURVEY UNDER MY SUPERVISION OF THE FOREGOING TRACT OF LAND AND TO THE BEST OF MY KNOWLEDGE AND BELIEF THERE ARE NO DISCREPANCIES, CONFLICTS, SHORTAGES IN AREA, ENCROACHMENTS, VISIBLE UTILITY LINES OR ROADS IN PLACE, AND THAT SAID PROPERTY HAS ACCESS TO AND FROM A DEDICATED ROADWAY, EXCEPT AS SHOWN HEREON.

Texas Land Surveying, Inc.

—A Land Surveying and Geoscience Firm—
3613 Williams Drive, Suite 903 - Georgetown, Texas 78628
(512) 930-1600/(512) 930-9389 fax www.texas-land-surveying.com
TBPLS FIRM NO.10056200 GEOSCENCE FIRM NO.50538

IF THIS DOCUMENT DOES NOT CONTAIN THE RED STAMPED SEAL OF THE UNDERSIGNED SURVEYOR, IT IS AN UNAUTHORIZED/ILLEGAL COPY.
TEXAS LAND SURVEYING, INC. ASSUMES NO LIABILITY FROM THE USE OF ANY UNAUTHORIZED/ILLEGAL DOCUMENT.

THIS AREA DOES NOT APPEAR TO BE IN
SPECIAL FLOOD HAZARD AREAS PER
FEMA'S FLOOD INSURANCE RATE MAP
#48491C0535E, DATED SEPT. 25, 2008.
THIS STATEMENT IS NOT MADE IN LIEU
OF AN ELEVATION CERTIFICATE.



Witness my hand and seal this the
19th Day of August, 2019 A.D.

PAGE 2 OF 2

EXHIBIT TO ACCOMPANY FIELD NOTES

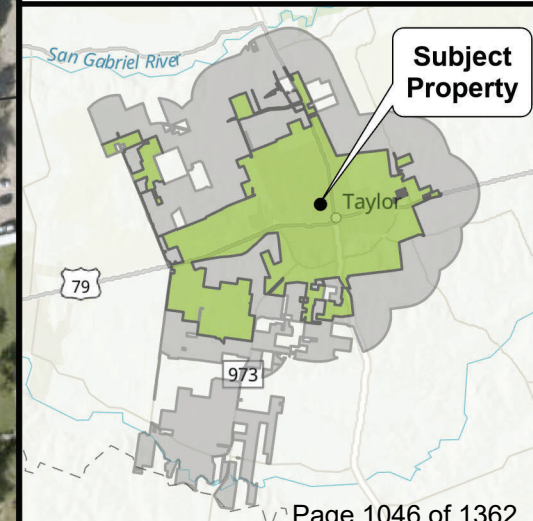
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PZ-2024-2213

**520 W 10th Street
Special Use Permit
Location Map
Approximately 0.37 acres**

-  City Limits
-  Subject Property
-  Parcels





PZ-2024-2213

**520 W 10th Street
Special Use Permit
Current Zoning Map
Approximately 0.37 acres**

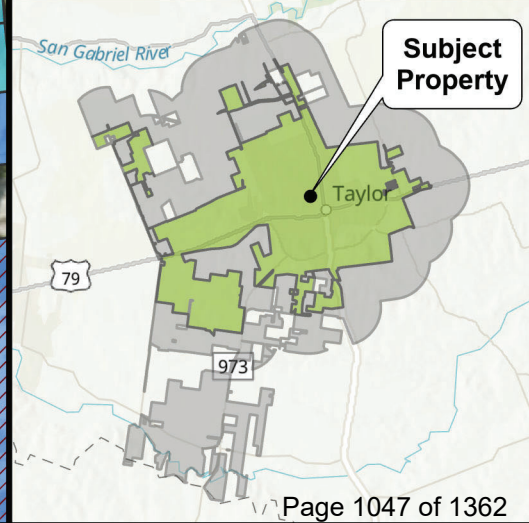
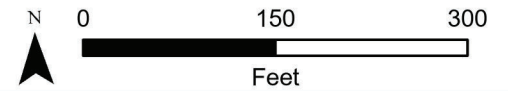
- City Limits
- Subject Property
- Parcels

Overlay Zoning

- Planned Development Overlay
- Special Use Permit

Place Type Zoning

- P3: Neighborhood
- P4: Mix
- CS: Civic Space





PZ-2024-2213

**520 W 10th Street
Special Use Permit
Proposed Zoning Map
Approximately 0.37 acres**

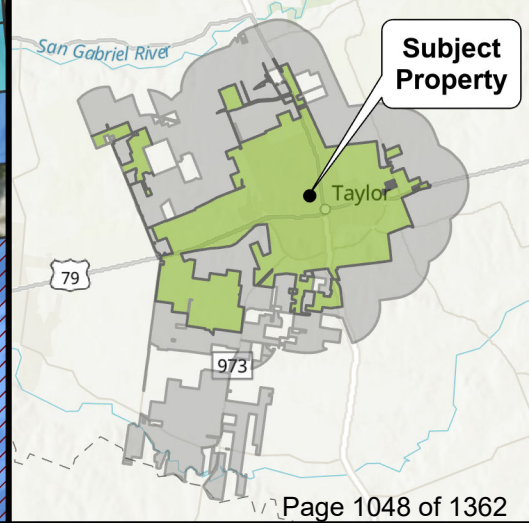
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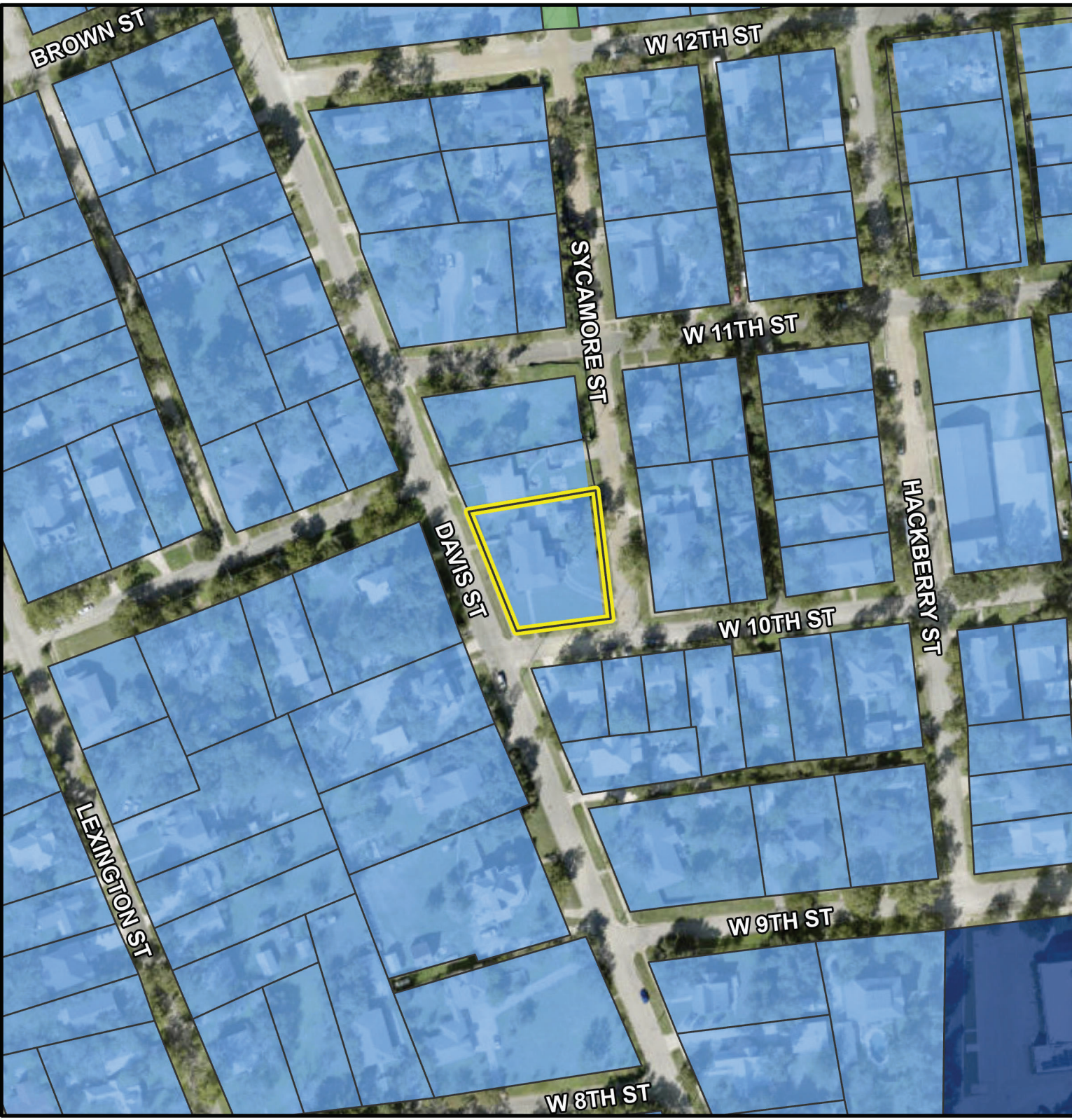
Overlay Zoning

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Place Type Zoning

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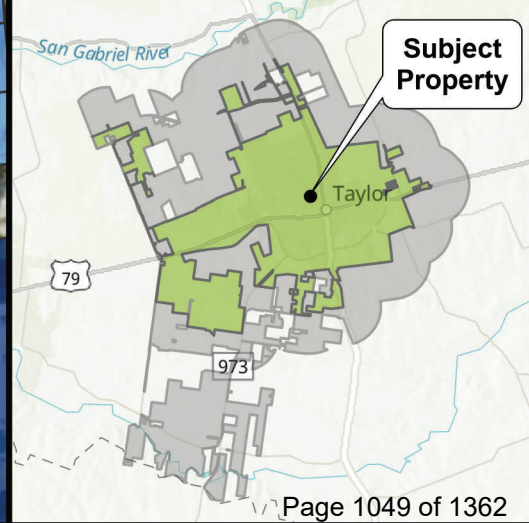




PZ-2024-2213

520 W 10th Street
Special Use Permit
Growth Sector Map
Approximately 0.37 acres

- City Limits
- Subject Property
- Parcels
- Growth Sector**
 - Preserved Open Sector (O-1)
 - Infill Neighborhood Sector (G-4)
 - Infill Growth Sector (G-5)

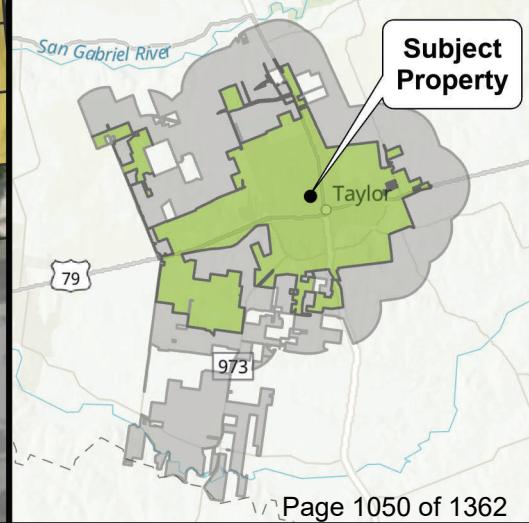




PZ-2024-2213

**520 W 10th Street
Special Use Permit
Future Land Use Map
Approximately 0.37 acres**

- City Limits
- Subject Property
- Parcels
- Future Land Use**
 - Neighborhood Infill
 - Market: Neighborhood
 - Open Space

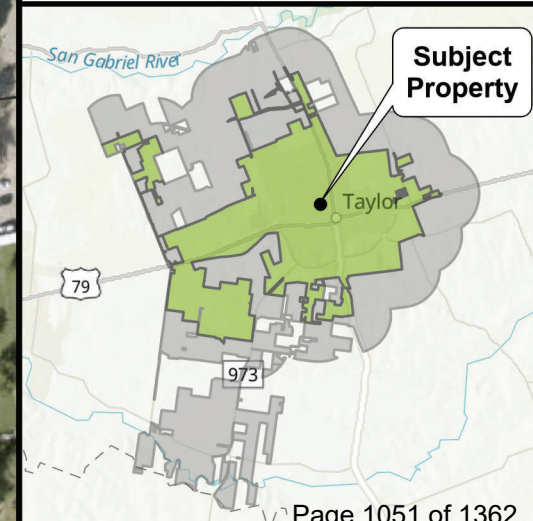




PZ-2024-2213

**520 W 10th Street
Special Use Permit
Notification Map
Approximately 0.37 acres**

- City Limits
- Subject Property
- 200-ft. Buffer
- Notified Properties
- Parcels



ORDINANCE NO. 2024-39

AN ORDINANCE APPROVING A SPECIAL USE PERMIT FOR LODGING WITHOUT A FULL TIME, ON-SITE OPERATOR, LOCATED AT 510 W. 10TH STREET, LEGALLY DESCRIBED AS APPROXIMATELY 0.37-ACRE TRACT OF LAND OUT OF THE MURPHY ADDITION, BLOCK SEVEN, SOUTHERN PART OF LOT 1 AND 2, MORE PARTICULARLY DESCRIBED BY THE WILLIAMSON CENTRAL APPRAISAL DISTRICT PARCEL R017691, TAYLOR, WILLIAMSON COUNTY, TEXAS, AMENDING THE OFFICIAL ZONING MAP OF THE CITY OF TAYLOR, TEXAS, TO SHOW THE SPECIAL USE PERMIT APPROVED HEREIN; PROVIDING A SAVINGS CLAUSE.

WHEREAS, the Taylor City Council conducted a public hearing on August 22, 2024, to consider the request made by the applicant, whose property is legally described in Exhibit “A” attached hereto and incorporated by reference herein for all purposes (“Property”), to request a Special Use Permit for lodging without a full time, on-site operator, which is a use required to obtain a Special Use Permit to grant approval within the P3 – Neighborhood Place Type zoning district; and

WHEREAS, the Planning and Zoning Commission, after proper notice, conducted a public hearing on August 13, 2024, to consider the Special Use Permit request, and recommended the Special Use Permit to the City Council; and

WHEREAS, the City Council, after the public hearing, approves the request for the Special Use Permit.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF TAYLOR, TEXAS, that:

SECTION 1. The facts and recitations contained in the preamble of this Ordinance are hereby declared to be true and correct and are incorporated by reference herein and made a part hereof, as if copied verbatim.

SECTION 2. The Property is approved for a Special Use Permit to allow lodging without a full-time, on-site operator.

SECTION 3. The Official Zoning map of the City of Taylor, Texas, is changed to show the Special Use Permit for the Property as shown in Exhibit “B” attached hereto for all purposes.

SECTION 4. All other terms and conditions contained in the official zoning map, except as amended herein, shall continue and remain in full force and effect.

SECTION 5. Should any section, paragraph, clause, phrase, or provision of this Ordinance be adjudged invalid or held unconstitutional, the same shall not affect the validity of this Ordinance as a whole or any part of the provisions thereof, other than the part so decided to be invalid or unconstitutional.

SECTION 6. In accordance with Article VIII of the City Charter, Ordinance 2024-39 was introduced before the Taylor City Council on the 22th day of August, 2024.

PASSED, APPROVED, and ADOPTED on the _____ day of _____, 2024.

Brandt Rydell, Mayor

ATTEST:

Dianna McLean, City Clerk

APPROVED AS TO FORM:

Mark Schroeder,
City Attorney

CERTIFICATE

THE STATE OF TEXAS

COUNTY OF WILLIAMSON

I, Dianna McLean, being the current City Clerk of the City of Taylor, Texas, do hereby certify that the attached is a true and correct copy of Ordinance No. 2024-39, passed and approved by the City Council of the City of Taylor, Texas, on the _____ day of _____ 2024, and such Ordinance was duly introduced, passed, approved and adopted at meetings open to the public and notices of the meetings, giving the dates, places, and subject matter thereof, were posted as prescribed by Government Code Section 551.043.

Witness my hand and seal of office this _____ day of _____ 2024.

Dianna McLean
City Clerk

EXHIBIT A
(Metes & Bounds/Legal Description/Survey)

BEING 0.37 ACRES OF LAND, MORE OR LESS, OUT OF THE J. WINSET SURVEY, ABSTRACT NO. 661, WILLIAMSON COUNTY, TEXAS, BEING ALL OF LOT 1 AND A PORTION OF LOT 2, BLOCK 7, OF MURPHY ADDITION TO THE CITY OF TAYLOR, SAID PLAT RECORDED IN CABINET A, SLIDE 4A, PLAT RECORDS, WILLIAMSON COUNTY, TEXAS, ALSO BEING THAT TRACT CONVEYED TO DAVID HEFTA, BY DEED RECORDED IN DOCUMENT NO. 2004048232, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS.

JOB NO: 190970

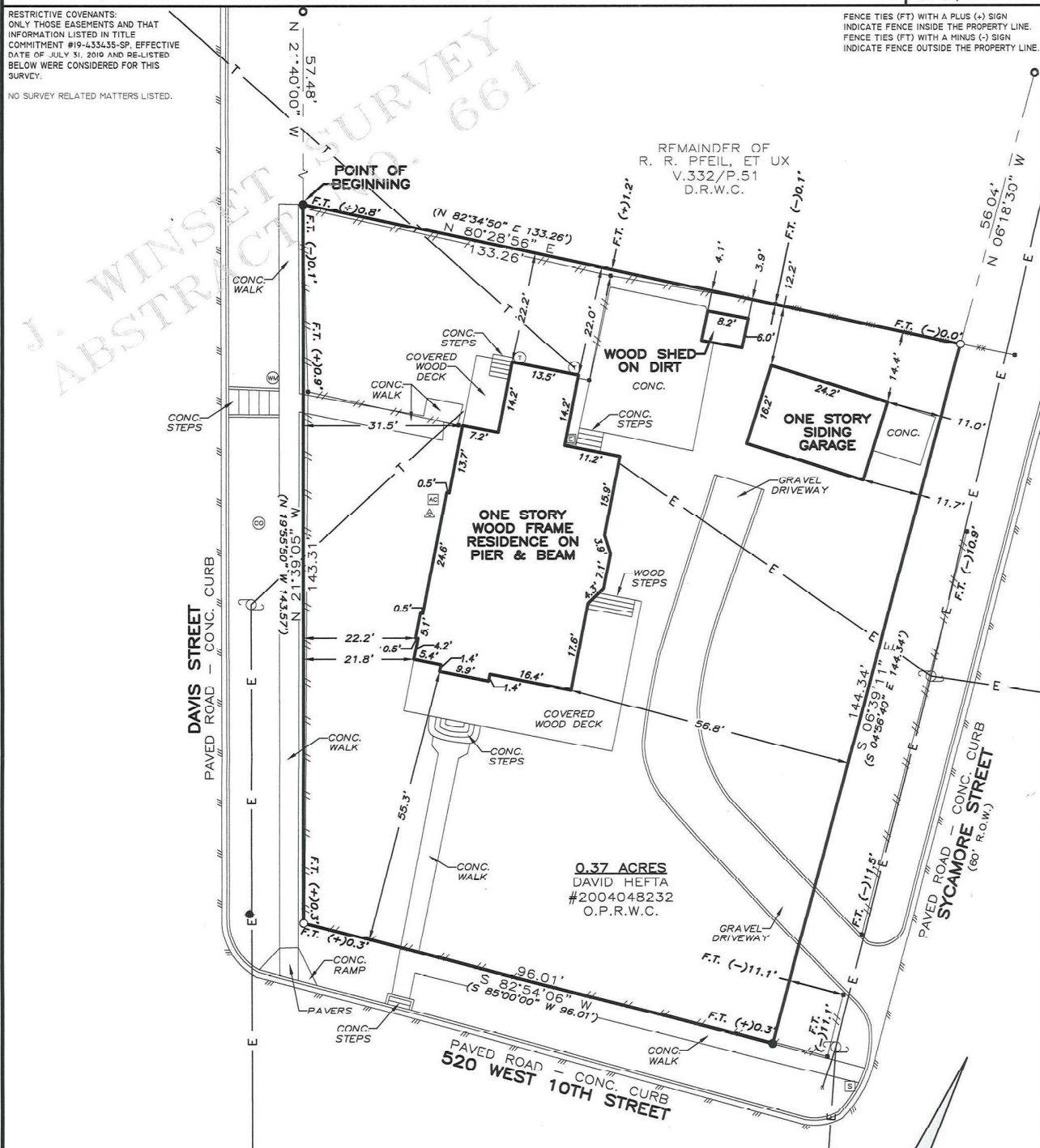
DRAWN: RCG

F.C.: JN/CR

RESTRICTIVE COVENANTS:
ONLY THOSE EASEMENTS AND THAT
INFORMATION LISTED IN TITLE
COMMITMENT #19-433435-SP, EFFECTIVE
DATE OF JULY 31, 2010 AND RE-LISTED
BELOW WERE CONSIDERED FOR THIS
SURVEY.

NO SURVEY RELATED MATTERS LISTED.

FENCE TIES (FT) WITH A PLUS (+) SIGN
INDICATE FENCE INSIDE THE PROPERTY LINE.
FENCE TIES (FT) WITH A MINUS (-) SIGN
INDICATE FENCE OUTSIDE THE PROPERTY LINE.



LEGEND	
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○ 1" BOLT FOUND	● FIRE HYDRANT
○ 1/2" IRON ROD SET WITH PINK CAP STAMPED "TLS"	▲ GAS METER
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—XX— CHAIN LINK FENCE	○ TELEPHONE
—//— WOOD FENCE	○ WATER METER
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STENDAHL / GF# 19-433435-SP
STATE OF TEXAS

8 KNOW ALL MEN BY THESE PRESENTS

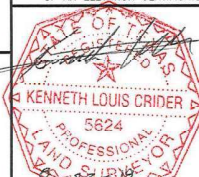
COUNTY OF WILLIAMSON 8
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SURVEY UNDER MY SUPERVISION OF THE FOREGOING TRACT OF LAND AND TO THE BEST OF MY KNOWLEDGE AND BELIEF
THERE ARE NO DISCREPANCIES, CONFLICTS, SHORTAGES IN AREA, ENCROACHMENTS, VISIBLE UTILITY LINES OR ROADS IN
PLACE, AND THAT SAID PROPERTY HAS ACCESS TO AND FROM A DEDICATED ROADWAY, EXCEPT AS SHOWN HEREON.

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#48491C0535E, DATED SEPT. 25, 2008.
THIS STATEMENT IS NOT MADE IN LIEU
OF AN ELEVATION CERTIFICATE.



Witness my hand and seal this the
19th Day of August, 2019 A.D.

PAGE 2 OF 2

EXHIBIT TO ACCOMPANY FIELD NOTES

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PZ-2024-2213

**520 W 10th Street
Special Use Permit
Proposed Zoning Map
Approximately 0.37 acres**

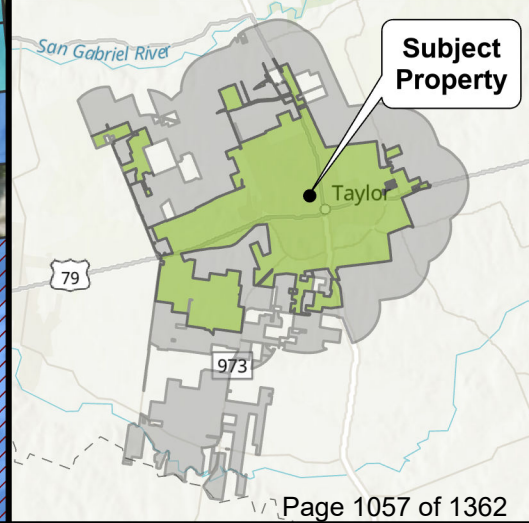
- City Limits
- Subject Property
- Parcels

Overlay Zoning

- Planned Development Overlay
- Special Use Permit

Place Type Zoning

- P3: Neighborhood
- P4: Mix
- CS: Civic Space



City of Taylor
PZ-2023-1997
Employment Center Plan
Staff Report

Item Details

Subject Property:	369C CR 395
Total Acreage:	Approximately 49.913 acres
Legal Description:	Approximately 49.913 acres of land located in the James C. Eaves Survey, Abstract No. 213, in City of Taylor, Williamson County, Texas.
Applicant:	Eric Beals, Viewpoint Engineering
Property Owner(s):	Prakash Patel, Taylor 49 LLC
Request:	A request for an Employment Center Plan
Case History:	This is the first hearing of this request.

Overview of Applicant's Request & Background

The applicant is requesting an Employment Center Plan to allow for industrial and civic space uses on the subject property.

The current zoning, EC – Employment Center Place Type, requires that specific development standards be determined to fit the needs of the proposed development at time of application through an Employment Center Plan for the subject property. The City's Land Development Code states that the EC Place Type is meant to be used for job creation centers and building forms that do not fit within the character of the other Place Types.

The applicant chose to work with the City's design consultant, Michael Watkins Architect, to furnish the applicant and the city with an Employment Center Plan to address development standards, civic spaces, and frontage types. The plan (see attached) contains:

- A Regulating Plan that identifies Place Types, Primary and Secondary frontages, design-specific standards, and provides general standards that specify:
 - The approval of this plan is conditioned on the approval of any applicable permits related to wetland and floodplain on this property; and
 - Three years after the adoption of this Employment Center Plan, if the applicant can demonstrate a lack of market demand for the Building Types and uses permitted in this plan, then an amendment to this Employment Center Plan may be considered to allow additional Place Types, such as P5, Building Types, such as Large Apartments, and Residential uses.

The applicant, city staff, and Michael Watkins and his team of urban designers met to collaboratively conduct a design charette the week of May 27, 2024. During that week a

Employment Center Plan was developed and after the charette, the development standards for the Employment Center Plan were prepared and have been reviewed and finalized by staff and the applicant. The proposed plan closely aligns with the City's Small Area Plan for the Special Employment District – North, the City's long-term goals and will help the city meet the growing demand for industrial/warehouse space and bring more jobs to the city.

Location:

The subject property is generally located along CR 395, northeast of the intersection of US 79 and CR 101.

Physical and Natural Features:

The subject property is vacant land that is relatively flat and devoid foliage with a drainage channel and floodplain along the southern edge of the property. A gas easement exists along the eastern edge of the property, a drainage easement along the southern and western edges of the property, and an electric easement along the north edge of the property adjacent to CR 395.

Growth Sector Designations:

The subject property is located within the Controlled Growth Sector Tier I (G-2.1)

The Controlled Growth Sector Tier I consists of areas with incomplete infrastructure. As development occurs in the Controlled Growth Sector Tier II, infrastructure systems will be extended and may allow for development to occur in Tier I. (Envision Taylor Comprehensive Plan page 50).

Future Land Use and Zoning Designations:

The subject property is assigned the Future Land Use designation of Special Employment District.

The Special Employment District was created to provide a location for other, large-scale employment land uses that are associated with Samsung or other regional high-tech businesses. These areas should be preserved for large-scale industrial users and low-density, single-family development is not recommended in these areas. Complimentary land uses such as commercial and retail services and high-density residential may be appropriate in the Special Employment District and should be part of a master plan associated with industrial and employment development. (Envision Taylor Comprehensive Plan page 81).

The Specific Land Use per the Small Area Plan – Special Employment District North (SAP-SED North) is Employment: Industrial and Office uses. The SAP-SED North plan was developed to further enhance the recommendations of Envision Taylor Comprehensive based on specific area/site conditions. In the SAP-SED North plan large parcels of generally flat land in the study area such as the subject property are reserved for large Industrial uses and may include office uses as well.

The subject property is currently zoned EC - Employment Center. This district typically provides for job creation centers and building forms that do not fit within the character of the other Place Types.

The surrounding properties are:

Direction	Zoning District	Growth Sector	Future Land Use	Existing Land Use
North	ETJ	Future Growth Tier I (G-1)	Area of Minimal Change	Vacant
South	EC: Employment Center	Controlled Growth Sector Tier I (G-2.1)	Employment – Special Zone (Industrial & Office)	Vacant
East	EC: Employment Center	Controlled Growth Sector Tier I (G-2.1)	Employment – Special Zone (Industrial & Office)	Vacant
West	EC: Employment Center	Controlled Growth Sector Tier I (G-2.1)	Employment – Special Zone (Industrial & Office)	Vacant

Transportation

The subject property gains access off County Road 395.

The SAP-SED North identifies CR 395 as an Industrial Boulevard with a 90-foot right-of-way.

Utilities

The subject property is located within the Jonah Water SUP Water CCN, and an extension of sewer infrastructure will bring the subject property into the City of Taylor Sewer CCN. Currently there is a 24-inch water main along Lorax Lane to the east of the subject property and a 16-inch waterline along US 79 to the south of the subject property.

Public Notification

As required by the Local Government Code and the City of Taylor Code of Ordinances, all property owners within a 200-foot radius of the subject property were notified of the employment center plan request. Ten (10) notices were mailed to the property owners and a legal notice advertising the public hearing was placed in the Taylor Press on Sunday, July 28, 2024.

Staff Analysis

Upon analyzing the request for an Employment Center Plan for industrial and office uses in the EC: Employment Center Place Type, the proposed plan is consistent with the intended Place Type development of the surrounding area. The Employment Center Plan request is consistent with the following Land Use Policies in Envision Taylor Comprehensive Plan:

- LU5 – New buildings and developments should be constructed in a way that they can be repurposed over time and as market conditions change.
 - The large-scale development can be repurposed over time to accommodate a variety of different end users.

Staff Recommendation

For the reasons stated in the staff analysis, staff recommends approval of the requested employment center plan.

Planning and Zoning Commission Recommendation

The Planning and Zoning Commission is charged with reviewing all requests for a Employment Center Plan and recommends to City Council either in favor of or opposition to each request. In determining a recommendation on a Employment Center Plan request, the Planning and Zoning Commission members consider the following factors:

Is the Employment Center Plan consistent with the Comprehensive Plan?

- The EC Plan request is consistent with the Comprehensive Plan. The applicant would like to use the property for mix of office and industrial consistent with Employment: Special Zone land use designation as well as the SAP-SED North land use designation.

Is the Employment Center Plan compatible with the surrounding area?

- The Plan is compatible with other zoning to the north, east, west, and to the south of the subject property.

Does the Employment Center Plan promote the public health, safety, or general welfare?

- Staff analysis determined that the proposed EC Plan for the subject property will promote public health, safety, and the general welfare. In addition, the Planning Principles and Policy Guide in the Comprehensive Plan aim to promote health, safety, and general welfare by managing growth, while promoting safe and orderly development.

Is adequate infrastructure available or planned to meet the needs of the proposed land use?

- Currently there is a 24-inch water main along Lorax Lane to the east of the subject property and a 16-inch waterline along US 79 to the south of the subject property. Extension of infrastructure to the subject property will need to occur over time.

Do current conditions indicate that an Employment Center Plan is necessary?

- The Taylor Land Development Code requires an Employment Center Plan on the subject property before any development permits can be considered.

Attachments:

1. Letter of Intent from Applicant
2. Location Map
3. Current Zoning Map
4. Proposed Zoning Map
5. Growth Sectors Map
6. Future Land Use Map
7. Floodplain Map
8. Notification Map
9. Draft Ordinance
 - a. Exhibit A – Survey
 - b. Exhibit C – Employment Center Plan
 - c. Exhibit B – Proposed Zoning Map



2121 E. 6th St.
Austin, TX 78702
Phone: 512-779-9464
ebeals@viewpointengineering.com

RE: Employment Center Plan Application for City of Taylor

Brenda Joyas,

On behalf of HWY79TAYLOR LLC, it is my sincere pleasure to present an application for an Employment Center Plan to the City of Taylor. The proposed Employment Center land use will be Industrial/ Mixed Use. The proposed plan is in compliance with the comprehensive plan and LDC. The special needs of the proposed development, fit the context of the EC's location. The development is proposing 750,000 Sq Ft of Industrial space, with an unknown number of jobs created.

Warm Regards,

A handwritten signature in blue ink that reads "Eric Beals".

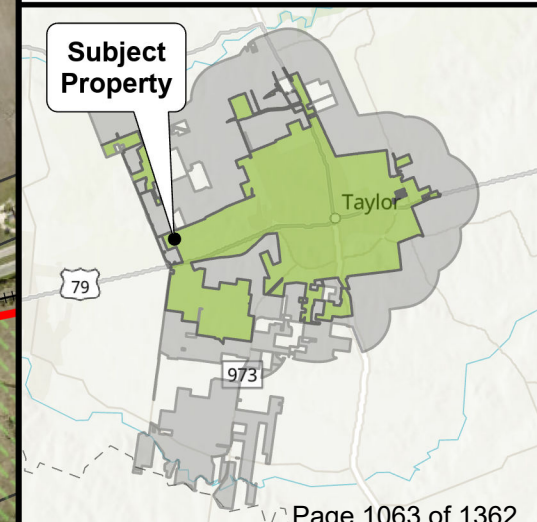
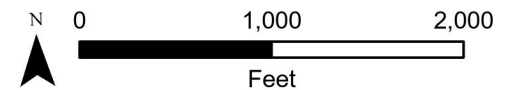
Eric Beals, P.E.
Director of Horizontal Design
ebeals@viewpointengineering.com



PZ-2023-1997

369C CR 395
Employment Center Plan
Location Map
Approximately 50 acres

-  City Limits
-  ETJ Boundary
-  Subject Property
-  Parcels





PZ-2023-1997

369C CR 395
Employment Center Plan
Current Zoning Map
Approximately 50 acres

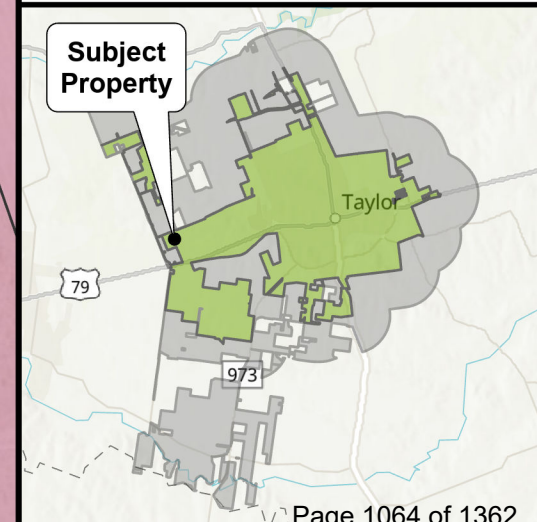
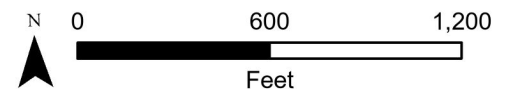
- City Limits
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- Subject Property
- Parcels

Overlay Zoning

- P1: Nature

Place Type Zoning

- EC: Employment Center





PZ-2023-1997

369C CR 395
Employment Center Plan
Proposed Zoning Map
Approximately 50 acres

 City Limits

 ETJ Boundary

 Subject Property

 Parcels

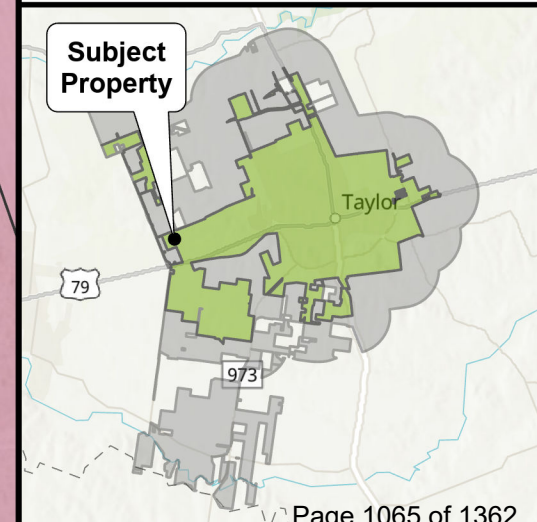
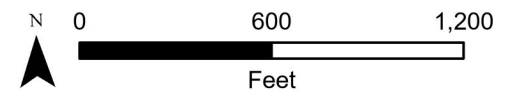
Overlay Zoning

 P1: Nature

 Employment Center Plan Overlay

Place Type Zoning

 EC: Employment Center

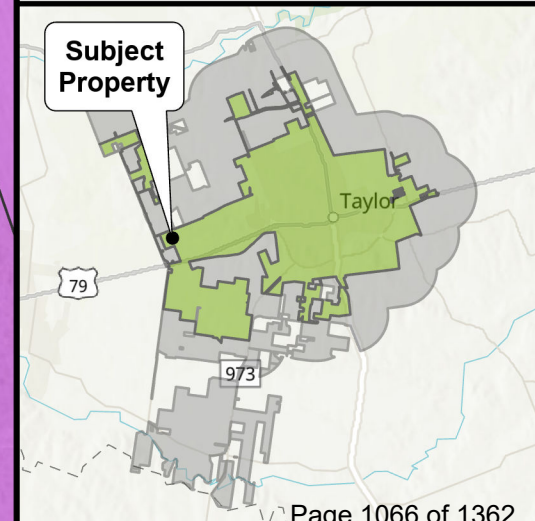
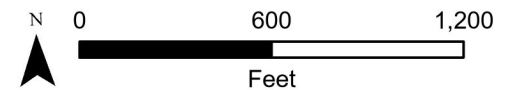




PZ-2023-1997

**369C CR 395
Employment Center Plan
Growth Sector Map
Approximately 50 acres**

-  City Limits
 -  ETJ Boundary
 -  Subject Property
 -  Parcels
- Growth Sector**
-  Future Growth Sector (G-1)
 -  Controlled Growth Sector Tier I (G-2.1)





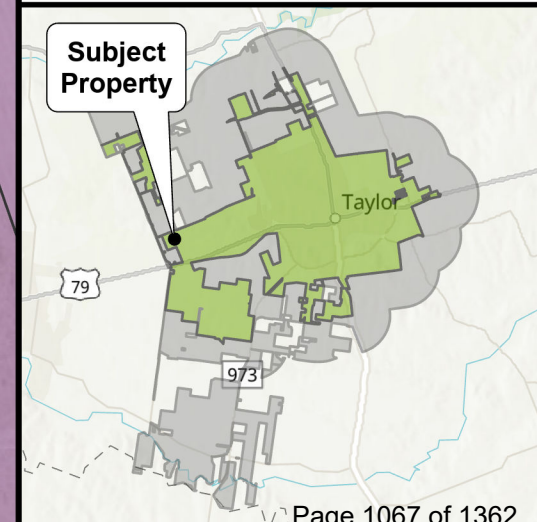
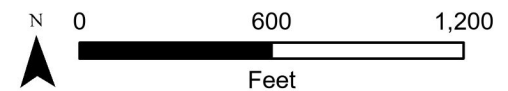
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369C CR 395
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Future Land Use Map
Approximately 50 acres

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Future Land Use

-  Area of Minimal Change
-  Employment: Special Zone
-  Open Space

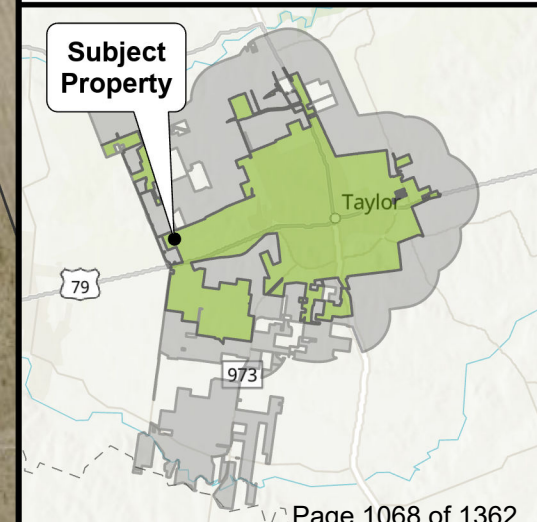
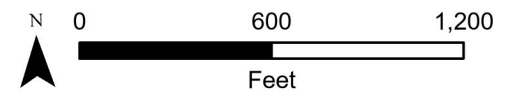




PZ-2023-1997

369C CR 395
Employment Center Plan
Floodplain Map
Approximately 50 acres

- City Limits
- ETJ Boundary
- Subject Property
- Parcels
- Taylor 100-year Floodplain

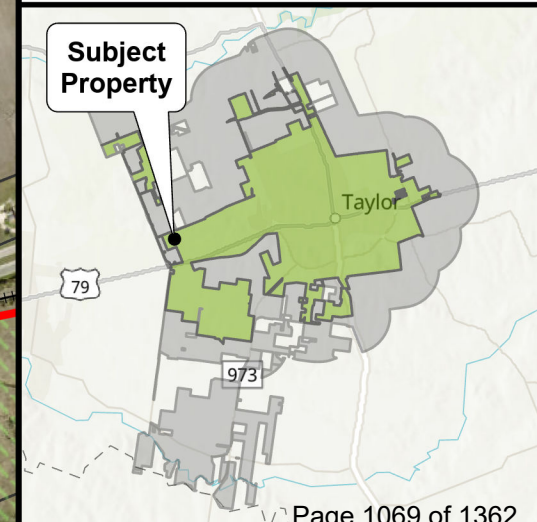
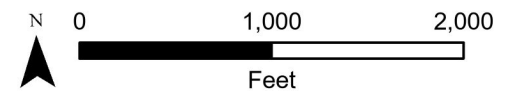




PZ-2023-1997

**369C CR 395
Employment Center Plan
Notification Map
Approximately 50 acres**

- City Limits
- ETJ Boundary
- Subject Property
- 200-ft. Buffer
- Notified Properties
- Parcels



ORDINANCE NO. 2024-29

AN ORDINANCE REQUESTING AN EMPLOYMENT CENTER FOR PROPERTY GENERALLY LOCATED AT 369C CR 395, LEGALLY DESCRIBED AS APPROXIMATELY 49.913-ACRE TRACT OF LAND OUT OF THE J.C. EAVES SURVEY, ABSTRACT NO. 213, MORE PARTICULARLY DESCRIBED BY THE WILLIAMSON CENTRAL APPRAISAL DISTRICT PARCEL R019150, TAYLOR, WILLIAMSON COUNTY, TEXAS; AMENDING THE OFFICIAL ZONING MAP OF THE CITY OF TAYLOR, TEXAS, TO SHOW THE ZONING CHANGE ADOPTED HEREIN; PROVIDING A SAVINGS CLAUSE.

WHEREAS, the Taylor City Council conducted a public hearing on August 22, 2024, to consider the request made by the applicant, whose property is legally described in Exhibit “A” attached hereto and incorporated by reference herein for all purposes (“Property”), to approve an Employment Center referred to as Taylor 50; and

WHEREAS, the Planning and Zoning Commission, after proper notice, conducted a public hearing on August 13, 2024, to consider the zoning request, and recommended the Employment Center Plan to the City Council; and

WHEREAS, the City Council, after the public hearing, approves the request for the Employment Center Plan and Property zoning change.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF TAYLOR, TEXAS, that:

SECTION 1. The facts and recitations contained in the preamble of this Ordinance are hereby declared to be true and correct and are incorporated by reference herein and made a part hereof, as if copied verbatim.

SECTION 2. The Official Zoning map of the City of Taylor, Texas, is changed to indicate that an Employment Center Plan has been approved for the Property and to show the allocation and location of Place Types on the Property as depicted in the Employment Center Plan attached hereto for all purposes as Exhibit “B”.

SECTION 3. All other terms and conditions contained in the official zoning map, except as amended herein, shall continue and remain in full force and effect.

SECTION 4. Should any section, paragraph, clause, phrase, or provision of this Ordinance be adjudged invalid or held unconstitutional, the same shall not affect the validity of this Ordinance as a whole or any part of the provisions thereof, other than the part so decided to be invalid or unconstitutional.

SECTION 5. In accordance with Article VIII of the City Charter, Ordinance 2024- was introduced before the Taylor City Council on the 22nd day of August 2024.

PASSED, APPROVED, and ADOPTED on the _____ day of _____, 2024.

Brandt Rydell, Mayor

ATTEST:

Dianna McLean, City Clerk

APPROVED AS TO FORM:

Mark Schroeder,
City Attorney

DRAFT

CERTIFICATE

THE STATE OF TEXAS

COUNTY OF WILLIAMSON

I, Dianna McLean, being the current City Clerk of the City of Taylor, Texas, do hereby certify that the attached is a true and correct copy of Ordinance No. 2024-XX, passed and approved by the City Council of the City of Taylor, Texas, on the _____ day of _____ 2024, and such Ordinance was duly introduced, passed, approved and adopted at meetings open to the public and notices of the meetings, giving the dates, places, and subject matter thereof, were posted as prescribed by Government Code Section 551.043.

Witness my hand and seal of office this _____ day of _____ 2024.

Dianna McLean
City Clerk

EXHIBIT A
(Metes & Bounds/Legal Description/Survey)

DRAFT

EXHIBIT A



In Re: 49.913 Acres
All of a called 50.433 Acre tract
James C. Eaves Survey
Abstract No. 213
Williamson County, Texas

All that certain tract or parcel of land situated in Williamson County, Texas, being a part of the James C. Eaves Survey, Abstract No. 213, being all of a called 50.433 Acre tract conveyed from Carol Neal Bachmayer, Joint Independent Executor of the Estate of Elise Augusta Bachmayer, et al to Carroll Neal Bachmayer, et al by deed dated July 26, 2017, recorded in Instrument No. 2017069605 of the Official Public Records of Williamson County, Texas and being more particularly described by metes and bounds as follows to wit:

BEGINNING at a found 1/2" iron rod (with red plastic cap marked "Williamson County") on the south Right-of-Way line of County Road 395, at the northwest corner of a called 115.66 Acre tract conveyed to M. Moore Family Farms, LLC in Instrument No. 2018102968, for the northeast corner of this tract,

THENCE S 22° 10' 41" E - 1856.39 feet along the west line of the said 115.66 Acre tract to a found 5/8" iron rod at the northeast corner of a called 49.05 Acre tract conveyed to JAG El Rio, LLC in Instrument no. 2017034010, for the southeast corner of this tract;

THENCE along the north and west lines of the said 49.05 Acre tract for the following courses and distances:

S 68° 37' 00" W - 714.71 feet to a found 1/2" iron rod (with pink plastic cap marked "TLS") for an interior ell corner of this tract;

S 06° 30' 27" E - 111.51 feet to a found 1/2" iron rod (with pink plastic cap marked "TLS") for an interior ell corner of this tract;

S 08° 45' 10" E - 208.03 feet to a found 1/2" iron rod (with pink plastic cap marked "TLS") for an interior ell corner of this tract;

S 21° 57' 05" E - 16.94 feet to a found 3/8" iron rod at the northeast corner of a called 74.3682 Acre tract conveyed to Fuessel Holdings, LLC in Instrument No. 2012081610, for an exterior ell corner of this tract;

THENCE S 68° 23' 05" W - 314.74 feet along the north line of the said 74.3682 Acre tract to a set 1/2" iron rod (with red plastic cap marked "TRIAD RPLS 5952") at the southeast corner of a called

Triad Surveying, Inc.
Firm Registration No. 10007900
P.O. Box 1489
Rockdale, TX 76567
(512) 446-3457

Project No. S20-169

49.9748 Acre tract conveyed to the Walther Family Limited Partnership in Instrument No. 2005069305, for the southwest corner of this tract;

THENCE N 22° 15' 20" W - 2184.10 feet along the east line of the said 49.9748 Acre tract to a 1/2" found iron rod (with red plastic cap marked "Williamson County") on the said south Right-of-Way line of County Road 395, at the northeast corner of the said 74.3682 Acre tract, for the northwest corner of this tract;

THENCE N 68° 32' 49" E - 1110.90 feet along the said south Right-of-Way line of County Road 395 to the **POINT OF BEGINNING** and containing within theses metes and bound 49.913 Acres of land;

Bearings are based on the Texas State Plane Coordinate System of 1983, Texas Central Zone.

I, Bradley L. Lipscomb, Registered Professional Land Surveyor No. 5952 in the State of Texas, do hereby certify that this survey was performed on the ground under my supervision and that the field notes hereon are true and correct to the best of my knowledge.

Given under my hand and seal this 29th day of June, 2020.


Bradley L. Lipscomb RPLS



Return to
Longhorn Title Co., Inc.
309 N. Main
Taylor, TX 76574

Triad Surveying, Inc.
Firm Registration No. 10007900
P.O. Box 1489
Rockdale, TX 76567
(512) 446-3457

Project No. S20-169

**ELECTRONICALLY RECORDED
OFFICIAL PUBLIC RECORDS**

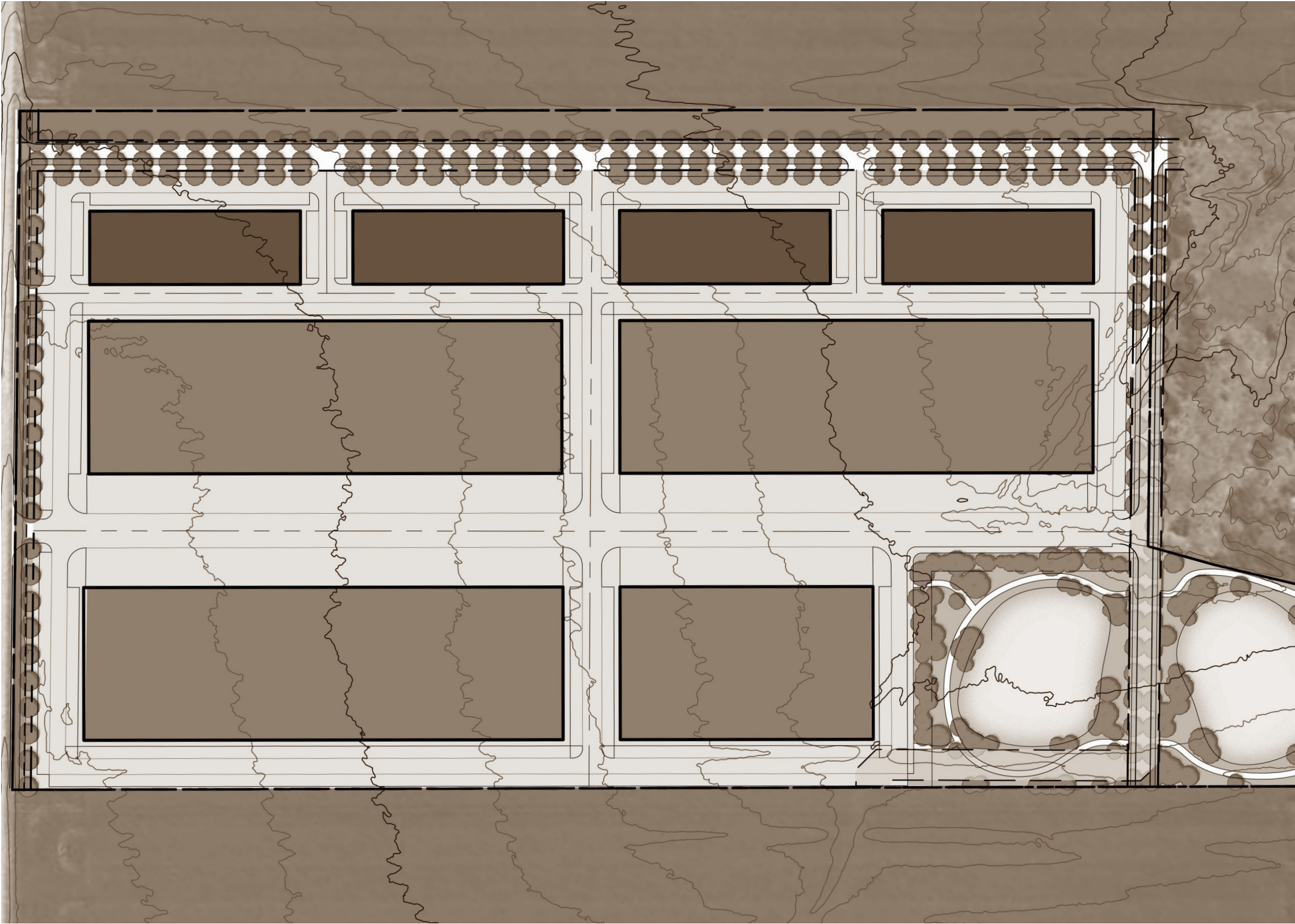
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11/23/2020 05:38 PM



Nancy E. Rister

Nancy E. Rister, County Clerk
Williamson County, Texas



AN EMPLOYMENT CENTER PLAN
FOR
TAYLOR 50
TAYLOR, TEXAS

A	BACKGROUND	
	Regional Context	A.2
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	Existing Conditions	A.5
	Elevation Analysis	A.6
B	REGULATIONS	
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	Employment Center Standards.....	B.4
	Thoroughfare Types Plan	B.5
	Transportation Master Plan Diagram.....	B.6
	Thoroughfare Sections.....	B.7
	Civic Space Plan.....	B.9
C	SUPPLEMENTAL PLANS	
	Master Plan in Context	C.2
	Illustrative Master Plan.....	C.3
	with Summary Program	C.4
	Fire Apparatus Access Diagram.....	C.5
	Addressing Plan	C.6
	Illustrative Plan with Annotation.....	C.7
X	APPENDIX	
	Charrette Presentation 5/29/2024	X.2
	Charrette Presentation 5/30/2024	X.3

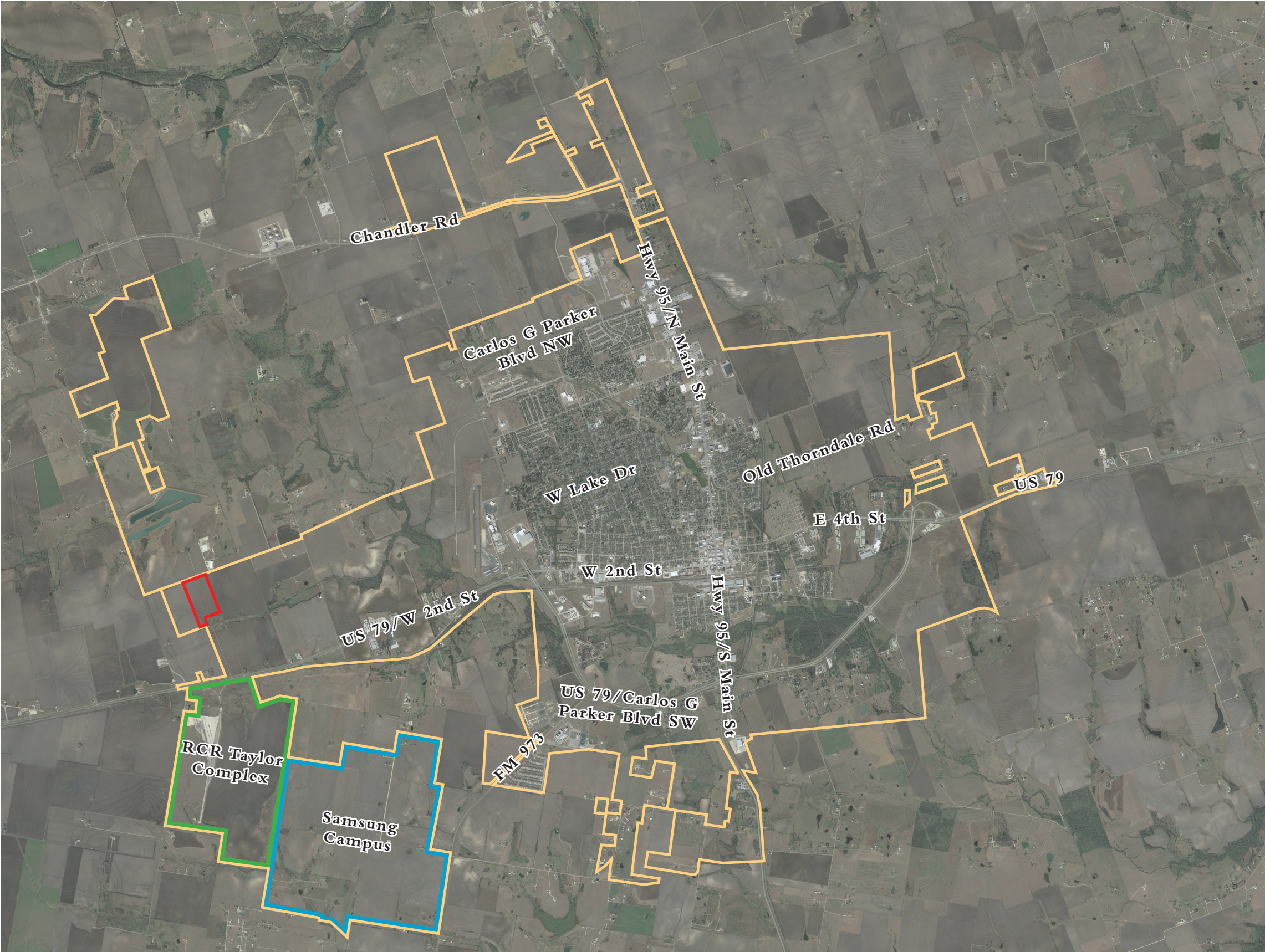
FOR
THE CITY OF TAYLOR, TEXAS
AND
TAYLOR 49 LLC
by
MICHAEL WATKINS ARCHITECT, LLC
AUGUST 7, 2024

A. BACKGROUND

The Background chapter summarizes information about the site, program, zoning, and other relevant constraints provided by the Applicant and the City of Taylor that inform the design of the Employment Center Plan.

Regional Context.....	A.2
Site in Context	A.3
Comprehensive Plan Excerpts.....	A.4
Existing Conditions	A.5
Elevation Analysis	A.6

REGIONAL CONTEXT

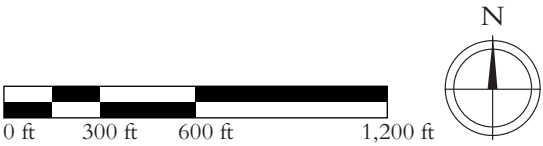


- Key**
- City Boundary
 - Subject Property
 - Samsung Campus
 - RCR Taylor Complex

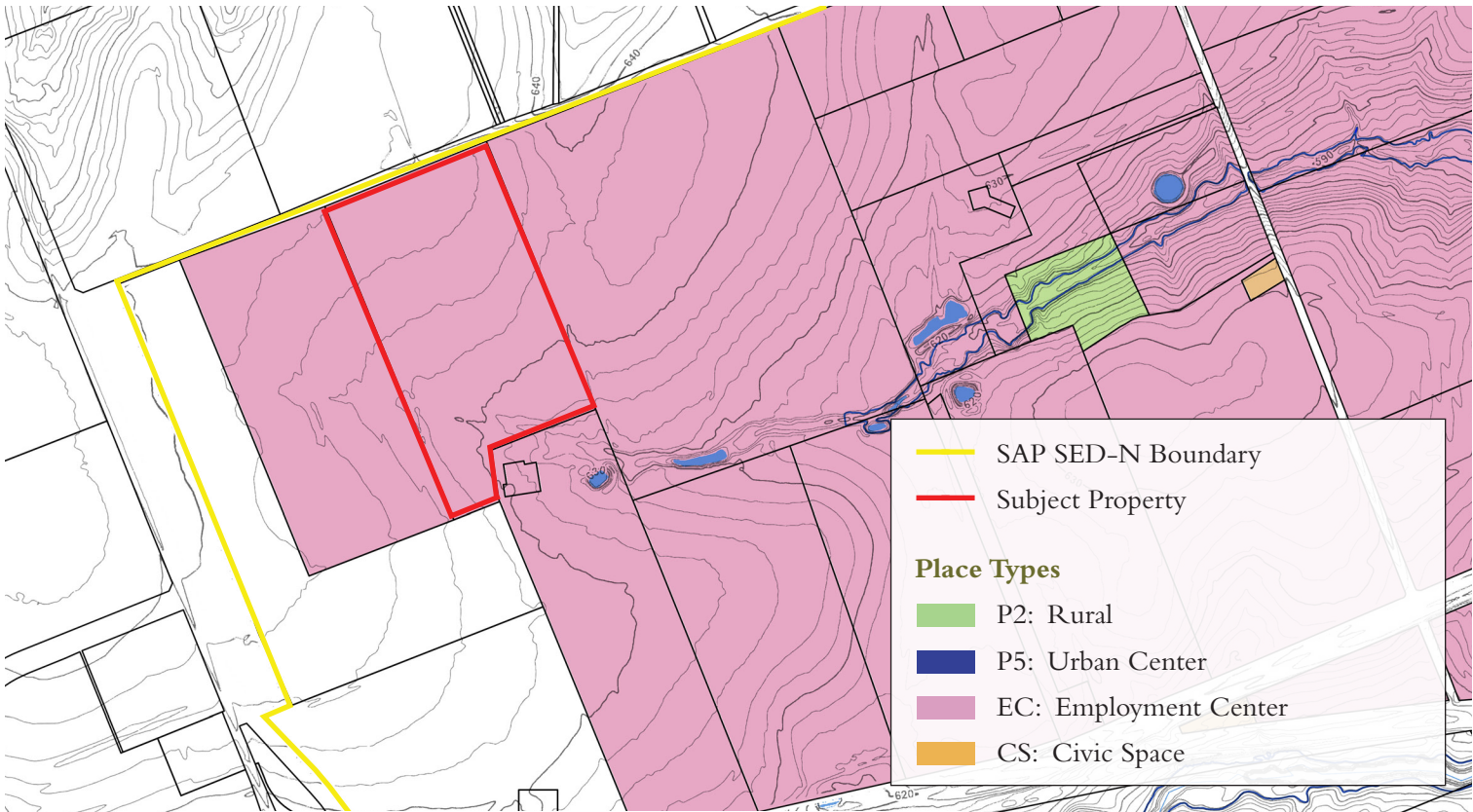
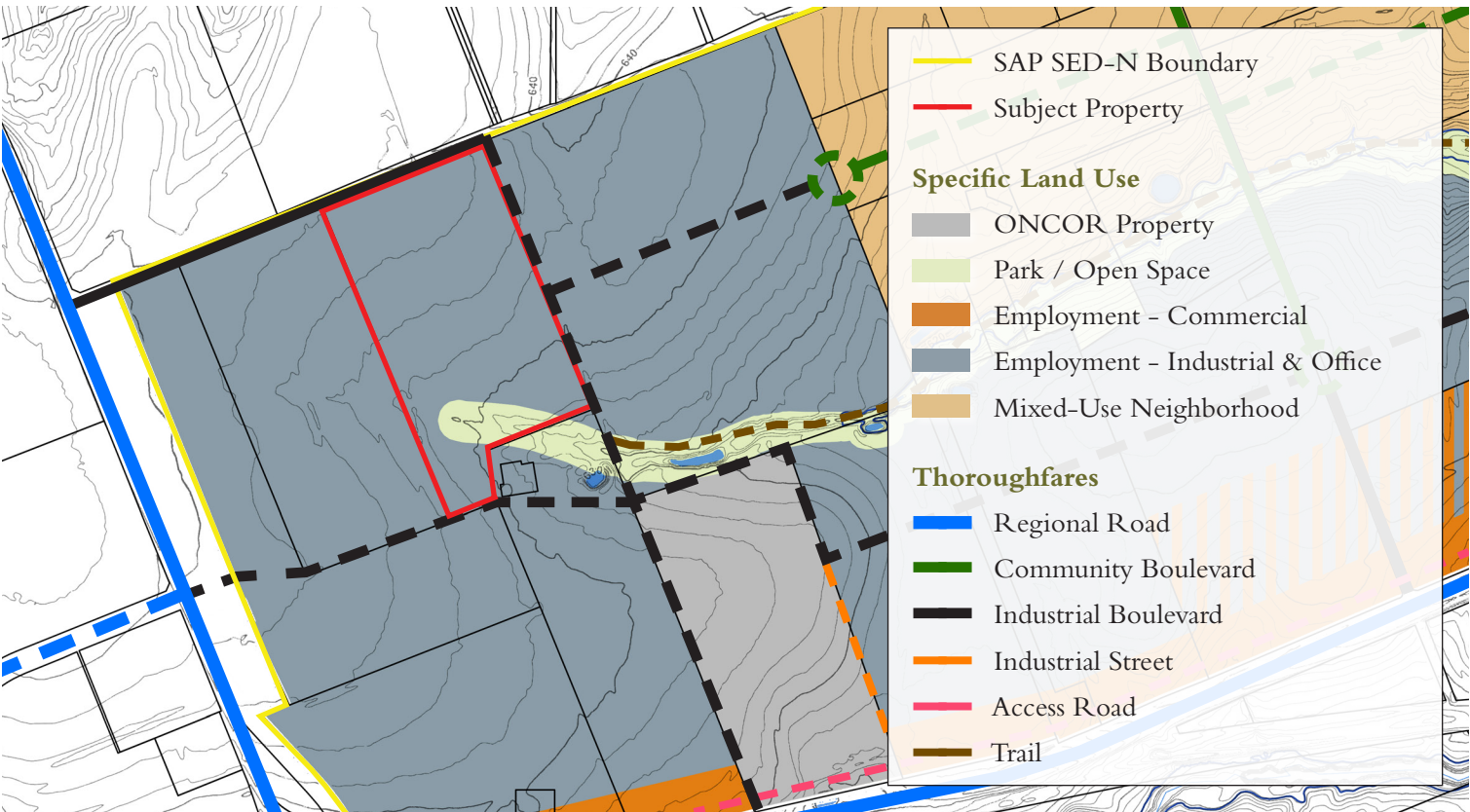
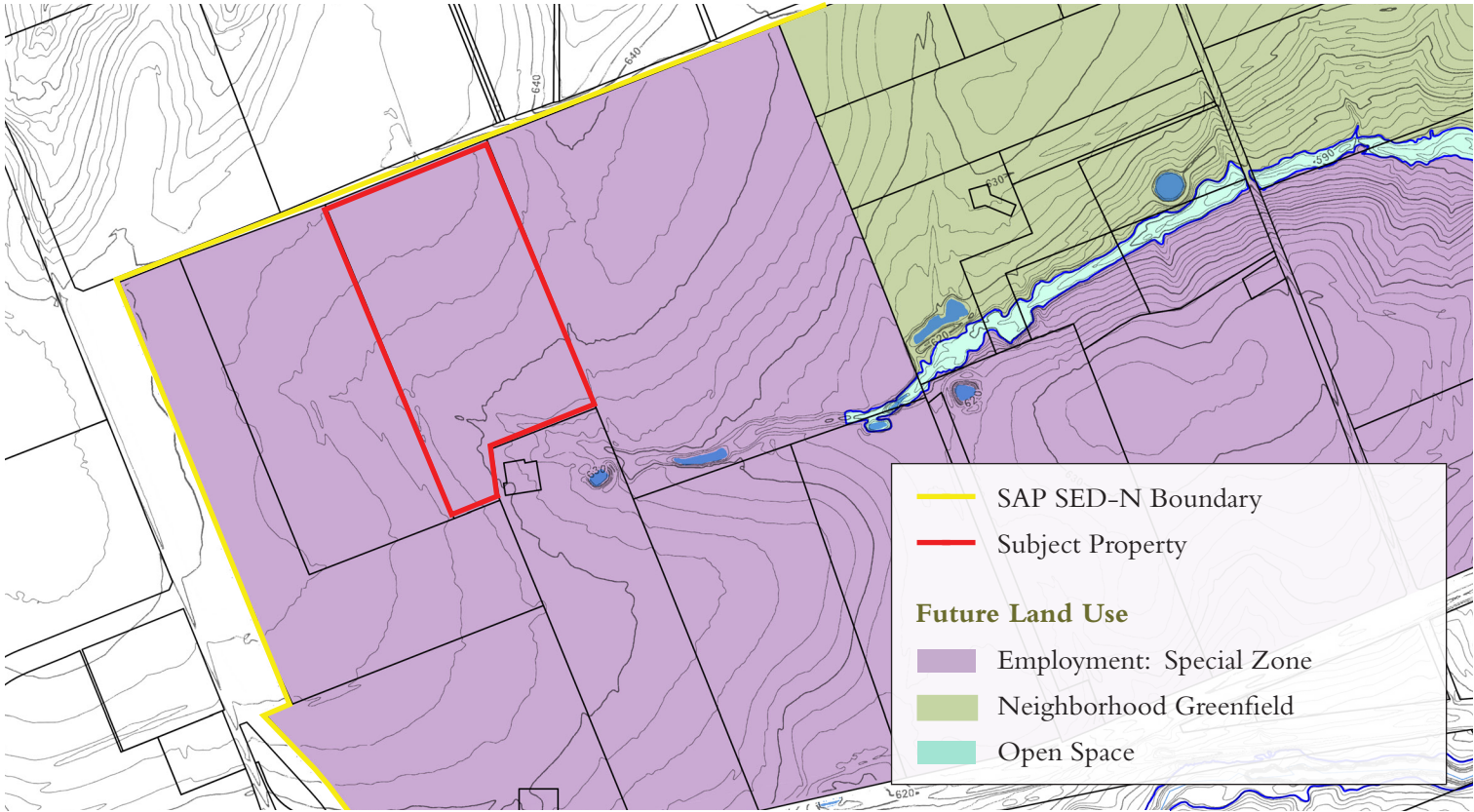
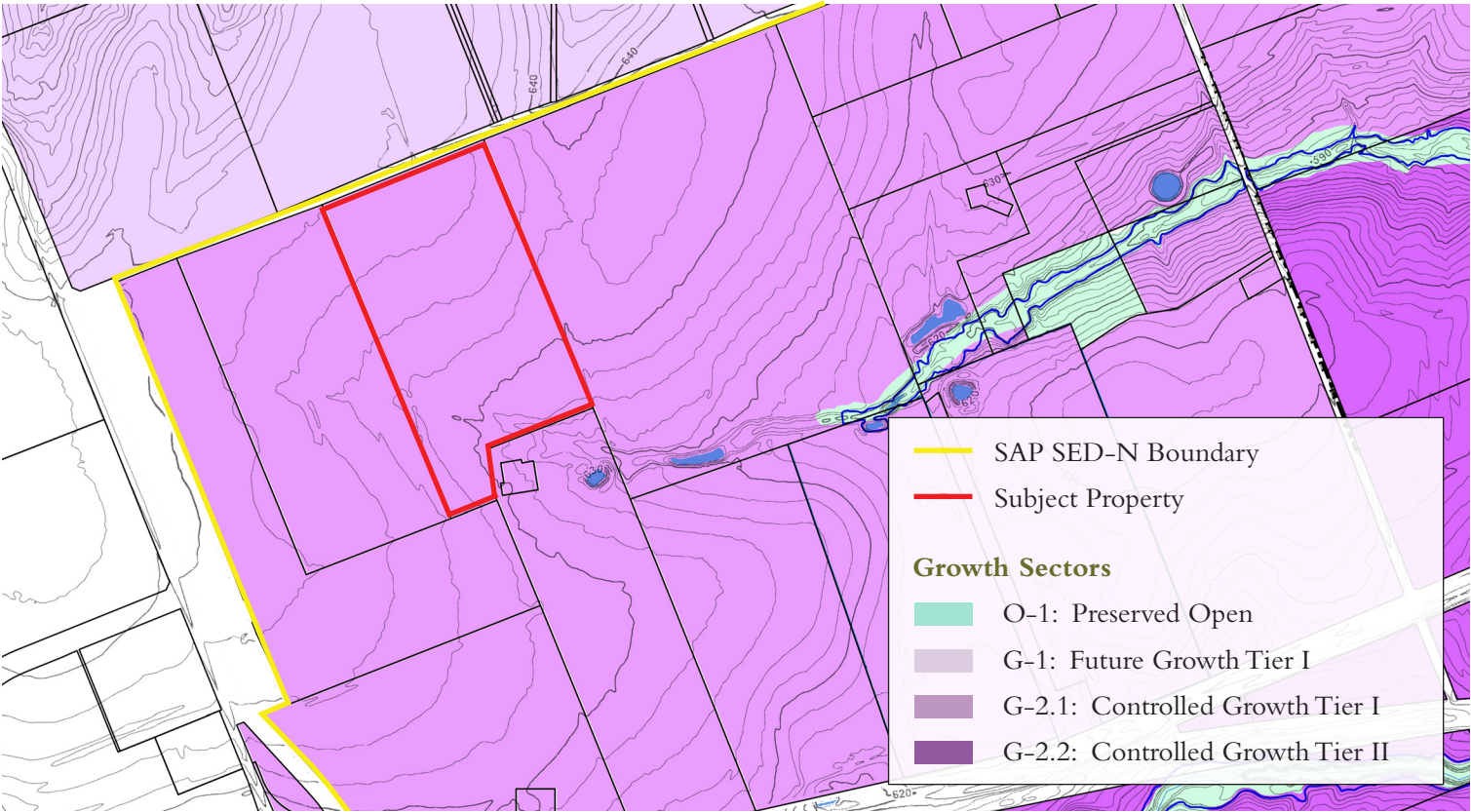
SITE IN CONTEXT



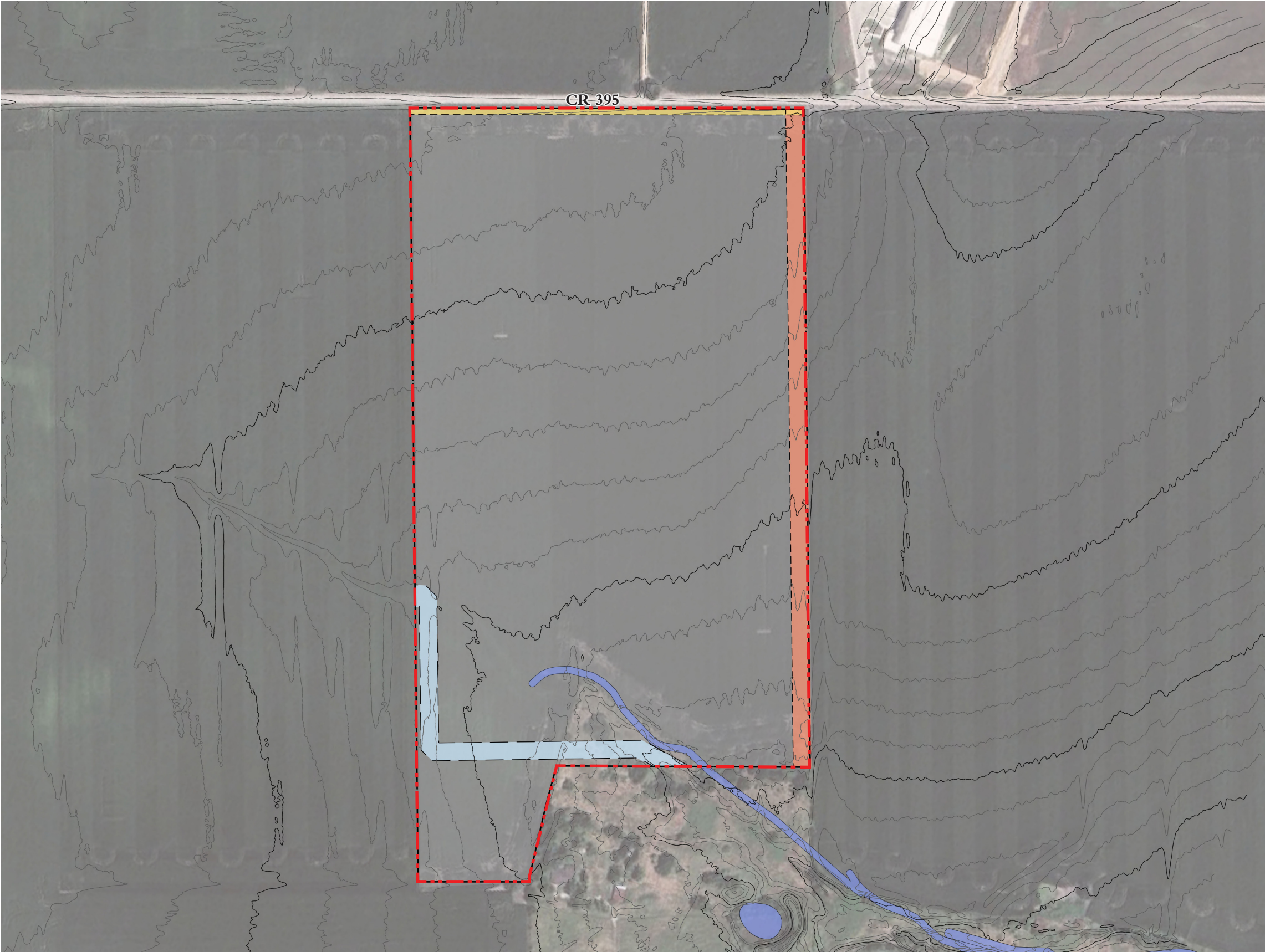
- Key**
- Subject Property
 - ~ 1-ft Contour
 - ~ 5-ft Contour
 - Wetlands
 - Drainage Easement
 - Electrical Easement
 - Gas Easement



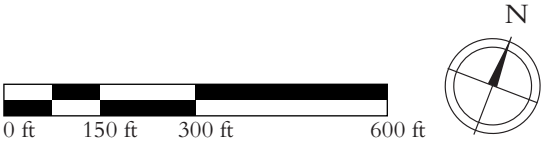
COMPREHENSIVE PLAN EXCERPTS (PER SAP SED-NORTH)



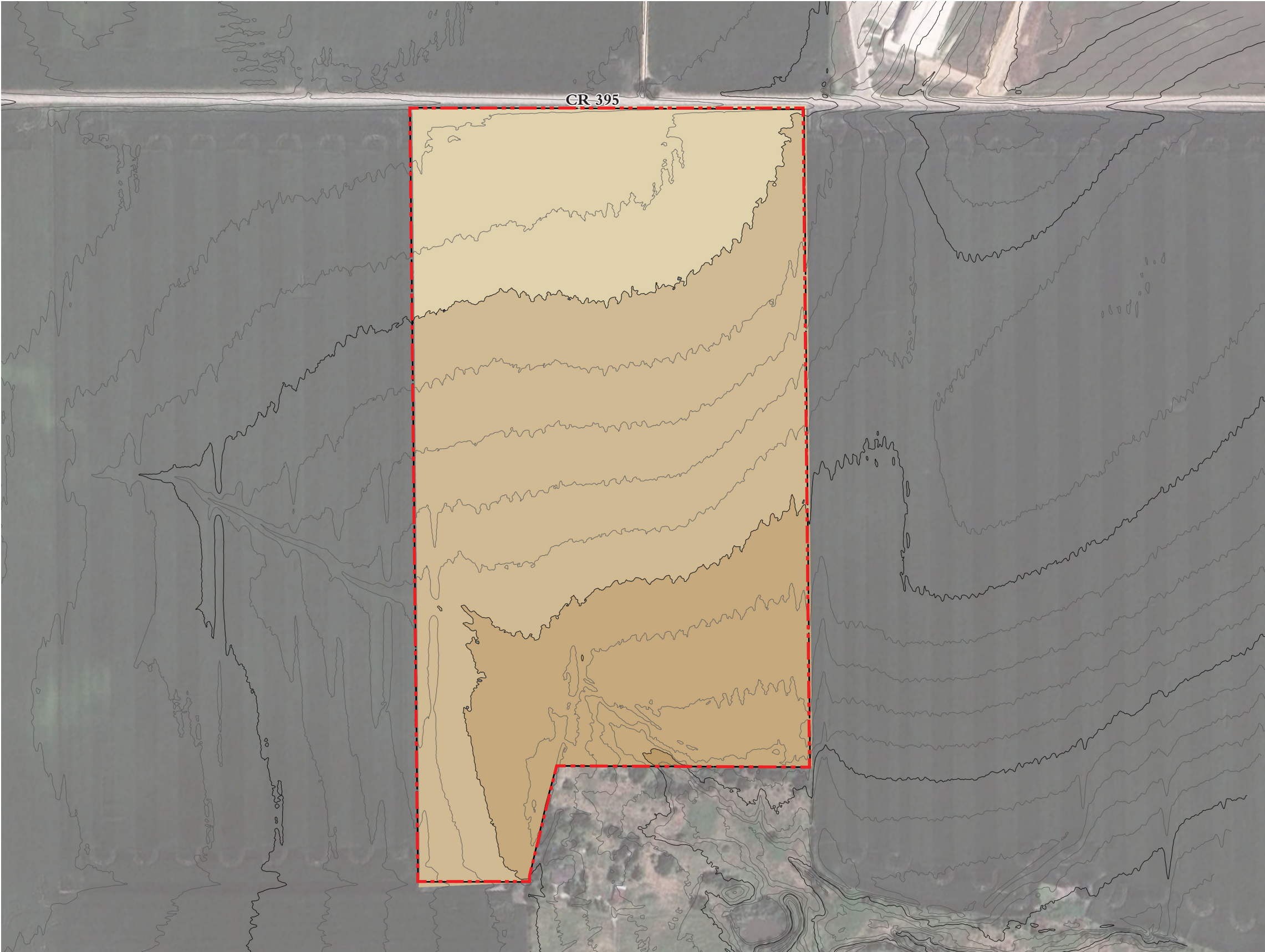
EXISTING CONDITIONS



- Key**
- Subject Property
 - ~ 1-ft Contour
 - ~ 5-ft Contour
 - Wetlands
 - Drainage Easement
 - Electrical Easement
 - Gas Easement

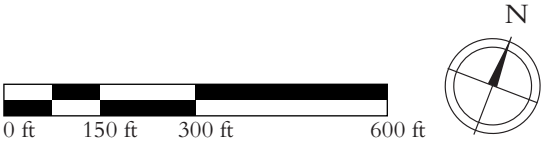


ELEVATION ANALYSIS



Key

- Subject Property
- ~ 1-ft Contour
- ~ 5-ft Contour
- 645-650 ft.
- 640-645 ft.
- 635-640 ft.
- 630-635 ft.



