

Traffic Impact Study

Sandstone Marketplace

Longmont, Colorado

Prepared for:

Actis, LLC

Kimley»Horn

T R A F F I C I M P A C T S T U D Y

Sandstone Marketplace

Longmont, Colorado

**Prepared for
Actis, LLC**

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Longmont, Colorado 80501

**Prepared by
Kimley-Horn and Associates, Inc.**

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1.0 EXECUTIVE SUMMARY

This report has been prepared to document the results of a Traffic Impact Study for the Sandstone Marketplace mixed-use project proposed to be located on the southeast corner of Ken Pratt Boulevard (SH-119) and County Line Road intersection in Longmont, Colorado. Sandstone Marketplace is proposed to include senior adult housing, a day care center, medical office uses, retail uses, and restaurant uses. It is expected that Sandstone Marketplace will be completed in the next several years; therefore, analysis was conducted for the 2025 short-term buildout horizon as well as the 2045 long-term twenty-year planning horizon.

The purpose of this traffic study is to identify project traffic generation characteristics to determine potential project traffic related impacts on the local street system and to develop the necessary mitigation measures required for the identified traffic impacts. The following intersections were incorporated into this traffic study based on the City of Longmont requested scope:

- Ken Pratt Boulevard (SH-119) and County Line Road
- Ken Pratt Boulevard (SH-119) and Common Drive
- Ken Pratt Boulevard (SH-119) and Zlaten Drive
- County Line Road and Zlaten Drive
- Zlaten Drive and Timm Way/Common Drive

In addition, two proposed full movement accesses along Common Drive and a proposed three-quarter access along County Line Road were evaluated.

Regional access to Sandstone Marketplace will be provided by Interstate 25 (I-25) and SH-119 while primary access will also be provided by SH-119. Direct access will be provided by a full movement access along Common Drive that will align to the existing driveway serving the retail center to the east and an additional full movement access along Common Drive, approximately 360 feet south of SH-119 (measured center to center). In addition, a three-quarter movement access along County Line Road will provide direct access to the commercial uses on the western portion of the development. The driveway curb returns are existing for the access along County Line Road and the north access along Common Drive.

Accounting for internal capture, Sandstone Marketplace is expected to generate approximately 9,546 weekday external daily trips, with 833 of these trips occurring during the morning peak hour and 908 of these trips occurring during the afternoon peak hour. With pass-by trips, expected net new trips (non-pass-by) to the surrounding street network results in approximately 6,156 weekday daily new trips, of which 512 trips are anticipated during the morning peak hour and 627 trips are anticipated during the afternoon peak hour.

Based on the analysis presented in this report, Kimley-Horn believes Sandstone Marketplace will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network, the proposed project development, and expected traffic volumes resulted in the following conclusions and recommendations:

2025 Recommendations:

- The threshold for requiring an access permit along Colorado Department of Transportation (CDOT) roadways occurs when project traffic is anticipated to increase the existing access traffic volumes by more than 20 percent. Based on traffic projections, the addition of project traffic on the south leg of Zlaten Drive is not anticipated to increase existing access traffic volumes by more than 20 percent, with the maximum expected increase at 0 percent during the afternoon peak hour on the south leg (0/251). Therefore, a CDOT access permit is not anticipated to be required in association with this project at the Zlaten Drive. However, based on traffic projections, the addition of project traffic on the south legs of County Line Road and Common Drive along SH-119 are anticipated to increase existing traffic by more than 20 percent. Therefore, access permits are anticipated to be needed at these two intersections as development occurs.
- With completion of the Sandstone Marketplace project, two full movement accesses are proposed along Common Drive with the south access aligning with the existing retail access, and a three-quarter access is proposed along County Line Road. It is recommended that a R1-1 “STOP” sign be installed on the eastbound approaches of the Common Drive accesses and the westbound approach of the County Line Road access. Since the County Line Road access is restricting left turn movements out of the development, a R3-2 “No Left Turn” sign is recommended to be installed below the R1-1 sign to warn driver’s that the movement is not permitted. A raised pork chop median island is already constructed in the driveway throat of

the access along County Line Road to further restrict exiting left turn movements at this access intersection. With construction of the County Line Road access, it is recommended that a northbound right turn lane be designated to a length of 220 feet plus a 120-foot taper to meet City of Longmont standards.

- The City of Longmont requested a signal warrant evaluation at the intersection of Zlaten Drive and County Line Road with the west leg being converted from three-quarter turning movements to full turning movements. It should be noted that although the west leg of this intersection technically restricts eastbound left turn and through movements, 19 eastbound left turn movements were observed during the morning peak hour at this intersection. With or without the addition of project traffic, this intersection is expected to meet the four-hour signal warrant; therefore, it is recommended that the City of Longmont consider signalization at this intersection. With signalization, it is recommended that the eastbound approach have one shared lane for all movements due to geometric constraints and the westbound approach consist of a 175-foot left turn lane, a through lane, and a 150-foot right turn lane. Of note, project traffic is anticipated to make up 5.5 percent of morning peak hour traffic and 5.1 percent of the afternoon peak hour traffic at this intersection during the 2025 build out horizon.
- The westbound dual left turn lanes at the SH-119 and Country Line Road intersection may need to be extended to a length of 440 feet (storage plus deceleration) plus a 220-foot taper.

2045 Recommendations:

- By 2045, SH-119 is planned to be improved to a six-lane roadway throughout the study area limits.
- If future volumes are realized, the westbound left turn lane at the intersection of Zlaten Drive and County Line Road may need to be further extended to 200 feet. Extension of the westbound left turn lane will require the taper from the back-to-back left turn lanes to be shortened from 125 feet to 75 feet.

General Recommendations:

- Any onsite or offsite improvements should be incorporated into the Civil Drawings and conform to standards of the City of Longmont, CDOT, and the Manual on Uniform Traffic Control Devices (MUTCD) – 2009 Edition.

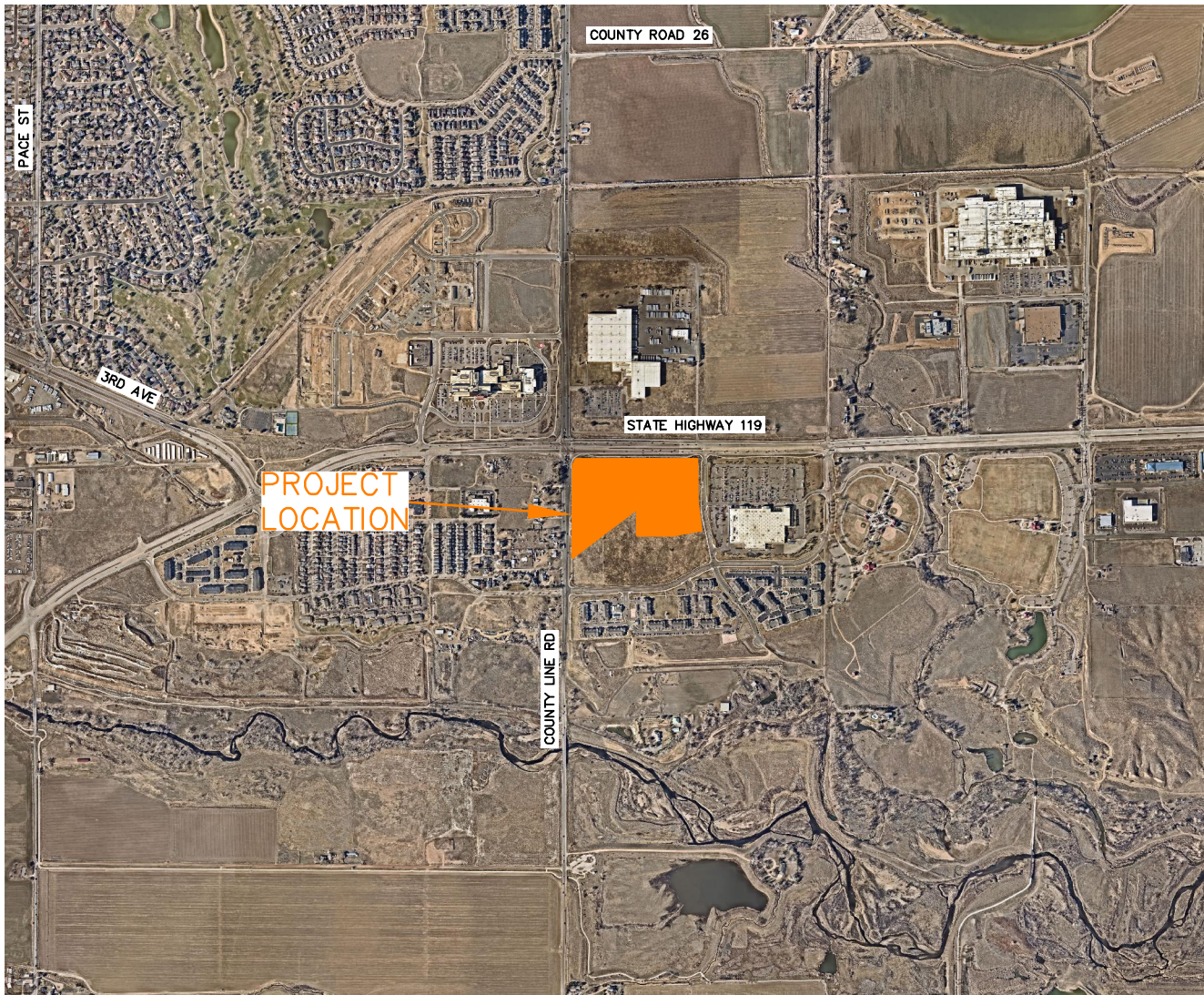
2.0 INTRODUCTION

Kimley-Horn and Associates, Inc. has prepared this report to document the results of a Traffic Impact Study for the Sandstone Marketplace mixed-use project proposed to be located on the southeast corner of Ken Pratt Boulevard (SH-119) and County Line Road intersection in Longmont, Colorado. A vicinity map illustrating the Sandstone Marketplace development location is shown in **Figure 1**. Sandstone Marketplace is proposed to include senior adult housing, a day care center, medical office uses, retail uses, and restaurant uses. A conceptual site plan is attached in **Appendix H**. It is expected that Sandstone Marketplace will be completed in the next several years; therefore, analysis was conducted for the 2025 short-term buildout horizon as well as the 2045 long-term twenty-year planning horizon. The City of Longmont base assumptions form is included in **Appendix A**.

The purpose of this traffic study is to identify project traffic generation characteristics to determine potential project traffic related impacts on the local street system and to develop the necessary mitigation measures required for the identified traffic impacts. The following intersections were incorporated into this traffic study based on the City of Longmont requested scope:

- Ken Pratt Boulevard (SH-119) and County Line Road
- Ken Pratt Boulevard (SH-119) and Common Drive
- Ken Pratt Boulevard (SH-119) and Zlaten Drive
- County Line Road and Zlaten Drive
- Zlaten Drive and Timm Way/Common Drive

In addition, two proposed full movement accesses along Common Drive and a proposed three-quarter access along County Line Road were evaluated. Regional access to Sandstone Marketplace will be provided by Interstate 25 (I-25) and SH-119 while primary access will also be provided by SH-119. Direct access will be provided by a full movement access along Common Drive that will align to the existing driveway serving the retail center to the east and an additional full movement access along Common Drive, approximately 360 feet south of SH-119 (measured center to center). In addition, a three-quarter movement access along County Line Road will provide direct access to the commercial uses on the western portion of the development. The driveway curb returns are existing for the access along County Line Road and the north access along Common Drive.



SANDSTONE MARKETPLACE
LONGMONT, COLORADO
VICINITY MAP

FIGURE 1

3.0 EXISTING AND FUTURE CONDITIONS

3.1 Existing Study Area

The existing site is currently vacant. To the south are multifamily homes with a Walmart Supercenter to the east. SH-119 roadway fronts the development to the north with industrial and agricultural land extending to the north. The UCHHealth Longs Peak Hospital is located on the northwest corner of SH-119 and County Line Road.

3.2 Existing Roadway Network

SH-119 extends east/west with two through lanes of travel in each direction. The posted speed limit along SH-119 is 55 miles per hour and transitions to 65 miles per hour east of County Line Road. Sidewalks exist on the north and south side of the roadway near the studied intersections with exception of the south side of SH-119 west of County Line Road and east of Zlaten Drive.

County Line Road extends northbound and southbound with two through lanes in each direction near the study intersections. Bicycle lanes are provided on both sides of the roadway and a sidewalk is constructed on the west side County Line Road. The posted speed limit is 45 miles per hour.

Common Drive/Timm Way provides one through lane in each direction extending northbound and southbound. This north-south roadway is named Timm Way south of Zlaten Drive and Common Drive north of Zlaten Drive. Sidewalks are constructed on the east and west side of the roadway with two mid-block pedestrian crossings provided north of Zlaten Drive.

Zlaten Drive is a two-lane divided roadway extending mostly in the eastbound and westbound. The roadway provides bicycle lanes on the north and south side along with sidewalks. The posted speed limit along Zlaten Drive is 35 miles per hour.

The signalized intersection of SH-119 and County Line Road operates with protected left turn phasing on all four approaches. The northbound and southbound approaches of County Line Road provide dual left turn lanes, two through lanes, and a right turn lane with the right turn movements operating under free conditions. The eastbound and westbound approaches of SH-119 both provide dual left turn lanes, two through lanes, and a right turn lane. An aerial photo of the existing intersection configuration is below (north is up - typical).



SH-119 & County Line Road

The unsignalized intersection of SH-119 and Common Drive operates with stop control on the northbound approach of Common Drive. The northbound approach provides a single lane, restricted to right turn movements only that operate with free movements. The eastbound approach of SH-119 provides two through lanes and a separate right turn lane. The westbound approach of SH-119 provides a left turn lane, two through lanes, and a right turn lane. An aerial photo of the existing intersection configuration is below.



SH-119 & Common Drive

The signalized intersection of SH-119 and Zlaten Drive operates with protected-only left turn phasing on the eastbound and westbound approaches of SH-119 and permissive-only left turn phasing on the northbound and southbound approaches of Zlaten Drive. The northbound approach provides dual left turn lanes and a shared through/right turn lane. The eastbound approach provides a left turn lane, two through lanes, and a right turn lane while the westbound approach provides a left turn lane, a through lane, and a shared through/right turn lane. The north leg of this intersection will be reconstructed with development of the 7-Eleven Ken Pratt & Zlater project. An aerial photo of the existing intersection configuration is below.



SH-119 & Zlaten Drive

The intersection of the Zlaten Drive and County Line Road operates with stop control on the eastbound approach of Great Western Drive and the westbound approach of Zlaten Drive. The eastbound approach provides a single lane, restricted to right turn movement only, whereas the westbound approach provides separate left and right turn lanes. The northbound approach of County Line Road provides a left turn lane and two through lanes with the outside through lane being a shared right. The southbound approach of County Line Road provides a left turn lane, a through lane, and a right turn lane. An aerial photo of the existing intersection configuration is below.



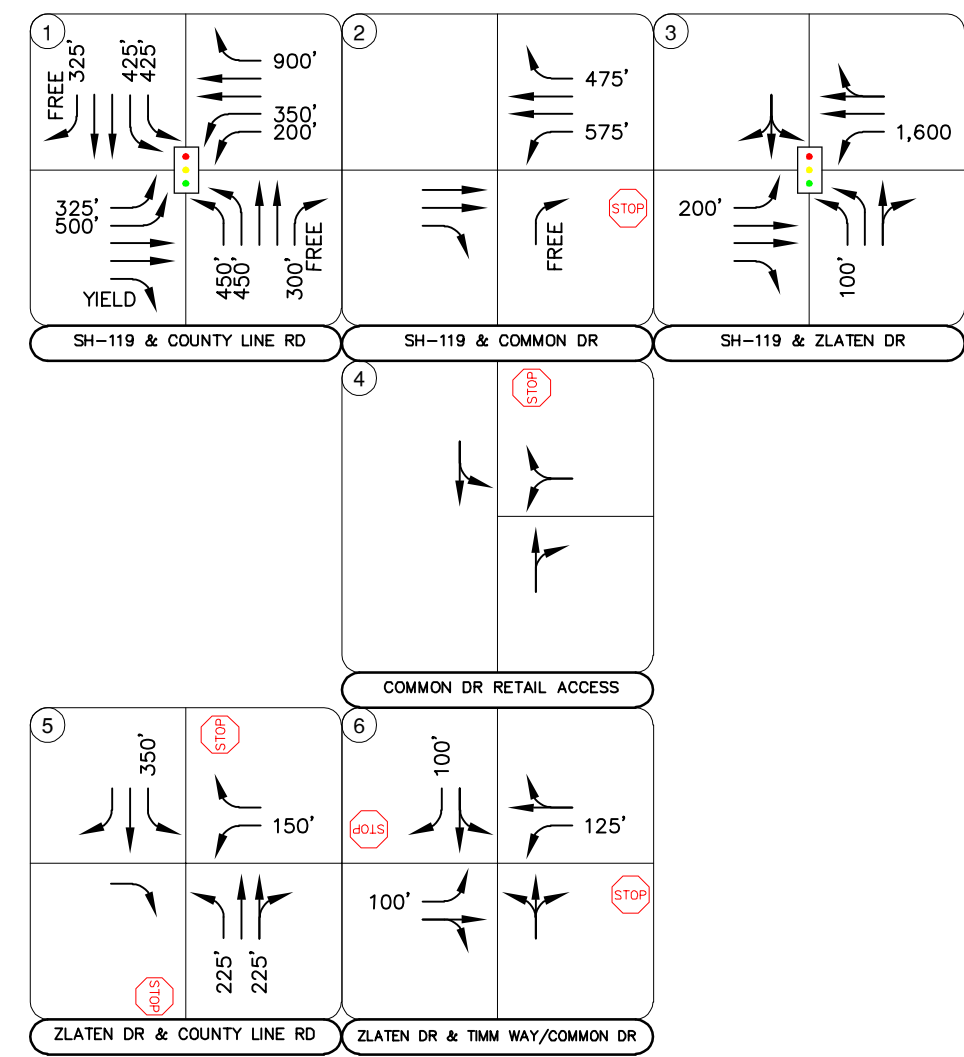
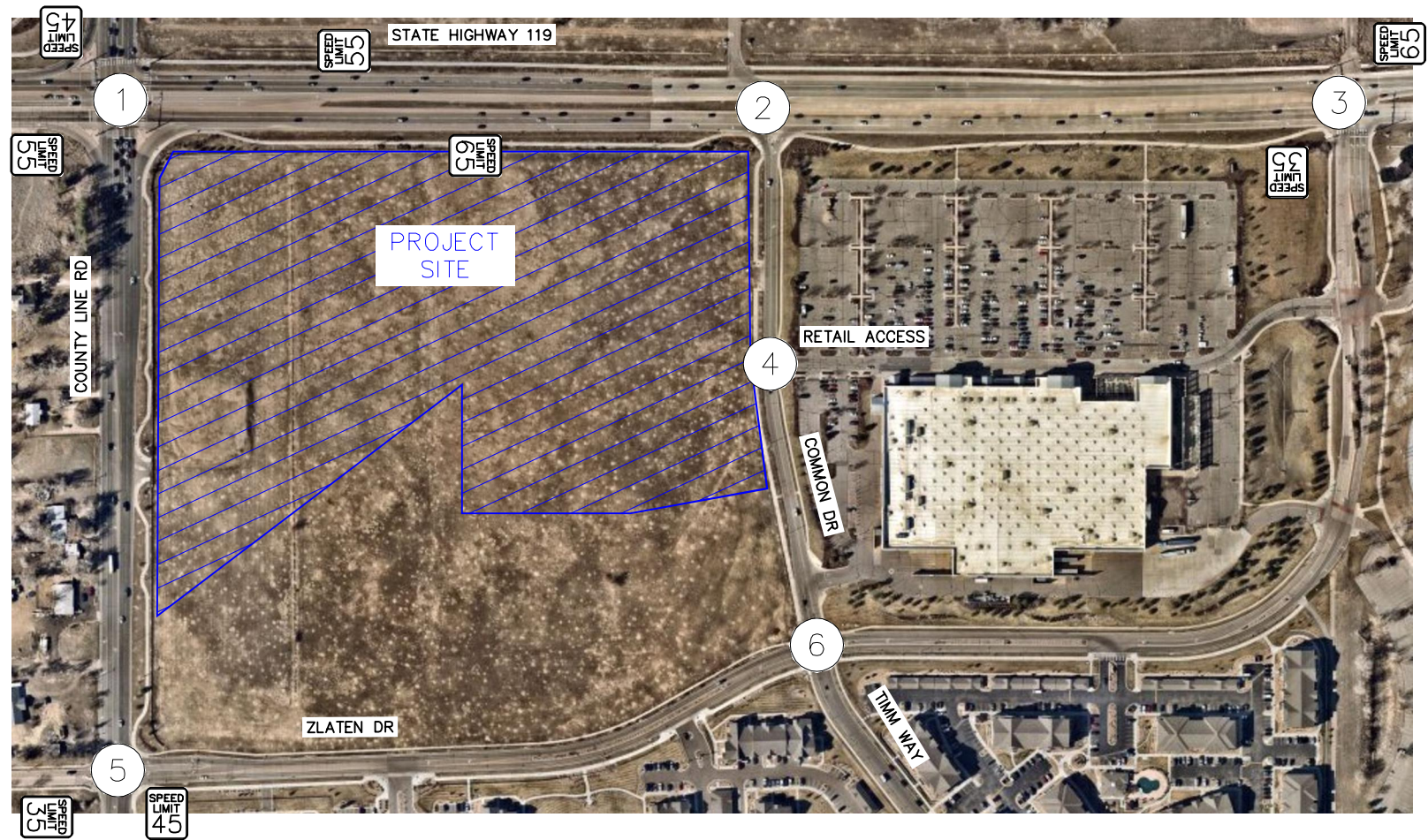
Zlaten Drive & County Line Road