B. REGULATIONS

The Regulations chapter includes the plans and standards that specify the requirements of the Employment Center Plan and that demonstrate how this Plan fulfills the requirements of the Taylor Land Development Code.

Regulating PlanB.2

Employment Center StandardsB.4

Thoroughfare Types Plan.....B.5

Transportation Master Plan DiagramB.6

Thoroughfare TypesB.7

Civic Space PlanB.9

REGULATING PLAN



Key

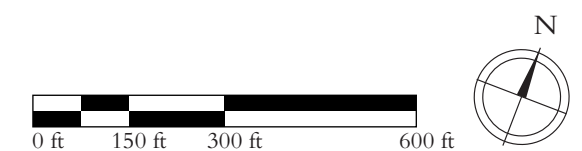
- Subject Property
- EC - Employment Center
- CS - Civic Space
- Primary Frontage
- Secondary Frontage
- Block Dimensions

Notes

1. Building footprints and parking configurations are conceptual and subject to revision. Block dimensions are non-binding and are intended to demonstrate compliance with City Standards for block length and perimeter.

General Standards

1. Approval of this Employment Center Plan is conditioned on the approval of any applicable permits related to the wetland and floodplain on this property.
2. Three years after the adoption of this Employment Center Plan, if the applicant can demonstrate a lack of market demand for the Building Types and uses permitted, an amendment to this Employment Center Plan may be considered to allow additional Place Types, such as P5, Building Types, such as Large Apartments, and uses, such as Residential.



The design is subject to change. Not for construction.



Key

- Subject Property
- EC - Employment Center
- CS - Civic Space
- Primary Frontage
- Secondary Frontage
- Block Dimensions

Design-Specific Standards

- 1 Boulevard 1 and Street 1 are intended to connect to the adjacent properties as shown with the exact location of the connection to be coordinated with the owners of the adjacent properties.
- 2 The design proposed for Boulevard 1 is intended to be paired with an additional, similar Thoroughfare across the gas easement on the adjacent property in order to provide left-turn lanes in both directions. Prior to the construction of this adjacent Thoroughfare, Boulevard 1 may consist of two-way travel as shown in the Thoroughfare Types (B.7). This design may be modified to provide adequate travel and turning lanes in other configurations in coordination with the owner of the adjacent property and the City of Taylor.
- 3 Boulevard 1 is intended to connect to an additional Industrial Boulevard that continues east on the adjacent property, with the exact location of the connection to be determined based on any future development on the adjacent property. The design of Boulevard 1 may be modified to accommodate this connection.
- 4 Lots adjacent to Civic Spaces shall provide a 30-foot landscape buffer where they adjoin the Civic Space.
- 5 Block A may be subdivided into lots in such a way that all lots have frontage on a Thoroughfare or Civic Space.
- 6 Driveway connections shown and any additional connections proposed in the future are subject to engineering review for compliance with driveway spacing and all other regulations specified by the Taylor Engineering Manual.

The design is subject to change. Not for construction.



EMPLOYMENT CENTER STANDARDS

Blocks	
Block Length (maximum)	1,800 ft.
Block Perimeter (maximum)	7,200 ft.
Public Frontage (Right of Way)	
Sidewalk Zone Width	See <i>Thoroughfares (B.7-B.8)</i>
Landscape Zone	
Vehicular Parking Zone Width	
Vehicular Travel Zone Width	
Street Types	
Rural Street	not permitted
Residential Alley	not permitted
Commercial Alley	permitted
Yield Street	not permitted
Neighborhood Street	permitted
Neighborhood Avenue	permitted
Side Street	permitted
2-Lane Community Boulevard	permitted
4-Lane Community Boulevard	permitted
Path	permitted
Trail	permitted

Lots	
Width (minimum)	none
Area (minimum)	none
Lot coverage (maximum)	none
Build-to-Line (range)	none
Facade Buildout (minimum)	none
Stories (maximum)	5 stories
Parking Location	
First Layer	permitted ⁴
Second Layer	permitted
Third Layer	permitted
On-Street	permitted
RV Storage	not permitted
Private Frontage Types	
Common Yard	not permitted
Porch with Optional Fence	not permitted
Terrace	not permitted
Forecourt	not permitted
Stoop	not permitted
Storefront and Awning	permitted
Gallery	permitted
Arcade	not permitted
Building Disposition	
Edgeyard	permitted
Sideyard	permitted
Courtyard	permitted
Rearyard	permitted

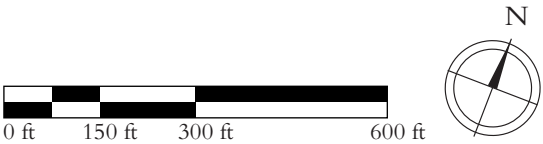
Building Types	
Detached Dwelling	not permitted
Attached Dwelling	not permitted
Cottage Court	not permitted
Duplex	not permitted
Triplex	not permitted
Quadraplex	not permitted
Small Apartment	not permitted
Large Apartment	not permitted
Manufactured Home/Park	not permitted
Accessory Dwelling Unit	not permitted
Recreational Vehicle Park	not permitted
Residential Accessory	not permitted
Small Commercial	permitted
Live/Work	permitted
Mixed-Use Commercial	permitted
Large Commercial	permitted
Highway Commercial	permitted
Industrial	permitted
Carts, Kiosks, Food Trailers	permitted
Temporary Commercial	permitted
Commercial Accessory	permitted
Civic Buildings	permitted

The following standards apply to all Lots within an Employment Center (EC) Place Type:

1. **Intent.** The intent of the Employment Center is to provide a place for industrial and commercial uses (and associated loading areas and truck access) with connectivity to surrounding walkable neighborhoods, Civic Spaces, and commercial centers sufficient for pedestrian and bicycle connections between the two to be feasible.
2. **Uses Permitted.** The following land uses are permitted:
 - Retail including drive-through services, vehicle services, and out door activities
 - Office
 - Commercial including outdoor storage
 - Industrial
 - Similar Uses: for a proposed use not listed herein, a Warrant or Variance may be issued.
3. **Access.** A safe, direct, and demarcated means of pedestrian and bicycle access shall be provided from the Primary Frontage Line to the Primary Entrance of each building.
4. **Parking.** Parking in the first layer shall not exceed the width of one drive aisle that is double-loaded with head-in parking.
5. **Truck Loading Docks.** Truck loading docks shall be permitted only in the Third Layer.



Front Thoroughfare Types				
	Name	Type	ROW	Pavement
	Boulevard	IB	90	36
	Boulevard	IB	50	24
	Street	IS	50	24
	Trails in Civic Spaces			



The design is subject to change. Not for construction.

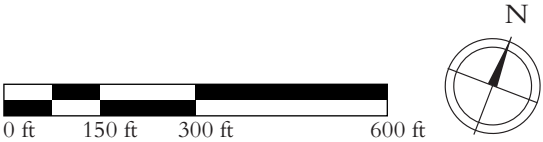


TRANSPORTATION MASTER PLAN DIAGRAM



Thoroughfare Designations

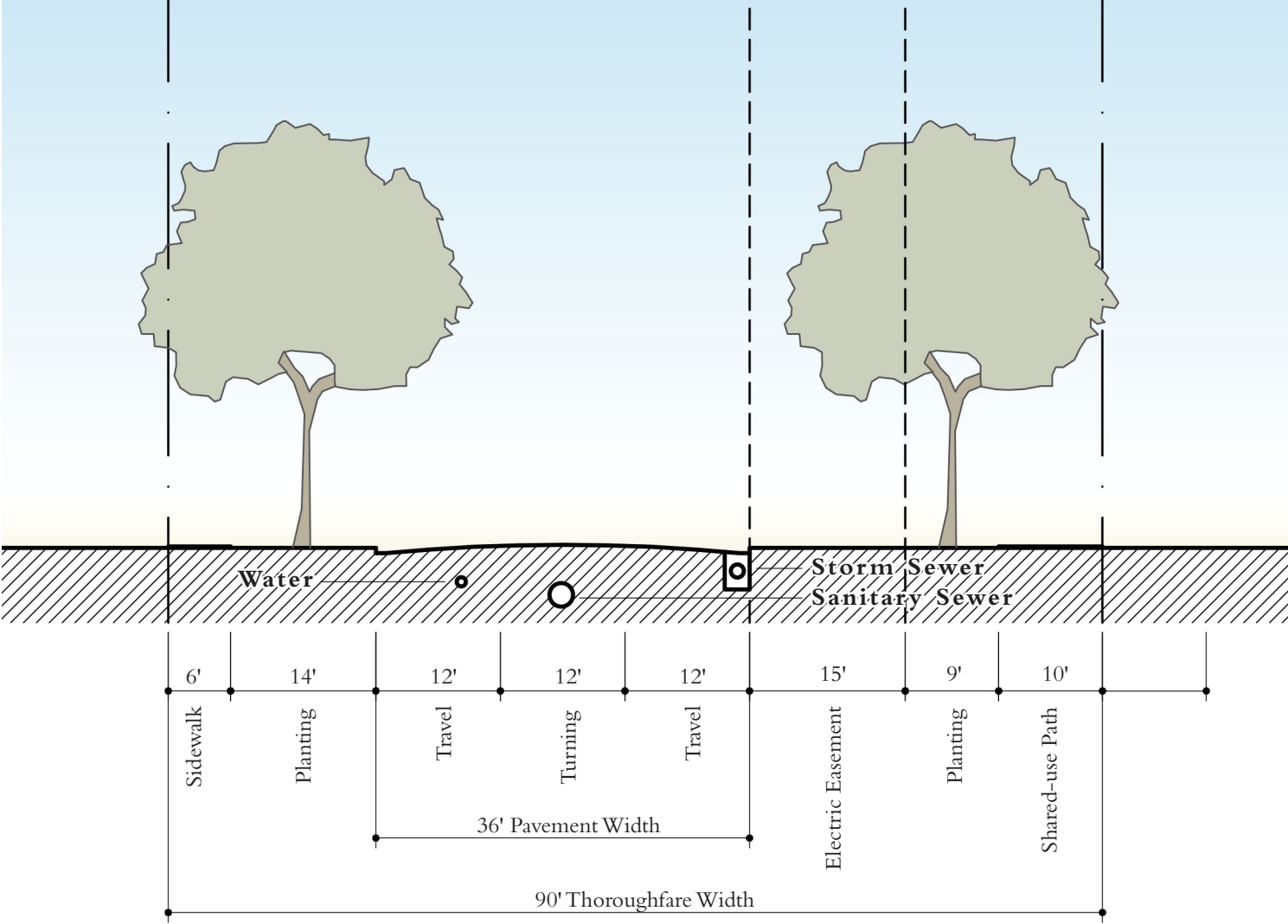
- Industrial Boulevard
- Industrial Street



The design is subject to change. Not for construction.

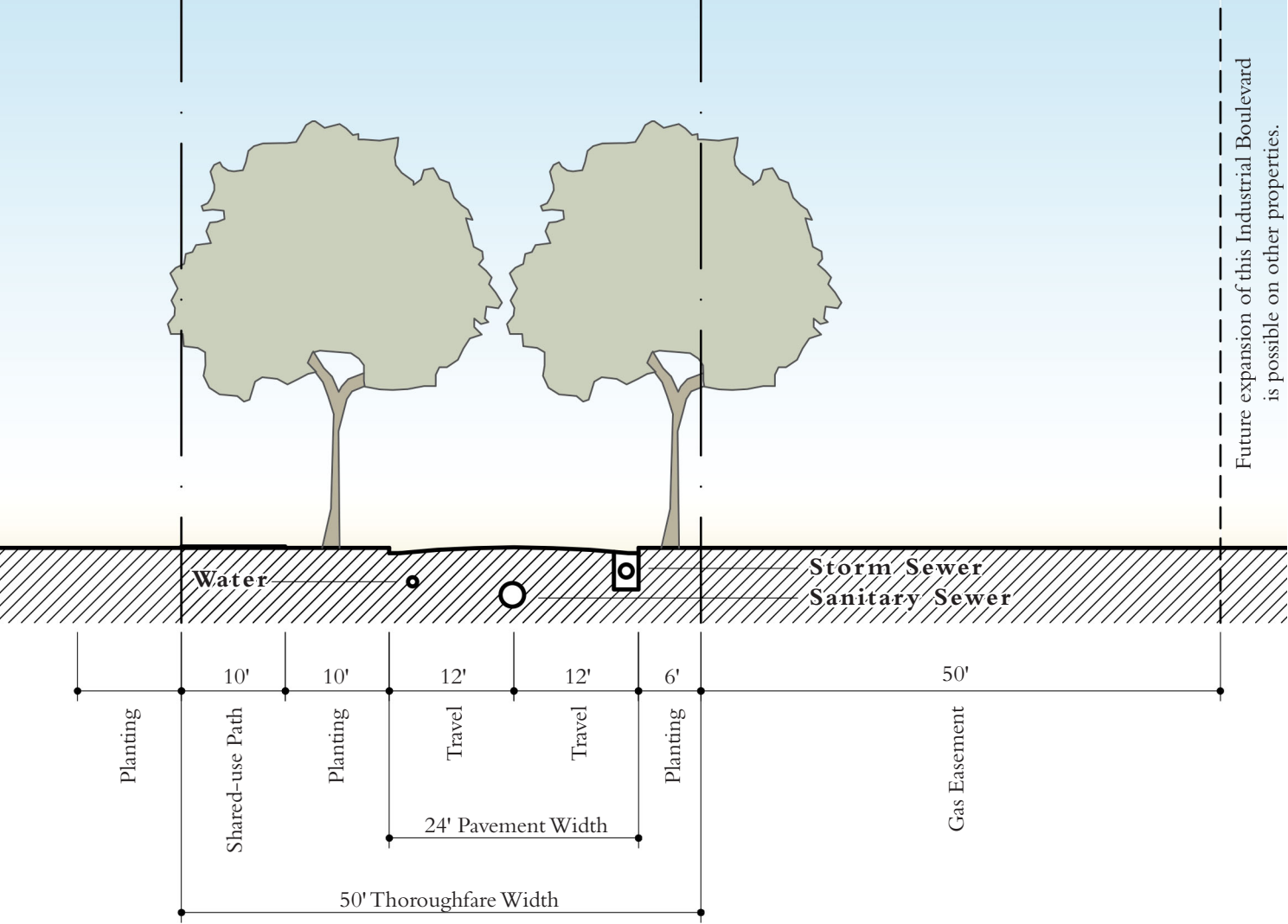


THOROUGHFARE TYPES



IB-90-36

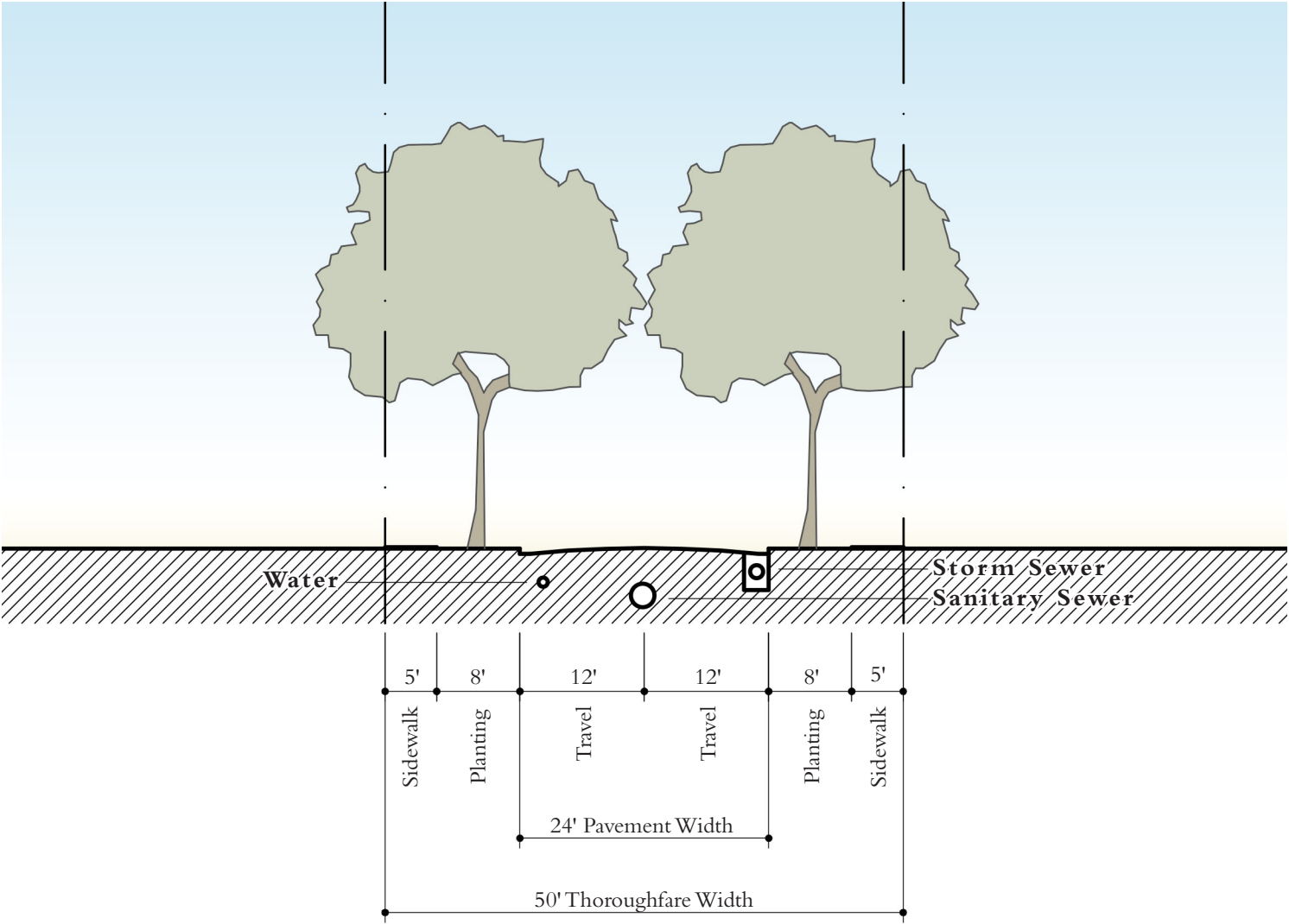
Thoroughfare Classification:	Industrial Boulevard	Horizontal Inside Radius	510 ft. min.
Thoroughfare Type:	Street	Intersection Spacing:	200 ft. min.
Vehicular Movement:	2-way	Driveway Spacing:	200 ft. min.
Design Vehicle:	WB-67	Curb Type:	6 in. header
Posted Speed:	35 mph	Ownership:	Publicly owned
Vehicular Clear Width:	36 ft.	Notes:	This type may be modified upon determination of the existing ROW width of CR 395. All of the components shown for this Thoroughfare type shall be included in any revised design.



IB-50-24

Thoroughfare Classification:	Industrial Boulevard	Horizontal Inside Radius	510 ft. min.
Thoroughfare Type:	Street	Intersection Spacing:	200 ft. min.
Vehicular Movement:	2-way	Driveway Spacing:	200 ft. min.
Design Vehicle:	WB-67	Curb Type:	6 in. header
Posted Speed:	35 mph	Ownership:	Publicly owned
Vehicular Clear Width:	24 ft.	Notes:	

THOROUGHFARE TYPES



IS-50-24

Thoroughfare Classification:	Industrial Street	Horizontal Inside Radius	333 ft. min.
Thoroughfare Type:	Street	Intersection Spacing:	100 ft. min.
Vehicular Movement:	2-way	Driveway Spacing:	100 ft. min.
Design Vehicle:	WB-50	Curb Type:	6 in. header
Posted Speed:	30 mph	Ownership:	Publicly owned
Vehicular Clear Width:	24 ft.	Notes:	

CIVIC SPACE PLAN



Key

- Subject Property
- Park

Civic Space Allocation

5.03 ac.	Civic Space in Subject Property
49.91 ac.	Total Area of Subject Property
10.1%	Civic Space Ratio

The design is subject to change. Not for construction.



C. SUPPLEMENTAL PLANS

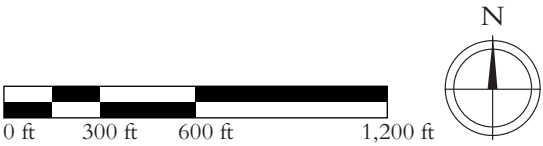
The Supplemental Plans chapter includes additional plans and diagrams that elaborate on the design of the Employment Center Plan and provide additional information to the Applicant and City Reviewers. This information includes the particular program incorporated into the design and how the design addresses matters such as fire apparatus access and addressing. The information presented in this chapter reflects one possible scenario for the development of this Employment Center Plan, and modifications to the design are anticipated within the bounds of the requirements found in the Regulations chapter and all other applicable regulation.

Master Plan in Context.....	C.2
Illustrative Master Plan.....	C.3
Illustrative Master Plan with Program Summary	C.4
Fire Apparatus Access	C.5
Addressing	C.6
Detailed Program and Parking.....	C.7

MASTER PLAN IN CONTEXT



- Key**
- Subject Property
 - ~ 1-ft Contour
 - ~ 5-ft Contour
 - Drainage Easement
 - Electrical Easement
 - Gas Easement
 - Large Industrial Building
 - Flex Industrial Building



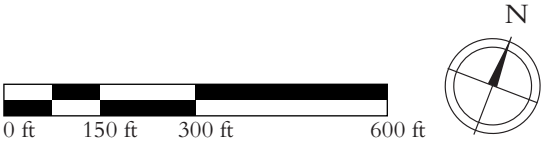
The design is subject to change. Not for construction.



ILLUSTRATIVE MASTER PLAN



- Key**
- Subject Property
 - ~ 1-ft Contour
 - ~ 5-ft Contour
 - Drainage Easement
 - Electrical Easement
 - Gas Easement
 - Large Industrial Building
 - Flex Industrial Building



The design is subject to change. Not for construction.



ILLUSTRATIVE MASTER PLAN WITH PROGRAM SUMMARY



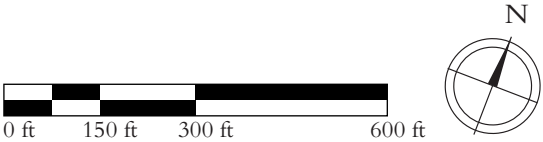
Key

- Subject Property
- 1-ft Contour
- 5-ft Contour
- Drainage Easement
- Electrical Easement
- Gas Easement

Summary Program

Large Industrial (250' depth)	687,250 SF
Flex Industrial (120' depth)	165,600 SF
Total Industrial	852,850 SF

The design is subject to change. Not for construction.



FIRE APPARATUS ACCESS



Key

- Subject Property
- 26-ft clear Fire Apparatus Road
- 20-ft clear Fire Apparatus Roads
- Buildings over 30 feet
- Buildings under 30 feet

Fire Apparatus Access Notes

1. Applicant's understanding of the relevant standards from these fire apparatus access notes to be confirmed by the City of Taylor.
2. Buildings 30 feet tall or greater:
 - Fire Apparatus Access Roads shall be 26 feet clear minimum.
 - Fire Apparatus Access Roads shall be between 15 and 30 feet from the building.
 - Fire Apparatus Access Roads shall provide access to one complete side of the building, as determined by the Fire Official.
3. For buildings less than 30 feet tall:
 - Fire Apparatus Access Roads shall be 20 feet clear minimum
4. All Fire Apparatus Access Roads shall have an effective inside turning radius of 15 feet.
5. All Fire Apparatus Access Roads shall be a maximum distance of 150 feet from all portions of any building.
6. Where a fire hydrant is located on a Fire Apparatus Access Road, the minimum road width shall be 26 feet (7925 mm), exclusive of all shoulders (*see graphic below*).



The design is subject to change. Not for construction.



ADDRESSING PLAN



Thoroughfare Names and Addressing Key

- ① CR 395
- ② Vivekananda Boulevard
- ③ Sarada Street

The design is subject to change. Not for construction.



DETAILED PROGRAM AND PARKING



Area 1		
Large Industrial	Program	Spaces
Building 1	196,250 SF	196
Building 2	193,750 SF	194
Building 3	103,500 SF	104
Building 4	193,750 SF	194
Parking Requested	1/2,000 SF	344
Parking Provided		706
Difference		+362

Area 2		
Flex Industrial/Commercial	Program	Spaces
Building 5	41,400 SF	55
Building 6	41,400 SF	55
Building 7	41,400 SF	55
Building 8	41,400 SF	55
Parking Requested	1.33/1,000 SF	220
Parking Provided		259
Difference		+39

The design is subject to change. Not for construction.

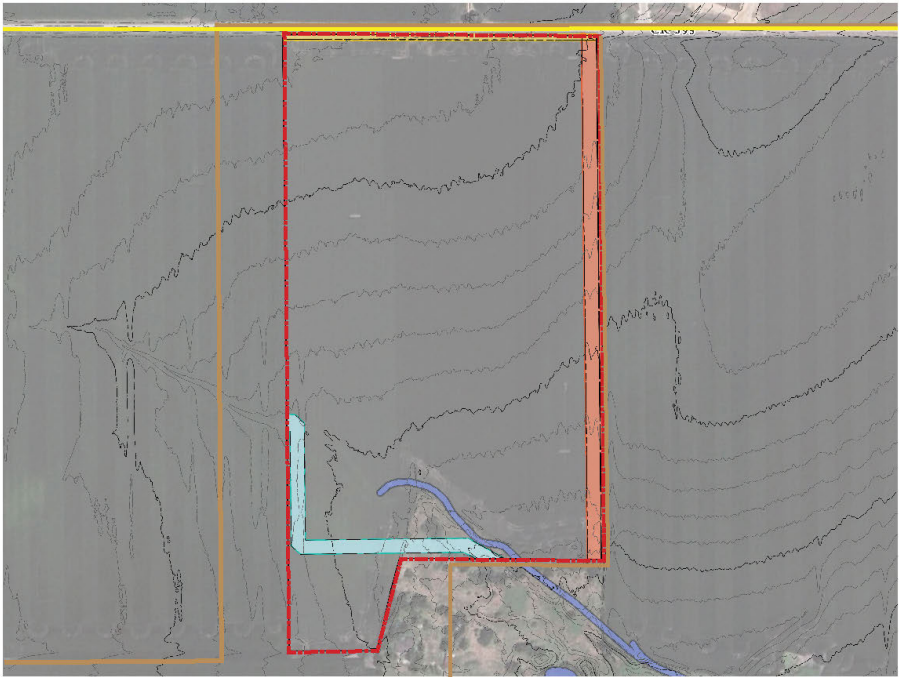


X. APPENDIX

The Appendix chapter provides additional information for reference that is not directly related to the content of the Employment Center Plan. This primarily includes description of the design process that resulted in this document.

Charrette Presentation 5/29/2024 X.2
Charrette Presentation 5/30/2024 X.3

ILLUSTRATIVE MASTER PLAN WITH PROGRAM

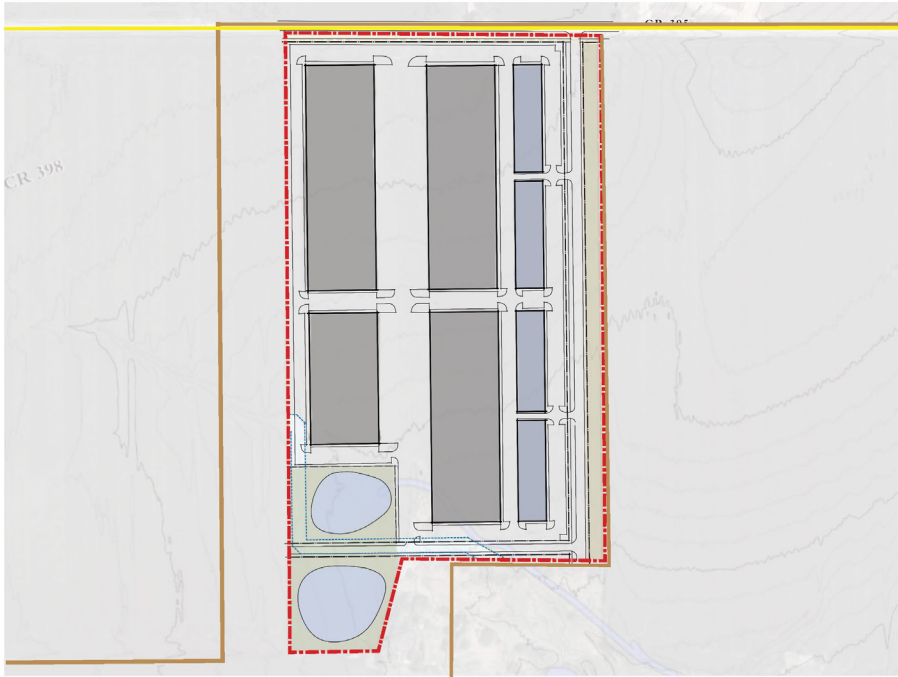


The design is subject to change. Not for construction.

W TAYLOR 50 | MAY 29, 2024 DRAFT

1

ILLUSTRATIVE MASTER PLAN WITH PROGRAM

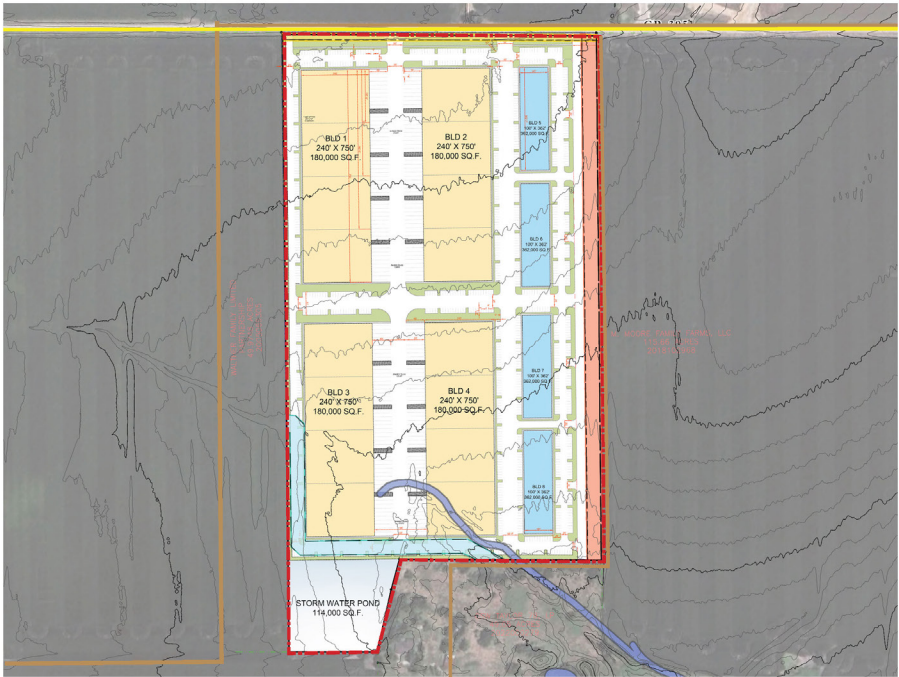


The design is subject to change. Not for construction.

W TAYLOR 50 | MAY 29, 2024 DRAFT

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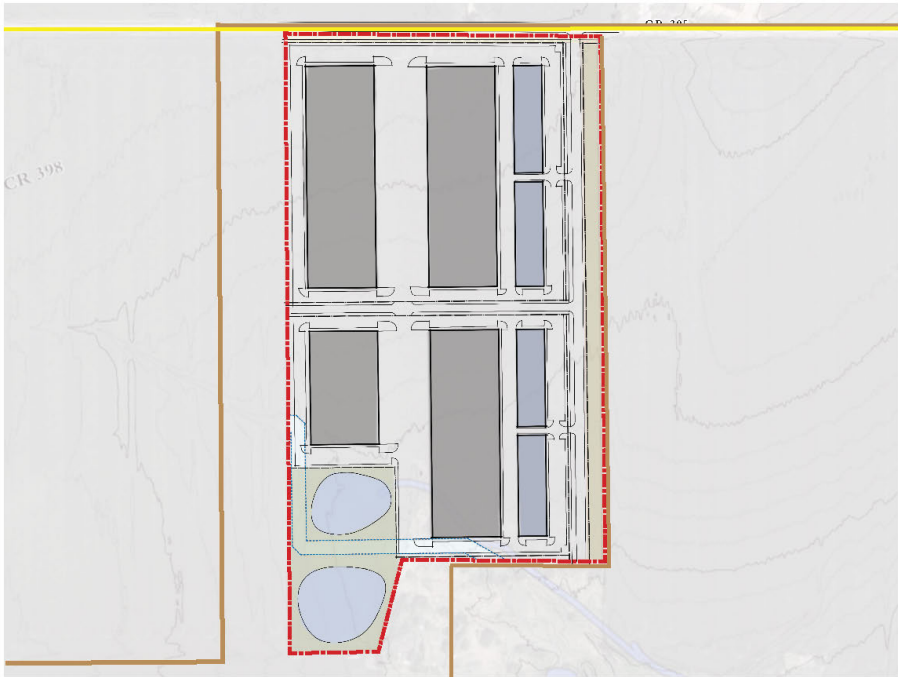


The design is subject to change. Not for construction.

W TAYLOR 50 | MAY 29, 2024 DRAFT

2

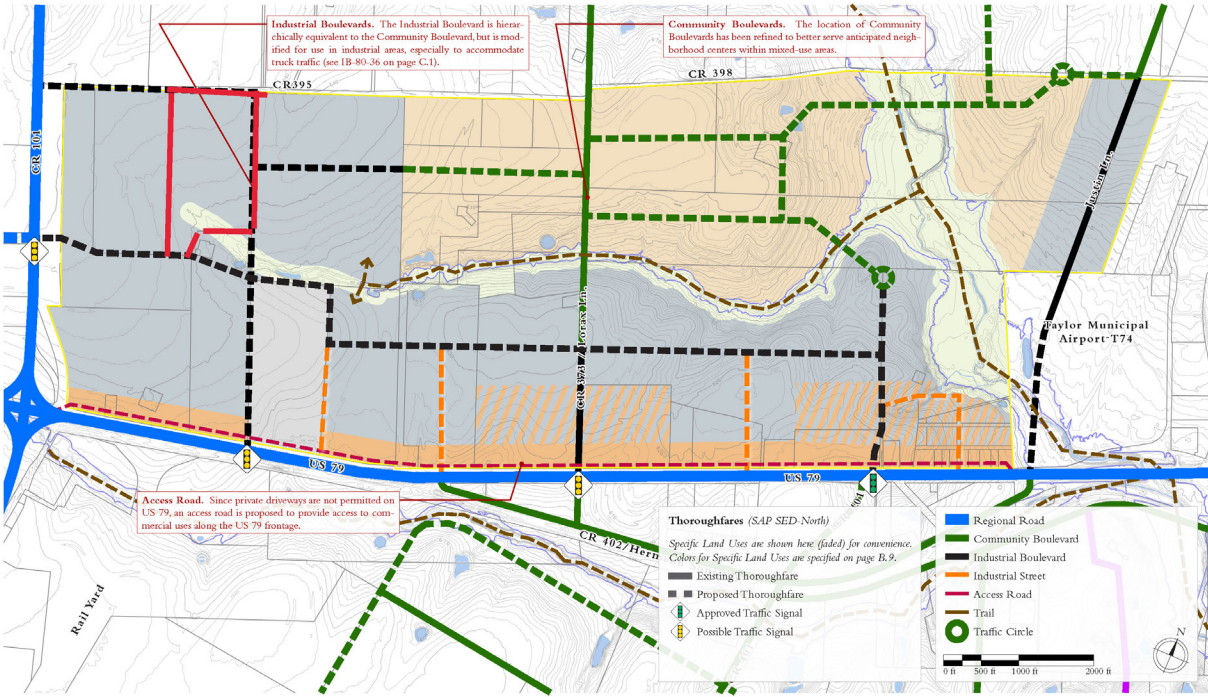
ILLUSTRATIVE MASTER PLAN WITH PROGRAM



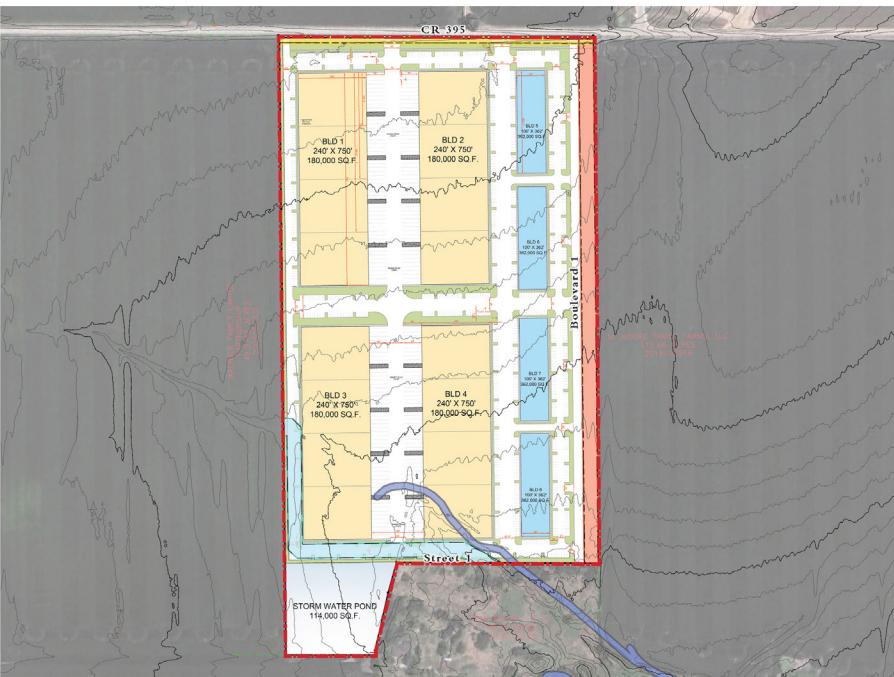
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W TAYLOR 50 | MAY 29, 2024 DRAFT

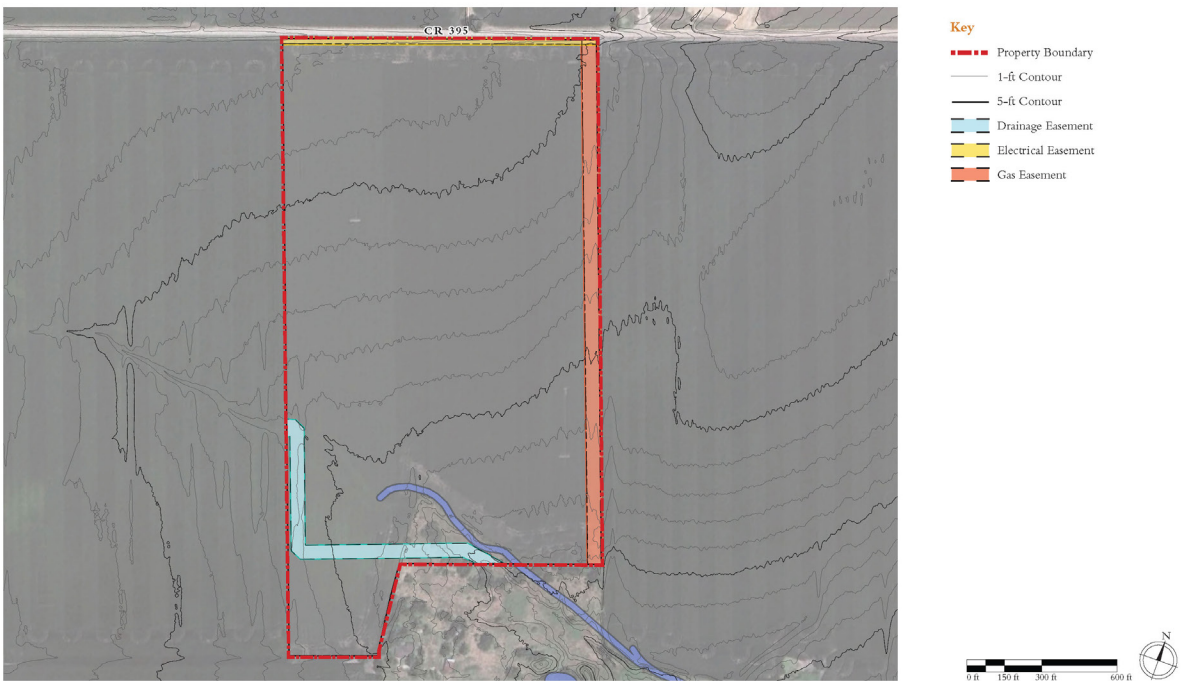
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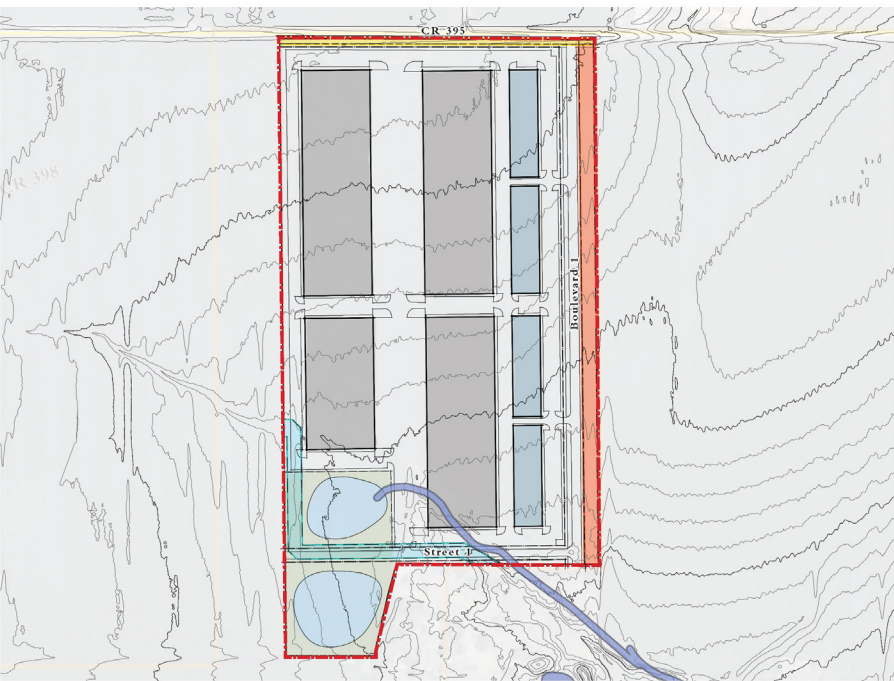
PLAN PROPOSED BY APPLICANT



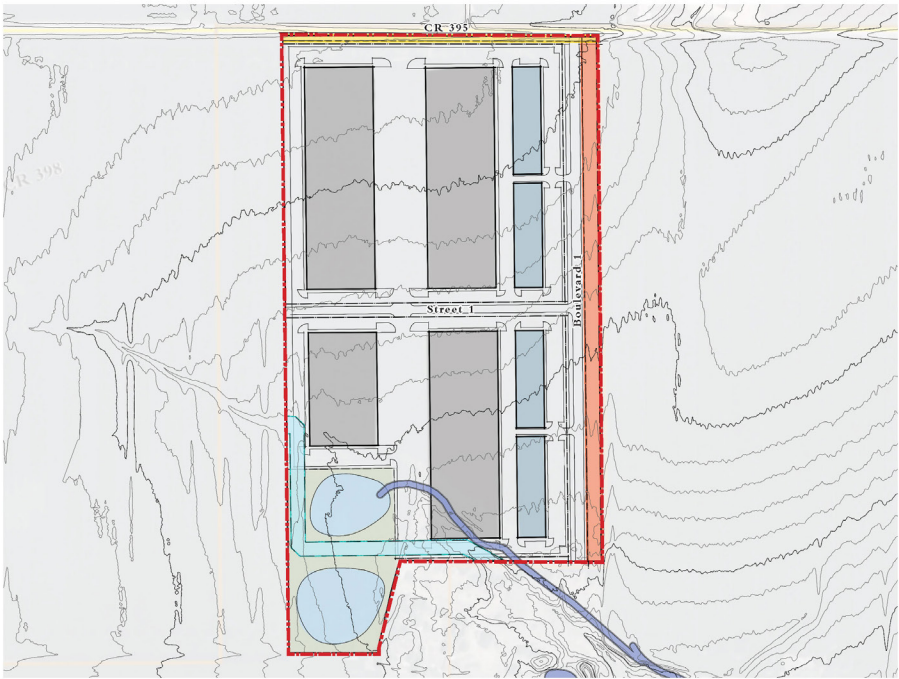
CONSTRAINTS MAP



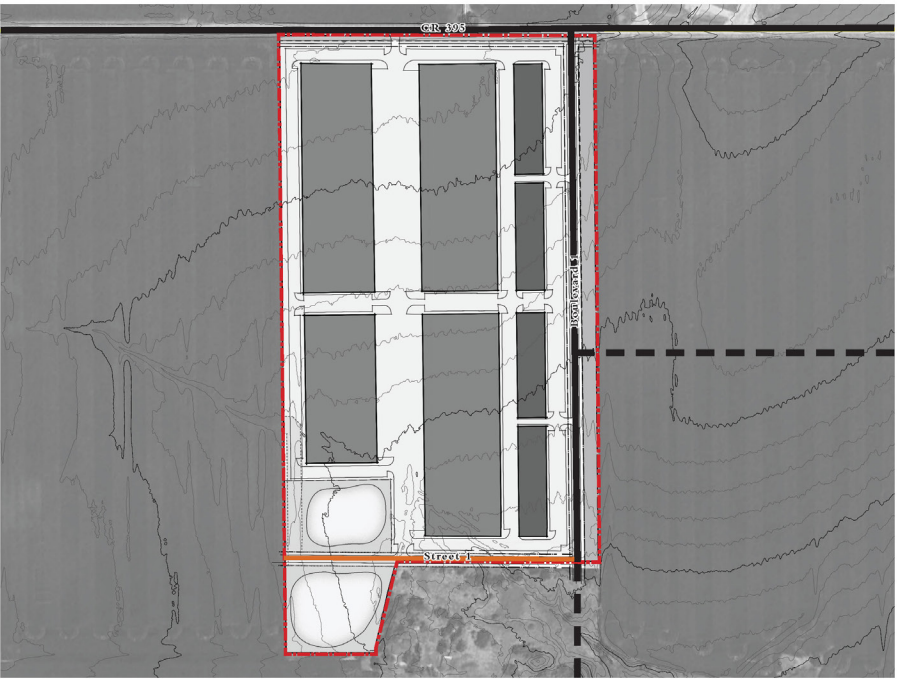
ILLUSTRATIVE MASTER PLAN WITH PROGRAM



ILLUSTRATIVE MASTER PLAN WITH PROGRAM



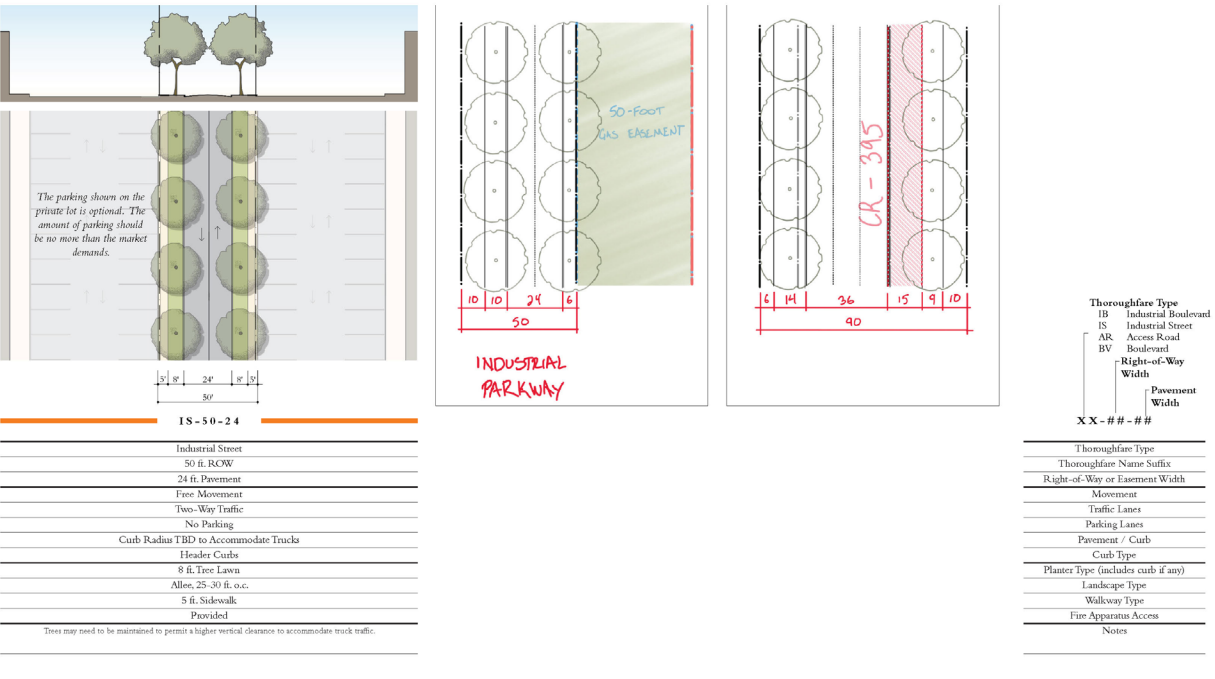
THOROUGHFARE TYPES MAP



ILLUSTRATIVE MASTER PLAN WITH PROGRAM



THOROUGHFARE SECTIONS



City of Taylor
PZ-2024-2238
Subdivision Variance
Staff Report

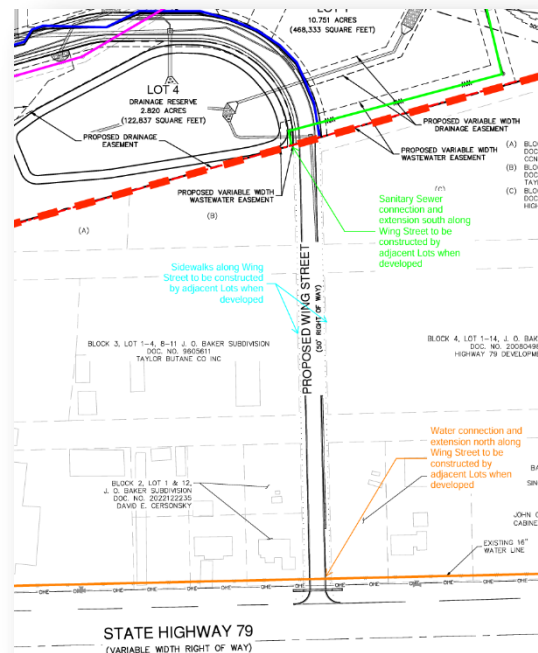
Item Details

Subject Property:	Generally located at 14501 US 79
Total Acreage:	Approximately 69.015 acres
Legal Description:	Approximately 69.015-acre tract of land part of and out of the H.G. Johnson Survey, Section 6, Abstract No. 348, more particularly described by the Williamson Central Appraisal District Parcels R019338 and R019992, Taylor, Williamson County, Texas
Applicant:	Katherine Nicely, MWSW Texas
Property Owner(s):	Douglas Wiley
Request:	A variance from the Engineering Manual Sections 4.2, 4.3, 4.4 related to Water and Wastewater Extension, Utility Layouts in the Right-of-Way, Separation of Water Mains from Wastewater Mains, and Section 2.10.10 relate to Sidewalks, Shared-Use Paths, and Trails.
Case History:	This is the first hearing of this request.

Overview of Applicant's Request & Background

The applicant has requested a variance to the Engineering Manual Sections 4.2, 4.3, 4.4 related to Water and Wastewater Extension, Utility Layouts in the Right-of-Way, Separation of Water Mains from Wastewater Mains, and Section 2.10.10 relate to Sidewalks, Shared-Use Paths, and Trails. The applicant is developing the subject site as an Industrial site. The extension of Wing Street south beyond the boundary of the developed site provides a secondary means of ingress/egress to the development and gains access from US 79. The request is to vary from the Engineering Manual and not install water and wastewater lines and sidewalks along the southern section of the Wing Street roadway extension. Specifically, the explanation of the request as stated by the applicant is as follows:

“It is challenging to fit all of the improvements that are required by code between the road and edge of the



right-of-way. Building the utilities under the road and sidewalks adjacent to the road is also premature due to the fact that there is uncertainty of what type of development (if any) will be placed on the land surrounding South Wing Street. If utilities are placed in South Wing Street now and sidewalks along South Wing Road are constructed, these improvements will likely have to be torn up and rebuilt to connect services in the correct location when the surrounding properties are developed. In summary, the Owner is requesting foregoing variances due to the challenges related to the lack of space in the right-of-way to accommodate utilities, location of same due to uncertainty of future development of surrounding properties, lack of destination of the sidewalks, and lack of walkability based due since the property is being used as an industrial site that will be accessed primarily by car.”

(Image Call-Outs read: Teal – Sidewalks along Wing Street to be constructed by adjacent lots when developed. Green – Sanitary Sewer connection and extension south along Wing Street to be constructed by adjacent lots when developed. Orange – Water connection and extension north along Wing Street to be constructed by adjacent lots when developed.)

Location:

The subject request is generally located along the proposed Wing Street roadway nearest 3212 W. 2nd Street.

Physical and Natural Features:

The subject property is vacant land that is relatively flat and devoid of foliage.

Public Notification

As required by the Local Government Code and the City of Taylor Code of Ordinances, all property owners within a 200-foot radius of the subject property were notified of the subdivision variance request. Twelve (12) notices were mailed to the property owners and a legal notice advertising the public hearing was placed in the Taylor Press on Sunday, July 28, 2024.

Staff Analysis

The request for the subject property is a variance from the Engineering Manual Sections 4.2, 4.3, 4.4 related to Water and Wastewater Extension, Utility Layouts in the Right-of-Way, Separation of Water Mains from Wastewater Mains, and Section 2.10.10 relate to Sidewalks, Shared-Use Paths, and Trails. Below identifies the pertinent sections of the Engineering Manual requirements requesting to be waived by the applicant.

Section 4.2 Policy

4.2.1 Water and Wastewater Main Extensions – Water and wastewater mains shall be sized and extended through the limits of a development to provide a connection for ultimate development of all adjacent properties. Refer to the City Code for policies and appeal process concerning the extension of water and wastewater mains, water and wastewater connection fees, and pro-rata fees.

Section 4.3 Typical Utility Layouts Within Right-of-Way

4.3.2 Water Main Locations – Water mains are generally placed under the pavement five (5) feet from back of curb on north or east side of street, unless otherwise approved by the City Engineer.

4.3.3 Wastewater Main Locations – Wastewater mains are generally placed under the pavement five (5) feet from back of curb on the south or west side of the street, unless otherwise approved by the City Engineer.

Section 4.4 Separation of Water Mains from Wastewater Mains

4.4.1 Minimum Horizontal Spacing – The minimum horizontal space between wastewater main and water main shall be nine (9) feet as measured from outside diameter of each utility. The wastewater main that is parallel to a water main shall be installed in a separate trench.

Section 2.10 Pedestrian Facilities

2.10.10 – Sidewalks, Shared-Use Paths, and Trails

2.10.10 A Requirements

- Sidewalks are to be constructed with the paving of streets or building construction unless deferred by the city.

City of Taylor Engineering Response:

The City of Taylor Engineering Department has provided the following analysis and determination:

Utilities Variances – Denied

- Water & Wastewater extensions will be required along Wing Street with appropriate utility assignments per the City of Taylor Engineering Manual.
- Without the extension of water, there will be a future dead-end line along Wing Street. Also, extending water on Wing Street allows resiliency to the development by having increased looping of the water system.
- If water/sewer were to be placed after the roadway is put in, utility assignments would not follow Taylor's standard and would likely conflict with other items requiring right-of-way placement.

Sidewalk Installation Variance – Approved

- Variance requested Approved. The sidewalk along Wing Street (South of subject property) can be placed when those parcels develop.

Staff Recommendation

For the reasons stated in the staff analysis, staff proposed denial of the utility variances and approval of the sidewalk variance.

Planning and Zoning Commission Recommendation

The Planning and Zoning Commission is charged with reviewing certain subdivision standards of the Land Development Code (LDC). In determining a recommendation on a variance request, the Planning and Zoning Commission members consider the following factors:

- 1. That the granting of the variance will not be detrimental to the public health, safety or welfare or injurious to other property in the area or to the City in administering the Land Development Code (LDC) or Engineering Manual;**
 - The request would likely not be detrimental to the public health, safety or welfare or injurious to other property in the area or to the City.
- 2. That the granting of the variance would not substantially conflict with the Comprehensive Plan and the purposes of this LDC and Engineering Manual.**
 - The granting of the utility variances does conflict with the purposes and requirements of the Engineering Manual. The granting of the sidewalk variance does not conflict with the purposes and requirements of the Engineering Manual.
- 3. That the conditions that create the need for the variance do not generally apply to other property in the vicinity.**
 - The request for utility variances does not have conditions that create a need to vary from the Engineering Manual that would apply to other properties in the vicinity. The request for a sidewalk variance can be deferred until construction by others on adjacent property.
- 4. That application of a provision of the LDC/Engineering Manual will render subdivision of the land impossible.**
 - The requests will not render the subdivision of the land impossible.
- 5. Where the literal enforcement of these regulations would result in an unnecessary hardship.**
 - Literal enforcement of the regulations within the Engineering Manual pertaining to Utilities does not result in an unnecessary hardship.

Attachments:

1. Letter of Intent from Applicant
2. Variance Exhibit from Applicant
3. Site Plan from Applicant
4. Location Map
5. Notification Map



METCALFE WOLFF
STUART & WILLIAMS, LLP

TALLEY WILLIAMS
Partner

twilliams@mwswtexas.com
512-404-2234

July 5th, 2024

Mr. Tom Yantis
Assistant City Manager
City of Taylor
400 Porter Street
Taylor, Texas 76574

Via Online Submittal

Re: Formal Request for a Variance for sidewalk and utilities construction along the southern portion of the Proposed Wing Street, located between the southeast portion of the Property and State Highway 79, as depicted on the attached exhibits ("*South Wing Street*")
Owner: Taylor 79, LLC
Project Address: 14501 Hwy 79, Taylor, TX 76574

Dear Mr. Yantis:

Please accept the following as a formal variance request letter for sidewalk and utility construction along South Wing Street. The applicable ordinance requirements that we will be seeking variances from are listed below:

1. UTILITIES VARIANCE

ENGINEER MANUAL, Section 4, 4.2. Policy

4.2.1 Water and Wastewater Main Extensions – Water and wastewater mains shall be sized and extended through the limits of a development to provide a connection for ultimate development of all adjacent properties.

ENGINEER MANUAL, Section 4, 4.3. Typical Utility Layouts Within Right-of-Way

4.3.2 Water Main Locations – Water mains are generally placed under the pavement five (5) feet from back of curb on north or east side of street, unless otherwise approved by the City Engineer.

4.3.3. Wastewater Main Locations – Wastewater mains are generally placed under the pavement five (5) feet from back of curb on the south or west side of the street, unless otherwise approved by the Civil Engineer.

ENGINEER MANUAL, Section 4, 4.4 Separation of Water Mains from Wastewater Mains

4.4.1 Minimum Horizontal Spacing – The minimum horizontal space between wastewater main and a water main shall be nine (9) feet as measured from outside diameter



of each utility. The wastewater main that is parallel to a water main shall be installed in a separate trench.

2. SIDEWALK VARIANCE

ENGINEER MANUAL, Section 2.10.10 Sidewalks, Shared-Use Paths, and Trails

2.10.10.A Requirements

- Sidewalks are to be constructed with the paving of streets or building construction unless deferred by the City.
- Sidewalks in public ROW and constructed as part of a new neighborhood or re-development are considered public facilities and shall be constructed according to the requirements outlined in this section.
- When a lot is developed, pedestrian facilities along frontage of property shall be required at time of lot development. Sidewalks, ramps, and landing areas shall be installed along all thoroughfares and common areas prior to final acceptance.

2.10.10.B Geometry

- Width – Pedestrian facilities shall have a minimum width of five (5) feet when not adjacent to the back of curb. Sidewalks adjacent to curb shall be a minimum of six (6) feet in width.
- Paths shall have a minimum ROW width of ten (10) feet and minimum pavement width of six (6) feet.
- Sidewalk geometry, locations, pavement widths are to be confirmed with the City and shall be established during the planning process when the development is covered by a Neighborhood Plan or Employment Center Plan.

To provide two entry/exits from the Property and comply with code, the current development has proposed to build the extension of Wing Street. It is challenging to fit all of the improvements that are required by code between the road edge and the right-of-way. Building the utilities under the road and sidewalks adjacent to the road is also premature due to the fact that there is uncertainty of what type of development (if any) will be placed on the land surrounding South Wing Street. If utilities are placed in South Wing Street now and sidewalks along South Wing Road are constructed, these improvements will likely have to be torn up and rebuilt to connect services in the correct location when the surrounding properties are developed.

The Owner is providing a water line along the entire the entire western boundary of the Property commencing at Highway 79 and is installing wastewater infrastructure as shown on the attached exhibits

In order to provide a more efficient location of the utilities, future developments adjacent to South Wing Street can assess where the location of the utilities are best at the time of their respective site



Mr. Yantis
July 5th, 2024
Page 3

plans. Additionally, installation of sidewalks along South Wing Street will not provide a destination to anything. The proposed industrial development being constructed on the Property will almost exclusively be accessed by vehicular means.

In summary, the Owner is requesting the foregoing variances due to the challenges related to the lack of space in right-of-way (ROW) to accommodate utilities, location of same due to uncertainty of future development of surrounding properties, lack of destination of the sidewalks, and lack of walkability based due since the property is being used as an industrial site that will be accessed primarily by car.

If you have any questions concerning this matter, please do not hesitate to contact me.

Sincerely,

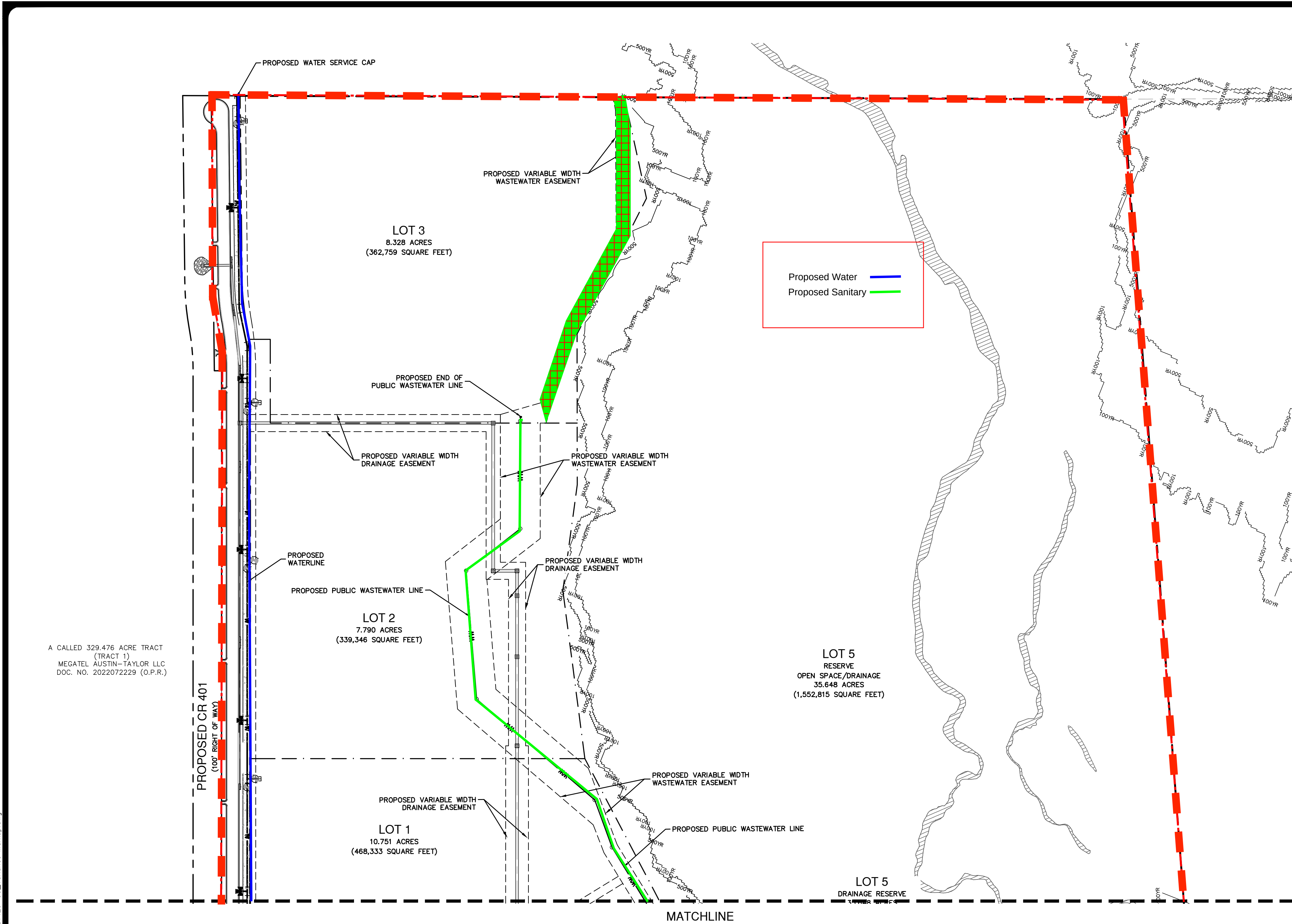
Talley Williams
Partner, Metcalfe Wolff
Stuart & Williams, LLP
On behalf of Owner

Cc: Collin Harrison, Director (*via electronic delivery*)
Courtney Peres, Planning Manager (*via electronic delivery*)

Attachments:

Exhibit 1 – Existing Conditions & Site Boundary
Exhibit 2 – Zoning Map
Exhibit 3 – General Site Plan
Exhibit 4 – Variance Exhibit
Exhibit 5 – Agent Authorization Form
Exhibit 6 – Deed
Exhibit 7 – Applicant Agent Affidavit

Date: Jun 27, 2024, 11:25am - User ID: jwolf
File: H:\Projects\51429\00_Variance\Public Infrastructure\Exhibits\EXH-51429-00_Variance_Markup.dwg

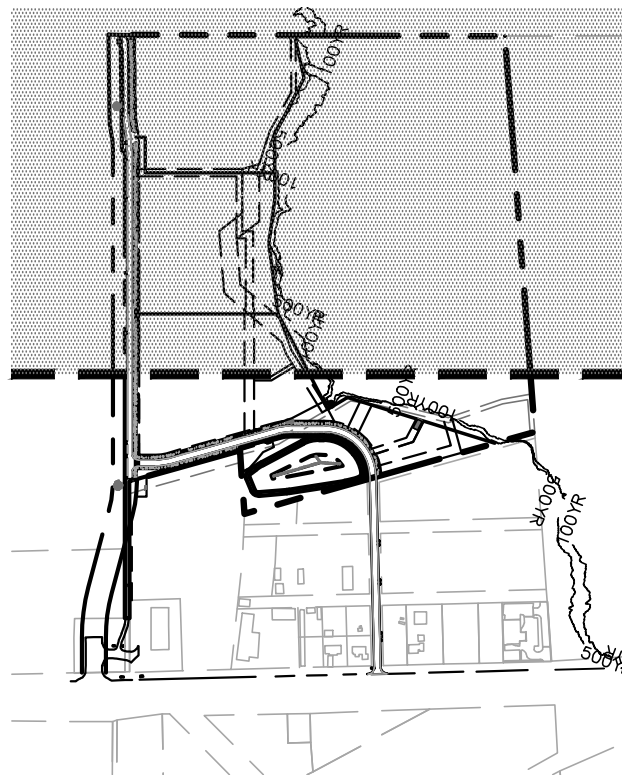


LEGEND

---	PROPERTY BOUNDARY
---	PROPOSED ROW DEDICATION
---	ADJACENT PROPERTY BOUNDARY
---	PROPOSED LOT LINE
---	PROPOSED EASEMENT LINE
---	EXISTING EASEMENT LINE
---	500-YR FEMA FLOODPLAIN
---	100-YR FEMA FLOODPLAIN
---	EXISTING EDGE OF PAVEMENT
X	EXISTING FENCE
---OHE---OHE---OHE---	EXISTING OVERHEAD ELECTRIC
---GAS---GAS---	EXISTING GAS LINE
---SD---SD---	EXISTING STORM DRAIN LINE
---W---W---	EXISTING WATER LINE
---	PROPOSED WATER LINE
---	PROPOSED WASTEWATER LINE
---	PROPOSED STORM DRAIN LINE
X	EXISTING FIRE HYDRANT
X	PROPOSED FIRE HYDRANT
●	EXISTING WASTEWATER MANHOLE
●	EXISTING UTILITY POLE
●	PROPOSED WASTEWATER MANHOLE
---	PROPOSED CURB INLET
---	EXISTING SURFACE WATER

UTILITY NOTES:

1. WATERLINE TO BE PRIVATE DOMESTIC AND FIRE LINE TO BE MAINTAINED BY OWNER.
2. UTILITY SERVICE TO BE PROVIDED BY CITY OF TAYLOR.
3. EASEMENTS ON PLAN LOCATED OUTSIDE OF ROW TO BE MAINTAINED BY OWNER'S ASSOCIATION.



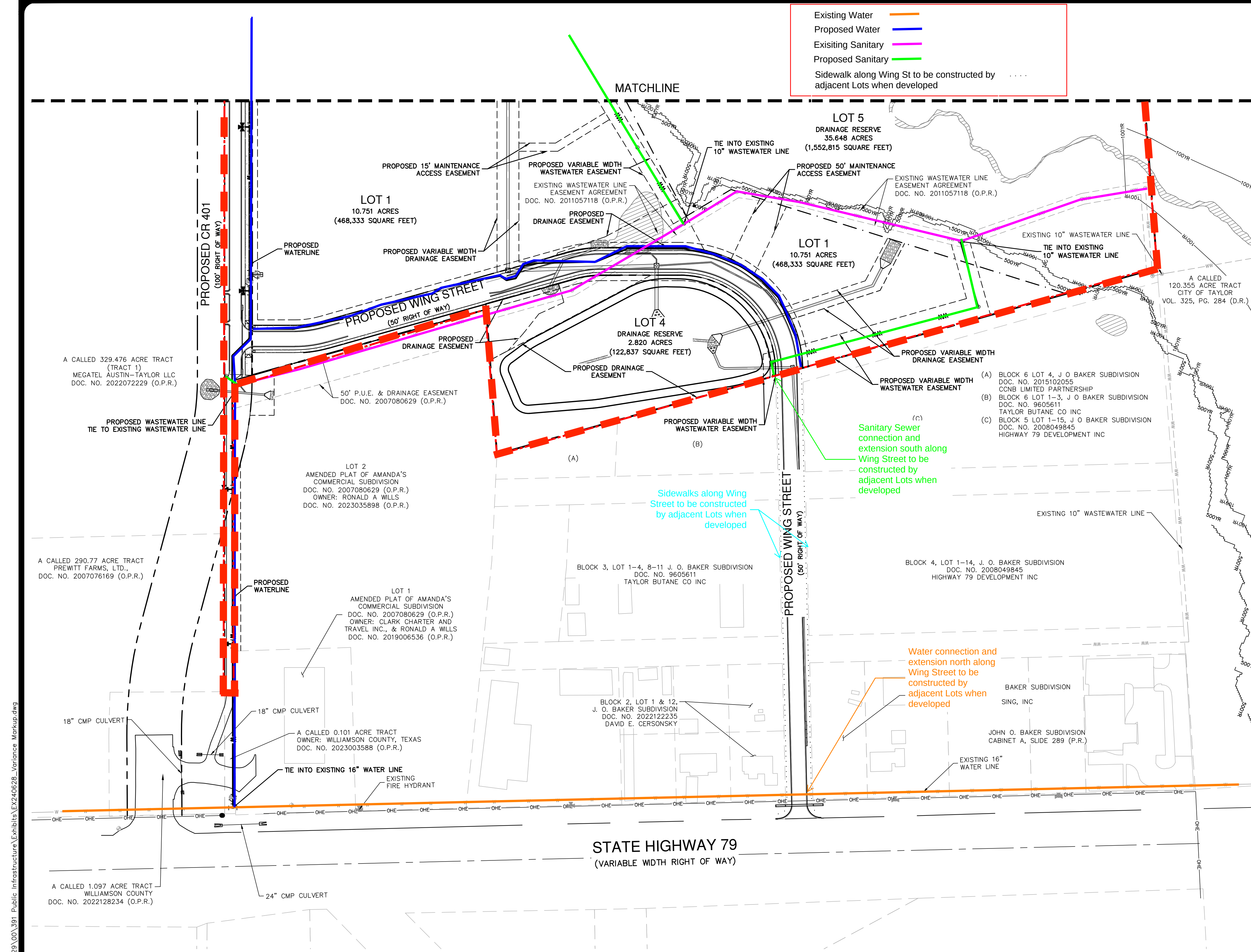
KEY MAP

PAPE-DAWSON
ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
18001 N. MOORE AVE., SUITE 300 | AUSTIN, TX 78758 | 512.464.8711
TYPE FIRM REGISTRATION #470 | TYPE FIRM REGISTRATION #10028801

TAYLOR TRACT - 14501 HWY 79 -
PUBLIC IMPROVEMENTS
TAYLOR, TEXAS 76574
VARIANCE EXHIBIT (1 OF 2)

JOB NO. 51429-00-391
DATE FEBRUARY 2024
DESIGNER JR
CHECKED DRAWN JR
SHEET EXH

Date: Jun 28, 2024, 1:36pm User ID: TRIEX
File: \\pape-dawson.com\user-pd\Projects\514\391 Public Infrastructure\Exhibits\2240528_Variance Markup.dwg



LEGEND

---	PROPERTY BOUNDARY
---	PROPOSED ROW DEDICATION
---	ADJACENT PROPERTY BOUNDARY
---	PROPOSED LOT LINE
---	PROPOSED EASEMENT LINE
---	EXISTING EASEMENT LINE
---	500-YEAR FEMA FLOODPLAIN
---	100-YEAR FEMA FLOODPLAIN
---	EXISTING EDGE OF PAVEMENT
---	EXISTING FENCE
---	EXISTING OVERHEAD ELECTRIC
---	EXISTING GAS LINE
---	EXISTING STORM DRAIN LINE
---	EXISTING WATER LINE
---	PROPOSED WATER LINE
---	PROPOSED WASTEWATER LINE
---	PROPOSED STORM DRAIN LINE
---	PROPOSED OFFSITE SIDEWALK
---	EXISTING FIRE HYDRANT
---	PROPOSED FIRE HYDRANT
---	EXISTING WASTEWATER MANHOLE
---	EXISTING UTILITY POLE
---	PROPOSED WASTEWATER MANHOLE
---	PROPOSED CURB INLET
---	EXISTING SURFACE WATER

UTILITY NOTES:

1. WATERLINE TO BE PRIVATE DOMESTIC AND FIRE LINE TO BE MAINTAINED BY OWNER.
2. UTILITY SERVICE TO BE PROVIDED BY CITY OF TAYLOR.
3. EASEMENTS ON PLAN LOCATED OUTSIDE OF ROW TO BE MAINTAINED BY OWNER'S ASSOCIATION.



KEY MAP

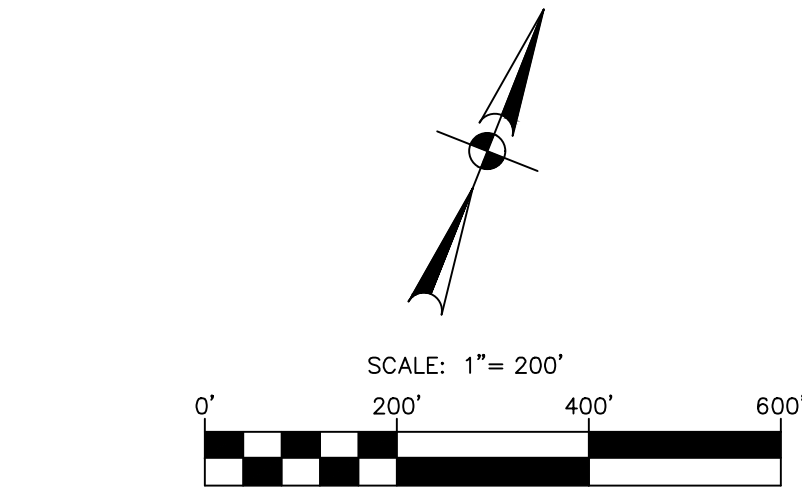
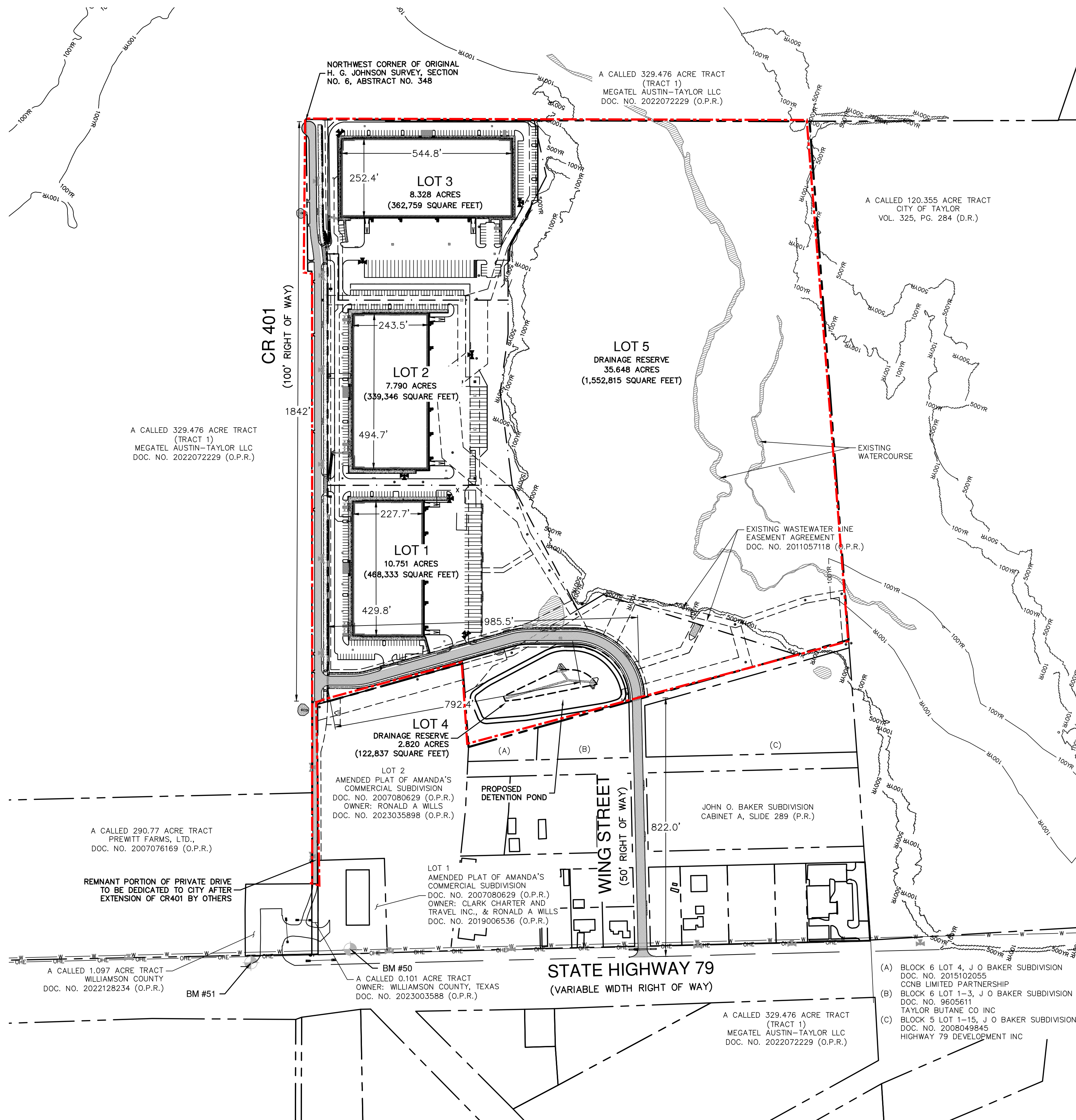
TAYLOR TRACT - 14501 HWY 79 -
PUBLIC IMPROVEMENTS
TAYLOR, TEXAS 76574
VARIANCE EXHIBIT (2 OF 2)

JOB NO. 51429-00-391
DATE FEBRUARY 2024
DESIGNER JR
CHECKED DRAWN JR
SHEET EXH

PZ-2024-2104

Date: Jun 27, 2024, 2:48pm User ID: AFerozKerker
File: H:\Projects\51429\03\001 Construction Documents\Exhibits\Exh 51429-00 Overall Site Plan.dwg

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL.



LEGEND	
	PROPERTY BOUNDARY
	PROPOSED ROW DEDICATION
	ADJACENT PROPERTY BOUNDARY
	PROPOSED LOT LINE
	PROPOSED EASEMENT LINE
	EXISTING EASEMENT LINE
	500-YEAR FEMA FLOODPLAIN
	100-YEAR FEMA FLOODPLAIN
	EXISTING EDGE OF PAVEMENT
	EXISTING FIRE HYDRANT
	PROPOSED FIRE HYDRANT
	EXISTING WASTEWATER MANHOLE
	EXISTING UTILITY POLE
	STREET BUILT WITH PUBLIC INFRASTRUCTURE
	SIDEWALK BUILT WITH PUBLIC INFRASTRUCTURE

PARKING COUNT:	
STANDARD SPACE -	342
HANDICAP SPACE -	14
TRUCK PARKING -	70
TOTAL -	426

IMPERVIOUS COVER TABLE				
LOT #	LOT ACREAGE	IC (SF)	IC (AC)	PERCENTAGE OF SITE %
LOT 1	10.751 AC	242,104.40	5.56 AC	51.72%
LOT 2	7.790 AC	258,658.83	5.94 AC	76.25%
LOT 3	8.328 AC	300,409.14	6.90 AC	82.85%
TOTAL IMPERVIOUS COVERAGE		801,372.37 SF	18.4	68.48%
TOTAL SITE AREA		1,170,438.07	26.869	100.00

NOTES:
DECEL LANE ALONG STATE HIGHWAY 79 TO BE PROVIDED TO TxDOT SEPARATE DRAWING SET.

ZONING:
THE PROPERTY IS IDENTIFIED AS EC (EMPLOYMENT CENTER) BY THE CITY OF TAYLOR.
THE PROPERTY WAS PREVIOUSLY ZONED AS M-1 (LIGHT INDUSTRIAL) PRIOR TO THE UPDATED ZONING MAP.

BENCHMARKS:
BENCHMARKS ARE BASED ON NAD83
COORDINATES ARE STATE PLANE CENTRAL ZONE WITH A COMBINED SCALE FACTOR OF 0.99988

BM #50: SET MAGNETIC NAIL IN CONCRETE
GRID NORTH: 10,181,619.81
GRID EAST: 3,204,414.68
ELEV: 609.87

BM #51: SET MAGNETIC NAIL IN BASE OF TRAFFIC POLE
GRID NORTH: 10,181,463.29
GRID EAST: 3,204,136.64
ELEV: 607.83

REVISIONS					
NO.	DESCRIPTION	REVISE (R) ADD (A) VOID (V) SHEET NO'S	DESIGN ENGINEER SIGNATURE	CITY OF TAYLOR APPROVAL	APPROVAL DATE

NO.	REVISION	DATE

**PAPE-DAWSON
ENGINEERS**
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
1801 N. MO-PAC EXPY., SUITE 3, STE 200 | AUSTIN, TX 78759 | 512.464.6711
TYPE FIRM REGISTRATION #470 | TYPE FIRM REGISTRATION #10028601

PARK 79 COMMERCE CENTER
TAYLOR, TEXAS 76574

OVERALL SITE PLAN

JOB NO. 51429-00
DATE MAY 2024
DESIGNER AG
CHECKED DRAWN JR
SHEET EXH

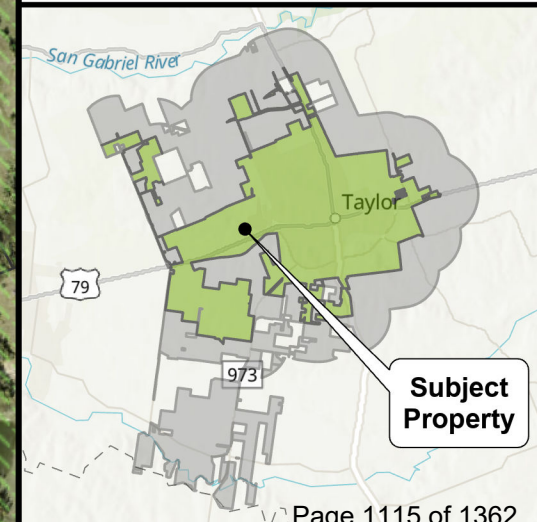
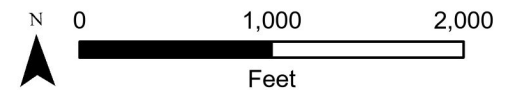
PZ-2024-2151



PZ-2024-2238

14501 Hwy 79
Subdivision Variance
Location Map
Approximately 70 acres

-  City Limits
-  ETJ Boundary
-  Subject Property
-  Parcels

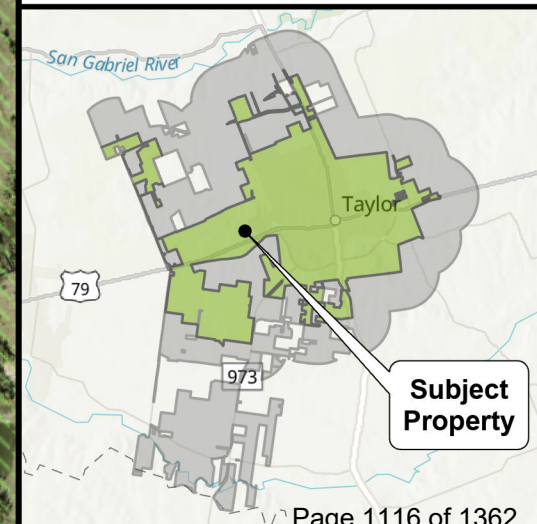
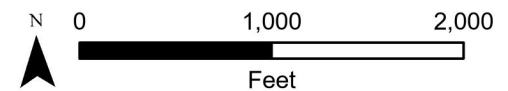




PZ-2024-2238

**14501 Hwy 79
Subdivision Variance
Notification Map
Approximately 70 acres**

- City Limits
- ETJ Boundary
- Subject Property
- 200-ft. Buffer
- Notified Properties
- Parcels



City of Taylor
PZ-2023-2243
Land Development Code Amendments
Staff Report

Item Details

- Request:** A request to amend the Land Development Code to correct errors and provide clarification to the following chapters: Chapter 1 – Intent & General Provisions, Chapter 2 – Development Process, Chapter 3 – Neighborhoods, Additions, Subdivisions, Chapter 4 – Place Type Zoning, Chapter 5 – Private Lot Development Standards, Chapter 6 – Historic Preservation, and Chapter 7 - Definitions.
- Case History:** This is the first hearing of this request.

Overview of Applicant's Request & Background

In November 2023 the City Council adopted the City of Taylor Land Development Code. Over the past nine months, city staff have reviewed the document for consistency and appropriateness. In that time staff have compiled various sections of the Code that require revisions.

These revisions range from:

- a) text and formatting errors consisting of simple errors found throughout the document such as typos, grammar, and general formatting of pages,
- b) clarifications to the document to provide clarity of the existing policies and added extra definitions,
- c) clarification of how the temporary special event signage is applied to the historic district (Downtown area) and
- d) permitting all types of internally illuminated signs outside of the historic district (Downtown area).

These revisions for clarification purposes are brought together in this proposed amended version of the Land Development Code.

Staff Recommendation

Staff recommends that the Planning and Zoning Commission recommend approval for the proposed amendments of the Land Development Code.

Attachments:

- 1. LDC Edits Spreadsheet

2. Revised Land Development Code

All Chapters - Typos and grammatical errors

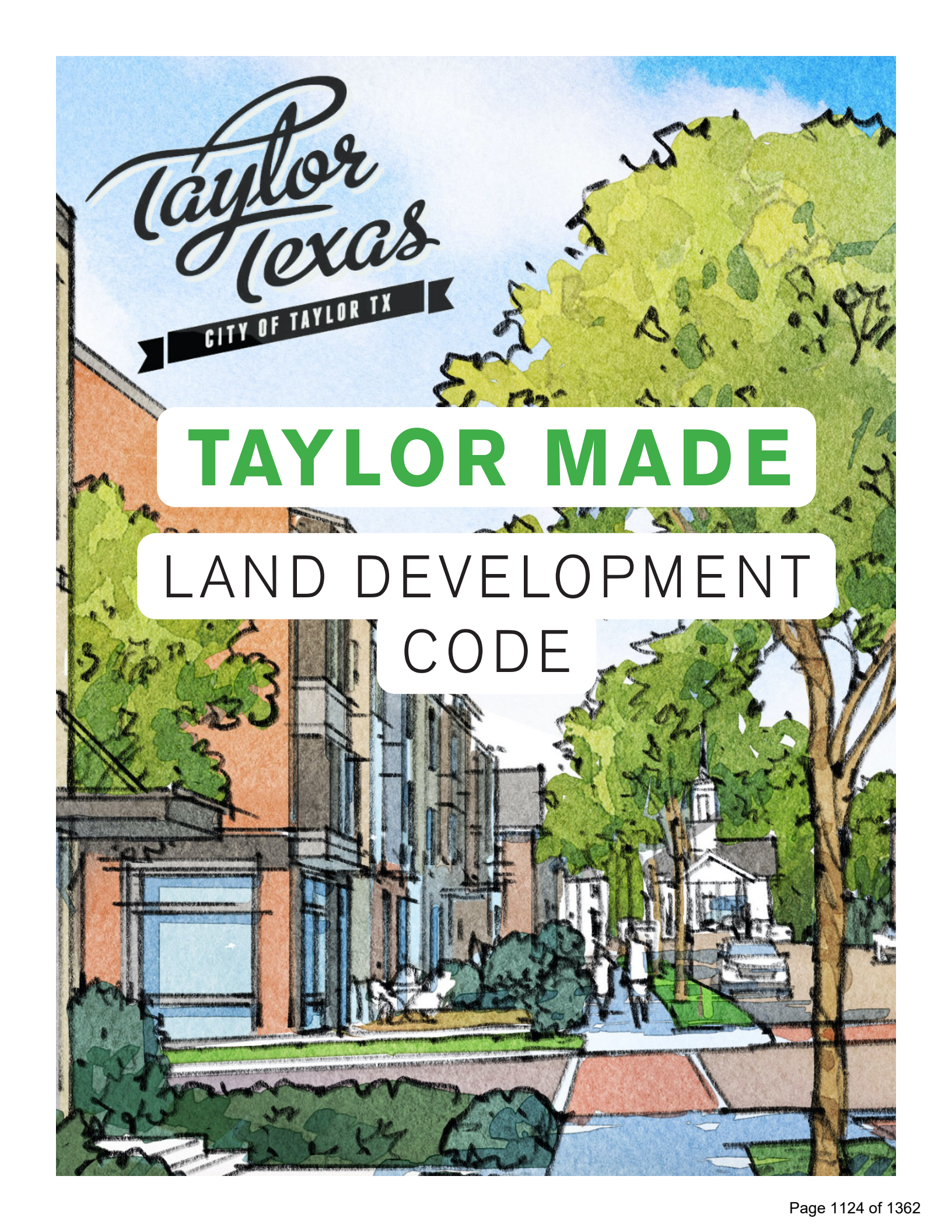
CHAPTER	PAGE	SECTION/ISSUE	CHANGE
1	2	Consultant Team	add Meredith Johnson and Amanda Popken to consultant team
1	7	1.1 Title	add the ordinance number and make year 2023. "...Taylor, Texas (Originally Adopted by Ordinance 2023-55 on November 9, 2023)."
1	14	1.9.3 violations continue	refers to chapter 10 but should refer to section 1.14
1	18	ADOPTION	add Nov 9 2023 -ordinance 2023-55
1	7	1.2.2	Add "facilitate community" to this section. Add "Further, these poolicies are designed to facilitate community, ..."
1	10	1.5	"provisions" plural?
1	14	1.10.1	Comma splice. Remove comma after "jurisdiction"
1	8 - 9	1.3.1-1.3.3	Use one of "is/are," "should," or "shall" consistently for all items in these sections
2	34	Admin decision appeal	delete (d) repeat of (2) and delete (b) from or is aggrieved by the decisionto decision
2	77	ZBA	Authority (3) should the (i), (ii) or (iii) rather than numbered 4 5 & 6
2	27-28	2.2.6.1, 2.2.7.1, 2.2.18.1	"allocated" should be "allocate"
2	39	2.2.16.1	"Warrants are deviations... that is in keeping" should say "are in keeping"
3	86	village center clusters	delete extra (b) (c) (d)
3	89	3.6.4.5	correct spelling site development
3	91	3.8.1 escrow of one half of the cost	clarify that this is one half the total construction cost of perimeter streets. "...approve an escrow of one-half of the total construction cost of perimeter streets."
3	93	3.8.1.9	change "subdivisions" to "neighborhoods"
3	95	3.8.1.14 (7)	add the word "a" before "secondary street"
3	108 - 109	3.8.5.5	New Language: "Civic Building sites should be reserved as necessary within each Pedestrian Shed and may be located within or adjacent to Civic Spaces allocated within the Pedestrian Shed. During the Neighborhood Plan or Employment Center Plan process, a determination of the need for Civic Building sites shall be made. Civic Building needs shall be determined through consultation with the City, the Taylor Independent School District, Williamson County and other government agencies and non-profit organizations. Each Pedestrian Shed shall include a main gathering space as close as possible to the geographic center of the Pedestrian Shed that includes a building or facility that is accessible by the public.

3	92 - 93	3.8.1.5 (1)	clarify this section to refer to standard assemblies and Neighborhood and Employment Center Plans. "Street types shall reflect standard assemblies and further modifcaiton can be deteremined during the Neighborhood and Employment Center Plan process.Below ..."
3	92 - 93	3.8.1.5 (1) (a-b)	Revise instances of "P5 - Core" to "P5 - Urban Center" and in (b) change "P4 - Neighborhood Mix" to "P4 - Mix"
3	96	3.8.1.16.1	Remove commas after "alleys," "garages," and "firefighters." Second sentence also might be a run-on
3	97	3.8.1.16.2	"commerccial" and "balancce" should be "commercial" and "balance"
3	87	3.6.1.8.2.b	2nd sentence "too" should be "to"
3	84	Table 3.6.1(A)	Add "min." to all percentages for P1 and CS?
3	96	3.8.1.15.1	"thoroughfare type" as opposed to "right-of-way type"?
3	96	3.8.1.16.1	Delete "the" after "communities:" in first sentence
3	99, 102	3.8.2.1, 3.8.2.7	Clarify that blocks can also be bounded by paths and trails. Add verbiage "typically" to each section. "Typically a block is an..." and "Typically block length..."
3	101	3.8.2.4	"A applicant" should be "An applicant"
3	103	3.8.2.9	Last sentence is missing words. "except upon approval of a Warrant by ___ unless..." Revise to "...except upon approval of a Warrant by the Development Review Committee."
3	107	3.8.5.2.1	Reference to Pedestrian Shed section should be 3.6.1.7
4	129-131	Parking location	Infer from parking location table that RV storage is permitted on street. Contrary to 16-75 city ordinance. Revise Parking Location for RV Storage to say "RV Storage (Third Layer)" for P3 and P3M.
4	120	4.2.3.10.1	Consider rephrasing "It is standalone from building frontages" for clarity. "Parks do not need to be defined by building frontages."
4	120	4.2.3.10.1-5	Lack of consistency in terms of shall/should/may language vs. is/are language. Are these sections describing or requiring?
4	123	Neighborhood Plan	Strike this section. These numbers are already listed elsewhere and they follow the opposite logic as all the other items (place type %'s are determined by development pattern, whereas all the other reguations here are determined by place type)
4	125-134	Public Frontage (Right of Way)	Remove this section from each page since these items are regulated elsewhere in the document.
4	125-134	in general	Format and size of these tables could be more consistent across the pages
5	148	Manufactured homes description	This is what it says in the LDC re: manufactured homes - however, Chapter 16, article III refers to recreational vehicles. It is in fact article II
5	155	5.3.7.1	add reference to minimum façade buildout percentage "...and meet the minimum façade build out percentage required by Place Type."

5	156	garage excluded from façade buildout calculation	place in a more prominent position - in section 5.3.7 (page 155) Add 5.3.7.6 "Carports and Garages shall not count toward the façade buildout percentage."
5	157	5.4.1 (2)	remove EC "In P4 and P5..."
5	157	5.4.1 (8)	this section conflicts with (3) - REMOVE
5	157	5.4.2.1	this is duplicative of prior section - REMOVE.
5	160	5.4.6.1	change "Driveways" to "Driveway" and "curbcuts" to "curb cuts"
5	160	5.4.6.4	remove the word "all" after "prevent" in last sentence
5	160	5.4.7.1	correct spelling of Accessibility
5	160	5.4.7.1	delete (2) this is already in 5.4.1
5	163	5.6.4.2	"submittals shall include" is repeated and there's a colon instead of period at end of sentence
5	166	Fencing Standards 5.8.5.5	add maintenace standards to fences similar to screening devices in old zoning ordinance. Add "5.8.5.5 Fencing shall be kep in good repair and in a safe and attractive condition."
5	166	Fencing Standards 5.8.5.6	need to add statement to say: fence/barrier shall not encroach upon any right of way or public easement (same as screening devices on old ordinance 3.5.2.12) Add: "5.8.5.6 A building permit shall be required prior to construction when the Screening Device encroaches upon any public right of way or public easement."
5	166	Fencing Standards 5.8.5.7	Add a new section to read "5.8.5.7 It shall be unlawful to construct a fence on a vacant lot or on multiple adjacent individual vacant lots. For purposes of this chapter, "vacant" shall mean the property does not have an active principal building."

5	167	5.9.3.7 - Home Occupation	Add a new section to read "5.9.3.7 Home Occupations The following standards are intended to permit residents to engage in home occupations that are compatible with residential uses and to ensure that home occupations do not adversely affect the integrity of residential areas. A home occupation shall be considered an accessory use, subject to the following conditions: 1. No persons shall be engaged in a home occupation other than persons occupying the subject dwelling unit as their permanent residence; 2. The home occupation shall be conducted entirely within the principal building or within a permitted accessory structure; 3. There shall be no signs or other exterior visible evidence of a home occupation; 4. There shall be no visible storage of equipment, materials or vehicles that have more than two axles; and 5. All home occupations shall comply with the performance standards of Chapter 5; and 6. Home occupations that do not meet conditions 1 through 4 above may apply for a Specific Use Permit. In considering whether to approve a Specific Use Permit for a home occupation the Commission may recommend and the City Council may impose standards to ensure the home occupation does not adversely affect the integrity of the residential neighborhood in which it is proposed and shall consider the following: a. Are the hours of operation of the home occupation compatible with a residential neighborhood; b. Is there sufficient off-street parking to accommodate the parking requirements of the home occupation; c. Will the property at which the home occupation is conducted retain the characteristics of a residential property; and d. Will the home occupation generate any nuisances incompatible with a residential neighborhood.
5	168	5.9.4.5	change "business and manufacturing districts" to "Place Types"
5	169	5.9.6	this whole section is in the wrong place - move to Chapter 1 and clarify that warrants don't go to ZBA and that DRC may approve a warrant for any provision that is eligible for a warrant in the LDC. Revise to read ""...to the DRC for any provision that is eligible for a warrant in the LDC, or a Variance for any provision that is eligible for a variance in the LDC to the ZBA.""
5	174	The sentence "The only permitted for m of illumination.....faux neon signs" in section 5.10.3.1 is in the wrong place	This sentence needs to be moved to section 5.10.3
5	176	signs at residential	move text from 5.10.4.13 to special event signage for residential at 5.10.6.3 (2) Add: a Section (e)

5	191	BLADE SIGN	ADD hanging signs under a canopy (see text in PDF). Clearance height 7ft. Change Specifications, Clearance to 7 feet minimum.
5	144 - 151	building types	Add rererence to certificate of occupancy required before use commences. Add for Detached, Attached Dwellings, Cottage Court, Duplex, Triplex, Quadraplex, Small Apts, Large Apts, Manufactures Home Park, Recreational Vehicle Park, Accessory Dwelling Unit, Small Commercial, Large Commercial, Live/Work, Mixed Use etc for all pages. "A certificate of occupancy is required before use commences."
5	138	Build-To-Line	Strike "front" from "principal front façade"
5	147	Small Apartments	Could the second sentence be revised to more clearly include buildings with individual entrances?
5	147	Large Apartments	What is a live/work unit? As described on p. 149 a live/work is a building type not a use/unit type
5	148	Residential Accessory Building	Add home office to list of potential uses.
5	157	5.4.1.2	Clarify if building size means footprint or floor area
5	157	5.4.1.5	"replaced" should be "placed"
5	160	5.4.6.3	"Non-alley-loaded" should all by hyphenated
5	160	5.4.6.3	"rights-of-ways" should be "rights-of-way"
6	205	6.1.4.1	Change last sentence to "The City may designate a historic landmark in accordance with Tex. Loc. Gov't Code Sec. 211.0165."
6	214	Cert of Appropriateness 6.1.10.11 (1)	"No historic landmark shall be relocated unless such relocation shall be approved by the HPC and a certificate of appropriateness for such relocation shall be granted. For the purposes of this subsection concerning relocation, the term "historic landmark" shall be used to describe an individual building, structure, or object designated according to the procedures in this LDC."
6	214	Cert of Appropriateness 6.1.10.11 (2) (a)	Remove Section and "letter" the other remaining sections
7	229	home occupation	require defintion home occupation. Chapter 7 ~page 229 "Home Occupation - An occupation carried on only by a resident of the premises (and by no other person(s)), which occupation is clearly incidental and secondary to the residential purposes of the premises and does not change the external appearance of the residential property or be detrimental to the residential character of the neighborhood."
7	239	Definition Revision	Change to "State Antiquities Landmark" - several instances in definition.



Taylor
Texas

CITY OF TAYLOR TX

TAYLOR MADE

LAND DEVELOPMENT CODE

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Mitchell Drummond - District 2
Brandt Rydell - Mayor/District 3
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EXECUTIVE SUMMARY

The Taylor-Made Land Development Code (LDC) is created from patterns of the past built environment to inform the community of the future. Taylor is a series of neighborhoods, and the City intends to continue building using this pattern. New development will be built as neighborhoods, not subdivisions.

The DNA Analysis and extensive public engagement led to the decision to build types of places rather than regulate the uses in the spaces. The Taylor-Made LDC standards aim to create attainable homes within walkable places connected to a mixture of services.

Focus on the relationship between public and private spaces becomes more significant as the place becomes more intense; using Place Types to categorize places, the intensity of P5 is more intense than P4. The City's standards are not conventional zoning criteria found in other communities. The tools within the LDC are written with flexibility and clear intent. Providing creativity and allowances for different sites and development types through the use of the standards in the LDC will ensure Taylor retains its character.

Flexibility and predictability take priority. This approach allows the removal of over-regulating zoning controls found in typical development ordinances, such as lot widths, parking standards, and stringent land use rules. It encourages accessory dwellings and missing middle housing to provide attainable housing allowing people to age in place in Taylor. Ultimately, the standards lead to a mixture of uses in a walkable city.

Taylor's potential is accomplished when, at build-out, a range of lifestyle choices, from rural living to downtown urban dwelling, is attainable. A responsibly built range of patterns is most organically accomplished by locals and small-scale builders partaking in restoring, reusing, rebuilding, and maintaining buildings, lots, and lands in Taylor.

The standards established in this LDC provide flexibility and adjustability to accommodate modern construction while maintaining the qualities essential to the community fabric.

FIGURE 1: TAYLOR PLACE TYPE ZONING TRANSECT.

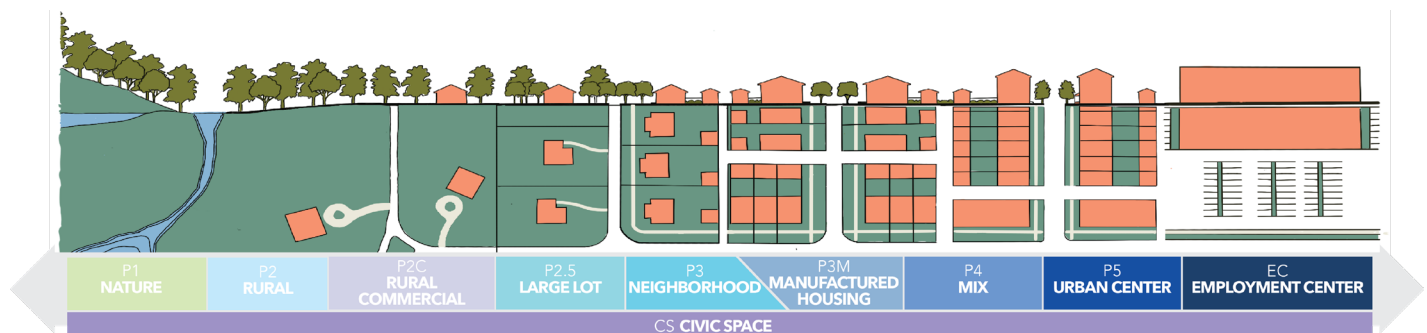


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CHAPTER 1

INTENT AND GENERAL PROVISIONS



1.1 TITLE.

This Ordinance shall be known and may be cited as the “Land Development Code” or the “LDC” of the City of Taylor, Texas. (Originally adopted by Ordinance 2023-55 on November 9, 2023).

1.2 PURPOSE.

1.2.1 The purpose of this LDC is to align the land development policies, including subdivision, zoning, and signs, to the Envision Taylor Comprehensive Plan, including the following goals identified as the five Big Ideas:

► FISCAL SUSTAINABILITY AND INFRASTRUCTURE:

Make smart investments that maximize the use of existing infrastructure and provide sufficient resources for long-term maintenance, repairs, and replacement.

► COMMUNITY CHARACTER:

Maintain Taylor's uniqueness and small-town atmosphere where people feel connected.

► INCLUSIVE GROWTH:

Be intentional and thoughtful about ensuring that all people and communities benefit from growth.

► DIVERSE HOUSING:

Ensure that housing accommodates all ages, abilities, household types, and income levels.

► ECONOMIC RESILIENCE:

Support and promote unique, local businesses.

1.2.2 The land development policies are adopted to promote the public health, safety, and general welfare and protect and preserve places and areas of historical, cultural, or architectural importance and significance and promote the safe, orderly, and healthful development of the city and extraterritorial jurisdiction (ETJ). Further, these policies are designed to facilitate community; lessen the congestion in the streets; secure safety from fire and other dangers; ensure adequate light and air; prevent the overcrowding of land, to avoid undue concentration of population; and facilitate the adequate provision of transportation, water, wastewater treatment, schools, parks, and other public requirements.

1.3 INTENT.

The intent section of this LDC is organized at three scales:

- ① The city.
- ② The neighborhood.
- ③ The block, street, lot, and building.

1.3.1 THE CITY.

- (1) The city is a finite place with geographic boundaries derived from topography, watersheds, parks and open spaces, and other natural and man-made features. Within the city, neighborhoods are seamlessly connected to and integrated with each other through a well-planned and interconnected street network.
- (2) The city shall grow in a logical progression from the center outward, and new neighborhoods will be designed as additions to the existing urban fabric.
- (3) Wherever possible, natural features including streams, creeks, rivers, trees, and wildlife habitat shall be preserved, and natural drainage systems shall be enhanced.
- (4) Historic buildings and sites are valuable pieces of the city's heritage and shall be preserved and protected whenever possible.
- (5) Infill development shall be prioritized as it is the most fiscally sustainable form of development. Infill development takes advantage of existing and planned infrastructure systems and helps to complete or enhance existing neighborhoods.
- (6) The city is intended to be a self-sustaining economic unit with ties to the surrounding region. Toward that end, the city shall strive to maintain a balance between the creation of jobs and housing units for its residents and avoid becoming a bedroom community.

1.3.2 THE NEIGHBORHOOD.

- (1) The neighborhood is the primary organizing unit of the city. The formation of neighborhoods encourages residents to know their neighbors, to help maintain the neighborhood, and to be responsible for guiding the evolution of the neighborhood over time.
- (2) Neighborhoods are compact, walkable, and connected with a mixture of uses and parks where activities of daily living occur within a close distance.
- (3) Within neighborhoods, a broad range of housing types, sizes, and price levels allows a diversity of people and households to interact with and get to know each other, which strengthens civic bonds and helps maintain Taylor's small-town character.
- (4) The intensity of buildings within the neighborhood is related to the infrastructure systems that support the neighborhood so that sufficient tax revenues will be generated to pay for the long-term maintenance of those systems.
- (5) Concentrations of civic, institutional and commercial uses shall be integrated into neighborhoods so that most residents of the neighborhood may comfortably walk to them.
- (6) School sites should be planned so that children within the surrounding neighborhoods may safely walk or bicycle to and from school.
- (7) A variety of parks and open spaces are integrated into the design of neighborhoods, and parks and trails connect neighborhoods to each other.

1.3.3 THE BLOCK, STREET, LOT, AND BUILDING.

- (1) Taylor's urban DNA is comprised of a network of streets that form small, walkable blocks. This form shall be extended as the city grows.
- (2) Streets define the character of neighborhoods and provide the framework for private development to occur.
- (3) Streets are designed at the scale of humans and provide a means to walk, bicycle, drive and take transit within the neighborhood and between neighborhoods.
- (4) Streets provide areas for public landscaping and street trees, which provide shade and character for the neighborhood. Public landscaping shall be informed by native and adaptive plants that can thrive with minimal irrigation.
- (5) Lots define areas where private development occurs. Lots shall be sized to accommodate the desired development and to make the most efficient use of public infrastructure.
- (6) Buildings help frame public spaces including streets, parks, plazas, and paths. Buildings shall be placed on lots with this goal in mind. The parking of vehicles on private lots shall not detract from the streetscape and shall generally be located to the side or rear of the buildings.
- (7) Alleys are part of Taylor's urban DNA and allow vehicles to access private lots from the rear. Alleys also provide places for utilities, garbage collection, and deliveries to occur without interfering with the streetscape and pedestrian experience. Alleys shall be considered in new neighborhoods.
- (8) Civic buildings are places for people to gather and shall be located on important and prominent sites within neighborhoods. Civic buildings shall be distinctive and designed to last for generations.

1.4 AUTHORITY.

- 1.4.1 The Taylor LDC is adopted pursuant to the charter of the City of Taylor and the powers granted to the City including any limitations imposed by the Constitution and laws of the State of Texas, particularly Texas Local Government Code Chapters 211, 212, 213, 216 and 242.
- 1.4.2 Zoning regulations are adopted and administered by the City pursuant to the Local Government Code, Chapter 211 and all other applicable State and Federal laws, now written or hereafter amended or passed, allowing the City authority to promote public health, safety, morals, or the general welfare and to protect and preserve places and areas of historical, cultural, or architectural importance and significance.
- 1.4.3 Subdivision regulations are adopted and administered by the City pursuant to Local Government Code, Chapters 212 and 242 and all other applicable State and Federal laws, now written or hereafter amended or passed, allowing the City to adopt rules governing plats and subdivisions of land within city limits and extraterritorial jurisdiction to promote the health, safety, morals, or general welfare of the City and the safe, orderly, and healthful development of the City.
- 1.4.4 Sign regulations are adopted and administered by the City pursuant to Local Government Code, Chapter 216 and all other applicable State and Federal laws, now written or hereafter amended or passed, allowing the City to adopt rules governing signs.

1.5 APPLICABILITY.

The provisions of this LDC, including its Appendices, including the “City of Taylor Development Manual,” and the “City of Taylor Engineering Manual,” shall apply to the subdivision and development of all land within the City of Taylor, Texas, and, where applicable, the extraterritorial jurisdiction unless specifically provided otherwise in the LDC.

1.6 JURISDICTION.

- 1.6.1 Within the city limits all provisions of this LDC shall apply.
- 1.6.2 Within the extraterritorial jurisdiction, the applicable provisions related to the subdivision of land and sign regulations shall apply, but standards related to the following shall not apply:
- ▶ The use of any building or property for business, industrial, residential, or other purposes;
 - ▶ The bulk, height, or number of buildings constructed on a particular tract of land;
 - ▶ The size of a building that can be constructed on a particular tract of land, including without limitation any restriction on the ratio of the building floor space to the land square footage; and
 - ▶ The number of residential units that can be built per acre of land.

1.7 MINIMUM STANDARDS AND CONFLICTING PROVISIONS.

The provisions of this LDC, including its Appendices, are the minimum standards necessary to accomplish its stated purposes. It is not the intent of this LDC to interfere with, abrogate or annul any private easement, covenant, deed restriction or other agreement between private parties. When the provisions of this LDC impose a greater restriction than imposed by such private agreements, the provisions of this LDC shall control. When private agreements impose a greater restriction than imposed by this LDC, such private agreements shall control.

1.8 RULES OF CONSTRUCTION.

1.8.1 MEANING AND INTENT.

All provisions, terms, phrases, and expressions contained in this LDC shall be construed in accordance with its stated purpose.

1.8.2 TEXT.

In case of any difference of meaning or implication between the text of this LDC and any drawing or figure, the text shall control.

1.8.3 COMPUTATION OF TIME.

The time within which an act is to be completed shall be computed by excluding the first day and including the last day; if the last day is a Saturday, Sunday or legal holiday, that day shall be excluded. In the computation of time for public hearing notice, both the first day (day of the advertisement) and the last day (day of the hearing) shall be excluded.

1.8.4 DELEGATION OF AUTHORITY.

Whenever a provision requires the City Manager or their designee to do some act or perform some duty, it is to be construed to authorize the head of the department or other officer to designate, delegate, and authorize subordinates to perform the required act or duty unless the terms of the provision specify otherwise.

1.8.5 NON-TECHNICAL AND TECHNICAL WORDS.

Words and phrases shall be construed according to this LDC, including the "City of Taylor Engineering Manual" and all appendices to this LDC, and then according to the common and approved usage of the language, but technical words and phrases and such others as may have acquired a peculiar and appropriate meaning in law shall be construed and understood according to such meaning.

1.8.6 PUBLIC OFFICIALS, BODIES, AND AGENCIES.

All public officials, bodies, and agencies to which references are made are those of the City of Taylor unless otherwise indicated.

1.8.7 MANDATORY AND DISCRETIONARY TERMS.

The words "shall" and "must" are always mandatory. The words "may" and "should" are permissive.

1.8.8 CONJUNCTIONS.

Unless the context clearly indicates the contrary, conjunctions shall be interpreted as follows:

- ▶ "And" indicates that all connected items, conditions, provisions or events shall apply; and
- ▶ "Or" indicates that one or more of the connected items, conditions, provisions or events shall apply.

1.8.9 TENSES AND NUMBERS.

Words used in the past or present tense include the future as well as the past or present, unless the context clearly indicates the contrary. The singular shall include the plural and the plural shall include the singular, as the context and application of this LDC may reasonably suggest.

1.9 TRANSITIONAL PROVISIONS.

The following transitional provisions shall apply to various matters pending or occurring prior to the effective date of this LDC.

1.9.1 ZONING UPON ANNEXATION.

1.9.1.1 Any land which comes under the zoning jurisdiction of the City of Taylor by reason of its annexation to the city shall be classified as "P2" Rural Place Type zoning district unless otherwise stipulated in the annexation ordinance annexing the property. The procedure for establishing zoning other than "P2" on annexed territory shall conform to the procedure set forth in Chapter 2 of this LDC. Following annexation, the Director of Development Services shall schedule public hearings to allocate the Place Type Zoning classification of the recently annexed land.

1.9.1.2 In an area classified as "P2" Rural:

- (A) No permit for the construction of a building or use of land shall be issued by the Building Official other than a permit that will allow the construction of a building permitted in the "P2" District, unless and until such territory has been classified in a Place Type Zoning District other than the "P2" District.
- (B) An application for a building permit for any proposed use other than those specified in the "P2" District must be made to the Director of Development Services. If the applicant shows that plans and other preparation for developing the property commenced prior to annexation by the City, as established by the Texas Local Government Code Chapter 43, City Council shall authorize the construction of the project by a majority vote.

1.9.2 ZONING DISTRICT NAME AND STANDARDS CHANGES.

1.9.2.1 All zoning districts in the City of Taylor are renamed as shown in Table 1.9.2(A) Zoning Translation. The development standards associated with the renamed districts shall apply to all properties in the city limits except as provided for in legal conforming planned developments approved prior to the effective date of this LDC and which are still active.

TABLE 1.9.2(A): ZONING TRANSLATION.

① COMPREHENSIVE PLAN GROWTH SECTOR	② COMPREHENSIVE PLAN FUTURE LAND USE DESIGNATION	③ EXISTING ZONING AND CONTEXT DETERMINING TRANSLATION	④ PLACE TYPE ZONING DISTRICTS
FUTURE GROWTH			P2 - RURAL
CONTROLLED GROWTH TIER I TIER II	AREA OF MINIMAL CHANGE	R/A R-1 R-2 R-3 D MF-1 MF-2 MH	P2 - RURAL
	NEIGHBORHOOD GREENFIELD	B-1 B-2 M-1 M-2 BP-1 BP-2	P2C - RURAL COMMERCIAL
	EMPLOYMENT CENTER: REGIONAL		EC - EMPLOYMENT CENTER
	EMPLOYMENT CENTER: COMMUNITY		EC - EMPLOYMENT CENTER
	SPECIAL EMPLOYMENT DISTRICT		EC - EMPLOYMENT CENTER
INFILL NEIGHBORHOOD INFILL GROWTH INTENDED GROWTH	NEIGHBORHOOD GREENFIELD		P2 - RURAL
	NEIGHBORHOOD INFILL	R-1 R-2 D	
		<1 ACRE	P3 - NEIGHBORHOOD
		≥1 ACRE	P2.5 - LARGE LOT
		EXISTING MANUFACTURED HOME	P3M - MH
		MH	P3M - MH
		MF-1 MF-2 B-1 B-2 B-3 M-1 M-2 BP-1 BP-2	P4 - NEIGHBORHOOD MIX
		P I	CS-CIVIC SPACE
		ALL ZONES IN NEIGHBORHOOD INFILL	
		AT MAJOR INTERSECTION	P4 - MIX
		EXISTING LAND USE NON-RESIDENTIAL	P4 - MIX
	CIVIC CENTER: NEIGHBORHOOD		CS-CIVIC SPACE
	CIVIC CENTER: COMMUNITY		CS-CIVIC SPACE
	MARKET CENTER: REGIONAL		P5 - URBAN CENTER
	MARKET CENTER: COMMUNITY		P5 - URBAN CENTER
	MARKET CENTER: NEIGHBORHOOD		P4 - NEIGHBORHOOD MIX
	EMPLOYMENT CENTER: NEIGHBORHOOD		P4 - NEIGHBORHOOD MIX
	EMPLOYMENT CENTER: REGIONAL		EC - EMPLOYMENT CENTER
	EMPLOYMENT CENTER: COMMUNITY		EC - EMPLOYMENT CENTER
	SPECIAL EMPLOYMENT DISTRICT		EC - EMPLOYMENT CENTER
PRESERVED OPEN			CS - CIVIC SPACE
RESERVED OPEN			P1- NATURE
ALL SECTORS	PLACES OF WORSHIP		CS - CIVIC SPACE
	CITY OF TAYLOR PROPERTY		CS - CIVIC SPACE

1.9.3 VIOLATIONS CONTINUE.

Any violation of the previous Zoning Ordinance of the City of Taylor shall continue to be a violation under this LDC and shall be subject to prosecution pursuant to Section 1.14, unless the use, development, construction, or other activity is clearly consistent with the express terms of this LDC.

1.9.4 COMPLETION OF DEVELOPMENT PLANS.

1.9.4.1 UNEXPIRED BUILDING PERMITS.

Building permits issued or completed building permit applications submitted prior to the effective date of this LDC may proceed without any changes required because of new regulations in this LDC.

1.9.4.2 UNEXPIRED PRELIMINARY PLATS.

All preliminary plats or complete unexpired preliminary plat applications submitted prior to the effective date of this LDC may proceed without any changes required to the preliminary plat because of new regulations in this LDC. However, new standards in this LDC for subdivision infrastructure shall apply if the subdivision improvement plans have not yet been approved or a complete application submitted.

1.9.4.3 EXISTING PLANNED DEVELOPMENT ZONING ORDINANCES.

Planned Development zoning ordinances approved prior to the adoption of this LDC shall continue in effect unless a Preliminary Plat application has not been filed within two years after the approval date of the Planned Development zoning ordinance, in which case the Planned Development zoning ordinance is expired and the property shall revert to P2 - Rural Place Type. The base zoning district for all Planned Development zoning ordinances shall follow the translation table for the Infill Growth Sector.

1.10 EFFECT ON EXISTING CONDITIONS (NONCONFORMITIES).

1.10.1 INTENT.

Within the city limits and extraterritorial jurisdiction exist lots, sites, structures, signs, uses of land, and characteristics of use that were lawful before this LDC was enacted, amended or otherwise made applicable to such lots, sites, structures, signs or uses, but that do not now conform to the standards of this LDC. It is the intent of this LDC to permit such nonconforming lots, sites, structures, signs or uses to continue, if the conditions within this section and other applicable sections are met.

1.10.2 DETERMINATION OF NONCONFORMING STATUS.

Determination of nonconforming status shall be made by the Director of Development Services or their designee or successor, subject to appeal to the ZBA.

1.10.3 LEGAL NONCONFORMING STATUS.

Any lots, sites, structures, signs, or uses of land which do not conform with the regulations of this LDC shall be deemed legal nonconforming when:

- (1) Such lots, sites, structures, signs, or uses of land were in existence and lawfully operating as of the effective date of this LDC, and have since been in regular and continuous use; or
- (2) Such lots, sites, structures, signs, or uses of land were in existence and lawfully operating as of the effective date of any amendment to this LDC, but by such amendment are no longer in conformance with this LDC, and have since been in regular and continuous use; or
- (3) Such lots, sites, structures, signs, or uses of land were in existence and lawfully operating on the date that annexation proceedings were instituted and have since been in regular and continuous use.

1.10.4 ILLEGAL NONCONFORMING STATUS.

Any lots, sites, structures, signs, or uses of land that are in violation of the requirements of this LDC and were constructed or established since its adoption or amendment without the necessary approvals, permits, or authorizations from the City are considered illegal nonconforming. The owner and/or operator of an illegal nonconforming lot, site, structure, sign, or use of land shall be subject to actions and penalties allowed by this LDC and all other applicable City ordinances and shall be required to correct the nonconforming situation to come into conformance with all applicable standards and regulations of this LDC.

1.10.5 ABANDONMENT OF LEGAL NONCONFORMING STATUS.

1.10.5.1 Abandonment of legal nonconforming status shall be determined as follows:

- (1) A legal nonconforming lot shall be considered abandoned after an application to amend or replat the lot has been approved.
- (2) A legal nonconforming site shall be considered abandoned after the site has been vacated and all legal uses of the site have been discontinued for a period of 12 months.
- (3) A legal nonconforming structure shall be considered abandoned after the structure has been vacant and/or no certificate of occupancy has been in place for a period of 18 months.
- (4) A legal nonconforming sign shall be considered abandoned after the entity that the sign advertised has ceased operating or the premises on which the sign is located have been vacated for a period of 90 days.

1.10.5.2 Occurrence of a combination of one or more of the following situations shall be a sign of vacancy or lack of occupancy for the purposes of determining abandonment:

- (1) The building, structure, activity, or land unoccupied or out of use;
- (2) The intention of the owner to discontinue the use is apparent;
- (3) One or more utility accounts have been discontinued;
- (4) Utility meters are removed;

- (5) The occupant or owner has allowed any taxes to not be paid thereon;
- (6) The site or structure has not been maintained;
- (7) The unit has not been made available for occupancy;
- (8) The characteristic equipment and furnishings of a nonconforming use have been removed from the premises; or
- (9) A nonconforming use has been replaced by a conforming use.

1.10.6 NONCONFORMING LOTS.

Legal nonconforming lots may continue to be used for all legal purposes under this LDC until the nonconforming status has been abandoned. No additional division of a legal nonconforming lot shall occur that will increase the level of nonconformity of the lot.

1.10.7 NONCONFORMING SITES.

Legal nonconforming sites are legally occupied properties whose site improvements do not meet one or more provisions of this LDC such as parking location, landscaping, lighting, stormwater drainage, etc.

1.10.7.1 Prior to reoccupying a legal nonconforming site that has been abandoned pursuant to Section 1.10.5, the owner of the site must prepare a plan for the proposed reoccupation of the site that demonstrates how the site may be brought into substantial compliance with this LDC. The Development Review Committee (DRC) shall have review and approval authority for the reoccupation of abandoned nonconforming sites. The Zoning Board of Adjustment (ZBA) shall hear appeals of DRC decisions regarding the reoccupation of abandoned nonconforming sites.

1.10.7.2 Legal nonconforming sites may not be expanded or modified in a way that increases or adds to the nonconformities of the site.

1.10.8 NONCONFORMING STRUCTURES.

Legal nonconforming structures are those that do not meet one or more of the standards of this LDC such as build-to line, height limitations, design standards, performance standards, etc.

1.10.8.1 MAINTENANCE AND REPAIRS.

Legal nonconforming structures may be maintained in accordance with the applicable building codes. Maintenance shall not increase the structure's nonconformities.

Repairs to legal nonconforming structures shall be allowed if the value of the repair does not exceed 50 percent of the market value of the structure. Repairs shall not increase the structure's nonconformities.

1.10.8.2 Reoccupation of abandoned nonconforming structures.

Prior to reoccupying a legal nonconforming structure that has been abandoned pursuant to Section 1.10.5, the owner of the structure must prepare a plan for the proposed reoccupation of the structure that

demonstrates how the structure may be brought into substantial compliance with this LDC. The DRC shall have review and approval authority for the reoccupation of abandoned nonconforming structures. The ZBA shall hear appeals of DRC decisions regarding the reoccupation of abandoned nonconforming structures.

1.10.9 NONCONFORMING SIGNS.

Permitted signs erected before the adoption of the LDC that do not meet the current standards of this LDC are considered to be legal nonconforming signs.

1.10.9.1 MAINTENANCE, UPDATES AND REPAIR.

- (1) Legal nonconforming signs may be maintained in accordance with the applicable building codes. Maintenance shall not increase the sign's nonconformities.
- (2) Legal nonconforming signs may be updated with new lettering, logos, etc. so long as the update does not exceed 50 percent of the sign's replacement value. Updates may not increase the sign's nonconformities.
- (3) Repairs to legal nonconforming signs shall be allowed if the value of the repair does not exceed 50 percent of the sign's replacement value. Repairs shall not increase the sign's nonconformities.

1.10.10 NONCONFORMING USES OF LAND.

Permitted uses in existence before the adoption of the LDC that do not meet the current standards of this LDC are considered to be nonconforming uses.

- 1.10.10.1 A nonconforming use may be replaced by the same specific use as long as the nonconforming use has not been abandoned.
- 1.10.10.2 The Development Services Director may approve the replacement of a nonconforming use with a different nonconforming use if it is determined that the new nonconforming use will have a lesser impact on the surrounding neighborhood than the existing nonconforming use.

1.10.11 WARRANTS AND VARIANCES.

- 1.10.11.1 The Development Review Committee (DRC) has the discretion to approve Warrants, including any Administrative Plat, Site Development permit, and/or building permit that deviates less than five percent from any specific standard prescribed in the LDC. If denied, or if the deviation is greater than 5%, the Applicant may appeal a Warrant denial or request a Variance from the ZBA.

1.11 WRITTEN INTERPRETATIONS.

The Development Services Director shall have the authority to issue interpretations concerning the provisions of this LDC. Interpretations may be initiated by the Development Services Director or may be issued upon request through an application for a written interpretation. Appeals of written interpretations relating to zoning regulations shall be heard by the ZBA and appeals of interpretations relating to subdivision regulations shall be heard by the Planning and Zoning Commission.

1.12 FEES.

Applications under this LDC shall be deemed incomplete until all applicable fees associated with the application have been paid in full. Refer to the City's adopted fee schedule for all fees associated with applications or permits governed by this LDC.

1.13 ADOPTION.

In accordance with Article VIII, Section 1 of the City Charter, this LDC was originally adopted by the City Council on the 9th day of November 2023 by Ordinance 2023-55.

1.14 ENFORCEMENT.

1.14.1 ENFORCEMENT RESPONSIBILITY.

This LDC shall be administered and enforced by the City Manager or their designee.

1.14.2 COMPLIANCE REQUIRED.

No person may use, occupy, or develop land, buildings, or other structures, or authorize or permit the use, occupancy or development of land, buildings, or other structures except in accordance with all provisions of this LDC.

1.14.3 REMEDIES AND ENFORCEMENT POWERS.

1.14.3.1 VIOLATIONS.

Any person, firm, or corporation violating the provision of this LDC shall be deemed guilty of a misdemeanor and, upon conviction in the municipal court of the City of Taylor, Texas, shall be subject to a fine not to exceed the sum of \$500.00 for each offense, however, where a different penalty has been established by state law. For such offense, the penalty shall be that fixed by state law, and for any offense which is a violation of any provision of law that governs fire safety, zoning, or public health and sanitation, including dumping of refuse, the penalty shall be a fine not to exceed the sum of \$2,000.00 for each offense. Each and every day said violation is continued shall constitute a separate offense.

1.14.3.2 STOP WORK.

Whenever any construction work is being done contrary to the provisions of this LDC, the Development Services Director, or their designee, may order the work stopped by notice in writing served on the owner or contractor doing or causing such work to be done, and such person shall forthwith stop such work until authorized by the Development Services Director, or their designee, to proceed with the work.

1.14.3.3 INSPECTIONS.

The Development Services Director, or their designee, shall have the right to enter upon any premises at any reasonable time for the purpose of making inspections of buildings or premises necessary to carry out duties in the enforcement of this LDC.

1.14.4 ENFORCEMENT PROCEDURES.

1.14.4.1 NOTICE.

The Development Services Director, or their designee, shall give written notice as required by law to the owner of land on which a violation exists. The notice shall state the nature of the violation.

1.14.4.2 NOTICE OF CRIMINAL PENALTY.

In no case shall any person acting on behalf of the City seek a criminal penalty for violation of this LDC without giving 30 days prior notice of the violation, specifying the action necessary to correct the violation and avoid criminal prosecution.

1.14.5 OTHER ENFORCEMENT POWERS.

In addition to the enforcement powers specified in this LDC, the City may exercise any and all enforcement powers granted to it by Texas law, as it may be amended from time to time.

1.14.5.1 CONTINUATION.

Nothing in this LDC shall prohibit the continuation of previous enforcement actions, undertaken pursuant to previously valid resolutions, ordinances, and laws.



CHAPTER 2

DEVELOPMENT PROCESS

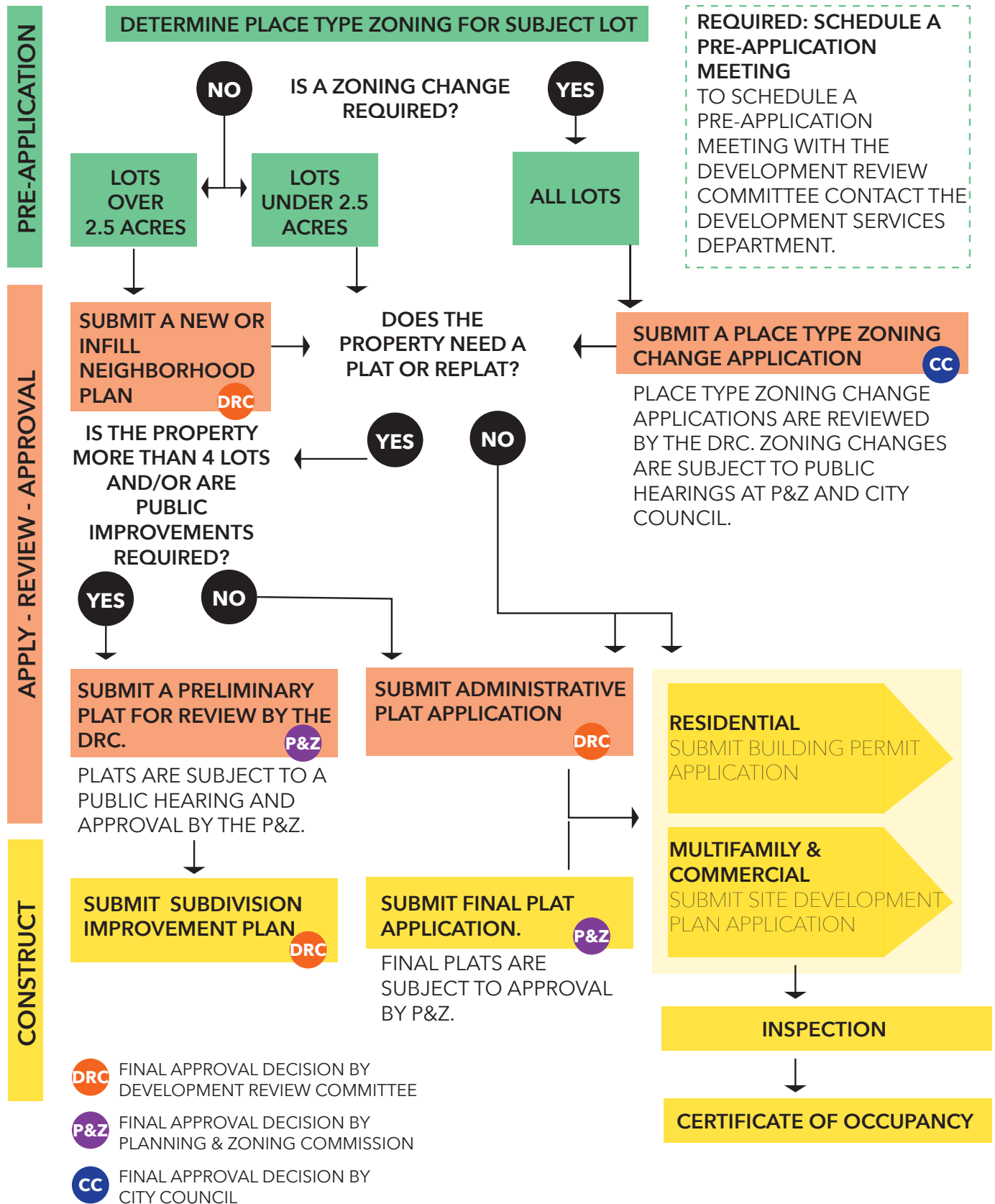
2.1 **PROCESS OVERVIEW.**

The development process typically begins with a pre-application meeting with City staff to determine what application(s) is necessary, the review process for the required application(s), and to answer the applicant's questions about the process and the required content of the application(s).

The steps in the process will vary depending upon the location of the property, whether it has been platted or needs to be platted, and whether the applicant seeks to modify the property's current zoning or comprehensive plan designations.

The following sections describe the various application types, the review process, and how to submit an application.

TABLE 2.1.A GENERAL DEVELOPMENT PROCESS STEPS.



2.2 APPLICATION.

2.2.1 GENERAL REQUIREMENTS.

2.2.1.1 APPLICATION MATERIALS.

The applicant shall submit all the information required in the Development Manual as specified on the corresponding application checklist. Applications will not be accepted for review until the City has received all items required to be submitted with the application.

2.2.1.2 APPLICATION SUBMITTAL PROCEDURES.

The City may establish and modify the procedures for submitting applications, including the date that applications are received, the format for submitting the application, and the process for dissemination of staff review comments. Those procedures are included in the Development Manual.

2.2.1.3 APPLICATION EXPIRATION

All applications shall expire on the 45th day after the date the application was submitted if:

- (1) The applicant fails to provide documents or other information necessary to comply with the technical requirements relating to the form and content of the application;
- (2) The City provides to the applicant not later than the tenth business day after the date the application is submitted written notice of the failure that specifies the necessary documents or other information and the date the application will expire if the documents or other information is not provided; and
- (3) The applicant fails to provide the specified documents or other information within the time provided in the notice.

2.2.1.4 FILING DATE DETERMINATION

For the purposes of compliance with the deadlines for action on applications governed by Chapter 212 of the Texas Local Government Code, the filing date of the application is the date that the City determines that the applicant provided a complete application including all documents or other information necessary to comply with the technical requirements related to the form and content of the application as stipulated in the Development Manual and this LDC.

2.2.2 PRE-APPLICATION MEETING.

Development activities begin with a pre-application meeting request to the City. The primary purpose of the pre-application meeting is for staff to help identify the scope of the development proposal, so that the City can determine the appropriate submittal requirements and process(es), including whether the development will require administrative or public approval. The specific information required to request a pre-application meeting may be found in the City of Taylor Development Manual.

2.2.3 ANNEXATIONS.

1 **APPLICABILITY.**

Annexation applications are used by property owners who would like to request that their property be annexed into the city limits of Taylor.

2 **APPROVAL CRITERIA.**

Prior to considering an annexation application, the applicant must schedule a pre-application meeting with the City to discuss the proposed annexation. Staff shall review requests for annexation to determine whether they are in keeping with the policies and goals of the Comprehensive Plan and authorized by applicable State laws.

3 **APPROVAL PROCEDURE.**

The procedure for processing an annexation application shall follow the requirements established in Chapter 43 of the Texas Local Government Code. City staff will prepare a report for consideration by City Council regarding the advisability of the annexation. The City Council is the final approval authority for annexation applications. Annexations are completed through the adoption of an annexation ordinance by the City Council.

2.2.4 COMPREHENSIVE PLAN AMENDMENT.

1 **APPLICABILITY.**

The City Council may approve amendments to the Comprehensive Plan for unique or extraordinary situations that were not anticipated when the Plan was adopted so long as the proposed amendment is clearly in the public interest and meets the spirit and intent of the goals and policies of the Plan.

2 **APPROVAL CRITERIA.**

In determining whether an amendment to the Comprehensive Plan should be adopted, the following criteria shall be applied:

- (1) The need for the proposed amendment.
- (2) The effect of the proposed amendment on the need for City services and facilities.
- (3) Whether the proposed amendment is consistent with the intent of the goals and policies of the Plan.
- (4) The implications, if any, that the amendment may have for other parts of the Plan.
- (5) Whether unforeseen circumstances or new information has emerged, such as a significant economic development opportunity.

3 **APPROVAL PROCEDURE.**

The procedure for approval of a Comprehensive Plan Amendment shall follow the requirements of Chapter 213 of the Texas Local Government Code and the following process.

- (6) Prior to submitting an application for a Comprehensive Plan Amendment, the applicant shall schedule a pre-application meeting with the City.
- (7) Once a complete application is received, City staff will prepare a staff report and submit it to the Planning & Zoning Commission for consideration.
- (8) Public notice of the proposed amendment will be completed in accordance with State law and City ordinance.
- (9) Following public notice, the Planning & Zoning Commission will hold a public hearing and consider the requested amendment and make a recommendation to the City Council.
- (10) City Council will hold a public hearing and consider the recommendation of the Planning & Zoning Commission. If the City Council is in favor of the amendment, they will adopt it by ordinance in accordance with State law and the City Charter.

2.2.5 ZONING APPLICATIONS.

2.2.5.1 GENERAL REQUIREMENTS.

- (1) As authorized by Chapter 211 of the Texas Local Government Code, the Place Type Zoning Standards and Districts, as herein established, have been made in accordance with an adopted Comprehensive Plan to promote the public health, safety, morals and general welfare, and protecting and preserving places and areas of historical, cultural or architectural importance and significance in the City.
- (2) Standards have been designed to lessen the congestion in the streets; to secure safety from fire, and other dangers; to ensure adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; and to facilitate the adequate provision of transportation, water, wastewater treatment, schools, parks, and other public requirements.
- (3) The standards for building neighborhoods require the distribution of Place Types to provide lifestyle and living variation that define distinct physical environments of varying degrees of urbanity and development intensity. The "P" designation represents each Place Type's relative place on a continuum of low-intensity to high-intensity development, from rural to urban, with the character and associated standards of "P5" being more urban than those of "P4".
- (4) Where a property over 2.5 acres without an adopted Neighborhood Plan has a Place Type designation, that designation indicates the most intense Place Type that may be allocated to the property during the neighborhood planning process and does not entitle the entire property to be designated with that Place Type.

2.2.6 NEIGHBORHOOD PLAN.

1 **APPLICABILITY.**

Neighborhood Plans are for development projects over 2.5 acres (one or more standard city blocks) on previously undeveloped and/or unplatted land. Neighborhood Plan applications are used to lay out new neighborhoods or portions thereof including streets, blocks, lots, civic spaces, etc. and to allocate Place Type zoning districts within the new neighborhood. Neighborhood Plans include a general subdivision layout which shall serve as the guide for the preliminary plat(s) that will be submitted after the Neighborhood Plan is adopted.

2 **APPROVAL CRITERIA.**

Neighborhood Plans are reviewed for compliance with the Comprehensive Plan and the requirements of this LDC.

3 **APPROVAL PROCEDURE.**

The procedure for approval of a Neighborhood Plan shall follow the requirements of Chapters 211 and 212 of the Texas Local Government Code and the following process.

- (1) Prior to submitting an application for a Neighborhood Plan, the applicant shall schedule a pre-application meeting with the City.
- (2) Once a complete application is received, City staff will schedule a Neighborhood Plan design charrette or urban design consultation depending upon the scale and complexity of the development proposal.
- (3) Upon completion of the design charrette or urban design consultation, City staff will prepare a staff report and submit it along with the Neighborhood Plan to the Planning & Zoning Commission for consideration.
- (4) Public notice of the application will be completed in accordance with State law and City ordinance.
- (5) Following public notice, the Planning & Zoning Commission will hold a public hearing and consider the Neighborhood Plan and make a recommendation to the City Council.
- (6) City Council will hold a public hearing and consider the recommendation of the Planning & Zoning Commission. If the City Council is in favor of the Neighborhood Plan, they will adopt it by ordinance in accordance with State law and the City Charter.

4 **EXPIRATION.**

Neighborhood Plans expire 24 months after approval if a complete preliminary plat application has not been accepted by the City. Upon expiration, the property will revert to the Place Type zoning that was in place prior to approval of the Neighborhood Plan.

2.2.7 INFILL NEIGHBORHOOD PLAN (REZONING REQUIRED).

1 **APPLICABILITY.**

Infill Neighborhood Plans are for development projects over 2.5 acres (one or more standard city blocks) in an infill location. Infill Neighborhood Plan applications are used to lay out infill neighborhoods or portions thereof including streets, blocks, lots, civic spaces, etc. and to allocate Place Type zoning districts within the infill neighborhood. The Infill Neighborhood Plan may include amending, re-platting or vacating of existing platted lots and/or the adoption of a new preliminary plat. This process is intended to be expedited in order to encourage infill development.

2 **APPROVAL CRITERIA.**

Infill Neighborhood Plans are reviewed for compliance with the Comprehensive Plan, the requirements of this LDC, and the context of the infill location.

3 **APPROVAL PROCEDURE.**

The procedure for approval of an Infill Neighborhood Plan shall follow the requirements of Chapters 211 and 212 of the Texas Local Government Code and the following process:

- (1) Prior to submitting an application for an Infill Neighborhood Plan, the applicant shall schedule a pre-application meeting with the City.
- (2) Once a complete application is received, City staff will schedule an Infill Neighborhood Plan design charrette or urban design consultation depending upon the scale and complexity of the development proposal.
- (3) Upon completion of the design charrette or urban design consultation, City staff will prepare a staff report and submit it along with the Infill Neighborhood Plan to the Planning & Zoning Commission for consideration.
- (4) Public notice of the application will be completed in accordance with State law and City ordinance.
- (5) Following public notice, the Planning & Zoning Commission will hold a public hearing and consider the Neighborhood Plan and make a recommendation to the City Council.

City Council will hold a public hearing and consider the recommendation of the Planning & Zoning Commission. If the City Council is in favor of the Infill Neighborhood Plan, they will adopt it by ordinance in accordance with State law and the City Charter.

4 **EXPIRATION.**

Infill Neighborhood Plans will expire 24 months after approval if a complete plat, site development plan or building permit application has not been accepted by the City. Upon expiration, the property will revert to the Place Type zoning that was in place prior to approval of the Infill Neighborhood Plan.

2.2.8 EMPLOYMENT CENTER PLAN.

1 **APPLICABILITY.**

All areas designated as EC – Employment Center Place Type require an Employment Center Plan to be approved prior to any development or redevelopment activity on the property. Employment Center Plans allow development standards for sites that provide locations for job centers that may require deviations from the development standards of the other Place Type zoning districts.

2 **APPROVAL CRITERIA.**

Employment Center Plans are reviewed for compliance with the Comprehensive Plan, the requirements of this LDC, the special needs of proposed employment land uses, and the context of the Employment Center's location.

3 **APPROVAL PROCEDURE.**

The procedure for approval of an Employment Center Plan shall follow the requirements of Chapters 211 and 212 of the Texas Local Government Code and the following process:

- (1) Prior to submitting an application for an Employment Center Plan, the applicant shall schedule a pre-application meeting with the City.
- (2) Once a completed application is received, City staff will schedule an Employment Center Plan design charette or urban design consultation depending upon the scale and complexity of the development proposal.
- (3) Upon completion of the design charette or urban design consultation, City staff will prepare a staff report and submit it along with the Employment Center Plan to the Planning & Zoning Commission for consideration.
- (4) Public notice of the application will be completed in accordance with State law and City ordinance.
- (5) Following public notice, the Planning & Zoning Commission will hold a public hearing and consider the Employment Center Plan and make a recommendation to the City Council.

City Council will hold a public hearing and consider the recommendation of the Planning & Zoning Commission. If the City Council is in favor of the Employment Center Plan, they will adopt it by ordinance in accordance with State law and the City Charter.

4 **EXPIRATION.**

Employment Center Plans expire twenty-four (24) months after approval if a complete Preliminary Plat application has not been accepted by the City. Upon expiration, the property will revert to the Place Type zoning that was in place prior to approval of the Employment Center Plan.

2.2.9 PLACE TYPE ZONING MAP AMENDMENT.

1 **APPLICABILITY.**

Place Type Zoning Map Amendment applications are used by property owners to request a change to the Place Type zoning district of their property. If the property meets the criteria for a New or Infill Neighborhood Plan, that application type shall be used and not a Place Type Zoning Map Amendment application.

2 **APPROVAL CRITERIA.**

Place Type Zoning Map Amendment applications are reviewed for compliance with the Comprehensive Plan and the requirements of this LDC.

3 **APPROVAL PROCEDURE.**

The procedure for approval of a Place Type Zoning Map Amendment application shall follow the requirements of Chapter 211 of the Texas Local Government Code and the following process:

- (1) Prior to submitting a Place Type Zoning Map Amendment application, the applicant shall schedule a pre-application meeting with the City.
- (2) Once a complete application is received, City staff will prepare a staff report and submit it to the Planning & Zoning Commission for consideration.
- (3) Public notice of the application will be completed in accordance with State law and City ordinance.
- (4) Following public notice, the Planning & Zoning Commission will hold a public hearing and consider the Place Type Zoning Map Amendment application and make a recommendation to the City Council.
- (5) City Council will hold a public hearing and consider the recommendation of the Planning & Zoning Commission. If the City Council is in favor of the Place Type Zoning Map Amendment application, they will adopt it by ordinance in accordance with State law and the City Charter.

2.2.10 SPECIAL USE PERMIT (SUP).

1 **APPLICABILITY.**

Special Use Permits allow for the approval of land uses with characteristics or operating conditions that do not meet one or more of the criteria of this LDC, but which are in keeping with the intent of the LDC and the Comprehensive Plan.

2 **APPROVAL CRITERIA.**

Special Use Permit applications are reviewed for compliance with the Comprehensive Plan, the intent statements of this LDC and for overall compatibility with the surrounding neighborhood in which the property is located.

3 **APPROVAL PROCEDURE.**

The procedure for approval of a Special Use Permit application shall follow the requirements of Chapter 211 of the Texas Local Government Code and the following process:

- (1) Prior to submitting a Special Use Permit application, the applicant shall schedule a pre-application meeting with the City.
- (2) Once a complete application is received, City staff will prepare a staff report and submit it to the Planning & Zoning Commission for consideration.
- (3) Public notice of the application will be completed in accordance with State law and City ordinance.
- (4) Following public notice, the Planning & Zoning Commission will hold a public hearing and consider the Special Use Permit and make a recommendation to the City Council.
- (5) City Council will hold a public hearing and consider the recommendation of the Planning & Zoning Commission. If the City Council is in favor of the Special Use Permit application, they will adopt it by ordinance in accordance with State law and the City Charter.

4 **EXPIRATION.**

The City Council may establish an expiration date and/or renewal criteria for the Special Use Permit in the adopting ordinance.

2.2.11 PLACE TYPE ZONING VERIFICATION LETTER.

1 **APPLICABILITY.**

Zoning verification letters allow a property owner to receive a formal determination from the City as to whether a proposed use of land is permitted within the property's zoning district. The letter does not authorize the property owner to commence any development activity on the property.

2 **APPROVAL PROCEDURE.**

Upon receipt of a complete zoning verification letter application, City staff will research the proposal and the Director of Development Services will issue a letter determining whether the proposed use is permitted within the property's zoning district.

3 **EXPIRATION.**

Zoning verification letters expire the earlier of six (6) months after issuance or when an amendment to this LDC is adopted that would change the determination in the letter.

2.2.12 PLACE TYPE ZONING ORDINANCE TEXT AMMENDMENT.

1 **APPLICABILITY.**

Amendments to this LDC may be made to correct errors in the text, because conditions changed, or because better practices apply. All amendments shall be consistent with the Comprehensive Plan. City staff will periodically identify necessary amendments to the LDC and present them for consideration to the Planning & Zoning Commission. Property owners or citizens of Taylor may also propose text amendments.

2 **APPROVAL CRITERIA.**

Text amendments are reviewed for compliance with the Comprehensive Plan and other provisions of this LDC.

3 **APPROVAL PROCEDURE.**

The procedure for approval of a text amendment shall follow the requirements of Chapter 211 of the Texas Local Government Code and the following process:

- (1) If the text amendment is proposed by a property owner or citizen, the applicant shall schedule a pre-application meeting with the City.
- (2) Whether city-initiated or applicant-initiated, City staff will prepare a staff report on the proposed text amendment and submit it to the Planning & Zoning Commission for consideration.
- (3) Public notice of the text amendment will be completed in accordance with State law and City ordinance.
- (4) Following public notice, the Planning & Zoning Commission will hold a public hearing and consider the text amendment and make a recommendation to the City Council.
- (5) City Council will hold a public hearing and consider the recommendation of the Planning & Zoning Commission. If the City Council is in favor of the text amendment, they will adopt it by ordinance in accordance with State law and the City Charter.

2.2.13 APPEAL OF A PLACE TYPE RELATED ADMINISTRATIVE DECISION.

1 **APPLICABILITY.**

Pursuant to the provisions of Chapter 211 of the Texas Local Government Code, a person may appeal an order, requirement, decision, or determination made by an administrative official in the enforcement of zoning regulations adopted under Chapter 211.

(1) The following are authorized to file an appeal of an administrative decision that is not specific to an application, address, or project:

- (a) a person aggrieved by the decision; or
- (b) any officer, department, board, or bureau of the municipality affected by the decision.

(2) The following are authorized to file an appeal of an administrative decision that is related to a specific application, address, or project:

- (a) a person who filed the application that is the subject of the decision;
- (b) a person who is the owner or representative of the owner of the property that is the subject of the decision; or
- (c) a person who is aggrieved by the decision and is the owner of real property within 200 feet of the property that is the subject of the decision.

2 **APPROVAL CRITERIA.**

The ZBA may reverse or affirm, in whole or in part, or modify the administrative official's order, requirement, decision, or determination from which an appeal is taken and make the correct order, requirement, decision, or determination, and for that purpose the ZBA has the same authority as the administrative official.

The ZBA shall consider the following in rendering its decision:

- (1) The administrative official's action is presumed to be valid. The applicant shall present sufficient evidence and have the burden to justify a reversal of the action being appealed. The administrative official may present evidence and argument to the contrary.
- (2) All findings and conclusions necessary to the appeal shall be based upon reliable evidence.

2.2.13 APPEAL OF A PLACE TYPE RELATED ADMINISTRATIVE DECISION.

3

APPROVAL PROCEDURE.

- (1) A person wishing to file an appeal shall submit a complete appeal application to the City not later than the 20th day after the date the administrative decision is made.
- (2) Pursuant to Section 211.010 of the Texas Local Government Code, an appeal stays all proceedings in furtherance of the action that is appealed unless the official from whom the appeal is taken certifies in writing to the ZBA facts supporting the official's opinion that a stay would cause imminent peril to life or property. In that case, the proceedings may be stayed only by a restraining order granted by the ZBA or a court of record on application, after notice to the official, if due cause is shown.
- (3) The administrative official shall submit to the ZBA all the documents constituting the record of the action taken by the official.
- (4) The ZBA shall set a reasonable time for the appeal hearing and shall give public notice of the hearing and due notice to the parties in interest. A party may appear at the appeal hearing in person or by agent or attorney. The ZBA shall decide the appeal at the next meeting for which notice can be provided following the hearing and not later than the 60th day after the date the appeal is filed.
- (5) At least 75 percent of the members of the ZBA must be present to hear the appeal.
- (6) The concurring vote of 75 percent of the members of the ZBA is required to reverse an order, requirement, decision, or determination of an administrative official.
- (7) Judicial review of a decision of the ZBA shall follow the procedures in Chapter 211.011 of the Texas Local Government Code.

2.2.14 PLACE TYPE ZONING VARIANCE.

1 **APPLICABILITY.**

In specific cases a variance from the terms of this LDC may be authorized by the ZBA if the variance is not contrary to the public interest and, due to special conditions, a literal enforcement of the LDC would result in unnecessary hardship, and so that the spirit of the LDC is observed and substantial justice is done.

2 **APPROVAL CRITERIA.**

No variance shall be granted or imposed unless the ZBA finds:

- (1) That there are special circumstances or conditions affecting the property involved such that the strict application of the provisions of this LDC would deprive the applicant of the reasonable use of their property; and
- (2) That granting the variance is necessary for the preservation and enjoyment of a substantial property right of the applicant; and
- (3) That granting or the variance will not be detrimental to the public health, safety and welfare; and
- (4) That granting or the variance will not have the effect of preventing the orderly development of other property in the area in accordance with the provisions of this LDC.

Such findings of the ZBA, together with the specific facts upon which such findings are based, shall be incorporated into the official minutes of the meeting at which such variance is granted or imposed. Variances may be granted or imposed only when in harmony with the general purpose and intent of this LDC and the Comprehensive Plan so that the public health, safety, and welfare may be secured. Financial hardship to the applicant, standing alone, except as provided for below, shall not be deemed to constitute undue hardship. All variances shall be granted or imposed on a case-by-case basis, and no variance shall be construed to serve as a precedent for subsequent variances.

The ZBA may consider the following as grounds to determine whether compliance with the LDC as applied to a structure that is the subject of the appeal would result in unnecessary hardship:

- (1) The financial cost of compliance is greater than 50 percent of the appraised value of the structure as shown on the most recent appraisal roll certified by the assessor for the municipality under Section 26.01, Tax Code;
- (2) Compliance would result in a loss to the lot on which the structure is located of at least 25 percent of the area on which development may physically occur;
- (3) Compliance would result in the structure not being in compliance with a requirement of a municipal ordinance, building code, or other requirement;
- (4) Compliance would result in the unreasonable encroachment on an adjacent property or easement; or
- (5) The municipality considers the structure to be a nonconforming structure.

2.2.14 PLACE TYPE ZONING VARIANCE.

3 APPROVAL PROCEDURE.

The procedure for approval of a Zoning Variance shall follow the requirements of Chapter 211 of the Texas Local Government Code and the following process:

- (1) Prior to submitting a Zoning Variance application, the applicant shall schedule a pre-application meeting with the City.
- (2) Once a complete application is received, City staff will prepare a staff report and submit it to the ZBA for consideration.
- (3) Public notice of the application will be completed in accordance with State law and City ordinance.
- (4) Following public notice, the ZBA will hold a public hearing and consider the Zoning Variance.
- (5) Record of the ZBA's action regarding the Zoning Variance Application shall be recorded in the official meeting minutes.
- (6) Judicial review of a decision of the ZBA shall follow the procedures in Chapter 211.011 of the Texas Local Government Code.

4 EXPIRATION.

Zoning Variances expire 24 months after approval if a building permit, site development permit or certificate of occupancy has not been issued for the property that incorporates the provisions of the variance.

2.2.15 PLACE TYPE SPECIAL EXCEPTION.

1 **APPLICABILITY.**

The ZBA may hear and decide Special Exceptions to the following terms of the zoning provisions of this LDC.

- (1) Time extensions for abandoned non-conforming structures, sites, and uses.
- (2) Expansions of non-conforming structures, sites, and uses.
- (3) Setback exceptions that are not eligible for a Zoning Warrant

2 **APPROVAL CRITERIA.**

The ZBA may approve a Special Exception if it determines that it is not contrary to the public interest, is in keeping with the intent of the Comprehensive Plan and this LDC, and so that the spirit of this LDC is observed and substantial justice is done.

3 **APPROVAL PROCEDURE.**

The procedure for approval of a Special Exception shall follow the requirements of Chapter 211 of the Texas Local Government Code and the following process:

- (1) Prior to submitting a Special Exception application, the applicant shall schedule a pre-application meeting with the City.
- (2) Once a complete application is received, City staff will prepare a staff report and submit it to the ZBA for consideration.
- (3) Public notice of the application will be completed in accordance with State law and this LDC.
- (4) Following public notice, the ZBA will hold a public hearing and consider the Special Exception.
- (5) Record of the ZBA's action regarding the Special Exception Application shall be recorded in the official meeting minutes.
- (6) Judicial review of a decision of the ZBA shall follow the procedures in Chapter 211.011 of the Texas Local Government Code.

EXPIRATION.

- 4 Special Exceptions expire 24 months after approval if a building permit, site development permit or certificate of occupancy has not been issued for the property that incorporates the provisions of the Special Exception.

2.2.16 PLACE TYPE WARRANT.

1 **APPLICABILITY.**

Warrants are deviations from a specific provision of this LDC are in keeping with the intent of the LDC and which may be administratively approved by the Development Review Committee without public notice and hearing.

2 **APPROVAL CRITERIA.**

The DRC shall consider the following criteria when evaluating a request for a Warrant:

- (1) Is the requested Warrant in keeping with the intent of this LDC?
- (2) Is the Warrant consistent with the characteristics of the surrounding neighborhood?

3 **APPROVAL PROCEDURE.**

The following procedure shall be followed for Warrant applications:

- (1) Prior to submitting a Warrant application, the applicant shall schedule a pre-application meeting with the City.
- (2) Once a complete application is received, DRC staff will review and provide an analysis of the application.
- (3) The DRC shall meet to discuss and take action on the application at a regularly scheduled or specially called meeting of the DRC at which the applicant may be present to answer questions or provide additional information regarding the application.
- (4) Record of the DRC action shall be provided in writing to the applicant.
- (5) If a Warrant application is denied by the DRC, the applicant may seek a Variance from the ZBA.

4 **EXPIRATION.**

Warrants expire 24 months after approval if a building permit, site development permit or certificate of occupancy has not been issued for the property that incorporates the provisions of the Warrant.

2.2.17 SUBDIVISION APPLICATIONS.

2.2.17.1 GENERAL REQUIREMENTS.

Subdivision applications are not considered filed for the purposes of Texas Local Government Code Section 212.009 until the City determines that the application meets all applicable requirements of this LDC, the application is accepted for consideration.

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2.2.18 NEIGHBORHOOD PLAN.

1 **APPLICABILITY.**

Neighborhood Plans are for development projects over 2.5 acres (one or more standard city blocks) on previously undeveloped and/or unplatted land. Neighborhood Plan applications are used to lay out new neighborhoods or portions thereof including streets, blocks, lots, civic spaces, etc. and to allocate Place Type zoning districts within the new neighborhood if the new neighborhood is inside the city limits. Neighborhood Plans include a general subdivision layout which shall serve as the guide for the preliminary plat(s) that will be submitted after the Neighborhood Plan is adopted.

2 **APPROVAL CRITERIA.**

Neighborhood Plans are reviewed for compliance with the Comprehensive Plan and the requirements of this LDC.

3 **APPROVAL PROCEDURE.**

The procedure for approval of a Neighborhood Plan shall follow the requirements of Chapters 211 (if the neighborhood is inside the city limits) and 212 of the Texas Local Government Code and the following process:

- (1) Prior to submitting an application for a Neighborhood Plan, the applicant shall schedule a pre-application meeting with the City.
- (2) Once a complete application is received, City staff will schedule a Neighborhood Plan design charrette or urban design consultation depending upon the scale and complexity of the development proposal.
- (3) Upon completion of the design charrette or urban design consultation, City staff will prepare a staff report and submit it along with the Neighborhood Plan to the Planning & Zoning Commission for consideration.
- (4) Public notice of the application will be completed in accordance with State law and City ordinance.
- (5) Following public notice, the Planning & Zoning Commission will hold a public hearing and consider the Neighborhood Plan and either approve, approve with conditions, or disapprove the Neighborhood Plan if the new neighborhood is not in the city limits or make a recommendation to the City Council if the new neighborhood is in the city limits.
- (6) City Council will hold a public hearing and consider the recommendation of the Planning & Zoning Commission. If the City Council is in favor of the Neighborhood Plan, they will adopt it by ordinance in accordance with State law and the City Charter.