The intersection of the Zlaten Drive and Timm Way/Common Drive operates with stop control on the northbound and southbound approaches of Timm Way/Common Drive. The eastbound and westbound approaches of Zlaten Drive provide a left turn lane and a shared through/right turn lane. The northbound approach provides a single lane approach for shared movements while the southbound approach provides a shared left turn/through lane and a separate right turn lane. An aerial photo of the existing intersection configuration is below.




Zlaten Drive & Timm Way/Common Drive

The intersection lane configuration and control for the study area intersections are shown in **Figure 2**.



SANDSTONE MARKETPLACE
 LONGMONT, COLORADO
 EXISTING GEOMETRY AND CONTROL




NTS 196569000

LEGEND

- X Study Area Key Intersection
- Signalized Intersection
- Stop Controlled Approach
- Roadway Speed Limit
- 100' Turn Lane Length (feet)

FIGURE 2

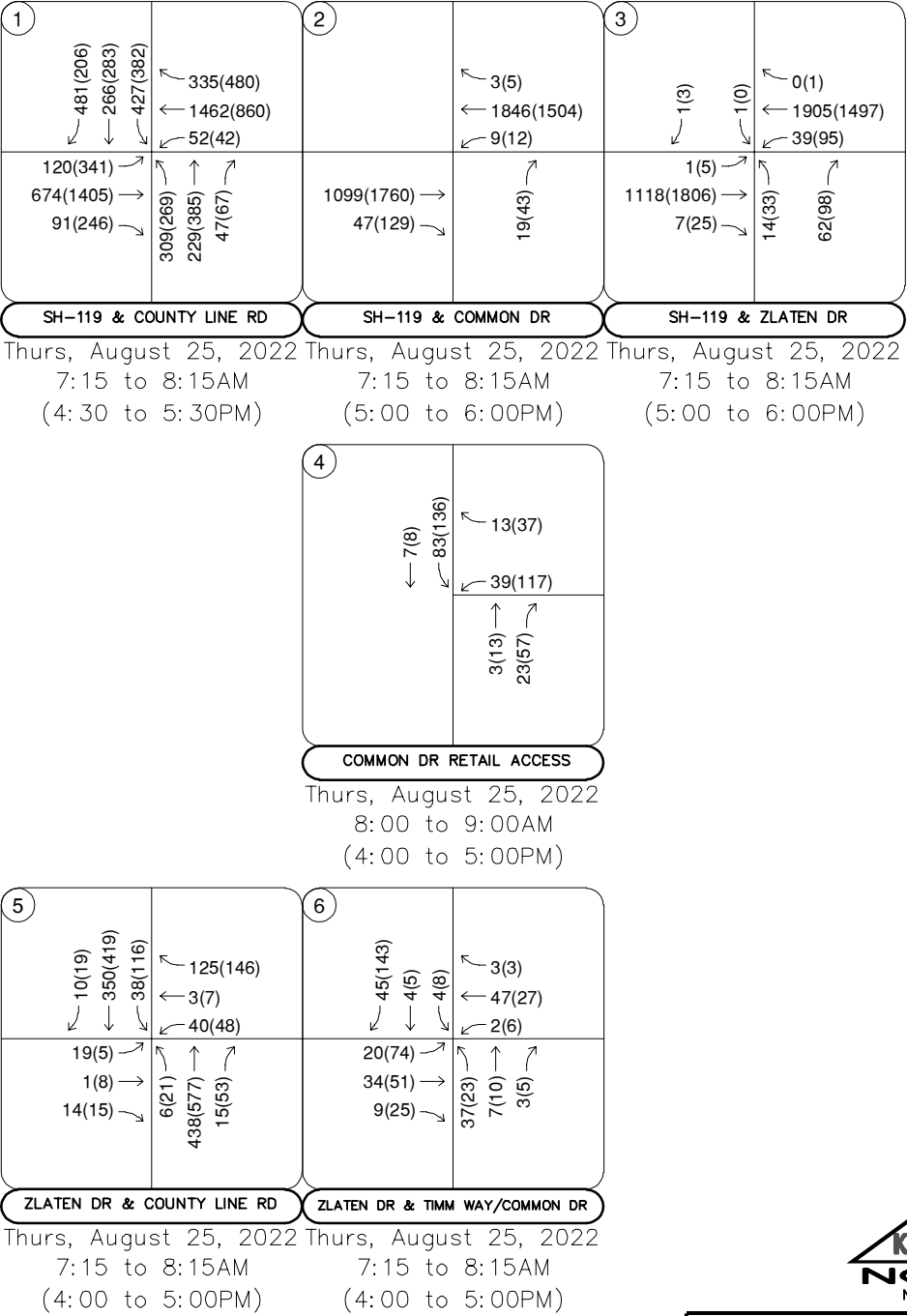
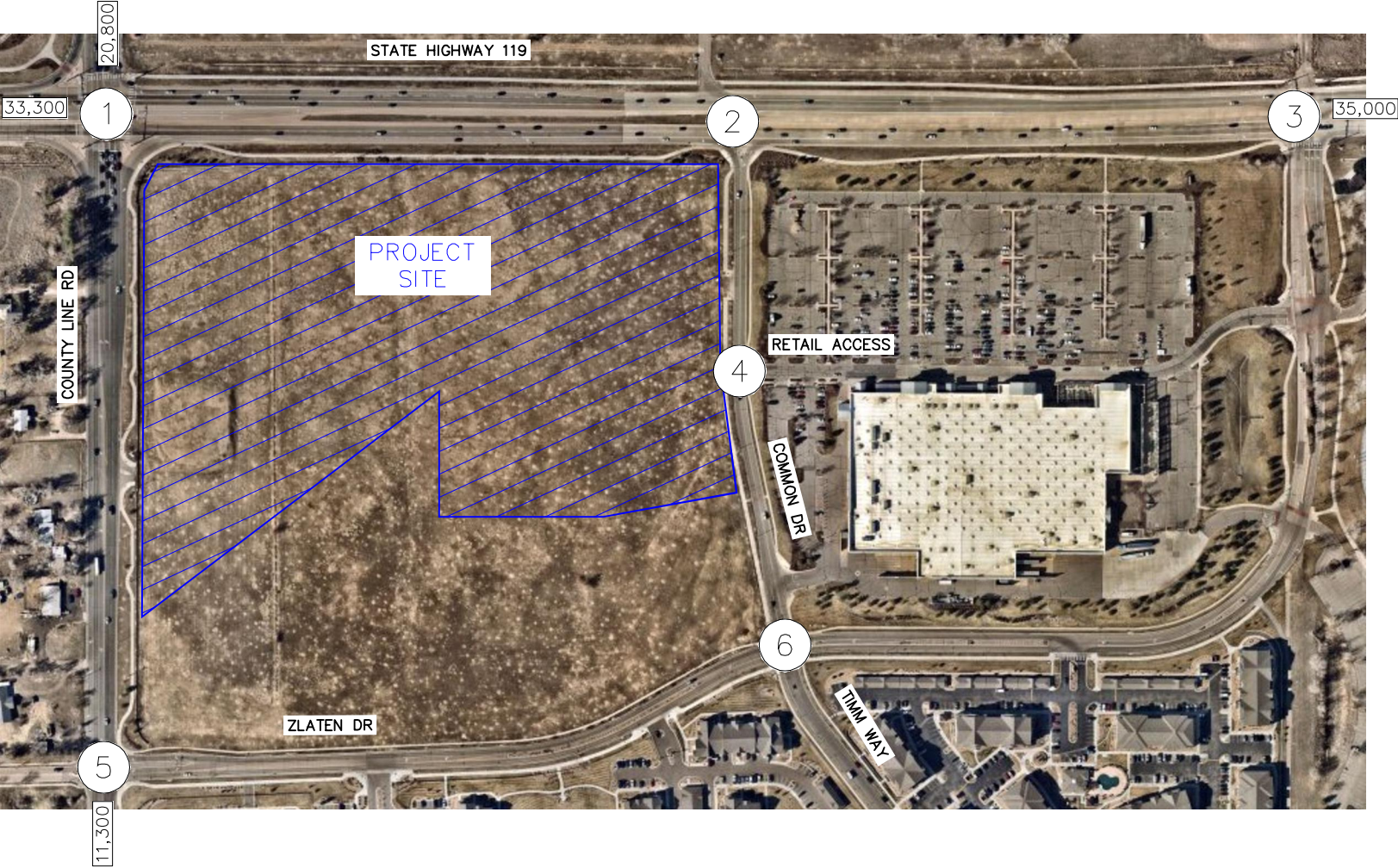


3.3 Existing Traffic Volumes

Existing turning movement counts were conducted at the study intersections on Thursday, August 25, 2022, during the weekday morning and afternoon peak hours. The counts were conducted during the morning and afternoon peak hours of adjacent street traffic in 15-minute intervals from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM on this count date. The existing intersection traffic volumes are shown in **Figure 3** with count sheets provided in **Appendix B**.

3.4 Unspecified Development Traffic Growth

According to traffic projections from the Longmont Roadway Plan Traffic Projection model, the area surrounding the site is expected to have an average 25-year growth factor of 1.63. This growth factor equates to an annual growth rate of two (2) percent. Future traffic volume projections and growth rate calculations are provided in **Appendix C**. Therefore, two (2) percent annual growth rate was used to calculate future traffic volumes at the study area intersections. This annual growth rate was used to estimate short-term 2025 and long-term 2045 traffic volume projections at the key intersections. In addition, four (4) traffic studies within the project's site area were included in the background traffic volumes. The project traffic associated with the developments in the *Highlands Residential Project Traffic Impact Study* prepared in July 2020, the *Sandstone Ranch Multifamily Traffic Impact Report* prepared in June 2021, the *Springs at Longmont Traffic Impact Analysis* prepared in September 2020, and the *7-Eleven Ken Pratt & Zlaten Traffic Impact Study* prepared in March 2021 were all directly added to the studied intersections and represented in the background traffic volumes for both the 2025 and 2045 horizons. Applicable documents from the background studies are attached in **Appendix C**. The calculated background traffic volumes for 2025 and 2045 are shown in **Figure 4** and **Figure 5**, respectively.



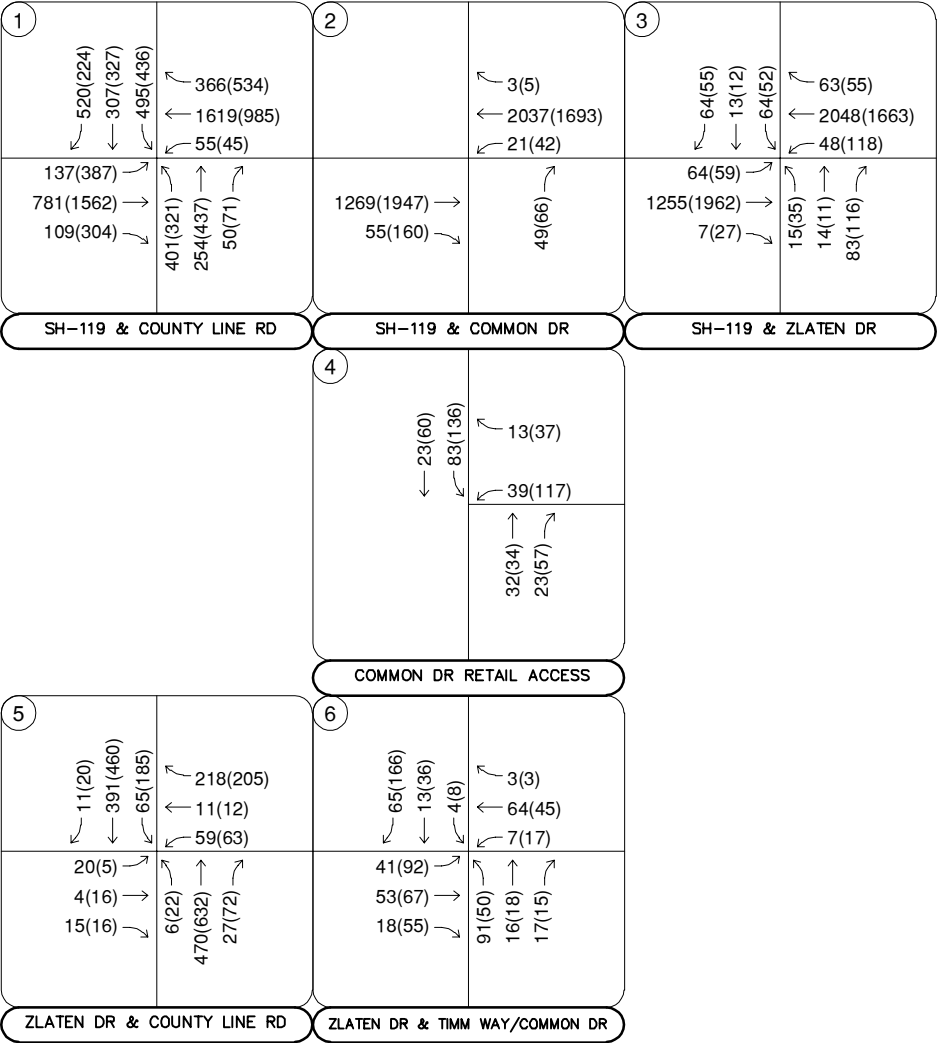
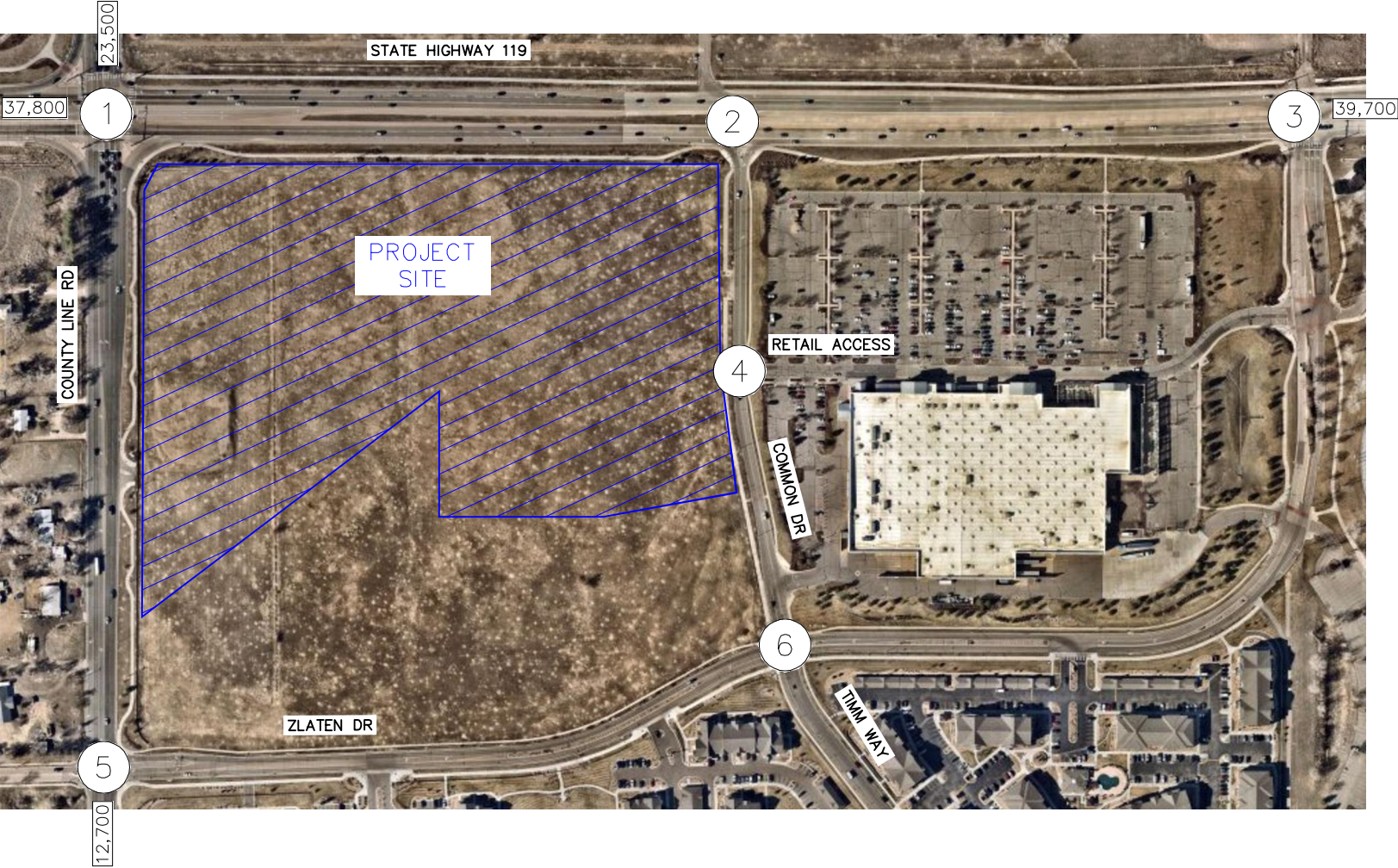
LEGEND