2.2.18 NEIGHBORHOOD PLAN.

4 EXPIRATION.

Neighborhood Plans expire 24 months after approval if a complete Preliminary Plat application has not been accepted by the City. Upon expiration, the property within city limits will revert to the Place Type zoning in place prior to approval of the Neighborhood Plan.

2.2.19 INFILL NEIGHBORHOOD PLAN.

1 **APPLICABILITY.**

Infill Neighborhood Plans are for development projects over 2.5 acres (one or more standard city blocks) in an infill location. Infill Neighborhood Plan applications are used to lay out infill neighborhoods or portions thereof including streets, blocks, lots, civic spaces, etc. and to allocate Place Type zoning districts within the infill neighborhood if the property is in the city limits. The Infill Neighborhood Plan may include amending, re-platting or vacating of existing platted lots and/or the adoption of a new preliminary plat. This process is intended to be expedited in order to encourage infill development.

2 **APPROVAL CRITERIA.**

Infill Neighborhood Plans are reviewed for compliance with the Comprehensive Plan and the requirements of this LDC.

3 **APPROVAL PROCEDURE.**

The procedure for approval of an Infill Neighborhood Plan shall follow the requirements of Chapters 211 (if the neighborhood is inside the city limits) and 212 of the Texas Local Government Code and the following process:

- (1) Prior to submitting an application for an Infill Neighborhood Plan, the applicant shall schedule a pre-application meeting with the City.
- (2) Once a complete application is received, City staff will schedule an Infill Neighborhood Plan design charette or urban design consultation depending upon the scale and complexity of the development proposal.
- (3) Upon completion of the design charette or urban design consultation, City staff will prepare a staff report and submit it along with the Infill Neighborhood Plan to the Planning & Zoning Commission for consideration.
- (4) Public notice of the application will be completed in accordance with State law and City ordinance.
- (5) Following public notice, the Planning & Zoning Commission will hold a public hearing and consider the Infill Neighborhood Plan and either approve, approve with conditions or disapprove. Deficient plat submittals shall be referred to the Planning & Zoning Commission for disapproval at the Planning & Zoning Commission's meeting date shown on the application calendar.
- (6) City Council will hold a public hearing and consider the recommendation of the Planning & Zoning Commission. If the City Council is in favor of the Infill Neighborhood Plan, they will adopt it by ordinance in accordance with State law and the City Charter.

4 **EXPIRATION.**

Infill Neighborhood Plans expire 24 months after approval if a complete Preliminary Plat, Amending Plat, or Re-Plat application has not been accepted by the City. Upon expiration, the property within city limits will revert to the Place Type zoning that was in place prior to approval of the Infill Neighborhood Plan.

2.2.20 PRELIMINARY PLAT.

1 **APPLICABILITY.**

A Preliminary Plat, showing the proposed layout of the neighborhood that complies with the approved Neighborhood Plan, Infill Neighborhood Plan, or Employment Center Plan, if applicable, shall be required before approval of any division of land or platting activity that requires or proposes the extension of public infrastructure, including, but not limited to, water, sewer, drainage, streets, sidewalks, paths, trails, civic spaces, fire water systems, right-of-way, etc.

2 **APPROVAL CRITERIA.**

Preliminary Plats are reviewed for compliance with the approved Neighborhood or Employment Center Plan, if applicable, the Comprehensive Plan, the requirements of this LDC, the Engineering Manual and all other applicable City, State and Federal laws and requirements.

3 **APPROVAL PROCEDURE.**

The approval procedure for Preliminary Plat applications shall follow the requirements of Chapter 212 of the Texas Local Government Code and the following process:

- (1) Prior to submitting an application for a Preliminary Plat, the applicant shall schedule a pre-application meeting with the City.
- (2) Subdivision applications are only received by the City on the dates shown on the application calendar.
- (3) Once a complete application is received, City staff will review the application for compliance with all applicable criteria.
- (4) Staff shall provide to the applicant and the Planning & Zoning Commission a review letter that lists all deficiencies in the submittal.
- (5) Deficient plat submittals shall be referred to the Planning & Zoning Commission for disapproval at the Planning & Zoning Commission's meeting date shown on the application calendar.
- (6) The Planning & Zoning Commission shall consider all plat applications referred to them and take action to approve, approve with conditions, or disapprove.
- (7) If a plat submittal is disapproved or approved with conditions, the applicant shall resubmit the plat to address and correct all deficiencies on an approved resubmittal date as shown on the application calendar.
- (8) Upon resubmittal, the application shall follow steps 3 through 6 above.

2.2.20 PRELIMINARY PLAT.

- (9) Approval of the preliminary plat does not constitute acceptance of the subdivision, but only constitutes authority to proceed with the preparation of Subdivision Improvement Plans.
- (10) Preliminary Plats shall not be recorded in the real property records of Williamson County.

4

EXPIRATION.

Preliminary Plats expire 12 months after approval if a complete Subdivision Improvement Plans application for one or more phases of the Preliminary Plat has not been accepted by the City.

2.2.21 SUBDIVISION IMPROVEMENT PLANS.

1 **APPLICABILITY.**

Subdivision Improvement Plans conforming to the Engineering Manual and this LDC must be submitted for the construction, improvement, modification or reconstruction of all existing or proposed streets, public lighting, sidewalks, paths, trails, civic spaces, drainage, water, and sewer utilities and any other infrastructure or public improvements that are required or proposed to be constructed, reconstructed, improved or modified. Subdivision Improvement Plans may be standalone plans for a specific improvement but are more typically associated with a phase(s) of an approved Preliminary Plat. Subdivision Improvement Plans are intended to provide detailed engineering drawings for all improvements required to serve the development.

2 **APPROVAL CRITERIA.**

Subdivision Improvement Plans are reviewed for compliance with the approved Preliminary Plat, the Comprehensive Plan, the requirements of this LDC, the Engineering Manual and all other applicable City, State and Federal laws and requirements.

3 **APPROVAL PROCEDURE.**

The approval procedure for Subdivision Improvement Plans applications shall follow the requirements of Chapter 212 of the Texas Local Government Code and the following process.

- (1) Prior to submitting an application for Subdivision Improvement Plans, the applicant shall schedule a pre-application meeting with the City.
- (2) Subdivision applications are only received by the City on the dates shown on the application calendar.
- (3) Once a complete application is received, City staff will review the application for compliance with all applicable criteria.
- (4) Staff shall provide to the applicant and the Planning & Zoning Commission a review letter that lists all deficiencies in the submittal.
- (5) Deficient improvement plans submittals shall be referred to the Planning & Zoning Commission for disapproval at the Planning & Zoning Commission's meeting date shown on the application calendar.
- (6) The Planning & Zoning Commission shall consider all improvement plans applications referred to them for disapproval.
- (7) If an improvement plans submittal is disapproved the applicant shall resubmit the improvement plans to address and correct all deficiencies on an approved resubmittal date as shown on the application calendar.

2.2.21 SUBDIVISION IMPROVEMENT PLANS.

- (8) Upon resubmittal, the application shall follow steps 3 through 6 above if the resubmitted plans are still deficient. If the resubmitted plans meet all applicable approval criteria, the plans shall be administratively approved.
- (9) Approval of the subdivision improvement plans does not constitute acceptance of the subdivision, but only constitutes authority to proceed with the scheduling of a pre-construction meeting.
- (10) Upon approval of the Subdivision Improvement Plans, the applicant shall schedule a pre-construction meeting with the City prior to commencing any construction activity.
- (11) Following the pre-construction meeting, the applicant may begin construction of the scope of work contained in the approved Subdivision Improvement Plans and shall schedule all necessary City inspections throughout the construction process.
- (12) Upon completion of all work and passage of all required City inspections and after the Final Plat has been approved for recording (if applicable), the applicant may request City acceptance of the Subdivision Improvements for operations and maintenance. Prior to scheduling the Subdivision Improvements for acceptance by the City Council, the applicant must provide the following to the City:
 - (a) A two year, ten percent maintenance bond of the contract price of the public improvements being accepted, if the improvements value is greater than \$5,000, issued by a corporate surety licensed to do business in the State of Texas, conditioned that the improvements are free from defects in materials and workmanship.
 - (b) One electronic copy of record drawings, "as-builts", of the improvements that meet the criteria for electronic files in the Engineering Manual.
 - (c) An affidavit from the owner of the property stating that, to the best of their knowledge, the contractor who constructed the improvements has complied with the regulations and standards of this LDC.
 - (d) A sealed letter of concurrence from the design engineer stating that all the subdivision improvements were constructed in accordance with the approved engineered plans.
- (13) Once the City has determined that all required documentation has been provided, the City Engineer shall prepare a letter of recommendation to the City Council for acceptance of the public improvements and schedule the acceptance on the next available City Council meeting agenda.

2.2.21 SUBDIVISION IMPROVEMENT PLANS.

4**EXPIRATION.**

Subdivision Improvement Plans expire 24 months after approval if all improvements have not been constructed and passed all required City inspections. Upon request of the applicant, the Planning & Zoning Commission may consider an extension of the expiration date due to unforeseen or unusual circumstances.

2.2.22 FINAL PLAT.

1 **APPLICABILITY.**

Final Plats are complete, recordable versions of an approved Preliminary Plat. Except as otherwise noted within this section, no Final Plat may be considered or approved unless the approved Preliminary Plat for the same land and has not expired and the Final Plat is consistent with the approved, unexpired Preliminary Plat. The Final Plat must incorporate all approved changes from the Preliminary Plat.

A Final Plat may be approved without approval of a Preliminary Plat if the division of land would qualify as a Minor Plat, except that it proposes more than four lots. A Final Plat under this provision may not include the dedication of land or require or propose the extension of any public infrastructure, including, but not limited to, public utilities or roadways.

2 **APPROVAL CRITERIA.**

Final Plats are reviewed for compliance with the approved Preliminary Plat, the approved Subdivision Improvement Plans (if applicable), the Comprehensive Plan, the requirements of this LDC, the Engineering Manual, and all other applicable City, State and Federal laws and requirements.

3 **APPROVAL PROCEDURE.**

The approval procedure for Final Plat applications shall follow the requirements of Chapter 212 of the Texas Local Government Code and the following process:

- (1) Prior to submitting an application for a Final Plat, the applicant shall schedule a pre-application meeting with the City.
- (2) Subdivision applications are only received by the City on the dates shown on the application calendar.
- (3) Once a complete application is received, City staff will review the application for compliance with all applicable criteria.
- (4) Staff shall list in a plan review comment letter all deficiencies in the plat submittal. Staff shall provide the plan review comment letter to the applicant and the Planning and Zoning Commission.
- (5) Staff shall refer deficient plat submittals to the Planning & Zoning Commission for disapproval at the Planning & Zoning Commission's meeting date shown on the application calendar.
- (6) The Planning & Zoning Commission shall consider all plat applications referred to them and take action to approve, approve with conditions, or disapprove.
- (7) If a plat submittal is disapproved or approved with conditions, the applicant shall resubmit the plat to address and correct all deficiencies on an approved resubmittal date as shown on the application calendar.

2.2.22 FINAL PLAT.

- (8) Upon resubmittal, the application shall follow steps 3 through 6 above.
- (9) Approval of the final plat does not constitute acceptance of the subdivision.
- (10) Final plats may not be recorded until the associated subdivision improvements have been constructed and accepted by the City Council or a performance bond executed by a corporate surety licensed to do business in the State of Texas, has been issued to the City in an amount equal to the cost, as certified by the design engineer and approved by the City Engineer, of the uncompleted and unaccepted improvements conditioned that the improvements will be completed within two (2) years from the date of final plat approval.

4 EXPIRATION.

Final Plats expire 24 months after approval if they have not been recorded in the real property records of Williamson County.

2.2.23 MINOR PLAT.

1 **APPLICABILITY.**

A Minor Plat is a plat involving four or fewer lots fronting on an existing street and not requiring the creation of any new street or the extension of municipal facilities.

2 **APPROVAL CRITERIA.**

Minor Plats are reviewed for compliance with the approved Preliminary Plat (if applicable), the approved Subdivision Improvement Plans (if applicable), the Comprehensive Plan, the requirements of this LDC, the Engineering Manual and all other applicable City, State and Federal laws and requirements.

3 **APPROVAL PROCEDURE.**

The approval procedure for Minor Plat applications shall follow the requirements of Chapter 212 of the Texas Local Government Code and the following process.

- (1) Prior to submitting an application for a Minor Plat, the applicant shall schedule a pre-application meeting with the City.
- (2) Subdivision applications are only received by the City on the dates shown on the application calendar.
- (3) Once a complete application is received, City staff will review the application for compliance with all applicable criteria.
- (4) Staff shall provide to the applicant a plan review letter that lists all deficiencies in the plat submittal.
- (5) Staff shall refer deficient plat submittals to the Planning & Zoning Commission for disapproval at the Planning & Zoning Commission's meeting date shown on the application calendar.
- (6) The Planning & Zoning Commission shall consider all plat applications referred to them for disapproval.
- (7) If the plat submittal is disapproved, the applicant shall resubmit the plat to address and correct all deficiencies on an approved resubmittal date as shown on the application calendar.
- (8) Upon resubmittal, the application shall follow steps 3 through 6 above if the resubmitted plat is still deficient. If the resubmitted plat meets all applicable approval criteria, the plat shall be administratively approved.

4 **EXPIRATION.**

Minor Plats expire 24 months after approval if they have not been recorded in the real property records of Williamson County.

2.2.24 AMENDING PLAT.

1 **APPLICABILITY.**

Amending plats are changes to an already recorded plat that meet the requirements of Section 212.016 of the Texas Local Government Code.

For the purposes of Section 212.016(10)(C), all plats within the Neighborhood Infill Future Land Use category qualify as residential improvement areas.

2 **APPROVAL CRITERIA.**

Amending Plats are reviewed for compliance with the approved and recorded Final Plat, the approved Preliminary Plat (if applicable), the approved Subdivision Improvement Plans (if applicable), the Comprehensive Plan, the requirements of this LDC, the Engineering Manual and all other applicable City, State and Federal laws and requirements.

3 **APPROVAL PROCEDURE.**

The approval procedure for Amending Plat applications shall follow the requirements of Chapter 212 of the Texas Local Government Code and the following process:

- (1) Prior to submitting an application for an Amending Plat, the applicant shall schedule a pre-application meeting with the City.
- (2) Subdivision applications are only received by the City on the dates shown on the application calendar.
- (3) Once a complete application is received, City staff will review the application for compliance with all applicable criteria.
- (4) Staff shall provide to the applicant a plan review letter that lists all deficiencies in the plat submittal.
- (5) Staff shall refer deficient plat submittals to the Planning & Zoning Commission for disapproval at the Planning & Zoning Commission's meeting date shown on the application calendar.
- (6) The Planning & Zoning Commission shall consider all plat applications referred to them for disapproval.
- (7) If the plat submittal is disapproved, the applicant shall resubmit the plat to address and correct all deficiencies on an approved resubmittal date as shown on the application calendar.
- (8) Upon resubmittal, the application shall follow steps 3 through 6 above if the resubmitted plat is still deficient. If the resubmitted plat meets all applicable approval criteria, the plat shall be administratively approved.

4 **EXPIRATION.**

Amending Plats expire 24 months after approval if they have not been recorded in the real property records of Williamson County.

2.2.25 REPLAT.

1 **APPLICABILITY.**

Replats are changes to or further divisions of already recorded plats without vacating the preceding plat.

2 **APPROVAL CRITERIA.**

Replats are reviewed for compliance with the approved and recorded Final Plat, the Preliminary Plat (if applicable), the approved Subdivision Improvement Plans (if applicable), the Comprehensive Plan, the requirements of this LDC, the Engineering Manual, and all other applicable City, State and Federal laws and requirements.

3 **APPROVAL PROCEDURE.**

The approval procedure for Replat applications shall follow the requirements of Chapter 212 of the Texas Local Government Code and the following process.

- (1) Prior to submitting an application for a Replat, the applicant shall schedule a pre-application meeting with the City.
- (2) Subdivision applications are only received by the City on the dates shown on the application calendar.
- (3) Once a complete application is received, City staff will review the application for compliance with all applicable criteria.
- (4) Staff shall provide to the applicant and the Planning and Zoning Commission a plan review letter that lists all deficiencies in the plat submittal.
- (5) Staff shall refer deficient plat submittals to the Planning & Zoning Commission for disapproval at the Planning & Zoning Commission's meeting date shown on the application calendar.
- (6) The Planning & Zoning Commission shall consider all plat applications referred to them and take action to approve, approve with conditions or disapprove. Certain Replats described in Section 212.015 of the Texas Local Government Code require notice and a public hearing and may trigger the affirmative vote of three-fourths of the members present.
- (7) If a plat submittal is disapproved or approved with conditions, the applicant shall resubmit the plat to address and correct all deficiencies on an approved resubmittal date as shown on the application calendar.
- (8) Upon resubmittal, the application shall follow steps 3 through 6 above. If the Replat meets the requirements of Section 212.0145 of the Texas Local Government Code, it may be administratively approved.

2.2.25 REPLAT.

4**EXPIRATION.**

Replats expire 24 months after approval if they have not been recorded in the real property records of Williamson County.

2.2.26 VACATING PLAT.

1 **APPLICABILITY.**

A previously recorded plat may be vacated in accordance with Section 212.013 of the Texas Local Government Code. If no lots have been sold within the plat, the owner of the property covered by the plat may file the Vacating Plat application. If lots have been sold, all owners of lots in the plat must sign the application for the Vacating Plat.

2 **APPROVAL CRITERIA.**

Vacating Plat applications are reviewed for compliance with applicable State law and this LDC.

3 **APPROVAL PROCEDURE.**

The procedure for approving a Vacating Plat is the same as the procedure for approving the original plat.

4 **EXPIRATION.**

A plat vacation expires six (6) months after approval if the vacating instrument has not been recorded in the real property records of Williamson County.

2.2.27 PLAT CERTIFICATION LETTER.

1 **APPLICABILITY.**

Pursuant to Section 212.0115 of the Texas Local Government Code, an owner of land, a purchaser of real property under contract for deed, executory contract, or other executory conveyance, an entity that provides utility service, or the governing body of the municipality may make written application for a Plat Certification Letter to determine compliance with plat requirements.

2 **APPROVAL CRITERIA.**

Plat Certification Letters are issued based upon the requirements of Chapter 212 of the Texas Local Government Code and the requirements of this LDC. The determination of whether a property has been properly platted or is exempt from platting will depend upon the specific circumstances and configuration of the subject property.

3 **APPROVAL PROCEDURE.**

The City Council of the City of Taylor, by adoption of this LDC, has delegated the ability to perform all responsibilities under Section 212.0115 to the Director of Development Services or their successor or assignee. The approval procedure for Plat Certification Letter applications shall follow the requirements of Chapter 212 of the Texas Local Government Code and the following process:

- (1) The applicant shall file an application for a Plat Certification Letter identifying the land that is the subject of the request.
- (2) Once a complete application is received, City staff shall research the land for which the Plat Certification Letter is being requested to determine whether it has been platted, requires platting for the proposed development activity, or is exempt from platting and shall make a determination within 20 days after receipt of the complete application.
- (3) If applicable, the City shall issue, within ten days of the City's determination, a certificate stating that a plat for the land in question has been reviewed and approved by the City or that the land and/or proposed development activity is exempt from platting.
- (4) If a plat has not been reviewed and approved by the City and is determined to be required, the City shall issue a letter to the applicant stating such.
- (5) An applicant may appeal to the Planning & Zoning Commission the decision of the City staff member who issues the determination.

4 **EXPIRATION.**

A Plat Certification Letter shall expire upon the sooner to occur of 60 days or a change in the configuration or platting status of the land from that described in the original application.

2.2.28 APPEAL OF A SUBDIVISION-RELATED ADMINISTRATIVE DECISION.

1 **APPLICABILITY.**

An applicant for a subdivision application may appeal to the Planning & Zoning Commission the decision of an administrative official related to the subdivision-related standards of this LDC as applied to their application if the applicant believes that the administrative decision has been made in error.

2 **APPROVAL CRITERIA.**

The Commission may reverse or affirm, in whole or in part, or modify the administrative official's order, requirement, decision, or determination from which an appeal is taken and make the correct order, requirement, decision, or determination, and for that purpose the Commission has the same authority as the administrative official.

The Commission shall consider the following in rendering its decision:

- (1) The administrative official's action is presumed to be valid. The applicant shall present sufficient evidence and have the burden to justify a reversal of the action being appealed. The administrative official may present evidence and argument to the contrary.
- (2) All findings and conclusions necessary to the appeal shall be based upon reliable evidence.

3 **APPROVAL PROCEDURE.**

- (1) A person wishing to file an appeal shall submit a complete appeal application to the City not later than the 20th day after the date the administrative decision is made.
- (2) The administrative official shall schedule the appeal hearing before the Planning and Zoning Commission at the next regularly scheduled meeting for which there is sufficient time to meet all required posting and notice timelines. The administrative official shall submit to the Commission Planning and Zoning all the documents constituting the record of the action taken by the official.
- (3) The Planning and Zoning Commission shall decide the appeal at the next meeting for which notice can be provided following the hearing and not later than the sixtieth (60th) day after the date the appeal is filed.
- (4) At least 75 percent of the members of the Planning and Zoning Commission must be present to hear the appeal.
- (5) The concurring vote of 75 percent of the members of the Planning and Zoning Commission is required to reverse an order, requirement, decision, or determination of an administrative official.

2.2.29 SUBDIVISION WARRANT.

1 **APPLICABILITY.**

Warrants are deviations from a specific provision of this LDC that are in keeping with the intent of the ordinance and which may be administratively approved by the Development Review Committee without public notice and hearing.

2 **APPROVAL CRITERIA.**

The DRC shall consider the following criteria when evaluating a request for a Warrant:

- (1) Is the requested Warrant in keeping with the intent of this LDC?
- (2) Is the Warrant consistent with the characteristics of the surrounding neighborhood?

3 **APPROVAL PROCEDURE.**

The following procedure shall be followed for Warrant applications:

- (1) Prior to submitting a Warrant application, the applicant shall schedule a pre-application meeting with the City.
- (2) Once a complete application is received, DRC staff will review and provide an analysis of the application.
- (3) The DRC shall meet to discuss and take action on the application at a regularly scheduled or specially called meeting of the DRC at which the applicant may be present to answer questions or provide additional information regarding the application.
- (4) Record of the DRC action shall be provided in writing to the applicant.
- (5) If a Warrant application is denied by the DRC, the applicant may seek a Variance from the Planning & Zoning Commission.

4 **EXPIRATION.**

Warrants expire 24 months after approval if a building permit, site development permit or certificate of occupancy has not been issued for the property that incorporates the provisions of the Warrant.

2.2.30 SUBDIVISION VARIANCE.

1 **APPLICABILITY.**

A variance of certain subdivision standards of this LDC, as provided for within this LDC, may be considered concurrently with a Preliminary Plat, Subdivision Improvement Plans, Final Plat, Minor Plat, or Replat to address unforeseen circumstances or other difficulties in developing a property under the specific provisions of this LDC. A Subdivision Variance application may be filed without a companion plat application in limited circumstances if the granting of the variance would eliminate the requirement of the plat.

2 **APPROVAL CRITERIA.**

A Subdivision Variance may be approved, conditionally approved, or disapproved. The P&Z must find that the following factors are applicable in order to approve the variance:

- (1) That the granting of the variance will not be detrimental to the public health, safety or welfare or injurious to other property in the area or to the City in administering this LDC.
- (2) That the granting of the variance would not substantially conflict with the Comprehensive Plan and the purposes of this LDC.
- (3) That the conditions that create the need for the variance do not generally apply to other property in the vicinity.
- (4) That application of a provision of this LDC will render subdivision of the land impossible.
- (5) Where the literal enforcement of these regulations would result in an unnecessary hardship.

3 **APPROVAL PROCEDURE.**

- (1) Prior to submitting an application for a Subdivision Variance, the applicant shall schedule a pre-application meeting with the City.
- (2) Subdivision applications are only received by the City on the dates shown on the application calendar.
- (3) Once a complete application is received, City staff will review the application for compliance with all applicable criteria.
- (4) Staff shall provide to the applicant and the Planning and Zoning Commission a plan review letter that lists all deficiencies in the submittal.
- (5) Staff shall refer deficient submittals to the Planning & Zoning Commission for disapproval at the Planning & Zoning Commission's meeting date shown on the application calendar.
- (6) The Planning & Zoning Commission shall consider all applications referred to them and take action to approve, approve with conditions or disapprove.

2.2.30 SUBDIVISION VARIANCE.

3 (7) If a submittal is disapproved or approved with conditions, the applicant shall resubmit the application to address and correct all deficiencies on an approved resubmittal date as shown on the application calendar.

(8) Upon resubmittal, the application shall follow steps 3 through 6 above.

4 **EXPIRATION.**

Subdivision Variances expire if the plat that they are associated with expires or six months after approval if a complete application for a plat which incorporates the approved variance has not been received by the City.

2.2.31 SITE DEVELOPMENT APPLICATIONS.

2.2.31.1 GENERAL REQUIREMENTS.

A Site Development Application submittal shall include all of the required information from the Development Manual checklist in order to be considered a complete submittal. All submittals shall be delivered to the Development Services Department in accordance with the approved submittal schedule. Incomplete submittals will not be accepted.

2.2.32 SITE DEVELOPMENT PLAN.

1 APPLICABILITY.

An approved Site Development Plan is required prior to construction of any improvements on a site including but not limited to buildings, driveways, sidewalks, parking, outdoor storage areas, trash and recycling enclosures, stormwater facilities, utilities, site lighting, landscaping, walls and fences, etc. An approved Site Development Plan is required prior to submittal of a Building Permit application.

2 APPROVAL CRITERIA.

Site Development Plans shall be reviewed for compliance with the Comprehensive Plan, the standards of this LDC, the Engineering Manual, and all other applicable City, County, State and Federal laws.

3 APPROVAL PROCEDURE.

The following procedure shall be followed for Site Development Plan applications:

- (1) Prior to submitting a Site Development Plan application, the applicant shall schedule a pre-application meeting with the City.
- (2) Once a complete application is received, City staff will review the application for compliance with all applicable criteria.
- (3) Staff shall provide to the applicant a review letter that lists all deficiencies in the submittal.
- (4) Upon resubmittal, the application shall follow steps 2 and 3 above if the resubmitted plan is still deficient. If the resubmitted plan meets all applicable approval criteria, the plan shall be administratively approved.
- (5) Once the Site Development Plan has been approved, applications for Building Permits on the site may be submitted.

4 EXPIRATION.

Site Development Plans expire 12 months after approval if a pre-construction meeting has not been completed and construction activities associated with the approved Site Development Plan have not commenced.

2.2.33 STREAMLINED SITE DEVELOPMENT PLAN.

1**APPLICABILITY.**

Streamlined Site Development Plan applications may be considered for priority economic development projects, infill locations, or other projects as determined by the City Manager or their designee. The streamlined process allows the Site Development Plan to be submitted with the Building Permit application and the two reviewed as part of a single application.

2**APPROVAL CRITERIA.**

Streamlined Site Development Plans shall be reviewed for compliance with the Comprehensive Plan, the standards of this LDC, the Engineering Manual, and all other applicable City, County, State and Federal laws.

3**APPROVAL PROCEDURE.**

The following procedure shall be followed for Streamlined Site Development Plan applications.

- (1) The applicant shall schedule a pre-development meeting prior to submitting an application. After the pre-development meeting, the Director of Development Services shall determine the application's eligibility for the Streamlined process.
- (2) Once approved for the Streamlined process, the applicant shall submit the Site Development Plan with the Building Permit application following the procedures established for Building Permit applications.
- (3) The Streamlined Site Development Plan will be reviewed by staff concurrently with the Building Permit application, and all deficiencies in the Plan shall be listed in a plan review comment letter that shall be provided to the applicant.
- (4) Upon resubmittal, the application shall follow steps 2 and 3 above if the resubmitted plan is still deficient. If the resubmitted plan meets all applicable approval criteria, the plan shall be administratively approved.

4**EXPIRATION.**

Site Development Plans expire 12 months after approval if a pre-construction meeting has not been completed and construction activities associated with the approved Site Development Plan have not commenced.

2.2.34 SIGN APPLICATIONS.

2.2.34.1 GENERAL REQUIREMENTS.

This Section is authorized by Article XI § 5 of the Texas Constitution, Home Rule Authority inherent under the City Charter, and the Texas Local Government Code including, but not limited to Chapter 211, Municipal Zoning Authority, and Chapter 216, Regulation of Signs by Municipalities.

2.2.35 SIGN PERMIT.

1 **APPLICABILITY.**

- (1) After a complete application is filed, the Development Services Director or their designee shall approve, approve with conditions as needed to ensure compliance with Chapter 5.10 of this LDC, or deny the sign permit.
- (2) No person may install a sign or structurally alter an existing sign except in conformity with this Chapter and all other applicable City ordinances.

2 **APPROVAL CRITERIA.**

The applicant shall submit all the information required in the Development Manual as specified on the sign permit checklist. Applications will not be accepted for review until all the items required to be submitted with the sign permit have been received by the City.

3 **APPROVAL PROCEDURE.**

- (1) After a complete application is filed, the Development Services Director or their designee shall approve, approve with conditions as needed to ensure compliance with Chapter 5.10 of this LDC or deny the sign permit.
- (2) If the sign permit is denied the reasons for the denial will be provided in writing. The variance process for signs is detailed in Section 2.2.37 below.

4 **INSPECTIONS.**

After the sign permit has been issued and the sign is being constructed or erected, the sign contractor performing the work or service shall request that the Development Services Director or their designee conducts necessary inspection such as, but not limited to, foundation inspection, electrical inspection and final inspection.

5 **EXPIRATION.**

If the approved sign(s) are not completely installed within six months following the issuance of a sign permit, the sign permit shall expire.

2.2.36 MASTER SIGN PLAN.

1 **APPLICABILITY.**

- (1) The purpose of the master sign plan program is to allow a property owner or developer, subject to approval, the option of creating a sign management program for multi-tenant or mixed-use developments. The Master Sign Plan will ensure that the proposed signage meets certain standards and consistent with the character and quality of development in the City of Taylor. A Master Sign Plan is not a permit for individual sign construction or installation. Instead, a Master Sign Plan speeds the review and approval of individual signs that fully comply with the Master Sign Plan.
- (2) The benefits of a master sign program include the following:
 - a. Allows for a unified presentation of signage throughout parcels proposed for development;
 - b. Allows creativity and flexibility to provide for unique environments;
 - c. The uniformity, creativity and flexibility is in exchange for a cumulative reduction in sign area, sign height or the total number of signs; and
 - d. Gives pre-approval of designs and design elements that will make subsequent applications for sign permits more efficient.
 - e. To this end, a master sign program alternative is created.
- (3) The minimum requirements to qualify for a master sign plan must include:
 - a. One whole parcel or two or more contiguous parcels that are not included in any other master sign plans and
 - b. The property owner(s), or authorized representatives of the owner(s) of all parcels within the proposed master plan sign area must sign the application for the master sign plan.

2 **APPLICATION MATERIALS.**

The applicant shall submit all the information required in the Development Manual as specified on the master sign checklist. Applications will not be accepted for review until all the items required to be submitted with the sign permit have been received by the City.

3 **APPROVAL CRITERIA.**

- (1) A master sign program for a multi-tenant or mixed use development may be approved, as proposed, if it will result in a substantially improved, comprehensive and unified proposal which would enhance the character and visual amenities of the City of Taylor. This will be determined by a comparison exercise undertaken by the Development Services Director or their designee.

2.2.36 MASTER SIGN PLAN.

The comparison exercise will assess the combined impacts of the proposed Master Sign submission by considering all the factors listed (i) through (viii) below and comparing them to what is allowed through strict compliance with all other provisions of this LDC in Chapter 5.10. The standards being considered in the comparison exercise include, but not are limited, to:

- a. Consistent materials, sizes, styles, and colors across the development;
 - b. Use of landscaping around the sign base;
 - c. Use of channel lettering;
 - d. Fewer incidental signs;
 - e. Greater spacing between signs along street frontages;
 - f. Fewer total number of signs;
 - g. Signs of reduced heights and area; and
 - h. Impact from any proposed prohibited signs or sign elements or illumination.
- (2) The Development Services Director or their designee shall review all sign types (e.g., attached, freestanding, or illumination etc.) for the parcel or parcels proposed for development, to determine the degree of compliance with this article as a supplement to, or in lieu of, the sign standards otherwise applicable. Any deviations to the number, dimensions, locations, or design characteristics of attached or freestanding signs that are sought by an applicant shall be justified in writing, and shall clearly demonstrate a standard of design and quality that exceeds those provided in Chapter 5.10.

4

APPROVAL PROCEDURE.

- (1) The Development Services Director or their designee may administratively deny or approve a master sign plan, with or without conditions. If the master sign plan is denied, the reasons for the denial will be provided in writing.
- (2) The Development Services Director or their designee may impose reasonable conditions on the master sign plan relating to the design, locations, placements, or orientations, and sign specifications that are not related to the content of the signs or the viewpoints of the sign users, in order, to ensure continuing compliance with the standards of this LDC and the approved master sign plan.
- (3) If the master sign plan is denied the reasons for the denial will be provided in writing. The variance process for signs is detailed in Section 2.2.37.

5

EXPIRATION.

An approved Master Sign plan shall expire one year from the date of such approval if no progress has been made towards completion of the project.

2.2.37 SIGN VARIANCE.

1 **APPLICABILITY.**

The applicant who is seeking a variance from this LDC, including a Master Sign Plan, must file a request for a variance with the Development Services Director or their designee along with a variance application fee, as stated in the City's most recent fee schedule.

2 **APPLICATION MATERIALS.**

The Development Services Director or their designee will indicate what documentation the responsible party must provide in support of the variance request.

3 **APPROVAL CRITERIA.**

- (1) In determining the sign variance request the ZBA shall consider:
 - a. Special or unique hardship because of the size or shape of the property on which the sign is to be located, or the visibility of the property from public roads.
 - b. Hardship claim based on the exceptional topographic conditions or physical features uniquely affecting the property on which a sign is to be located.
 - c. Proposed sign location, configuration, design, materials, and colors are harmonious.
 - d. The sign and its supporting structure are in architectural harmony with the surrounding structures.
 - e. Mitigation measures related to the sign in question or other signs on the same premises.
 - f. Demonstrated and documented correlation between the variance and protecting public health and safety.
- (2) The ZBA may decide, based on the evidence presented, that strict compliance with the requirements of this LDC will result in:
 - a. A substantial undue hardship (not for financial gain) to the applicant, or
 - b. The applicant providing sufficient mitigation, or
 - c. An inequity to the applicant without sufficient corresponding benefit to the City and its citizens in accomplishing the objectives of the this LDC.

When the ZBA is satisfied that a granting of such variation will not merely serve as a convenience to the applicant, but will alleviate some demonstrable and unusual hardship or difficulty, the variance can be granted with or without conditions. Alternatively, the ZBA can deny the variance request.

- (3) All variances shall be granted or imposed on a case-by-case basis and no variance shall be construed to serve as a precedence for subsequent variances to this LDC.

2.2.37 SIGN VARIANCE.

4 APPROVAL PROCEDURE.

The procedure for approval of a sign variance shall follow the requirements of Chapters 211 and 216 of the Texas Local Government Code and the following process:

- (1) Once a complete variance submission is received, the Development Services Director or their designee will prepare a staff report and submit to the ZBA for consideration.
- (2) Public notice of the variance request will be completed in accordance with State law and this LDC.
- (3) Following public notice, the ZBA will hold a public hearing and determine the variance request after the public hearing has closed.
- (4) The reasoning for each and every decision taken by the ZBA shall be clearly expressed and referenced to approval criteria above and the relevant sections of this LDC before a vote is taken by the ZBA. Such findings shall be incorporated into the official minutes of the ZBA.

2.2.38 HISTORIC PRESERVATION APPLICATIONS.

- 2.2.38.1. General Requirements. A Certificate of Appropriateness application submittal shall include all of the requirements from the Development Manual checklist in order to be considered a complete submittal. All submittals shall be delivered to the Development Services Department in accordance with the approved submittal schedule. Incomplete submittals will not be accepted by the Development Review Authority.

2.2.39 CERTIFICATE OF APPROPRIATENESS.

1 **APPLICABILITY.**

A certificate of appropriateness is required for portions of buildings and sites visible from adjacent public rights-of-way, streets or alleys prior to undertaking any of the following activities in a local Historic District or at a local Historic Landmark:

- (1) Construction and reconstruction, including fences and walls;
- (2) Alteration, additions, restoration and rehabilitation;
- (3) Relocation;
- (4) Signage;
- (5) Construction or reconstruction of a parking lot
- (6) Demolition.

2 **APPROVAL CRITERIA.**

The following criteria shall be used to determine whether the application for a certificate of appropriateness shall be approved, conditionally approved or denied:

- (1) Consideration of the effect of the activity on historical, architectural or cultural character of the Historic District or Historic Landmark;
- (2) Compliance with the Historic District or Historic Landmark regulations;
- (3) Whether the property owner would suffer extreme hardship, not including loss of profit, unless the certificate of appropriateness is issued; and
- (4) The construction and repair standards or guidelines.

3 **APPROVAL PROCEDURE.**

Historic Preservation Officer Action

- (1) The Historic Preservation Officer (HPO) shall review the application for a certificate of appropriateness in accordance with the criteria and provide a report and recommendation to the Historic Preservation Commission.
- (2) The HPO shall schedule a public hearing and post a notice before the public hearing in accordance with this LDC.

Historic Preservation Commission Action

- (1) The Historic Preservation Commission shall conduct a public hearing concerning the application in accordance with this LDC.

2.2.39 CERTIFICATE OF APPROPRIATENESS.

- (2) The Historic Preservation Commission shall approve, approve with conditions or deny the application for a certificate of appropriateness after consideration of the request during the public hearing.
- (3) If the Historic Preservation Commission determines that a certificate of appropriateness should not be issued, or should be issued subject to conditions, it shall place upon its records the reasons for its determination.
- (4) The Historic Preservation Commission shall render its decision on the request within 45 days of the date the application is deemed complete and adequate for review, subject to the supplemental options available.
- (5) If a submittal is disapproved or approved with conditions the applicant shall resubmit the application to address and correct all deficiencies on an approved resubmittal date as shown on the application calendar.
- (6) Applications denied by the Historic Preservation Commission are appealable to the City Council.

Upon resubmittal, the application shall follow steps 3 through 6 above.

4

EXPIRATION.

- (1) Time of Expiration. A certificate of appropriateness shall expire one year from the date it is issued if the proposed activity has not commenced, or two years from the date the certificate is issued, if the proposed activity has not been completed.
- (2) Extension. A certificate of appropriateness may be extended by the Historic Preservation Commission for a period not to exceed one year from the date required for commencement and two years from the date required for completion of the activity authorized by the certificate.

2.3 REVIEW AUTHORITY.

2.3.1 OVERVIEW.

The process overview defines the application type and review and approval authority for each application.

*Properties in the ETJ receive final approval by the P&Z.

APPLICATION TYPE	REVIEWING PARTY				
	CITY STAFF	ZONING BOARD OF ADJUSTMENTS	PLANNING & ZONING COMMISSION	HISTORIC PRESERVATION COMMISSION	CITY COUNCIL
Annexation	R				[D]
Comprehensive Plan Amendment	R		[R]		[D]
Neighborhood Plan*	R		[R]		[D]
Employment Center Plan*	R		[R]		[D]
Place Type Zoning Map Amendment	R		[R]		[D]
Special Use Permit	R		[R]		[D]
Place Type Zoning Verification Letter	D				
Place Type Zoning Ordinance Text Amendment	R		[R]		[D]
Place Type Zoning Variance	R	[D]			
Place Type Zoning Special Exception	R	[D]			
Place Type Zoning Warrant	D	A			
Administrative Decision Appeal - Place Type Zoning		[D]			
Preliminary Plat Approval/Disapproval	R		D		
Subdivision Improvement Plans Disapproval	R		D		

R = Recommendation - D = Decision Maker - A = Appeal - [] = Public Hearing Required

APPLICATION TYPE	REVIEWING PARTY				
	CITY STAFF	ZONING BOARD OF ADJUSTMENTS	PLANNING & ZONING COMMISSION	HISTORIC PRESERVATION COMMISSION	CITY COUNCIL
Subdivision Improvement Plans Approval	D				D
Final Plat Approval/Disapproval	R		D		
Minor Plat/Replat Disapproval	R		D		
Minor Plat/Replat Approval	D				
Amending Plat Disapproval	R		D		
Amending Plat Approval	D				
Replat Approval/Disapproval	R		[D]		
Plat Vacation	R		D		
Plat Certification	D		A		
Subdivision Variance	R		D		
Subdivision Warrant	D		A		
Administrative Decision Appeal - Subdivision			D		
Site Development Plan	D		A		
Sign Permit	D	A			
Certificate of Appropriateness	R			[D]	A

R = Recommendation - D = Decision Maker - A = Appeal - [] = Public Hearing Required

2.3.2 PLANNING & ZONING COMMISSION.

2.3.2.1 ESTABLISHMENT AND MEMBERSHIP.

The Planning & Zoning (P&Z) Commission is established in Chapter 2, Article IV of the City of Taylor Code of Ordinances.

2.3.2.2 AUTHORITY.

The Planning & Zoning Commission has the authority granted to it by State Law and City ordinance. Its authority related to the applications, processes and procedures of this LDC is summarized below.

The Planning & Zoning Commission has final decision-making authority over the following processes and applications:

- (1) Disapproval of all subdivision applications
- (2) Approval of Preliminary Plats
- (3) Approval of Final Plats
- (4) Approval of Vacating Plats
- (5) Approval of Subdivision Variances
- (6) Review and approval or disapproval of appeals of the following:
- (7) Administrative decisions on Subdivision-related applications
- (8) Administrative decisions on Site Development Plan applications

The Planning & Zoning Commission makes recommendations to the City Council on the following processes and applications:

- (1) Comprehensive Plan adoption or amendment
- (2) Re-Zoning applications
- (3) Special Use Permits
- (4) Neighborhood Plans
- (5) Infill Neighborhood Plans
- (6) Employment Center Plans
- (7) Zoning Ordinance adoption and text amendments

2.3.2.3 MEETINGS.

The Planning & Zoning Commission shall meet as necessary to conduct its business, comply with State law mandates and comply with City LDC requirements.

2.3.3 ZONING BOARD OF ADJUSTMENT.

2.3.3.1 ESTABLISHMENT AND MEMBERSHIP.

The Zoning Board of Adjustment (ZBA) is established in Chapter 2, Article IV of the City of Taylor Code of Ordinances.

2.3.3.2 AUTHORITY.

The ZBA has the authority granted to it by State law and City ordinance. Its authority related to the applications, processes and procedures of this LDC is summarized below.

The ZBA has final decision-making authority over the following processes and applications:

- (1) Zoning Variances
- (2) Zoning Special Exceptions
- (3) Review and approval or disapproval of appeals of the following:
 - (i) Zoning-related Administrative Decisions
 - (ii) Administrative decisions on Sign Permit applications
 - (iii) Administrative decisions on Zoning Warrant applications

2.3.3.3 MEETINGS.

The ZBA shall meet as necessary to conduct its business, comply with State law mandates and comply with City ordinance requirements.

2.3.4 HISTORIC PRESERVATION COMMISSION.

2.3.4.1 ESTABLISHMENT AND MEMBERSHIP.

The Historic Preservation Commission (HPC) is established in Chapter 2, Article IV of the City of Taylor Code of Ordinances.

2.3.4.2 AUTHORITY.

The Historic Preservation Commission has the authority granted to it by State law and City ordinance. Its authority related to the applications, processes and procedures of this LDC is summarized below.

The Historic Preservation Commission has final decision-making authority over the following processes and applications:

- (1) Certificate of Appropriateness
- (2) Signs in the Historic District

2.3.4.3 MEETINGS.

The Historic Preservation Commission shall meet as necessary to conduct its business, comply with State law mandates and comply with City ordinance requirements.

2.3.5 DEVELOPMENT REVIEW COMMITTEE.

The Development Review Committee (DRC) shall be organized to generally ensure compliance by the applicant with all applicable codes, regulations, laws, ordinances, and plans associated with applications within this LDC and to coordinate the examination of development proposals to ensure that all City requirements, established by ordinance, resolution or policy, have been met without conflict. The Development Review Committee shall have all the power and duties specifically provided for herein.

2.3.5.1 ESTABLISHMENT AND MEMBERSHIP.

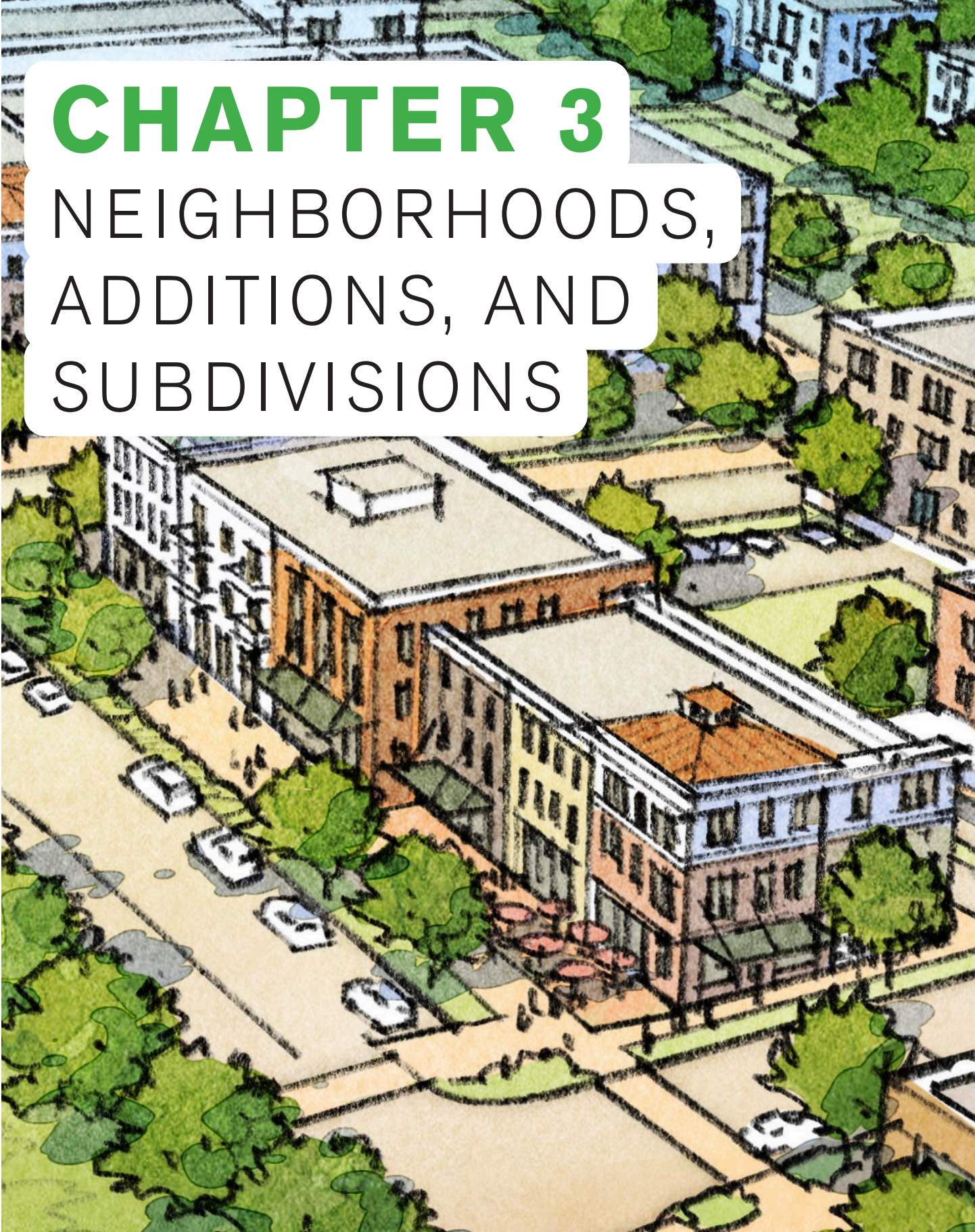
Membership of the DRC shall be comprised of the following:

- (1) Development Services or Planning Department.
- (2) Building Permitting / Inspections Department.
- (3) Engineering Department.
- (4) Public Works Department (Water/Sewer/Drainage).
- (5) Parks and Recreation Department.
- (6) Fire Marshal or Public Safety.
- (7) Other designees as determined by the City Manager.

2.3.5.2 AUTHORITY.

- (1) Provide a series of technical reviews and analyses of each project in a holistic manner to provide quick turnaround reviews, reduce comment conflicts, provide consistent feedback to each applicant and project, and ensure all recommendations for disapproval have clear and convincing evidence to meet the requirements of state law and this LDC.
- (2) Approve applications that meet the intent, development standards, and LDC requirements, if Administrative Approval is allowed, is required by state law, or by the City's Charter.
- (3) Recommend approval or disapproval of exceptions or waivers to Planning & Zoning Commission in accordance with the City's Code of Ordinances, the Engineering Manual, or other standards.
- (4) Conduct an annual review of all technical manuals and provide a consolidated list of recommendations for City Council considerations, if needed.
- (5) Approve Warrants that meet the intent of the LDC.

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An aerial, hand-drawn style illustration of a city block. It features several multi-story buildings with varied architectural details, including flat roofs, gabled roofs, and numerous windows. The buildings are interspersed with green trees and shrubs. Streets with parked cars and pedestrian sidewalks are visible. The overall style is colorful and detailed, typical of urban planning illustrations.

CHAPTER 3

NEIGHBORHOODS, ADDITIONS, AND SUBDIVISIONS

3.1 GENERAL PROVISIONS.

3.2 PURPOSE.

The purpose of this Chapter is to provide standards and guidance for the creation of neighborhoods, and divisions of land through the preparation of neighborhood plans, employment center plans, engineering plans, and plats. The standards in this Chapter are intended to promote the health, safety, and general welfare of the City and the safe, orderly, and healthful development of the City.

3.3 AUTHORITY.

Subdivision regulations are adopted and administered by the City pursuant to Local Government Code, Chapters 212 and 242 and all other applicable State and Federal laws, now written or hereafter amended or passed, allowing the City to adopt rules governing plats and subdivisions of land within city limits and extraterritorial jurisdiction to promote the health, safety, or general welfare of the City and the safe, orderly, and healthful development of the City.

- (1) The process for land division shall follow the requirements of Chapter 212 of the Texas Local Government Code.
- (2) It shall be unlawful for any owner or agent of any owner of land to lay out, subdivide, plat or replat any land into lots, blocks, and streets within the City or within the extraterritorial jurisdiction without the approval of the Planning & Zoning Commission. The City shall withhold all City improvements, including the maintenance of streets and furnishing of sewage and water service from all additions and subdivisions, the platting of which has not been approved by the Planning & Zoning Commission.
- (3) It shall also be unlawful for any such owner or agent to offer for sale or sell property therein or thereby, which has not been laid out, subdivided, platted or replatted with the approval of the Planning & Zoning Commission.
- (4) No street number and no building permit shall be issued for the erection of any building in the City on any piece of property, other than an original or a resubdivided lot in a duly approved and recorded subdivision, without the written approval of a plat or subdivision by the Planning & Zoning Commission, the approval of construction plans, the acceptance of the public improvements, and a duly approved and recorded subdivision or plat recorded with the Williamson County Clerk's Office, except as otherwise provided for in this LDC.
- (5) This chapter shall apply to any land within the corporate limits and extraterritorial jurisdiction (ETJ) of the City of Taylor, unless specifically exempted by this article.

3.4 ENGINEER REQUIRED.

The applicant shall retain the services of a professional engineer, licensed in the State of Texas, whose seal shall be placed on each sheet of the drawings, and who shall be responsible for the design and inspection of the drainage, roads, and streets, and sewer, and water facilities within the subdivision.

3.5 APPLICABILITY.

3.5.1 PLAT REQUIRED

Prior to the subdivision, resubdivision, assembly or development of any land within the City or its extraterritorial jurisdiction (ETJ), a subdivision plat and, where public improvements are proposed, subdivision improvement plans must be approved in accordance with all relevant City requirements.

The owner of a tract of land located within the city limits or the ETJ who divides the tract into two or more parts to lay out a subdivision of the tract or to lay out streets, parks, or other parts of the tract intended to be dedicated to public use shall submit a plat of the subdivision in accordance with this LDC.

A division of a tract under this section includes a division regardless of whether it is made by using a metes and bounds description in a deed of conveyance or in a contract for a deed, by using a contract for sale or other executory contract to convey or by using any other method.

No permit or certificate of occupancy may be issued, or utility services established, for any parcel or tract of land unless such property has been platted or determined to be exempt from platting in conformity with the provisions of this LDC.

The division of any lot or any parcel of land by the use of a metes and bounds description for the purpose of development is prohibited.

3.5.2 EXCEPTIONS FROM REQUIRED PLAT.

Exceptions to the requirement for a recorded plat prior to the issuance of a development permit may be approved as follows:

- (1) Assertion of a statutory exemption from platting pursuant to Chapter 212 of the Local Government Code shall be made and reviewed pursuant to a Plat Certification application.
- (2) A request for a warrant from the requirement for platting prior to the issuance of a development permit may be submitted to the DRC for review and may be approved if the request is in keeping with the intent of the LDC and the Comprehensive Plan.
- (3) A request for a variance from the requirement for platting prior to the issuance of a development permit may be submitted to the Planning and Zoning Commission for consideration.

3.6 NEIGHBORHOOD AND EMPLOYMENT CENTER PLANS.

Additions or new neighborhoods add to the fabric of the community. It is intended that new neighborhoods be built based on key standards from the existing neighborhoods. Taylor's neighborhoods offer a variety of residential buildings, house-form office or commercial buildings, and downtown commercial buildings. The standards within the Neighborhood Plan and Pedestrian Shed Allocation sections of this LDC support fiscally productive and flexible neighborhoods for Taylor's future. Employment Centers are areas of the community designated for job creation and industrial development. Employment Center plans allow for flexible design standards that recognize the unique characteristics of major employment and industrial buildings and sites.

3.6.1 DEVELOPMENT PATTERNS.

3.6.1.1 DESCRIPTION.

Development Patterns are used for projects with acreage amounts of a Pedestrian Shed (approximately 80 acres) or greater. The physical landscape in Taylor lends itself to supporting a range of development patterns. Neighborhood Plans may opt to extend the city grid or select an alternative development pattern.

Projects greater than 2.5 acres but less than a pedestrian shed shall use the TND development pattern or the development pattern of the adjacent and surrounding neighborhood. Alternative Development Patterns may be requested by Warrant from the DRC.

3.6.1.2 INTENT.

Development Patterns are the manner in which a neighborhood is configured. Different geographies accept different Development Patterns. To accommodate Taylor's range of natural landscapes, four Development Patterns provide adequate facilitation of development. The Development Pattern type will guide the creation of the Neighborhood Plan and Employment Center Plan configurations suitable for different geographies.

3.6.1.3 NEIGHBORHOOD PLAN PLACE TYPE ZONING ALLOCATION PER DEVELOPMENT PATTERN.

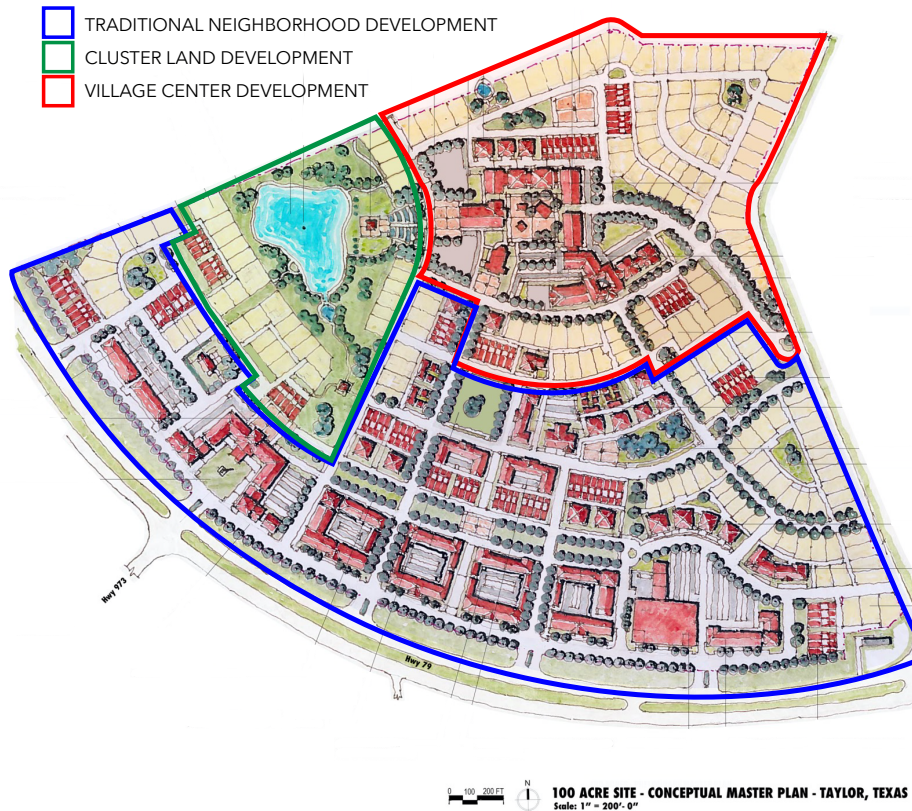
Projects with 80 acres or a pedestrian shed or greater shall allocate a variety of Place Types on a Neighborhood Plan (see Table 3.6.1(A): Place Type Allocation Per Development Pattern). If subdividing and/or a Place Type zoning change is required, a Neighborhood Plan can be submitted simultaneously with a plat and Place Type Zoning change submission.

For properties within the city limits, Place Types shall be allocated within neighborhoods based upon the Development Pattern of the neighborhood and the percentages in Table 3.6.1(A). The Planning and Zoning Commission and City Council may approve modifications to the Place Type allocation percentages through the Neighborhood Plan adoption process. Neighborhood Plans less than a full pedestrian shed shall consider the existing and planned Place Type allocation within the pedestrian shed that the new neighborhood is a part of in determining the Place Type allocation percentages for the new neighborhood.

TABLE 3.6.1(A): PLACE TYPE ALLOCATION PER DEVELOPMENT PATTERN.

DEVELOPMENT PATTERNS	PLACE TYPES									
	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
TRADITIONAL NEIGHBORHOOD DEVELOPMENT	5% MIN.	0%	0%	0%	10-30%	0%	40-60%	10-30%	10% MIN.	0%
CLUSTER LAND DEVELOPMENT	5% MIN.	50%	0%	0%	10-30%	0%	20-40%	0-15%	10% MIN.	0%
VILLAGE CENTER DEVELOPMENT	5% MIN.	5%	0%	0%	10-30%	0%	10-30%	40-60%	10% MIN.	0%
EMPLOYMENT CENTER	TBD	0%	0%	0%	0%	0%	0-20%	0-20%	10% MIN.	50% MIN.

FIGURE 3.6.1(B): EXAMPLE OF DEVELOPMENT PATTERNS.



3.6.1.4 TRADITIONAL NEIGHBORHOOD DEVELOPMENT (TND).

- (1) Intent: Traditional Neighborhood Development is the historic development pattern of Taylor. TND characteristics include: small, walkable blocks; the continuation of the street grid as new neighborhoods are planned; a variety of lot sizes that accommodate a variety of building types; a range of housing types; well-defined public spaces; a definable neighborhood center; and they contain amenities such as stores, schools, and places to meet and linger within a comfortable walking distance of residences. TND is the primary and default development pattern in the City of Taylor.
- (2) Standards:
 - (a) Location: The TND is located within an area that allows for the development pattern.
 - (b) Place Types: The TND shall include an allocation of Place Types as shown in Table 3.6.1(A) or as approved in the Neighborhood Plan.
 - (c) Size: A TND shall be organized around one pedestrian shed as described in Section 3.6.1.7. TNDs larger than one pedestrian shed shall be organized as multiple pedestrian sheds, each with a definable center.
- (3) Example: The 100-acre concept planshown in Figure 3.6.1(B) depicts how a mix of development patterns can be incorporated within one development project as a Traditional Neighborhood Development with small blocks, walkable streets, a variety of buildings types and alternative block patterns with pedestrian breaks.

3.6.1.5 CLUSTER LAND DEVELOPMENT (CLD).

- (1) Intent: Cluster Land Development offers an alternative to TND for the purpose of:
 - (a) Assuring the permanent preservation of open space, agricultural lands, and other natural resources through land reservations or conservation easements;
 - (b) Encouraging the use of land in accordance with its character and adaptability;
 - (c) Allowing innovation and greater flexibility in the design of residential developments to ensure the same overall amount of development normally permitted with the conventional home lot size;
 - (d) Facilitating the construction and maintenance of streets, utilities, and public services in a more economical and efficient manner, which increases affordability and reduces the cost of building and maintaining infrastructure;
 - (e) Ensuring compatibility of design and use between neighboring properties; and,
 - (f) Encouraging a less sprawling form of development, thus preserving open space as undeveloped land.

- (2) Standards:
 - (a) A minimum of 50 percent of the Neighborhood Plan shall be permanently allocated to P1 Nature and/or P2 Rural Place Types.
 - (b) The dedicated P1 lands shall be deemed civic or open space and will be set aside by the applicant through an irrevocable conservation easement or similarly determined method, as approved by the City Council.
 - (c) Areas not considered civic or open space:
 - i. The area of any street right-of-way proposed to be dedicated to the public.
 - ii. Any submerged land area.
- (3) Example: The 100-acre concept plan shown in Figure 3.6.1(B) depicts how a mix of development patterns can be incorporated within one development project as a Cluster Land Development where lots are clustered to protect the natural landscape.

3.6.1.6 VILLAGE CENTER DEVELOPMENT (VCD).

- (1) Intent: A Village Center Development is a series of small streets lined with buildings at the street edge, creating a unique village-style community. VCD consists of a small dense grouping of predominately P4 and P5 buildings serving as residential, live/work, commercial, and office buildings organized in a vernacular, curvilinear grid, or grid network of blocks and streets. The streets are small and serve as shared streets. Vehicles are kept on the exterior of the developments. Buildings are located at or very close to the street edge.
- (2) Standards:
 - (a) Location: VCDs may be located in any new neighborhood to create an area or an entire neighborhood that is intended to be mostly free of motorized vehicles within the main pedestrian streets.
 - (b) Place Types: The VCD shall include an allocation of Place Types as shown in Table 3.6.1(A) or as approved in the Neighborhood Plan.
 - (c) Size: A VCD may be organized around one pedestrian shed as described in Section 3.6.1.7 or may be its own, smaller pedestrian shed within a standard pedestrian shed.
 - (d) Special Requirements: Buildings are located at or very close to the street edge at the frontage line and occupy 80 to 100 percent of the lot frontage. Vehicle access is kept in the rear of the property, served by alleys or the rear lanes.
- (3) Example: The 100-acre concept plan as shown in Figure 3.6.1(B) depicts how a mix of development patterns can be incorporated within one development project as a Village Center Development with a tight, pedestrian-friendly core that has a mix of building types and shared walkable streets.

3.6.1.7 PEDESTRIAN SHED.

- (1) Description: A pedestrian shed is the basic building block of walkable neighborhoods. A pedestrian shed is the area encompassed by the walking distance from a common destination, neighborhood center, or the main civic space. Pedestrian sheds are often defined by a 5-minute walk, about 1,320 feet. They may be drawn as perfect circles, but in practice, pedestrian sheds have irregular shapes because they cover the actual distance walked, not the straight-line distance.
- (2) Applicability:
 - (a) In TND developments, every 1/4 mile radius or "Pedestrian Shed," (approximately 80 acres) is to contain a mix/allocation of Place Type zoning districts as shown in Table 3.6.1(A). Measuring development by the pedestrian shed will ensure walkable neighborhoods are created.
 - (b) Pedestrian Sheds in VCD or CLD Development Patterns vary in size.

3.6.1.8 EMPLOYMENT CENTER.

- (1) Intent: Employment Centers are areas within the community that are intended to provide locations for major employment and industrial development. As such, these areas may not be able to meet the development standards or character of the other neighborhood development patterns. Employment Centers should still be developed in a manner that is consistent with the City's overall master plans, street network, and adjacent neighborhoods, but may require modifications to block dimensions, civic space locations, building types and sizes, etc.
- (2) Standards.
 - (a) Location: Employment Centers are located in areas designated on the City's Future Land Use Plan as Employment Center.
 - (b) Place Types: The Employment Center shall include an allocation of Place Types as shown in Table 3.6.1(A) or as approved in the Employment Center Plan. The area within an Employment Center Plan Allocated to the EC Place Type should be sufficient to preserve areas within the plan for major employment and industrial uses that have unique characteristics that do not meet the standards of a traditional neighborhood. The remaining area within an Employment Center Plan should be allocated to traditional Place Types such as CS, P4 and P5 to create walkable, mixed use neighborhoods within the Employment Center that provide areas for housing, retail, and service uses to support the needs of those working in the Employment Center.

3.6.2 ALLOCATION AND SEQUENCE OF PLACE TYPE DETERMINATION.

- (1) Determination of Place Type designations shall be made based on the following factors considered in the following sequence:
 - (a) Development Patterns and intensities compliant with the Comprehensive Plan;
 - (b) The existing streets and Master Thoroughfare Plan;
 - (c) Proximity to existing Place Types (built or planned);
 - (d) Size of new development; and
 - (e) Pedestrian Shed distribution.
- (2) The Place Type designation on the Taylor Place Type zoning map for undeveloped properties or properties proposing redevelopment determines the maximum allowed intensity of a development and does not entitle the entire property to be allocated with that Place Type.
- (3) Before preparing a Neighborhood Plan, the Applicant must review permitted Development Patterns, the associated standards, and Place Type percentage allocation per Pedestrian Shed.

3.6.3 NEIGHBORHOOD PLAN EXEMPTIONS.

Properties within the city limits of 2.5 acres or less on already platted lots are not required to complete a Neighborhood Plan.

3.6.4 IN-CITY NEIGHBORHOOD AND EMPLOYMENT CENTER PLANS.

The City of Taylor is made up of a collection of complete neighborhoods. Each neighborhood has a variety of building types, lot sizes, shops and services, civic spaces, and more. New neighborhoods will continue this pattern through standards developed through the Neighborhood or Employment Center Plan process.

Creating a Neighborhood Plan is a three-step process and may require an urban design consultation or charrette to be accomplished. Specific development requirements and standards are located in the Engineering Manual. Additional requirements may be determined at the pre-application meeting and site visit.

The specific requirements for an application will be determined at the pre-submittal meeting. The following steps apply to all new neighborhoods and employment centers within the city limits.

3.6.4.1 NEW NEIGHBORHOOD OR EMPLOYMENT CENTER PLAN.

A new Neighborhood or Employment Center Plan is the first step in designing a new neighborhood or employment center. The plan begins with a master plan that lays out the street network, open spaces, and civic spaces, and allocates Place Types. A master plan may be developed by the property owner or authorized applicant following the standards in this LDC and reviewed for compliance by the City or it may be developed collaboratively through a design charrette process. The applicant shall choose the method of developing the master plan when they submit the Neighborhood Plan application.

The Planning and Zoning Commission and City Council may approve deviations from the standards in the LDC that are in keeping with the intent of the Comprehensive Plan and LDC. Any deviations shall be recorded in the approved Neighborhood or Employment Center Plan.

The Neighborhood Plan application follows the requirements in Chapter 2 and the content of the application in the Development Manual.

3.6.4.2 PRELIMINARY PLAT.

Following approval of the Neighborhood or Employment Center Plan, the applicant shall submit a Preliminary Plat that provides the preliminary engineering of streets, paths, trails, transportation improvements, blocks, lots, civic spaces, utility easements, and drainage for the new neighborhood or employment center. The lots, blocks, streets, etc. in the Preliminary Plat shall conform to the applicable Neighborhood or Employment Center Plan.

The Preliminary Plat application follows the requirements in Chapter 2 and the content of the application in the Development Manual.

3.6.4.3 SUBDIVISION IMPROVEMENT PLANS.

Following approval of the Preliminary Plat, the applicant shall submit the Subdivision Improvement Plans that provides the detailed engineering consistent with the requirements in the Engineering Manual for all public infrastructure within the new neighborhood or employment center.

The Subdivision Improvement Plans application follows the requirements in Chapter 2 and the content of the application in the Development Manual.

3.6.4.4 FINAL PLAT.

Upon completion of construction of the improvements within the approved Subdivision Improvement Plans, the applicant shall submit the Final Plat which provides the final, recordable copy of the subdivision. The applicant may choose to submit the Final Plat prior to the completion of construction of the improvements within the approved Subdivision Improvement Plans, in which case, the applicant shall post a performance bond equal to 110% of the cost of all the uncompleted improvements within the approved Subdivision Improvement Plans at the time of submitting the Final Plat application. The City Engineer shall be responsible for reviewing and approving the applicant's estimate of the cost of the uncompleted improvements.

The Final Plat application follows the requirements in Chapter 2 and the content of the application in the Development Manual.

3.6.4.5 SITE DEVELOPMENT PLANS AND BUILDING PERMIT.

After the Final Plat is recorded with the Williamson County Clerk, the owner of lots within the plat may submit applications for Site Development Plans and Building Permits.

The Site Development Plans application follows the requirements in Chapter 2 and the content of the application in the Development Manual.

The Building Permit application follows the requirements of the adopted building codes and the application materials published by the Director of Development Services.

3.6.5 ETJ NEIGHBORHOOD AND EMPLOYMENT CENTER PLANS.

All new neighborhoods and employment centers within the ETJ of the City of Taylor shall follow the procedures outlined in Section 3.6.4 with the following exceptions:

- (1) During the Neighborhood or Employment Center Plan process, no Place Type zoning districts are allocated on the plan.
- (2) Upon approval of the Final Plat, no Site Development Plans or Building Permits are required to be submitted to the City.

3.7 INFILL PLANS.

Infill development is the process of reconstructing within or increasing the development intensity of an already developed area or neighborhood. Infill is an important strategy in the City's comprehensive plan because it provides a more fiscally sustainable development alternative to the creation of new neighborhoods using new infrastructure.

There are two scales of infill development. First, is development using existing lots that may require minor changes or divisions. Second, is development that proposes to significantly reconfigure existing lots, blocks or streets and proposes to change the allocation of Place Types within the infill development.

3.7.1 APPLICABILITY.

Infill development proposed on existing platted lots that do not require any modifications to the existing plat and are not proposing a change to the Place Type may proceed directly to site development plan or building permit.

Infill development that proposes modifications to existing platted lots but does not trigger the requirement of an Infill Neighborhood Plan may submit the required plat applications, Place Type zoning change, and any necessary engineered plans for street, sidewalk, water, sewer or drainage improvements concurrently. Pursuant to Texas Local Government Code Section 212.016(10), up to six lots may be created from a previously platted lot using the Amending Plat application process in a residential improvement area.

Existing platted lots may be amended to create additional lots as long as the following conditions are met:

- (1) All lots are required to have individual water and sewer taps unless a warrant is approved by the DRC.
- (2) New lots may have frontage on any public right-of-way type including street, path, alley or civic space.
- (3) Lots that do not have frontage on a street must have the following:
 - (a) A dedicated ten-foot-wide pedestrian access easement from the street to the lot;
 - (b) An address sign at the street.
- (4) Lots without street frontage may be granted a warrant from compliance with the frontage build-out requirement.

3.7.2 INFILL NEIGHBORHOOD PLANS.

Infill Neighborhoods Plans are required for properties greater than 2.5 acres and that are proposing to modify the Place Type allocation or change the street, lot or block configuration in a way that is not permitted by the Infill Lot-Scale Plan process.

Infill Neighborhood Plans shall follow the procedures in Section 3.6.4 for new Neighborhood Plans with the following exceptions:

- (1) The property owner may process any necessary vacating, amending or re-plat applications with the initial Neighborhood Plan application.
- (2) The DRC may authorize the use of the Infill Neighborhood Plan as the Preliminary Plat instead of requiring a separate Preliminary Plat application.

The Infill Neighborhood Plan application follows the requirements in Chapter 2 and the content of the application in the Development Manual.

3.8 NEIGHBORHOOD DESIGN STANDARDS.

3.8.1 STREETS, PATHS, TRAILS, AND ALLEYS.

The street pattern of a neighborhood shall follow the traditional grid pattern of Taylor, providing walkable blocks and an interconnected network of streets that extend to and from adjacent neighborhoods and undeveloped properties. The applicant shall be responsible for the construction of all interior street improvements.

The applicant shall be responsible for the construction of the adjacent half of all perimeter streets surrounding the subdivision that are not improved to city standards. Perimeter street subdivision requirements include any residential subdivision with greater than four lots. In lieu of constructing perimeter streets, the Development Services Director may approve an escrow of ½ of the total construction cost of perimeter streets. The cost must be approved by the City Engineer.

3.8.1.1 INTENT.

- (1) Streets serve as the key public spaces that connect people to places. Taylor's street grid is core to its success and is a pattern that represents the past and will guide its future. The Public Frontage is the space where public investments and land is used to connect people to places.
- (2) Pedestrian comfort shall be the primary consideration for the design of streets. Design conflicts between vehicular and pedestrian movement shall be decided in favor of the Pedestrian.
- (3) A diversity of street tree and plant species should be planted throughout the City of Taylor to promote resistance to disease and insect blight. Street Trees and/or landscaping should be planted to create a visually unified streetscape.

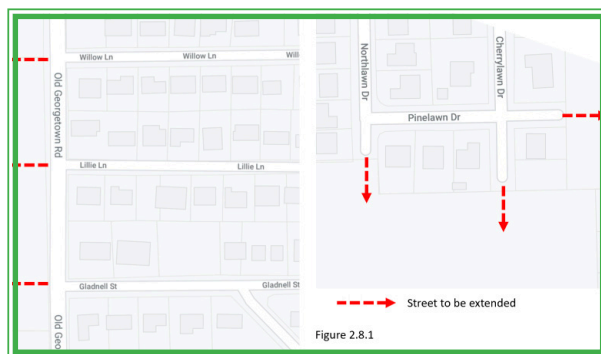
3.8.1.2 GENERAL.

- (1) Development located within the city limits shall be subject to the requirements of this section. Development in the ETJ shall comply with the rules of this LDC and all environmental regulations as allowed by State law and the rules established by the Inter-local Agreement with Williamson County.
- (2) Streets are intended for use by vehicular and pedestrian traffic and to provide access to lots and civic spaces. New streets shall be required when block lengths exceed the maximum length allowed in the Place Type.

3.8.1.3 STREET ARRANGEMENT.

The original grid pattern within Taylor establishes the foundation for the street network. Unless otherwise approved by the City Council, provision shall be made for the extension of streets through any new neighborhood. Off-center street intersections with streets in adjacent neighborhoods shall be avoided. All streets shall be continuous or in alignment with existing streets unless variations are deemed advisable by the Council due to topography and requirements of traffic circulation.

FIGURE 3.8.1(A): STREET EXTENSIONS.



3.8.1.4 STREET DESIGN.

- (1) Street design details are located in the Engineering Manual included as Appendix A.
- (2) Streets shall be designed by a registered engineer meeting the specifications of this LDC and the Engineering Manual.

3.8.1.5 STREET WIDTHS.

- (1) Street types shall reflect standard assemblies and further modification can be determined during the Neighborhood and Employment Center Plan process.
 - (a) Boulevards serving P5 - Urban Center Type shall have a minimum dedicated right-of-way of 80 feet and a minimum paving width curb to curb of 32 feet.

- (b) Neighborhood Streets used to primarily serve neighborhoods and serving P2.5 - Large Lot, P3 - Neighborhood, P4 - Mix, or P5 - Urban Center place types shall have a minimum dedicated right-of-way of 60 feet and a minimum (paving) width curb to curb of 24 feet.
- (c) Rural Streets in P2 - Rural, P2C - Rural Commercial, or P2.5 - Large Lot place types and the ETJ shall generally be constructed with concrete ribbon curbs, and the right-of-way may vary.

3.8.1.6 INTERSECTION.

- (1) Typically, streets are to intersect at a ninety (90) degree angle. Variations may be approved by the City Engineer.
- (2) Acute angle intersections approved by the City Engineer are to have 25 foot radius at acute corners.
- (3) Street intersections with or extending to meet an existing street will be tied to the existing street on centerline with dimensions and bearings to show relationship.

3.8.1.7 PARTIAL OR HALF-STREETS.

Partial or half-streets may be provided where the City Council believes that a street should be located on a property line.

3.8.1.8 STREET NAMES.

Street names shall be continuations of existing street names adjacent to or in-line, if they are not duplications. Proposed new names shall be submitted to the Development Services Director, or their designee, for approval prior to the submittal of a final plat.

3.8.1.9 RIGHT-OF-WAY (ROW) WIDTHS.

All street and road rights-of-way within new neighborhoods shall be subject to the minimum right-of-way and street widths as determined by the City Engineer and the Engineering Manual.

3.8.1.10 CUL-DE-SACS.

Cul-de-sacs may be approved when a street cannot be extended due to unique circumstances such as topography, other natural features or existing development. Cul-de-sacs shall not be longer than 330 feet and shall meet the standards in the Engineering Manual. Where a cul-de-sac dead ends to parkland, open space, trails, school sites or other similar features, a dedicated, public pedestrian access way of no less than 20 feet wide shall connect the end of the cul-de-sac to the adjacent feature.

Temporary turnarounds shall be used at the end of a street that is more than 330 feet in length and will be extended in the future. Note for temporary turnaround: "Cross-hatched area is temporary easement for turnaround until street is extended (direction) in a recorded plat."

3.8.1.11 STREET BUFFERS.

A one foot reserve shall be dedicated to the public in fee as a buffer separation between the side or end of streets in subdivision plats where such streets abut adjacent acreage tracts. When the adjacent property is subdivided in a recorded plat, the one foot reserve shall become vested in the public for street right-of-way purposes (and the fee title thereto shall revert to and re-vest in the dedicator, their heirs, assigns, or successors).

3.8.1.12 STREET LIGHTING.

The developer is responsible for furnishing and erecting street lighting as required by the Outdoor Lighting Requirements in the Engineering Manual included as Appendix A.

3.8.1.13 EMERGENCY ACCESS AND FIRE LANES.

Emergency Access Provisions:

- (1) The Development Services Director and the Fire Marshal will review all proposed developments for safe and appropriate fire and other emergency access items.
- (2) Fire access shall meet the standards of the International Fire Code (IFC) as adopted by the City.

3.8.1.14 STREET TYPES.

The following street types were developed using the Envision Taylor Comprehensive Plan street sections. Street types for new neighborhoods are to be determined during the Neighborhood Plan process.

(1) **RURAL STREET.**

A rural street has open swales and drains by percolation. The street has wide shoulder or bicycle trails, and no on-street parking. The landscaping consists of the natural condition or multiple species arranged in naturalistic clusters.

(2) **SIDE STREET (NO ON-STREET PARKING).**

A side street is intended to be less formal in nature than the other street types. It is used to facilitate the connection between key streets and shall provide the ability for less stringent street requirements. Side streets contain no on-street parking lanes. Side streets are appropriate in low or high-density areas when serving as a secondary point of access.

(3) **YIELD STREET.**

A neighborhood yield street is a low-capacity and low-speed street. The street width is limited in order to encourage slower traffic. On-street parking is permitted on both sides but is not continuous or designated by striping. Bicyclists can travel in the street with vehicular traffic due to the low speeds. Sidewalks are separated from the street by a continuous tree zone.

(4) **NEIGHBORHOOD STREET.**

A neighborhood street is a low-capacity and low-speed street that provides more space for continuously parked vehicles. Bicyclists can travel in the street with vehicular traffic due to low speeds and sidewalks are separated from the street by a continuous tree zone. These streets are appropriate where there are higher-density building types adjacent to the street or in commercial and mixed-use areas.

(5) NEIGHBORHOOD AVENUE.

A neighborhood avenue is a street with moderate vehicular capacity and low speeds. Neighborhood avenues are typically used as cross-town streets and are used to travel between different centers throughout the city. Neighborhood avenues should accommodate all modes of transportation including transit. Neighborhood avenues are appropriate for areas with high-density housing adjacent to the street or in areas of more intense mixed-use and commercial land uses. Vehicular access to the lots is from alleys and side streets.

(6) 2-LANE COMMUNITY BOULEVARD.

A two-lane community boulevard is a long distance street that is designed for the most intense mixed-use and commercial areas with moderate to high traffic volumes. Turning movements should be limited on community boulevards when possible and vehicular access to private lots shall be from secondary streets or alleys. Bicyclists and pedestrians are typically separated from vehicular traffic and transit should be prioritized along community boulevards.