- (X) Study Area Key Intersection
- XXX(XXX) Weekday AM(PM)
- Peak Hour Traffic Volumes
- [XX,X00] Estimated Daily Traffic Volume

FIGURE 3



SANDSTONE MARKETPLACE
LONGMONT, COLORADO
2022 EXISTING TRAFFIC VOLUMES



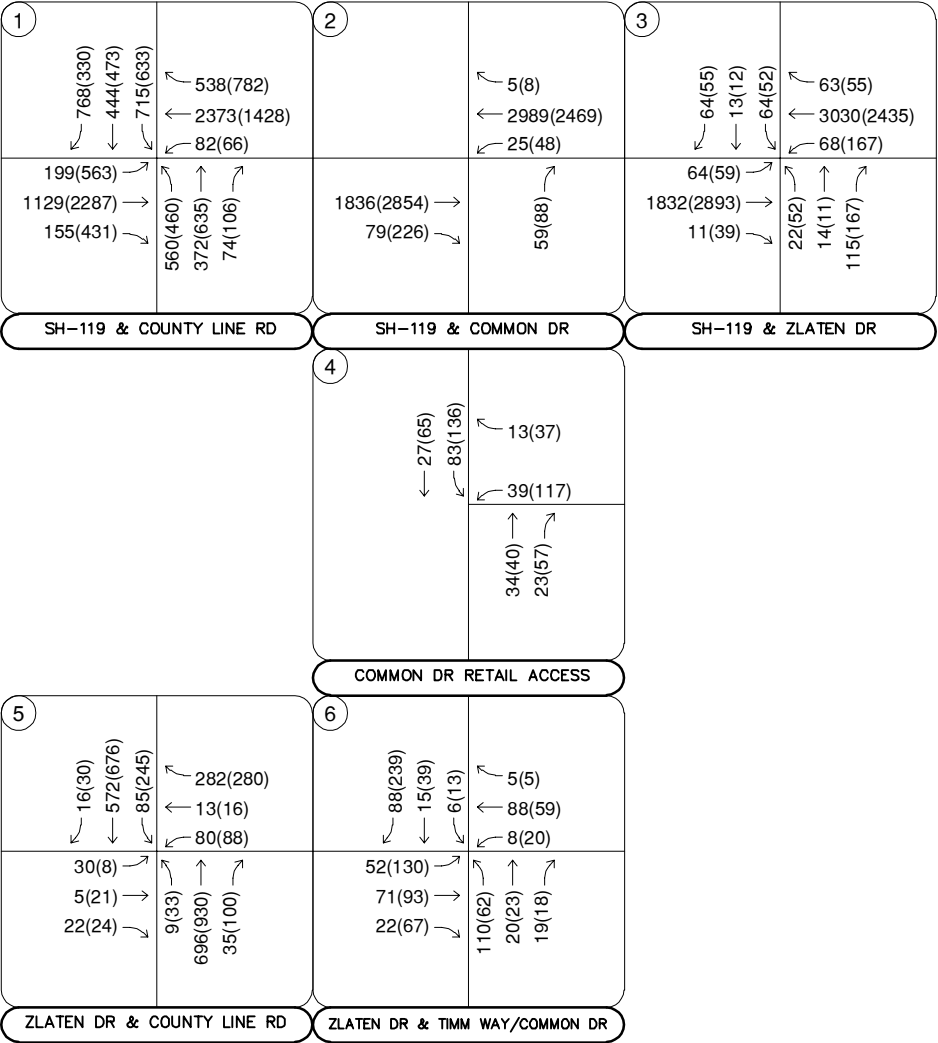
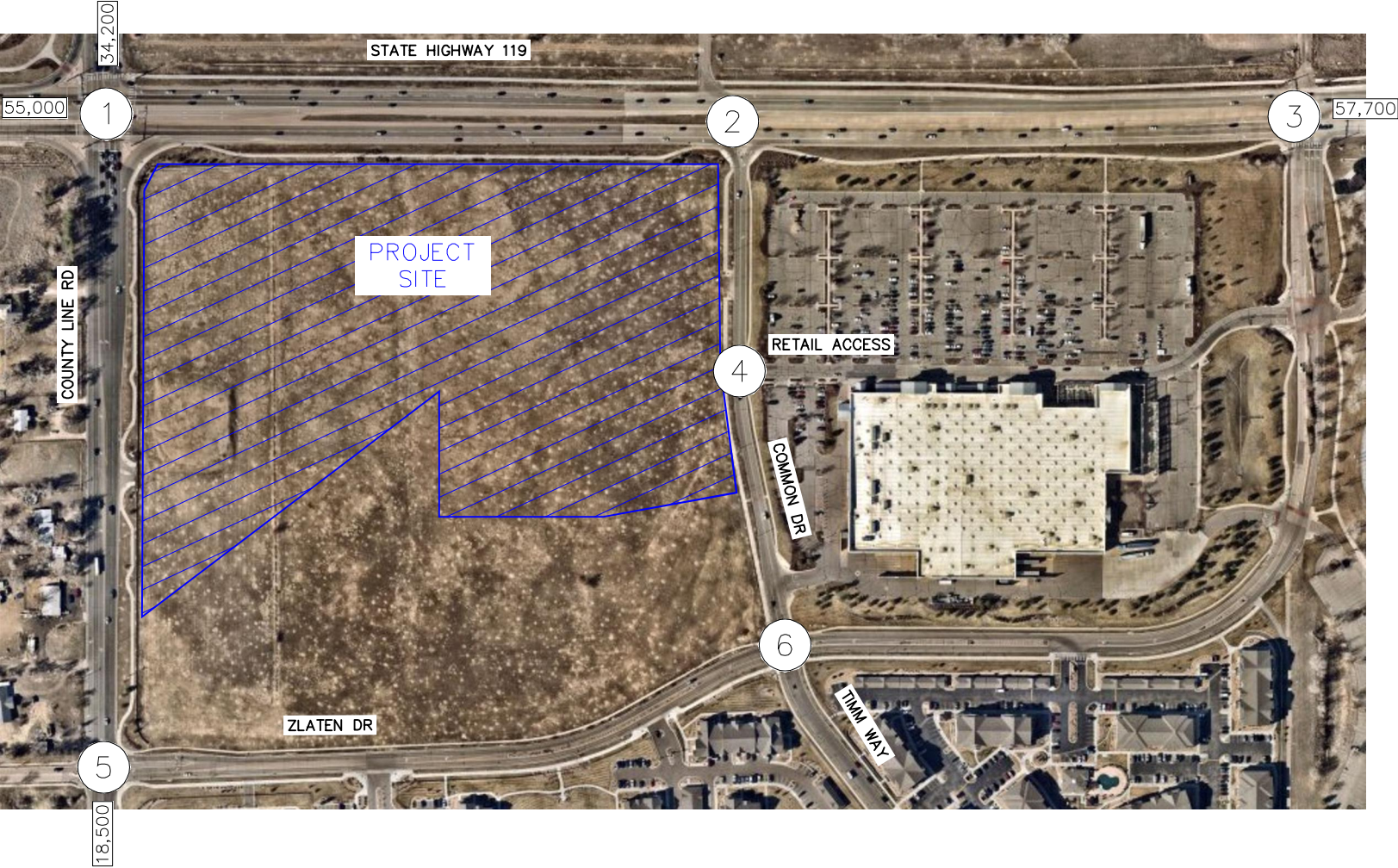
LEGEND

- (X) Study Area Key Intersection
- XXX(XXX) Weekday AM(PM)
- Peak Hour Traffic Volumes
- XX,X00 Estimated Daily Traffic Volume

FIGURE 4



SANDSTONE MARKETPLACE
LONGMONT, COLORADO
2025 BACKGROUND TRAFFIC VOLUMES



SANDSTONE MARKETPLACE
LONGMONT, COLORADO
2045 BACKGROUND TRAFFIC VOLUMES



LEGEND

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM)
Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

FIGURE 5



4.0 PROJECT TRAFFIC CHARACTERISTICS

4.1 Trip Generation

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Manual*¹ published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. For this study, Kimley-Horn used the ITE Trip Generation Report average rates that apply to Senior Adult Housing (ITE Land Use Code 252), Day Care Center (ITE 565), Medical-Dental Office Building (ITE 720), Strip Retail Plaza (ITE 822), Fast-Casual Restaurant (ITE 930), High-Turnover Sit-Down Restaurant (ITE 932), and Fast-Food with Drive-Through (ITE 934) for traffic associated with the development.

Since the full buildout of the Sandstone Marketplace is proposed to contain a mix of uses, internal capture trips are expected to occur on site as well. These internal capture trips are shared trips from vehicles already within the internal street network. These shared trips reduce the number of total external trips and were calculated directly per the ITE procedure. In addition, since the project is a commercial development, pass-by trips are expected. These pass-by trips are vehicles already on the street network that will be attracted to the development. The pass-by percentages were obtained from the ITE *Trip Generation Manual, 11th Edition*.

Accounting for internal capture, Sandstone Marketplace is expected to generate approximately 9,546 weekday external daily trips, with 833 of these trips occurring during the morning peak hour and 908 of these trips occurring during the afternoon peak hour. With pass-by trips, expected net new trips (non-pass-by) to the surrounding street network results in approximately 6,156 weekday daily new trips, of which 512 trips are anticipated during the morning peak hour and 627 trips are anticipated during the afternoon peak hour. Calculations were based on the procedure and information provided in the ITE *Trip Generation Manual, 11th Edition – Volume 1: User's Guide and Handbook*, 2021. **Table 1** summarizes the estimated trip generation for the Sandstone Marketplace. The trip generation worksheets are included in **Appendix D**.

¹ Institute of Transportation Engineers, *Trip Generation Manual*, Eleventh Edition, Washington DC, 2021.

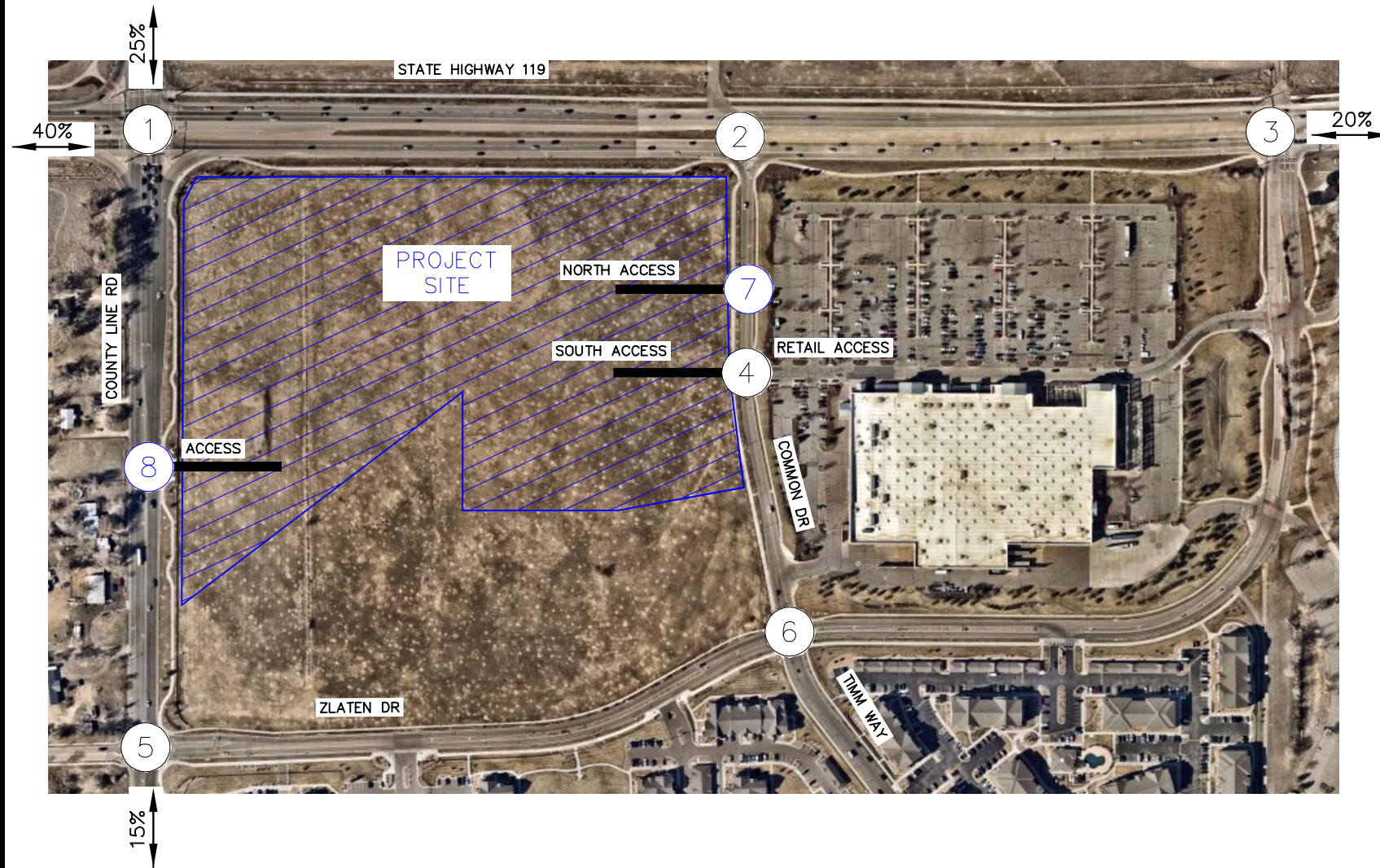
Table 1 – Sandstone Marketplace Traffic Generation

Land Use and Size	Weekday Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Senior Adult Housing Attached (ITE 252) 130 Dwelling Units	422	9	17	26	18	15	33
Medical-Dental Office Building (ITE 720) 60,000 Square Feet	2,160	147	39	186	71	165	236
Day Care Center (ITE 565) 10,000 Square Feet	478	58	52	110	52	59	111
Strip Retail Plaza (ITE 822) 30,900 Square Feet	1,682	44	29	73	102	102	204
Fast Casual Restaurant (ITE 930) 11,500 Square Feet	1,118	8	8	16	79	65	144
High Turnover Restaurant (ITE 932) 6,000 Square Feet	644	31	26	57	33	21	54
Fast-Food w/ DT (ITE 934) 11,500 Square Feet	5,378	262	251	513	198	182	380
Total Project Trips	11,882	559	422	981	553	609	1,162
Total Project Trips after Internal Capture	9,546	485	348	833	426	482	908
Non Pass-By Trips	6,156	318	192	512	280	347	627
Pass-By Trips	3,390	167	156	321	146	135	281

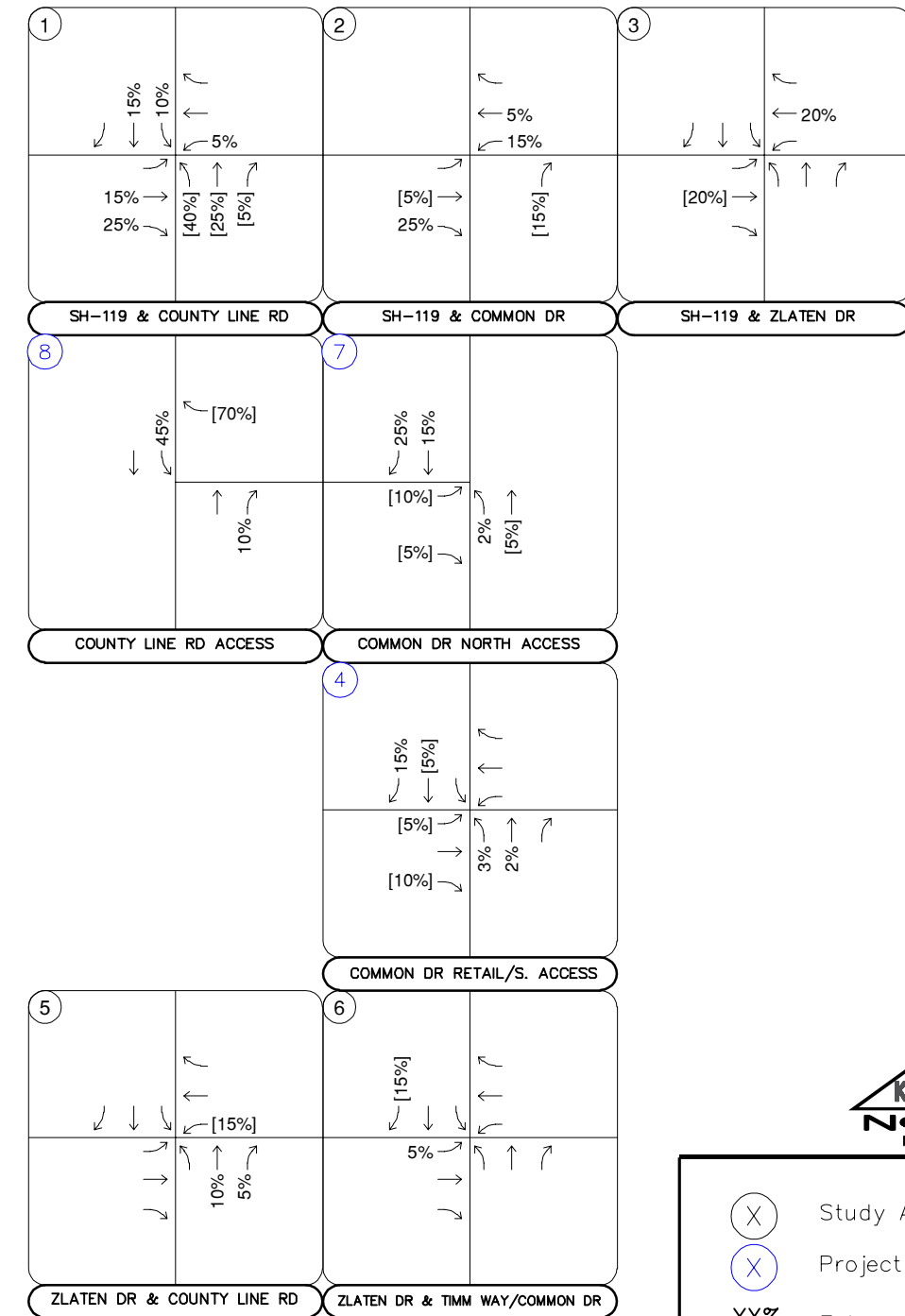
4.2 Trip Distribution

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns, existing and anticipated surrounding demographic information, and the proposed access system for the project. The directional distribution of traffic is a means to quantify the percentage of site-generated traffic that approaches the site from a given direction and departs the site back to the original source. The project non-pass-by trip distribution for the proposed development is illustrated in **Figure 6**.