(7) 4-LANE COMMUNITY BOULEVARD.

A four lane community boulevard is a long distance street that is designed for the most intense mixed-use and commercial areas with high traffic volumes. Turning movements should be limited on community boulevards when possible, and vehicular access to private lots should be from a secondary street or alleys. Bicyclists and pedestrians are typically separated from vehicular traffic and transit should be prioritized along community boulevards.

3.8.1.15 PATHS AND TRAILS.

(1) PATHS.

A path is a non-vehicular thoroughfare type that provides pedestrian access to lots. Paths are typically located within civic spaces but may also be located mid-block as a non-vehicular connection between streets. Paths are permitted in all Place Types and may be considered block breaks for the purpose of complying with maximum block length standards. Paths may be considered legal frontage for the purpose of lot configuration.

The minimum right-of-way width for a path is ten feet and the minimum travel surface is six feet.

(2) TRAILS.

A trail is a shared-use right-of-way for pedestrians and bicycles located within civic space and open space or in locations designated on the Transportation Plan. The minimum right-of-way width for a trail is 20 feet and the minimum travel surface width is 10 feet.

Integrating trails in a neighborhood can provide various benefits, such as promoting physical activity, enhancing community connectivity, and improving property values.

The applicant is responsible to note the location of trails on the plat.

- (a) During the Neighborhood Plan planning process, trails shall be integral to the overall design and be compliant with the Transportation Plan.
- (b) First, identify potential trail locations in the neighborhood.
- (c) Integrate trips plan in the Neighborhood Plan. Develop a plan for the trail that includes the route, trail width, materials, and any additional amenities like benches, trash cans, and signs.
- (d) Check for compliance with the Parks Masterplan.
- (e) The construction standards for building the path or trail are located in the Engineering Manual.
- (f) Regular maintenance ensures paths and trails longevity and continued use. This can be done through volunteer efforts or contracted services.

3.8.1.16 ALLEYS.

(1) RESIDENTIAL ALLEY.

The primary role of alleys is to hide the more unsightly functions of our communities: garages, garbage cans, overhead electric equipment, transformers, electric meters, and telephone equipment. Alleys also serve to provide narrower lots as garages are now accessed from the rear, enhance safety as sidewalks and pedestrians are separated from vehicles, provide additional building access for firefighters, and provide access for accessory dwelling units.

(2) COMMERCIAL ALLEY.

Commercial alleys, though often thought of as dirty or unsafe, can be designed to play an integral role in an urban street network and improve the pedestrian realm in and around commercial areas. The design of commercial alleys should strive to balance their necessary utilitarian features with their placemaking potential.

- (a) Where access for vehicles is prohibited or minimal, commercial alleys may be constructed using low-impact pavement materials, such as pervious or modular paving.
- (b) Bicycle traffic may use commercial alleys. Similar regulations to those of shared space should apply.
- (c) Commercial alleys can be restricted for traffic during non-delivery hours for outdoor seating or other uses.

(3) ALLEY CONSTRUCTION.

Alleys serve developments to distribute services and vehicles to the rear of the lots. Limiting the interruptions into the public realm adds to the cohesive walkable environment throughout the community. Alley developments are preferred; therefore, construction standards provided in the various cross-sections are flexible to encourage the inclusion of alleys.

- (a) Alleys surface types will vary by Place Type zoning district. Detailed standards are located in the Engineering Manual.
- (b) Alleys shall be designed by a registered engineer meeting the specifications of this LDC and other City of Taylor construction standards.

(4) WIDTH.

A minimum driving surface width of 12 feet and a minimum right-of-way of 16 feet shall be required for all alleys.

3.8.1.17 SIDEWALKS.

The applicant is responsible for noting the location of sidewalks on the plat. The homebuilder shall be responsible for constructing sidewalks adjacent to individual house lots in all residential districts and the developer shall be responsible for the construction of all other sidewalks, including all required ADA-compliant designs. All sidewalks must comply with specifications provided in the Engineering Manual. The width, design, and location of sidewalks shall be in accordance with the appropriate street standards within this LDC and the Engineering Manual.

3.8.1.18 STREET, PATH, AND TRAIL STANDARDS.

TABLE 3.8.1(B): STREET, PATH, AND TRAIL STANDARDS BY PLACE TYPE ZONING DISTRICT.

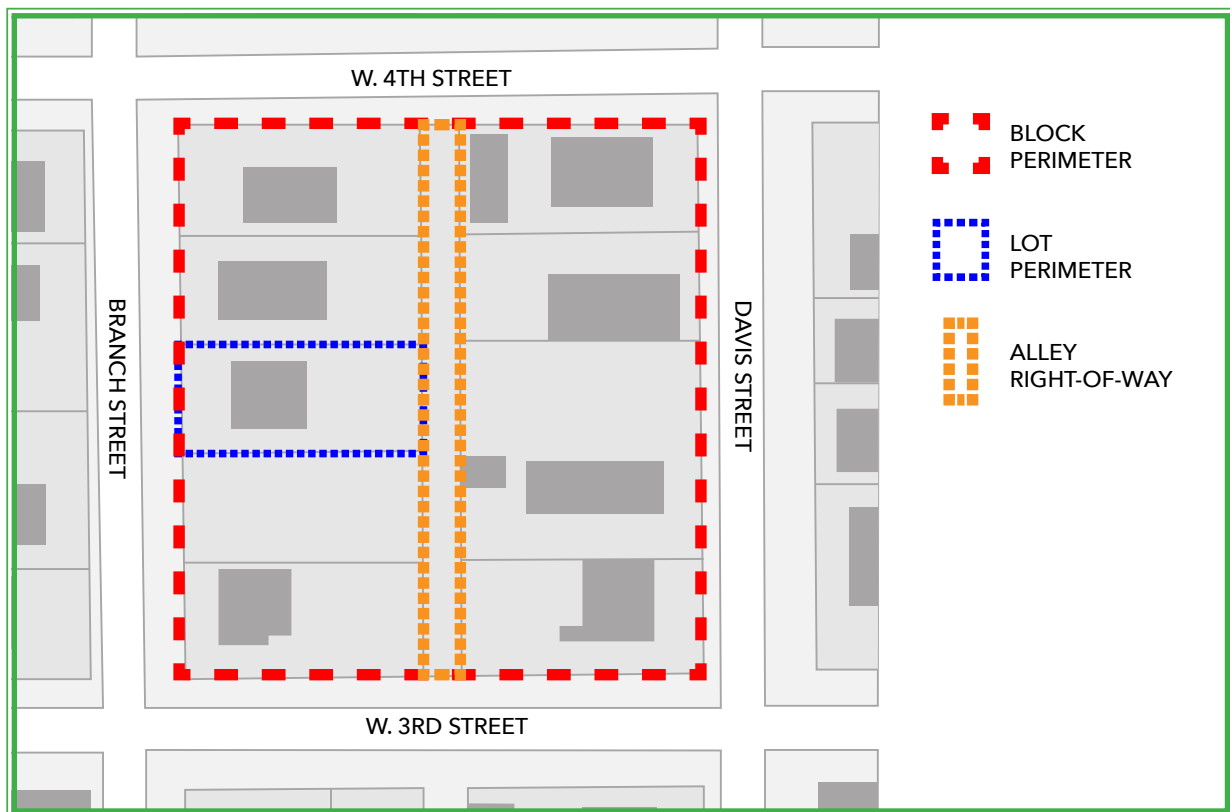
STREET STANDARDS		PLACE TYPES									
PUBLIC FRONTAGE		P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
PUBLIC FRONTAGE SHALL BE DETERMINED BY STREET TYPE											
STREET TYPES		P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
RURAL STREET		P	P	P	NP	NP	NP	NP	NP	P	NP
RESIDENTIAL ALLEY		NP	P	P	P	P	P	P	NP	NP	NP
COMMERCIAL ALLEY		NP	NP	NP	NP	NP	NP	NP	P	NP	P
YIELD STREET		P	P	P	P	P	P	NP	NP	P	NP
NEIGHBORHOOD STREET		P	P	P	P	P	P	P	P	P	P
NEIGHBORHOOD AVENUE		NP	NP	NP	P	P	P	P	P	NP	P
SIDE STREET		NP	NP	NP	NP	P	P	P	P	P	P
2 LANE COMMUNITY BOULEVARD		NP	NP	NP	NP	P	P	P	P	NP	P
4 LANE COMMUNITY BOULEVARD		NP	NP	NP	NP	NP	NP	P	P	NP	P
PATHS		P	P	P	P	P	P	P	P	P	P
TRAILS		P	P	P	P	P	P	P	P	P	P
P = PERMITTED NP = NOT PERMITTED TBD="TO BE DECIDED" DURING DEVELOPMENT PROCESS											

3.8.2 BLOCKS.

3.8.2.1 Typically a block is an arrangement of lots, and in some cases alleys, bounded on all sides by streets (see Figure 3.8.2(A): Block Perimeter). A neighborhood consists of lots within blocks that are surrounded by streets. Blocks are flexible, allowing incremental change and a gradual increase in density over time.

3.8.2.2 Figures 3.8.2(B) - (F) show potential block configurations in Neighborhood Plans.

FIGURE 3.8.2(A): BLOCK PERIMETER.



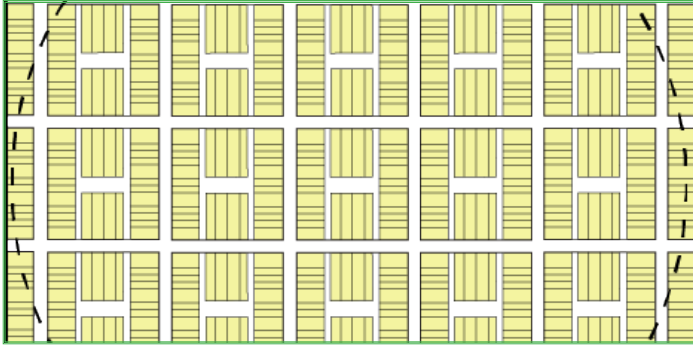


FIGURE 3.8.2(B): SQUARE.

A tight, repetitive square street grid can be found in Downtown, Taylor. The grid pattern produces a consistent module of lot width and depth. The pattern supports walkability and efficient vehicle traffic dispersal.

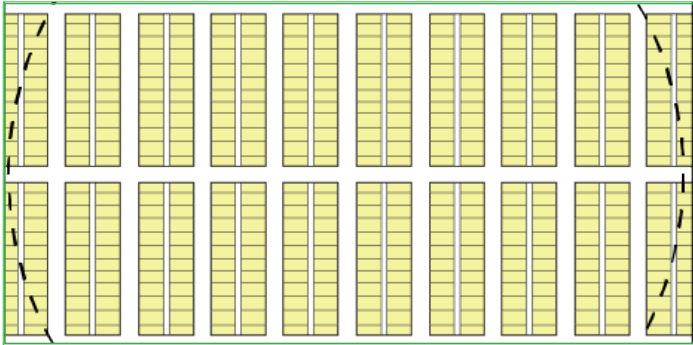


FIGURE 3.8.2(C): ELONGATED.

The elongated block pattern, found in Downtown Taylor, provides equal exposure to both sides of the north-south streets. The blocks provide light to both the front and rear of the lot and limits exposure to western sun. Civic spaces allow for a variation in the repetitive grid pattern.



FIGURE 3.8.2(D): IRREGULAR.

Irregular blocks were used in Medieval cities, like Paris, and in isolated examples in the US, like Boston. The blocks allow for the dispersal of traffic through the street network, flexibility with topography, and terminated vistas.

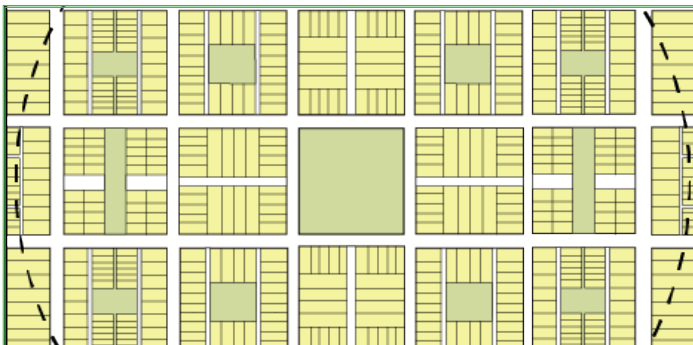


FIGURE 3.8.2(E): RADIAL GEOMETRIC.

Produces terminated vistas that can be used for civic buildings. There is a clear hierarchy of streets with diagonals carrying the through traffic. It may be disorienting and difficult to navigate and remember. Similar to the organic block structure, the resulting block and lot shapes are diverse and challenging to resolve architecturally.

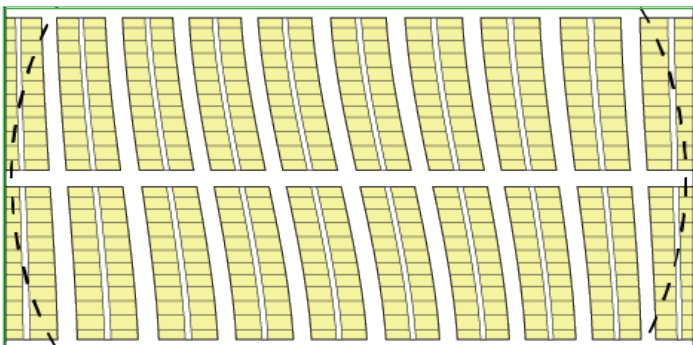
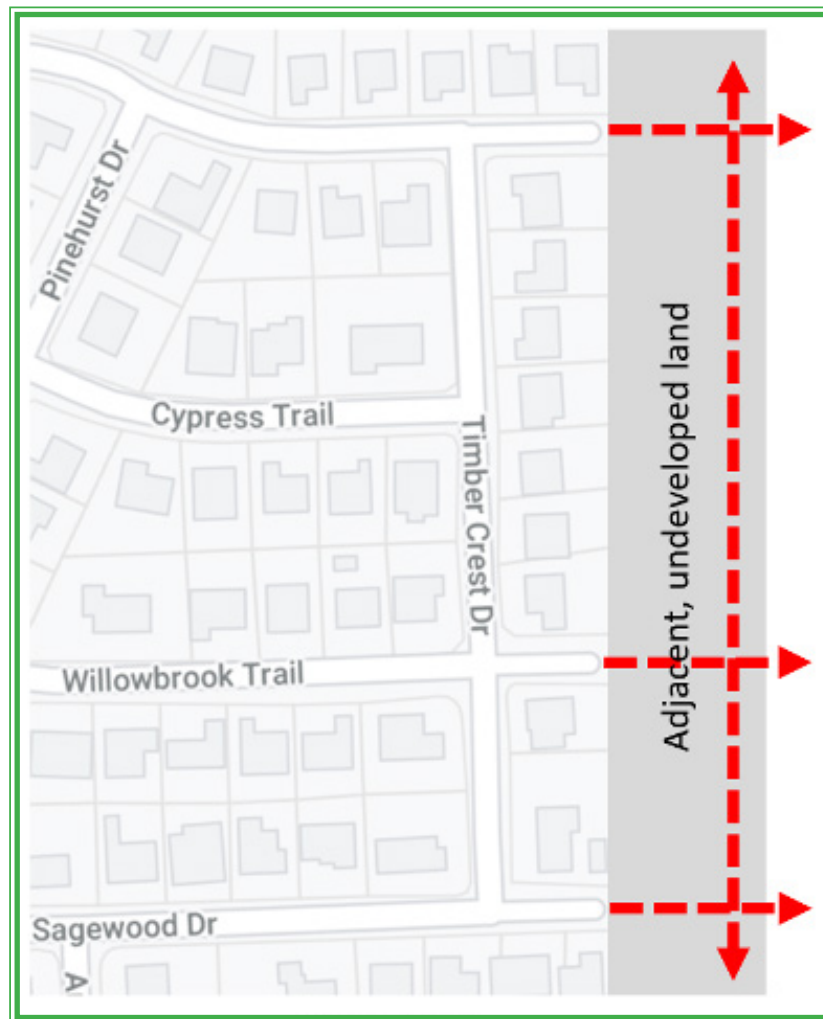


FIGURE 3.8.2(F): CURVILINEAR ORGANIC.

Consists of curved roads that create an abundance of deflected vistas. The pattern is responsive to topography, mediates environmental interruptions, and can disperse traffic through its network. The structure may be difficult to navigate. In addition, lot sizes vary, and consistency is hard to achieve.

- 3.8.2.3 Exceptions to the requirement for a block to be bounded on all sides by streets may be approved by the Planning & Zoning Commission at the Preliminary Plat stage and may be considered when the provision of a street is not feasible due to natural or man-made features.
- 3.8.2.4 An applicant may propose to create a portion of a block along the boundary of the property being subdivided if the applicant can demonstrate that the remainder of the block can feasibly be completed on the adjacent property and, that upon completion, the block will comply with the maximum dimensions of this LDC (see Figure 3.8.2(G) Block Adjacency.)

FIGURE 3.8.2(G): BLOCK ADJACENCY.



- 3.8.2.5 An exception to the requirement for new subdivisions to create complete blocks may be approved for minor plats of four (4) or fewer lots if the exception will not adversely impact the existing or future street network or the development of adjacent properties.

- 3.8.2.6 Blocks are to be numbered consecutively within the overall plat and/or sections of an overall plat as recorded. All lots are to be numbered consecutively within each block. Lot numbering continues from block to block in a uniform manner that has been approved on an overall preliminary plat.
- 3.8.2.7 Typically block length is measured along the front of lots within a block face between intersecting streets. A cul-de-sac does not create a break in the block for the purposes of measuring block length.

FIGURE 3.8.2(H): BLOCK LENGTH.

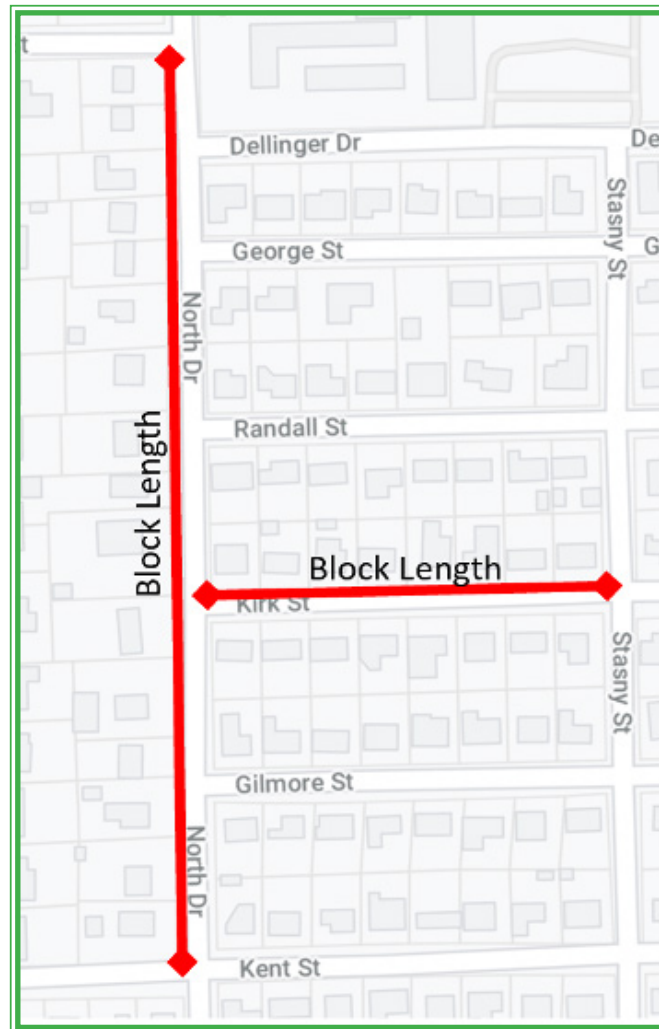
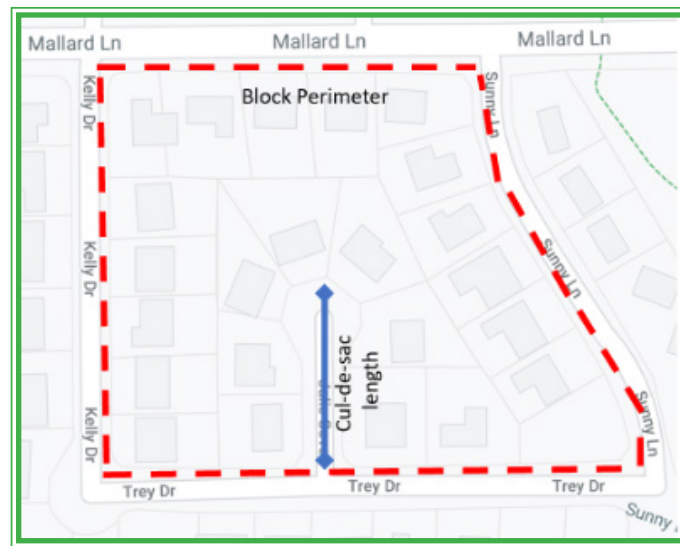


FIGURE 3.8.2 (I): CUL-DE-SAC BLOCK LENGTH.



- 3.8.2.8 The internal street network shall be structured to define blocks with the following maximum block lengths and block perimeters (not including exterior ROW dedication).

TABLE 3.8.2(J). BLOCK LENGTH AND PERIMETER.

	PLACE TYPES									
	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
BLOCK LENGTH	N/A	720 FT	720 FT	720 FT	330 FT	330 FT	330 FT	330 FT	720 FT	720 FT
BLOCK PERIMETER	N/A	2,880 FT	2,880 FT	2,880 FT	1,320 FT	1,320 FT	1,320 FT	1,320 FT	2,880 FT	2,880 FT

- 3.8.2.9 Maximum block length: In the city limits the maximum block length shall follow the standards in Table 3.8.2(J). In the ETJ the maximum block length is 330 feet and the minimum block length is 200 feet, unless a longer block length is approved by warrant or variance.
- 3.8.2.10 Maximum block length for P2, P2C, P2.5, CS and EC: 720 feet with a reservation of block breaks of 330 feet, and the minimum block length is 330 feet, except upon approval of a warrant by the DRC.
- 3.8.2.11 Block faces within P3, P3M, P4, and P5, exceeding 330 feet shall be equipped with a 20 foot, mid-block pedestrian path.

- 3.8.2.12 Blocks adjacent to undeveloped land, areas unsuitable for development, or pre-existing incomplete blocks may be exempt from block face length and block perimeter requirements by warrant.
- 3.8.2.13 Blocks with more than one Place Type zoning designation shall use the most intense designation to inform the block face length and block perimeter.
- 3.8.2.14 Alternative block configurations, meeting the intent of this LDC, may be designed and submitted for approval through the Neighborhood Plan process.

3.8.2.15 TRANSITION SETBACKS.

Transition building lines having a minimum angle of 45 degrees are to be provided where an offset in building lines is greater than five feet.

3.8.3 LOTS.

- 3.8.3.1 The lot design of a neighborhood should provide for lots of adequate width and depth to provide open area and to eliminate overcrowding. Lots should be rectangular so far as practicable and should have the side lot lines at right angles to the streets on which the lot faces or radial to curved street lines.
- 3.8.3.2 All lots must front on a public street, path or trail right-of-way or a civic space as determined in the Neighborhood Plan.
- 3.8.3.3 Double frontage lots are prohibited.
- 3.8.3.4 Unless approved by the DRC by warrant, no lots shall take vehicular access from a Neighborhood Avenue. Unless approved by the Planning & Zoning Commission by variance, no lots shall take vehicular access from a 2 or 4 lane Community Boulevard.
- 3.8.3.5 All lots shown must conform to the minimum requirements of the Place Type zoning district in which it is located.
- 3.8.3.6 An individual sewer tap and water tap, as required, shall be installed for each lot.
- 3.8.3.7 Lots shall not be consolidated if the resulting consolidation yields less housing units or development intensity than the pre-consolidation configuration would permit.
- 3.8.3.8 Lots shall be sized to provide the least amount of frontage necessary to accommodate the building type proposed for the lot. This will ensure the most efficient use of public infrastructure to support private development.

3.8.4 UTILITIES.

3.8.4.1 WATER AND WASTEWATER.

The applicant is responsible for extending utilities to and through the development site and shall make the necessary arrangements therefore with the applicable private utility companies and the City. The City may participate in the oversizing of utilities if desired to serve further development.

(1) Utilities Furnished or Supplied by City.

- (a) Sewer. Sanitary sewers shall be installed to serve each lot. All sewer systems shall be extended across lots to the adjacent property lines.
- (b) Water. Water lines shall be installed to serve each subdivided or platted lots within the corporate limits of the City and within the extraterritorial jurisdiction. All water systems shall be extended across lots to the adjacent property lines.
- (c) All public improvements shall be the responsibility of the developer. Upon approval and acceptance of the water and sewer utilities by the City, the systems become the property of the City.

(2) Private Utilities.

Within new subdivisions, all private utilities, except for distribution mains, shall be placed underground by the developer. There shall be no overhead power lines for street lights. Gas meters shall be placed underground in an appropriate box located in the parkway as approved by the City, or placed adjacent to the residential structure. If adjacent to the residential structure, the backside of the meter and pressure reducing valve shall be at least one (1) foot from the finished edge of the residence, but not more than two (2) feet.

(3) Fire Flow Requirement.

No building permit shall be issued by the City for construction, if that proposed construction does not meet the fire flow requirements. Minimum acceptable flow for fire protection is 500 gallons per minute (gpm) for a duration of not less than two hours. This flow must be met with the water supply system remaining at or above a pressure of 20 pounds per square inch (psi). All water mains must be a minimum of eight inches diameter. Water mains shall be Polyvinyl Chloride Pipe (PVC) and shall be designed, manufactured, and tested in accordance with the applicable requirements of AWWA C-900 and AWWA M-23. Eight inch through 12" pipe shall be pressure class 150, DR18. Pressure class requirements for larger diameter pipes shall be subject to the approval of the City Engineer. These requirements apply to all new development. Any variation in these requirements is subject to the approval of the City Engineer.

3.8.4.2 DRAINAGE.

Adequate drainage shall be provided within the limits of the subdivision. The protection of adjoining property will be considered in the review of plans submitted. The applicant shall be responsible for constructing all drainage improvements.

(1) Design.

Design of all drainage facilities, including but not limited to streets, inlets, storm sewers, outfalls, culverts, ditches and channels shall conform to normally accepted engineering standards as determined by the City Engineer. Under no circumstances will drainage be allowed to result in a negative effect upstream or downstream.

(2) Maintenance agreement required for drainage facilities.

If the City requires that the developer (or landowner, PID, HOA, or other entity or person specifically approved by the City) shall be responsible for the maintenance of the drainage facilities, a maintenance agreement, as both are hereinafter defined, will be written and approved by the City that shall include terms and provisions deemed necessary by the City to provide maintenance of the drainage facilities.

(3) Maintenance agreement noted on final plat.

If a developer requests, and the City approves, that a Public Improvement District (PID), Home Owners Association (HOA), or other entity be responsible for the maintenance of the drainage facilities, the maintenance agreement shall be included as part of the platting process and must be approved by the City prior to final plat approval. The plat shall include the information that a maintenance agreement is required for the drainage facility in the development and any term and provisions of the maintenance agreement the City deems necessary shall be noted on the final plat, which may include all terms of the maintenance agreement.

(4) Maintenance agreement if preliminary plat not required.

The maintenance agreement must be negotiated during the preliminary platting process, or earlier in the planning process if required by the City, when a preliminary plat is not required.

(5) City maintenance of drainage facilities.

If the City determines it will maintain the drainage facilities, it shall be noted on the final plat. The real and personal property included as the drainage facility shall be deeded and conveyed to the City as part of the platting process using instruments deemed reasonable and necessary to the City prior to final plat approval. The deed or other conveyance documents to the City must be free and clear of all liens, debts or other encumbrances, and the City may require evidence and title assurances of that requirement, including without limitation an owner's title insurance policy.

(6) Role of the Home Owners Association (HOA), Public Improvement District (PID), or special financing district.

Ongoing role of the HOA/PID: The Development Services Department shall be the City liaison to a HOA and/or PID maintaining drainage facilities. Requirements concerning the HOA or PID operation to assure continued operation of drainage facilities shall be required by the City, including without limitation, financial reports filed with the City at least annually, a limitation against dissolution without City consent, and an assessment deemed adequate by the City to operate the maintenance

facilities, allowing the City to collect dues directly and to assess liens against the subdivision for maintenance of the drainage facilities.

- (7) City council approval of land restrictions.

All deed restrictions, covenants running with the land, and easements needed to operate the drainage facility must be approved by the City, filed of record, and contain provisions necessary to operate the drainage facilities and preventing amendment or dissolution without prior written consent from the City in the books and records of the entity.

3.8.5 CIVIC SPACES.

3.8.5.1 INTENT.

Civic Spaces are public or semi-public places that provide opportunities to gather and celebrate together. They are places for people to exercise, relax or recreate. Civic Space functions as parkland for new neighborhoods. Dedication of Civic Space shall be required per the standards of the LDC for all Neighborhood Plans.

- (1) Civic Space requirements will be provided for each Neighborhood Plan as Civic Space (CS). Developments where Civic Space is provided less than 600 feet away may be exempted from this requirement as determined during the Neighborhood Plan process.
- (2) The DRC will review surrounding existing and/or entitled developments to determine if civic space dedication is necessary to fulfill the intent of a Pedestrian Shed.
 - (a) Civic space sites are permanently dedicated to public activities.
 - (b) Parking for civic spaces shall be approved by the DRC. Civic parking lots may remain unpaved if graded, compacted, and landscaped.
 - (c) Civic Space shall conform with specifications on 4.2.3.10 Civic Space Table.
 - (d) Where the DRC determines it to be feasible, land along floodplains, tributaries, and creeks, or where identified in the Neighborhood Plan shall be dedicated as Civic Space.

3.8.5.2 CRITERIA.

- (1) Each Pedestrian Shed (see 3.6.1.7 Pedestrian Shed) shall have an assignment of at least ten percent of its land area dedicated to civic space.
- (2) Civic spaces shall be designed as generally described in 4.2.3.10 Place Type CS: Civic Space Table, and distributed throughout the Place Types and is subject to approval by DRC.
- (3) Those portions of P1 that occur within a development shall be part of the civic space allocation and should conform to the civic space standards.
 - (a) The Neighborhood Plan shall designate at least one Main Civic Space per pedestrian shed. The Main Civic Space shall be within 660 feet of the geographic center of each Pedestrian

Shed, unless topographic conditions, pre-existing street alignments or other circumstances prevent such location, and shall be developed as a Green, Square, Park, and/or Plaza.

- (b) Within 1,320 feet of every lot in residential use, a civic space designed and equipped with amenities shall be provided.
- (4) Storm and drainage facilities, if equipped to provide civic space, may be counted toward the ten percent Civic Space Place Type allocation requirement by warrant.
- (5) The Neighborhood Plan shall designate Civic Space (CS) Place Types dedicated for public use within 660 feet of every lot with a residential use. The civic space must be active with a playground, fountains, benches, tables, and/or other public furniture to spur the gathering of people.

3.8.5.3 CIVIC SPACES INCLUDING PLAYGROUNDS.

Properties within the city limits shall refer to Chapter 4 Place Type Zoning Districts in this LDC for criteria and standards. For a residential subdivision in the ETJ going through a Neighborhood Plan process, the applicant is required to dedicate five percent of the total area of the subdivision that is not in the floodplain for park purposes or pay an escrow, with terms established by the City, in lieu of the parkland dedication. All dedication of land is subject to the approval of the City.

- (1) Park and playground sites shall be reserved as indicated on the Future Land Use Plan. Size shall be in accordance with the City's Comprehensive Plan for the park system.
- (2) Parkland improvements are critical to ensure the use of the civic spaces are inviting to the public. A parkland or civic space improvements shall be provided to the DRC. Parkland improvements may include items such as trails, playgrounds, benches, lighting, fountains, or other civic space activities appropriate for the neighborhood.
 - (a) Proposed parkland or civic space improvements shall be provided to the DRC with the submittal of a Neighborhood Plan.

3.8.5.4 SCHOOL SITES.

Neighborhood schools are part of Taylor's neighborhoods. Schools should be integrated into the Neighborhood Plan and fully connect to nearby residential neighborhoods through safe walking and bicycle paths. Location and size of school sites to be in accordance with the requirements of the school district and approved by the City of Taylor. All other conditions of this LDC shall also apply.

3.8.5.5 CIVIC BUILDINGS

- (1) Civic Building sites should be reserved as necessary within each Pedestrian Shed and may be located within or adjacent to Civic Spaces allocated within the Pedestrian Shed. During the Neighborhood Plan or Employment Center Plan process, a determination of the need for Civic Building sites shall be made. Civic Building needs shall be determined through consultation with the City, the Taylor Independent School District, Williamson County and other government agencies and non-profit organizations. Each Pedestrian Shed shall include a main gathering space as close as possible to the geographic center of the Pedestrian Shed that includes a building or facility that is accessible by the public.
- (2) One Civic Building Lot shall be reserved for an elementary school. Its area shall be one acre for each increment of 100 dwelling units provided by the Neighborhood Plan, with a minimum of three

- (3) acres for the school. The school site may be within any Place Type other than P1 or EC.
- (3) One Civic Building Lot suitable for a childcare building shall be reserved within each Pedestrian Shed. The owner or an HOA or other community group may organize, fund and construct an appropriate building as the need arises.
 - (4) Civic Building Sites shall not occupy more than 20 percent of the area of each Pedestrian Shed.
 - (5) Civic Building Sites should be located within or adjacent to a Civic Space, or at the axial termination of a significant thoroughfare.
 - (6) Civic Buildings may be permitted within Employment Center (EC) Place Types by Warrant.

3.8.6 EASEMENTS.

The applicant platting property shall dedicate easements as follows:

- (1) All easements created prior to the subdividing of any tract of land must be shown on the preliminary plat. The applicant shall plat lots and dedicate easements for utilities and drainage ways in the following manner:

Easements for utilities, drainage ways, or transmission lines shall be retained on the front, side, and/or rear lot lines as required by the City and utility companies. Easements across parts of a lot other than as described above shall be required as deemed necessary and most appropriate by the City. The Development Services Director shall require access for ease of maintenance of all easements.

- (2) Off-site easements:

Easements in areas adjoining a proposed development necessary to provide adequate drainage thereof or to serve such development with utilities shall be obtained by the applicant prior to final plat approval.

- (3) Privately-owned easements:

See Engineering Manual for standards for privately owned easements.

3.8.7 ACCEPTANCE OF PUBLIC IMPROVEMENTS.

Prior to final acceptance by the City Council of maintenance and operation of the completed improvements in an approved set of Subdivision Improvement Plans, the subdivider shall file with the City following:

- (1) A two year, ten percent maintenance bond of the contract price of the public improvements executed by a corporate surety licensed to do business in the State of Texas, conditioned that the improvements are free from defects in materials and workmanship.
- (2) One electronic copy of as built record drawings for each project, which further contain or have attached certification from a professional engineer that all improvements comply with this LDC.
- (3) An affidavit from the subdivider stating that, to the best of their information and belief, the contractor has complied with the regulations contained in this LDC.
- (4) A waiver of liens from all contractors and subcontractors for the subdivision infrastructure.
- (5) A sealed letter of concurrence from the design engineer stating that all subdivision improvements were constructed in accordance with the approved engineered plans.

- (6) Exemption: No maintenance or performance bond is required when the cost of the public improvements are expected to be less than \$5,000 dollars.

3.8.8 BUILDING PERMITS AND FEES.

Plans submitted for building permits shall not be approved and no permits shall be issued until the public improvements are accepted by the City, all appropriate fees are paid, and the plat is filed for record with the Williamson County Clerk's Office except as otherwise provided below:

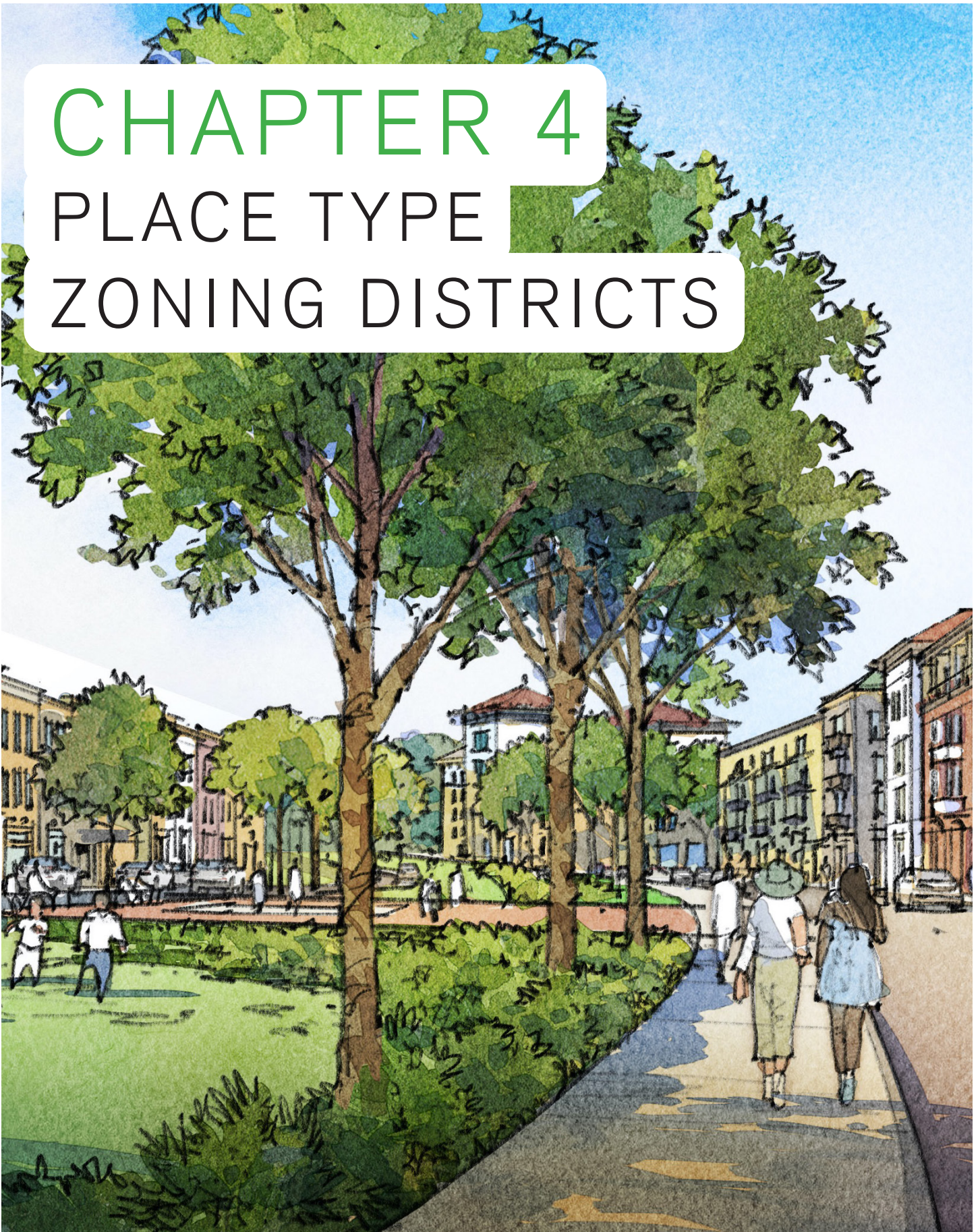
- (1) A plat is not required for any modification to an existing structure if said modification is within the existing footprint of said structure.
- (2) A plat is not required for expansion to existing structures or site modifications, unless said expansion or site modification triggers a traffic impact analysis, requires the extension of public utilities or roadways, or encroaches upon the 100 year floodplain as set forth by this LDC.
- (3) A plat is not required for approval of a sign permit.
- (4) A building permit may be issued prior to acceptance of the public improvements if the project is designated by the city manager under an expedited permitting process.

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CHAPTER 4

PLACE TYPE

ZONING DISTRICTS



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4.1 ZONING CLASSIFICATION.

4.1.1 PLACE TYPE ZONING MAP PLACEMENT.

The boundaries of Place Type zoning districts set out herein are delineated upon a Place Type Zoning Map of the City, adopted as part of this LDC as fully as if the same were set forth herein in detail.

The Place Type designation on the Taylor Place Type zoning map for undeveloped properties or properties proposing redevelopment determines the maximum allowed intensity of a development and does not entitle the entire property to be allocated with that Place Type. The final allocation of Place Types shall be determined through the adoption of a Neighborhood or Employment Center Plan.

4.1.2 ZONING MAP DESIGNATIONS.

The boundary lines shown on the Place Type Zoning Map are usually along streets, alleys, property lines, or extensions thereof. Where uncertainty exists as to the boundaries of Place Types as shown on the official Place Type Zoning Map:

- (1) Boundaries indicated as approximately following the centerline of streets, highways, or alleys shall be construed to follow such centerline.
- (2) Boundaries indicated as approximately following platted lot lines shall be construed as following such lot lines.
- (3) Boundaries indicated as approximately following city limits shall be construed as following the city limits.
- (4) Boundaries indicated as approximately following the centerline of all creeks, streams, or drainage ways shall be construed to follow such centerline and, in the event of a change in the centerline, shall be construed to move with such centerline.
- (5) Boundaries indicated as parallel to or extensions of features indicated in 1-4 above shall be so construed. Distances not specifically indicated on the official zoning maps shall be determined by the scale of the map.
- (6) Whenever any street, alley, or other public way is vacated by official action of the City Council or whenever such area is franchised for building purposes, the Place Type Zoning line adjoining each side of such street, alley, or other public way shall be automatically extended to the centerline of such vacated street, alley, or way and all areas so involved shall then and henceforth be subject to all standards of the extended Place Type zoning districts.
- (7) The Place Type zoning classification applied to a tract of land adjacent to a street shall extend to the centerline of the street unless, as a condition of zoning approval, it is stated that the Place Type zoning classification shall not apply to the street.
- (8) Where physical features on the ground are at variance with information shown on the official Place Type Zoning Map or when there arises a question as to how or whether a parcel of property is zoned and such question cannot be resolved by the application of this list 1-8, the property shall be considered as classified P2 Rural, in the same manner as provided for newly annexed territory.

4.1.3 PLACE TYPE ZONING MAP.

Ten distinct Place Types presented themselves in Taylor. The Place Type map is shown below. The zoning standards reflect the Place Type and were inspired by the DNA of the Taylor community.

4.2 PLACE TYPE ZONING DISTRICTS.

4.2.1 GENERAL.

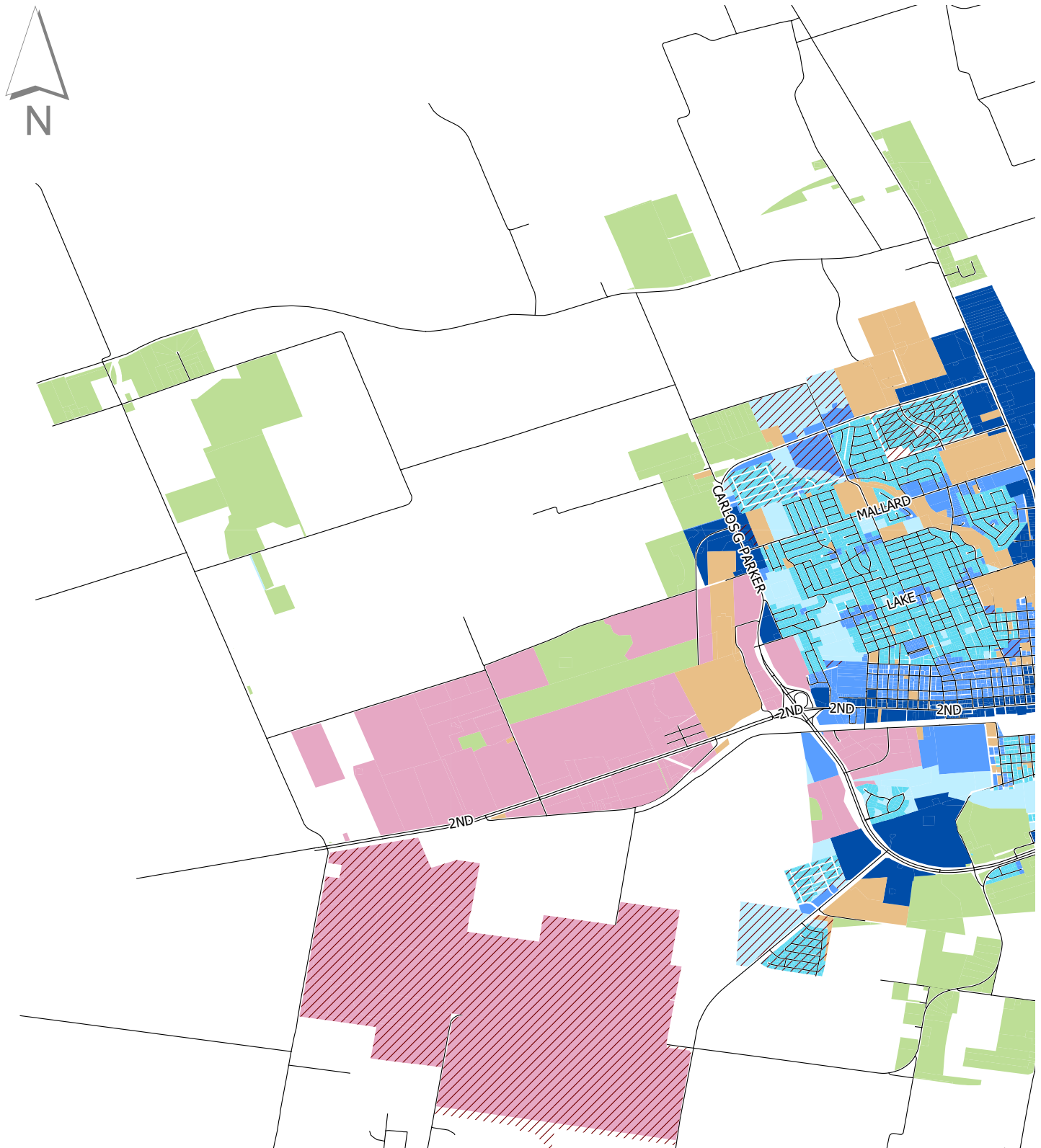
The establishment of Place Types in the City of Taylor, Texas, are intended to promote compatible patterns of land and site development consistent with the City's adopted Comprehensive Plan.

4.2.2 DESCRIPTION.

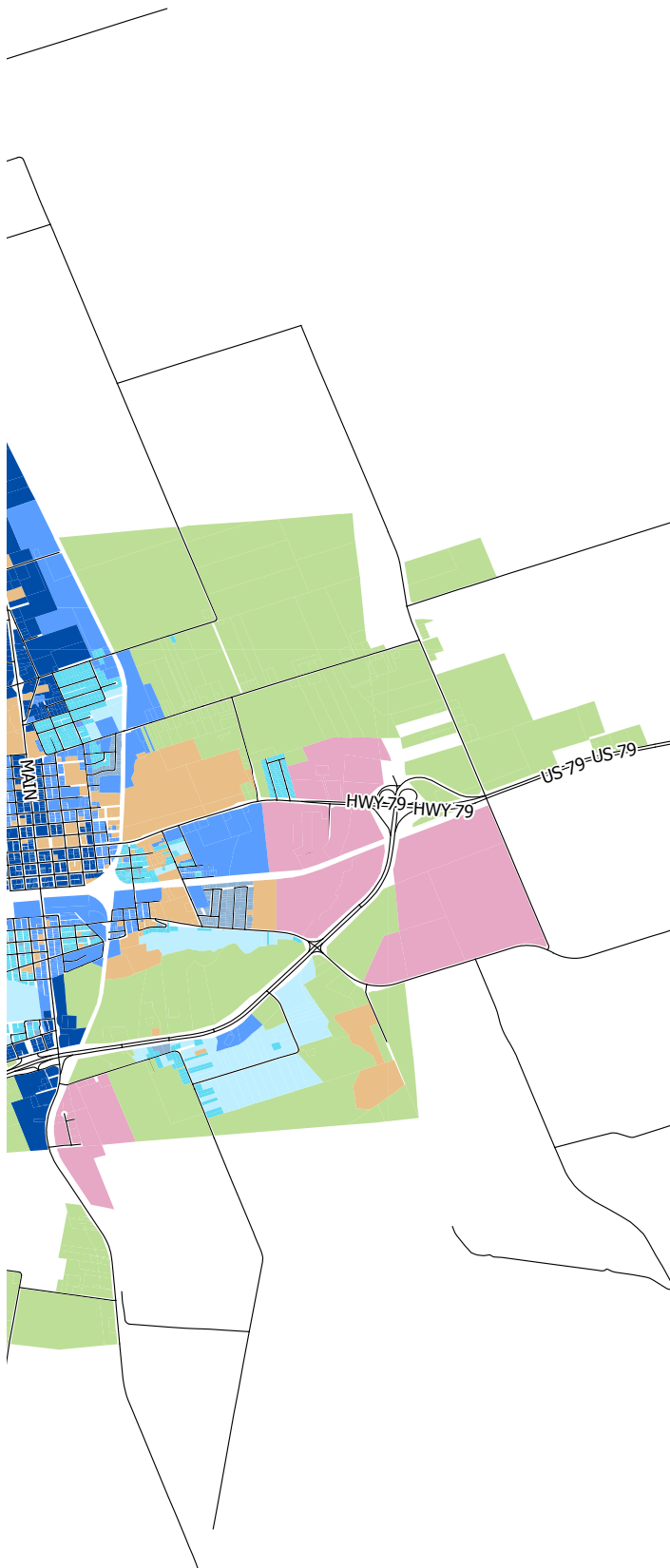
Place Types are the transition of places from natural to urban through the use of specific standards. Place Types replace conventional zoning districts with identifiable characteristics that represent the arrangements of places. They are intended to promote compatible patterns of land use and site development consistent with the City's adopted Comprehensive Plan. The DNA of the Taylor community inspired the Place Types zoning district standards.

4.2.3 ESTABLISHMENT OF DISTRICTS.

Pursuant to Section 211.005 of the Texas Local Government Code, the City of Taylor is hereby divided into ten Place Types Zoning Districts. The Place Types zoning districts follow identifiable transitions in land development, establishing a hierarchy of places from the most natural to the most urban using specific localized standards. The areas are primarily classified by development intensity and building types, the relationship between nature and the built environment, and the mix of uses. All land within the city limits shall be classified into one of the following ten Place Types:



The Place Type designation on the Taylor Place Type zoning map for undeveloped properties or properties proposing redevelopment determines the maximum allowed intensity of a development and does not entitle the entire property to be allocated with that Place Type. The final allocation of Place Types shall be determined through the adoption of a Neighborhood or Employment Center Plan.



simplecitydesign

Place Type Zoning

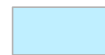
Place Type



P1



P2



P2.5



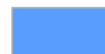
P2C



P3



P3M



P4



P5



CS



EC



Planned
Development
(PD Overlay)



4.2.3.1 P1: NATURE

The P1 Nature Place Type are lands in a natural state or reverting to a wilderness condition, including lands unsuitable for settlement due to topography, hydrology or vegetation. P1 is intended to preserve areas that contain sensitive habitats, active or passive open spaces, parks and limited agriculture uses. Nature includes floodplains, creeks tributaries and other waterways.



4.2.3.2 P2: RURAL

The P2 Rural Place Type regulates mainly large, sparsely settled land used for agricultural purposes and food production. This Place Type helps preserve Taylor's natural beauty and agricultural history. Rural living and sparsely settled lands are to be located in a manner that does not cause a nuisance to more intensely inhabited areas. The Rural Place Type is a holding zone for newly annexed areas and new neighborhoods that have not yet had Place Type allocation.



4.2.3.3 P2C: RURAL COMMERCIAL

The P2C Rural Commercial Place Type is applied to properties that include a standalone building on an individual lot. They have large setbacks and are typically surrounded by parking lots with rear service lanes. It may contain outdoor displays, lay-down yards or similar rural characteristics. Sites are generally located along rural roads.



4.2.3.4 P2.5: LARGE LOT

The P2.5 Large Lot Place Type includes properties that are one (1) acre or greater. Generally, the lots contain one (1) or more structures with large setbacks from the street. Properties may be entirely fenced but can be seen from the street edge. Generally, the properties are residential in nature.



4.2.3.5 P3: NEIGHBORHOOD

The P3 Neighborhood Place Type generally includes low-density residential areas. P3 is adjacent to higher density Place Types that have some mixed-use buildings. Setbacks vary from relatively deep to shallow. The roads and blocks may be irregular to accommodate natural conditions.



4.2.3.6 P3M: MANUFACTURED HOUSING

The P3M Manufactured Housing Place Type consists of lots that currently have a manufactured building as the primary structure. Generally, P3M includes low-density residential areas. P3M is adjacent to higher density Place Types that have some mixed-use buildings. Planting is naturalistic, and setbacks vary from relatively deep to shallow. The roads and blocks may be irregular to accommodate natural conditions.



4.2.3.7 P4: MIX

The P4 Mix Place Type functions as a smooth transition from commercial-oriented P5 Urban Center Place Type outward to the established residential P3 Neighborhood Place Type. P4 Mix regulates a variety of building types ranging from smaller commercial buildings to intermixed house-form commercial and attached and detached residential. It provides flexibility for this area to easily transition between low-intensity commercial and residential building types, allowing for the neighboring P5 Urban Center zoning to expand and contract over time, increasing Taylor's economic resiliency.



4.2.3.8 P5: URBAN CENTER

The P5 Urban Center Place Type regulates a higher intensity mixture of building types that accommodate commercial, retail, offices, hotels, and residential. Buildings are set close to the sidewalk with high pedestrian and vehicle traffic. P5 promotes a continuous line of buildings and wide sidewalks critical to defining the public frontage.



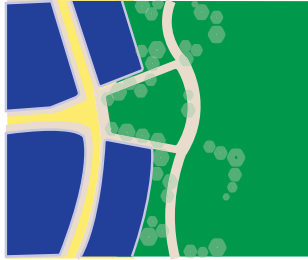
4.2.3.9 EC: EMPLOYMENT CENTER

The EC Employment Center Place Type function, disposition, or configuration cannot, or should not conform to one or more of the Place Types. EC shall be used for job creation centers and building forms that do not fit within the character of the other Place Types. At time of application for an Employment Center Plan, development standards will be determined to fit the needs of the proposed use.

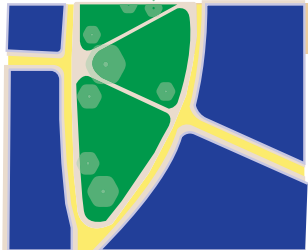


4.2.3.10 CS: CIVIC SPACE TABLE

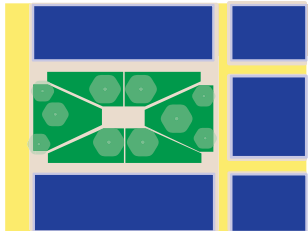
Civic Spaces and/or Civic Buildings serve as community features appropriate to their Place Types. Civic Spaces provide relief from the urban environment inside each neighborhood. See Civic Space Types below:

**(1) PARK**

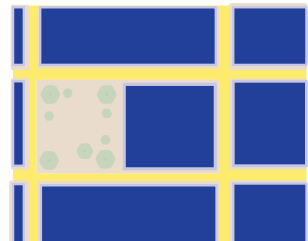
A park is a natural preserve available for unstructured recreation. It is standalone from building frontages. Its landscape typically consists of paths and trails, meadows, water bodies, woodlands and open shelters, all naturalistically disposed. Parks may be linear, following the trajectories of natural corridors.

**(2) GREEN**

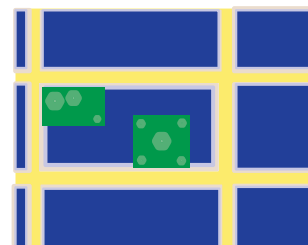
A green is a civic space, available for structured recreation. A green is spatially defined by landscaping rather than building frontages. Its landscape typically consists of lawn and trees, naturalistically disposed.

**(3) SQUARE**

A square is a civic space available for unstructured recreation and civic purposes. A square is spatially defined by building frontages. Its landscape typically consists of paths, lawns, and trees, formally disposed. Squares are typically located at the intersection of important streets.

**(4) PLAZA**

A plaza is a civic space available for civic purposes and commercial activities. A plaza is spatially defined by building frontages. Its landscape may consist of pavement-related materials. Plazas are typically located at the intersection of important streets.

**(5) POCKET PARK**

A pocket park is a civic space available for civic purposes, playgrounds, and commercial activities. A pocket park may be spatially defined by building frontages, landscaping, or residential lots. Pocket parks may be located in neighborhood infill areas or in higher density commercial places. Pocket parks should provide relief to busy environments.

4.3 PLACE TYPE ZONING DISTRICT DEVELOPMENT STANDARDS.

The following table contain the details necessary to develop using this LDC to create complete neighborhoods in a variety of forms and patterns.

STANDARDS	PLACE TYPES									
BLOCKS	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
BLOCK LENGTH (MAXIMUM)	N/A	720'	720'	720'	330'	330'	330'	330'	TBD	720'
BLOCK PERIMETER (MAXIMUM)	N/A	2,880'	2,880'	2,880'	1,320'	1,320'	1,320'	1,320'	2,880'	2,880'

PUBLIC FRONTAGE	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
PUBLIC FRONTAGE SHALL BE DETERMINED BY STREET TYPE										

STREET TYPES	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
RURAL STREET	P	P	P	NP	NP	NP	NP	NP	P	NP
RESIDENTIAL ALLEY	NP	P	P	P	P	P	P	NP	NP	NP
COMMERCIAL ALLEY	NP	NP	NP	NP	NP	NP	NP	P	NP	P
YIELD STREET	P	P	P	P	P	P	NP	NP	P	NP
NEIGHBORHOOD STREET	P	P	P	P	P	P	P	P	P	P
NEIGHBORHOOD AVENUE	NP	NP	NP	P	P	P	P	P	NP	P
SIDE STREET	NP	NP	NP	NP	P	P	P	P	P	P
2 LANE COMMUNITY BLVD.	NP	NP	NP	NP	P	P	P	P	NP	P
4 LANE COMMUNITY BLVD.	NP	NP	NP	NP	NP	NP	P	P	NP	P
PATH	P	P	P	P	P	P	P	P	P	P
TRAIL	P	P	P	P	P	P	P	P	P	P

LOTS	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
WIDTH (MINIMUM)	None	None	None	None	None	None	None	None	TBD	None
AREA (MINIMUM)	None	2 acre	1 acre	1 acre	None	None	None	None	TBD	None
LOT COVERAGE (MAXIMUM)	N/A	40%	40%	40%	60%	60%	90%	100%	TBD	TBD
BUILD-TO-LINE (RANGE)	N/A	10'-125'	10'-125'	10'-125'	5'-20'	5'-20'	5'-15'	0'-15'	TBD	TBD
FACADE BUILDOUT (MINIMUM)*	N/A	N/A	N/A	40%	50%	50%	60%	80%	TBD	TBD

*CARPORTS AND GARAGES SHALL NOT COUNT TOWARD THE FACADE BUILDOUT PERCENTAGE

BUILDING DISPOSITIONS	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
EDGEYARD	NP	P	P	P	P	P	P	NP	N/A	P
SIDEYARD	NP	NP	NP	NP	P	P	P	P	N/A	P
COURTYARD	NP	NP	NP	NP	P	NP	P	P	N/A	P

P = PERMITTED NP = NOT PERMITTED N/A = NOT APPLICABLE TBD = "TO BE DECIDED" DURING NEIGHBORHOOD OR EMPLOYMENT CENTER PLAN PROCESS

STANDARDS	PLACE TYPES									
REARYARD	NP	NP	NP	NP	NP	NP	P	P	N/A	P
RESIDENTIAL BUILDINGS	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
DETACHED DWELLING	NP	P	NP	P	P	NP	P	NP	NP	TBD
ATTACHED DWELLING	NP	NP	NP	NP	P	NP	P	NP	NP	TBD
COTTAGE COURT	NP	P	NP	P	P	NP	P	NP	NP	TBD
DUPLEX	NP	NP	NP	NP	P	NP	P	NP	NP	TBD
TRIPLEX	NP	NP	NP	NP	NP	NP	P	NP	NP	TBD
QUADRAPLEX	NP	NP	NP	NP	NP	NP	P	NP	NP	TBD
SMALL APARTMENT	NP	NP	NP	NP	NP	NP	P	P	NP	TBD
LARGE APARTMENT	NP	NP	NP	NP	NP	NP	NP	P	NP	TBD
MANUFACTURED HOME	NP	P	NP	P	NP	P	NP	NP	NP	TBD
ACCESSORY DWELLING UNIT	NP	P	NP	P	P	P	P	NP	NP	TBD
RECREATIONAL VEHICLE PARK	NP	P	NP	NP	NP	NP	NP	NP	NP	TBD
RESIDENTIAL ACCESSORY	NP	P	NP	P	P	P	P	NP	NP	TBD
COMMERCIAL BUILDINGS	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
SMALL COMMERCIAL	NP	NP	P	NP	NP	NP	P	P	P	P
LIVE/WORK	NP	NP	NP	NP	NP	NP	P	P	NP	P
MIXED-USE COMMERCIAL	NP	NP	NP	NP	NP	NP	NP	P	NP	P
LARGE COMMERCIAL	NP	NP	NP	NP	NP	NP	NP	P	NP	P
HIGHWAY COMMERCIAL	NP	NP	P	NP	NP	NP	NP	NP	NP	P
CART, KIOSKS, FOOD TRAILERS	P	NP	P	NP	NP	NP	P	P	P	P
TEMPORARY COMMERCIAL	P	NP	P	NP	NP	NP	P	P	P	P
COMMERCIAL ACCESSORY	NP	NP	P	NP	NP	NP	P	P	NP	P
INDUSTRIAL	NP	NP	NP	NP	NP	NP	NP	NP	NP	P
CIVIC BUILDINGS	P	P	P	P	P	P	P	P	P	P
PRIVATE FRONTAGE	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
COMMON YARD	NP	P	NP	P	P	P	P	NP	P	P
PORCH WITH OPTIONAL FENCE	NP	P	P	P	P	P	P	NP	P	P
STOOP	NP	P	NP	P	P	NP	P	P	NP	P
P = PERMITTED NP = NOT PERMITTED N/A = NOT APPLICABLE TBD = "TO BE DECIDED" DURING NEIGHBORHOOD OR EMPLOYMENT CENTER PLAN PROCESS										

STANDARDS	PLACE TYPES									
GALLERY	NP	NP	P	NP	NP	NP	P	P	P	P
ARCADE	NP	NP	P	NP	NP	NP	P	P	P	P
SHOPFRONT	NP	NP	P	NP	NP	NP	P	P	P	P
FORE COURT	NP	P	NP	P	P	NP	P	P	P	P
TERRACE	NP	P	NP	P	P	NP	P	P	P	P

BUILDING STORIES LIMIT	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
PRINCIPAL BUILDING	NP	3 max	3 max	3 max	3 max	2 max	3 max	5 max	TBD	TBD
ACCESSORY DWELLING UNIT	NP	2 max	2 max	2 max	2 max	2 max	2 max	2 max	NP	TBD

CIVIC SPACE TYPES	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
PARK	P	P	NP	P	P	P	NP	NP	P	P
GREEN	P	P	NP	P	P	P	NP	NP	P	P
SQUARE	NP	NP	P	NP	P	P	P	P	P	P
PLAZA	NP	NP	P	NP	P	P	P	P	P	P
POCKET PARK	NP	P	P	P	P	P	P	P	P	P

SIGNAGE TYPES	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
ADDRESS	P	P	P	P	P	P	P	P	P	P
NAMEPLATE	NP	NP	P	NP	NP	NP	NP	P	P	P
OUTDOOR DISPLAY CASE	NP	NP	P	NP	NP	NP	NP	P	P	P
AWNING	NP	NP	P	NP	NP	NP	NP	P	P	P
WINDOW	NP	NP	P	NP	NP	NP	P	P	P	P
BAND	NP	NP	P	NP	NP	NP	NP	P	P	P
BLADE/HANGING	NP	NP	P	NP	NP	NP	P	P	P	P
MARQUEE	NP	NP	NP	NP	NP	NP	NP	P	NP	P
SIDEWALK	NP	NP	NP	NP	NP	NP	P	P	P	P
YARD	NP	NP	NP	NP	NP	NP	NP	P	NP	P
ROOF	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
BANNERS	NP	NP	NP	NP	NP	NP	NP	P	P	P
MONUMENT	NP	NP	P	NP	NP	NP	NP	NP	P	P
POLE	NP	NP	P	NP	NP	NP	NP	NP	NP	P

P = PERMITTED NP = NOT PERMITTED N/A = NOT APPLICABLE TBD = "TO BE DECIDED" DURING NEIGHBORHOOD OR EMPLOYMENT CENTER PLAN PROCESS

STANDARDS	PLACE TYPES									
PARKING LOCATION	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
FIRST LAYER	NP	P	P	NP	NP	NP	NP	NP	P	P
SECOND LAYER	NP	P	P	P	P	P	P	NP	P	P
THIRD LAYER	NP	P	P	P	P	P	P	P	P	P
ON-STREET	P	NP	NP	NP	P	P	P	P	P	P
RV STORAGE (IN THIRD LAYER)	NP	P	NP	P	P	P	P	NP	NP	NP
P = PERMITTED NP = NOT PERMITTED N/A = NOT APPLICABLE TBD = "TO BE DECIDED" DURING NEIGHBORHOOD OR EMPLOYMENT CENTER PLAN PROCESS										

4.3.1 PLACE TYPE ZONING DISTRICT DETAILS.

4.3.1.1 P1- NATURE

LOTS

WIDTH (MINIMUM)	NONE
AREA (MINIMUM)	NONE
LOT COVERAGE (MAXIMUM)	N/A
BUILD-TO-LINE (RANGE)	N/A
FACADE BUILDOUT (MINIMUM)	N/A
STORIES (MAXIMUM)	N/A

BLOCKS

BLOCK LENGTH (MAXIMUM)	N/A
BLOCK PERIMETER MAXIMUM	N/A
PUBLIC FRONTAGE (RIGHT OF WAY)	
SIDEWALK ZONE WIDTH	N/A
LANDSCAPE ZONE	N/A
VEHICULAR PARKING ZONE WIDTH	0' / 10'
VEHICULAR TRAVEL ZONE WIDTH	20'-24'

BUILDING TYPES

DETACHED DWELLING	☐
ATTACHED DWELLING	☐
COTTAGE COURT	☐
DUPLEX	☐
TRIPLEX	☐
QUADRAPLEX	☐
SMALL APARTMENT	☐
LARGE APARTMENT	☐
MANUFACTURED HOME/PARK	☐
ACCESSORY DWELLING UNIT	☐
RECREATIONAL VEHICLE PARK	☐
RESIDENTIAL ACCESSORY	☐
SMALL COMMERCIAL	☐
LIVE/WORK	☐
MIXED-USE COMMERCIAL	☐
LARGE COMMERCIAL	☐
HIGHWAY COMMERCIAL	☐
INDUSTRIAL	☐
CARTS, KIOSKS, FOOD TRAILERS	☒
TEMPORARY COMMERCIAL	☒
CIVIC BUILDINGS	☒
COMMERCIAL ACCESSORY	☐

PRIVATE FRONTAGE TYPES

COMMON YARD	☐
PORCH WITH OPTIONAL FENCE	☐
STOOP	☐
GALLERY	☐
ARCADE	☐
SHOPFRONT	☐
FORECOURT	☐
TERRACE	☐

BUILDING DISPOSITION

EDGEYARD	☐
SIDEYARD	☐
COURTYARD	☐
REARYARD	☐

PERMITTED	☒
NOT PERMITTED	☐

STREET TYPES

RURAL STREET	☒
RESIDENTIAL ALLEY	☐
COMMERCIAL ALLEY	☐
YIELD STREET	☒
NEIGHBORHOOD STREET	☒
NEIGHBORHOOD AVENUE	☐
SIDE STREET	☐
2 LANE COMMUNITY BOULEVARD	☐
4 LANE COMMUNITY BOULEVARD	☐
PATH	☒
TRAIL	☒

PARKING LOCATION

FIRST LAYER	☐
SECOND LAYER	☐
THIRD LAYER	☐
ON-STREET	☒
RV STORAGE	☐

4.3.1.2 P2-RURAL

LOTS

WIDTH (MINIMUM)	NONE
AREA (MINIMUM)	2 ACRE MINIMUM
LOT COVERAGE (MAXIMUM)	40%
BUILD-TO-LINE (RANGE)	10'- 150'
FACADE BUILDOUT (MINIMUM)	N/A
STORIES (MAXIMUM)	3 STORIES

BUILDING TYPES

DETACHED DWELLING	●
ATTACHED DWELLING	○
COTTAGE COURT	●
DUPLEX	○
TRIPLEX	○
QUADRAPLEX	○
SMALL APARTMENT	○
LARGE APARTMENT	○
MANUFACTURED HOME/PARK	●
ACCESSORY DWELLING UNIT	●
RECREATIONAL VEHICLE PARK	●
RESIDENTIAL ACCESSORY	●
SMALL COMMERCIAL	○
LIVE/WORK	○
MIXED-USE COMMERCIAL	○
LARGE COMMERCIAL	○
HIGHWAY COMMERCIAL	○
INDUSTRIAL	○
CARTS, KIOSKS, FOOD TRAILERS	○
TEMPORARY COMMERCIAL	○
COMMERCIAL ACCESSORY	○
CIVIC BUILDINGS	●

BLOCKS

BLOCK LENGTH (MAXIMUM)	720'
BLOCK PERIMETER (MAXIMUM)	2,880'
PUBLIC FRONTAGE (RIGHT OF WAY)	
SIDEWALK ZONE WIDTH	5'
LANDSCAPE ZONE	NOT PERMITTED
VEHICULAR PARKING ZONE WIDTH	PARALLEL - 8' ANGLED - 17'
VEHICULAR TRAVEL ZONE WIDTH	20'-24'

PRIVATE FRONTAGE TYPES

COMMON YARD	●
PORCH WITH OPTIONAL FENCE	●
STOOP	●
GALLERY	○
ARCADE	○
SHOPFRONT	○
FORECOURT	●
TERRACE	●

BUILDING DISPOSITION

EDGEYARD	●
SIDEYARD	○
COURTYARD	○
REARYARD	○

PERMITTED	●
NOT PERMITTED	○

STREET TYPES

RURAL STREET	●
RESIDENTIAL ALLEY	●
COMMERCIAL ALLEY	○
YIELD STREET	●
NEIGHBORHOOD STREET	●
NEIGHBORHOOD AVENUE	○
SIDE STREET	○
2 LANE COMMUNITY BOULEVARD	○
4 LANE COMMUNITY BOULEVARD	○
PATH	●
TRAIL	●

PARKING LOCATION

FIRST LAYER	●
SECOND LAYER	●
THIRD LAYER	●
ON-STREET	○
RV STORAGE	●

4.3.1.3 P2C RURAL COMMERCIAL

LOTS

WIDTH (MINIMUM)	NONE
AREA (MINIMUM)	1 ACRE MINIMUM
LOT COVERAGE (MAXIMUM)	40%
BUILD-TO-LINE (RANGE)	10'-150'
FACADE BUILDOUT (MINIMUM)	N/A
STORIES (MAXIMUM)	3 STORIES

BLOCKS

BLOCK LENGTH (MAXIMUM)	720'
BLOCK PERIMETER (MAXIMUM)	2,880'

PUBLIC FRONTAGE (RIGHT OF WAY)

SIDEWALK ZONE WIDTH	5'
LANDSCAPE ZONE	NOT PERMITTED
VEHICULAR PARKING ZONE WIDTH	PARALLEL - 8' ANGLED - 17'
VEHICULAR TRAVEL ZONE WIDTH	16'-24'

BUILDING TYPES

DETACHED DWELLING	☐
ATTACHED DWELLING	☐
COTTAGE COURT	☐
DUPLEX	☐
TRIPLEX	☐
QUADRAPLEX	☐
SMALL APARTMENT	☐
LARGE APARTMENT	☐
MANUFACTURED HOME/PARK	☐
ACCESSORY DWELLING UNIT	☐
RECREATIONAL VEHICLE PARK	☐
RESIDENTIAL ACCESSORY	☐
SMALL COMMERCIAL	☒
LIVE/WORK	☐
MIXED-USE COMMERCIAL	☐
LARGE COMMERCIAL	☐
HIGHWAY COMMERCIAL	☒
INDUSTRIAL	☐
CARTS, KIOSKS, FOOD TRAILERS	☒
TEMPORARY COMMERCIAL	☒
COMMERCIAL ACCESSORY	☒
CIVIC BUILDINGS	☒

PRIVATE FRONTAGE TYPES

COMMON YARD	☐
PORCH WITH OPTIONAL FENCE	☒
STOOP	☐
GALLERY	☒
ARCADE	☒
SHOPFRONT	☒
FORECOURT	☐
TERRACE	☐

BUILDING DISPOSITION

EDGEYARD	☒
SIDEYARD	☐
COURTYARD	☐
REARYARD	☐

PERMITTED	☒
NOT PERMITTED	☐

STREET TYPES

RURAL STREET	☒
RESIDENTIAL ALLEY	☒
COMMERCIAL ALLEY	☐
YIELD STREET	☒
NEIGHBORHOOD STREET	☒
NEIGHBORHOOD AVENUE	☐
SIDE STREET	☐
2 LANE COMMUNITY BOULEVARD	☐
4 LANE COMMUNITY BOULEVARD	☐
PATH	☒
TRAIL	☒

PARKING LOCATION

FIRST LAYER	☒
SECOND LAYER	☒
THIRD LAYER	☒
ON-STREET	☐
RV STORAGE	☐

4.3.1.4 P2.5 LARGE LOT

LOTS

WIDTH (MINIMUM)	NONE
AREA (MINIMUM)	1 ACRE MINIMUM
LOT COVERAGE (MAXIMUM)	40%
BUILD-TO-LINE (RANGE)	10'-150'
FACADE BUILDOUT (MINIMUM)	40%
STORIES (MAXIMUM)	3 STORIES

BLOCKS

BLOCK LENGTH (MAXIMUM)	720'
BLOCK PERIMETER (MAXIMUM)	2,880'

PUBLIC FRONTAGE (RIGHT OF WAY)

SIDEWALK ZONE WIDTH	5'-15'
LANDSCAPE ZONE	PERMITTED
VEHICULAR PARKING ZONE WIDTH	PARALLEL - 8'
VEHICULAR TRAVEL ZONE WIDTH	16'-24'

BUILDING TYPES

DETACHED DWELLING	☒
ATTACHED DWELLING	☐
COTTAGE COURT	☒
DUPLEX	☐
TRIPLEX	☐
QUADRAPLEX	☐
SMALL APARTMENT	☐
LARGE APARTMENT	☐
MANUFACTURED HOME/PARK	☒
ACCESSORY DWELLING UNIT	☒
RECREATIONAL VEHICLE PARK	☐
RESIDENTIAL ACCESSORY	☒
SMALL COMMERCIAL	☐
LIVE/WORK	☐
MIXED-USE COMMERCIAL	☐
LARGE COMMERCIAL	☐
HIGHWAY COMMERCIAL	☐
INDUSTRIAL	☐
CARTS, KIOSKS, FOOD TRAILERS	☐
TEMPORARY COMMERCIAL	☐
COMMERCIAL ACCESSORY	☐
CIVIC BUILDINGS	☒

PRIVATE FRONTAGE TYPES

COMMON YARD	☒
PORCH WITH OPTIONAL FENCE	☒
STOOP	☒
GALLERY	☐
ARCADE	☐
SHOPFRONT	☐
FORE COURT	☒
TERRACE	☒

BUILDING DISPOSITION

EDGEYARD	☒
SIDEYARD	☐
COURTYARD	☐
REARYARD	☐

PERMITTED	☒
NOT PERMITTED	☐

STREET TYPES

RURAL STREET	☐
RESIDENTIAL ALLEY	☒
COMMERCIAL ALLEY	☐
YIELD STREET	☒
NEIGHBORHOOD STREET	☒
NEIGHBORHOOD AVENUE	☒
SIDE STREET	☐
2 LANE COMMUNITY BOULEVARD	☐
4 LANE COMMUNITY BOULEVARD	☐
PATH	☒
TRAIL	☒

PARKING LOCATION

FIRST LAYER	☐
SECOND LAYER	☒
THIRD LAYER	☒
ON-STREET	☐
RV STORAGE	☒

4.3.1.5 P3 - NEIGHBORHOOD

LOTS

WIDTH (MINIMUM)	NONE
AREA (MINIMUM)	NONE
LOT COVERAGE (MAXIMUM)	60%
BUILD-TO-LINE (RANGE)	5'-20'
FACADE BUILDOUT (MINIMUM)	50%
STORIES (MAXIMUM)	3 STORIES

BLOCKS

BLOCK LENGTH (MAXIMUM)	330'
BLOCK PERIMETER (MAXIMUM)	1,320'
PUBLIC FRONTAGE (RIGHT OF WAY)	
SIDEWALK ZONE WIDTH	5'-15'
LANDSCAPE ZONE	PERMITTED
VEHICULAR PARKING ZONE WIDTH	PARALLEL - 8'
VEHICULAR TRAVEL ZONE WIDTH	16'-24'

BUILDING TYPES

DETACHED DWELLING	●
ATTACHED DWELLING	●
COTTAGE COURT	●
DUPLEX	●
TRIPLEX	○
QUADRAPLEX	○
SMALL APARTMENT	○
LARGE APARTMENT	○
MANUFACTURED HOME/PARK	○
ACCESSORY DWELLING UNIT	●
RECREATIONAL VEHICLE PARK	○
RESIDENTIAL ACCESSORY	●
SMALL COMMERCIAL	○
LIVE/WORK	○
MIXED-USE COMMERCIAL	○
LARGE COMMERCIAL	○
HIGHWAY COMMERCIAL	○
INDUSTRIAL	○
CARTS, KIOSKS, FOOD TRAILERS	○
TEMPORARY COMMERCIAL	○
COMMERCIAL ACCESSORY	○
CIVIC BUILDINGS	●

PRIVATE FRONTAGE TYPES

COMMON YARD	●
PORCH WITH OPTIONAL FENCE	●
STOOP	●
GALLERY	○
ARCADE	○
SHOPFRONT	○
FORECOURT	●
TERRACE	●

BUILDING DISPOSITION

EDGEYARD	●
SIDEYARD	●
COURTYARD	●
REARYARD	○

PERMITTED	●
NOT PERMITTED	○

STREET TYPES

RURAL STREET	○
RESIDENTIAL ALLEY	●
COMMERCIAL ALLEY	○
YIELD STREET	●
NEIGHBORHOOD STREET	●
NEIGHBORHOOD AVENUE	●
SIDE STREET	●
2 LANE COMMUNITY BOULEVARD	●
4 LANE COMMUNITY BOULEVARD	○
PATH	●
TRAIL	●

PARKING LOCATION

FIRST LAYER	○
SECOND LAYER	●
THIRD LAYER	●
ON-STREET	●
RV STORAGE (THIRD LAYER)	●

4.3.1.6 P3M - MANUFACTURED HOUSING

LOTS

WIDTH (MINIMUM)	NONE
AREA (MINIMUM)	NONE
LOT COVERAGE (MAXIMUM)	60%
BUILD-TO-LINE (RANGE)	5'-20'
FACADE BUILDOUT (MINIMUM)	50%
STORIES (MAXIMUM)	2 STORIES

BLOCKS

BLOCK LENGTH (MAXIMUM)	330'
BLOCK PERIMETER (MAXIMUM)	1,320'

PUBLIC FRONTAGE (RIGHT OF WAY)

SIDEWALK ZONE WIDTH	5'-15'
LANDSCAPE ZONE	PERMITTED
VEHICULAR PARKING ZONE WIDTH	PARALLEL - 8'
VEHICULAR TRAVEL ZONE WIDTH	16'-24'

BUILDING TYPES

DETACHED DWELLING	☐
ATTACHED DWELLING	☐
COTTAGE COURT	☐
DUPLEX	☐
TRIPLEX	☐
QUADRAPLEX	☐
SMALL APARTMENT	☐
LARGE APARTMENT	☐
MANUFACTURED HOME/PARK	☒
ACCESSORY DWELLING UNIT	☒
RECREATIONAL VEHICLE PARK	☐
RESIDENTIAL ACCESSORY	☒
SMALL COMMERCIAL	☐
LIVE/WORK	☐
MIXED-USE COMMERCIAL	☐
LARGE COMMERCIAL	☐
HIGHWAY COMMERCIAL	☐
INDUSTRIAL	☐
CARTS, KIOSKS, FOOD TRAILERS	☐
TEMPORARY COMMERCIAL	☐
COMMERCIAL ACCESSORY	☐
CIVIC BUILDINGS	☒

PRIVATE FRONTAGE TYPES

COMMON YARD	☒
PORCH WITH OPTIONAL FENCE	☒
STOOP	☐
GALLERY	☐
ARCADE	☐
SHOPFRONT	☐
FORECOURT	☐
TERRACE	☐

BUILDING DISPOSITION

EDGEYARD	☒
SIDEYARD	☒
COURTYARD	☐
REARYARD	☐

PERMITTED ☒NOT PERMITTED ☐**STREET TYPES**

RURAL STREET	☐
RESIDENTIAL ALLEY	☒
COMMERCIAL ALLEY	☐
YIELD STREET	☒
NEIGHBORHOOD STREET	☒
NEIGHBORHOOD AVENUE	☒
SIDE STREET	☒
2 LANE COMMUNITY BOULEVARD	☒
4 LANE COMMUNITY BOULEVARD	☐
PATH	☒
TRAIL	☒

PARKING LOCATION

FIRST LAYER	☐
SECOND LAYER	☒
THIRD LAYER	☒
ON-STREET	☒
RV STORAGE (THIRD LAYER)	☒

4.3.1.7 P4 - MIX

LOTS

WIDTH (MINIMUM)	NONE
AREA (MINIMUM)	NONE
LOT COVERAGE (MAXIMUM)	90%
BUILD-TO-LINE (RANGE)	5'-15'
FACADE BUILDOUT (MINIMUM)	60%
STORIES (MAXIMUM)	3 STORIES

BUILDING TYPES

DETACHED DWELLING	●
ATTACHED DWELLING	●
COTTAGE COURT	●
DUPLEX	●
TRIPLEX	●
QUADRAPLEX	●
SMALL APARTMENT	●
LARGE APARTMENT	○
MANUFACTURED HOME/PARK	○
ACCESSORY DWELLING UNIT	●
RECREATIONAL VEHICLE PARK	○
RESIDENTIAL ACCESSORY	●
SMALL COMMERCIAL	●
LIVE/WORK	●
MIXED-USE COMMERCIAL	○
LARGE COMMERCIAL	○
HIGHWAY COMMERCIAL	○
INDUSTRIAL	○
CARTS, KIOSKS, FOOD TRAILERS	●
TEMPORARY COMMERCIAL	●
COMMERCIAL ACCESSORY	●
CIVIC BUILDINGS	●

PRIVATE FRONTAGE TYPES

COMMON YARD	●
PORCH WITH OPTIONAL FENCE	●
STOOP	●
GALLERY	●
ARCADE	●
SHOPFRONT	●
FORECOURT	●
TERRACE	●

BUILDING DISPOSITION

EDGEYARD	●
SIDEYARD	●
COURTYARD	●
REARYARD	●

PERMITTED	●
NOT PERMITTED	○

BLOCKS

BLOCK LENGTH (MAXIMUM)	330'
BLOCK PERIMETER (MAXIMUM)	1,320'

PUBLIC FRONTAGE (RIGHT OF WAY)

SIDEWALK ZONE WIDTH	5'-18'
LANDSCAPE ZONE	PERMITTED
VEHICULAR PARKING ZONE WIDTH	PARALLEL - 8' ANGLED - 17'
VEHICULAR TRAVEL ZONE WIDTH	16' - 40'

STREET TYPES

RURAL STREET	○
RESIDENTIAL ALLEY	●
COMMERCIAL ALLEY	○
YIELD STREET	○
NEIGHBORHOOD STREET	●
NEIGHBORHOOD AVENUE	●
SIDE STREET	●
2 LANE COMMUNITY BOULEVARD	●
4 LANE COMMUNITY BOULEVARD	●
PATH	●
TRAIL	●

PARKING LOCATION

FIRST LAYER	○
SECOND LAYER	●
THIRD LAYER	●
ON-STREET	●
RV STORAGE (THIRD LAYER)	●

4.3.1.8 P5 - URBAN CENTER

LOTS

WIDTH (MINIMUM)	NONE
AREA (MINIMUM)	NONE
LOT COVERAGE (MAXIMUM)	100%
BUILD-TO-LINE (RANGE)	0'- 15'
FACADE BUILDOUT (MINIMUM)	80%
STORIES (MAXIMUM)	5 STORIES

BUILDING TYPES

DETACHED DWELLING	☐
ATTACHED DWELLING	☐
COTTAGE COURT	☐
DUPLEX	☐
TRIPLEX	☐
QUADRAPLEX	☐
SMALL APARTMENT	☒
LARGE APARTMENT	☒
MANUFACTURED HOME/PARK	☐
ACCESSORY DWELLING UNIT	☐
RECREATIONAL VEHICLE PARK	☐
RESIDENTIAL ACCESSORY	☐
SMALL COMMERCIAL	☒
LIVE/WORK	☒
MIXED-USE COMMERCIAL	☒
LARGE COMMERCIAL	☒
HIGHWAY COMMERCIAL	☐
INDUSTRIAL	☐
CARTS, KIOSKS, FOOD TRAILERS	☒
TEMPORARY COMMERCIAL	☒
COMMERCIAL ACCESSORY	☒
CIVIC BUILDINGS	☒

PRIVATE FRONTAGE TYPES

COMMON YARD	☐
PORCH WITH OPTIONAL FENCE	☐
STOOP	☒
GALLERY	☒
ARCADE	☒
SHOPFRONT	☒
FORECOURT	☒
TERRACE	☒

BUILDING DISPOSITION

EDGEYARD	☐
SIDEYARD	☒
COURTYARD	☒
REARYARD	☒

PERMITTED	☒
NOT PERMITTED	☐

BLOCKS

BLOCK LENGTH (MAXIMUM)	330'
BLOCK PERIMETER (MAXIMUM)	1,320'

PUBLIC FRONTAGE (RIGHT OF WAY)

SIDEWALK ZONE WIDTH	12'-18'
LANDSCAPE ZONE	PERMITTED
VEHICULAR PARKING ZONE WIDTH	PARALLEL - 8'-12' ANGLED - 17'-22'
VEHICULAR TRAVEL ZONE WIDTH	16'- 40'

STREET TYPES

RURAL STREET	☐
RESIDENTIAL ALLEY	☐
COMMERCIAL ALLEY	☒
YIELD STREET	☐
NEIGHBORHOOD STREET	☒
NEIGHBORHOOD AVENUE	☒
SIDE STREET	☒
2 LANE COMMUNITY BOULEVARD	☒
4 LANE COMMUNITY BOULEVARD	☒
PATH	☒
TRAIL	☒

PARKING LOCATION

FIRST LAYER	☐
SECOND LAYER	☐
THIRD LAYER	☒
ON-STREET	☒
RV STORAGE (THIRD LAYER)	☐

4.3.1.9 EC - EMPLOYMENT CENTER

LOTS

WIDTH (MINIMUM)	NONE
AREA (MINIMUM)	NONE
LOT COVERAGE (MAXIMUM)	TBD
BUILD-TO-LINE (RANGE)	TBD
FACADE BUILDOUT (MINIMUM)	TBD
STORIES (MAXIMUM)	TBD

BUILDING TYPES

DETACHED DWELLING	☐
ATTACHED DWELLING	☐
COTTAGE COURT	☐
DUPLEX	☐
TRIPLEX	☐
QUADRAPLEX	☐
SMALL APARTMENT	☐
LARGE APARTMENT	☐
MANUFACTURED HOME/PARK	☐
ACCESSORY DWELLING UNIT	☐
RECREATIONAL VEHICLE PARK	☐
RESIDENTIAL ACCESSORY	☐
SMALL COMMERCIAL	☒
LIVE/WORK	☒
MIXED-USE COMMERCIAL	☒
LARGE COMMERCIAL	☒
HIGHWAY COMMERCIAL	☒
INDUSTRIAL	☒
CARTS, KIOSKS, FOOD TRAILERS	☒
TEMPORARY COMMERCIAL	☒
COMMERCIAL ACCESSORY	☒
CIVIC BUILDINGS	☒

PRIVATE FRONTAGE TYPES

COMMON YARD	☒
PORCH WITH OPTIONAL FENCE	☒
STOOP	☒
GALLERY	☒
ARCADE	☒
SHOPFRONT	☒
FORECOURT	☒
TERRACE	☒

BUILDING DISPOSITION

EDGEYARD	☒
SIDEYARD	☒
COURTYARD	☒
REARYARD	☒

PERMITTED ☒NOT PERMITTED ☐TBD = TO BE DECIDED BY
DURING DEVELOPMENT
PROCESS**BLOCKS**

BLOCK LENGTH (MAXIMUM)	720'
BLOCK PERIMETER (MAXIMUM)	2,880'

***PUBLIC FRONTAGE (RIGHT OF WAY)**

SIDEWALK ZONE WIDTH	8'-24'
LANDSCAPE ZONE	PERMITTED
VEHICULAR PARKING ZONE WIDTH	PARALLEL - 8'-12' ANGLED - 17'-22'
VEHICULAR TRAVEL ZONE WIDTH	16'-40'

STREET TYPES

RURAL STREET	☐
RESIDENTIAL ALLEY	☐
COMMERCIAL ALLEY	☒
YIELD STREET	☐
NEIGHBORHOOD STREET	☒
NEIGHBORHOOD AVENUE	☒
SIDE STREET	☒
2 LANE COMMUNITY BOULEVARD	☒
4 LANE COMMUNITY BOULEVARD	☒
PATH	☒
TRAIL	☒

PARKING LOCATION

FIRST LAYER	☒
SECOND LAYER	☒
THIRD LAYER	☒
ON-STREET	☒
RV STORAGE	☐

*Already developed properties with Place Type EC zoning shall follow the development standards of Place Type 5 until an Employment Center Plan has been adopted for the property.