Since this project contains commercial uses, traffic passing by the site is anticipated to be attracted, whether on a random trip or captured from a typical commute trip. Pass-by distribution of traffic is a means to quantify the percentage of project generated traffic that approaches the site from a given direction that then departs the site continuing in that same original direction. The expected weekday morning and afternoon peak hour pass-by trip distributions were calculated based on actual traffic volumes. Directional differences in the morning and afternoon peak hour traffic were accounted for as shown in **Figures 7** and **8**, respectively, to illustrate the anticipated pass-by trip distribution.



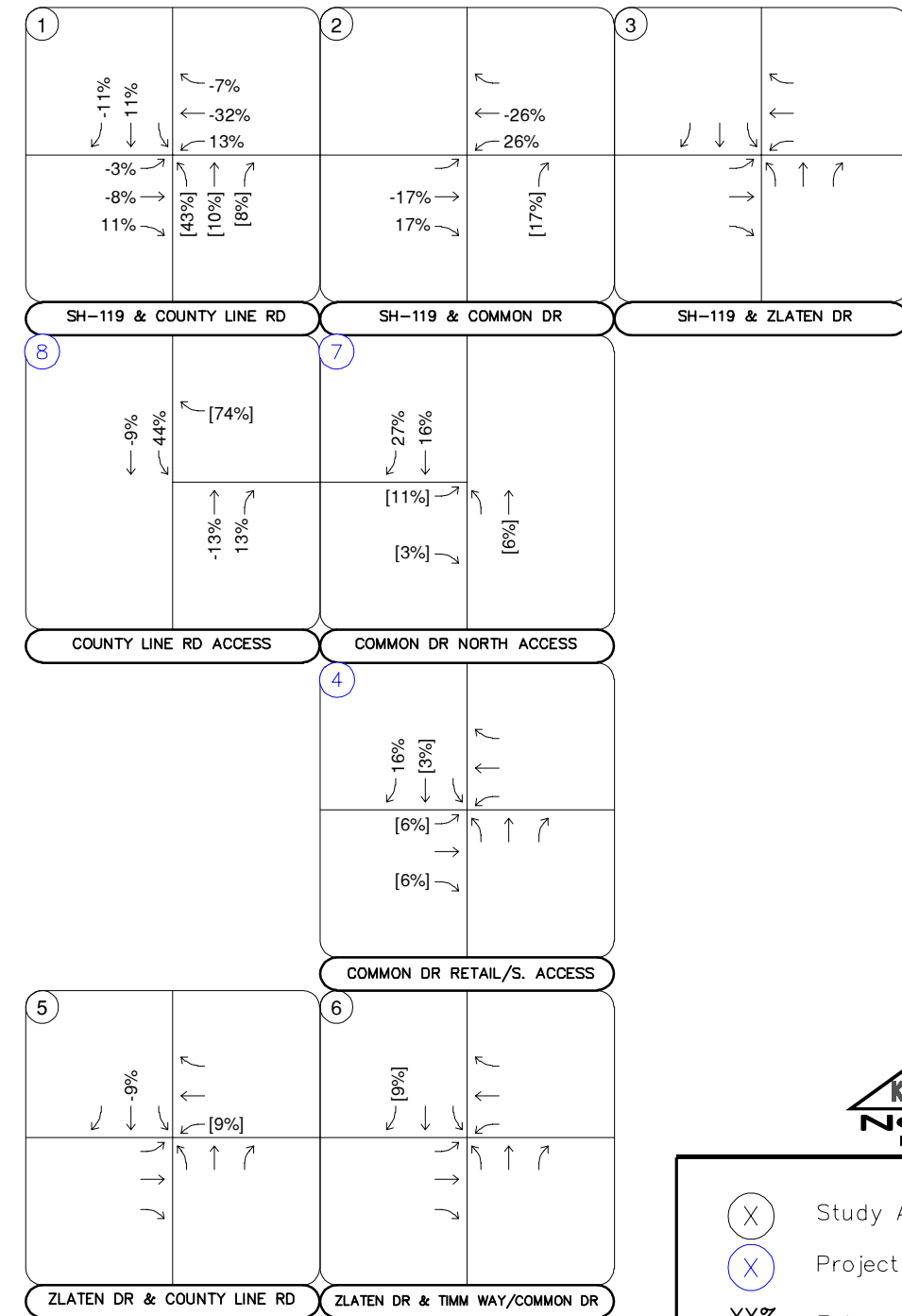
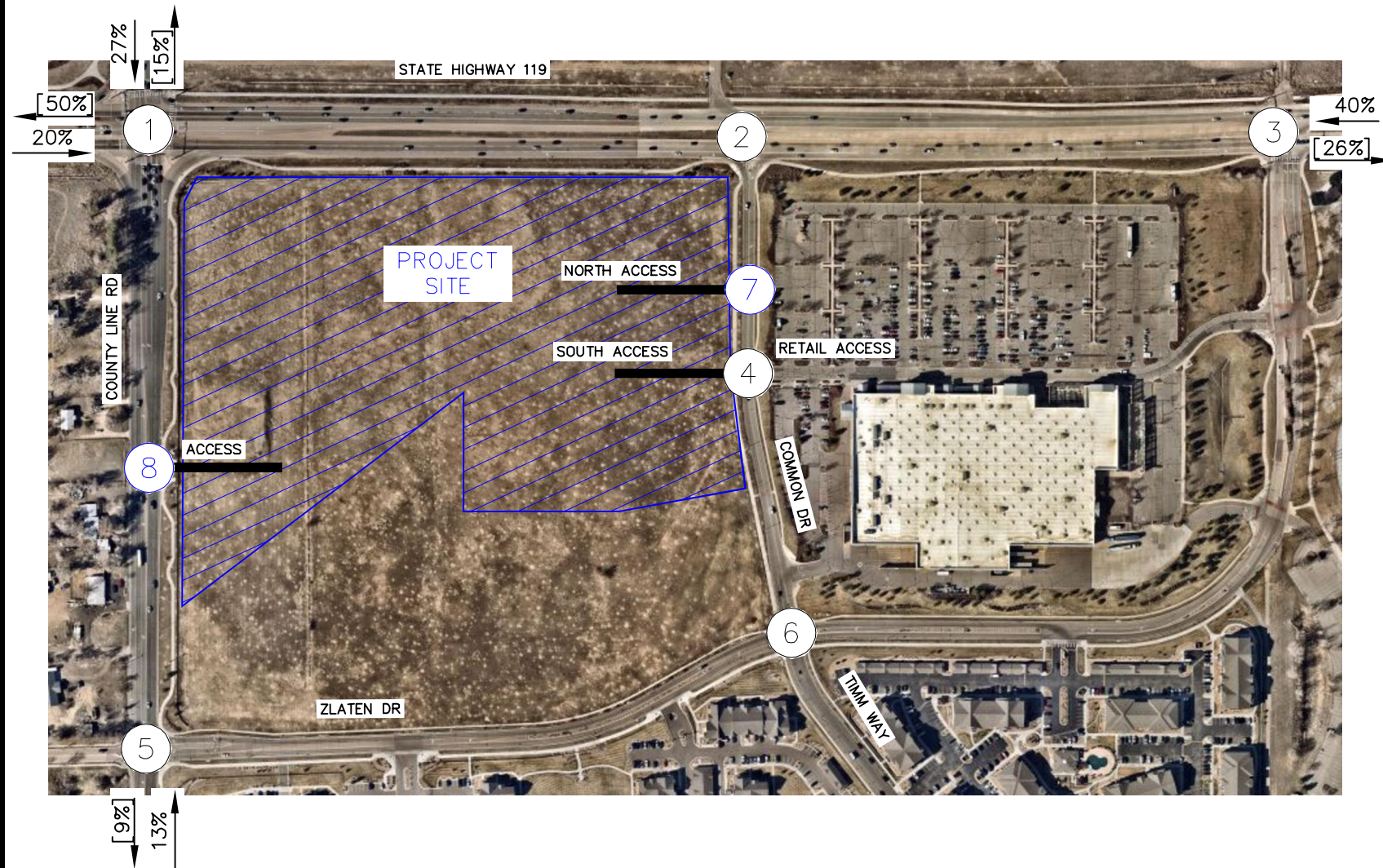
SANDSTONE MARKETPLACE
LONGMONT, COLORADO
NON PASS-BY PROJECT TRIP DISTRIBUTION



LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- XX% External Trip Distribution Percentage
- XX%[XX%] Entering[Exiting] Trip Distribution Percentage

FIGURE 6

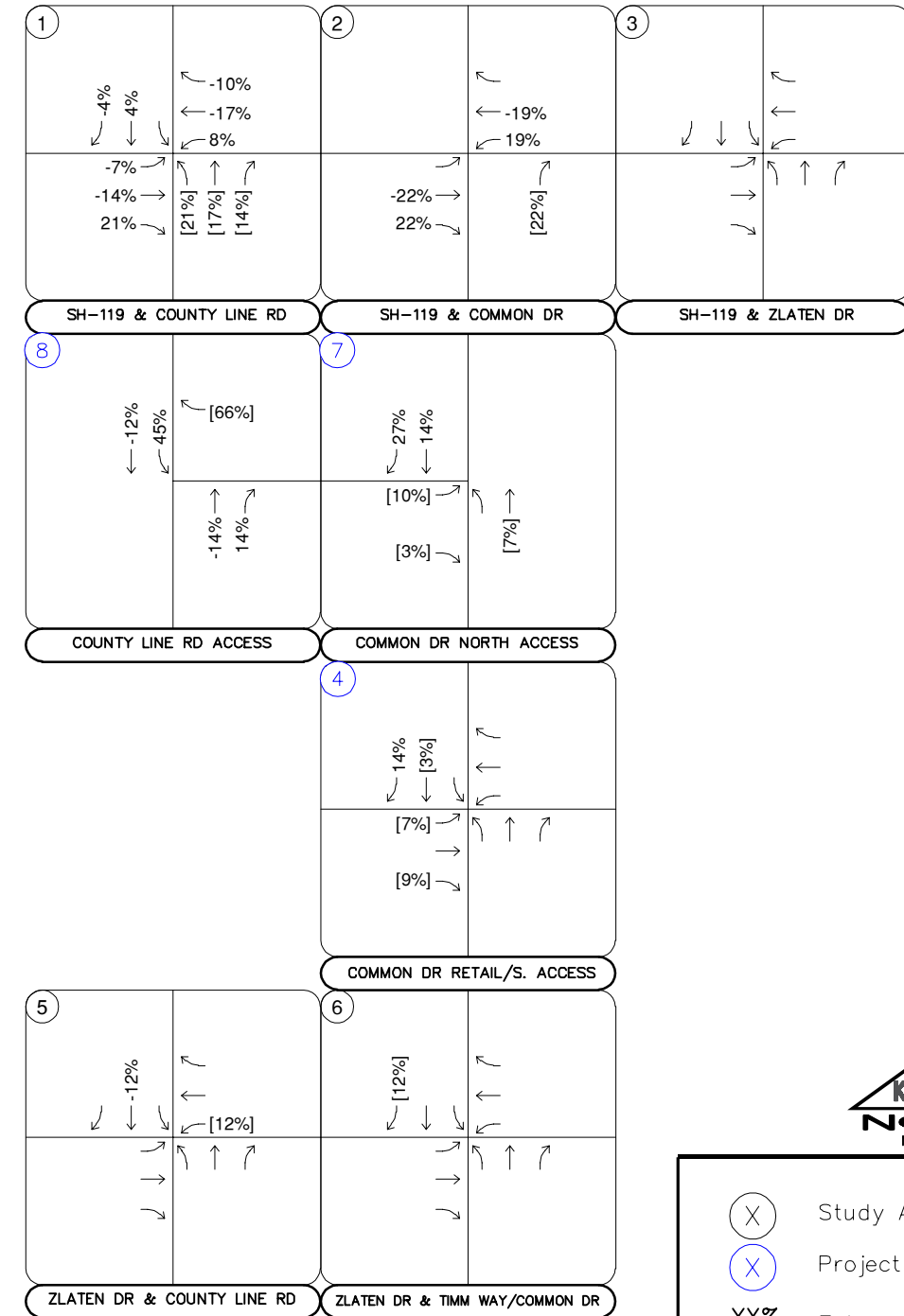
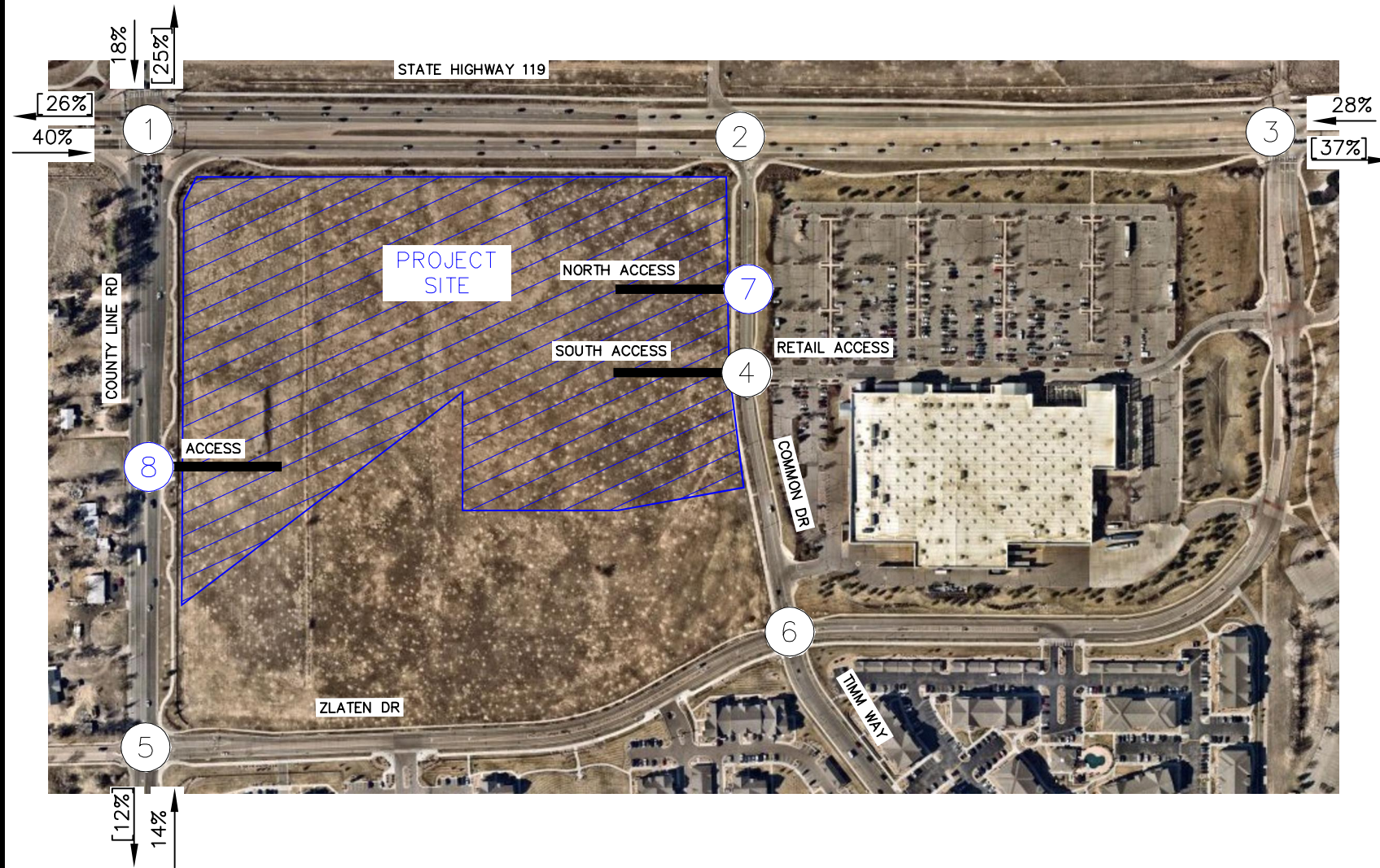


LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- XX% External Trip Distribution Percentage
- XX%[XX%] Entering[Exiting] Trip Distribution Percentage

FIGURE 7

SANDSTONE MARKETPLACE
LONGMONT, COLORADO
AM PASS-BY PROJECT TRIP DISTRIBUTION



LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- XX% External Trip Distribution Percentage
- XX%[XX%] Entering[Exiting] Trip Distribution Percentage

FIGURE 8

SANDSTONE MARKETPLACE
LONGMONT, COLORADO
PM PASS-BY PROJECT TRIP DISTRIBUTION

4.3 Traffic Assignment

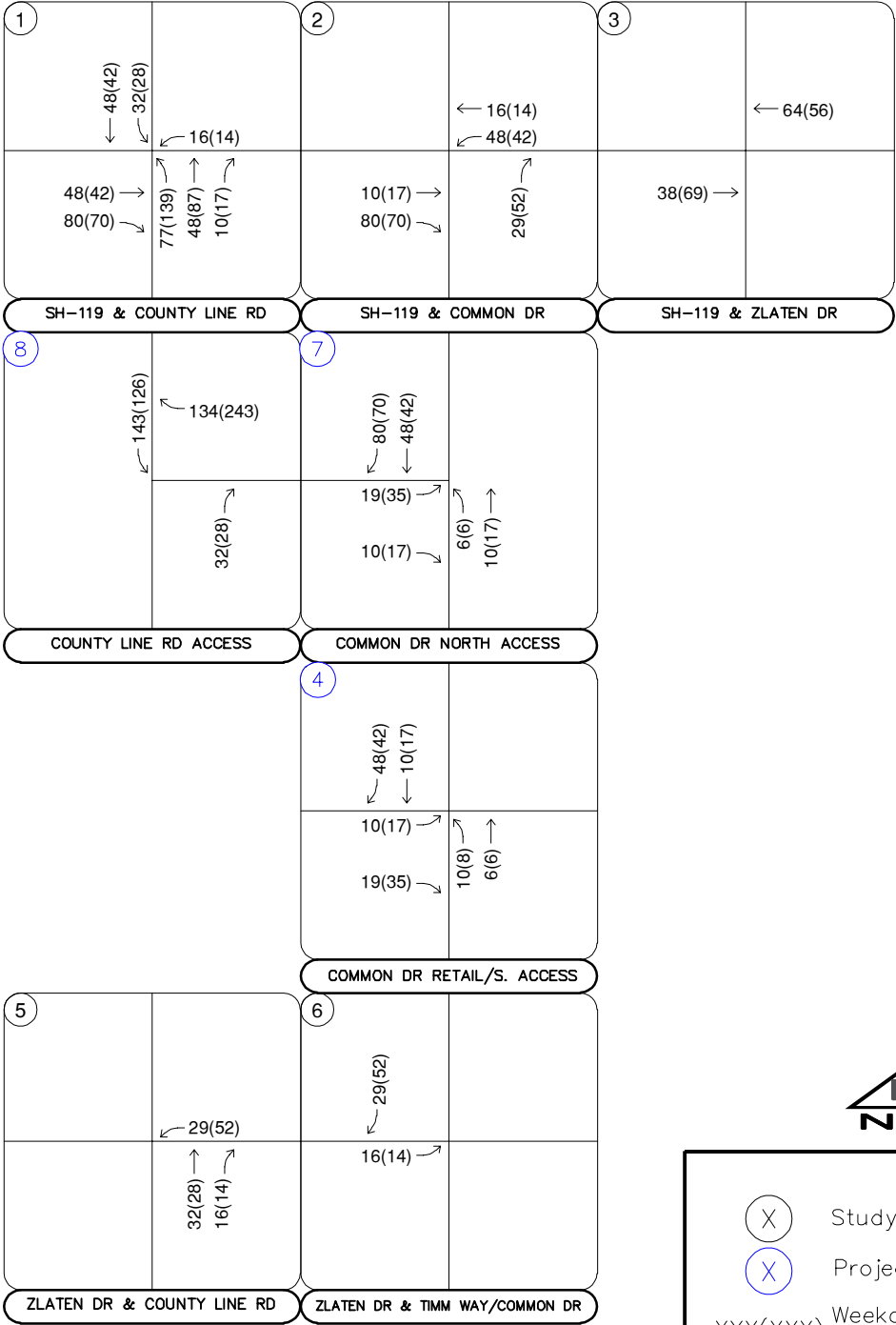
Sandstone Marketplace traffic assignment was obtained by applying the project trip distribution to the estimated traffic generation of the development shown in **Table 1**. Project non-pass-by traffic assignment is shown in **Figure 9**, while **Figure 10** illustrates the expected pass-by traffic assignment for the development.

4.4 Total (Background Plus Project) Traffic

Site traffic volumes were added to the background volumes to represent estimated traffic conditions for the short-term 2025 buildout horizon and long-term 2045 twenty-year planning horizon. These total traffic volumes for the study area are illustrated for the 2025 and 2045 horizon years in **Figures 10** and **11**, respectively.



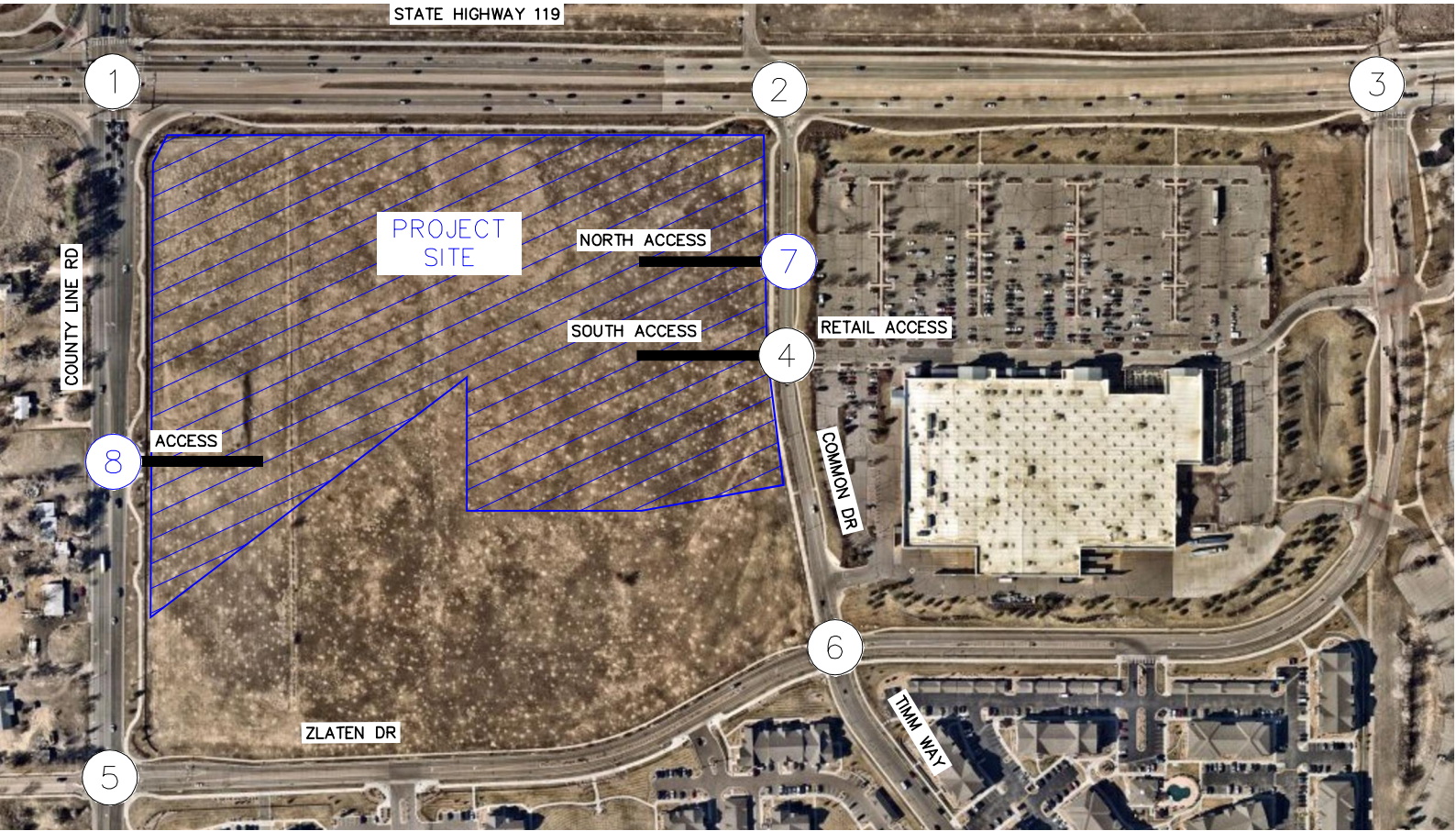
SANDSTONE MARKETPLACE
LONGMONT, COLORADO
NON PASS-BY TRAFFIC ASSIGNMENT



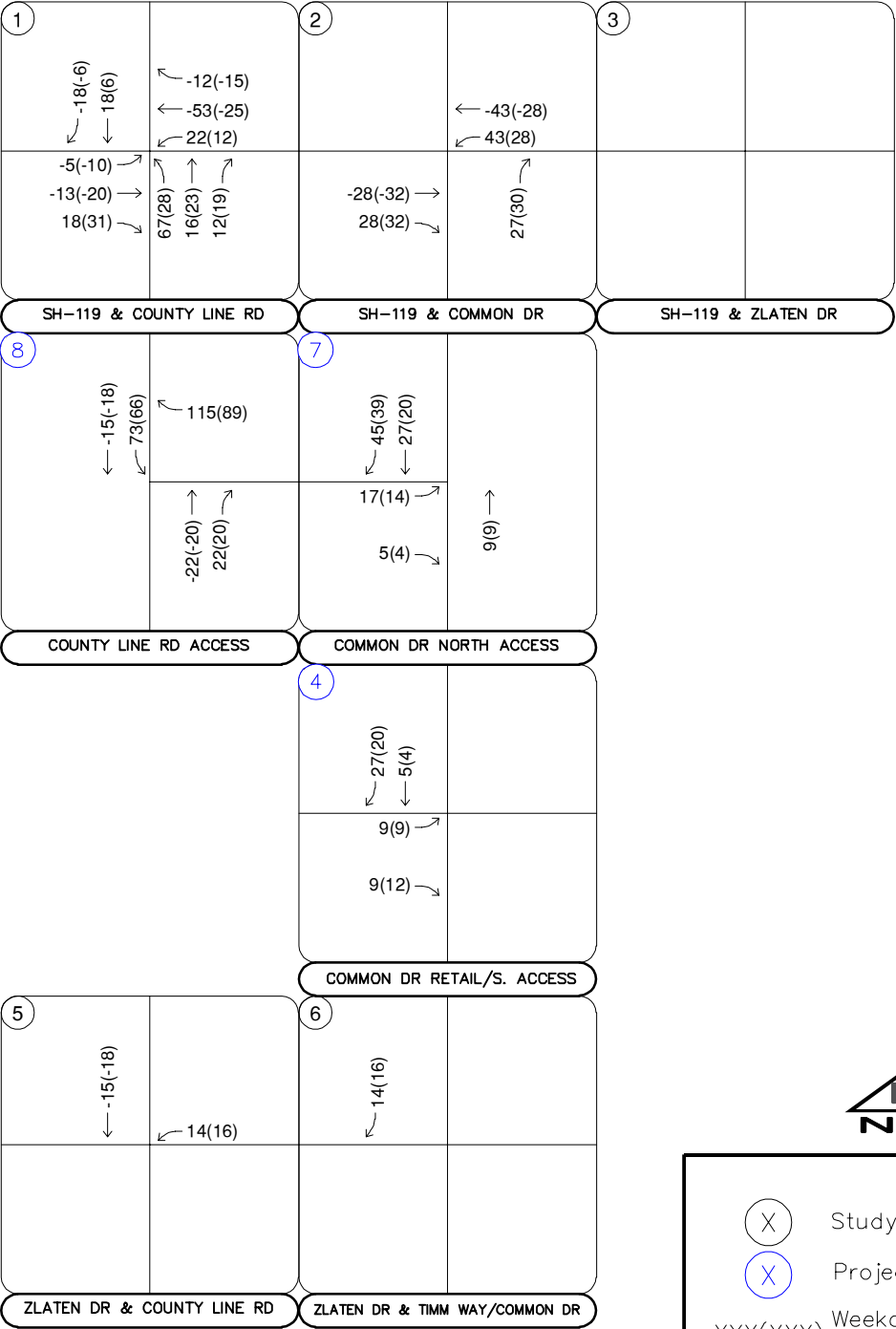
LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- xxx(xxx) Weekday AM(PM)
Peak Hour Traffic Volumes
- xx,x00 Estimated Daily Traffic Volume

FIGURE 9



SANDSTONE MARKETPLACE
LONGMONT, COLORADO
PASS-BY TRAFFIC ASSIGNMENT



LEGEND

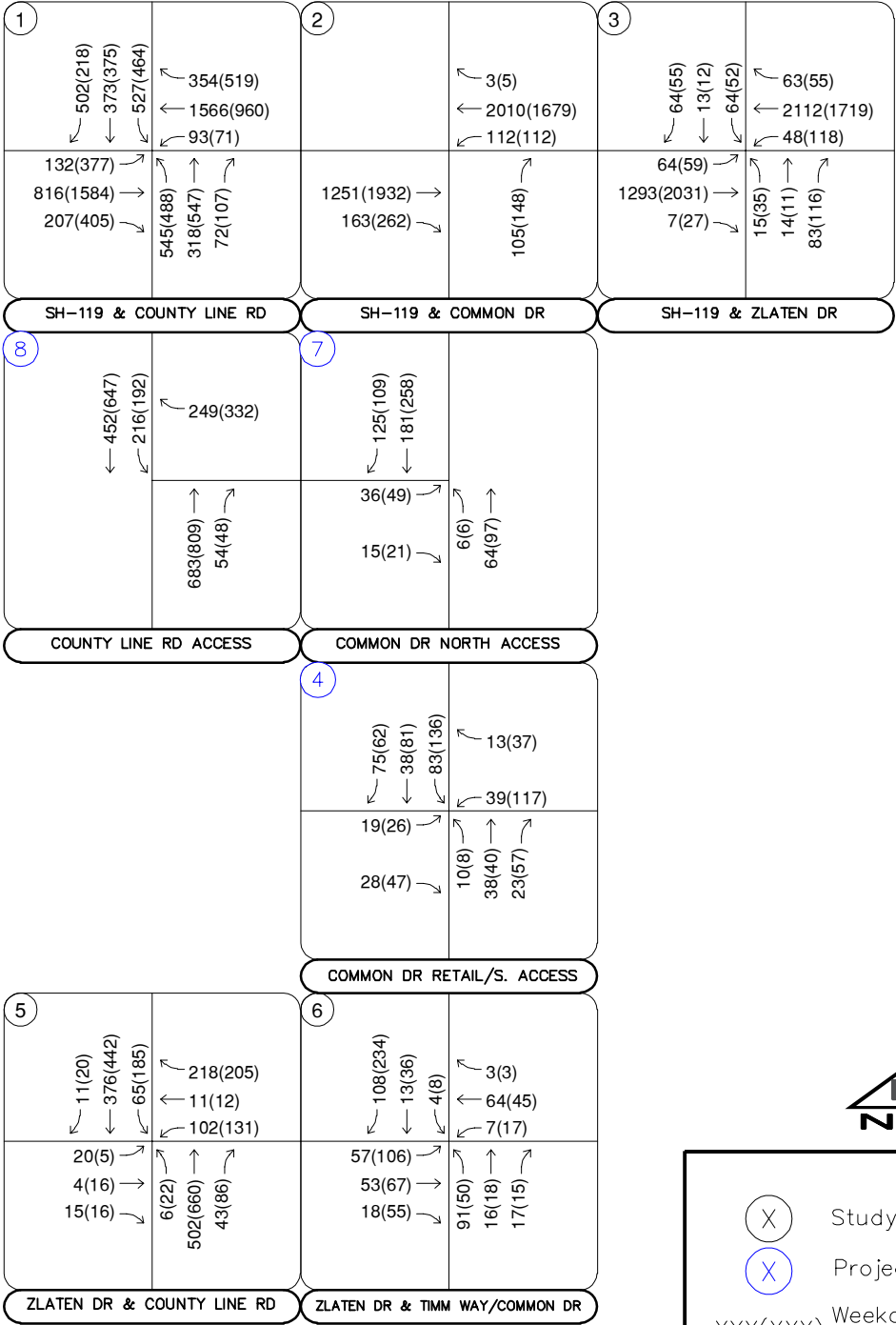
- (X) Study Area Key Intersection
- (X) Project Access Intersection
- xxx(xxx) Weekday AM(PM)
Peak Hour Traffic Volumes
- xx,x00 Estimated Daily Traffic Volume

FIGURE 10





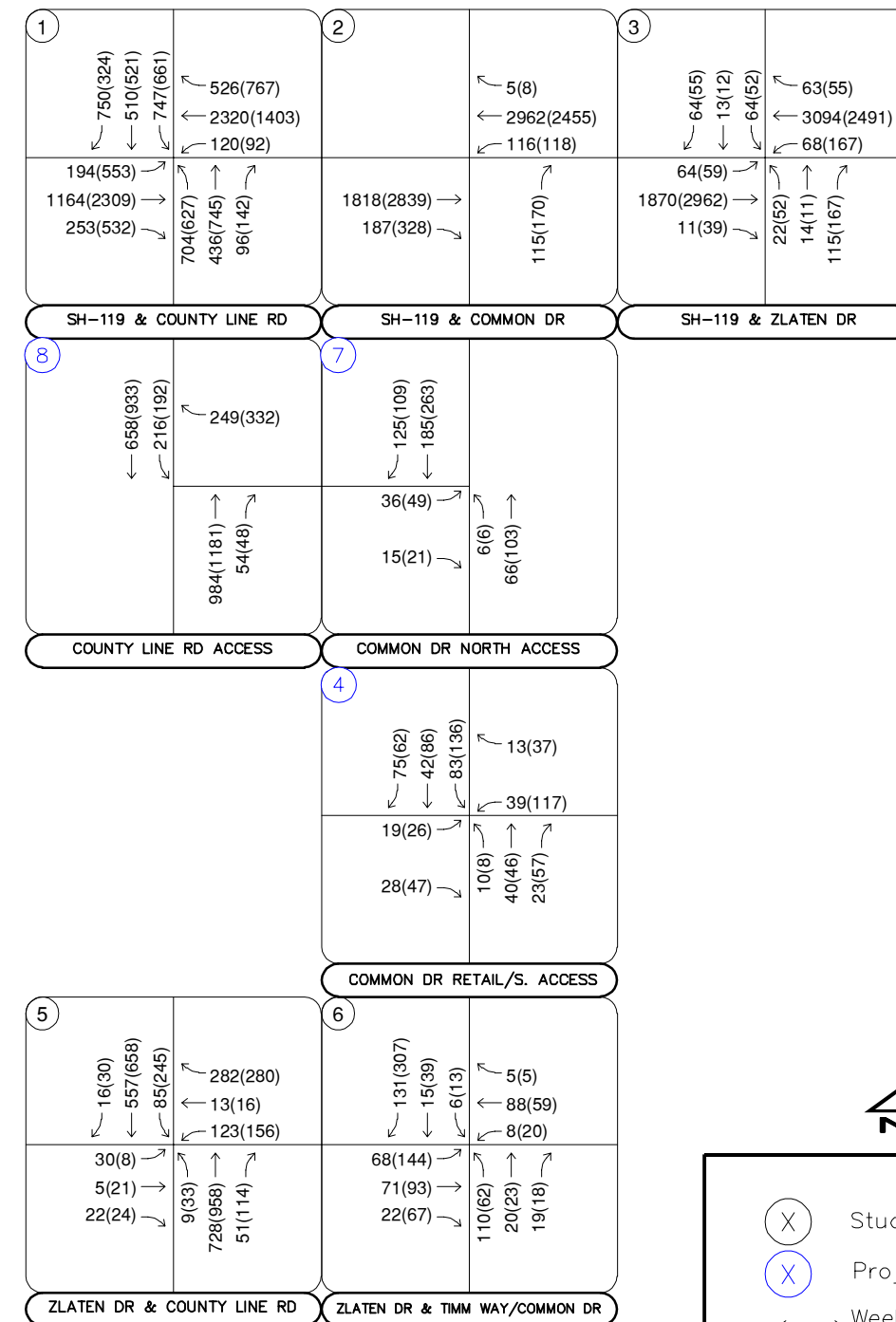
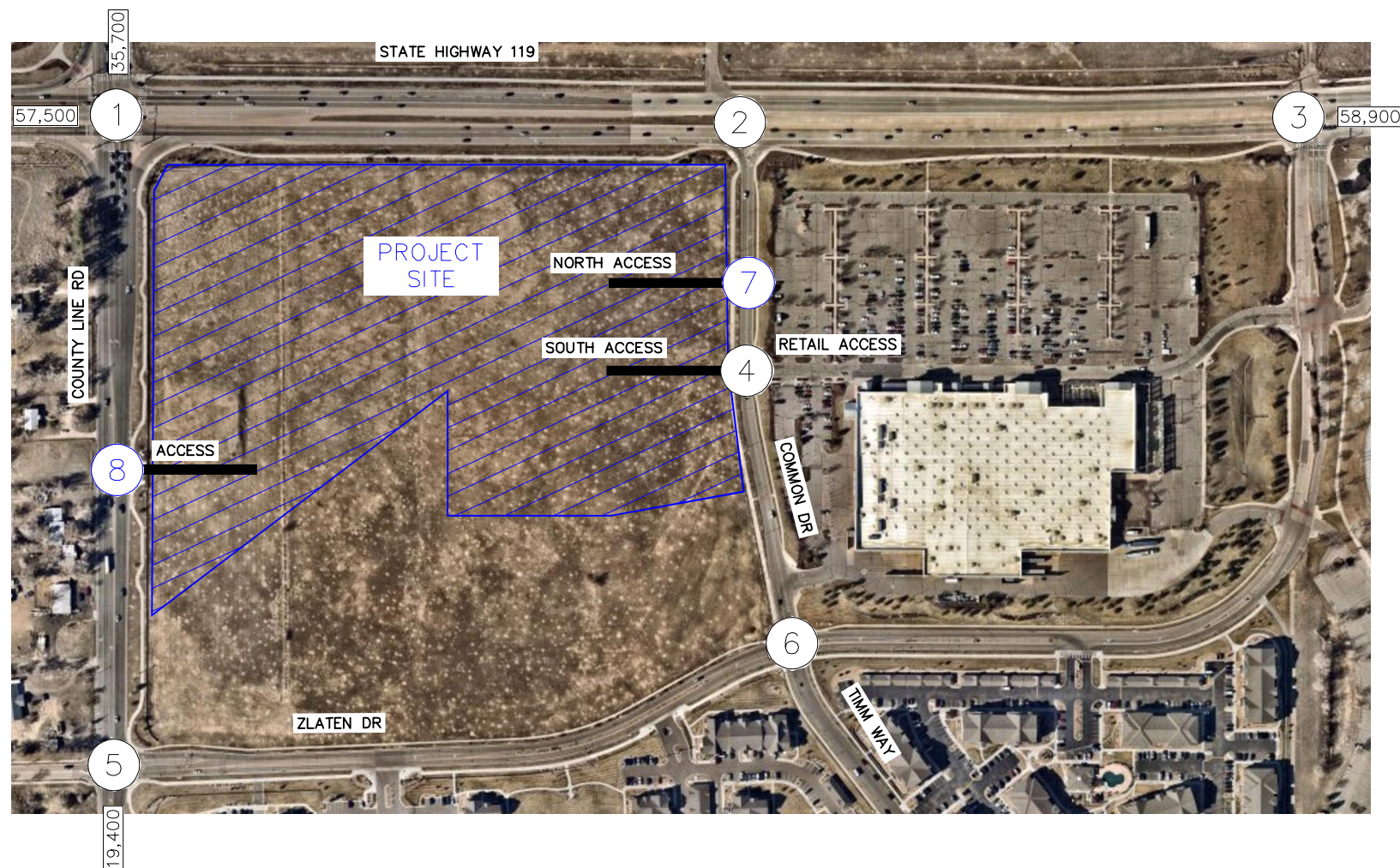
SANDSTONE MARKETPLACE
LONGMONT, COLORADO
2025 TOTAL TRAFFIC VOLUMES



LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- xxx(xxx) Weekday AM(PM)
Peak Hour Traffic Volumes
- xx,x00 Estimated Daily Traffic Volume

FIGURE 11



LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- xxx(xxx) Weekday AM(PM)
- xxx(xxx) Peak Hour Traffic Volumes
- xx,x00 Estimated Daily Traffic Volume

SANDSTONE MARKETPLACE
LONGMONT, COLORADO
2045 TOTAL TRAFFIC VOLUMES

FIGURE 12

5.0 TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies in the 2025 and 2045 development horizons at the identified key intersections. The acknowledged source for determining overall capacity is the current edition of the *Highway Capacity Manual (HCM)*².

5.1 Analysis Methodology

Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). For intersections and roadways in this study area, standard traffic engineering practice recommends overall intersection LOS D and movement/approach LOS E as the minimum desirable thresholds for acceptable operations. **Table 2** shows the definition of level of service for signalized and unsignalized intersections.

Table 2 – Level of Service Definitions

Level of Service	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Definitions provided from the Highway Capacity Manual, Sixth Edition, Transportation Research Board, 2016.

Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. Under the unsignalized analysis, the LOS for a two-way stop-controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS for a two-way stop-controlled intersection is not defined for the intersection as a whole. LOS for signalized, roundabout, and all-way stop controlled intersections are defined for each approach and for the overall intersection.

² Transportation Research Board, *Highway Capacity Manual*, Sixth Edition, Washington DC, 2016.

5.2 Key Intersection Operational Analysis

Calculations for the operational level of service at the key intersections for the study area are provided in **Appendix E**. The existing year analysis is based on the lane geometry and intersection control shown in **Figure 2**. Existing peak hour factors were utilized in the existing and 2025 horizon analysis years while the HCM urban standard of 0.92 was used for the long-term 2045 horizon analysis. Based on increased national attention given to establishing appropriate yellow and all-red clearance intervals to improve intersection safety, these have been calculated and are applied for approaches at the signalized intersections. The increase in yellow and all red time sacrifices intersection capacity for improved safety. Synchro traffic analysis software was used to analyze the signalized, and unsignalized key intersections for HCM level of service.

SH-119 and County Line Road

The signalized intersection of SH-119 and County Line Road operates with protected left turn phasing on all four approaches. The intersection operates acceptably at LOS D during both peak hours under existing conditions. Without project traffic, the intersection is anticipated to operate with LOS E during the morning peak hour in 2025 which exceeds the City of Longmont standard benchmark of LOS D without construction of the project. This benchmark failure can be mitigated with three through lanes in each direction. Since SH-119 is planned to be a six-lane highway in the future, an alternative analysis was provided at this intersection with three through lanes eastbound and westbound; however, it is unknown when this regional improvement will occur in the future. With this improvement, the intersection is anticipated to operate with LOS D in 2025 with project traffic during both peak hours. The eastbound and westbound auxiliary right turn lanes could be absorbed and converted to a shared through/right turn lane (typical of CDOT when transitioning from a four-lane roadway to a six-lane roadway), but that does not fully mitigate to LOS D and it would not be good practice to transition back to two through lanes in each direction both to the east and west with forced right turn lanes. It should be noted that a volume over capacity condition greater than 1 ($V/C > 1$) and LOS E is a condition met without project traffic in 2025. Therefore, the project is not responsible for LOS E and $V/C > 1$. Therefore, the benchmark failure could be mitigated with three through lanes in each direction along SH-119, but that is likely not feasible without additional regional improvement with widening of SH-119 throughout the entire corridor east and west of the project. Therefore, it is believed that regional improvements should be considered along SH-119 in the near future. By 2045, SH-119 is planned to be improved to a six-lane roadway. With this improvement and without project traffic, the intersection is anticipated to operate with LOS F during the morning peak hour and LOS F during the afternoon peak hours in 2045. The capacity deficiency is if future traffic volumes are realized which includes a two percent annual growth and four adjacent developments included as background traffic. An alternative analysis was provided at this intersection with triple northbound and southbound left turn lanes. With this improvement, this intersection is anticipated to operate at LOS E during both peak hours. It is believed that this intersection will be built to its ultimate configuration with these improvements as County Line Road is not planned as a six-lane roadway and the northbound and southbound volumes are not believed to be high enough to warrant a third through lane. The capacity deficiencies in the future with the ultimate cross sections indicate that other regional improvements and connections are needed in the surrounding area. **Table 3** provides the results of the LOS analysis conducted at this intersection.

Table 3 – SH-119 & County Line Road LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2022 Existing	54.2	D	45.6	D
2025 Background	70.5	E	52.1	D
2025 Background Plus Project	74.9	E	62.6	E
2025 Background Plus Project #	51.6	D	49.1	D
2045 Background #	103.6	F	75.6	E
2045 Background Plus Project #	112.8	F	98.2	F
2045 Background Plus Project ##	69.0	E	70.0	E

= Three Through Lanes EB and WB, Free EB and WB Right Turns

= # + Triple NB and SB Left Turn Lanes

SH-119 and Common Drive

The unsignalized intersection of SH-119 and Common Drive operates with stop control on the northbound approach of Common Drive. The intersection movement operates acceptably at LOS B or better during both peak hours under existing conditions. The movements are anticipated to operate acceptably with the addition of project traffic throughout the 2025 horizon.

As stated previously, SH-119 is planned to be improved to a six-lane roadway by 2045. Therefore, with three through lanes in each direction along SH-119, the intersection movements are anticipated to operate with LOS D or better during the morning and afternoon peak hours through 2045 with project traffic. **Table 4** provides the results of the LOS analysis conducted at this intersection.

Table 4 – SH-119 & Common Drive LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2022 Existing Westbound Left	8.8	A	12.1	B
2025 Background Westbound Left	9.5	A	15.1	C
2025 Background Plus Project Westbound Left	10.3	B	19.4	C
2045 Background # Westbound Left	11.1	B	20.3	C
2045 Background Plus Project # Westbound Left	12.7	B	26.9	D

= Three Through Lanes EB and WB

SH-119 and Zlaten Drive

The signalized intersection of SH-119 and Zlaten Drive operates with protected-only left turn phasing on the eastbound and westbound approaches of SH-119 and permissive-only left turn phasing on the northbound and southbound approaches of Zlaten Drive. The intersection operates acceptably at LOS B during both peak hours under existing conditions. The intersection is anticipated to operate acceptably with the addition of project traffic throughout the 2025 horizon. The north leg of this intersection will be reconstructed with development of the 7-Eleven Ken Pratt & Zlaten project.

As stated previously, SH-119 is planned to be improved to a six-lane roadway by 2045. Therefore, with three through lanes in each direction along SH-119, the intersection is anticipated to operate with LOS B during the morning and afternoon peak hours through 2045 with project traffic. **Table 5** provides the results of the LOS analysis conducted at this intersection.

Table 5 – SH-119 & Zlaten Drive LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2022 Existing	13.6	B	19.0	B
2025 Background	14.2	B	18.7	B
2025 Background Plus Project	14.7	B	19.2	B
2045 Background #	12.8	B	16.7	B
2045 Background Plus Project #	13.1	B	16.8	B

= Three Through Lanes EB and WB

Zlaten Drive and County Line Road

The intersection of the Zlaten Drive and County Line Road operates with stop control on the eastbound approach of Great Western Drive and the westbound approach of Zlaten Drive. The movements operate acceptably at LOS D or better during both peak hours under existing conditions. The City of Longmont requested a signal warrant evaluation of this intersection with the west leg being converted from three-quarter turning movements to full turning movements. It should be noted that although the west leg of this intersection technically restricts eastbound left turn and through movements, 19 eastbound left turn movements were observed during the morning peak hour at this intersection. With or without the addition of project traffic, this intersection is expected to meet the four-hour signal warrant; therefore, it is recommended that the City of Longmont consider signalization at this intersection. Signal warrant analysis is provided in **Appendix F**. With signalization, it is recommended that the eastbound approach have one shared lane for all movements due to geometric constraints and the westbound approach consist of a left turn lane, a through lane, and a right turn lane. With these improvements, the intersection is anticipated to operate acceptably with the addition of project traffic throughout the long term 2045 horizon. Of note, project traffic is anticipated to make up 5.5 percent (75/1,373) of morning peak hour traffic and 5.1 percent (92/1,800) of the afternoon peak hour traffic at this intersection during the 2025 total scenario. **Table 6** provides the results of the LOS analysis conducted at this intersection.

Table 6 – Zlaten Drive & County Line Road LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2022 Existing				
Northbound Left	8.1	A	8.3	A
Eastbound Approach	10.5	B	10.9	B
Westbound Left	17.2	C	26.9	D
Westbound Right	10.8	B	11.9	B
Southbound Left	8.5	A	9.4	A
2025 Background				
Northbound Left	8.2	A	8.4	A
Eastbound Approach	10.8	B	11.3	B
Westbound Left	21.1	C	46.6	E
Westbound Right	12.2	B	13.5	B
Southbound Left	8.7	A	10.3	B
2025 Background #	24.5	C	21.4	C
2025 Background Plus Project #	24.9	C	22.5	C
2045 Background #	28.8	C	30.4	C
2045 Background Plus Project #	29.1	C	31.2	C

= Signalized, One Shared EB Lane for All Movements, WB Left Turn Lane, WB Through Lane, WB Right Turn Lane

Zlaten Drive and Timm Way/Common Drive

The intersection of Zlaten Drive and Timm Way/Common Drive operates with stop control on the northbound and southbound approaches of Timm Way/Common Drive. The movements operate acceptably at LOS B or better during both peak hours under existing conditions. The movements are anticipated to operate acceptably with the addition of project traffic throughout the long term 2045 horizon. **Table 7** provides the results of the LOS analysis conducted at this intersection.

Table 7 – Zlaten Drive & Timm Way/Common Drive LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2022 Existing				
Northbound Approach	10.2	B	11.4	B
Eastbound Left	7.4	A	7.4	A
Westbound Left	7.3	A	7.4	A
Southbound Left/Through	9.9	A	10.9	A
Southbound Right	8.7	A	9.0	A
2025 Background				
Northbound Approach	12.1	B	13.5	B
Eastbound Left	7.4	A	7.5	A
Westbound Left	7.4	A	7.5	A
Southbound Left/Through	10.9	B	12.5	B
Southbound Right	8.9	A	9.2	A
2025 Background Plus Project				
Northbound Approach	12.9	B	14.8	B
Eastbound Left	7.5	A	7.5	A
Westbound Left	7.4	A	7.5	A
Southbound Left/Through	11.1	B	12.7	B
Southbound Right	9.2	A	9.6	A
2045 Background				
Northbound Approach	13.7	B	17.3	C
Eastbound Left	7.5	A	7.6	A
Westbound Left	7.4	A	7.6	A
Southbound Left/Through	11.4	B	14.1	B
Southbound Right	9.2	A	9.8	A
2045 Background Plus Project				
Northbound Approach	15.2	C	20.5	C
Eastbound Left	7.6	A	7.6	A
Westbound Left	7.4	A	7.6	A
Southbound Left/Through	11.7	B	14.5	B
Southbound Right	9.5	A	10.3	B

Project Accesses

With completion of the Sandstone Marketplace project, two full movement accesses are proposed along Common Drive with the south access aligning with the existing retail access, and a three-quarter access being proposed along County Line Road. It is recommended that a R1-1 “STOP” sign be installed on the eastbound approaches of the Common Drive accesses and the westbound approach of the County Line Road access, exiting the development. Since the County Line Road access is restricting left turn movements out of the development, a R3-2 No Left Turn sign is recommended to be installed below the R1-1 sign to warn driver’s that the movement is not permitted. A raised pork chop median island is already constructed in the driveway throat of the access along County Line Road to further restrict exiting left turn movements at this intersection. **Table 8** provides the results of the level of service for the project access intersections. As shown in the table, the project access intersections are anticipated to have all movements operating with acceptable LOS C or better during the peak hours in both the buildout year 2025 and the 2045 long term horizons.

Table 8 – Project Access Level of Service Results

Intersection	2025 Total				2045 Total			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS
Common Drive South Access								
Northbound Left	7.5	A	7.6	A	7.5	A	7.6	A
Eastbound Approach	10.3	B	11.8	B	10.2	B	11.6	B
Westbound Approach	11.9	B	18.8	C	11.4	B	17.6	C
Southbound Left	7.5	A	7.7	A	7.5	A	7.7	A
Common Drive North Access								
Northbound Left	8.0	A	8.1	A	8.1	A	8.4	A
Eastbound Approach	10.8	B	12.1	B	11.3	B	13.3	B
County Line Rd Access								
Westbound Approach	11.6	B	14.5	B	13.6	B	20.9	C
Southbound Left	9.0	A	9.0	A	9.8	A	10.5	B

5.3 CDOT Turn Bay Length Analysis

The threshold for requiring an access permit along Colorado Department of Transportation (CDOT) roadways occurs when project traffic is anticipated to increase the existing access traffic volumes by more than 20 percent. Based on traffic projections, the addition of project traffic on the south leg of Zlaten Drive is not anticipated to increase existing access traffic volumes by more than 20 percent, with the maximum expected increase at 0 percent during the afternoon peak hour on the south leg (0/251). Therefore, a CDOT access permit is not anticipated to be required in association with this project at the Zlaten Drive. However, based on traffic projections, the addition of project traffic on the south legs of County Line Road and Common Drive along SH-119 are anticipated to increase existing traffic by more than 20 percent. Therefore, access permits are anticipated to be needed at these two intersections as development occurs.

SH-119 is categorized as an NR-A roadway with a 55 miles per hour speed limit near the County Line Road intersection and 65 miles per hour eastbound near the Common Drive intersection. As such turn lanes requirements are to be designed per the State Highway Access Code. According to the State Highway Access Code for category Non-Rural Principal Highway (NR-A) roadways, the turn lane warrants are as follows:

- A left turn deceleration lane and taper with storage is required for any access with a projected peak hour ingress turning volume greater than 10 vehicles per hour (vph). The taper length will be included within the required deceleration length.
- A right turn deceleration lane and taper is required for any access with a projected peak hour ingress turning volume greater than 25 vph. The taper length will be included within the required deceleration length.
- Right turn acceleration lane and taper is required for any access with a projected peak hour right turning volume greater than 50 vph when the posted speed on the highway is greater than 40 mph. The taper length will be included within the required acceleration length.

Based on the 2025 traffic volume projections, turn lane requirements at the permit required intersections along SH-119 are as follows:

SH-119 & County Line Road

- A westbound left turn lane **is** warranted and exists at the SH-119 and County Line Road intersection based on projected 2025 background plus project traffic volumes being 93

westbound left turns during the peak hour and the threshold being 10 vph. Based on the 55 mile per hour speed limit, the deceleration length is 380 feet, plus a 220-foot taper). The storage requirement is 95 feet (50 feet per lane) in 2025 and 120 feet (60 feet per lane) in 2045 based on the projected left turning volume. The existing dual westbound left turn lanes provides a combined length of 560 feet. Therefore, the existing westbound left turn lanes may need to be extended to a length of 440 feet of storage and deceleration plus a 220-foot taper.

- An eastbound right turn lane **is** warranted and exists at the SH-119 and County Line Road intersection based on projected 2025 background plus project traffic volumes being 405 eastbound right turns during the peak hour and the threshold being 25 vph. The existing eastbound right turn lane provides 675 feet of storage. Based on the 55 mile per hour speed limit, the deceleration length is recommended to provide 380 feet, plus a 220-foot taper. Therefore, the existing turn lane meets CDOT turn lane standards.
- An eastbound acceleration lane along SH-119 from the County Line Road northbound right turn exists and **is** warranted based on projected 2025 background plus project traffic volumes being 107 northbound right turns during the peak hour and the threshold being 50 vph. Based on the 55 mile per hour speed limit, the acceleration lane length is recommended to provide 740 feet, plus a 220-foot taper. The existing acceleration lane drops at a length of approximately 1,230 feet to become an eastbound right turn lane at the Common Drive intersection to the east.