4.3.1.10 CS - CIVIC SPACE

LOTS

WIDTH	TBD
AREA	TBD
LOT COVERAGE (MAXIMUM)	TBD
BUILD-TO-LINE (RANGE)	TBD
FACADE BUILDOUT (MINIMUM)	TBD
STORIES (MAXIMUM)	TBD

BUILDING TYPES

DETACHED DWELLING	☐
ATTACHED DWELLING	☐
COTTAGE COURT	☐
DUPLEX	☐
TRIPLEX	☐
QUADRAPLEX	☐
SMALL APARTMENT	☐
LARGE APARTMENT	☐
MANUFACTURED HOME/PARK	☐
ACCESSORY DWELLING UNIT	☐
RECREATIONAL VEHICLE PARK	☐
RESIDENTIAL ACCESSORY	☐
SMALL COMMERCIAL	☐
LIVE/WORK	☐
MIXED-USE COMMERCIAL	☐
LARGE COMMERCIAL	☐
HIGHWAY COMMERCIAL	☐
INDUSTRIAL	☐
CARTS, KIOSKS, FOOD TRAILERS	☒
TEMPORARY COMMERCIAL	☒
COMMERCIAL ACCESSORY	☐
CIVIC BUILDINGS	☒

PRIVATE FRONTAGE TYPES

COMMON YARD	☐
PORCH WITH OPTIONAL FENCE	☐
STOOP	☐
GALLERY	☐
ARCADE	☐
SHOPFRONT	☐
FORECOURT	☐
TERRACE	☐

BUILDING DISPOSITION

EDGEYARD	☐
SIDEYARD	☐
COURTYARD	☐
REARYARD	☐

PERMITTED	☒
NOT PERMITTED	☐

STREETS

BLOCK PERIMETER (MAXIMUM) TBD

BLOCK LENGTH (MAXIMUM) TBD

PUBLIC FRONTAGE (RIGHT OF WAY)

SIDEWALK ZONE TBD

LANDSCAPE ZONE TBD

VEHICULAR PARKING ZONE TBD

VEHICULAR TRAVEL ZONE TBD

STREET TYPES

RURAL STREET	☒
RESIDENTIAL ALLEY	☒
COMMERCIAL ALLEY	☒
YIELD STREET	☒
NEIGHBORHOOD STREET	☒
NEIGHBORHOOD AVENUE	☒
SIDE STREET	☒
2 LANE COMMUNITY BOULEVARD	☒
4 LANE COMMUNITY BOULEVARD	☒
PATH	☒

PARKING LOCATION

FIRST LAYER	TBD
SECOND LAYER	TBD
THIRD LAYER	TBD
ON-STREET	TBD
RV STORAGE	TBD

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An aerial, hand-drawn style illustration of a suburban neighborhood. In the center, a tall metal water tower with a brown tank stands out. Surrounding it are various houses with different roof colors (green, brown, grey) and styles. There are many green trees scattered throughout the scene. In the background, a blue body of water is visible. The overall style is colorful and sketchy.

CHAPTER 5

PRIVATE LOT DEVELOPMENT STANDARDS

5.1 LOT STRUCTURE.

5.1.1 GENERAL.

Lots and buildings located within the city of Taylor shall be subject to the requirements of this Chapter. Regulatory terminology related to lots used in this section is diagrammed for illustrative purposes only. Building types diagrammed are provided for illustrative purposes only.

5.1.2 ELEMENTS OF A LOT.

The diagram below represents a general lot within the city of Taylor. The lot elements are described in Table 5.1.2(B): Lot Structure Diagram Descriptions.

FIGURE 5.1.2(A): ELEMENTS OF A LOT.

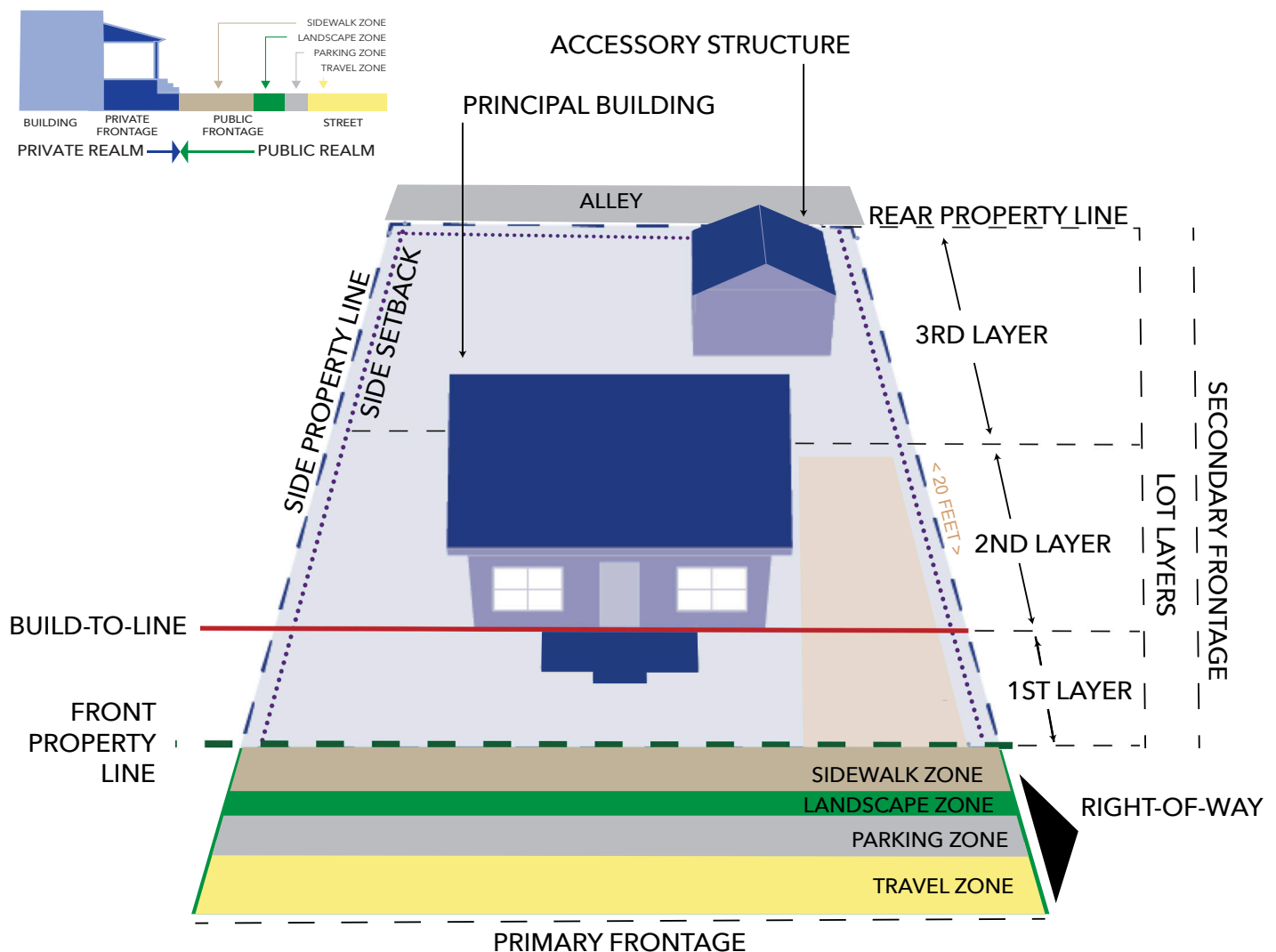


TABLE 5.1.2(B): LOT STRUCTURE DIAGRAM DESCRIPTIONS.**BUILDINGS**

PRINCIPAL BUILDING	The main building on a lot.
ACCESSORY STRUCTURES	A secondary building located toward the rear of the same lot as a principal building; may include an Accessory Dwelling Unit (ADU).

LOT LAYERS

Lots shall be divided into regulatory layers as illustrated in the Lot Structure Diagram and frontage lines below. Standards for the second and third layers pertain only to the primary frontage. Standards for the first layer pertain to both frontages.

FIRST LAYER	The first layer is the area of a lot from the front property line to the facade of the principal building. It is the private frontage of a lot.
SECOND LAYER	The second layer is the area of the lot set behind the first layer to a depth of 20 feet in all Place Types.
THIRD LAYER	The third layer is the area of a lot set behind the second layer and extending to the rear lot line.

LOT

BUILD-TO-LINE	The build-to-line is the location where the principal facade will be located. The location of the build-to-line, is established per Place Type, and for new neighborhoods, on the Neighborhood Plan.
REAR PROPERTY LINE	Where the property line meets alley R.O.W. or an adjoining side/rear property line. All buildings and structures must be located at or behind the side or rear property line in compliance with the building separation requirements of the adopted building code.
LOT WIDTH	The length of the principal frontage line of a lot. Lot width is measured between the side lot lines at the build-to-line.
FRONT PROPERTY LINE	Where private property aligns with publicly controlled right-of-way. Lots may have multiple frontages. On lots with multiple frontages, such as corner lots, one property line is designated as the primary frontage.
SIDE SETBACK	The separation between any building on the lot and the side property boundary.

DEVELOPMENT REALMS

PRIVATE REALM	Privately owned areas in large part developed with buildings and associated improvements. It is more limited in its accessibility to the public.
PUBLIC REALM	The streets, parks, squares, green spaces, and other interconnected outdoor places that require no key to access them and are available without charge for everyone to use.

FRONTAGE TYPES

PUBLIC FRONTAGE	This area consists primarily of the right-of-way between the street and the front property line where the sidewalk, public landscaping, public lighting, and the furniture zone are located on a lot. It also includes other publicly accessible civic spaces such as parks, squares, plazas, courtyards, and alleys. It plays a critical role in an area's character and function.
PRIVATE FRONTAGE	This area consists of the portion of the private lot within the first layer. These areas are in large part developed with buildings and associated improvements, and are more limited in its accessibility to the public.

PUBLIC FRONTAGE ZONE

SIDEWALK ZONE	The sidewalk zone includes a sidewalk that is usually clear of all obstructions. The purpose is to allow for pedestrian movement in parallel with the street.
LANDSCAPE ZONE	The landscape zone refers to all areas where plants and trees are used in the public realm including tree wells, garden beds and planter pots serving a variety of purposes including buffering, water quality, aesthetic enhancement, shade and habitat.
PARKING ZONE	On-street parking should be accommodated on most public streets. On-street parking provides the opportunity for easy access and connectivity to the street-scape and the adjacent land uses.
TRAVEL ZONE	The travel zone is the space within the right-of-way where multiple types of vehicles travel.
RIGHT-OF-WAY	The land within which the travel zone, parking zone, landscape zone, sidewalk zone and, in most cases, utilities are located. The right-of-way is accessible to the public.

5.2 BUILDING TYPES.

5.2.1 INTENT.

- 5.2.1.1 Focusing on appropriate building types within Place Types, instead of focusing on the uses within the buildings, ensures the city develops properties that reflect the walkable character within Taylor's core and protect the surrounding open space and agricultural lands. A mix of residential and commercial building types provides options for development that support a variety of people with different lifestyles, income levels, and age groups.
- 5.2.1.2 The Envision Taylor Comprehensive Plan calls for a variety of residential building types that support all types of households, including missing middle housing. Missing middle housing refers to a range of house-scale buildings with multiple units, compatible in scale and form with detached homes, located in a walkable neighborhood.
- 5.2.1.3 Building types diagrammed are provided for illustrative purposes only (see 5.2.3 Residential Building Type Descriptions and 5.2.4 Commercial Building Type Descriptions).

TABLE 5.2(A): BUILDING TYPES PERMITTED BY PLACE TYPE ZONING DISTRICTS.

BUILDING TYPES	PLACE TYPES									
RESIDENTIAL	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
DETACHED DWELLING	NP	P	NP	P	P	NP	P	NP	NP	TBD
ATTACHED DWELLING	NP	NP	NP	NP	P	NP	P	NP	NP	TBD
COTTAGE COURT	NP	P	NP	P	P	P	P	NP	NP	TBD
DUPLEX	NP	NP	NP	NP	P	NP	P	NP	NP	TBD
TRIPLEX	NP	NP	NP	NP	NP	NP	P	NP	NP	TBD
QUADRAPLEX	NP	NP	NP	NP	NP	NP	P	NP	NP	TBD
SMALL APARTMENTS	NP	NP	NP	NP	NP	NP	P	P	NP	TBD
LARGE APARTMENTS	NP	NP	NP	NP	NP	NP	NP	P	NP	TBD
MANUFACTURED HOME	NP	P	NP	P	NP	P	NP	NP	NP	TBD
ACCESSORY DWELLING UNIT	NP	P	NP	P	P	P	P	NP	NP	TBD
RECREATIONAL VEHICLE PARK	NP	P	NP	NP	NP	NP	NP	NP	NP	TBD
RESIDENTIAL ACCESSORY	NP	P	NP	P	P	P	P	NP	NP	TBD
COMMERCIAL	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
SMALL COMMERCIAL	NP	NP	P	NP	NP	NP	P	P	P	P
LARGE COMMERCIAL	NP	NP	NP	NP	NP	NP	NP	P	NP	P
LIVE/WORK	NP	NP	NP	NP	NP	NP	P	P	NP	P
MIXED-USE COMMERCIAL	NP	NP	NP	NP	NP	NP	NP	P	NP	P
HIGHWAY COMMERCIAL	NP	NP	P	NP	NP	NP	NP	NP	NP	P
CART, KIOSKS, FOOD TRAILERS	P	NP	P	NP	NP	NP	P	P	P	P
TEMPORARY COMMERCIAL	P	NP	P	NP	NP	NP	P	P	P	P
COMMERCIAL ACCESSORY	NP	NP	P	NP	NP	NP	P	P	NP	P
INDUSTRIAL	NP	NP	NP	NP	NP	NP	NP	NP	NP	P
CIVIC	P	P	P	P	P	P	P	P	P	P
P = PERMITTED NP = NOT PERMITTED TBD="TO BE DECIDED" DURING DEVELOPMENT PROCESS										

5.2.2 BUILDING FUNCTION BY BUILDING TYPES.

Building Types are intended to establish the anticipated intensity within each Place Type. This section establishes allowable uses within the Building Types by Place Type. Section 5.9.3 Neighborhood Compatibility will apply to all uses and buildings in the City.

5.2.2.1 RESIDENTIAL BUILDING TYPES.

Within residential buildings the following uses are permitted with the stated limitations.

- (1) P2, P2.5, P3, P3M.
 - (a) Dwelling
 - (b) Home Occupation
 - (c) Lodging with a full time, on-site operator. Special Use Permit without a full time, on-site operator
 - (d) Accessory Commercial Use with Special Use Permit
- (2) P4, P5
 - (a) Dwelling
 - (b) Home Occupation
 - (c) Lodging
 - (d) Accessory Commercial Use
- (3) EC- as determined in Employment Center Plan

5.2.2.2 COMMERCIAL BUILDING TYPES.

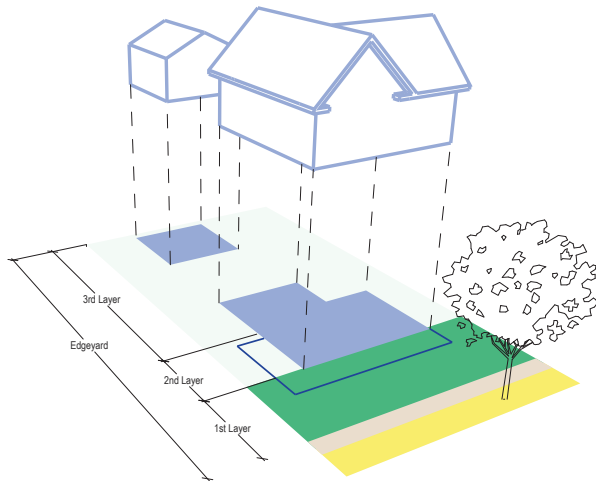
Uses within commercial buildings are governed by the adopted building and health and safety codes and must comply with the Performance Standards of this chapter.

Within commercial buildings the following uses are permitted with the stated limitations.

- (1) P1
 - (a) Temporary retail with Special Use Permit
- (2) P2C
 - (a) Retail including drive-through services, vehicle services and outdoor activities
 - (b) Office
 - (c) Commercial including outdoor storage

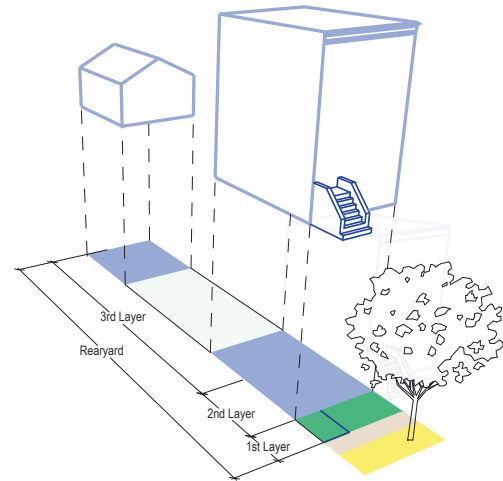
- (3) P4
 - (a) Retail excluding drive-through services and vehicle services. Outdoor retail activities with Special Use Permit
 - (b) Office
- (4) P5
 - (a) Retail excluding vehicle services. Drive-through services in the third layer with Special Use Permit
 - (b) Office
 - (c) Commercial, outdoor storage in the third layer with Special Use Permit
- (5) CS
 - (a) Temporary retail
 - (b) Retail with Special Use Permit
- (6) EC - as determined in Employment Center Plan including:
 - (a) Retail including drive-through services, vehicle services and outdoor activities
 - (b) Office
 - (c) Commercial including outdoor storage
 - (d) Industrial

5.2.3: RESIDENTIAL BUILDING TYPES



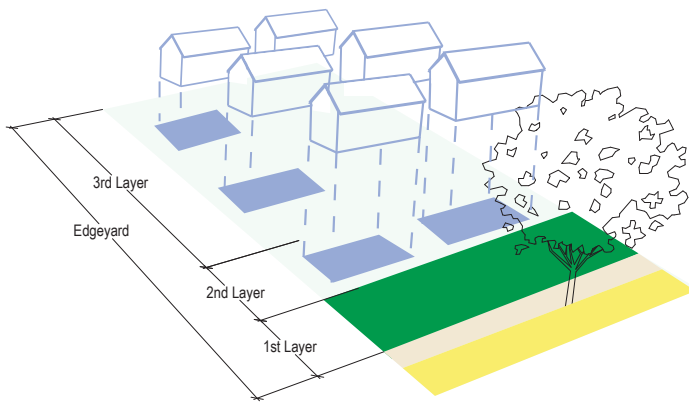
DETACHED DWELLING

An individual dwelling unit on its own lot. The detached dwelling is the most prevalent dwelling type in Taylor. This building type is typically disposed on the lot with edge yards. On small to medium sized lots, this building type should be set close to the front property line to encourage interaction with pedestrians. This building type has a front door facing the street or path from which it takes primary access. A HUD code manufactured house is a detached dwelling that is only permitted in certain Place Types.



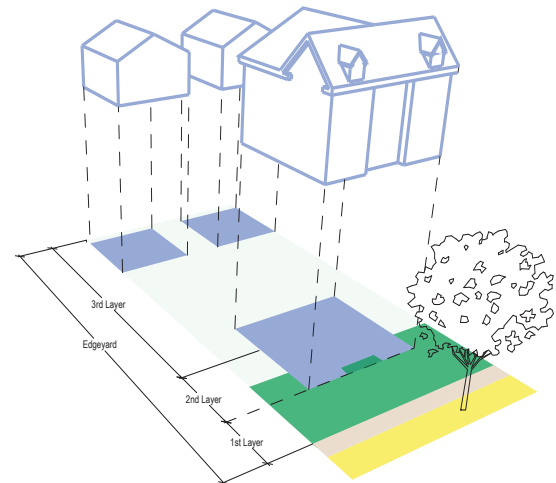
ATTACHED DWELLINGS

An individual dwelling unit on its own lot that shares a common wall with a unit on one or more adjacent lots. This building type is often referred to as a townhouse. This building type is typically disposed on the lot with a side yard or rear yard. This building type should be set close to or at the front property line to encourage interaction with pedestrians. This building type has a front door facing the street or path from which it takes primary access.



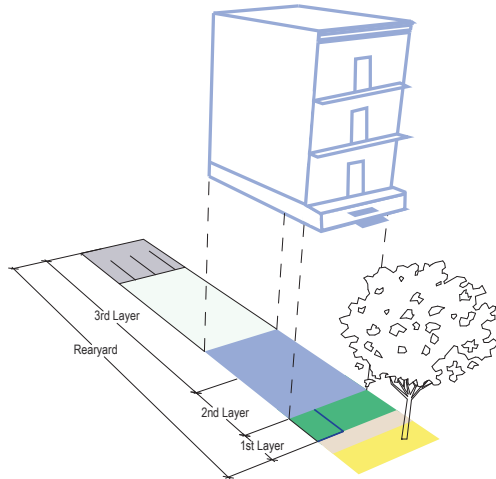
COTTAGE COURT

A group of individual, small dwelling units on a single lot or on individual lots that share a central courtyard. The cottages adjacent to the street have front doors facing the street and the cottages whose primary access is from the courtyard have front doors facing the courtyard. For the purposes of platting, cottage lots may have legal frontage onto a courtyard with a public access easement from the street.



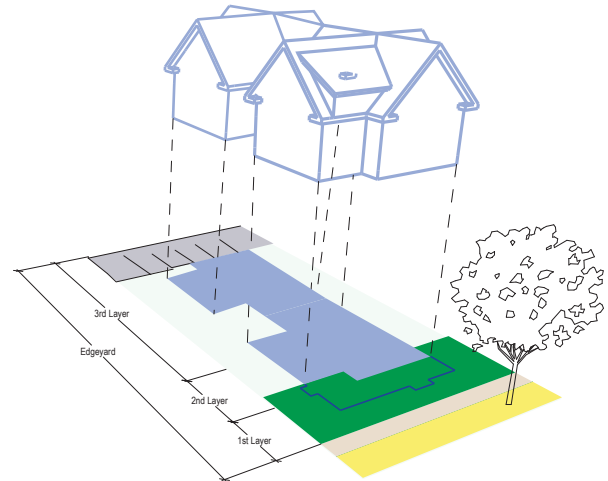
DUPLEX

Two dwelling units on a single lot. The dwelling units are typically in a single building arranged side by side or stacked, or they may be in separate buildings by warrant. This building type is typically disposed on the lot with edge yards. On small to medium sized lots, this building type should be set close to the front property line to encourage interaction with pedestrians. This building type has at least one front door facing the street or path from which it takes primary access.



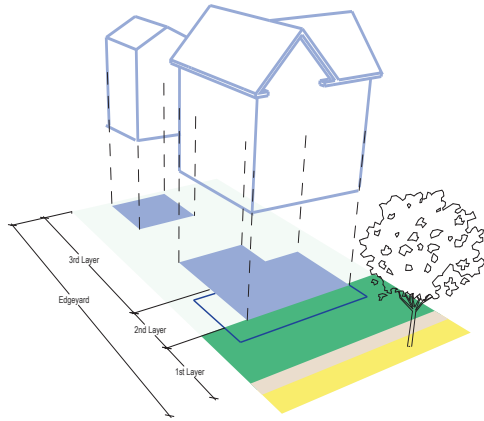
TRIPLEX

Three dwelling units on a single lot. The dwelling units are typically in a single building arranged side by side or stacked, or they may be in separate buildings by warrant. This building type is typically disposed on the lot with edge yards. On small to medium sized lots, this building type should be set close to the front property line to encourage interaction with pedestrians. This building type has at least one front door facing the street or path from which it takes primary access.



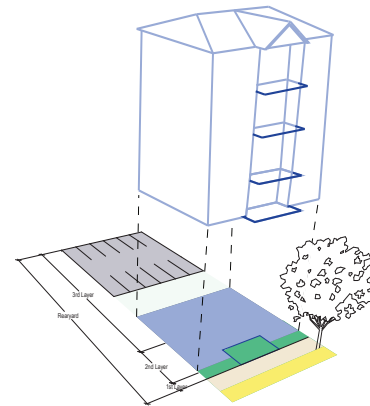
QUADRAPLEX

Four dwelling units on a single lot. The dwelling units are typically in a single building and share a central entry but may have individual entries. The dwelling units may be in separate buildings by warrant. This building type is typically disposed on the lot with edge yards. On small to medium sized lots, this building type should be set close to the front property line to encourage interaction with pedestrians. This building type has at least one front door facing the street or path from which it takes primary access.



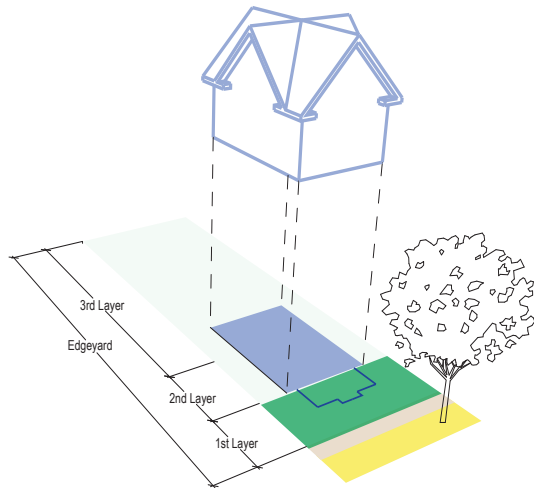
SMALL APARTMENTS

A detached building on a single lot that includes multiple dwelling units. The building typically has shared or individual entrances facing the street. This building type may be disposed on the lot with edge yards, side yard, courtyard, or rear yard. This building type should be set close to the front property line to encourage interaction with pedestrians. This building type is ideally situated on corner lots to allow access from the primary and secondary streets and to provide more on-street parking for the building occupants and visitors. This building type appears like a large, detached dwelling and seamlessly fits within the neighborhood.



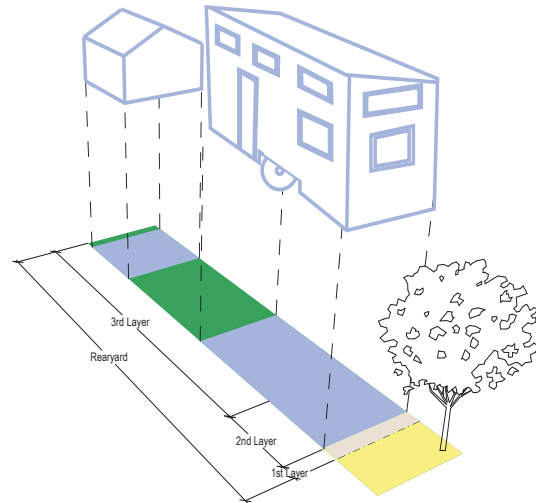
LARGE APARTMENTS

A block-scale building that includes multiple dwelling units. This building type is disposed on the lot(s) with a rear yard or courtyard. This building type should be set at or near the front property line and provide a continuous building frontage along the street. Ground floor dwelling units may have individual entries from the sidewalk or a shared entry.



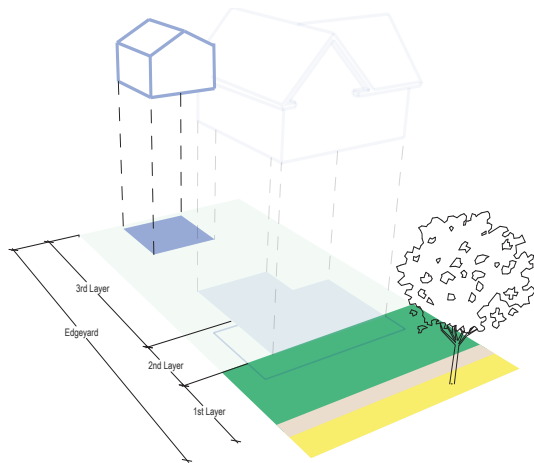
MANUFACTURED HOME PARK

A neighborhood of HUD code manufactured homes intended for long-term residency. Manufactured home parks shall follow the requirements in this LDC and Chapter 16, Article II of the City of Taylor Code of Ordinances. Manufactured Home Parks are permitted in P2 and P3M. Individual Manufactured Homes are permitted as a principal dwelling unit building in P2, P2.5 and P3M and as an accessory dwelling unit in P2, P2.5, P3, and P3M.



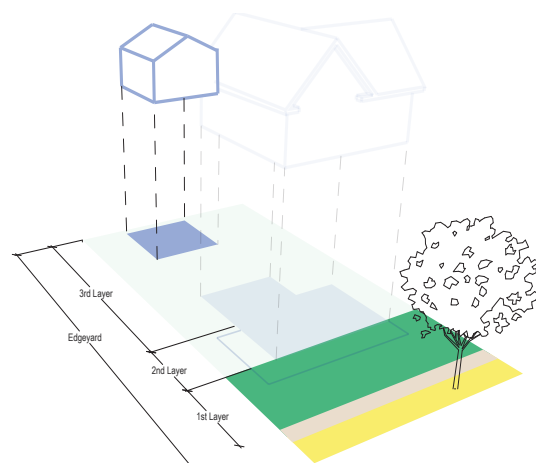
RECREATIONAL VEHICLE PARK

A neighborhood of recreational vehicles intended for short-term residency. Recreational vehicle parks shall follow the requirements of this LDC and Chapter 16, Article III of the City of Taylor Code of Ordinances.



ACCESSORY DWELLING UNIT

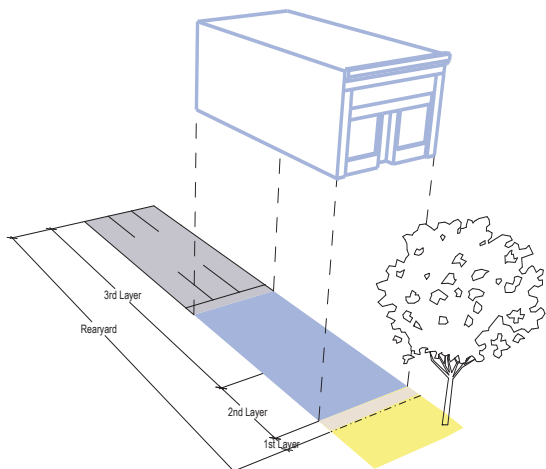
A secondary dwelling unit on the same lot as a principal dwelling unit building. ADUs may be individual detached structures, apartments within or above a garage or integrated into the primary dwelling unit with a separate entrance. ADUs are smaller than and subordinate to the principal building and are typically located in the third layer of the lot. ADUs may be allowed by warrant to be constructed and occupied prior to the principal dwelling unit building.



RESIDENTIAL ACCESSORY BUILDING

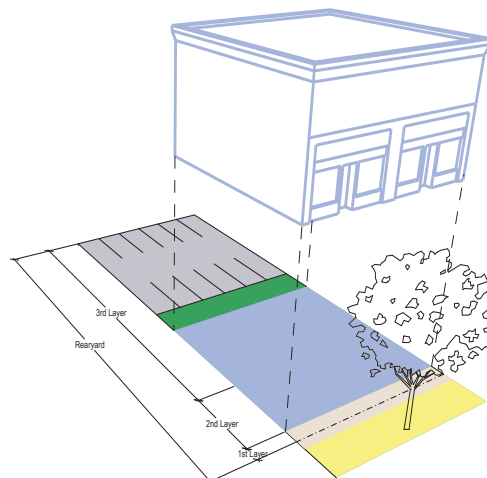
A detached structure located on the same lot as a principal dwelling unit building and not used as a dwelling. An accessory building may be used as a detached garage, a storage building, a workshop, a pool house, a home office, or other accessory use to the principal dwelling unit building. Residential accessory buildings are smaller than and subordinate to the principal building and are typically located in the third layer of the lot.

5.2.4: COMMERCIAL BUILDING TYPES



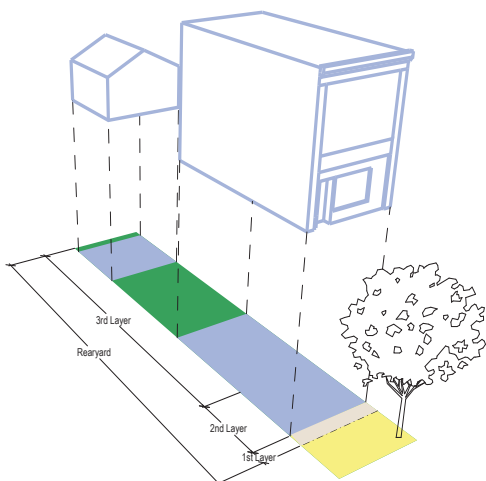
SMALL COMMERCIAL

An individual commercial building on its own lot. Small commercial buildings are the primary building type for small to medium sized businesses in Taylor. They are typically sized to fit on a single commercial lot within a typical City block. The building is typically disposed on the lot with a rear yard to accommodate parking (if off-street parking is provided), outdoor areas and services accessed from a rear alley or service drive.



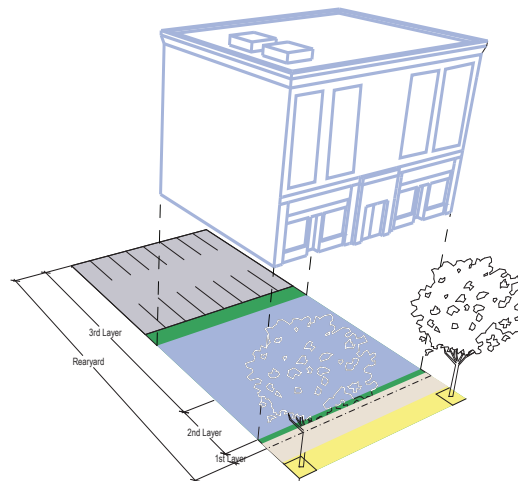
LARGE COMMERCIAL

An individual building that may occupy multiple lots or a significant portion of a block. Large commercial buildings are typically occupied by a single tenant and may be one or more stories in height. The building is typically disposed on the lot with a rear yard to accommodate parking (if off-street parking is provided), outdoor areas and services accessed from a rear alley or service drive.



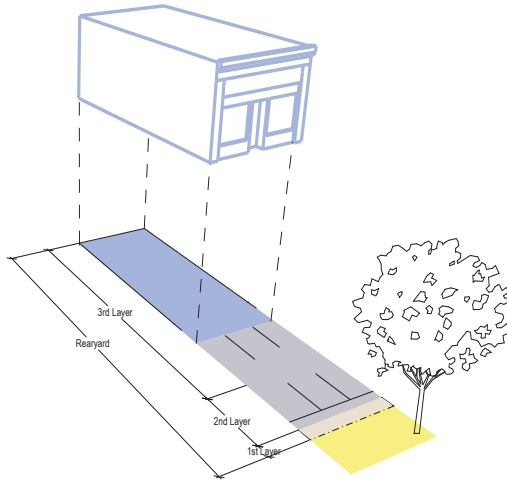
LIVE/WORK

An individual building on its own lot that includes a commercial use(s) on the ground floor and a dwelling unit(s) on the upper floor(s). They are typically sized to fit on a single commercial lot within a typical City block. The building is typically disposed on the lot with a rear yard to accommodate parking (if off-street parking is provided), outdoor areas and services accessed from a rear alley or service drive.



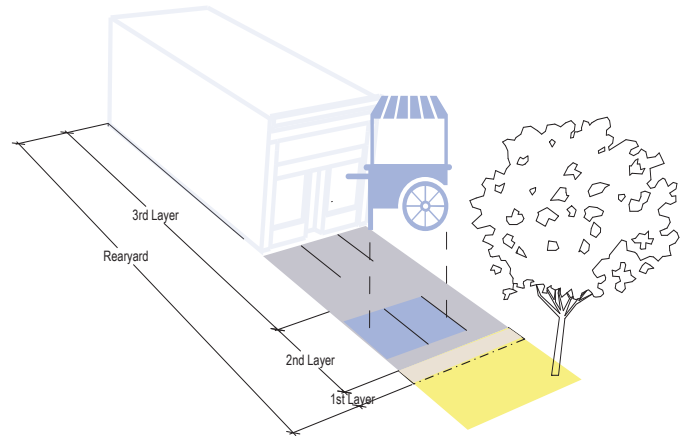
MIXED-USE

An individual building that may occupy multiple lots or a significant portion of a block. Mixed use buildings are occupied by multiple tenants are typically multi-story and often include dwelling units on upper stories. The building is typically disposed on the lot with a rear yard to accommodate parking (if off-street parking is provided), outdoor areas and services accessed from a rear alley or service drive.



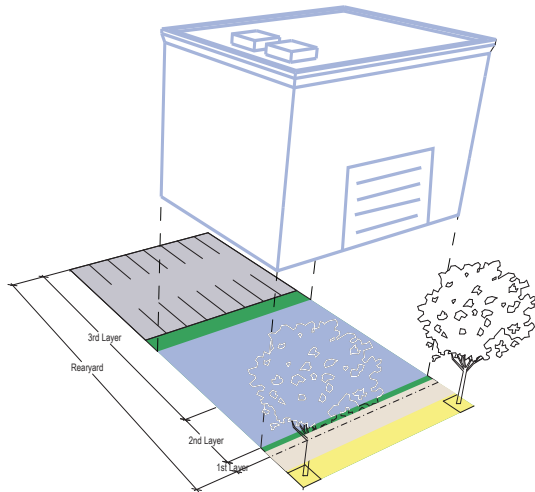
HIGHWAY COMMERCIAL

An individual building on its own lot along a highway or regional road. The building may be occupied by one or more businesses. The building is typically disposed on the lot with edge yards and often includes surface parking lots, outdoor storage or display, drive-through services and other auto-oriented features.



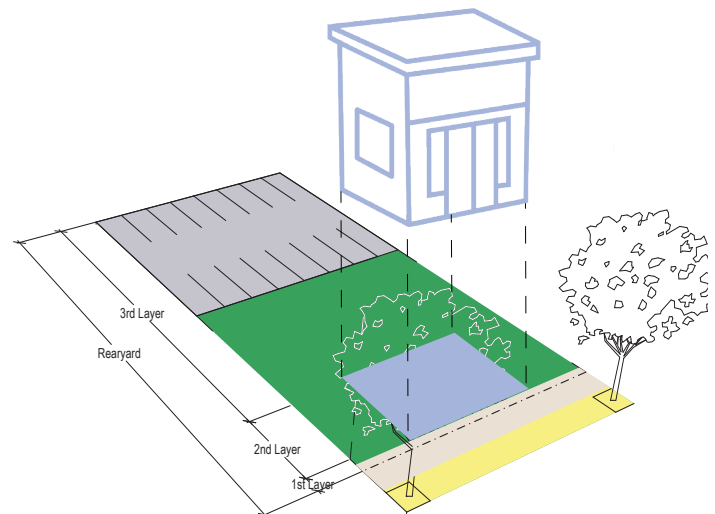
CART, KIOSKS, FOOD TRAILERS

Freestanding, mobile structures that occupy a lot on a temporary basis. Typically, these structures are associated with an existing principal building on a lot. They may also occupy civic space or public right-of-way through a separately granted permit or license agreement.



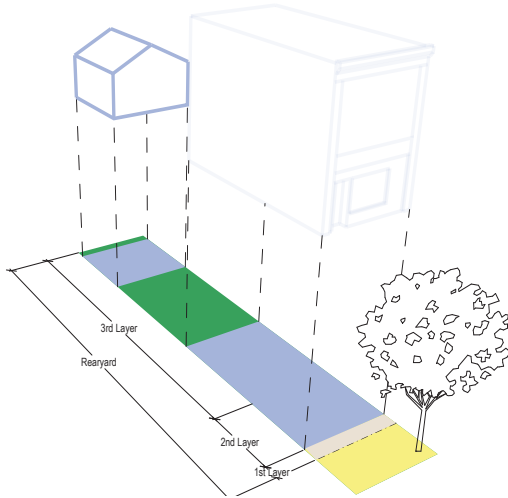
INDUSTRIAL

An individual building on its own lot within an industrial park or employment center. The building may be occupied by one or more businesses. The building is typically disposed on the lot with edge yards and often includes large, paved areas around the building used for parking, loading/unloading, truck bays, and outdoor storage or display.



TEMPORARY COMMERCIAL

Small individual buildings intended to provide commercial space on a temporary basis in new or existing neighborhoods. These buildings may be used as incubation space for businesses before they move into permanent buildings or in new neighborhoods before there is sufficient market demand to justify the construction of permanent commercial buildings in a neighborhood center.



COMMERCIAL ACCESSORY

A detached structure located on the same lot as the principal commercial building. An accessory building may be used as a storage building, or other accessory use to the principal commercial building. Commercial accessory buildings are smaller than and subordinate to the principal building and are typically located in the third layer of the lot.

5.3 BUILDING PLACEMENT ON THE LOT.

5.3.1 GENERAL.

Lots and buildings located within the city of Taylor shall be subject to the requirements of this section. Regulatory terminology related to lots used in this section is diagrammed for illustrative purposes only. Building types diagrammed are provided for illustrative purposes only.

5.3.2 LOT OCCUPATION.

- 5.3.2.1 Stories may not exceed 14 feet in height from the finished floor to the finished ceiling, except for a first-floor commercial building, which shall be a minimum of 11 feet with a maximum of 25 feet.
- 5.3.2.2 In the 100-year floodplain, a first-level residential or lodging shall be raised a minimum of two feet from the base flood elevation.

5.3.3 DEVELOPMENT STANDARDS.

The development standards for each Place Type zoning district are consolidated in 4.3 Place Type Zoning District Development Standards within this LDC.

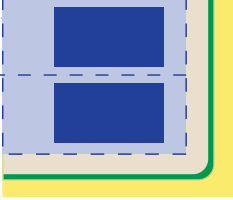
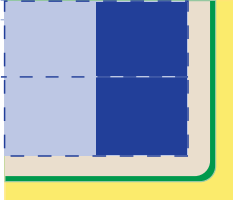
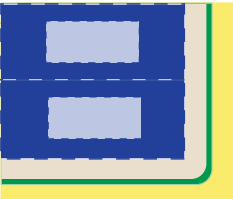
5.3.4 BUILDING SEPARATION.

All Place Type zoning districts require separation between building/structure and side property boundary in accordance with the adopted building code. A warrant or variance application is required for encroachments into the required building separation. Fences and screening walls may extend into the setback.

5.3.5 BUILDING DISPOSITION.

Principal buildings shall be positioned on a lot in accordance with the building standards per Place Type. There are four types of building dispositions permitted in Taylor. See Table 5.3.5(A): Building Disposition by Place Type Zoning District for descriptions of each and the Place Type zoning districts where the building dispositions are permitted.

TABLE 5.3.5(A): BUILDING DISPOSITION BY PLACE TYPE ZONING DISTRICT.

BUILDING DISPOSITION		PLACE TYPES									
		P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
EDGEYARD											
	A building that occupies the center of its lot with setbacks on all sides from the lot lines. The front yard is intended to be visually continuous with the yards of adjacent buildings.	NP	P	P	P	P	P	P	NP	P	P
SIDEYARD											
	A building that occupies one side of the lot with the setback to the other side.	NP	NP	NP	NP	P	P	P	P	P	P
REARYARD											
	The placement of a building within the boundaries of its lot to create a rearyard, leaving the rear of the lot as private space or available for dedicated parking in its commercial form. The frontage line is a continuous line of frontages that define the public realm.	NP	NP	NP	NP	NP	NP	P	P	P	P
COURTYARD											
	A building placed within the boundaries of its lot to create a private courtyard, while internally defining one or more private patios. Common walls shared with adjacent buildings create a continuous façade along the frontage line that steadily defines the public frontage.	NP	NP	NP	NP	P	NP	P	P	P	P
P = PERMITTED NP = NOT PERMITTED											

5.3.6 PRIVATE FRONTAGE TYPES.

The private frontage consists of privately-owned areas in large part developed with buildings and associated improvements. It is more limited in its accessibility to the public. It is the area within the first layer of a lot between the front building facade, or the build-to-line, and the front property line. The private frontage types in the chart below are built on the front facades of buildings at the build-to-line. Private frontages may encroach into the right-of-way with an approved encroachment permit.

TABLE 5.3.6(A):PRIVATE FRONTAGE PERMITTED BY PLACE TYPE ZONING DISTRICT.

PRIVATE FRONTAGE TYPES		PLACE TYPES									
		P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
COMMON YARD  Residential buildings are set back from the front property line with an unfenced front yard that is visually continuous with neighboring yards supporting a common landscape.		NP	P	NP	P	P	P	P	NP	P	P
PORCH WITH OPTIONAL FENCE  Many residential buildings in Taylor have front porches. The build-to-line is setback from the front property line to create room for a wide porch and a fenced-in yard. The optional fence helps maintain a strong street edge and allows the homeowner extra fenced-in yard space. Fence height within first layer may be no more than 4 feet in height above grade/ground level.		NP	P	P	P	P	P	P	NP	P	P
STOOP  The main facade of the building is near the frontage line and the elevated stoop engages the sidewalk. The stoop shall be elevated above the sidewalk to ensure privacy within the building. Stairs from the stoop may lead directly to the sidewalk or may be side-loaded. This type is appropriate for residential uses with small setbacks.		NP	P	NP	P	P	NP	P	P	NP	P
GALLERY  A frontage seen on historic storefronts in Taylor, the facade is aligned close to the frontage line with an attached cantilevered shed or a lightweight colonnade overlapping the sidewalk. This frontage type provides shade for pedestrians on the sidewalk.		NP	NP	P	NP	NP	NP	P	P	P	P

	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
ARCADE  A colonnade supporting habitable space that overlaps the sidewalk, while the facade at sidewalk level remains at or behind the frontage line. This type is conventional for retail use.	NP	NP	P	NP	NP	NP	P	P	P	P
SHOPFRONT  A popular retail frontage in Taylor, commercial shopfront build-to-lines are aligned close to the frontage line with the building entrance at sidewalk grade. Shopfronts have substantial glazing on the sidewalk level and an awning that may overlap the sidewalk.	NP	NP	P	NP	NP	NP	P	P	P	P
FORECOURT  A portion of the facade is close to the frontage line and the central portion is setback. Forecourts are suitable for vehicle drop-offs and courtyards.	NP	P	NP	P	P	NP	P	P	P	P
TERRACE  The facade is setback from the frontage line by an elevated terrace. This frontage type buffers residential use from urban sidewalks and removes the private yard from the public encroachment. Terraces are suitable for conversions into outdoor cafe patios.	NP	P	NP	P	P	NP	P	P	P	P
P = PERMITTED NP = NOT PERMITTED										

5.3.7 PRIVATE FRONTAGE DEVELOPMENT STANDARDS.

- 5.3.7.1 The facade of the Principal Building shall be built parallel to the front property line or to the tangent of a curved frontage line of a lot and meet the minimum facade build out percentage required by Place Type.
- 5.3.7.2 All facades shall be glazed with clear glass, not less than 20 percent of the first story. Glazing shall be calculated as the total combined area of window glazing (lights or panes within each window's casing) divided by the total area of the facade for the target story of a building.
- 5.3.7.3 Buildings in P5 shall be glazed with clear glass, no less than 70 percent of the first story.
- 5.3.7.4 Openings above the first story shall not exceed 50 percent of the total building wall area, with each facade being calculated independently.

5.3.7.5 All openings, including porches, galleries, arcades, and windows, with the exception of shopfronts, shall be square or vertical in proportion.

5.3.7.6 Carports and Garages shall not count toward the façade buildout percentage.

5.3.8 PRIVATE FRONTAGE DEVELOPMENT STANDARDS TABLE.

TABLE 5.3.8(A):PRIVATE FRONTAGE ENCROACHMENT DEVELOPMENT STANDARDS BY PLACE TYPE ZONING DISTRICT.

ENCROACHMENT TYPE	PLACE TYPES								
FIRST LAYER	P1	P2	P2C	P2.5	P3	P3M	P4	P5	EC
OPEN PORCH	----	50% MAX.	50% MAX.	50% MAX.	50% MAX.	50% MAX.	50% MAX.	50% MAX.	TBD
RIGHT -OF-WAY									
GALLERY	NP	NP	NP	NP	NP	NP	Within 2 feet of the curb.	Within 2 feet of the curb.	TBD
ARCADE	NP	NP	NP	NP	NP	NP	Within 2 feet of the curb.	Within 2 feet of the curb.	TBD
FIRST LAYER DEPTHS									
PORCH	---	5 FEET MIN.	8 FEET MIN.	8 FEET MIN.	8 FEET MIN.	8 FEET MIN.	10 FEET MIN.	NP	TBD
GALLERY	NP	NP	NP	NP	NP	NP	10 FEET MIN.	10 FEET MIN.	TBD
ARCADE	NP	NP	NP	NP	NP	NP	NP	12 FEET MIN.	TBD
P = PERMITTED NP = NOT PERMITTED TBD = "TO BE DETERMINED" DURING DEVELOPMENT REVIEW									

Place Types not included in this chart do not permit encroachments by right. Employment Center frontage encroachments will be evaluated during project submission.

5.4 PARKING AND VEHICLE CIRCULATION ON THE LOT.

5.4.1 INTENT.

Parking shall not be the driver of site planning. The standards in this LDC support this notion by eliminating minimum parking requirements. The intent of building a walkable, bikeable, and easily navigable City means all modes of transportation are available to reduce the reliance on the vehicle. Circulation and parking standards are further defined in the Engineering Manual.

The location of the parking shall be established and shown on the Neighborhood Plan, and/or site plan:

- (1) Parking requirements will be market driven. Lot coverage shall not exceed the standards within 4.3 Place Type Zoning District Development Standards.

- (2) In P4 and P5 the parking area can not be larger than one and a half times the size of the building footprint.
- (3) On-site surface parking must be located in the second layer or third layer of each lot as defined by the Place Type zoning district standards.
- (4) Residential garage access is permitted from the public street or from an alley but must be taken from the alley if present. Garage access from the street on a property with alley access may be granted by warrant. Access shall be taken from the side street on corner lots, in which case the garage doors may face the side street.
- (5) Residential garage front facades must begin 20 feet or greater from the front property line and may not be placed forward of the front facade of the principal building.
- (6) Carports are allowed in the second layer but do not count toward the facade buildout percentage.
- (7) Open parking areas, garages, and carports shall be screened from the property line by building, fencing or landscaping and will be regulated in size by lot cover requirements of the Place Type zoning district.

5.4.2 PARKING LOCATION.

5.4.2.1 Bike Parking.

- (1) This section applies to civic buildings and Place Types P4 and P5.
- (2) Short-term bicycle parking must be located within 100 feet of the main public entrance of the building or facility.
- (3) Long-term bicycle parking must be located within 500 feet of the main public entrance of the building or facility.
- (4) Bicycle parking facilities shall not interfere with accessible paths of travel or accessible parking as required by the Americans with Disabilities Act, as amended.
- (5) When a rack is placed within a sidewalk or pedestrian right-of-way, a minimum of four (4) feet from the required rack dimension shall be provided for pedestrian clearance.
- (6) Bicycle racks shall be located in highly visible and well-lit areas to minimize theft and vandalism.
- (7) When automobile parking spaces are provided in a structured parking garage, all required long-term and short-term bicycle spaces shall be located inside the garage on the ground level. Alternative layout and design of racks to maximize space may be approved by the DRC.
- (8) Alternative Locations: In the event that compliance may not be feasible because of demonstrable hardship, the DRC may approve an alternative location.

5.4.3 PARKING LOT DESIGN.

5.4.3.1 Parking Stall and Drive Aisle Design Standards.

- (1) Use asphaltic pavement, concrete, or a similar material approved by the City Engineer for all parking areas in P5.

- (2) At a minimum, use dust palliative or other surfacing materials that minimize the generation of fine dust particulates for P2.5, P2C, P3, P3M and P4.
- (3) At a minimum, use a stable dust-free material on drive aisles of civic spaces and other recreational facilities. The Development Review Committee or City Engineer may require an alternative surface, such as concrete or asphalt, in some circumstances.
- (4) The parking stalls may be improved with a soil mix treated with a dust palliative.

5.4.3.2 Bicycle Parking Design Standards.

- (1) The number of bicycle parking racks shall be based on the amount of automobile parking spaces and shall be provided in accordance with the following. Where fractional bicycle parking spaces result, the spaces required shall be rounded up to the nearest whole number.
- (2) Layout and Design

Bicycle racks shall be designed to accommodate two bicycle parking spaces each while using the allowed bike rack designs below:

- (a) Racks shall be designed to accommodate "U"-shaped locking devices and support the bicycle horizontally in two places.
 - (b) The racks shall be constructed of durable materials to withstand permanent exposure to the elements, such as powder-coated metal or stainless steel.
 - (c) All bicycle parking spaces must be hard-surfaced or at minimum a compact gravel base.
 - (d) All bicycle racks shall be securely anchored to the ground using a concrete footing and tamper-proof anchors.
 - (e) Decorative bicycle racks that enhance the sense of place and contribute to the character of the development are encouraged, but are subject to approval by the DRC and shall be clearly signed as bicycle parking.
- (3) Bicycle Parking Space Size, Access Aisles, and Vertical Clearance
 - (a) Bicycle racks shall provide clearance from other objects by using a standard footprint that is at least four feet wide by six feet long, as depicted below, and shall hold at least two bicycles.
 - (b) In cases where bicycle parking spaces are not visible from the primary drive aisle approaching the building, signage shall be used to direct cyclists safely to bicycle parking areas (Manual for Uniform Traffic Devices Sign D4-3). These signs shall not be placed in the public right-of-way.

5.4.3.3 Parking Lot Traffic Control.

When traffic control devices are utilized in on-site parking lots, it is recommended that the general principles and standard traffic control device designs be used to regulate the flow of traffic.

5.4.3.4 Parking Lot Cross Access Connections.

- (1) Cross-access easements and connections to adjoining properties shall be required to connect driveways and parking lots where no alley is present.
- (2) Internal vehicular circulation areas shall be designed and installed to allow for cross-access between abutting lots;
- (3) In the event these conditions cannot be met without undue hardship or if such connections would create undesirable traffic flow, the Development Review Committee or City Engineer may waive the connection requirement.
- (4) Where a parking lot connection is required, an easement for ingress and egress to adjacent lots shall be recorded on the plat or by separate instrument as appropriate.

5.4.3.5 Parking Lot Landscaping.

- (1) Incorporate parking lot landscaped areas and medians into parking lots every 12 spaces.
- (2) Use landscape plant materials that are drought tolerant, have minimal dropping of pods and sap, and have canopies that can have a canopy bottom at least ten (10) feet above the ground.
- (3) Use single-trunk trees in parking lot landscape areas in accordance with the approved tree list by the City of Taylor.

5.4.4 VEHICLE CIRCULATION.

- 5.4.4.1 Vehicle Queuing. Adequate depth on site must be provided to prevent vehicle queuing in the public right of way. The adequate vehicle queuing depth will be determined during the siter plan process.

5.4.5 DRIVE-THROUGH FACILITIES.

Drive-throughs are required to be located in the second or third layer layer of the lot or located from an alley. Where allowed, drive-through or gas station facilities shall follow the following criteria:

- 5.4.5.1 Do not locate drive-through or gas station facilities adjacent to residential uses.
- 5.4.5.2 Screen vehicular areas for drive-through facilities or gas stations placed on the street side of a building or any other location that is directly visible from adjacent properties with screen walls, mounding, and/or dense landscaping at least three (3) feet in height at the time of planting.

5.4.6 DRIVEWAY.

- 5.4.6.1 Driveway curb cuts are prohibited on Community Boulevards and discouraged on Neighborhood Avenues. These street types are intended to retain a block of buildings lining the street to protect a more intact pedestrian environment. Vehicular access shall be taken from the rear of the property or from the alley.
- 5.4.6.2 For corner lots, all driveways shall be located at the secondary frontage. Driveways shall be located as far from the adjacent public street intersection as practical to achieve maximum available corner clearance, with consideration of property limits, adjacent curb cuts, topography, and existing drainage facilities.
- 5.4.6.3 Non-alley-loaded driveways may intersect a street no closer than 20 feet from the intersection of two street rights-of-way in P1, P2, P2.5, P3, and P3M, and 40 feet in P2C, P4, and P5.
- 5.4.6.4 Driveways in mid-block lots greater than 40 feet in width at the frontage are allowed one driveway with a maximum width of 24 feet for two-way and 12 feet for one-way driveways. In P4 and P5, driveways

accessing up to eighty (80) feet wide of street right-of-way must be spaced 200 feet apart centerline to centerline, and driveways accessing more than an 80 feet wide street right-of-way must be spaced 300 feet apart centerline to centerline. Nothing in this section shall prevent site access to any property.

5.4.7 PARKING SPACE REQUIREMENTS.

5.4.7.1 Minimum and Maximum Parking Space Requirements.

(1) Minimum Parking Requirements.

(a) Accessible Spaces.

Adequately designed accessible parking spaces shall be provided as required by the Texas Accessibility Standards (TAS) and designed in accordance with the parking area landscaping.

(b) Bicycle Spaces.

TABLE 5.4.7(A):MINIMUM BIKE PARKING REQUIREMENTS

AMOUNT OF PARKING SPACES	MINIMUM BIKE PARKING REQUIRED
0-40	2 short-term bicycle parking spaces minimum
41-60	4 short-term bicycle parking spaces minimum
61-80	6 short-term bicycle parking spaces minimum
81-100	8 short-term bicycle parking spaces minimum
101+	minimum 10 short-term bicycle parking spaces or 2.5% of required automobile spaces, whichever is greater, will be provided as short-term bicycle parking spaces.

MULTIFAMILY

The minimum number of long-term bicycle parking spaces shall be equal to 10% of the auto spaces.

ALL P5 AND P4 PLACE TYPE ZONING DISTRICTS WITH NON-RESIDENTIAL USES.

Bicycle parking for residential uses is only required with multifamily building types.

The number of provided automobile parking spaces and bicycle parking spaces shall be shown in a chart format on the site plan. The location and footprints of bicycle rack corrals shall be shown on the site, as well as the location of any bicycle parking signage.

In all cases where bicycle parking is required, no fewer than 2 spaces (one rack) shall be required.

Up to half of the required short-term bicycle parking spaces may be substituted with long-term bicycle parking spaces.

(2) Maximum Parking Requirements.

- (a) Maximum percentage of lot occupied by parking. Maximum percentage of lot occupied by parking in P4 and P5 can not exceed 1.5 times the size of the building footprint.

5.5 OUTDOOR STORAGE AND ACTIVITIES.

Outdoor storage shall be allowed in the Place Type zoning districts designated in the Table below.

OUTDOOR STORAGE TYPE	PLACE TYPES								
	P1	P2	P2C	P2.5	P3	P3M	P4	P5	EC
OUTDOOR DISPLAY, TEMPORARY*	NP	P	P	NP	NP	P	P	P	P
OUTDOOR DISPLAY, GENERAL*	NP	P	P	NP	NP	P	P	P	P
*See 5.2.2 for additional outdoor standards						P = PERMITTED NP = NOT PERMITTED			

5.5.1 OUTDOOR DISPLAY, TEMPORARY.

- 5.5.1.1 Temporary outdoor sale of produce goods, holiday goods, outdoor-related goods, and general merchandise shall be permitted for a period not to exceed three (3) days, four (4) times per year.
- 5.5.1.2 All other outdoor display, storage, and sale of goods are prohibited. A temporary outdoor display not listed may request a Special Use Permit from the Development Services Department to be established.
- 5.5.1.3 Limited outdoor display of general merchandise on covered porches and deck areas immediately adjacent to established retail businesses shall be permitted.

5.5.2 OUTDOOR DISPLAY, GENERAL.

- 5.5.2.1 Permanent outdoor display, storage, and sale of outdoor-related goods and general merchandise shall include, but are not limited to, goods that are customarily used outside, including outdoor furniture, sporting goods for outdoor sports activities, mannequins, plants, flowers, fertilizers, mulch, sod, gardening tools, lawn equipment, storage sheds, grills, wheelbarrows, and firewood, as determined by the Development Services Director.
- 5.5.2.2 Outdoor display of general merchandise on covered porches and deck areas immediately adjacent to established retail businesses shall be permitted

5.5.3 OUTDOOR DISPLAY LIMITATIONS.

- 5.5.3.1 The proposed display, storage and/or sale area shall not impede pedestrian or vehicular traffic.
- 5.5.3.2 If applicable, building, electrical, fire-prevention code, and hazardous use permits shall be obtained.
- 5.5.3.3 Outdoor storage in crates, trailers, and similar storage units for the purpose of storing supplies or excess inventory to be sold in connection with an established business is not permitted.
- 5.5.3.4 Off-site storage of vehicles must submit a site layout with a Special Use Permit request to the Director of Development Services.

- 5.5.3.5 Indoor vehicle sales are preferred. Vehicle sales shall not occur in the first layer of the lot. Vehicle sales lot must be located in the second layer or third layer of the lot.

5.6 LANDSCAPING STANDARDS.

5.6.1 LANDSCAPE DESIGN IN THE PRIVATE REALM.

- 5.6.1.1 Landscape design in the private realm must comply with the standards of this section and Chapter 28 of the Taylor Code of Ordinances. The maximum height of any shrubs, ornamental plants, boulders, walls, or other such materials within designated sight distances and traffic safety triangles is 18 inches. For plants, this shall be the natural mature height of the plant. Any trees that are to be placed in the sight distance and traffic safety triangles shall have a canopy that is kept eight feet above the ground height and a maximum mature trunk diameter of eight inches. If the tree canopy overhangs the roadway, then the canopy shall be a minimum of 14.5 feet above the street pavement.
- 5.6.1.2 All landscape materials shall be selected from a palette of native, adaptive and drought tolerant species that require the least amount of supplemental irrigation possible. Plant and tree placement shall consider the natural culture of that type of plant or tree. Trees (or shrubs) shall not be placed in a Public Utility Easement (PUE), emergency vehicle access easement, or their equivalent, without the approval of the owner of the easement. Landscape and tree placement in proximity to utilities shall follow the requirements in the Engineering Manual.

5.6.2 LANDSCAPING IN ALL PLACE TYPES.

The introduced landscape shall consist primarily of native species requiring minimal irrigation, fertilization, and maintenance.

5.6.3 SPECIFIC TO PLACE TYPES P1, P2, P2.5, P3, P3M, & P4:

Private frontages may choose from various landscapes; naturalistic, lawn, garden, etc. All lots with sufficient yard area require the planting of at least two native trees. One tree is required in the front yard and one tree is required in the rear yard. A street tree may be counted toward the requirement of a front yard tree if the front yard is of insufficient size to accommodate a tree. Modifications to the tree planting requirement may be considered by warrant.

5.6.4 PLACE TYPE P5.

- 5.6.4.1 The introduced landscape shall consist primarily of durable species tolerant of soil compaction.
- 5.6.4.2 Landscape plans shall be prepared by a landscape architect or professional and submittals shall include all of the required information found in the Development Manual checklist and follow all of the landscape standards found in the Engineering Manual.

5.6.5 PLACE TYPE CS.

Civic spaces within new Neighborhood and Employment Center Plans shall require the preparation of a landscape plan prepared by a landscape architect or professional and submittals shall include all of the required information in the Development Manual checklist and follow all of the landscape standards found in the Engineering Manual. Civic space landscape plans shall be submitted with the Subdivision Improvement Plans.

5.7 LIGHTING STANDARDS.

Public lighting is intended to illuminate the public realm with the appropriate lumen per Place Type. The standards of this section are intended to provide adequate lumen output to safely light sidewalks, streets, and civic spaces or other public realm features. Dark skies are a key part of Taylor's charm. The lighting standards preserve Taylor's dark skies and promote a future dark sky community.

5.7.1 SCOPE.

- 5.7.1.1 This section applies within the city limits for public and private lighting and within the ETJ for lighting required as part of a subdivision application.
- 5.7.1.2 Nothing herein shall be construed as preventing or limiting the City from applying this article to private lighting in the ETJ through agreements with property owners or as a term affixed to a conditional approval (such as a variance).

5.7.2 EXEMPTION.

The following are exempt from the application of the Standards of this article:

- (1) Lighting equipment required by law to be installed on motor vehicles; and
- (2) Lighting required for the safe take-off and landing of aircrafts.

5.7.3 PROHIBITION.

A person commits an offense by doing the following:

- (1) Installs outdoor lighting contrary to this article.
- (2) Fails to comply with any terms or conditions set forth in a permit issued under this article.
- (3) Installs outdoor lighting without obtaining a permit when the total number of the lumen outputs for all lights installed within any 90-day period is greater than 2,500 lumens.

5.7.4 NONCONFORMING EXISTING LIGHTING.

- 5.7.4.1 All existing outdoor lighting that was legally installed before the enactment of this article which does not conform with the Standards specified imposed by this article shall be considered nonconforming. Nonconforming outdoor lighting is allowed to remain until required to be replaced pursuant to the terms of this article.
- 5.7.4.2 If more than 50 percent of the total appraised value of a structure (as determined from the records of the

county's appraisal district), has been destroyed, the nonconforming status expires and the structure's previously nonconforming outdoor lighting must be removed and may only be replaced in conformity with the standards of this article.

5.7.4.3 Nonconforming outdoor lighting shall be brought into conformance with this article as follows:

- (1) Nonresidential application. All existing outdoor lighting located on a subject property that is part of an application for a rezoning application, subdivision approval, or a building permit for a major addition is required to be brought into conformance with this article before final inspection, issuance of a certificate of occupancy, or final plat recordation, when applicable. For the following permits issued by the City, the applicant shall have a maximum of 90 days from date of permit issuance to bring the lighting into conformance: Site development permit, sign permit for an externally or internally illuminated outdoor sign, initial alcoholic beverage permit, initial food establishment permit, and on-site sewage facility permit.
- (2) Residential addition or remodel. Nothing herein shall be construed to terminate a residential property's nonconforming status as a result of an addition or remodel.
- (3) Abandonment of nonconforming. A nonconforming structure shall be deemed abandoned if the structure remains vacant for a continuous period of six months. In that instance, the nonconforming status expires and the structure's previously nonconforming outdoor lighting must be removed and may only be replaced in conformity with the standards of this article.

5.7.4.4 It is unlawful to expand, repair or replace outdoor lighting that was previously nonconforming, but for which the prior nonconforming status has expired, been forfeited, or otherwise abandoned.

5.7.4.5 Outdoor lighting on property used for commercial purposes that is not in conformance with this article shall be brought into conformance with this article within ten years from the date of adoption of this article. For property annexed into the city limits after the date of the adoption of this LDC, the ten year period established by this subsection shall commence upon the effective date of the annexation. Nothing in this subsection may be construed to allow light trespass or any other form of nuisance from outdoor lighting. A new purchaser of property may request a three-year extension to come into compliance if property is purchased within ten years of the enactment of this article.

5.7.5 NEW LIGHTING.

5.7.5.1 All new Neighborhood and Employment Center plans shall require a public lighting plan in compliance with this section and the standards in the Engineering Manual. All new lighting on private lots shall comply with the dark sky standards in the Engineering Manual.

TABLE 5.7.13(A): PUBLIC LIGHTING TYPES.

PUBLIC LIGHTING TYPES	PLACE TYPES									
	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
COBRA HEAD	P	NP	NP	NP	NP	NP	NP	NP	NP	P
PIPE	P	P	P	P	P	P	NP	NP	P	NP
POST	NP	P	P	P	P	P	P	NP	P	NP
COLUMN	NP	NP	NP	P	P	P	P	P	P	P
DOUBLE COLUMN	NP	NP	NP	NP	NP	NP	NP	P	P	P
P = PERMITTED NP = NOT PERMITTED										

5.8 FENCING STANDARDS.

5.8.5.1 Fences may be made of wood, stone, rock, concrete block, masonry brick, brick, decorative wrought iron, chain link, welded wire, or other similar material. Prohibited materials include plywood, paper, plastic, fiberglass panels, chicken wire, fabric, or sheet, roll or corrugated metals. The finished “face” side of the fence (opposite the structural supports) must face all public streets and public parkland.

- (1) Fences within the front yard must be 50 percent see through (i.e. wrought iron or picket fence).
- (2) For residential uses, barbed wire fences are not allowed on lots of less than two (2) acres.
- (3) For apartment complexes, only wrought iron or similar material is allowed in the front and side setbacks when abutting a local or collector street; wood fences may be allowed within the setbacks that abut another property.
- (4) Swimming pools require a fence/barrier surrounding the pool with a self-latching gate in accordance with the 2018 International Swimming Pool and Spa Code 2018 for swimming pool standards.

5.8.5.2 All fences must be constructed to perpetually maintain structural integrity against natural forces such as wind, rain and temperature variations. Fences constructed of chain link, welded wire, picket or similar materials shall require a minimum of two support rails spaced at least one half of the total height of the fence apart.

5.8.5.3 Fences are required to meet the site triangle standards in Section 5.6 Landscaping Standards.

5.8.5.4 Fence heights are regulated as by layer as follows. A four foot max height in the 1st layer. A six foot max height in the second layer and an eight foot max height in the third layer.

5.8.5.5 Fencing shall be kept in good repair and in a safe and attractive condition.

5.8.5.6 A building permit shall be required prior to construction when the Screening Device encroaches upon any public right of way or public easement.

5.8.5.7 It shall be unlawful to construct a fence on a vacant lot or on multiple adjacent individual vacant lots. For purposes of this chapter, “vacant” shall mean the property does not have an active principal building.

5.9 PERFORMANCE AND COMPATIBILITY STANDARDS.

5.9.1 INTENT.

- 5.9.1.1 The performance standards protect the public health, safety, and welfare by regulating potential nuisance features associated with certain land uses. Uses that generate nuisances as defined by this section or as defined by the Texas Health and Safety Code and Section 28 of The City of Taylor's Code of Ordinances shall be constructed to mitigate negative effects and separated from P3 Neighborhood zoning district.
- 5.9.1.2 The performance standards of this section shall apply to all uses, buildings, and structures within the City unless otherwise specifically exempted.

5.9.2 EXEMPTIONS.

The following are exempt from the performance standards of this section.

- (1) Temporary Construction. Temporary construction, excavation, and grading associated with the development and the installation of streets or utilities for which applicable permits or authorization have been issued.
- (2) Demolition Activities. Demolition activities that are necessary and incidental to permitted development on the same lot, on another of several lots being developed at the same time or in the public right-of-way or easement.

5.9.3 NEIGHBORHOOD COMPATIBILITY.

5.9.3.1 APPLICABILITY.

Neighborhood compatibility standards apply to all infill development that does not require the approval of a Neighborhood Plan.

5.9.3.2 BUILDING DISPOSITION.

Building disposition shall follow the predominant building disposition within the block face of the infill site. Alternative building disposition may be approved by warrant.

5.9.3.3 BUILDING SETBACKS.

Front building setbacks shall be within 25 percent of the median front setback of the buildings within the same block as the infill site. Alternative building setbacks may be approved by warrant.

5.9.3.4 PARKING ACCESS AND LOCATION.

Parking access and location shall be in keeping with the Place Type standards for the infill site. If the predominant parking access and location within the same block as the infill site is different than the Place Type standards, an alternative parking access and location standard to match the neighborhood standard may be approved by warrant.

5.9.3.5 BUILDING HEIGHT AND MASS.

Building shall be constructed in concert with building massing of the buildings surrounding the property to prevent overshadowing of adjacent properties.

5.9.3.6 ARCHITECTURAL CHARACTER.

All buildings shall be constructed to be harmonious with and architecturally integrated within the existing neighborhood.