SH-119 & Common Drive

- A westbound left turn lane **is** warranted and exists at the SH-119 and Common Drive intersection based on projected 2025 background plus project traffic volumes being 112 westbound left turns during the peak hour and the threshold being 10 vph. Based on the 55 mile per hour speed limit, the deceleration length is 380 feet, plus a 220-foot taper. The storage requirement is 112 feet in 2025 and 118 feet in 2045 based on the projected left turning volume which equates to a total length of 500 feet (120 feet of storage plus 380 feet of deceleration) plus a 220-foot taper. The existing westbound left turn lane provides 575 feet of storage with an approximate 160-foot taper. The existing westbound left turn lane length is anticipated to meet CDOT turn lane guidelines; however, the taper length is approximately 60 feet short of standards. However, the total turn lane length of 735 feet is longer than CDOT standards (720 feet); therefore, modifications to this turn lane are not recommended.

- An eastbound right turn lane **is** warranted and exists at the SH-119 and Common Drive intersection based on projected 2025 background plus project traffic volumes being 262 eastbound right turns during the peak hour and the threshold being 25 vph. Based on the 65 mile per hour speed limit, the deceleration length is recommended to provide 500 feet, plus a 300-foot taper. However, the existing eastbound right turn lane is continuous from the eastbound through acceleration lane from the County Line Road intersection to the west.
- An eastbound acceleration lane along SH-119 from the Common Drive northbound right turn exists and **is** warranted based on projected 2025 background plus project traffic volumes being 148 northbound right turns during the peak hour and the threshold being 50 vph. Based on the 65 mile per hour speed limit, the acceleration lane length is recommended to provide 1080 feet, plus a 220-foot taper. The existing acceleration lane extends approximately 1,150 feet and drops to become an eastbound right turn lane at the Zlaten Drive intersection to the east.

5.4 City of Longmont Auxiliary Turn Lane Requirements

The City of Longmont Design Standards and Construction Specifications identify that left turn lanes will be installed on intersection approaches (where left turns are not prohibited) when any of the following criteria are met (Section 205.04.1):

- A. The approach is at an intersection that is signalized or is planned to be signalized in the future.
- B. On an uncontrolled approach on an arterial street.
- C. On an uncontrolled approach on a collector street that is striped as a three-lane street (with a continuous center turn lane).
- D. At a four-legged intersection when the opposing approach requires a left turn lane.
- E. On a STOP sign controlled approach on a collector or arterial street with adequate width for more than one approach lane when an exclusive left turn lane minimizes the approach delay (as determined using the latest Highway Capacity Manual analysis techniques).
- F. At an existing intersection where the accident history identifies an accident pattern that is susceptible to improvement by installing a left turn lane as determined by the City.

The project accesses were evaluated to determine if any conditions are met for implementation of a left turn lane. The County Line Road access meets Condition B and a southbound left turn

lane is warranted. Of note, a southbound left turn lane is already constructed at the access. However, Conditions A, B, C, D, and F do not apply to the accesses along Common Drive. The left turn movements at the two accesses along Common Drive are expected to operate at level of service A; therefore, left turn lanes are not expected to be needed based on the criteria set forth in Condition E. As such, a left turn lane is already constructed at the County Line Road access and no left turn lanes are required at the two (2) accesses along Common Drive.

The City of Longmont Design Standards and Construction Specifications identify that right turn lanes will be installed on intersection approaches when any of the following criteria are met:

- A. The intersection is signalized or is planned to be signalized in the future.
- B. At an existing intersection where the accident history identifies an accident pattern that is susceptible to improvement by installing a right turn lane.
- C. On a STOP sign controlled approach on a collector or arterial street with adequate width for more than one approach lane when an exclusive right turn lane minimizes the approach delay (as determined using the latest Highway Capacity Manual analysis techniques).
- D. The approach is uncontrolled, and the traffic volumes estimated in the approved traffic impact study (see appendix A), when applied to the following graph, require a right turn lane. In the graph, when the plotted point representing the through traffic (or the through traffic in the outside through lane when more than one through lane exists) on the approach and the corresponding right turn volume on the approach fall above the line a right turn lane is warranted.

The project accesses were evaluated to determine if any conditions are met for implementation of a right turn lane. County Line Road is an arterial roadway and meets Condition D with the traffic volumes anticipated along County Line Road and the right turn volumes. Therefore, a right turn lane is proposed at the County Line Road access. This northbound right turn lane at the County Line Road access should provide a length of 220 feet plus a 120-foot taper. Common Drive is not an arterial roadway and matches the characteristics for a collector roadway. Therefore, Condition A is not applicable to the accesses along Common Drive. In addition, Condition B and C are not applicable to the Common Drive accesses either. Condition D is met at both intersections based on the through volumes versus the right turn volumes. However, right turn lanes are not provided along any of the existing Common Drive accesses. Furthermore, to match the existing roadway characteristics and to avoid over building roadways along collector street, the City of Longmont

should consider waiving the need for right turn lanes at the project accesses along Common Drive.

5.5 Vehicle Queuing Analysis

A vehicle queuing analysis was conducted for the study area intersections. The queuing analysis was performed using Synchro presenting the results of the 95th percentile queue lengths. Results are shown in the following **Table 9** with calculations provided within the level of service operational sheets of **Appendix E** for unsignalized intersections and **Appendix G** for signalized intersections.

Table 9 – Turn Lane Queuing Analysis Results

Intersection Turn Lane	Existing Turn Lane Length (feet)	2025 Calculated Queue (feet)	2025 Recommended Length (feet)	2045 Calculated Queue (feet)	2045 Recommended Length (feet)
SH-119 & County Line Rd					
Eastbound Left	325'/500'	190'	325'/500'	351'	325'/500'
Eastbound Right	C	127'	C	226'	C
Westbound Left	200'/350'	38'	440'	47'	440'
Westbound Right	900'	377'	900'	651'	900'
Northbound Left	450' DL	380'	450' DL	507'	450' DL
Northbound Right	300'	25'	300'	25'	300'
Southbound Left	425' DL	359'	425' DL	529'	425' DL
Southbound Right	325'	25'	325'	25'	325'
SH-119 & Common Dr					
Westbound Left	600'	50'	600'	75'	600'
Westbound Right	475'	25'	475'	25'	475'
SH-119 & Zlaten Dr					
Eastbound Left	200'	95'	200'	66'	200'
Eastbound Right	C	25'	C	25'	C
Westbound Left	1,600'	199'	1,600'	297'	1,600'
Northbound Left	100'/C	28'	100'/C	38'	100'/C
Zlaten Dr & County Line Rd					
Westbound Left	150'	160'	175'	181'	200'
Westbound Right	C	73'	150'	80'	150'
Northbound Left	225'	25'	225'	25'	225'
Southbound Left	350'	41'	350'	54'	350'
Southbound Right	C	25'	C	25'	C
Zlaten Dr & Timm Way/Common Dr					
Eastbound Left	100'	25'	100'	25'	100'
Westbound Left	125'	25'	125'	25'	125'
Southbound Right	100'	25'	100'	50'	100'
County Line Rd Access					
Southbound Left	150'	25'	150'	25'	150'
Northbound Right	DNE	25'	220'+120'T	25'	220'+120'T

DNE = Does Not Exist; C = Continuous Lane; DL = Dual Left Turn Lanes; T = Taper; **Red** Text = Storage Deficiency; **Blue** Text = Recommendation

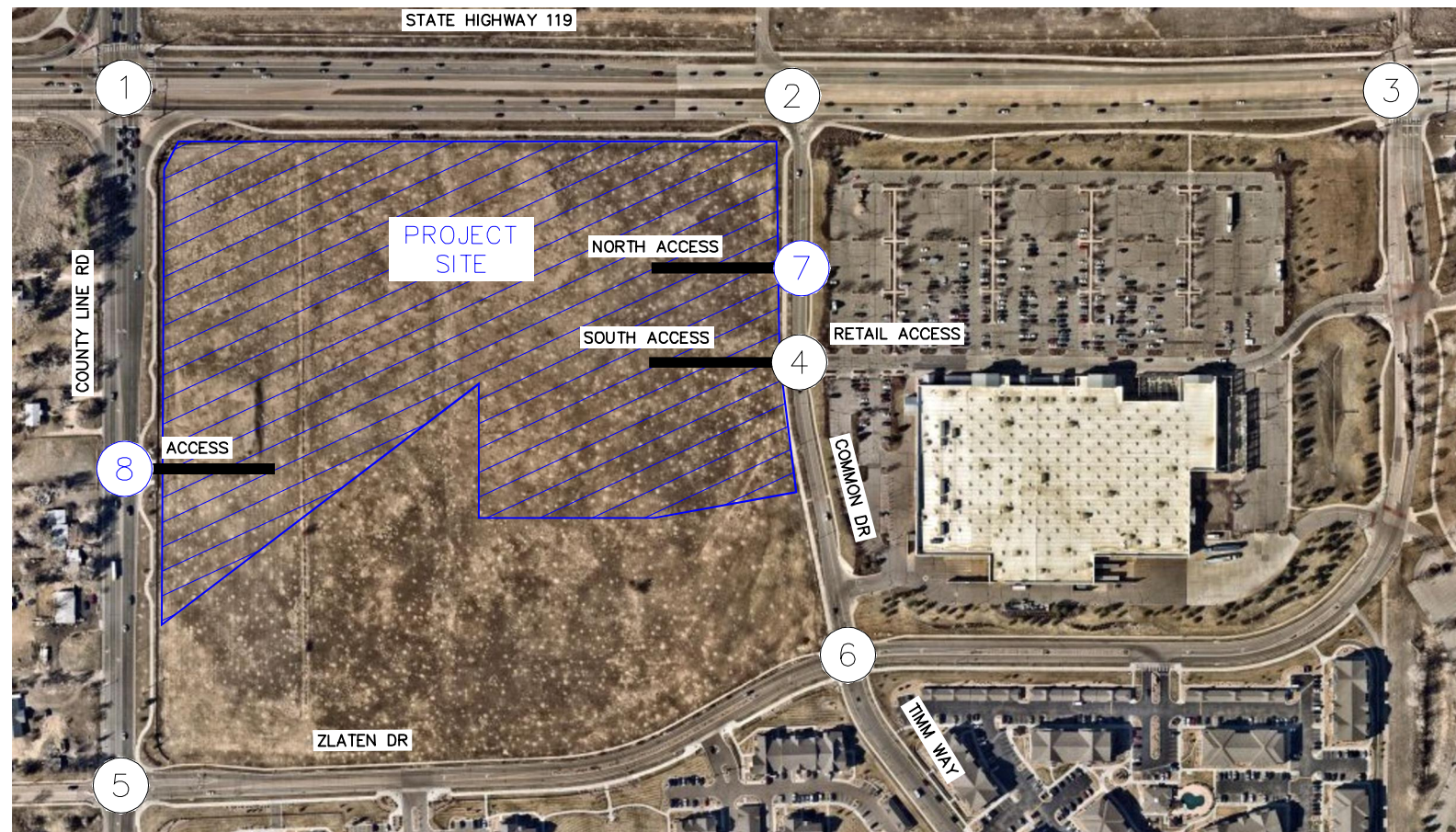
As shown in the table above the northbound and southbound left turn queues at the intersection of SH-119 and County Line Road are anticipated to extend beyond the available storage by 2045. However, these left turn lanes cannot be lengthened due to the left turn lanes at the adjacent intersections.

The westbound left turn lane at the intersection of Zlaten Drive and County Line Road may need to be extended from 150 feet to 175 feet by 2025 and to 200 feet by 2045. This will require the taper from the back-to-back left turn lanes to be shortened from 125 feet to 75 feet by 2045. With signalization, it is recommended that the westbound right turn lane at the Zlaten Drive and County Line Road intersection be designated to a length of 150 feet.

With construction of the County Line Road access, it is recommended that the northbound right turn lane be designated to a length of 220 feet plus a 120-foot taper to meet City of Longmont standards.

5.6 Improvement Summary

Based on the results of the intersection operational and vehicle queuing analysis, the key intersection recommended improvements and control are shown in **Figure 13** for the short-term 2025 horizon and **Figure 14** for the long-term 2045 horizon.



SANDSTONE MARKETPLACE
 LONGMONT, COLORADO
 2025 RECOMMENDED GEOMETRY AND CONTROL

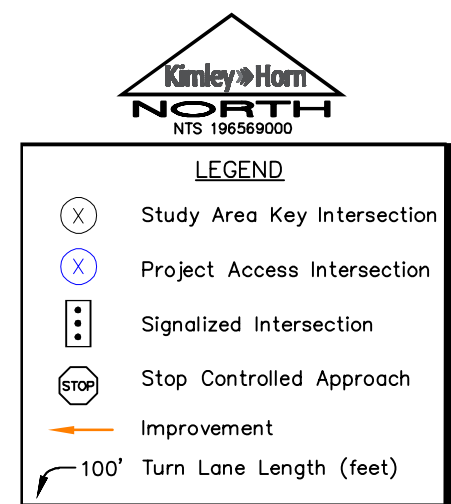
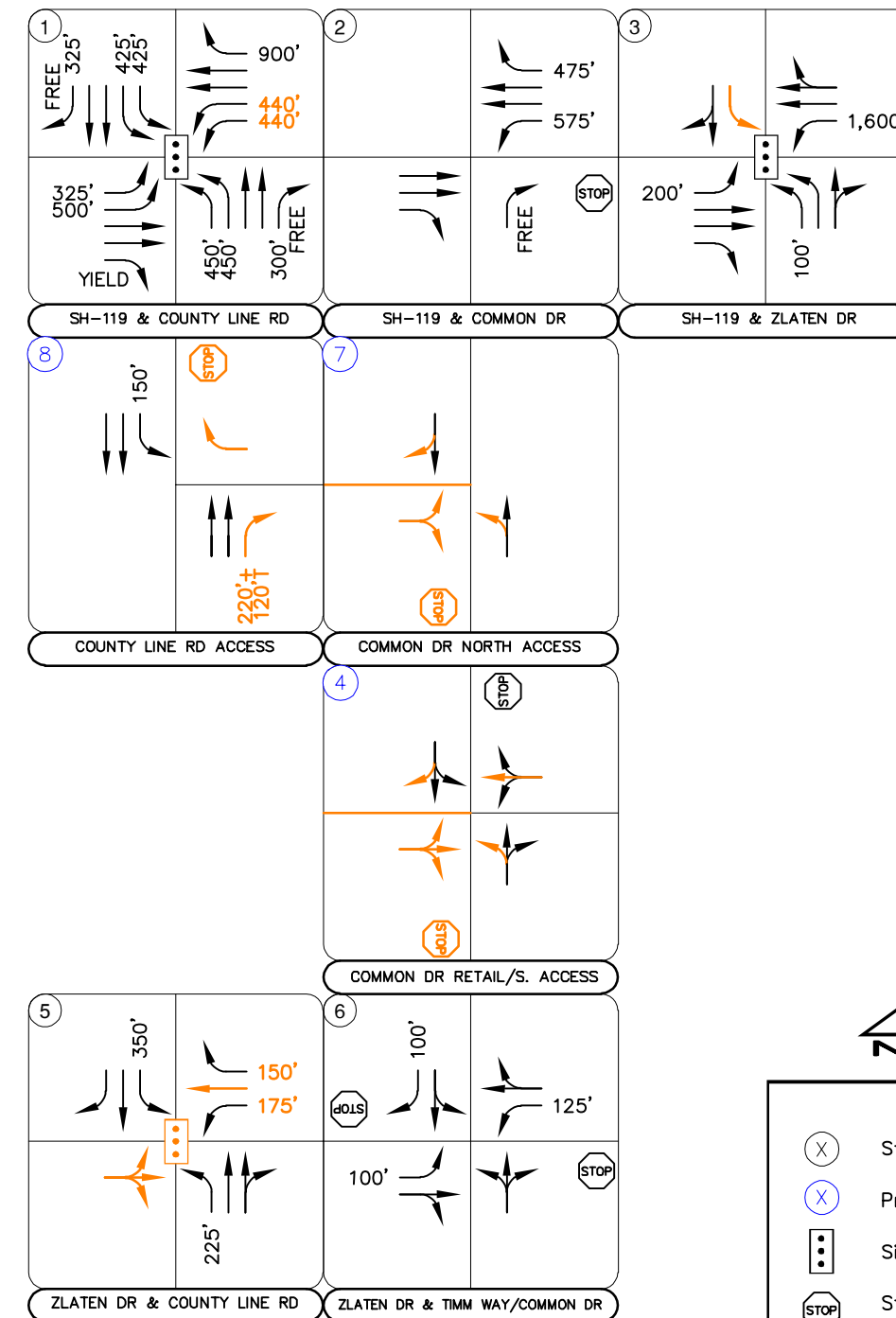
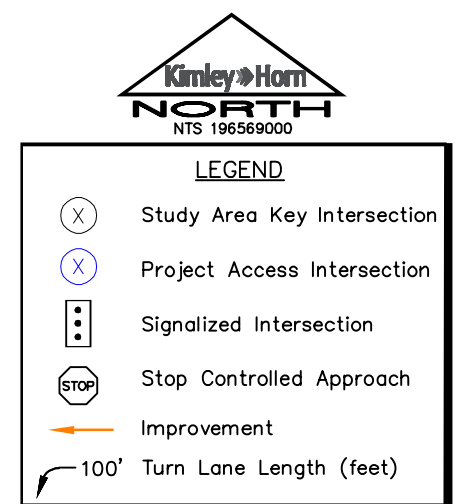
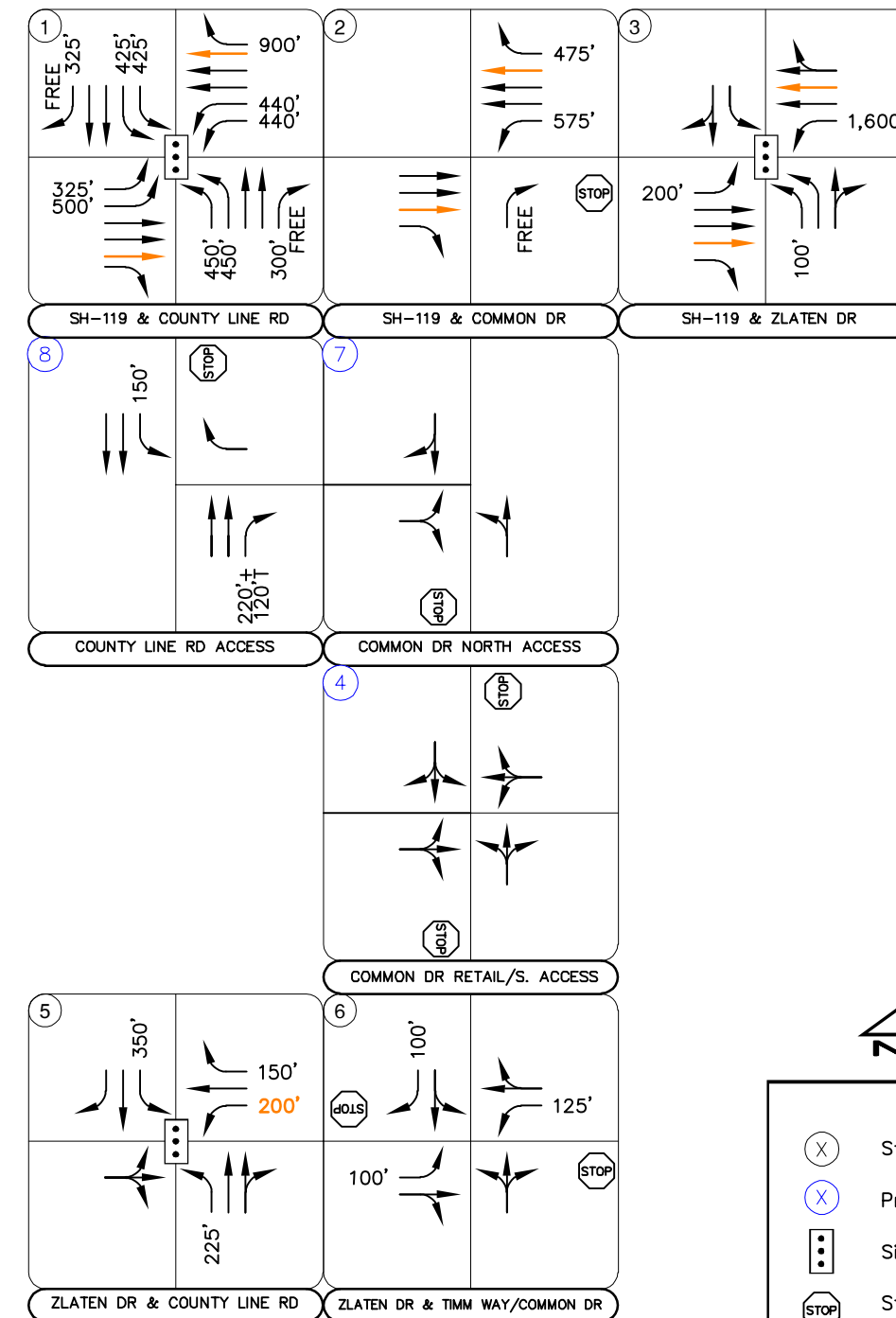
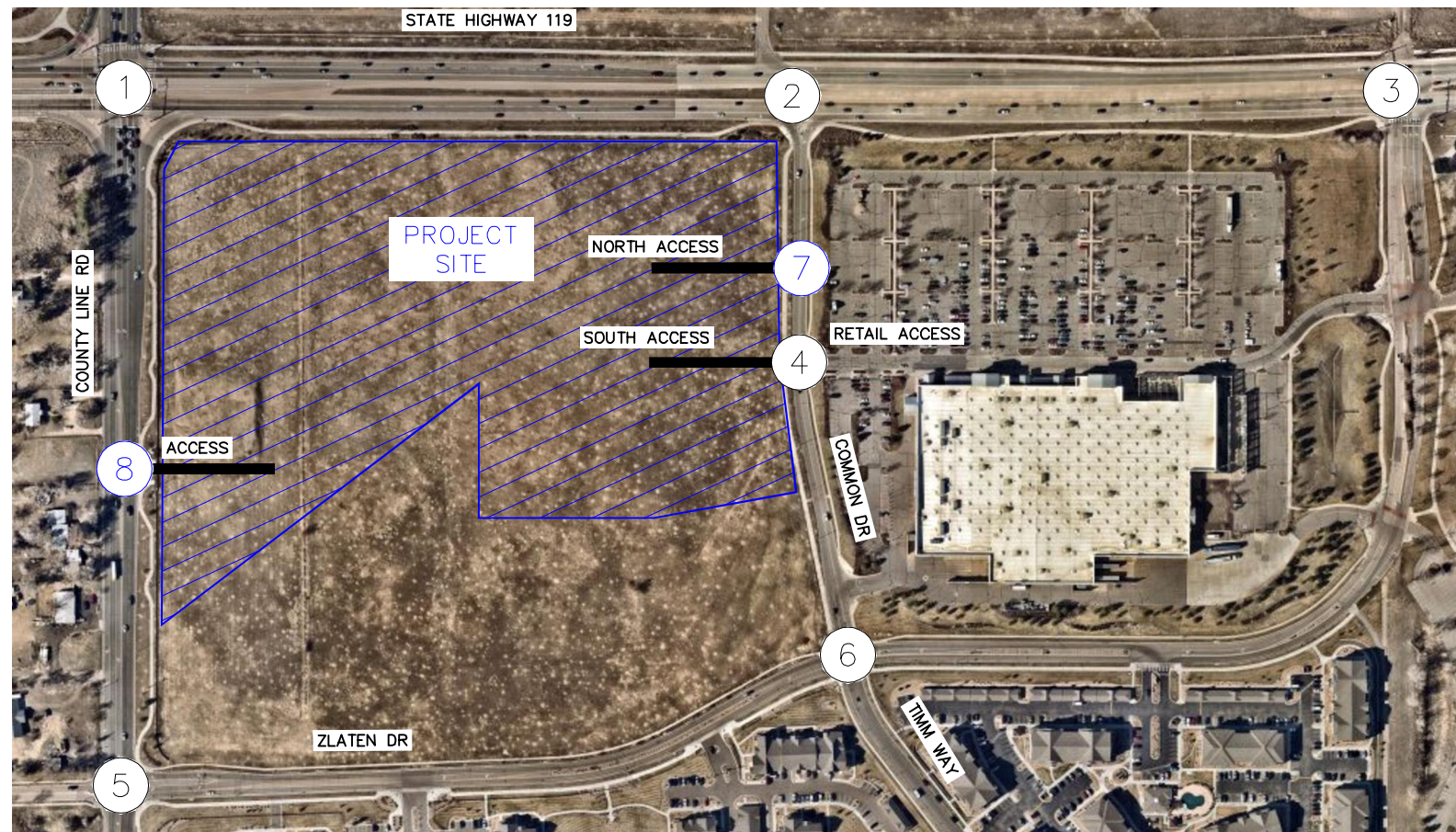