5.9.3.7 HOME OCCUPATIONS.

The following standards are intended to permit residents to engage in home occupations that are compatible with residential uses and to ensure that home occupations do not adversely affect the integrity of residential areas. A home occupation shall be considered an accessory use, subject to the following conditions:

1. No persons shall be engaged in a home occupation other than persons occupying the subject dwelling unit as their permanent residence;
2. The home occupation shall be conducted entirely within the principal building or within a permitted accessory structure;
3. There shall be no signs or other exterior visible evidence of a home occupation;
4. There shall be no visible storage of equipment, materials or vehicles that have more than two axles;
5. All home occupations shall comply with the performance standards of Chapter 5; and
6. Home occupations that do not meet conditions 1 through 4 above may apply for a Specific Use Permit. In considering whether to approve a Specific Use Permit for a home occupation the Commission may recommend and the City Council may impose standards to ensure the home occupation does not adversely affect the integrity of the residential neighborhood in which it is proposed and shall consider the following:
 - a. Are the hours of operation of the home occupation compatible with a residential neighborhood;
 - b. Is there sufficient off-street parking to accommodate the parking requirements of the home occupation;
 - c. Will the property at which the home occupation is conducted retain the characteristics of a residential property; and
 - d. Will the home occupation generate any nuisances incompatible with a residential neighborhood.

5.9.4 PERFORMANCE STANDARDS.

5.9.4.1 ADAPTABILITY.

All buildings and sites shall be architecturally integrated within the existing neighborhood and designed to adapt over time to house different uses and avoid vacancy due to obsolescence.

5.9.4.2 NOISE.

Sites shall be laid out and uses shall be operated to prevent noise from becoming a nuisance to adjacent properties.

5.9.4.3 VIBRATION.

All uses shall be operated so that ground vibration is not perceptible outside the lot lines of the site on which the use is located.

5.9.4.4 FIRE AND EXPLOSIVE HAZARDS.

Underground storage tanks for flammable liquids and gases shall be located at least 50 feet from the lot line of lots zoned P2, P2C, P3, P3M, and P4; above-ground tanks shall be setback at least 100 feet from such lot lines, unless the Zoning Board of Adjustment determines, based on information provided by the applicant, that a 50 foot setback will ensure compliance with all applicable state standards. This shall not apply to Liquid Petroleum Gas tanks that are accessory to residential building types.

5.9.4.5 LIGHT AND GLARE.

The following standards shall apply in all Place Types with exception of the airport:

- (1) All exterior lighting shall be hooded or otherwise shielded so that the light source is not directly visible from outside the property.
- (2) All lighting shall be shielded so that substantially all emitted light falls within the property line of the property from which the light emanates.
- (3) All exterior-building floodlights shall be shielded so that all emitted light falls upon the property from which the light emanates.
- (4) No illumination shall produce direct, incident, or reflected light that interferes with the safe movement of motor vehicles on public streets. The types of lighting that shall be prohibited by this provision shall include, but not be limited to: any light that may be confused with or construed as a traffic control device; and any animated, flashing or changing intensity lights, except for temporary holiday displays.

5.9.4.6 ELECTROMAGNETIC INTERFERENCE.

No operations or activities shall be conducted that cause electrical disturbances to be transmitted across lot lines.

5.9.4.7 ODORS, SMOKE, FUMES, DUST, PARTICULATE MATTER.

Uses that create odors, smoke, fumes, dust, particulate matter or other noxious related nuisances shall require a special use permit.

5.9.5 VIOLATIONS OF PERFORMANCE STANDARDS.

Any use existing prior to the effective date of this LDC, that does not comply with one or more of the standards of this section shall not be deemed nonconforming uses for the purposes of this LDC.

5.10 SIGN STANDARDS.

5.10.1 SCOPE AND PURPOSE.

Signs perform an important function by identifying businesses, services and events. Signs also direct vehicular and pedestrian traffic and warn people of dangers. The purpose of this Chapter is to regulate the size, illumination, movement, location, height, and condition of all signs placed on private property for exterior observation and provide uniform sign standards that:

- (1) Promote community pride and a positive image of the City;
- (2) Protect the rights of persons and businesses to freedom of speech under State of Texas [Texas Constitution Article I, Section 8] and Federal [United States Constitution, First Amendment] law;
- (3) Ensure consistency with State statutes relating to sign regulation;
- (4) Facilitate economic development;
- (5) Reduce the confusion and traffic hazards that result from excessive and prolific use of sign displays;
- (6) Promote public safety and protect persons and property by ensuring that signs do not create a hazard by:
 - (a) Collapsing, catching fire, or otherwise deteriorating or decaying;
 - (b) Confusing or distracting motorists;
 - (c) Impairing drivers' ability by obstructing the awareness or visibility of pedestrians, obstacles, or other vehicles, or to read traffic-control devices or signs; or
 - (d) Obstructing sidewalks and intersections which would hinder pedestrian safety;
- (7) Control the number, size, height, location, lighting, and design characteristics of signs to avoid visual clutter which leads to decline in the community's appearance and property values, and reduces the effectiveness of the signs;
- (8) Clearly identify various sign types by their physical and structural characteristics in order to:
 - (a) Make the regulations easy to use;
 - (b) Ensure proper dimensioning and placement with respect to existing and planned architectural features; and
 - (c) To maintain or improve the aesthetic character of the context where the sign(s) are located;
 - (d) Protect the residential amenities of people living in any adjoining residential units;
 - (e) Implement the Envision Taylor Comprehensive Plan and other related plans; and,
 - (f) Coordinate the City's sign regulations with the applicable Place Type zoning districts, in order to protect and promote the purpose and character of the Place Type zoning districts.

5.10.1.1 AUTHORITY.

- (1) Authority to regulate signs. This section is authorized by Article XI § 5 of the Texas Constitution,

Home Rule Authority inherent under the City Charter, and the Texas Local Government Code including, but not limited to Chapter 211, Municipal Zoning Authority, and Chapter 216, Regulation of Signs by Municipalities.

- (2) Authority of sign administration. The Development Services Director or their designee shall administer and enforce the provisions of this section, including without limitation:
 - (a) Permits and fees. Issuing permits and collecting the fees required by this Chapter;
 - (b) Inspections. Conducting appropriate inspections to insure compliance with this Chapter;
 - (c) Appeals. Receiving and processing variances to the Zoning Board of Adjustment;
 - (d) Requiring compliance. Instituting legal proceedings, including suits for injunctive relief when necessary, to ensure compliance with this Chapter; and
 - (e) Violations. Investigating complaints of alleged violations of this Chapter.

5.10.1.2 APPLICABILITY.

- (1) As of the effective date of this LDC, all erection, construction, modification, relocation, repair, maintenance, or conversion of signs within the City and its ETJ shall conform to the standards and requirements of this LDC, all State and Federal regulations concerning signs and advertising, and all applicable Building Codes.
- (2) Signs are approved by issuance of a sign permit, as provided in Section 5.10.5 Sign Administration.
- (3) There are some signs that do not require a permit, which are provided in Section 5.10.4 Signs Exempt from Requiring a Sign Permit. No sign permit is required for an exempt sign.
- (4) Signs not expressly permitted as being allowed by right or by permit under this LDC, by specific requirements in another portion of this LDC, by master plan, or otherwise expressly allowed by the City Council or the Zoning Board of Adjustment are not allowed with the city limits or the ETJ. Prohibited Signs are discussed further in Section 5.10.11 Prohibited Signs.
- (5) No restriction on content. No provision of this LDC shall be construed to regulate or restrict sign content or message. This LDC shall not be interpreted in a manner inconsistent with the United States Constitution's First Amendment guarantee of free speech.
- (6) If any provision of this LDC is found by a court of competent jurisdiction to be invalid, such finding shall not affect the validity of other provisions of this LDC that can be given effect without the invalid provision.
- (7) These regulations are not intended to eliminate all the harms that may be created by the installation and display of signs. Rather, they seek to strike an appropriate balance that preserves alternative means of visual display while reducing and mitigating the extent of the harms caused by signs.
- (8) It is unlawful for any person to erect, construct, modify, relocate, repair, or convert any sign within the City or its ETJ without first obtaining a sign permit from, and paying a permit fee to, the Development Services Director or their designee unless specifically noted otherwise in this Chapter.

- (9) No person may install a sign or structurally alter an existing sign not in conformity with this Chapter and other applicable City ordinances.
- (10) A sign described in this Chapter shall comply with the restrictions provided in the sign standards and all applicable restrictions of this Chapter, other requirements of the City of Taylor Code of Ordinances, and applicable State or Federal law. In the case of any conflicts between this and other sign regulations, the most restrictive regulation applies unless the City's authority is preempted by a higher order of government.

5.10.2 TYPES OF SIGNS PERMITTED WITHIN EACH PLACE TYPE ZONING DISTRICT.

TABLE 5.10.2(A): PERMITTED SIGNS BY PLACE TYPE

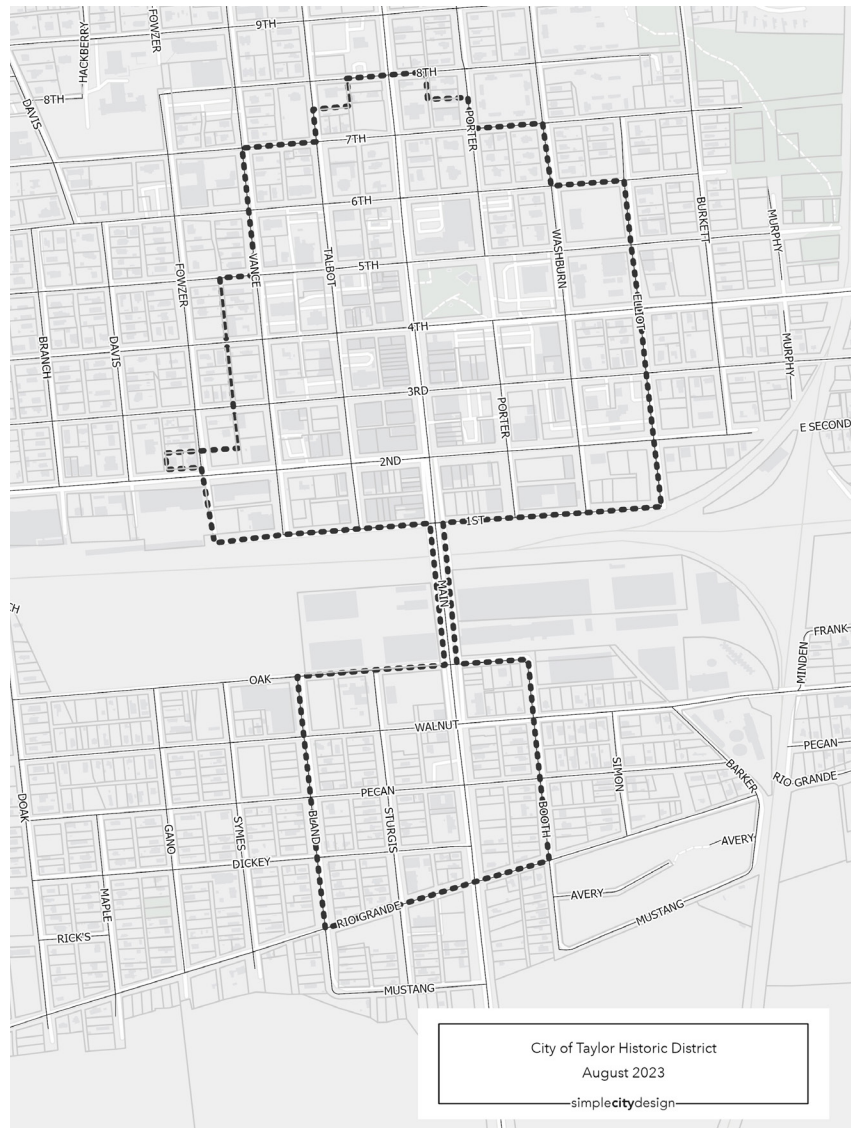
SIGN TYPES	PLACE TYPES									
	P1	P2	P2C	P2.5	P3	P3M	P4	P5	CS	EC
ADDRESS	P	P	P	P	P	P	P	P	P	P
NAMEPLATE	NP	NP	P	NP	NP	NP	NP	P	P	P
OUTDOOR DISPLAY CASE	NP	NP	P	NP	NP	NP	NP	P	P	P
AWNING	NP	NP	P	NP	NP	NP	NP	P	P	P
WINDOW	NP	NP	P	NP	NP	NP	P	P	P	P
BAND	NP	NP	P	NP	NP	NP	NP	P	P	P
BLADE / HANGING	NP	NP	P	NP	NP	NP	P	P	P	P
MARQUEE	NP	NP	NP	NP	NP	NP	NP	P	NP	P
SIDEWALK	NP	NP	NP	NP	NP	NP	P	P	P	P
YARD	NP	NP	NP	NP	NP	NP	NP	P	NP	P
ROOF	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
BANNERS	NP	NP	NP	NP	NP	NP	NP	P	P	P
MONUMENT	NP	NP	P	NP	NP	NP	NP	NP	P	P
POLE	NP	NP	P	NP	NP	NP	NP	NP	NP	P

P = PERMITTED NP = NOT PERMITTED

5.10.3 TYPES OF SIGNS PERMITTED IN HISTORIC DISTRICT.

This section creates a special signage criteria for illuminated signs within the historic district of Downtown Taylor. The historic district is defined in the Historic Preservation chapter (see Chapter 6 and Figure 5.10.3(A) Historic District Map). The historic district incorporates Place Type zoning districts P5 and CS. The only permitted form of illumination in the historic district is external illumination or neon or faux neon signs. The standards for individual sign types in this LDC, indicate whether illumination is allowed, and the type of illumination allowed (external illumination, neon, faux neon or halo lit).

FIGURE 5.10.3(A): HISTORIC DISTRICT MAP.



5.10.3.1 ILLUMINATION OF SIGNS.

- (1) Outside the historic district (see figure 5.10.3(A)) internally illuminated, externally illuminated, neon, faux neon, or halo lit signs are permitted.
- (2) The following illumination requirements apply to all new signs:
 - (a) Illuminated signs shall comply with all applicable provisions of the Electrical Code of the City. All electrical connections to the sign shall be placed underground. Electrical transformer boxes and raceways shall be concealed from public view. If a raceway cannot be mounted internally behind the finished exterior wall, the exposed metal surfaces of the raceway shall be finished to match the background wall or integrated into the overall sign design. If raceways are necessary, they shall never extend in width or height beyond the area of the sign's lettering or graphics.
 - (b) Artificial light used in conjunction with the lighting of any sign shall not be directed or reflected onto any structure or constitute a hazard to the safe and efficient operation of

vehicles upon a street or highway.

- (c) No rotating beam or flashing beacon light shall be used on any sign or sign structure.
- (d) The light source, shall be shielded from view or directed so that the light intensity or brightness is directed away from the public right-of-way or any residentially used property. Ground-mounted external flood lighting shall be shielded and properly placed and directed to avoid direct visibility of the directed light to passing motorists.
- (e) No sign or associated luminaire shall create light spillover of more than 0.1 footcandles at any property line within or bounding a residential use.
- (f) Illumination by a projected light shall be an indirect spotlight or gooseneck down light. External lighting fixtures shall not cast light or glare in any direction other than on the elements of the sign. Such lighting shall be placed so as to provide even illumination to the signage and to avoid hot spots or dark areas on the signage.
- (g) Illuminated signs adjacent to residentially used property shall shut off between the hours of 11:00 p.m. and 6:00 a.m. The sign shall include an automatic shut-off mechanism to ensure that the signs are not illuminated during the time provided above.
- (h) Illuminated signs shall not operate at brightness levels of more than 0.3 footcandles above ambient light conditions at the property line, as measured using a footcandle meter. Illumination levels shall be measured in footcandles with a meter sensor in a horizontal position at an approximate height of three feet above grade. Maximum illumination readings are to be taken directly beneath the luminaire. The point at which readings shall be taken is dependent upon the area classification and fixture arrangements.
- (i) An illuminated sign shall not:
 - i. Be illuminated by flashing, intermittent, or moving lights;
 - ii. Include audio, pyrotechnic, or bluecasting (bluetooth advertising) components; or
 - iii. Consist of static image projected upon a stationary object; or
 - iv. Include animated or changeable electronic variable messages.

5.10.3.2 CONSTRUCTION STANDARDS.

General regulations.

- (1) All signs and their locations shall comply with the provisions of the City's adopted Building and Electrical Codes as applicable and any additional standards stated in this section and other ordinances of the City.
- (2) Supports and braces shall be an integral part of the sign design. Angle irons, chains, or wires used for supports or braces shall be hidden from public view to the extent technically feasible.
- (3) Freestanding signs shall be self-supporting structures and be permanently attached to sufficient foundations.
- (4) Attached signs must derive their principle and total support from the building to which they are attached.

- (5) Electrical service to illuminated signs shall be concealed to the maximum extent practicable.

5.10.3.3 SIGN MAINTENANCE.

All signs in the City and ETJ shall be maintained in good repair, be safe, in clean condition and in working order at all times. The Development Services Director or their designee may order the painting, repair, or removal of a sign and accompanying landscaping which constitute a hazard to safety, health, or public welfare by reason of inadequate maintenance, dilapidation, obsolescence, or abandonment.

5.10.4 SIGNS EXEMPT FROM REQUIRING A SIGN PERMIT.

The following signs authorized under this section are authorized in every Place Type zoning district or property in the ETJ without a permit unless specifically required below:

- 5.10.4.1 Government signs including signs placed by the City, State, or Federal government governing in their official capacity.
- 5.10.4.2 Traffic control devices that are erected and maintained to comply with the Texas Manual on Uniform Traffic Control Devices.
- 5.10.4.3 Signs required by other law, including Federal, State, or local law, including a sign that a property owner is required to post on the owner's property to warn of a danger or to prohibit access to the property either generally or specifically; the owner must comply with the Federal, State, or local law to post a sign on the property.
- 5.10.4.4 Official governmental notices and notices posted by governmental officers in the performance of their duties for regulatory purposes such as neighborhood crime watch areas, to identify streets, or to warn of danger including those placed by the City, County, Federal, or State.
- 5.10.4.5 Signs displayed on trucks, buses, trailers, mobile food vendors, or other vehicles that are less than thirty-two (32) square feet and are being operated as motor vehicles, provided that the primary purpose of the vehicles is not for the display of signs and provided that they are parked in areas appropriate to their use as vehicles, are in operable condition and carry a current and valid license plate and state inspection tag. Vehicle signs shall conform to the following restrictions:
- (1) Vehicular signs shall contain no flashing or moving elements;
 - (2) Vehicular signs shall not be attached to a vehicle so that the driver's vision is obstructed from any angle; and,
 - (3) Signs, lights, and signals used by authorized emergency vehicles shall not be restricted.
- 5.10.4.6 Vending machine signs where the sign face is not larger than the normal dimensions of the machine to which the sign is attached.
- 5.10.4.7 Memorial signs or tablets when cut into any masonry surface or attached to a building when constructed of bronze or other metal up to six (6) square feet as part of a building.
- 5.10.4.8 Real estate signs.
- (1) Signs containing the message that the real estate where the sign is located is for sale, lease, or rent together with information identifying the owner or agent.
 - (2) A real estate sign may not exceed four square feet in size for residential properties or 16 square feet

in size for nonresidential properties.

- 5.10.4.9 Any sign wholly within the confines of a building and oriented to be out of view from outside the building more than three feet from the shop window.
- 5.10.4.10 Any sign that is wholly within the confines of a sports field or court and oriented to be out of view from outside the field or court. No sign under this section may be larger than 32 square feet. The maximum height for a field sign shall not exceed six feet.
- 5.10.4.11 A non-commercial sign that is carried by a person or is a bumper sticker on a vehicle.
- 5.10.4.12 Business-related signs on or visible through doors or windows indicating: store hours, security systems, trade organization memberships, credit cards accepted, no solicitation, and open/closed. These signs will not count towards the cumulative sign area limits so long as their total cumulative sign area does not exceed five square feet.
- 5.10.4.13 All of the following flags: United States, the Texas flag, a municipal flag, the flag of another state of the United States, or the flag of a nation other than the United States.
- 5.10.4.14 One freestanding corporate flag per premise, not to exceed 35 feet in height or 100 square feet in area is allowed in multi-family, commercial, and industrial zones or developments. Flag poles exceeding eight feet in height still require a building permit.

5.10.5 SIGN ADMINISTRATION.

5.10.5.1 SIGN PERMIT REQUIREMENTS.

- (1) Application for permit. An application for a sign permit must be filed with the Development Services Director or their designee.

An application shall include:

- (a) Authorization letter (signed and dated) from the property owner giving landowners permission for the sign placement on the property;
- (b) Name and address of the property where the sign(s) are to be placed;
- (c) Name, address, email address and telephone number of the owner of the property;
- (d) Name, address, email address and telephone number of the applicant;
- (e) Name, address, email address and telephone number of the contractor, if any, installing the sign;
- (f) Name, address, email address and telephone number of the electrician, if any, doing electrical work on the proposed sign;
- (g) Written description of the proposed signage;
- (h) Date when the sign(s) are to be installed;
- (i) Site plan or location plan to clearly identify the property and the position of the proposed sign(s);
- (j) An accurate (scaled or clearly dimensioned) illustration including but not limited to, height,

- width, appearance of the proposed sign(s);
- (k) For attached signs, an accurate (scaled or clearly dimensioned) illustration of the building façade the signs will be attached to showing the height, width, window areas, and design features of the building;
 - (l) For freestanding signs, an accurate site plan (scaled or clearly dimensioned) to show the position of the freestanding sign and the set back from the curb/pavement. Set back distances are listed in Table 5.10.6.2 (A).
 - (m) Electrical plan, if applicable, showing all lighting details and shut-off switch;
 - (n) Details of the foundation for freestanding signs, if applicable;
 - (o) Details of any angle irons, chains or wires to be used as supports or braces for the proposed signs;
 - (p) Any warrant (or variance) that will be requested or has been approved and;
 - (q) The fee.
- (2) Review and decision. After a complete application is filed, the Development Services Director or their designee shall approve, approve with conditions as needed to ensure compliance with this Chapter, or deny the sign permit. If the sign permit is denied the reasons for the denial will be provided in writing.
 - (3) Final inspection. After the sign permit has been issued and the sign is being constructed or erected, the sign contractor performing the work or service shall request that the Development Services Director or their designee conducts necessary inspection such as, but not limited to, foundation inspection, electrical inspection, and final inspection.
 - (4) Fees. Fees for sign permits shall be as specified in City of Taylor Fee Schedule for City Services – Planning and Development Services section. The sign permit fees shall be paid prior to plan review of the sign permit.
 - (5) Expiration of sign permits. If the approved sign(s) are not completely installed within six months following the issuance of a sign permit, the permit shall be voided.

5.10.6 SIGNS REQUIRING A SIGN PERMIT.

5.10.6.1 ATTACHED OR BUILDING SIGNS.

An attached or building sign is an on-premises sign that is directly attached to, erected on, or supported by a building or other structure having a principal function other than the support of such sign.

Building signs types:

- (1) Address Sign
- (2) Nameplate Sign
- (3) Outdoor Display Sign
- (4) Awning Sign

- (5) Window Sign
- (6) Band Sign
- (7) Blade Sign
- (8) Marquee Signs

General Requirements:

- (1) Size. The total maximum size of all the building signs combined may not exceed 15 percent of the facade area of the tallest floor of the building to which the signs are attached.
- (2) Number. More than one building sign may be erected, provided the total surface area allowed, 15 percent of the facade area of the tallest floor, is not exceeded.
- (3) Height. No building sign may extend above the parapet wall or roof line of the building.
- (4) Projection/Clearance. With the exception of a blade and marquee signs, no building sign may project more than six inches from the building wall. The blade and marquee signs that project more than six inches from the wall must maintain a clear height of at least eight feet above the ground.
- (5) Illumination. Building signs may be internally illuminated or externally illuminated. No sign may be illuminated except during operating hours of the use with which it is associated. Lighting shall be shielded so that it does not shine directly into a public right-of-way and does not interfere with the safe vision of motorists or people passing by. An exception is made for neon-lit or faux neon-lit signs, which are internally illuminated. All standards must meet lighting standards within this LDC and the Outdoor Lighting Section of the Engineering Manual.
- (6) No internally illuminated signs are permitted in the Historic District of Downtown Taylor except for neon or faux neon lit signs.

5.10.6.2 FREESTANDING SIGNS.

A freestanding sign is an on-premises sign not directly attached to, erected on, or supported by a building or other structure having a principal function other than the support of such sign, but instead attached to, erected on, or supported by some structure such as a pole, frame, or other structure that is not a part of the building.

Freestanding Signs Types:

- (1) Sidewalk Sign
- (2) Yard Sign
- (3) Monument and Pole Signs

General Requirements:

- (1) Size. Allocation of sign area is based on the linear frontage of the project site. A maximum sign area of one square foot for each two linear feet of frontage, provided that the maximum surface area does not exceed 50 square feet.
- (2) Number. One freestanding sign is allowed on any lot with a single frontage. On corner lots, two

freestanding signs are permitted but the combined surface area of both freestanding signs cannot exceed 50 square feet.

- (3) Illumination. Freestanding signs may be internally illuminated or externally illuminated. Lighting shall be shielded so that it does not shine directly into a public right-of-way and does not interfere with the safe vision of motorists or people passing by. All standards must meet the City's Code of Ordinances and section 5.10.3.1.
- (4) Distance from curb/pavement:
 - (a) Distance from the curb/pavement shall mean the distance in feet from the curb or pavement edge to the nearest part of the sign.
 - (b) Height shall mean the sign measured from the ground level at the curb or pavement edge.

TABLE 5.10.6.2 (A): DISTANCE FROM CURB/PAVEMENT

HEIGHT OF SIGN (FEET)	DISTANCE FROM CURB/PAVEMENT (FEET)
4.5	10-15
8.0	15-20
11.0	20-25
14.0	25-30
16.0	30-35
19.0	35-40
21.0	40-45
23.0	45-50
26.0	50-55
29.0	55+

- (5) Any requests for a pole sign higher than 29 feet above ground level and/or increase in maximum sign surface area of 50 square feet require a sign variance unless a master sign proposal has been approved.

5.10.6.3 TEMPORARY SIGN(S) OR BANNER(S).

- (1) Temporary signs of all types may be approved for 30 consecutive days only. An applicant may request a warrant from the DRC for
 - (a) A longer time period to display a temporary sign;
 - (b) Permitted materials;
 - (c) A larger temporary sign. A larger temporary sign may be approved by warrant if the location the sign is being placed is of sufficient size to warrant the larger temporary sign. An appeal of a warrant denial by the DRC shall be heard by the ZBA for action.
- (2) Temporary sign(s) or banner(s) to advertise special events affixed to the ground within the city limits

and the ETJ are permitted providing:

- (a) A sign permit is submitted prior to the display of any temporary sign(s) or banner(s) for the special event being advertised; and
 - (b) All of the following conditions are met:
 - i. No more than three temporary special event signs shall be displayed, at any one time, per non-residential property;
 - ii. Maximum of ten different non-residential locations within the city limits and ETJ for each special event;
 - iii. No external or internal illuminations are permitted;
 - iv. The temporary sign shall not be located in, on, or over a right-of-way or utility easement or on public property, unless the event is sponsored by the public entity whose property the temporary sign is located;
 - v. The maximum surface area of each temporary sign shall not exceed 32 square feet;
 - vi. The maximum height of each temporary sign above grade shall not exceed five feet;
 - vii. The maximum duration for each temporary sign would be 30 days prior to the special event and shall be removed within 48 hours of the end of the special event;
 - viii. Each temporary sign or banner shall be securely attached and fastened to a building, wall, fence, or freestanding frame; and
 - ix. The event organizer obtained prior authorization from each landowner and identified the position and size of each sign at each location before submitting one sign permit for up to ten different locations.
- (3) Temporary sign(s) or banner(s) to advertise special events within the historic district affixed to a front building facade are permitted providing:
- (a) A sign permit is submitted prior to the display of any temporary sign(s) or banner(s) for the special event being advertised; and
 - (b) All of the following conditions are met:
 - i. No more than three temporary special event signs shall be displayed, at any one time, per non-residential property;
 - ii. Maximum of ten different non-residential locations within the city limits and ETJ for each special event;
 - iii. No external or internal illuminations are permitted;
 - iv. The temporary sign shall not be located in, on, or over a right-of-way or utility easement or on public property, unless the event is sponsored by the public entity whose property the temporary sign is located;
 - v. The maximum surface area of the temporary sign(s) shall not exceed 1% of the front building facade measured from above the band sign or canopy to the eaves or parapet

- wall along the front elevation of the building;
- vi. Each temporary sign shall not be positioned above the front eaves or front parapet wall of the building;
 - vii. The maximum duration for each temporary sign would be 30 days prior to the special event and shall be removed within 48 hours of the end of the special event;
 - viii. Each temporary sign or banner shall be securely attached and fastened to a building, wall, fence, or freestanding frame; and
 - ix. The event organizer obtained prior authorization from each landowner and identified the position and size of each sign at each location before submitting one sign permit for up to ten different locations.
- (4) Banners are allowed only in non-residentially used locations. Applicants must apply for a banner sign permit prior to displaying the sign. Approved banner signs shall be displayed for 30 consecutive days and for a maximum of 90 days per calendar year. The following organizations shall be exempt from paying the banner permit fee:
- (a) Government/public agencies.
 - (b) Faith-based organizations.
 - (c) Non-profit organizations.
 - (d) Service clubs.
- (5) Real Estate/Finance/Construction Signs.
- (a) One real estate, finance, or construction sign not exceeding 16 square feet in total area for non-residential use or mixed-use use in P4, P5, and EC may be erected at any time while a building is under construction with a valid building permit, offered for sale or lease to the public.
 - (b) Properties with a minimum frontage of at least 150 feet shall be allowed one real estate sign, finance, or construction sign not exceeding 32 square feet in total area while a building is under construction with a valid building permit, offers for sale or lease to the public.
 - (c) All such signs shall be maintained by the persons in control of the premises so as to remain erect and in good repair. Such signs shall be removed by the property owner or other person in control of the premises if they are damaged, broken or incapable of remaining erect.
 - (d) Such signs must be removed by the owner or person in control of the premises when either the property has sold or been leased and/or when performance under the construction contract or subcontract (in the case of construction signs) has been completed. In all cases, financing and construction signs shall be removed prior to issuance of a certificate of occupancy.
- (6) Signs at a residential property within Place Type zoning districts P2, P2.5, P3, P3M, and P4 and comply with the following conditions:
- (a) A property owner may place no more than three signs on the residential property at any

one time.

- (b) The maximum surface area of the sign shall not exceed three square feet.
- (c) No external or internal illumination is permitted on the sign.
- (d) The sign shall not be located in, on, or over a right-of-way or utility easement.
- (e) If ground mounted, the maximum height of the sign shall not exceed three (3) feet above grade.
- (f) If attached to a building or structure, the maximum height of the sign shall not exceed six (6) feet above grade.
- (g) The sign must be a freestanding frame or building, wall, or fence securely attached to a securely fastened to a and be well-maintained.

5.10.7 SIGN STANDARDS.

5.10.7.1 ADDRESS SIGN.

DESCRIPTION: A sign, generally applied to a building wall, that displays a building's address.



ADDRESS SIGN SPECIFIC STANDARDS

- (1) Address sign numerals applied to a house-form residential, commercial, or office buildings shall be between four and six inches tall. Address sign numerals applied to individual dwelling units in apartment buildings shall be at least two inches tall.
- (2) Address signs shall be easily visible by using colors or materials that contrast with their background.
- (3) Address signs shall be constructed of durable materials.
- (4) The address sign shall be attached to the front of the building in proximity to the principal entrance or at a mailbox.
- (5) Address signs shall not be internally illuminated.

SPECIFICATIONS

QUANTITY	1 per address maximum.	DEPTH	3 inch maximum.
AREA	2 square feet maximum.	CLEARANCE	4.5 feet maximum.
WIDTH	24 inch maximum.	LETTER HEIGHT	6 inch maximum.
HEIGHT	12 inch maximum.	ADDITIONAL	See 5.10.4

5.10.7.2 MARQUEE SIGN.

DESCRIPTION: A structural feature of a building that provides shelter and sign space.



MARQUEE SIGN SPECIFIC STANDARDS

- (1) Marquees shall be located only above the principal entrance of a building.
- (2) Marquees may encroach the public frontage to within two (2) feet of the curb.
- (3) Marquees shall be located only above the principal entrance of a building.
- (4) No marquee shall be wider than the entrance it serves, plus two (2) feet on each side thereof.
- (5) Marquee signs that encroach into the public frontage shall clear the sidewalk by at least ten (10) feet measured vertically.
- (6) Columns or posts may be used as supports for marquees eight (8) feet deep or deeper if approved by the Development Review Committee.
- (7) All marquees, including anchors, bolts, supporting rods, and braces, shall be constructed of non-combustible materials and shall be designed by a structural engineer and submitted for approval to the building official.
- (8) Marquee components and materials may vary. Anchors, bolts, and supporting rods should be limited to the interior of the marquee.
- (9) Non-illuminated and static message boards shall be permitted as part of marquees.
- (10) A band sign shall be permitted above a marquee.
- (11) Marquee signs shall not be internally illuminated.

SPECIFICATIONS

QUANTITY	1 per business maximum.	PROJECTION	4 feet - 10 feet.
AREA	N/A	CLEARANCE	10 feet minimum.
WIDTH	Entrance plus 2 feet each side.	LETTER HEIGHT	N/A
HEIGHT	50% story height maximum.	DISTANCE FROM CURB	2 feet minimum.
		ADDITIONAL	See 5.10.7 & 5.10.4

5.10.7.3 WINDOW SIGN.

DESCRIPTION: A sign affixed to the interior or exterior of a window or placed within three (3) feet of a window for the purpose of being visible from the exterior of the window.



WINDOW SIGN SPECIFIC STANDARDS

- (1) Window signs shall not interfere with the primary function of windows, that is to enable passersby and public safety personnel to see through windows into premises and view product displays.
- (2) Only the following window sign types shall be permitted:
 - (a) Vinyl applique letters applied to the window. Appliques shall consist of individual letters or graphics with no visible background.
 - (b) Letters painted directly on the window.
 - (c) Hanging signs that hang from behind the window.
 - (d) Neon or faux neon signs.
 - (e) Door signs applied to or hanging inside the glass portion of an entrance doorway.
- (3) Window signs shall not cover more than 30 percent of the total area of the window space onto which they are applied. Sign area shall be measured using smallest rectangle that fully encompasses the entire extent of letters, logo and background.
- (4) Window signs may list services and/or products sold on the premises, or provide phone numbers, operating hours or other messages, provided that the total aggregate area of these messages not exceed the limit provided above.

SPECIFICATIONS

QUANTITY	1 per window maximum.	DEPTH	N/A
AREA	30% coverage per window.	CLEARANCE	4 feet minimum.
WIDTH	N/A	LETTER HEIGHT	8 inch maximum.
HEIGHT	N/A	ADDITIONAL	5.10.7 & 5.10.4

5.10.7.4 NAMEPLATE SIGN.

DESCRIPTION: A sign consisting of either a panel or individual letters applied to a building, listing the names of businesses or building tenants.



NAMEPLATE SIGN SPECIFIC STANDARDS

- (1) One nameplate per address.
- (2) Nameplates shall consist of either a panel or individual letters applied to a building wall within ten (10) feet of an entrance to the building.
- (3) One nameplate shall be permitted per address.
- (4) Nameplates shall not exceed three square feet.
- (5) Nameplates shall be constructed of durable materials.
- (6) Alley signs follow nameplate sign standards. Nameplate signs in alleys may be further than ten feet from the entrance of the building if building does not have a public entrance from the alley.

SPECIFICATIONS

QUANTITY	1 maximum. 1 maximum alley sign in addition.	DEPTH	3 inches maximum.
AREA	3 square feet maximum. 6 square feet maximum for alley signs.	CLEARANCE	4 feet maximum.
WIDTH	18 inches maximum. 24 inches for alley signs.	LETTER HEIGHT	N/A
HEIGHT	2 feet maximum. 3 feet for alley signs.	APEX	7 feet maximum.
		ADDITIONAL	See 5.10.7 & 5.10.4

5.10.7.5 OUTDOOR DISPLAY CASE SIGN.

DESCRIPTION: A sign consisting of a lockable metal or wood framed cabinet with a transparent window or windows, mounted onto a building wall or freestanding support. It allows the contents, such as menus or maps, to be maintained and kept current.



OUTDOOR DISPLAY CASE SIGN SPECIFIC STANDARDS

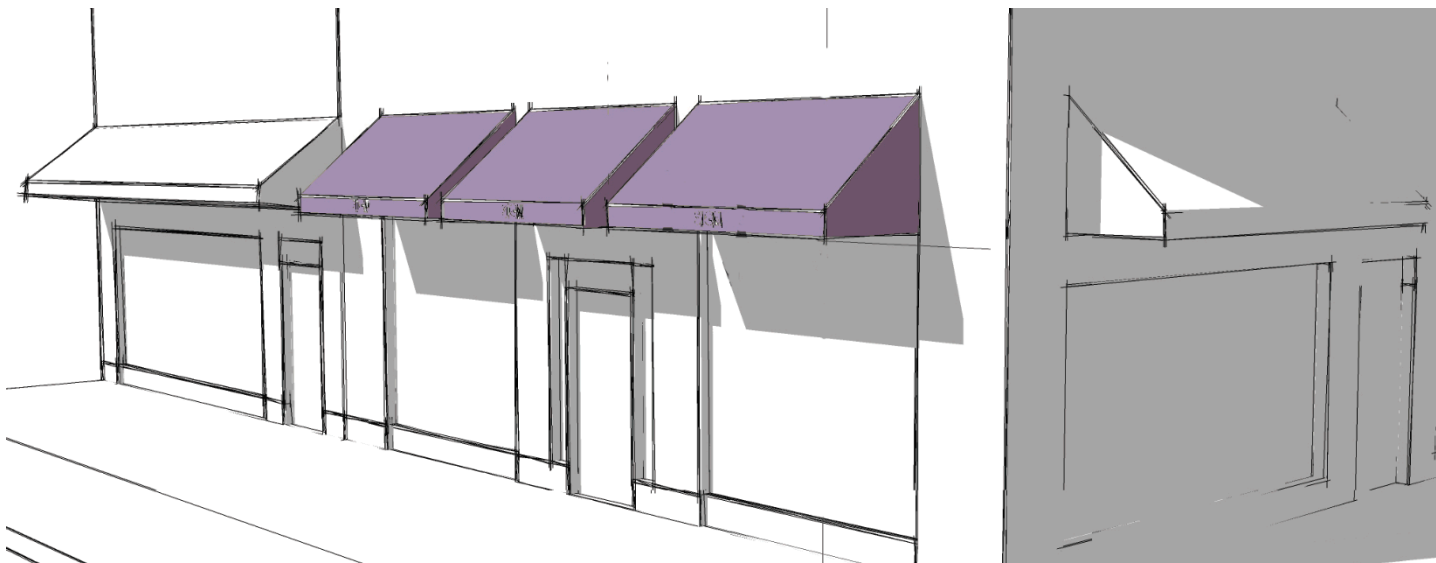
- (1) Outdoor display case shall not exceed six square feet measured externally.
- (2) Outdoor display cases may be externally or internally illuminated.
- (3) Theaters may be permit larger outdoor display cases by variance.
- (4) Outdoor display cases shall not be attached to shopfront windows.

SPECIFICATIONS

QUANTITY	1 maximum.	DEPTH	5 inches maximum.
AREA	6 square feet maximum.	CLEARANCE	4 feet minimum.
WIDTH	3.5 feet maximum.	LETTER HEIGHT	N/A
HEIGHT	3.5 feet maximum.	ADDITIONAL	See 5.10.7 & 5.10.4

5.10.7.6 AWNING SIGN.

DESCRIPTION: Lettering applied directly on the valance or other vertical portion of an awning.



AWNING SIGN SPECIFIC STANDARDS

- (1) Awning signage shall be limited to no more than 70 percent of valance of the awning or the vertical portion of a dome awning.
- (2) The height of the valance shall not exceed 12 inches.
- (3) Awning signs shall contain only the business name, logo, and/or street address.
- (4) The following variations of awnings, with or without sign bands, are permitted: (a) fixed or retractable; awnings; (b) shed awnings; (c) dome awnings.
- (5) Other awning types may be permitted by variance.
- (6) Signage shall be limited to the valance of the awning or the vertical portion of a dome awning.
- (7) No portion of an awning shall be lower than eight feet clearance.
- (8) Awnings shall be a minimum of four feet in depth.
- (9) Awnings shall not extend beyond the width of the building or tenant space, nor encroach above the roof line or the story above.
- (10) Letters, numbers, and graphics shall cover no more than 70 percent of the valance area.
- (11) Awning signs shall not be internally illuminated or backlit.

SPECIFICATIONS

QUANTITY	1 per window maximum.	DEPTH/PROJECTION	4 feet minimum.
AREA	N/A	CLEARANCE	8 feet minimum.
WIDTH	70% of the width of face maximum.	LETTER HEIGHT	5 - 12 inches.
HEIGHT	N/A	DISTANCE FROM CURB	2 feet minimum.
VALANCE HEIGHT	12 inch maximum.	ADDITIONAL	See 5.10.7 & 5.10.4

5.10.7.7 BAND SIGN.

DESCRIPTION: A sign that is attached flat on the exterior front, rear, or side wall of any building or other structure.



BAND SIGN SPECIFIC STANDARDS

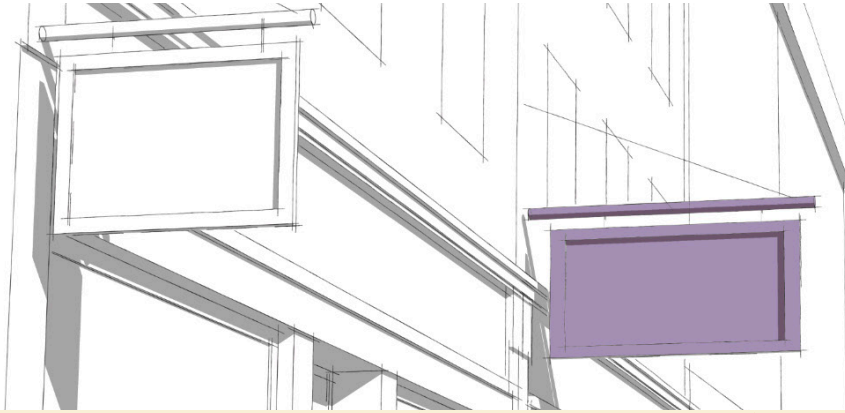
- (1) Band sign limited to 90 percent of the width of the building facade shall be permitted for each building with a commercial use and a valid certificate of occupancy.
- (2) One band sign is permitted on each first story facade of the building.
- (3) Band signs shall include only letters, background, lighting, and an optional logo. Information shall consist only of the name and/or logo of the business. Band signs shall not list products, sales, or other promotional messages, or contact information.
- (4) The following band sign construction types are permitted except in the Historic District of Downtown Taylor (See 5.10.3):
 - (a) Cut-out letters. Letters shall be individually attached to the wall or on a separate background panel, and shall be externally illuminated.
 - (b) Flat Panel. Letters shall be printed or etched on same surface as the background, that is then affixed to the wall and externally illuminated.
 - (c) Channel letters. Each letter shall have its own internal lighting element, individually attached to the wall or onto a separate background panel. The letter shall be translucent, or solid to create a backlit halo effect.
 - (d) Internally Illuminated. Sign must comply with section 5.10.3.1.

SPECIFICATIONS

QUANTITY	1 maximum. 2 maximum for corner buildings.	DEPTH/PROJECTION	7 inch maximum.
AREA	1.5 square feet per linear feet of facade.	CLEARANCE	7 feet minimum.
WIDTH	90% maximum width of facade.	LETTER HEIGHT	18 inch maximum.
HEIGHT	3 feet maximum.	CLEARANCE	7 feet minimum.
ILLUMINATION	External permitted, internal requires variance	ADDITIONAL	See 5.10.7, 5.10.3.1, & 5.10.4

5.10.7.8 BLADE SIGN.

DESCRIPTION: A sign mounted on the building facade or hanging under a canopy, projecting at a 90-degree angle.



BLADE SIGN SPECIFIC STANDARDS

- (1) Blade signs shall be permitted only for businesses that have a principal entrance on the first story and have a valid certificate of occupancy.
- (2) One blade sign shall be permitted for each unit if the facade is no more than five feet from the front property line.
- (3) Businesses that have a secondary property line that is no more than two feet from the facade shall be permitted one additional blade sign on the secondary facade.
- (4) Blade signs may encroach into the public frontage up to four feet and shall clear the sidewalk by at least seven feet measured vertically.
- (5) Blade signs shall be limited to the name and/or logo of the business.
- (6) Slogans, address labels, operating hours and contact information shall not be permitted on a blade sign.
- (7) Blade signs may be double-sided.
- (8) Blade signs shall not encroach above the roof line nor above the bottom of the second story window.
- (9) Mounting hardware, such as supports and brackets, may be simple and unobtrusive or highly decorative, but shall complement the design of the sign, the building, or both.
- (10) For buildings with multiple signs, mounting hardware or sign shapes, sizes and colors shall be coordinated.
- (11) Blade signs may be internally illuminated when complying with section 5.10.3.1.

SPECIFICATIONS

QUANTITY	1 per facade maximum. 2 maximum for corner buildings.	DEPTH/PROJECTION	4 feet maximum.
AREA	6 square feet maximum.	CLEARANCE	7 feet minimum.
WIDTH	4 feet maximum.	LETTER HEIGHT	8 inches maximum.
HEIGHT	4 feet maximum.	ADDITIONAL	See 5.10.7, 5.10.4, & 5.10.3.1

5.10.7.9 SIDEWALK SIGN.

DESCRIPTION: A movable freestanding sign that is typically double-sided, placed at the entrance to a business to attract pedestrians.



SIDEWALK SIGN SPECIFIC STANDARDS

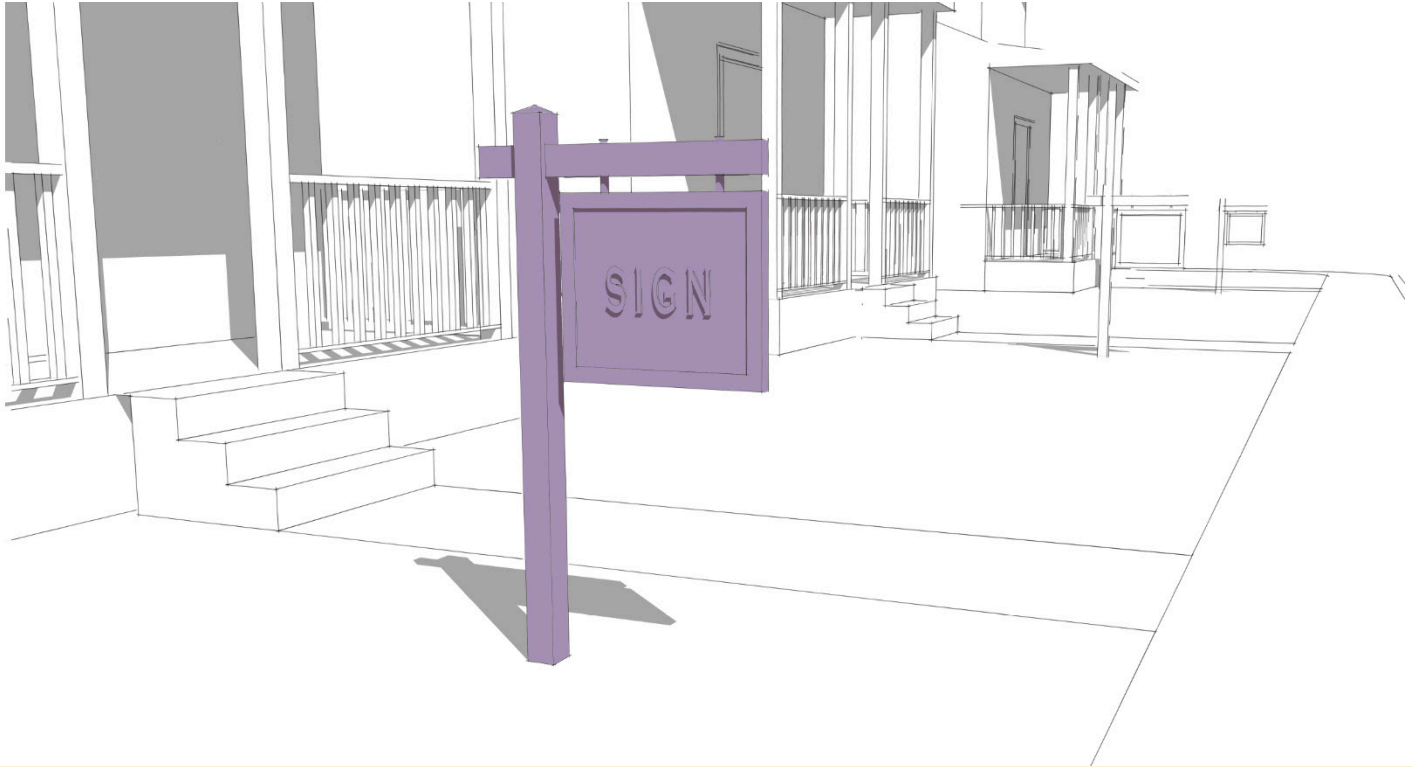
- (1) Sidewalk signs shall consist of freestanding, double-sided temporary signs placed at the entrance to a business in a primarily pedestrian environment.
- (2) Sidewalk signs shall be removed at the close of business each day.
- (3) One sidewalk sign shall be permitted per business with a valid certificate of occupancy at that location.
- (4) Sidewalk signs shall not exceed four feet in height or three feet in width.
- (5) Sidewalk signs shall be moved inside during high winds or other weather conditions that might pose a hazard to public safety.
- (6) Sidewalk signs must be weighed down to prevent tipping, collapsing or being blown away.
- (7) Sidewalk signs shall not be left out on the sidewalk overnight.

SPECIFICATIONS

QUANTITY	1 per building maximum.	PROJECTION	3 feet maximum.
AREA	12 square feet maximum.	CLEARANCE	4 feet maximum.
WIDTH	3 feet maximum.	LETTER HEIGHT	N/A
HEIGHT	4 feet maximum.	APEX	4 feet maximum.
		ADDITIONAL	See 5.10.7 & 5.10.4

5.10.7.10 YARD SIGN.

DESCRIPTION: A permanent freestanding sign in the Private Frontage, including a supporting post or posts.



YARD SIGN SPECIFIC STANDARDS

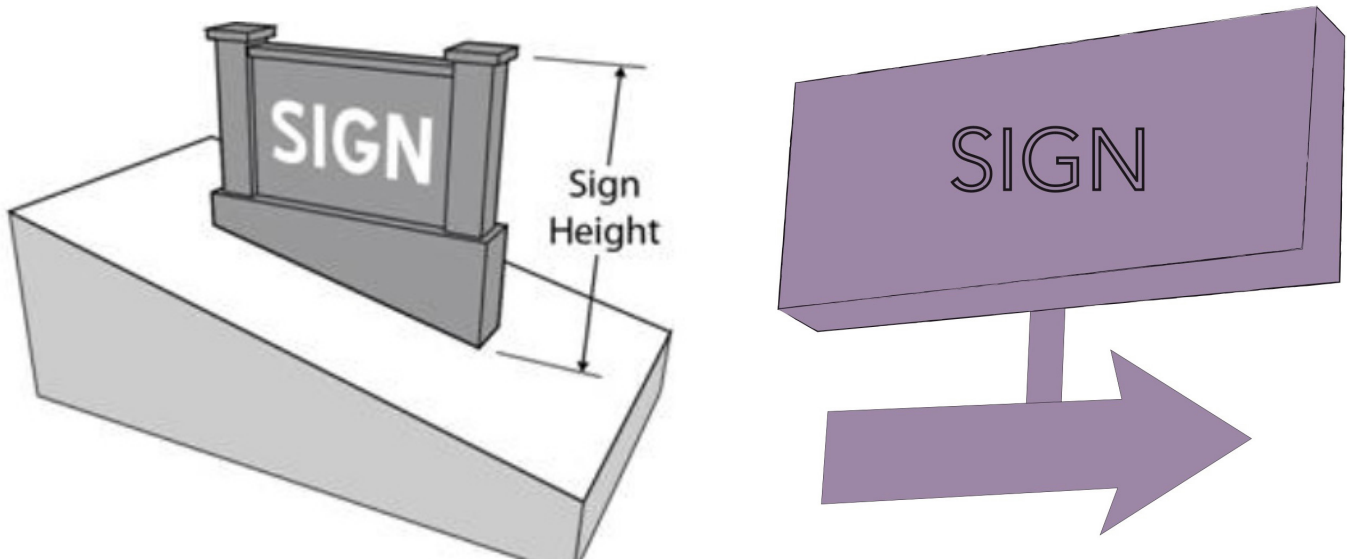
- (1) One single or double-post yard sign may be placed within the private frontage and first layer of a lot.
- (2) One single or double-post yard sign for each business may be permitted by variance.
- (3) The yard sign must be set back at least six (6) feet from the front property line, does not exceed six square feet in area excluding posts, and does not exceed six feet high including posts, measured from the ground at the post location.
- (4) Yard signs shall not be internally illuminated.

SPECIFICATIONS

QUANTITY	1 per lot maximum.	DEPTH	N/A.
AREA	6 square feet maximum.	CLEARANCE	Minimum 3 feet above ground level.
WIDTH	3 feet maximum (not counting post.)	LETTER HEIGHT	8 inch maximum.
HEIGHT	2 feet maximum (not counting post.)	APEX	Maximum 6 feet to top of post from ground level.
		ADDITIONAL	See 5.10.7 & 5.10.4

5.10.7.11 MONUMENT AND POLE SIGN.

DESCRIPTION: A sign permanently affixed to the ground at its base or by poles that are enclosed by natural stone, stucco, brick, or wood and not mounted to any part of a building. Pole(s) may be used to construct a monument sign so long as the poles are not visible below the sign.



MONUMENT AND POLE SIGN SPECIFIC STANDARDS

- (1) A monument sign can be defined as a ground sign generally having a low profile with little or no open space between the ground and the sign and having a structure constructed of masonry, wood, or materials similar in appearance.
- (2) One monument or pole sign permitted on each lot with a valid certificate of occupancy.
- (3) See setback requirements in Section 5.10.6.2 Freestanding Signs.
- (4) How to measure:
 - (a) Maximum total height is measured from the finished grade at the center of the sign. If the finished grade at the center of the sign is higher than the finished grade of the closest paved surface, then the height shall be measured from the finished grade of the closest paved surface.
 - (b) The monument base shall be a maximum of two feet in height and shall be included in the calculation of maximum total height.
 - (c) A monument sign width cannot exceed four times the allowable sign height.

SPECIFICATIONS

QUANTITY	1 maximum per frontage.	HEIGHT TO WIDTH RATIO	4:1 minimum.
AREA	16 square feet maximum for monument sign. 50 square feet maximum for pole sign.	HEIGHT	See table 5.10.6.2
		ADDITIONAL	See 5.10.7 & 5.10.4

5.10.8 TAYLOR MUNICIPAL AIRPORT.

No sign shall be constructed to a height that violates any maximum height restrictions established by the State Department of Transportation and/or the Federal Aviation Administration.

5.10.9 POLITICAL SIGNS.

Except as provided in subsection 5.10.9.1 below, it shall be unlawful for any person to post a political campaign sign on or over any public property in the City.

5.10.9.1 A temporary political campaign sign or literature may be placed on public property that serves as an early voting location or an election day voting location. Only signs and literature that refer to a candidate or issue that is on the ballot at a particular voting location may be placed at that voting location. A maximum of ten signs per candidate or issue may be placed at each polling location. Each temporary political sign or literature placed on public property being used as a polling location may not:

- (1) Have an effective area greater than three square feet;
- (2) Be more than four feet high;
- (3) Be illuminated or have any moving elements;
- (4) Be within 100 feet of an outside door through which a voter may enter the public building;
- (5) Be on driveways, parking areas, or medians within parking areas on the premises, with the exception of political campaign signs attached to vehicles lawfully parked at the premises;
- (6) Be attached, placed or otherwise affixed in any area designated as a planting or landscaped area or to any tree, shrub, building, pole or other improvement;
- (7) Be placed within ten feet of the public roadway adjacent to the premises;
- (8) Be placed on the premises earlier than 24 hours before the commencement of early voting if being placed at an early voting location or the commencement of election day voting if being placed at an election day voting location; and
- (9) Remain on the premises more than 24 hours after early voting has ended if placed at an early voting location or after election day voting has ended if being placed at an election day voting location.

5.10.9.2 In a campaign for political office, the candidate for such office shall be deemed the person responsible for the posting of political campaign signs, unless the candidate first notifies the City Clerk of another person who is responsible. In such cases, the candidate shall provide the name, address, telephone number, and signed consent of such other responsible person. In a campaign regarding a ballot measure, the president of the committee supporting or opposing such ballot measure shall be deemed responsible, unless the candidate first notifies the City Clerk of another person responsible, in the manner described above. Such candidate, committee president, or other designated person shall be subject to prosecution for any violation of this section.

5.10.9.3 Members of the City staff are hereby authorized and directed to remove any political campaign sign found posted within the corporate limits of the City when such sign is in violation of the provisions of this section.

- 5.10.9.4 All political campaign signs posted on public property in violation of this section are hereby declared to be public nuisances and may be abated as such by the City. All political campaign signs posted on public property shall be deemed to be abandoned and shall become the property of the City and may be disposed of at the discretion of the City.

5.10.10 SIGN ADMINISTRATION - PERMITTING.

- 5.10.10.1 The City shall promptly process the sign permit application and approve the application, reject the application, or notify the applicant of deficiencies in the application within 21 calendar days after full payment for the sign permit. Any application that complies with all provisions of this LDC, the Building Code, and other applicable laws, standards, and ordinances shall be approved after a plan review of the sign document.
- (1) If the application is rejected, the City shall provide, in writing, a list of the reasons for the rejection. An application shall be rejected for non-compliance with the terms of this LDC, Building Code, Engineering Manual, or other applicable laws, standards, or ordinance. If the permit application does not comply with the City ordinances after one resubmission and review by City and no variances have been applied for, the applicant must pay a reapplication fee for each and every subsequent resubmission before the City will review each application again.
 - (2) If the City have not determined the sign permit within 21 calendar days after full payment of the sign permit, the applicant can request a determination by the ZBA. This does not apply to Master Sign Plans.
- 5.10.10.2 If a sign is not completely installed within six (6) months following the issuance of a sign permit, the permit shall be void. The City may revoke a sign permit under any of the following circumstances:
- (1) The City determines that information in the application was materially false or misleading;
 - (2) The sign as installed does not conform to the sign permit application;
 - (3) The sign violates this LDC, Building Code, Engineering Manual, or other applicable law, standard, or ordinance; or
 - (4) The City determines that the sign is not being properly maintained or has been abandoned.
- 5.10.10.3 If the City denies a permit, the applicant may appeal through a variance to the ZBA
- 5.10.10.4 All applications for permits shall include a drawing to scale of the proposed sign and all existing signs maintained on the premises and visible from the right-of-way, a drawing of the lot plan or building facade indicating the proposed location of the sign, and specifications for its construction, lighting, motion, and wiring, if any. All drawings shall be of sufficient clarity to show the extent of the work.
- 5.10.10.5 Only those individuals who properly obtained a permit from the City, the City's designee, or other statutorily required permit or approval shall receive a permit to erect or alter any sign. Permits for the installation, erection, or alteration of any electrical components on a sign shall be issued only to those individuals who hold a commercial sign operator's license and master electrician's license. It is an offense for any person licensed under the provisions of this LDC to obtain a permit on behalf of, or for the benefit of, any unlicensed person whose business activities are such that such unlicensed person would need a license to obtain a permit.
- 5.10.10.6 No permit for the erection or alteration of any sign over any sidewalk, alley, or other public property, or on

or over any roof or building shall be issued to any person except upon the condition that the permit may be withdrawn at any time, at which time the sign shall be immediately removed by the responsible party, who will also be liable under the penalties provided for in this LDC.

5.10.10.7 A new permit shall not be issued when:

- (1) An existing billboard (off-premises) sign is in a deteriorated, unsafe, or unsightly condition.
- (2) A sign on the premises is not in compliance with this LDC.
- (3) Written authorization of the property owner where the sign is to be placed has not been obtained.
- (4) No inspections have been scheduled or there are failed inspections on a previous site permit issued at the property.
- (5) No permit shall be issued until all applicable fees have been paid to the City. Fees may be subject to change without prior notification. The sign permit fee schedule shall be in accordance with the fee schedule enacted by the City Council.
- (6) Before any permit may be issued for a new sign under this Chapter, the responsible party shall modify or remove any of its own nonconforming signs on the same property which they are responsible for to conform to the provisions of this Chapter. This provision does not apply to real estate signs, banners, temporary signs, or sidewalk signs. This provision does not apply to nonconforming signs with a variance.

5.10.11 PROHIBITED SIGNS.

5.10.11.1 All signs are prohibited in the city limits and the ETJ unless:

- (1) Constructed, maintained, structurally altered, or improved pursuant to a valid permit when required under this LDC; and,
- (2) Expressly authorized under this LDC.

5.10.11.2 Signs that cannot be expressly authorized include:

- (1) All Internally illuminated signs except for neon signage and faux neon signage in the Historic District of the City of Taylor.
- (2) Animated or changeable electronic variable message signs.
- (3) Signs located in or projected over any public right-of-way or across the public right-of-way extended across a railroad right-of-way, except when attached to and projecting no more than 18 inches from a building wall legally located at or near the right-of-way line in the city limits or in the ETJ.
- (4) Portable signs.
- (5) Off-premise signs (including billboards) containing commercial advertising for the sale, rent, or lease of goods, real property, or services.
- (6) Signs with lights that blink, fluctuate, flash, or move. Light rays must shine only upon the sign and upon the property within the premises where the sign is located.
- (7) Signs that emit sound, odor, pyrotechnic, blue casting (bluetooth advertisements) or visible matter components.

- (8) Signs of size, location, movement, coloring, or manner of illuminating that may be confused with or construed as a traffic control device.
- (9) Signs that are attached to any utility pole or wire, traffic sign, or public easement, trees, shrubs, mailboxes, benches, tires, pallets, or similar structures, or are placed on a government-owned property unless placed by written permission of the governmental entity.
- (10) Signs that obstruct any fire escape, required exit, window, or door opening intended as a means of egress.
- (11) Feather banners.
- (12) Commercial signs or advertising materials that are worn, held, or attached to a person's body advertising the sale of goods, real property, or services.
- (13) Balloon signs.
- (14) Banners in Place Type zoning districts: P1, P2, P2.5, P3, P3M.
- (15) Inflatable signs.
- (16) Pennants.
- (17) Pole signs other than along Highway 79 and North Main Street.
- (18) Roof signs (including signs that are otherwise authorized but are placed on a roof or on a mobile food vendor or vehicle).
- (19) Signs on vacant lots or undeveloped property without a building permit except for a valid real estate sign.
- (20) Signs painted on rooftops.
- (21) Signs placed or attached to trees, bushes, planters, benches, or other pedestrian elements.
- (22) Flags with a commercial message.
- (23) Signs with prohibited illumination.
- (24) Off-premises signs (billboard)
 - (a) No permit for alteration or relocation may be issued for an off-premises sign.
 - (b) An off-premises sign may not be altered regarding the amount of surface area, shape, orientation, height, illumination, or location without the prior issuance of a sign alteration or relocation permit. Ordinary and routine necessary repairs that do not change the size, shape, orientation, height, illumination, or location of an inventoried off-premises sign do not require an alteration permit. A sign alteration permit expires if the approved modifications are not completed within 90 days of permit issuance.
 - (c) If the City finds that any off-premises sign is not maintained in good repair, the City will notify and order the owner to repair the sign within 30 calendar days. If the City finds that the sign structure or sign area of an off-premises sign has deteriorated more than 60 percent of its replacement value or is not repaired within 30 calendar days, the City shall notify the owner of the off-premises sign and the owner of the real property where the off-premises sign is

located to remove the off-premises sign or poster panel from the property within a specified time. Replacement of more than 60 percent of an off-premises sign during one calendar year shall void the legal nonconforming status of the sign and require immediate removal or conformance with current standards. All off-premises signs ordered to be removed shall be stricken from the authorized list.

- (d) No existing billboard shall exceed 40 feet in height from the ground level. No existing billboard shall interfere with the visibility of pedestrians or drivers of motor vehicles at street intersections or otherwise obstruct traffic or create a traffic hazard.

5.10.12 NONCONFORMING SIGNS.

- 5.10.12.1 Signs in existence prior to this LDC. A sign existing on the effective date of this LDC that violates this LDC or any other ordinance, and a sign that comes under the jurisdiction of this LDC due to the expansion of the City, is a legal nonconforming sign and may be continued, repaired, and maintained in good condition, but may not be otherwise altered, enlarged upon, or expanded. However, the content of the sign can be changed.
- 5.10.12.2 Voluntary removal of a nonconforming sign for purposes other than maintenance shall terminate its status as a legal nonconforming sign. Replacing a sign cabinet is not considered maintenance.

5.11 ENFORCEMENT.

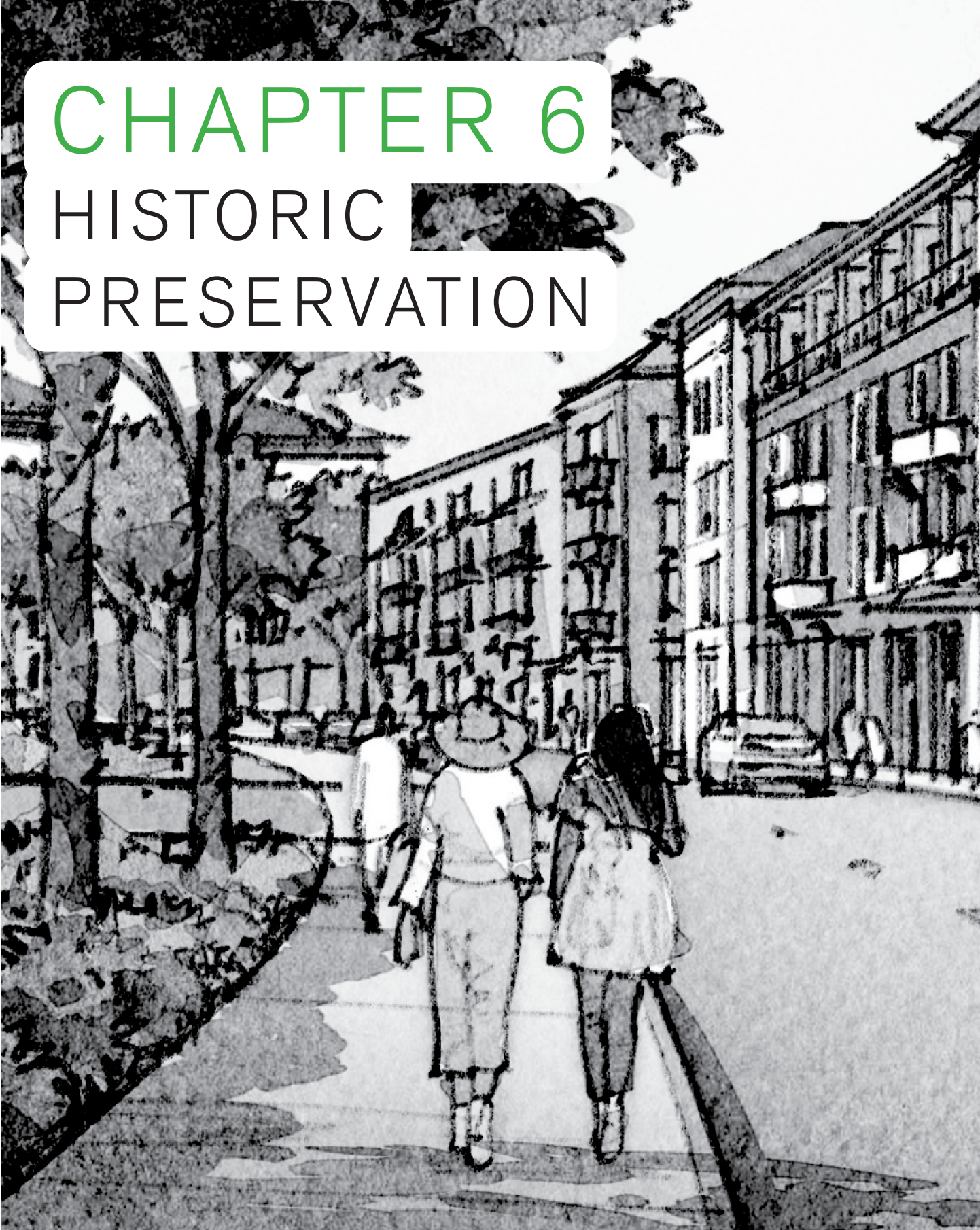
5.11.1 BENEFICIARY PRESUMED.

- 5.11.1.1 The primary beneficiary of any sign installed, used, or maintained in violation of this sign Ordinance, as amended, is presumed to have authorized or caused, either directly or indirectly, the installation, use or maintenance of the sign in violation of this Ordinance.
- 5.11.1.2 If the Sign Administrator determines that any sign is installed, used, or maintained in violation of this Sign Ordinance, as amended, the Sign Administrator shall provide written notice to the owner or primary beneficiary of such sign. A reasonable period of time will be given to remove the sign, or, to remedy all nonconforming or nuisance elements of the sign and bring it into compliance with the Sign Ordinance. This notice shall be provided to the owner or primary beneficiary of the sign by certified and first class mail or by personal delivery.
- 5.11.1.3 The owner or primary beneficiary who violates or causes, allows or permits a violation of this sign Ordinance shall be deemed guilty of a misdemeanor and upon conviction in the Municipal Court of the City shall be subject to a fine in accordance with the general penalty for violations of the City of Taylor Land Development Code and City of Taylor Code of Ordinances, as amended.
- 5.11.1.4 In addition, and without prejudice to, the penalties and remedies stated herein, the City may also enforce these provisions and pursue any and all available legal remedies, including but not limited to injunctive relief and recovery of damages and/or civil penalties under chapter 54 of the Texas Local Government Code, as amended.
- 5.11.1.5 If the person fails to alter or remove the sign or comply with this sign Ordinance within the period of time prescribed by the notice of violation or, the Municipal Court ruling, the Sign Administrator may enter the property and cause the sign to be altered or removed to effect the compliance with this sign Ordinance,

as amended, at the expense of the primary beneficiary. A sign removed under this provision shall be held for a period of no less than 30 days after its removal and before disposal of the removed sign. The Sign Administrator shall return the sign to its owner upon payment of the incurred removal expenses and storage fees.

- 5.11.1.6 The Sign Administrator shall notify the owner or person entitled to possession of the sign or property of the total actual expenses incurred for the alteration or removal of the sign. If that person fails within 30 days after the date of notification to pay the entire expenses of the repair, alteration, removal or storage costs, then the expenses may be recorded as a lien against the property. These expenses shall include:
- (A) The actual cost of repair or removal of the sign plus storage costs and administrative costs;
 - (B) An amount representing penalty and interest at the prevailing judgement rate for the cost of collection; and
 - (C) Reasonable attorney's fees.
- 5.11.1.7 If expenses are incurred for the alteration or removal of a sign pursuant to this subsection, no permit shall be renewed or issued for the property upon which any such sign exists or existed unless and until such expenses authorized by this subsection are paid in full.

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CHAPTER 6

HISTORIC PRESERVATION

6.1 HISTORIC PRESERVATION.

6.1.1 PURPOSE.

The City Council of Taylor, Texas, hereby declares that as a matter of public policy the protection, enhancement, and perpetuation of landmarks and districts of historical and cultural importance and significance is necessary to promote the economic, cultural, educational, and general welfare of the public. This ordinance is intended to:

- (1) Protect and enhance the landmarks and districts which represent distinctive elements of Taylor's historic, architectural, and cultural heritage;
- (2) Foster civic pride in the accomplishments of the past;
- (3) Protect and enhance Taylor's attractiveness to visitors and the support and stimulus to the economy thereby provided;
- (4) Insure the harmonious, orderly, and efficient growth and development of the City that is sensitive to its historic resources;
- (5) Promote economic prosperity and welfare of the community by encouraging the most appropriate use of historic properties within the City;
- (6) Encourage stabilization, restoration, and improvements of such properties and their values by offering incentives for rehabilitation.

6.1.2 HISTORIC PRESERVATION OFFICER.

The City Manager or their designee shall appoint a qualified City official or staff person to serve as Historic Preservation Officer (HPO). The City may utilize in-house staff or contract using those individuals whose expertise are required to deliberate on specific, related matters. In addition, the planning department will be responsible for coordinating the City's preservation activities with those of state and federal agencies and with local state, and national preservation organizations.

Responsibilities. The HPO shall be empowered to:

- (1) Administer this LDC and advise the HPC on matters submitted to it.
- (2) Maintain and hold open for public inspection all documents and records pertaining to the provisions of this LDC.
- (3) Receive and review all applications pursuant to this LDC to ensure their completeness.
- (4) Review and take action on all certificates of appropriateness applications subject to administrative review pursuant to this LDC.
- (5) Review and forward with any recommendations all applications for certificates of appropriateness subject to review by the HPC pursuant to this LDC.
- (6) Ensure proper posting and noticing of all Commission meetings, schedule applications for Commission review, provide information packets to its members prior to the meetings, record meeting minutes, and facilitate all Commission meetings.

- (7) Review and help coordinate the City's preservation and urban design activities with those of local, state, and federal agencies and with local, state, and national preservation organizations in the private sector.

6.1.3 CRITERIA FOR DESIGNATION OF HISTORIC PROPERTIES OR DISTRICTS.

The HPC shall use criteria for evaluation of significance of an historic landmark or historic district as established by the National Park Service for use in the administration of the National Register of Historic Places. The HPC shall refer to the National Register Bulletin No. 15, How to Apply the National Register Criteria for Evaluation, published by the National Park Service, for further guidance in the application of these criteria.

- 6.1.3.1 The following criteria shall be considered in determining whether historic overlay zoning should be applied to an individual property or historic district:

- (1) Association with events that have made a significant contribution to the broad patterns of our history.
- (2) Association with the lives of persons significant in our past.
- (3) Embodiment of the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
- (4) Archaeological value, in the sense that the property has yielded, or may be likely to yield, information important in prehistory or history.

- 6.1.3.2 Where the designation is made based on the general character of the proposed historic district, these findings may include, but shall not necessarily be limited to:

- (1) Scale of buildings and structures typical of the area.
- (2) Architectural style typical of the area.
- (3) Architectural period typical of the area.
- (4) Building materials typical of the area.
- (5) Colors used in buildings typical of the area.
- (6) Signage and street furniture typical of the area.
- (7) Landscapes typical of the area.
- (8) Typical relationships of buildings to the landscapes in the area.
- (9) Typical relationships of buildings in the area to the street.
- (10) Setbacks and other physical patterns of buildings in the area.
- (11) Typical patterns of rooflines of buildings in the area.
- (12) Typical patterns of porch and entrance treatments of buildings in the area.

Where the designation is made based on the character of a limited number of specific buildings in the

proposed historic district, the findings may include, but shall not necessarily be limited to:

- (1) Architectural style of the buildings.
- (2) Architectural period of the buildings.
- (3) Textures of materials used in the buildings.
- (4) Colors of the materials used in the buildings.
- (5) Rooflines of the buildings.
- (6) Porch and entrance treatments of the buildings.
- (7) Height and mass of the buildings.
- (8) Relative proportions of the buildings (width to height, width to depth).

6.1.3.3 Already listed properties. Properties that, as of the date of the adoption of this LDC, are listed as a Recorded Texas Historic Landmark (RTHL) or State Archaeological Landmark (SAL), or that are listed individually or within an historic district on the National Register of Historic Places (NR) shall be considered eligible for designation as historic landmarks pursuant to this LDC. The HPO shall compile a list of such properties and shall initiate an application for historic overlay zoning for each property so identified, pursuant to this LDC. The HPC may establish a process by which it identifies additional properties that are so recognized on the National Register or by the State, either on an annual basis or as such properties are listed and that information becomes known to the HPC and may direct the HPO to initiate applications for historic overlay zoning for those properties, pursuant to this LDC.

6.1.4 DESIGNATION PROCESS FOR LOCAL HISTORIC LANDMARKS AND DISTRICTS.

6.1.4.1 These provisions pertaining to the designation of historic properties constitute a part of the comprehensive zoning plan of the City. Owners of proposed historic properties shall be notified prior to the HPC hearing on the recommended designation. At the HPC's public hearing, owners, interested parties, and technical experts may present testimony or documentary evidence, which will become part of a record regarding the historic, architectural, or cultural importance of the proposed historic property. The City may designate a historic landmark in accordance with Tex. Loc. Gov't Code Sec. 211.0165.

6.1.4.2 The procedure for designating a historic landmark or to establish or amend a historic district may be initiated by the City, or by the individual property owner(s), or by at least twenty percent (20%) of the residents of the potential district. An application for designation shall be made on forms as prescribed by the City and shall be filed with the HPO along with any fees in accordance with the municipal fee schedule. Buildings, structures, sites or areas located within the City which substantially comply with the criteria found in this LDC may be recommended by the HPC to the City Council as historic landmarks or historic districts.

The application shall contain:

- (1) For a proposed historic landmark, the name, address, telephone number of applicant, and physical address of the property.
- (2) For a proposed historic district, the name, address, telephone number of applicant, and a poll showing no more than ten percent negative responses from owners of properties in the proposed district. In this poll, each property is counted separately, and a non-response is considered to be an affirmative response.
- (3) Site plan of the proposed landmark property, or map indicating the geographic boundaries of the proposed district, showing all affected buildings and/or structures.
- (4) Detailed historic description and background on the proposed landmark or proposed district.
- (5) Current photographs of the overall property or area, along with any historical photographs, if available.
- (6) Any other information which the HPO or Commission may deem necessary.

6.1.4.3 Upon receipt of a completed designation application, the HPO shall schedule a hearing at the next available regularly scheduled Commission meeting. Notice of the application shall be mailed to the property owner(s) and advertised in the official newspaper and/or posted on the property as provided for a Place Type zoning change.

6.1.4.4 A proposed historic landmark or district for which an application for designation has been received shall be protected by and subject to all the provisions of this LDC governing demolition, minimum maintenance standards, and penalties until a final decision by the City Council becomes effective, but not to exceed 180 days.

6.1.4.5 At the hearing, the applicant shall have an opportunity to present testimony and evidence to demonstrate the historical significance or insignificance of the subject property or district. Other interested parties and technical experts may also present testimony or documentary evidence, which will become part of a record. The burden of proof shall be upon the applicant. The HPC may take action to approve, postpone requesting additional information, or deny the application. The HPO shall forward any final recommendation to the Planning and Zoning Commission within 30 days of the hearing. Denials may be appealed directly to City Council.

6.1.4.6 The P&Z shall give notice and conduct its hearing upon receipt of the recommendation from the HPC. Notice for such hearing shall be in the same manner and the hearing held according to the same procedures as specifically provided in the general zoning ordinance of the City. The Planning and Zoning Commission shall review the application to ensure that the recommended designation will not pose a conflict with the underlying Place Type zoning and shall forward its recommendation to the City Council within 30 days after taking action on the application.

6.1.4.7 Upon receipt of the joint recommendation on the application from the Historic Preservation Commission and the Planning and Zoning Commission, the City Council shall schedule a hearing on the application within 30 days. Notice for such hearing shall be in the same manner and the hearing held according to the same procedures as specifically provided in the general zoning ordinance of the City. Significance shall be considered only on the record made before the Historic Preservation Commission and the Planning and Zoning Commission.

6.1.4.8 Upon designation of a historic landmark or historic district by the City Council, the designation shall be recorded by legal description on the City's official Place Type zoning maps, in the records of real property of Williamson County, and with the tax appraisal office.

- 6.1.4.9 The applicant or any persons adversely affected by any determination of the HPC may appeal the decision to City Council. Appeal requests shall be on forms as prescribed by the City and shall be filed with the HPO within seven days of the HPC's decision and scheduled for the next available regularly scheduled City Council meeting. Notice for such hearing shall be in the same manner and the hearing held according to the same procedures as specifically provided in this LDC.
- 6.1.4.10 Appeals to the City Council shall be considered only on the record made before the HPC and may only allege that the Historic Preservation Commission's decision was arbitrary, capricious, or illegal.

6.1.5 ORDINARY MAINTENANCE.

Nothing in this LDC shall be construed to prevent the ordinary maintenance and repair of any exterior architectural feature of an historic landmark or a property within an historic district which does not involve a change in design, material, or outward appearance that require the issuance of a building permit.

In-kind repair/replacement and repainting is included in this definition of ordinary maintenance unless painting involves an exterior masonry surface that was not previously painted. The HPO shall determine what is "ordinary maintenance."

6.1.6 MINIMUM MAINTENANCE STANDARDS.

No owner or person with an interest in real property designated as an historic landmark or a property located within an historic district shall permit the property to fall into a serious state of disrepair so as to result in the significant deterioration of any exterior architectural feature which would, in the judgment of the HPC, create a detrimental effect upon the historic character of the landmark or district.

- 6.1.6.1 Examples of serious disrepair or significant deterioration include:

- (1) Deterioration of exterior walls, foundations, or other vertical support that causes leaning, sagging, splitting, listing, or buckling.
- (2) Deterioration of external chimneys that causes leaning, sagging, splitting, listing, or buckling.
- (3) Deterioration or crumbling of exterior plaster finishes, surfaces or mortars.
- (4) Ineffective waterproofing of exterior walls, roofs, and foundations, including broken windows or doors.
- (5) Defective protection or lack of weather protection for exterior wall and roof coverings, including lack of paint, or weathering due to lack of paint or other protective covering.
- (6) Rotting, holes, and other forms of material decay.
- (7) Deterioration of exterior stairs, porches, handrails, window and door frames, cornices, entablatures, wall facings, and architectural details that causes de-lamination, instability, loss of shape and form, or crumbling.
- (8) Deterioration that has a detrimental effect upon the special character of the district as a whole or the unique attributes and character of the contributing structure.
- (9) Deterioration of any exterior feature so as to create or permit the creation of any hazardous or unsafe conditions to life, health, or other property.

6.1.7 PROCEDURE TO MITIGATE DEMOLITION BY NEGLECT.

Demolition by Neglect refers to the gradual deterioration of a property when routine or minimum maintenance is not performed. The HPO and the Development Services Department staff shall work together to reduce Demolition by Neglect involving landmarks or properties located within districts within the City. A Demolition by Neglect citation as determined by the HPC may be issued against the owner of the property for failure to comply with the minimum maintenance standards by permitting the subject property to exhibit serious disrepair or significant deterioration as outlined.

- 6.1.7.1 Due to the time-consuming nature of pursuing enforcement under this Section, no more than one property will be under consideration during each of the following quarters (January-March, April-June, July-September, and October-December).
- 6.1.7.2 While the HPO will act as the point of contact, the Development Services Department staff shall, when needed, assist with inspections. If there is a dispute between the HPO and Development Services Department staff, the City Manager may be consulted as a mitigating party.
- 6.1.7.3 Furthermore, while the HPO will act as the point of contact, the Planning Department staff shall, when needed, assist with inspections. If there is a dispute between the HPO and Planning Department staff, the City Manager shall make the final determination.
- 6.1.7.4 The procedure for citing a property owner for Demolition by Neglect shall be as follows:
 - (1) Initial identification is made by visual inspection of the area by the HPO or a Commission member or by referral from someone in the area. All referrals shall be made in writing and shall be submitted to the HPO.
 - (2) Once the initial identification is made, followed by preliminary determination by the HPO, the property owner shall be notified by U.S. mail of the defects of the building and informed of any incentive programs that may be available for repair. The owner shall be given thirty (30) days in which to respond to the preliminary determination by submitting a stabilization proposal to the HPO. The stabilization proposal will be presented to the HPC at the next available meeting. If the HPC approves the proposal, a certificate of appropriateness (if necessary) may be issued administratively by the HPO. The approval will detail the specific work that is necessary to correct the Demolition by Neglect conditions, as well as specify a time period to begin and to complete the work. The HPO shall update the HPC on the status of the property every 30 days, once work begins on the property.
 - (3) If the property owner receives the letter regarding the preliminary determination, but fails to respond, a second notice shall be sent in the same manner as described above.
 - (4) If the property owner fails to receive and/or respond to the letter regarding the preliminary determination after two attempts, the matter returns to the HPC for a citation hearing. The HPO shall send a third notice via certified mail informing the owner of the hearing, the property shall be posted with a notice of the violation in accordance with the provisions of this LDC, and a public hearing on the citation shall be scheduled.
 - (5) At the public hearing, the owner will be invited to address the HPC's concerns and to show cause why a citation should not be issued. The HPC may take action to approve any proposed work, defer the matter to give the owner more time either to correct the deficiencies or make a proposal for stabilization, or issue a citation to the owner of the property for failure to correct the Demolition by Neglect conditions.

- (6) If the owner is cited for the condition of Demolition by Neglect of the property, they shall be given 14 days to submit a stabilization proposal to the HPO, and at the discretion of the HPC, up to one year to correct the defects. The HPO shall update the HPC on the status of the property every 30 days once work begins on the property.
- (7) If the owner does not respond with a stabilization proposal, the matter shall be turned over to the City Attorney's office for recommendation to the City Council for legal action.

6.1.7.5 The City may create programs, or enter into partnerships with local non-profit organizations, to assist low-income and/or elderly homeowners with maintenance.

6.1.8 CERTIFICATES OF APPROPRIATENESS FOR ALTERATIONS OR NEW CONSTRUCTION AFFECTING LANDMARKS OR HISTORIC DISTRICTS.

No person shall carry out any construction, reconstruction, alteration, restoration, rehabilitation, or relocation of any Landmark or any property within a District, nor shall any person make any material change in the light fixtures, signs, sidewalks, fences, steps, paving, or other exterior elements visible from a public right-of-way which affect the appearance and cohesiveness of any Landmark or any property within a District without a Certificate of Appropriateness application. The application must be reviewed and approved by the HPO or the HPC prior to the issuance of any building permit involving any Landmark or property located within a District. The application shall be required in addition to, and not in lieu of, any required building permit.

6.1.9 REVIEW CRITERIA FOR CERTIFICATES OF APPROPRIATENESS FOR ALTERATIONS OR NEW CONSTRUCTION AFFECTING LANDMARKS OR HISTORIC DISTRICTS.

In considering an application for a Certificate of Appropriateness, the HPO and the HPC shall review it for compliance with the Secretary of the Interior's Standards for Rehabilitation and any applicable adopted Design Guidelines previously ratified by the City Council.

All review criteria shall be made available to the applicant, property owners of Landmarks and properties located within Districts. The HPC shall promulgate and make recommendations to update the adopted Design Guidelines as necessary, provided that the changes do not pose a conflict with underlying land-use zoning and the changes do not take effect until ratified by the City Council.

6.1.9.1 Applicability. A certificate of appropriateness shall be required in the following circumstances before the commencement of development within or work upon any property with historic overlay zoning:

- (1) Whenever such work or development requires a building permit or certificate of zoning compliance issued by the City;
- (2) Whenever such work includes the erection, moving, demolition, reconstruction, restoration, or alteration of the exterior of a property with historic overlay zoning, except when such work satisfies all the requirements of ordinary maintenance and repair as defined in Chapter 7, Definitions, of this LDC

6.1.9.2 Certificate of appropriateness required. No building permit shall be issued by the building official for any property with historic overlay zoning until the application for such permit has been reviewed and a

certificate of appropriateness has been approved by the HPO or the HPC.

- 6.1.9.3 Procedures. The procedure for obtaining a Certificate of Appropriateness may be initiated by the City for all Landmarks or proposed work within a District, or by the individual property owner(s) of the subject Landmark or for a property located within a District. The application must be submitted for review and approved by the HPO or the HPC prior to the commencement of any work. An application for Certificate of Appropriateness shall be made on forms as prescribed by the City and shall be filed with the HPO along with fees in accordance with the municipal fee schedule.

6.1.10 ADMINISTRATIVE DESIGN REVIEW AFFECTING LANDMARKS AND PROPERTIES LOCATED IN DISTRICTS.

- 6.1.10.1 Upon receipt of a completed Certificate of Appropriateness application as determined by the HPO, the HPO shall review the application for a preliminary determination of compliance with the Secretary of the Interior's Standards for Rehabilitation and the adopted Design Guidelines. The applicant is encouraged to schedule a meeting with the HPO prior to the submittal of an application to discuss the proposed work and get initial design direction. The HPO reserves the right to forward any Certificate of Appropriateness application to the HPC for review and approval when direction on design policy is needed or if unable to determine compliance with the Secretary of the Interior's Standards for Rehabilitation or the Design Guidelines. Proposed work to all Landmarks, all proposed work within a District, and for all City preservation-related incentive programs or federal projects must be reviewed by the HPC.
- 6.1.10.2 An application shall be eligible for administrative review by the HPO for the following:
- (1) The placement and screening, if necessary, of roof-mounted equipment and other mechanical equipment of various types;
 - (2) The placement and design of screening treatments for trash and recycling receptacles;
 - (3) Fences to be installed in the rear and/or side yard, unless an historic precedence exists for fences in the front yards;
 - (4) Replacing roofing materials or color on a flat roof that will not be visible from the ground or from immediately adjacent taller buildings;
 - (5) Gutters and downspouts;
 - (6) Installation or removal of landscaping, including trees;
 - (7) Accessibility ramps;
 - (8) Changes to awning material, shape, and size;
 - (9) Landscape elements, including but not limited to walks, paving, benches, outdoor furniture, planters, pools, trellises, arbors and gazebos;
 - (10) Installation of any elements required by other codes such as emergency lighting;
 - (11) Modifications that are considered non-permanent such as, but not limited to, window films and temporary features to weatherize or stabilize a historic resource;
 - (12) Minor modifications to an existing certificate of appropriateness that still meets the intent of the original approval;

(13) Renewal of an expired certificate of appropriateness.

6.1.10.3 If an application for administrative review is approved or approved with conditions, the HPO shall issue a certificate of appropriateness. However, the HPO may forward the application to the HPC for their consideration for the following reasons:

- (1) The application does not meet the approval criteria;
- (2) If the HPO does not act on the application within ten business days of receipt of the complete application;
- (3) The HPO disapproves the application; or
- (4) The applicant wishes to appeal the administrative decision or associated conditions of the certificate of appropriateness application.

An appeal to an administrative decision shall be filed with the HPC within ten (10) business days of said decision.

6.1.10.4 In the event an application is to be considered by the HPC, the HPO shall inform the applicant of the meeting date at which the application shall be considered. The applicant shall have the right to be heard and may be accompanied or represented by counsel and/or one or more construction or design professionals at the meeting.

6.1.10.5 The HPO shall review the application and make a recommendation to the HPC during the meeting at which the application shall be considered.

- (1) After hearing the applicant and any other interested parties, and considering the recommendation from the HPO, the HPC shall take one of the following actions:
 - (a) Approve the proposed work or development and issue a certificate of appropriateness.
 - (b) Approve the proposed work or development with conditions and issue a conditional certificate of appropriateness.
 - (c) Disapprove the certificate of appropriateness.
- (2) In the case of the disapproval of a certificate of appropriateness by the HPC, the HPC shall state in writing the reasons for such disapproval and may include suggestions in regard to actions the applicant might take to secure the approval of the HPC concerning future issuance of a certificate of appropriateness.

6.1.10.6 Certificate of Appropriateness.

- (1) It shall be the responsibility of the HPO to issue the actual certificate of appropriateness following administrative approval or approval by the HPC with any designated conditions, and to maintain a copy of the certificate of appropriateness, together with the proposed plans. These shall be public documents for all purposes.
- (2) Work performed pursuant to the issuance of a certificate of appropriateness shall conform to the

requirements of such certificate. It shall be the duty of the building official to inspect from time to time any work performed pursuant to a certificate of appropriateness to assure such compliance. In the event that such work is not in compliance, the building official shall issue a stop work order and/or citation as prescribed by ordinance. The HPC may request that the building official inspect the work and issue a stop work order.

6.1.10.7 Criteria. The HPO or the HPC shall determine whether to grant a certificate of appropriateness based on the following criteria:

- (1) The effect of the proposed change upon the general historic, cultural and architectural nature of the historic property or historic district;
- (2) The appropriateness of exterior architectural features, including parking and loading spaces, which can be seen from a public street, alley, or walkway; and
- (3) The general design, arrangement, texture, material and color of the building or structure and the relation of such factors to similar features of buildings or structures in the historic district, contrast or other relation of such factors to other buildings or structures built at or during the same period, as well as the uniqueness of such features, considering the remaining examples of architectural, historical and cultural values.

6.1.10.8 Guidelines. In all of its determinations of architectural appropriateness and historical integrity in the design and construction of historic properties or signs, the HPO or the HPC shall use the most recent edition of the book entitled, *The Secretary of the Interior's Standards for the Treatment of Historic Properties: With Guidelines for Preserving, Rehabilitation, Restoring and Reconstructing Historic Buildings*, or any future publication which replaces this book, and the following criteria as guidelines:

- (1) Every reasonable effort shall be made to provide a compatible use for a property that requires minimal alteration, or to use a property for its originally intended purpose.
- (2) The distinguishing original qualities or character of a historic property and its environment should not be destroyed. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible.
- (3) All historic properties shall be recognized as products of their own time. Alterations that have no historic basis and which seek to create an earlier appearance shall be discouraged.
- (4) Changes that may have taken place in the course of time are evidence of the history and development of an historic property and its environment. These changes may have acquired significance in their own right, and this significance shall be recognized and respected.
- (5) Distinctive stylistic features or examples of skilled craftsmanship that characterize a historic property shall be treated with sensitivity.
- (6) Architectural features that are found to be appropriate are to be repaired rather than replaced, wherever possible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, color, texture and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplications of features, substantiated by historic physical or pictorial evidence rather than on conjectural designs or the availability of different architectural elements from other properties.
- (7) Surface cleaning shall be undertaken with the gentlest means possible. Sandblasting and other

cleaning methods that will damage the historic building material shall not be undertaken without approval from the Historic Preservation Commission.

- (8) Every reasonable effort shall be made to protect and preserve archaeological resources affected by or adjacent to any project.
- (9) Contemporary design for alterations and additions shall not be discouraged when such alterations and additions do not destroy significant historic, architectural, or cultural material and when such design is compatible with the size, scale, color, material, a character of the property, neighborhood, or environment. Wherever possible, new additions or alterations shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the historic property would be unimpaired.

6.1.10.9 Supplemental guidelines. The HPO or the HPC may develop, and the City Council may approve, such supplemental guidelines as it may find necessary to implement the regulations of historic overlay zoning or the findings applicable to the designation of a particular historic property. Such guidelines may include, but are not limited to the following:

- (1) Charts or samples of acceptable materials for siding, foundations, roofs, or other parts of buildings;
- (2) Illustrations of appropriate architectural details;
- (3) Specifications of appropriate relationships to streets, sidewalks, other structures, and buildings;
- (4) Illustrations of appropriate porch treatments or entrances; or
- (5) Illustrations of appropriate signage or street furniture.

6.1.10.10 Certificate of appropriateness for demolition.

- (1) Certificate required. No historic property shall be demolished or removed unless such demolition shall be approved by the HPC and a certificate of appropriateness for such demolition shall be granted.
- (2) Procedure for the issuance of a certificate of appropriateness for demolition shall be the same as for the issuance of other certificates of appropriateness with the following modification.
- (3) After the hearing, the HPC may approve the certificate of appropriateness, thereby authorizing the demolition, or the HPC may disapprove the certificate of appropriateness and postpone the demolition or removal for a period of 120 days. The purpose of such a postponement would be to allow the HPC and any interested parties to explore alternatives to demolition.
- (4) The HPC may extend the postponement period for an additional 60 days to enable the completion of ongoing negotiations.
- (5) Notwithstanding any provision of this LDC, the City Council reserves the right to prohibit the demolition of a landmark structure with four affirmative votes.
- (6) Supplemental demolition criteria. In determining whether to issue a certificate of appropriateness for demolition, the HPC, and, on appeal, the City Council, shall consider the following criteria, in addition to the criteria specified in this section:
 - (a) The uniqueness of the property as a representative type or style of architecture, historic

association, or other element of the original designation criteria applicable to such structure or tract.

- (b) The condition of the property from the standpoint of structural integrity and the extent of work necessary to stabilize the property.
- (7) The economically viable alternatives available to the demolition applicant, including:
 - (a) Donation of a part of the value of the subject structure or site to a public or nonprofit agency, including the conveyance of development rights and facade easement.
 - (b) The possibility of sale of the property, or any part thereof, to a prospective purchaser capable of preserving such property.
 - (c) The potential of the property for renovation and its potential for continuing use.
 - (d) The potential of the property for rezoning in an effort to render such property more compatible with the physical potential of the property. The ability of the property to produce a reasonable economic return on investment for its owner; provided, however, that this factor shall not have exclusive control and effect but shall be considered along with all other criteria contained in this section.

6.1.10.11 Certificate of appropriateness for relocation:

- (1) Certificate Required. No historic landmark shall be relocated unless such relocation shall be approved by the HPC and a certificate of appropriateness for such relocation shall be granted. For the purposes of this subsection concerning relocation, the term "historic landmark" shall be used to describe an individual building, structure, or object designated according to the procedures in this LDC.
- (2) Procedure. The procedure for issuance of a certificate of appropriateness for relocation shall be the same as for the issuance of other certificates of appropriateness with the following additions.
 - (a) Documentation shall be provided to the HPC at the time of application for a certificate of appropriateness that provides an:
 - i. Overview of the proposed relocation of the historic resource, including:
 - » Reasons for relocating the historic resource; and
 - » Reasons for selection of destination site.
 - (b) Photographs, which document all aspects of the historic resource. Requirements for photographs shall be provided by the HPC. At a minimum, photographs provided by the applicant s hall include but are not limited to:
 - i. Each elevation of the building;
 - ii. Street view;
 - iii. All prominent architectural features; and
 - iv. Any additional accessory buildings that also have historic overlay zoning, showing how they relate to the primary structure.

- v. Requirements for photographs shall be maintained and provided by the HPC.
- (c) Site plan of historic resource in current location.
- (d) Site plan of historic resource in new location.
- (e) Public notices of the proposed relocation shall be required as follows:
 - i. Signed notice shall be posted within five business days of receipt of an application for a certificate of appropriateness for relocation, the City shall post a sign showing notice of the application on the originating location and on the proposed destination location, for the purpose of notifying the public of the proposed relocation.
 - ii. Mailed notice shall be sent ten business days prior to the HPC meeting when the application will be heard, written, notices shall be mailed to each owner, as indicated by the most recently approved City tax roll, of real property within 300 feet of the existing property with the resource proposed for relocation 300 feet of the proposed new location. Notice may be served by its deposit in the Postal Service in the City, properly addressed with postage paid.
 - iii. Mailed notices shall contain at least the following specific information:
 - The general location of land that is the subject of the application and/or a location map;
 - The legal description or street address;
 - The substance of the application;
 - The time, date, and location of the HPC meeting;
 - A phone number to contact the City; and
 - A statement that interested parties may appear at the hearing.
- (3) When a historic resource is relocated to a new site, the historic resource shall retain the historic overlay and therefore continue to be subject to the requirements of a certificate of appropriateness.
- (4) Supplemental relocation criteria. In determining whether to issue a certificate of appropriateness for relocation, the HPC, and, if necessary, on appeal, the City Council, shall consider the following criteria, in addition to the criteria specified in this subsection:
 - (a) The historic resource is imminently threatened by demolition or removal of historic overlay zoning.
 - (b) Reasonable alternatives have been examined to mitigate the threat to the historic resource, in lieu of relocation. Alternatives may include, but are not limited to:
 - i. Modification of the proposed project affecting the historic resource to avoid its impact on the location of the historic resource.
 - ii. Incorporation of the historic resource, in its entirety, into the proposed project that would affect the location of the historic resource.

- (5) When relocated, the historic resource shall remain in the City of Taylor.
- (6) The structural condition of the historic resource has been examined so that it has been determined that the historic resource may be moved and that damage to the historic resource which would result from the move can be minimized. Stabilization of the historic resource prior to and/or during the move may be required.
- (7) A new location for the historic resource has been determined that would be compatible with the architectural aspects of the historic resource, to the extent possible. Consideration shall include the review of all of the following:
 - (a) Size of the resource and destination lot;
 - (b) Massing;
 - (c) Architectural style;
 - (d) Review of all adopted design guidelines by the HPC in determining compatibility; and
 - (e) Other historic resources, which are not the primary resource on the site, but are historically associated with the primary resource, also should be relocated, if possible, and may be considered for relocation with the primary resource on the same certificate of appropriateness.
- (8) Any historic resource relocated pursuant to this section shall be required to conform to any siting conditions at the new location. These siting conditions shall include, but are not limited to, setback requirements, structural alteration requirements such as enclosed parking requirements, and architectural requirements such as exterior finishes and orientation.
- (9) The applicant agrees to the following additional conditions of the certificate of appropriateness:
 - (a) The historic resource shall be secured from vandalism and other damage for the time that it remains vacant as a result of the relocation process.
 - (b) The applicant shall be required to display a plaque, provided and paid for by the City, which documents the historic resource's original location, date of relocation, and reason for relocation.
 - (c) The historic overlay shall convey with the historic resource to its new location.
- (10) The historic overlay shall be removed from the originating property, unless one of the following applies:
 - (a) The property is located within an historic district; or
 - (b) Only an accessory structure has been moved and the primary structure on the site remains; or
 - (c) The site itself is historically significant.
- (11) The City may apply the historic overlay to the destination lot(s), by following the procedures for applying historic overlay of this LDC. If the historic resource is being moved into an already designated historic district, the historic overlay shall remain and apply.

- (12) The applicant shall provide photographs to the HPO of the relocated historic resource once relocation is complete.
- (13) Information regarding the relocation shall be filed in the appropriate City and county records.
- (14) If a certificate of appropriateness for relocation has been approved by the HPC, the following fees shall be waived:
 - (a) Building moving and permits fees
 - (b) Notice requirement fees.
- (15) Appeals of certificate of appropriateness decisions made by the HPC shall be made within 15 days to the City Council.

6.1.11 ECONOMIC HARDSHIP INVOLVING CERTIFICATES OF APPROPRIATENESS FOR DEMOLITION AFFECTING LANDMARKS AND HISTORIC DISTRICTS.

- 6.1.11.1 No certificate of appropriateness for demolition involving a claim of economic hardship may be approved, nor shall a demolition permit be issued by the City unless the owner proves compliance with the following standards for economic hardship:
 - (1) The property is incapable of earning a reasonable return in its current or rehabilitated state, regardless of whether that return represents the most profitable return possible; and
 - (2) The property cannot be adapted for any other use, whether by the current owner or by a purchaser, which would result in a reasonable return; and
 - (3) Earnest and reasonable efforts to find a purchaser interested in acquiring the property and preserving it have failed; and
 - (4) The property cannot be moved or relocated to another site similar or within the District.
- 6.1.11.2 The City shall adopt by resolution separate criteria for review in considering claims of economic hardship for investment for income-producing and non-income-producing properties, as recommended by the HPC. Non-income-producing properties shall consist of owner-occupied single-detached dwellings and non-income-producing institutional properties. All standards for review shall be made available to the owner prior to the hearing. The information to be considered by the City may include, but not be limited to, the following:
 - (1) Purchase date price and financing arrangements
 - (2) Current market value
 - (3) Form of ownership
 - (4) Type of occupancy
 - (5) Cost estimates of demolition and post-demolition plans for development
 - (6) Maintenance and operating costs

- (7) An inspection report by licensed architect or structural engineer that has experience working with historic properties
- (8) Costs and engineering feasibility for rehabilitation
- (9) Property tax information
- (10) Rental rates and gross income from the property
- (11) Other additional information as deemed appropriate

6.1.11.3 Claims of economic hardship by the owner shall not be based on conditions resulting from:

- (1) Evidence of demolition by neglect or other willful and negligent acts by the owner
- (2) Purchasing the property for substantially more than market value at the time of purchase
- (3) Failure to perform normal maintenance and repairs
- (4) Failure to diligently solicit and retain tenants
- (5) Failure to provide normal tenant improvements

6.1.11.4 Throughout the process, the applicant shall consult in good faith with the HPO, local preservation groups, and interested parties in a diligent effort to seek an alternative that will result in preservation of the property. Such efforts must be demonstrated to the HPC at the hearing.

6.1.12 ENFORCEMENT.

All work performed pursuant to a certificate of appropriateness issued under this LDC shall conform to any requirements included therein. It shall be the duty of the building inspector to inspect periodically any such work to assure compliance. In the event that work is not being performed in accordance with the certificate of appropriateness, or upon notification of such fact by the HPC and verification by the HPO, the building inspector shall issue a stop work order and all work shall immediately cease. The property owner shall then be required to apply for a hearing before the HPC to explain the non-compliance. No further work shall be undertaken on the project as long as a stop work order is in effect until a decision is rendered by the HPC on the application.

6.1.13 PENALTIES.

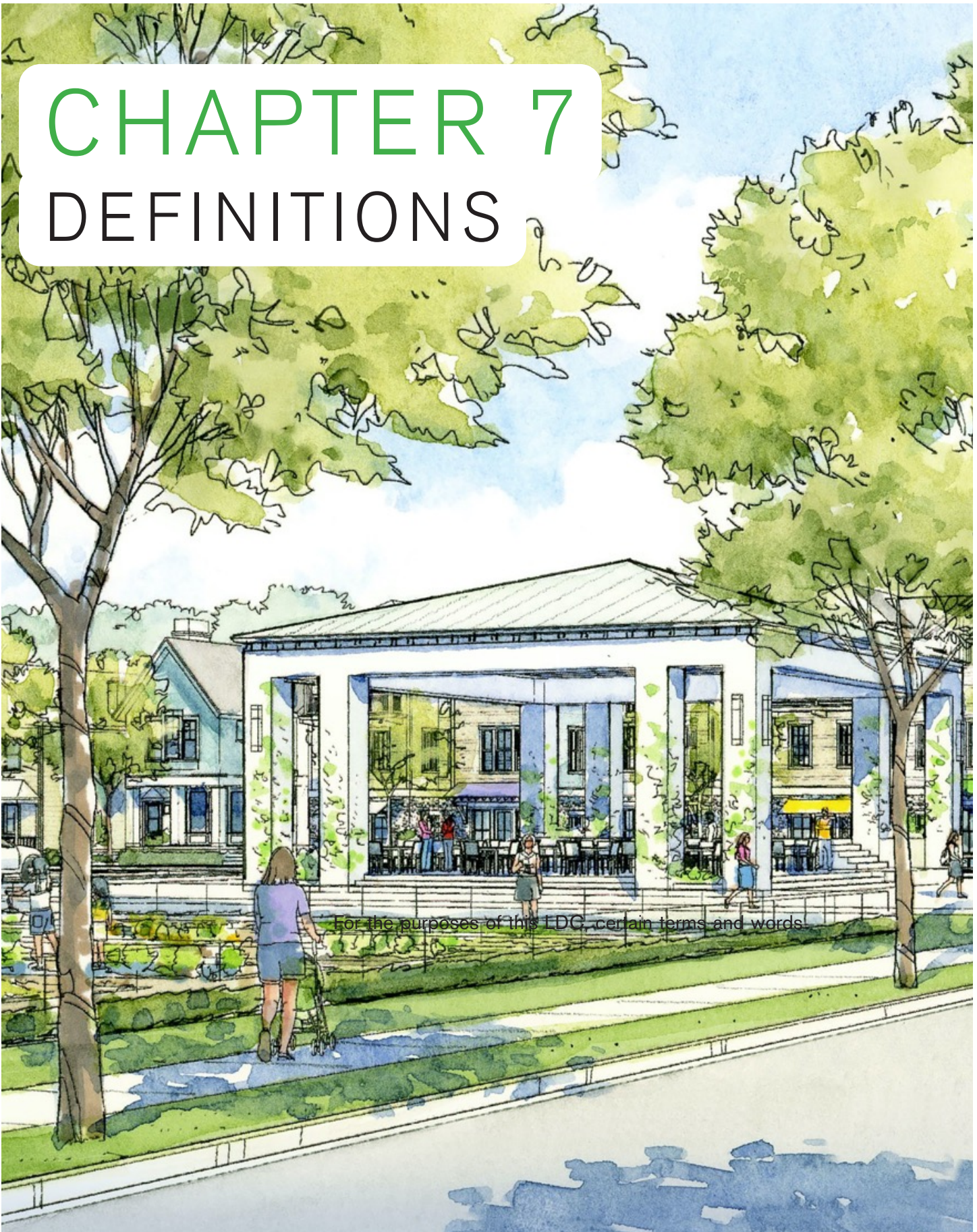
It shall be unlawful to construct, reconstruct, significantly alter, restore, or demolish any building or structure designated with historic overlay zoning in violation of the provisions of this LDC. The City, in addition to other remedies, may institute any appropriate action or proceeding to prevent such unlawful construction, reconstruction, significant alteration, or demolition to restrain, correct, or abate such violation or to prevent any illegal act, business, or maintenance in and about such premises, including acquisition of the property. Any person, firm, or corporation violating any provision of this LDC shall be guilty of a Class C misdemeanor, punishable by a fine of not less than \$250.00 or more than \$2,000.00.

Each day the violation continues shall be considered a separate offense. Such remedy under this section is in addition to any abatement restitution.

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CHAPTER 7

DEFINITIONS



For the purposes of this LDC, certain terms and words

are hereby defined; terms not defined herein shall be constructed in accordance with customary usage in municipal planning and engineering practices.

ACCESSORY BUILDING shall mean an outbuilding that is smaller than the main structure and is situated behind the main structure on the lot.

ACCESSORY DWELLING shall mean a secondary unit located toward the rear of the same lot as a principal building used as an additional dwelling unit.

ADDITION shall mean any construction that increases the size of a structure in terms of site coverage, height, or gross floor area.

ADDRESS SIGN shall mean a sign, generally applied to a building wall, that displays a building's address.

ADMINISTRATIVE APPROVAL shall mean the process by which the City Manager reviews submitted administrative plats, public frontage, site, and/or building plans and provides approval based on compliance with this LDC.

ADMINISTRATIVE PROCEDURE shall mean the procedure to be followed for the approval of the subdivision or re-subdivision of an existing lot(s) when such subdivision meets certain limited conditions set by the City.

ADMINISTRATIVE REVIEW shall mean the process by which the City reviews submitted Neighborhood Plans, Public Frontage, site, and/or Building Plans to determine compliance with this LDC.

ADMINISTRATOR shall mean the City Manager and/or designated City Staff.

ALLEY shall mean a vehicular drive located to the rear of lots providing access to service areas, parking, rear building access and may contain utility easements.

ALLEY SIGN shall mean a sign used to identify the alley entrance to a building or business.

ALTERATION shall mean any change, demolition, or modification to a structure or site designated as a historic landmark or located in a local historic area including, but not limited to, the following:

- (1) Exterior changes to or modifications of any buildings or structures, architectural details or visual characteristics.
- (2) Construction of new structures.
- (3) Disturbance of archaeological sites or areas; or
- (4) Disturbance, placement, or removal of exterior objects that affect the exterior qualities of the property.

AMENDING PLAT shall mean plat as defined in 212.016 of the Texas Local Government Code and the procedure for such plats shall be the same as the procedure as defined herein.

APARTMENT BUILDING shall mean a building or series of buildings containing greater than five (5) dwelling units in a building with exterior dwelling unit entrances, primarily rented or leased for terms longer than thirty (30) days.

APEX shall mean the highest point of a sign as measured from the point on the ground where its structure is located, or, if no sign structure is present, from the point on the ground directly below the sign itself.

APPEAL shall mean a means for obtaining a review of a decision, determination, order, or failure to act.

APPLICANT shall mean a person or entity who submits to the City an application for an approval required by this LDC. To be qualified as an applicant under this LDC, the person or entity must have sufficient legal authority or proprietary interests in the land to commence and maintain proceedings under this LDC. The term shall be restricted to include

only the property owner(s), or a duly authorized agent and representative of the property owner.

APPLICATION shall mean a written request to the City for an approval required by this LDC that contains all information required by this LDC and that has been deemed administratively complete by the City.

APPURTENANT features shall mean the features that define the design of a building or property including but not limited to porches, railings, columns, shutters, steps, fences, attic vents, sidewalks, driveways, garages, carports, outbuildings, gazebos, and arbors.

ARCADE shall mean colonnade supported upper stories of a building projecting over the sidewalk, where the facade of the first story remains at or behind the frontage line.

ARCHAEOLOGICAL resource shall mean a site with archaeological or paleontological value in that it has produced or can be expected to produce data affecting theories of historic or prehistoric interest.

ARCHITECTURAL ELEMENT shall mean the unique details and component parts that combined form the architectural style of a structure, building, or object.

ARCHITECTURAL FEATURES shall mean ornamentation or decorative features attached to or protruding from or otherwise accentuating an exterior wall.

AWNING shall mean a cloth, plastic, or other nonstructural covering that either is permanently attached to a building or can be raised or retracted to a position against the building when not in use. This term does not include canopies.

AWNING SIGN shall mean lettering applied directly on the valance or other vertical portion of an awning.

BAND SIGN shall mean a sign that is attached flat on the exterior front, rear, or side wall of any building or other structure.

BANNER shall mean a temporary sign, either attached or freestanding, with or without characters, letters, illustrations, or ornamentations, applied to cloth, paper, flexible plastic or fabric of any kind, attached to the exterior of the structure or freestanding on the site with temporary fastening devices such as rope, string, wire, twine, or similar materials, which is in addition to the permitted permanent signs, announcing a special event for a business, i.e., business openings, grand openings, sales, or promotion events.

BICYCLE CORRAL shall mean a group of either short-term or long-term bicycle parking spaces that are located in the vehicular parking area adjacent to the curb. The corral is generally surrounded by a painted white box on the street with flexible vertical delineators and a wheel stop where vehicles are likely to back into the adjacent parking spot.

BICYCLE RACK, LONG-TERM shall mean a bicycle parking fixture that provides at least two bicycle spaces and includes at least a four-foot-wide by six-foot-long dimension, is intended for parking more than three hours, and is fully protected from the elements.

BICYCLE RACK, SHORT-TERM shall mean a bicycle parking fixture that provides at least two bicycle spaces, includes at least a four-foot-wide by six-foot-long dimension, and is intended for parking less than three hours.

BLADE SIGN shall mean a sign mounted on the building facade, projecting at a 90-degree angle.

BLOCK shall mean an aggregate land area circumscribed by streets or thoroughfares.

BLOCK FACE shall mean the aggregate of all the principal frontage lines or alternatively the building facades on one side of a block.

BUILDABLE WIDTH shall mean the width of the building site left to be built upon after the required IBC setbacks

are provided.

BUILDING shall mean a structure having a roof supported by columns or walls for the shelter, support, or enclosure of persons, animals, real property, and business activity.

BUILDING BLOCK shall mean the 330' X 330' block size that is defined in Taylor's DNA. It is the foundation of the walkable environment.

BUILDING LINE shall mean the rear line of a required front build-to-line that is generally parallel to the street line forming the front line.

BUILDING OFFICIAL shall mean the inspector or administrative official charged with responsibility for issuing permits and enforcing the Building Code and this LDC where indicated.

BUILDING TYPES shall mean a range of structures with different standards to create a variety of options for human settlements.

BUILD-TO-LINE shall mean the line parallel to the street along which the primary mass of the front facade should be set. It is measured as a perpendicular distance from the street line to the nearest point of the building facade.

BUSINESS shall mean a place where a person practices their regular occupation, profession, or trade.

BY RIGHT shall mean characterizing a proposal or component of a proposal for a Neighborhood Plan or Site Plan that complies with this LDC and is permitted and processed administratively without public hearing.

CALENDAR YEAR shall mean between January 1 to December 31 of each year.

CANOPY shall mean any non-rigid material such as fabric or flexible plastic, that is supported by or stretched over a frame, that is attached to an exterior wall, and that may include a type that can be retracted, folded, or collapsed against the face of a supporting building.

CERTIFICATE OF APPROPRIATENESS shall mean the certificate issued by the City indicating approval of plans for alteration, construction, or removal affecting a designated landmark or property within historic overlay zoning.

CERTIFICATE OF OCCUPANCY shall mean an official certificate issued by the City through the Building Official that indicates conformance with the zoning standards and building codes and authorizes legal use of the premises that it is issued.

CERTIFIED LOCAL GOVERNMENT shall mean a local government certified or approved by the State Historic Preservation Office (SHPO), which has an appointed commission to oversee the survey and inventory of historic structures, to review areas for historically significant structures, and to develop and maintain the community planning and education process. This federal government program, authorized by the National Historic Preservation Act, 16 U.S.C. 470 et seq., provides for the participation of local governments in a federal/state/local partnership.

CHANNEL LETTERS shall have its own internal lighting element, individually attached to the wall or onto a separate background panel. The letter shall be translucent, or solid to create a backlit halo effect.

CITY OR THE CITY shall mean the City of Taylor and its authority of its city limits and extraterritorial jurisdiction (ETJ).

CITY CLERK shall mean the City Clerk of the City of Taylor or the authorized representative of the clerk.

CITY COUNCIL shall mean the governing body of the City of Taylor, Texas.

CITY ENGINEER shall mean a Licensed Engineer with the state of Texas or their representative with the City.

CITY MANAGER shall mean the chief administrative officer of the City of Taylor and their designated representative.

CITY OF TAYLOR ENGINEERING MANUAL shall mean the engineering manual adopted February 9, 2010, by Ordinance 2009-37, and any engineering manual adopted by the City of Taylor, Texas, by ordinance after March 24, 2011, superseding or repealing Ordinance 2009-37. Also referred to as the Engineering Manual.

CIVIC shall mean a designation for public sites dedicated for civic buildings and civic space.

CIVIC BUILDING shall mean a building operated by not-for-profit organizations dedicated to art, culture, education, recreation, government, transit, and municipal parking, or as approved by the Planning & Zoning Commission and City Council.

CIVIC SPACE shall mean an outdoor area dedicated for public use. Civic Space types are defined by the combination of certain physical constants including the relationships between their intended use, their size, their landscaping, and the buildings that front them.

CLEARANCE shall mean the height above the walkway, or another surface if specified, of the bottom edge of an element.

CLUSTERED LAND DEVELOPMENT OR CLD shall mean a Development Pattern structured by a pedestrian shed oriented toward a common destination such as a general store, meeting hall, schoolhouse, or church clustered together in order to preserve open space. CLD takes the form of a small settlement standing free in the countryside.

COLLECTOR STREET shall mean a street that continues through several residential districts and is intended as a connecting street between residential districts and arterial streets or thoroughfares or business districts. Such secondary or collector streets will also be indicated in the Thoroughfare Plan when adopted which will be placed on file with the City Engineer.

COMMERCIAL shall mean the term collectively defining workplace, office, retail, and lodging uses.

COMMERCIAL SIGN shall mean a sign that directs attention to a business, commodity, service, entertainment, or attraction sold, offered, or existing.

COMMISSION shall mean the Planning and Zoning Commission of the City of Taylor, Texas.

COMMON DESTINATION shall mean an area of focused community activity, usually defining the approximate center of a pedestrian shed. It may include, without limitation to, one or more of the following: a Civic Space, a Civic Building, a commercial center, or a transit station, and may act as the social center of a neighborhood.

COMPREHENSIVE PLAN shall mean a document adopted by the City that consists of graphic and textual policies that govern the future development of the City and that consists of various components governing specific geographic areas and functions and services of the City.

CONSERVATION EASEMENT shall mean a voluntary legal agreement between a landowner and a land trust or government agency that permanently limits uses of the land in order to protect its conservation values.

CONSTRUCTION shall mean the act of adding an addition to an existing building, structure or object, or the erection of a new principal or accessory building, structure, or object on any lot, parcel, or site.

CONSTRUCTION PLANS shall mean the scaled and dimensioned drawings intended to identify exactly how a

proposed project will be constructed. Construction plans include, but are not limited to, the following information: cover sheet, plat, site plan, landscape plan, sign plan, drainage plans and calculations, building plans, plans for both public and private utilities, construction details, etc.

CONTRIBUTING shall mean a building, structure, site, or object within a designated historic district which:

- (1) embodies the significant physical features and characteristics of the district, or adds to the historical association, historical architectural qualities, or archaeological values identified for the district; and
- (2) was present during the period of significance relating to the documented significance of the district; and
- (3) possesses historic integrity or is capable of yielding important information about the period.

COURTYARD shall mean the placement of a building within the boundaries of its lot to create a private courtyard, while internally defining one or more private patios. Courtyard is a building type.

CURB shall mean the edge of the vehicular pavement that may be raised or flush to a swale. It usually incorporates the drainage system.

DANGEROUS STRUCTURE shall mean a structure that poses an imminent threat to public health or safety.

DEMOLITION shall mean an act or process which: (1) destroys a lot, parcel or site or building, structure or object in its entirety, (2) destroys a part of a lot, parcel or site or building, structure or object and permanently impairs its structural, historic or architectural integrity, (3) removes the building, structure or object or any part thereof from the original lot, parcel or site without the requisite moving permit, or (4) removes architectural elements and features from the exterior of a building, structure or object.

DEMOLITION BY NEGLECT shall mean improper maintenance, neglect in the maintenance of, or lack of maintenance of any structure or property with historic overlay zoning, which results in deterioration of the structure and threatens the preservation of the structure.

DESIGNATION shall mean the process by which the City Council may designate certain buildings, land, areas, and districts in the City with historic overlay zoning and define, amend, and delineate the boundaries thereof.

DESIGN GUIDELINES shall mean the "Design Guidelines for Historic Taylor, Texas" as adopted by the City Council and as may be amended from time to time. These are guidelines of appropriateness or compatibility of building design within a community or historic district. Design guidelines contain drawings accommodating "do's and don't's" for the property owner. The historic preservation commission has the authority to administer design guidelines.

DESIGN REVIEW shall refer to the decision-making process conducted by the historic preservation board or an appointed historic preservation officer that is guided by established terms.

DEVELOPMENT shall mean any construction activity or alteration of the landscape, its terrain contour, or vegetation, including the erection or alteration of structures or land use.

DEVELOPMENT PATTERN shall mean options for land configuration for a Neighborhood Plan. The three types addressed in this LDC are Cluster Land Development (CLD), Traditional Neighborhood Development (TND), and Village Cluster Development (VCD).

DEVELOPMENT REVIEW COMMITTEE (DRC) shall mean staff members from each department overseeing development, infrastructure, and public safety that administer the provisions of this LDC.

DEVELOPMENT SIGN shall mean a sign announcing a proposed subdivision or a proposed building project.

DISPOSITION shall mean the placement of a building on its lot.

DISTRIBUTION MAINS shall mean off-site utilities serving a subdivision and other areas that are not laterals or service lines.

DRAINAGE shall mean any activity that intentionally alters the hydrological regime of any locality by facilitating the removal of surface or groundwater. It may include the construction, deepening, extending, opening, installation, or laying of any canal, drain, or pipe, either on the land or in such a manner as to encourage drainage of adjoining land.

DRAINAGE FACILITIES shall mean all facilities constructed within a subdivision related to stormwater drainage, including but not limited to swales, lawn areas, fences, structures, drainage facilities, drainage pipes, pumps, and detention and retention ponds.

DRIVEWAY shall mean a vehicular lane within a lot, often leading to a garage.

DUPLEX shall mean a building with two units within one structure on a lot. The configuration can be side by side, stacked, front to back, etc.

DWELLING shall mean any building or portion thereof, that is designed or used as living quarters for one or more families.

ECONOMIC HARDSHIP shall mean the inability of an owner to obtain a reasonable return or a reasonable beneficial use from a property with historic overlay zoning as required by the United States Supreme Court in Penn Central Transportation Company v. New York City, 438 U.S. 104 (1978) and subsequent decisions. A reasonable economic return does not have to be the most profitable return possible or allow the highest and best use of the property.

EDGEYARD BUILDING shall mean a building that occupies the center of its lot with setbacks on all sides. Edgeyard is a Building Disposition.

ELEVATION shall mean the exterior wall of a building that is set along a frontage line.

ENCROACHMENT shall mean any structural element that breaks the plane of a vertical or horizontal regulatory limit, extending into a setback, into the public frontage, or above a height limit.

ENFORCEMENT OFFICER shall mean a public official or employee responsible for ensuring compliance with local zoning regulations and ordinances.

EXTERIOR ARCHITECTURAL FEATURE shall mean but not be limited to architectural style and general arrangement of such portion of the exterior of a structure as is designed to be open to the view from a public way.

EXTERNALLY ILLUMINATED shall mean artificial light located away from the sign which lights the sign. The source of which may or may not be visible to persons viewing the sign from any street, sidewalk, or adjacent property.

EXTRATERRITORIAL JURISDICTION (ETJ) shall mean the area adjacent to the city limits of the City as created and authorized under Chapter 42 of the Texas Local Government Code. The City is authorized to control, among other things, subdivision as prescribed or defined by law.

FACADE shall mean the portion of any exterior elevation on the building extending from the grade to parquet, wall, or eaves, and the entire width of the building elevation which are adjacent to the front on any right-of-way. Where separate faces are oriented in the same direction, or in directions within 45 degrees of one another, they are to be considered as part of a single facade.

FAUX NEON SIGNAGE shall mean signage created by using light emitting diodes (LEDs) which are strung closely together so that the light they emit overlaps and creates a steady source of light encased in plastic tubes.

FEATHER BANNER shall mean a vertical portable sign, made of lightweight material that is prone to move in the wind, and that contains a harpoon-style pole or staff driven into the ground for support or is supported by means of an individual stand. This definition includes such signs of any shape including flutter, bow, teardrop, rectangular, shark, feather, and U-shaped. For purposes of this Chapter, a feather banner is an advertising device and sign.

FENCE shall mean a barrier or enclosure made of stone, brick, pierced brick or block, wood, or other permanent material of equal character, density, and acceptable design, including but not limited to masonry walls, chain link fences, barbed wire fences, picket fences, and privacy fences.

FILED shall mean the date when a submission has been deemed an administratively complete application. A plan or permit application shall be reviewed for completeness and be deemed administratively complete to be considered filed.

FINAL PLAT shall mean a plat as defined in 212.014 or 212.015 of the Local Government Code and the procedure for such plats shall be the same as standard procedure as defined herein.

FLAG/PENNANT shall mean a piece of fabric of distinctive design that is used as a symbol (as of a nation), identification, signaling device, or as decoration.

FLOODPLAIN shall mean an area of land subject to inundation by a 100-year frequency flood as determined using standard engineering practices and generally as shown on the FIRM (Flood Insurance Rate Map) of the City of Taylor.

FREESTANDING COMMERCIAL SIGN shall mean a sign supported by one or more columns, poles, or bars extended from the ground or from an object on the ground, or that is erected on the ground; the term includes all signs which are not substantially supported by a building or part thereof, or which are substantially supported by a building or part thereof, when the sole significant purpose of the building or part thereof, is to support or constitute the sign.

FRONTAGE shall mean the area between a building facade and the vehicular lanes, inclusive of its built and planted components. Frontage is divided into private frontage and public frontage.

FRONT PROPERTY LINE shall mean a lot line bordering a public frontage. Facades facing front property lines define the public realm and are therefore more regulated than the elevations facing other lot lines.

GALLERY shall mean an attached cantilevered shed or a lightweight colonnade extending from a building facade to overlapping the sidewalk.

GOVERNMENT shall mean a federal, state or local government entity and includes the City of Taylor and Williamson County.

GOVERNMENT SIGN shall mean a sign that is constructed, placed, or maintained by the federal, state, or local government or a sign that is required to be constructed, placed, or maintained by the federal, state, or local government either directly or to enforce a property owner's rights. Local government includes any political subdivision including the county, the City, the school district, or an emergency services district.

GRADE shall mean ground level.

GREEN shall mean a Civic Space Place Type (CS) for unstructured recreation, spatially defined by landscaping rather than building frontages.

HALO LIT SIGN shall mean aluminum faces and sides (returns) mounted onto standoffs away from the wall which project either LED's or neon illumination to the wall surface, giving the sign a halo effect.

HANGING SIGN shall mean a sign attached to underneath the canopy or awning.

HISTORIC DESIGNATIONS shall mean an official recognition of the significance of a building, property, or district. Designation can occur on three different levels:

- (1) Federal - The National Register of Historic Places (for both individual buildings and entire districts);
- (2) State - Recorded Texas Historic landmarks (only for individual buildings) and State Archaeological Landmarks; or
- (3) Local - designated under a municipal historic ordinance either individually as a landmark or as a locally designated district.

HISTORIC DISTRICT shall mean an area of the City containing a grouping of historic properties that are designated with historic overlay zoning and that may contain properties that are both contributing and non-contributing, but that is united historically or aesthetically. For the purpose of this section, the entirety of an historic district shall have historic overlay zoning.

HISTORIC LANDMARK shall mean any building, structure, object, site, or portion thereof with historic overlay zoning.

HISTORIC PRESERVATION shall mean the protection, reconstruction, rehabilitation, repair, and restoration of places and structures of historic, architectural, or archaeological significance.

HISTORIC PRESERVATION COMMISSION (HPC) shall mean the five-member Board established under this LDC and appointed by City Council.

HISTORIC PRESERVATION OFFICER (HPO) shall mean the planning director or their designee who shall serve as the historic preservation officer for the City and who shall oversee the historic preservation program for the City.

HISTORIC REHABILITATION shall mean the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values.

HISTORIC RESOURCE shall mean any building, structure, object, or site that is 50 years old or older or any resource that has been identified as a high or medium priority because of its unique history or architectural characteristics.

HISTORIC RESOURCES SURVEY shall mean a systematic, detailed examination of an area designed to gather information about historic properties sufficient to evaluate them against predetermined criteria of significance.

HOME OCCUPATION shall mean an occupation carried on only by a resident of the premises (and by no other person(s)), which occupation is clearly incidental and secondary to the residential purposes of the premises and does not change the external appearance of the residential property or be detrimental to the residential character of the neighborhood.

HOME OWNER'S ASSOCIATION (HOA) shall mean an organization authorized by the Texas Property Code Section 202 that is established in part to provide for the maintenance of required drainage improvements.

HOUSE shall mean a single dwelling unit edgeyard building on a lot.

IBC/ICC (INTERNATIONAL BUILDING CODE/INTERNATIONAL CODE COUNCIL) shall mean the Code or Codes adopted by the City of Taylor to ensure public health and safety of buildings, including all related Codes.

IMPROVEMENT shall mean any building, structure, or object constituting a physical betterment of real property, or any part of such betterment, including but not limited to streets, alleys, curbs, lighting fixtures, signs and the like.

INFLATABLE SIGN shall mean an inflatable device, with or without a message, figure, or design attached to its surface designed to attract attention.

INFILL/INFILL DEVELOPMENT shall mean new development on land that had been previously developed, including most greyfield and brownfield sites, or remainder lands surrounded by developed lands and cleared land within urbanized areas.

INTERNALLY ILLUMINATED shall mean a light source that is concealed or contained within the sign and becomes visible in darkness through a transparent surface.

INITIATED DESIGNATION shall mean the historic designation procedure is considered to be initiated immediately when the City Council, the Planning & Zoning Commission, or the Historic Preservation Commission votes to initiate it or, in the case of initiation by the property owner(s), when the designation report is filed with the planning director.

INTEGRITY shall mean the authenticity of a property's historic identity, evidenced by survival of physical characteristics that existed during the property's historic or prehistoric period.

INVENTORY shall mean a list of historic properties that have been identified and evaluated as meeting specified criteria of significance.

LANDSCAPE shall mean any improvement or vegetation including but not limited to shrubbery, trees, plantings, outbuildings, walls, courtyards, fences, swimming pools, planters, gates, street furniture, exterior lighting, and site improvements, including but not limited to subsurface alterations, site regarding, fill deposition, and paving.

LAYER shall mean a range of depth of a lot within those certain elements are permitted.

- (1) First Layer shall mean the area of a lot from the frontage line to the facade of the principal building.
- (2) Second Layer shall mean the area of a lot set behind the first layer to a depth of 20 feet in all Place Types
- (3) Third Layer shall mean the area of a lot set behind the second layer and extending to the rear lot line.

LIGHTING shall mean any source of light that does not include natural light emitted from celestial objects or fire. The term includes any type of lighting, fixed or movable, designed or used for outdoor illumination of buildings or homes, including lighting for billboards, streetlights, canopies, gasoline station islands, searchlights used for advertising purposes, externally or internally illuminated on- or off-premises advertising signs, and area-type lighting. The term includes luminous elements or lighting attached to structures, poles, the earth, or any other location.

LIGHT TRESPASS shall mean light emitted from fixtures designed or installed in a manner that unreasonably causes light to fall on a property other than the one where the light is installed, in a motor vehicle drivers' eyes, or upwards toward the sky.

LOCAL HISTORIC DISTRICT shall mean a geographically and locally defined area that possesses a significant concentration, linkage, or continuity of buildings, objects, sites, structures, or landscapes united by past events, periods, or styles of architecture, and that, by reason of such factors, constitute a distinct section of the City. Historic sites within a local district need not be contiguous for an area to constitute a district. All sites, buildings, and structures within a local historic district, whether individually contributing or not are subject to the regulations of the district.

LOCAL HISTORIC LANDMARK shall mean any site, building, structure, or landscape of historic significance that receives designation by the City pursuant to this LDC.

LODGING shall mean a place for temporary sleeping accommodation.

LOT shall mean a divided tract or parcel of land having frontage on a public right-of-way or on an approved civic

space or open space having direct thoroughfare access and that is or may be offered for sale, conveyance, transfer or improvement that is designated as a distinct and separate tract, and that is identified by a tract, or lot number or symbol in a duly approved plat that has been properly filed of record.

- (1) Lot, Corner shall mean a building lot situated at the intersection of two streets, the interior angle of such intersection not to exceed one hundred thirty-five (135) degrees.
- (2) Lot, Double Frontage shall mean a building lot not a corner lot, both the front and rear lot lines which adjoin street lines. On a double frontage lot, both street lines shall be deemed front lot lines unless contrary to any restrictive covenant applicable to said property.
- (3) Lot, Interior shall mean a building lot other than a corner lot.
- (4) Lot, Reverse Corner shall mean a corner lot, the rear lot line of which abuts the side lot line of the lot to its rear.

LOT AREA OR LOT SIZE shall mean the amount of horizontal land area within lot lines. No building permit or development approval shall be issued for a lot that does not meet the minimum lot size requirements of this LDC.

LOT AREA PER DWELLING UNIT shall mean the lot area required for each dwelling unit located on a building lot.

LOT COVERAGE shall mean the percentage of the area of a lot covered by building, parking, or other impervious footprints.

LOT LINE shall mean the boundary that legally and geometrically demarcates a lot.

- (1) Lot Line, Front shall mean the boundary of a building lot which is the line of an existing or dedicated street. Upon corner lots, either street line may be selected as the front lot line provided a front and rear IBC setback are provided adjacent and opposite, respectively to the front line, and provided further that same front line does not violate any restrictive covenant applicable to said property.
- (2) Lot Line, Rear shall mean the boundary of a building lot which is most distant from and is, or is most nearly, parallel to the front lot line.
- (3) Lot Line, Side shall mean any boundary of a building lot which is not a front lot line or a rear lot line.

LOT OF RECORD shall mean a lot that is part of a plat that has been recorded in the office of the County Clerk of Williamson County.

LOW-INCOME HOMEOWNER shall mean any homeowner that meets the U.S. Department of Housing and Urban Development (HUD) qualifications for low income.

LOT WIDTH shall mean the length of the principal frontage line of a lot.

LOW PROFILE SIGN shall mean a sign with a permanent foundation that is not attached to a building, but is a stand-alone sign which does not exceed 60 square feet in area and four feet in height.

LUMEN shall mean the unit of measurement used to quantify the amount of light produced by a bulb or emitted from a fixture (as distinct from "watt," a measure of power consumption). The initial lumen rating associated with a given lamp is generally indicated on its packaging or may be obtained from the manufacturer. (Abbreviated lm)

LUMENS PER ACRE shall mean the total number of lumens produced by all lamps utilized in outdoor lighting on a property divided by the number of acres, or part of an acre, with outdoor illumination on the property.

LUMINOUS ELEMENTS (OF A LIGHT FIXTURE) shall mean the lamp (light bulb), any diffusing elements, and surfaces intended to reflect or refract light emitted from the lamp individually or collectively comprise the luminous elements of a light fixture (luminaire).

MAILBOX type structure shall mean a small frame structure that resembles a mailbox support to which a swinging sign is attached and is located on the applicant's property.

MAIN CIVIC SPACE shall mean the primary outdoor gathering place for a community. The main civic space is often, but not always, associated with an important civic building.

MAINTENANCE AGREEMENT shall mean an agreement between the City of Taylor, Texas and a Developer that will insure that installed appurtenances will be maintained in accordance with best management practices.

MANUFACTURED HOME shall mean a structure, transportable in one (1) or more sections, which is built on a permanent chassis and designed for use with a permanent foundation when attached to the required utilities. The term "manufactured home" does not include a "recreational vehicle."

MASTER SIGN PLAN shall mean a comprehensive document containing specific standards for an entire project or property's signs.

MARQUEE shall mean permanent structure, other than a roof or canopy, attached to, supported by, and projecting from a building and providing protection from the elements.

MARQUEE SIGN shall mean any sign attached to a marquee for the purposes of identifying a use or product. If attached to a theater, performing arts center, cinema, or other similar use, it may also advertise films or productions.

MESSAGE BOARD shall mean a sign with changeable text. Non-electronic Message Boards typically consist of letters attached to a surface within a transparent display case. Electronic Message Boards typically have a fixed or changing message composed of a series of lights.

MINOR ALTERATIONS shall mean the installation or alteration to awnings, fences, gutters, downspouts, and incandescent lighting fixtures; restoration of original architectural features that constitute a change from the existing condition; alterations to signs; and additions and changes not visible from any street to the rear of the main structure or to an accessory structure.

MINOR PLAT shall mean a plat as defined in 212.014 or 212.015 of the Local Government Code and the procedure for such plats shall be the same as standard procedure as defined herein.

MOBILE FOOD VENDORS shall mean any Business that operates or sells food for human consumption, hot or cold, from a Mobile Food Vending Unit.

MOBILE HOME shall mean a factory-assembled structure approved by the municipality with the necessary service connections made so as to be movable on site and designed to be used as a permanent dwelling.

MODULAR HOME shall mean a structure or building module as defined under the jurisdiction and control of the Texas Department of Labor and Standards, that is transportable in one or more sections on a temporary chassis or other conveyance device, and that is designed to be installed and used by a consumer as a fixed residence on a permanent foundation system. The term includes the plumbing, heating, air conditioning and electrical systems contained in the structure. The term does not include mobile homes or HUD-Code manufactured homes as defined in the Texas Manufactured Housing Standards Act (Article 5221f, V.A.C.S.). Modular homes must meet all applicable

local codes and zoning regulations that pertain to construction of traditional site constructed ("stick built") homes.

MONUMENT SIGN shall mean a ground Sign generally having a low profile with little or no open space between the ground and the sign and having a structure constructed of masonry, wood, or materials similar in appearance.

MURAL shall mean artwork applied to the wall of a building that covers all or substantially all of the wall and depicts a scene or event of natural, social, cultural, or historic significance. Excludes any commercial message.

NAMEPLATE shall mean a sign consisting of either a panel or individual letters applied to a building, listing the names of businesses or building tenants.

NATIONAL HISTORIC LANDMARK shall mean a district, site, building, structure, and/or object that has been formally designated as a National Historic Landmark by the U.S. Secretary of the Interior and possesses exceptional value or quality in illustrating or interpreting the heritage of the United States in history, architecture, archeology, engineering, and culture and that possesses a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association. National Historic Landmarks are automatically listed in the National Register.

NATIONAL REGISTER OF HISTORIC PLACES shall mean a federal list of cultural resources worthy of preservation, authorized under the National Historic Preservation Act of 1966 as part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect the nation's historic and archaeological resources. The National Register Program is administered by the local historic preservation commission, by the state historic preservation office, and by the National Park Service under the Department of the Interior. Significant federal benefits may accrue to owners of properties listed or determined eligible for listing in the National Register.

NEIGHBORHOOD PLAN shall mean a neighborhood design plan created through a series of maps defining the physical form, Place Type allocation, block types, and extent of a settlement as required the LDC. The three Development Patterns addressed in this LDC are CLD, TND, and VCD and allow for the creation of a variety of Neighborhood Plan patterns.

NEIGHBORHOOD STREET shall mean a street that continues through several residential districts and is intended as a connecting street between residential districts and arterial streets or thoroughfares or business districts. Such secondary or neighborhood streets are indicated in the Transportation Master Plan and will also be indicated in the Thoroughfare Plan when adopted, which will be placed on file with the City Engineer.

NEON signage shall mean electric signs illuminated by small gas-charged glass tubes containing neon or some other form of rarified gas.

NONCONFORMING SIGN shall mean a sign lawfully in existence on the date the provisions of this LDC are adopted that does not conform to the provisions of this LDC, but was in compliance with the applicable standards at the time they were constructed, erected, affixed, or maintained.

NONCONTRIBUTING shall mean a building, site, structure, or object that is located within a designated historic district, but does not add to the historic associations, historic architectural qualities, or archaeological values for which the district is significant because:

- (1) It was not present during the period of significance;
- (2) It does not relate to the documented significance of the property; and/or
- (3) To alterations, disturbances, additions, or other changes, it no longer possesses historic integrity and/or is capable of yielding important information about the period.

NON-COMMERCIAL SIGN shall mean a work of art or message which is political, religious, or pertaining to a point

of view, expression, opinion, or idea that contains no reference to the endorsement, advertising of, or promotion of patronage, of a business, commodity, service, entertainment, or attraction that is sold, offered or existing.

NON-CONTRIBUTING STRUCTURE shall mean a structure within a designated local Historic District that is not considered to be of historical significance or which does not possess significant physical features, historical associations, or historical architectural qualities.

NONRESIDENTIAL shall mean a property used for purposes other than to residential.

OBJECT shall mean a physical item associated with a specific setting or environment that is movable by nature or design, such as statuary in a designed landscape. The term “object” is used to distinguish it from buildings or structures as objects are constructions that are primarily artistic in nature or are relatively small in scale or simply constructed.

OFF-PREMISES COMMERCIAL SIGN shall mean a sign which directs attention to a business, commodity, service, entertainment, or attraction sold, offered, or existing elsewhere than upon the premises where such sign is displayed. This definition includes but is not limited to freestanding and billboard signs.

ON-PREMISE COMMERCIAL SIGN shall mean a sign which directs attention to a business, commodity, service, entertainment, or attraction sold, offered, or existing upon the premises where such sign is displayed. This definition does not include non-commercial signs.

OFF-SITE IMPROVEMENTS shall mean improvements made to a parcel of property in accordance with local policies that are not contained within the boundaries of the property.

ON-SITE IMPROVEMENTS shall mean improvements made to benefit a parcel or parcels of property in accordance with local policies that are within the boundaries of property being improved.

OPEN SPACE shall mean land intended to remain undeveloped; it may be for civic space, left natural, or integrate trails or other activities.

ORDER OF DEMOLITION shall mean a directive issued by the local historic preservation commission indicating approval of plans for demolition of a designated landmark or property within a designated district.

ORDINARY MAINTENANCE shall mean activities relating to a property that would be considered ordinary or common for maintaining the property, such as a) repair using the same material and design as the original and does not require structural modifications; b) repainting; c) reroofing, using the same type; or d) repair of sidewalks and driveways.

OSSF shall mean on-site sewage facility, commonly referred to as septic systems, whether of a traditional or “engineered” design.

OUTDOOR DISPLAY CASE shall mean a sign consisting of a lockable metal or wood framed cabinet with a transparent window or windows, mounted onto a building wall or freestanding support. It allows the contents, such as menus or maps, to be maintained and kept current.

OVERLAY DISTRICT shall mean zoning applied over one or more other districts, creating a second, mapped zone that is superimposed over the conventional zoning districts. Overlay districts typically provide for a higher level of regulations in certain areas such as transit station areas, downtown areas, and historic districts, but may also be used to permit exceptions or less restrictive standards (such as more density in an economic development area).

OWNER shall mean the individual, corporation, partnership, or other legal entity in whom is vested the ownership, dominion, or title of property and who is responsible for payment of ad valorem taxes on that property; including a Lessor or Lessee if responsible for payment of ad valorem taxes.

PARCEL shall mean a contiguous tract of land owned by or controlled by the same person or entity.

PARK shall mean a civic space type that is a natural preserve available for unstructured recreation.

PARK AND RECREATION, PUBLIC shall mean an open recreation facility or park owned and operated by a public agency, such as the park department or school board and available to the general public.

PARK OR PLAYGROUND (PRIVATE) - Shall mean a structure or space on private land designated for recreation and play.

PARK OR PLAYGROUND (PUBLIC) - See "Public Recreation".

PATH OR PATHWAY shall mean a pedestrian way traversing a Park or rural area, with landscape matching the contiguous Open Space, ideally connecting directly with the urban Sidewalk network.

PEDESTRIAN shall mean any person afoot. A person who uses an electric personal assistive mobility device or a manual or motorized wheelchair is considered a pedestrian unless the manual wheelchair qualifies as a bicycle. For the purposes of this paragraph, "motorized wheelchair" means a self-propelled wheelchair that is used by a person for mobility.

PEDESTRIAN SHED shall mean the area covered by a 5-minute walk from the center of a neighborhood (about 0.25 miles or 1,320 feet). The acreage of the pedestrian shed is determined by the development pattern.

PERMANENT SIGN shall mean a sign constructed of durable materials which is affixed or attached to real property by poles, stakes, or other members which are placed into the ground, or upon some other type of permanent foundation and are intended for long-term use. A permanent sign excludes a sign attached to a building or other permanent structural members with rope, string, wire, twine, or similar material.

PID shall mean a Public Improvement District as authorized by section 372 of the Texas Local Government Code.

PLACE TYPES OR PLACE TYPE ZONES shall mean geographic boundaries that use standards to establish the Building Types density, height, and other elements of the intended habitat. Each Place Type has associated standards relating to the private and public frontages.

PLACE TYPE ZONING MAP shall mean the official map or maps that are part of this LDC and delineate the boundaries of individual districts.

PLANNING & ZONING COMMISSION shall mean a board, appointed by the City Council, authorized to recommend changes in the zoning and other planning functions as delegated by the City Council. Also referred to as the "Commission."

PLAT shall mean a of a division of land creating building lots or tracts, showing all essential dimensions, and other information necessary to comply with the standards of the City of Taylor, approved by the City of Taylor, and recorded in the plat records of Williamson County. It shall include plan, plat or replat, both singular and plural.

PLAZA shall mean a civic space type designed for civic purposes and commercial activities in the more urban Place Types, generally paved and spatially defined by building frontages.

POLE SIGN shall mean a sign permanently affixed to the ground by poles that are enclosed by natural stone, stucco, brick, or wood and not mounted to a part of a Building.

POLITICAL SIGN shall mean any sign which promotes a candidate for any public office or which advocates a position on any social issue as its primary purpose. Political signs shall be considered in the category of non-commercial signs except where there are regulations pertaining to their removal after an election.

PORTABLE SIGN shall mean a sign which is not affixed or attached to real property by poles, stakes, or other members which are placed into the ground, or upon some other type of permanent foundation; trailer signs, any

sign with wheels or skids, and any sign which is constructed so as to sit upon the surface of the ground, without subsurface attachment or extension.

PRE-CONSTRUCTION shall mean a formal meeting with the City Engineer before a Subdivision Improvement Plan or Subdivision Improvement Plan Agreement may be approved.

PRE-DEVELOPMENT MEETING shall mean a meeting with City Staff required before a formal application submission for any plat, replat, or plat vacation may be submitted to the City.

PREMISES shall mean land together with any buildings or structures situated thereon.

PRESERVATION shall mean the stabilization of a historic building, its materials and features in their present condition to prevent future deterioration. Preservation focuses on the maintenance and repair of existing historic materials and retention of a property's form as it has evolved over time.

PRESERVATIONIST shall mean someone with experience, education or training in the field of preservation.

PRIMARY FRONTAGE shall mean the private frontage designed to bear the address and principal entrance(s) of a building.

PRIMARY SIGN shall mean the most dominant sign on the building. This may be a single sign or a combination of signs providing that the total square footage of the primary sign or signs does not exceed the total allowable square footage permitted for the building.

PRINCIPAL BUILDING shall mean the main building on a lot.

PRINCIPAL BUILDING FACADE shall mean the primary street side of the building facing the public realm.

PRINCIPAL ENTRANCE shall mean the main point(s) of access for pedestrians into a building or unit within a building.

PRINCIPAL FRONTAGE shall mean the private frontage designed to bear the address and principal entrance(s) of a building.

PRIVATE FRONTAGE shall mean the privately held first lot layer and the facade of the building.

PRIVATE REALM shall mean privately owned areas in large part developed with buildings and associated improvements. It is more limited in its accessibility to the public.

PROJECT shall have the same definition as "Development".

PROJECTING SIGN shall mean a two-sided sign projecting from a building and placed perpendicular to the building's front facade or placed at the building's exterior corner.

PUBLIC ENTITY shall mean a federal, state, or local government entity and includes the City of Taylor, Williamson County, and Taylor Independent School District.

PUBLIC FRONTAGE shall mean the area between the curb of the vehicular lanes and the front property line.

PUBLIC IMPROVEMENTS shall mean any water, wastewater, paving, and drainage facility that will be maintained by the City.

PUBLIC INFRASTRUCTURE shall mean any portion of a street, drainage, water, and wastewater improvement system, including but not limited to any and all appurtenances related to such system, whether on or off-site, which is intended to serve more than one parcel of property, connects to existing public infrastructure, or intended to provide for the public health, safety, and welfare of the community.

PUBLIC REALM shall mean the streets, parks, squares, green spaces, and other interconnected outdoor places that require no key to access them and are available without charge for everyone to use.

PUBLIC RECREATION shall mean publicly owned and operated parks, recreation areas, playgrounds, swimming pools and open spaces that are available for use by the general public without membership or affiliation. This land use shall include special event type uses such as rodeos, concerts, festivals and other special events.

REAL ESTATE, FINANCE, AND CONSTRUCTION SIGN shall mean an attached or freestanding sign erected upon a lot or parcel of land for the purpose of advertising same for sale or lease, or advertising the furnishing of interim or permanent financing for a project, or for the furnishing of labor, materials or the practice of crafts on the job site.

REARYARD BUILDING shall mean a building that occupies the full frontage line, leaving the rear of the lot as the sole yard.

RECONSTRUCTION shall mean the act or process of reassembling, reproducing or replacing by new construction the form, detail and appearance of property and its setting as it appeared at a particular period of time by means of removal of later work or by the replacement of missing earlier work or by reuse of original materials.

RECORDED TEXAS HISTORICAL LANDMARK shall mean a state designation for buildings important for their historical associations and which have retained a high degree of their original historic fabric. They must be at least 50 years of age and retain their original exterior appearance. State historical landmarks receive greater legal protection than National Register of Historic Places designations.

RECREATIONAL VEHICLE shall mean a portable home designed as a temporary dwelling for travel and recreational and vacation uses. Such homes shall not exceed eight feet in width and 46 feet in length and shall be classified as a recreational vehicle whether or not its wheels, rollers, skids or other rolling equipment have been removed, and whether or not any addition thereto has been built on the ground; and shall also include pick-up campers, converted buses, self-powered motor homes, tent trailers, tents and analogous temporary portable housing and accessory buildings.

REHABILITATION shall mean the act or process of returning a property to a state of utility through repair or alteration that makes possible an efficient contemporary use while preserving those portions or features of the property that are significant to its historical, architectural, and cultural values.

RELOCATION shall mean any change of the location of a structure in its present location to another location within the city limits.

REMOVAL shall mean permanently moving a structure or feature or tree from its current location.

REPLAT shall mean a plat as defined in Chapter 212.014 or 212.015 of the Local Government Code and the procedure for such plats shall be the same as standard procedure as defined herein.

RESIDENTIAL shall mean a structure designated and built for someone to live in.

RESPONSIBLE PARTY shall mean the owner/operator of the business being identified on the sign; the owner of the property where the sign or sign structure is located; the owner of the sign or sign structure; the person who installs a sign or sign structure, contracts with or directs a person to accomplish the installation; and/or the person who retrieves a sign from the impound.

RESTORATION shall mean the act or process of accurately recovering the form and details of a building, structure or object or lot, parcel or site and its setting as it appeared at a particular period of time by means of the removal of later work or by the replacements of missing earlier work.

RE-SUBDIVISION shall mean the division of an existing subdivision, together with any change of lot size therein, or with relocation of any street lines.

RIGHT OF WAY shall mean the land located between the property line and the edge of the pavement of a public street or a utility easement in which a governmental entity has an interest.

ROOF SIGN shall mean an outdoor advertising display sign erected, constructed, or maintained on the roof of a building or which is wholly dependent upon a building for support, and which projects above the point of a building with a flat roof, six feet above the eave line of a building with a shed, gambrel, gable or hip roof, or the deck line of a building with a mansard roof.

SCREENED shall mean shielded, concealed, and effectively hidden from view by a person standing at ground level on an abutting site, or outside the area or feature so screened by a fence, wall, hedge, berm, or similar architectural or landscape feature.

SECONDARY FRONTAGE shall mean on corner lots, the private frontage that is not the principal frontage.

SECRETARY OF THE INTERIOR'S STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES shall mean a federal document providing standards and guidelines for the appropriate rehabilitation, preservation, restoration, and reconstruction of historic buildings.

SETBACK shall mean the area of a lot measured from the lot line to a building facade or elevation that is maintained clear of permanent structures, with the exception of encroachments listed in this LDC. The Build-to-Line replaces the front setback in the zoning and subdivision standards. See Build-to-Line.

SHALL OR MAY shall mean the word "shall" shall be deemed mandatory, the word "may" shall be deemed permissive.

SHED AWNING shall mean an awning with two short sides in addition to the main canopy.

SHIELDED shall mean the description of a luminaire from which no direct glare is visible at normal viewing angles by virtue of its being properly aimed, oriented, and located and properly fitted with such devices as shields, baffles, louvers, skirts, or visors.

SHINGLE SIGN shall mean a small blade sign usually mounted on the ground floor level, displaying a building's professional tenant directory.

SIDEWALK shall mean a type of walkway paved with concrete or pavers.

SIDEWALK SIGN shall mean a movable freestanding sign that is typically double-sided, placed at the entrance to a business to attract pedestrians. (Var: sandwich board, A-frame sign.)

SIDEYARD shall mean the placement of a building within the boundaries of its lot to create a private sideyard, with a setback to one side. Sideyard is a Building Type.

SIGHT TRIANGLE shall mean a triangular shaped area required on corner lots at the intersection of two streets including alleys that impact multi-modal traffic safety.

SIGN shall mean a structure, sign, display, light device, figure, painting, drawing, message, plaque, poster, billboard, or other object that is designed, intended, or used that includes text or images designed to communicate. Signs located completely within an enclosed building and not exposed to view from outside the building or structure shall not be considered a sign. Each display surface of a sign or sign face shall be a sign.

SIGN ADMINISTRATOR shall mean the officer appointed by the City Council with the authority to enforce this LDC. The Sign Administrator or designee shall review sign standards and applications. In the absence of designation by the City Council, the City Administrator shall serve as the sign manager. The term also includes any person designated to act on behalf of the Sign Administrator.

SIGN BAND shall mean the horizontal signage area on a valance or marquee.

SITE(S) shall mean the location of a significant event, a prehistoric or historic occupation or activity, building or structure, whether standing, ruined, or vanished, where the location itself possesses historical, cultural, architectural, or archaeological value regardless of the value of any existing structure.

SITE PLAN shall mean the engineered or surveyed drawings depicting proposed development of land.

SKETCH DRAWING shall mean a preliminary design of a subdivision and/or development that illustrates the layout of rights-of-way, blocks, lots, easements, civic/open spaces, drainage, and land uses. A sketch drawing is preliminary in nature but provides enough detail to define the physical form of a subdivision and/or development to allow staff to provide relative feedback to an applicant. Review of a sketch drawing is not considered the filing of an original application or plan for development for purposes of Chapter 245 of the Texas Local Government Code.

SOIL CELL shall mean structures designed to be filled between the voids with soil and covered with pavement. Tree roots grow in the soil between the structural supports.

SQUARE shall mean a civic space designed for unstructured recreation and civic purposes, circumscribed by thoroughfares, spatially defined by building frontages, and consisting of paths and/or sidewalks, lawn and trees, formally lining the space.

STANDARD PROCEDURE shall mean the procedure to be followed for the approval of a subdivision when the land proposed to be subdivided.

STANDARDS shall mean the mandatory requirements or rules of this LDC.

STATE ANTIQUITIES LANDMARK shall mean a designation made by the Texas Historical Commission and, in the case of privately owned property, with the landowner's permission. Although called state "antiquities" landmarks, this designation can include buildings as well as archaeological sites. For a building to be designated as a State Antiquities Landmark, it must first be listed on the National Register of Historic Places. Damage to a State Antiquities Landmark is subject to criminal, not civil, penalties.

STATE HISTORIC PRESERVATION OFFICE (SHPO) shall mean the State Office responsible for administering federal historic preservation programs as defined in the National Historic Preservation Act of 1966 as amended and subsequent legislation. The Executive Director of the Texas Historical Commission serves as SHPO for the State of Texas.

STORY shall mean a habitable level within a building, excluding an attic or raised basement.

STREET shall mean a local urban thoroughfare of low speed and low to moderate capacity.

STREET WIDTH shall mean the measurement from back-of-curb to back-of-curb.

STREET LINE shall mean the right-of-way line of a street.

STREET NETWORK PLAN shall mean the system of thoroughfares identifying the physical location of each thoroughfare and its Street Type.

STREET TREES shall mean any tree that is growing in the City right-of-way, whether in improved (between the sidewalk and the curb) or unimproved (no sidewalk and/or curb) right-of-way.

STREET TYPE shall mean a particular type of street and its characteristics, including right-of-way width, number and dimensions of elements, and the intended purpose of the street.

STRUCTURE shall mean anything constructed or erected, the use of that requires location on the ground, or that is attached to something having a location on the ground.

SUBDIVIDER shall mean the person, firm, partnership, association, corporation or other legal entity subdividing a piece of land to be sold or otherwise handled for their own personal gain or use.

SUBDIVISION shall mean the division of any lot, tract or parcel of land into 2 or more parts in order to lay out a subdivision of the tract, including an addition to the City, to lay out a neighborhood, building, or other lots, or to lay out streets, alleys, squares, parks, or other parts of the tract intended to be dedicated to public use or for the use of purchasers or owners of lots fronting on or adjacent to the streets, alleys, squares, parks, or other parts.

SUBDIVISION IMPROVEMENT PLAN shall mean any project for the erection, construction, alteration, repair or improvement of any public structure, building, road, or other public improvement of any kind.

SWALE shall mean a low or slightly depressed area for drainage, usually vegetated.

TERMINATED VISTA shall mean a location at the axial conclusion of a Thoroughfare or Pedestrian way. A building located at a Terminated Vista, designated on a Neighborhood Plan, is required or recommended to be designed in response to the axis.

TEXAS DEPARTMENT OF TRANSPORTATION AND/OR TXDOT shall mean the state agency authorized by the State Legislature, or its successor agency, to regulate matters related to highway and road construction. (Note: When any TxDOT standard, "Item" regulation, definition, or other matter is referenced, utilized, or adopted herein, the City also specifically adopts by this note of reference, and shall automatically apply without further amendment to this LDC, the applicable successor TxDOT standard(s), "Item(s)", regulation(s), definition(s) or other matter(s), as amended by state law over time).

THOROUGHFARE shall mean a way for use by vehicular and pedestrian traffic and to provide access to lots and open spaces, consisting of vehicular lanes and the public frontage.

UPLIGHTING shall mean lighting that is directed in such a manner as to project light rays above the horizontal plane running through the lowest point on the fixture where light is emitted.

USE shall mean the purpose or activity for which the land, or building thereon, is designed, arranged, or intended, or for which it is occupied or maintained, and shall include any manner of such activity with respect to the standards of this LDC.

UTILITY, MAJOR shall mean public or quasi-public utility facilities less widely distributed than essential or limited utility facilities and of such a nature as to have an high degree of impact on adjoining properties. Typical uses include electrical generating plants, regional water and wastewater treatment plants, waste transfer stations, and sanitary landfills.

UTILITY, MINOR shall mean public or quasi-public utility facilities of such a nature as to have an intermediate impact on adjoining properties. Typical uses include electrical and natural gas substations, communication equipment exchanges, construction/demolition landfills, reservoirs and water tanks, and radio, television, and microwave transmission towers.

UTILITY, PRIVATE shall mean regulated enterprise, with or without a franchise, for providing needed service including but not limited to electric, natural gas, cable TV, and other communication systems, but not including cellular towers, that are not owned and operated by the city, county, state, federal government, or special utility district.

VALANCE shall mean the portion of an awning that hangs perpendicular to the sidewalk.

VILLAGE CENTER DEVELOPMENT OR VCD shall mean a development pattern structured by a pedestrian shed oriented toward a common destination such as a general store, meeting hall, schoolhouse, or church with dense P4 and P5 Place Types surrounded by Open Space. Vehicles are kept on the periphery and rear of the development.

WALKABILITY shall mean a measure of how easy it is to travel a place by walking. Walkable places are safe, comfortable, interesting, and have useful destinations.

WALKWAY shall mean the section of the public frontage dedicated exclusively to pedestrian activity.

WARRANT shall mean a ruling that would permit a practice that is not consistent with a specific provision of this LDC, but that is justified by its intent. Warrants are granted administratively by the Development Review Committee.

WINDOW SIGN shall mean a sign affixed to the interior or exterior of a window or placed within three feet of a window for the purpose of being visible from the exterior of the window. Merchandise displays shall not be considered window signs.

YARD SIGN shall mean a permanent freestanding sign in the private frontage, including a supporting post or posts.