FIGURE 13



SANDSTONE MARKETPLACE
LONGMONT, COLORADO
2045 RECOMMENDED GEOMETRY AND CONTROL

FIGURE 14

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, Kimley-Horn believes Sandstone Marketplace will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network, the proposed project development, and expected traffic volumes resulted in the following conclusions and recommendations:

2025 Recommendations:

- The threshold for requiring an access permit along Colorado Department of Transportation (CDOT) roadways occurs when project traffic is anticipated to increase the existing access traffic volumes by more than 20 percent. Based on traffic projections, the addition of project traffic on the south leg of Zlaten Drive is not anticipated to increase existing access traffic volumes by more than 20 percent, with the maximum expected increase at 0 percent during the afternoon peak hour on the south leg (0/251). Therefore, a CDOT access permit is not anticipated to be required in association with this project at the Zlaten Drive. However, based on traffic projections, the addition of project traffic on the south legs of County Line Road and Common Drive along SH-119 are anticipated to increase existing traffic by more than 20 percent. Therefore, access permits are anticipated to be needed at these two intersections as development occurs.
- With completion of the Sandstone Marketplace project, two full movement accesses are proposed along Common Drive with the south access aligning with the existing retail access, and a three-quarter access is proposed along County Line Road. It is recommended that a R1-1 “STOP” sign be installed on the eastbound approaches of the Common Drive accesses and the westbound approach of the County Line Road access. Since the County Line Road access is restricting left turn movements out of the development, a R3-2 “No Left Turn” sign is recommended to be installed below the R1-1 sign to warn driver’s that the movement is not permitted. A raised pork chop median island is already constructed in the driveway throat of the access along County Line Road to further restrict exiting left turn movements at this access intersection. With construction of the County Line Road access, it is recommended that a northbound right turn lane be designated to a length of 220 feet plus a 120-foot taper to meet City of Longmont standards.

- The City of Longmont requested a signal warrant evaluation at the intersection of Zlaten Drive and County Line Road with the west leg being converted from three-quarter turning movements to full turning movements. It should be noted that although the west leg of this intersection technically restricts eastbound left turn and through movements, 19 eastbound left turn movements were observed during the morning peak hour at this intersection. With or without the addition of project traffic, this intersection is expected to meet the four-hour signal warrant; therefore, it is recommended that the City of Longmont consider signalization at this intersection. With signalization, it is recommended that the eastbound approach have one shared lane for all movements due to geometric constraints and the westbound approach consist of a 175-foot left turn lane, a through lane, and a 150-foot right turn lane. Of note, project traffic is anticipated to make up 5.5 percent of morning peak hour traffic and 5.1 percent of the afternoon peak hour traffic at this intersection during the 2025 build out horizon.
- The westbound dual left turn lanes at the SH-119 and Country Line Road intersection may need to be extended to a length of 440 feet (storage plus deceleration) plus a 220-foot taper.

2045 Recommendations:

- By 2045, SH-119 is planned to be improved to a six-lane roadway throughout the study area limits.
- If future volumes are realized, the westbound left turn lane at the intersection of Zlaten Drive and County Line Road may need to be further extended to 200 feet. Extension of the westbound left turn lane will require the taper from the back-to-back left turn lanes to be shortened from 125 feet to 75 feet.

General Recommendations:

- Any onsite or offsite improvements should be incorporated into the Civil Drawings and conform to standards of the City of Longmont, CDOT, and the Manual on Uniform Traffic Control Devices (MUTCD) – 2009 Edition.

APPENDICES

APPENDIX A

Base Assumptions Form



TRAFFIC IMPACT STUDY (TIS)

Scoping Form

The applicant is responsible for completing and submitting this form to the City of Longmont at least three (3) business days prior to the scoping meeting. If a completed form is not received by this deadline, the scoping meeting may be postponed. If traffic study is submitted more than 6 months after the scoping meeting is held, City staff may require another scoping meeting.

Contact Information

Consultant Name: Tele: E-mail:	Kimley-Horn & Associates (Jeff Planck) jeff.planck@kimley-horn.com
Developer/Owner Name:	

Project Information *(Attach proposed Site Plan)*

Project Name:	Sandstone Marketplace				
Project Location:	Southeast corner of HWY 119 and County Line Road				
Project Description: Application type (rezoning, subdivision), acreage, new or re-development, etc.	New development with commercial, daycare, medical, and senior housing uses				
Existing / Proposed Land Uses	ITE Code	#units or Size	Existing / Proposed Land Uses	ITE Code	#units or Size
Senior Adult Housing	252	130 DU	Medical Office	720	60,000 SF
Daycare Center	565	10,000 SF	Retail/Restaurant	822/930,932,934	30,900 SF/23,000 SF

Please attach Trip Generation Summary table for large or mixed use projects

Assumptions

Study Horizons	Current Year: <u>2022</u>	Build-out : <u>2025</u>	Long Term : <u>2045</u>
Study Area Boundaries <i>(Attach map if needed)</i>	North: SH-119	South: Zlaten Dr	
	East: Timm Way	West: County Line Rd	
Intersections and Road Segments to be Evaluated <i>(Attach map if needed)</i>	1. All Site entrances		5. Zlaten Dr & Timm Way
	2. SH-119 & County Line Rd		6. SH-119 & Zlaten Dr
	3. SH -119 & Timm Way		7. Timm Way Retail Center Access
	4. County Line Rd & Zlaten Dr		8.
Trip Distribution	<i>See Attached Sketch</i>		



Assumptions (continued)				
Trip Reductions (include in Trip Generation table if provided)	Internal Capture	Use: Daily 15 % Use: AM/PM 11%/18% %	Pass By	Use: Per ITE % Use: Multit-Use %
Anticipated Future Traffic Growth Rates (Describe methodology)	2.0% based on average annual growth rate from the Longmont Roadway Plan		Study Time Periods (circle all that apply)	AM (7-9) PM (4-6) SAT (noon) Other
Other Factors proposed/assumed transp. improvements, other studies, nearby proposed developments, etc.	- Signal warrant analysis at the intersection of Zlaten Drive and County Line Road - Include projected traffic from three adjacent developments as discussed in the scoping call			
Analysis Methods & Issues (check all that apply)	<input checked="" type="checkbox"/> Synchro <input type="checkbox"/> HCS <input type="checkbox"/> aaSidra or Rodel <input checked="" type="checkbox"/> Intersections <input type="checkbox"/> Roadway Sections <input checked="" type="checkbox"/> Signal Warrants <input type="checkbox"/> Safety/Sight Distance <input checked="" type="checkbox"/> Queuing & Storage <input checked="" type="checkbox"/> CDOT (Access Permit, other) <input checked="" type="checkbox"/> Identify Bicycle, Pedestrian & Transit Accommodations <input type="checkbox"/> TDM <input type="checkbox"/> Neighborhood Impacts <input type="checkbox"/> Other _____			

ATTACHMENTS, NOTES, & other ASSUMPTIONS:

TIS will follow methodology and parameters described in City of Longmont Traffic Impact Study Requirements.

Applicant will submit electronic copy all analysis data files (HCS, Synchro .syn, etc.). (such as PDF) of TIS report, and

SIGNED: Jeffrey R. Planck
Applicant or Consultant

PRINT NAME: Jeff Planck
Applicant or Consultant

City of Longmont Contacts:

Transportation Planner: 303-651-8335
Civil Engineer (Traffic): 303-651-8737
Transportation Engineer: 303-651-8323

DATE: 08/25/2022

APPENDIX B

Intersection Count Sheets



ALL TRAFFIC DATA SERVICES

(303) 216-2439

www.alltrafficdata.net

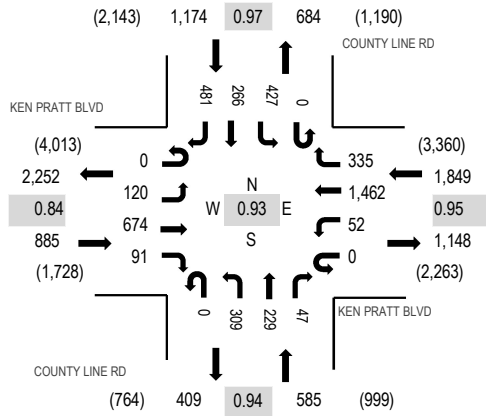
Location: 1 COUNTY LINE RD & KEN PRATT BLVD AM

Date: Thursday, August 25, 2022

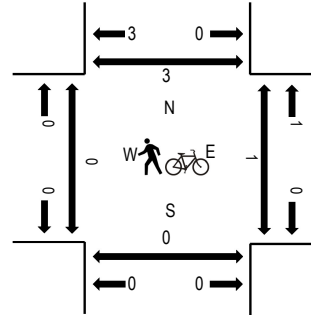
Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	KEN PRATT BLVD Eastbound				KEN PRATT BLVD Westbound				COUNTY LINE RD Northbound				COUNTY LINE RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	25	143	19	0	12	291	42	0	59	27	11	0	117	73	104	923	4,358	0	0	0	0
7:15 AM	0	25	156	11	0	16	333	91	0	74	56	19	0	110	64	135	1,090	4,493	0	0	0	0
7:30 AM	0	29	151	27	0	14	356	85	0	80	68	8	0	112	75	131	1,136	4,346	0	0	0	0
7:45 AM	0	40	206	24	0	14	379	76	0	86	59	10	0	115	73	127	1,209	4,160	0	0	0	0
8:00 AM	0	26	161	29	0	8	394	83	0	69	46	10	0	90	54	88	1,058	3,872	0	0	0	0
8:15 AM	0	31	158	24	1	11	341	58	0	57	42	11	0	101	44	64	943		0	0	0	0
8:30 AM	0	21	167	20	0	8	315	75	0	56	42	10	0	92	58	86	950		0	0	0	0
8:45 AM	0	28	188	19	0	14	270	73	0	47	42	10	0	106	53	71	921		0	0	0	0
Count Total	0	225	1,330	173	1	97	2,679	583	0	528	382	89	0	843	494	806	8,230		0	0	0	0
Peak Hour	0	120	674	91	0	52	1,462	335	0	309	229	47	0	427	266	481	4,493		0	0	0	0



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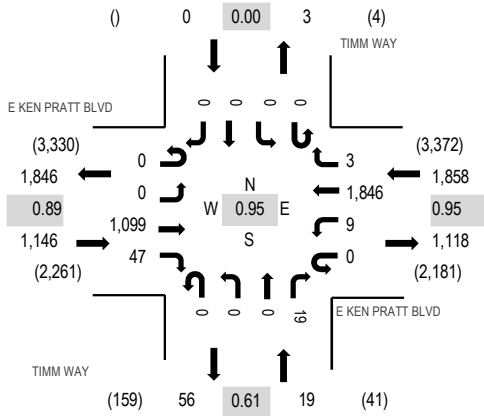
Location: 2 TIMM WAY & E KEN PRATT BLVD AM

Date: Thursday, August 25, 2022

Peak Hour: 07:15 AM - 08:15 AM

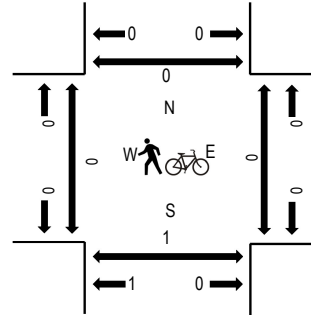
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	E KEN PRATT BLVD Eastbound				E KEN PRATT BLVD Westbound				TIMM WAY Northbound				TIMM WAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	271	7	0	11	342	1	0	0	0	3	0	0	0	0	635	2,883	0	0	2	0
7:15 AM	0	0	270	13	0	4	446	0	0	0	0	3	0	0	0	0	736	3,023	0	0	0	0
7:30 AM	0	0	257	6	0	1	450	1	0	0	0	5	0	0	0	0	720	2,981	0	0	1	0
7:45 AM	0	0	312	12	0	1	463	1	0	0	0	3	0	0	0	0	792	2,928	0	0	0	0
8:00 AM	0	0	260	16	0	3	487	1	0	0	0	8	0	0	0	0	775	2,791	0	0	0	0
8:15 AM	0	0	262	21	0	6	400	0	0	0	0	5	0	0	0	0	694		0	0	0	0
8:30 AM	0	0	244	20	0	4	396	0	0	0	0	3	0	0	0	0	667		0	0	0	0
8:45 AM	0	0	263	27	1	7	346	0	0	0	0	11	0	0	0	0	655		0	0	0	0
Count Total	0	0	2,139	122	1	37	3,330	4	0	0	0	41	0	0	0	0	5,674		0	0	3	0
Peak Hour	0	0	1,099	47	0	9	1,846	3	0	0	0	19	0	0	0	0	3,023		0	0	1	0

Interval Start Time	KEN PRATT BLVD				KEN PRATT BLVD				ZLATEN DRIVE				ZLATEN DRIVE				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right						
7:00 AM	1	0	277	1	0	7	378	0	0	4	0	11	0	0	0	1	680	3,068	0	0	0	0
7:15 AM	0	0	276	0	0	8	453	0	0	3	0	13	0	1	0	0	754	3,148	0	0	0	1
7:30 AM	0	1	256	2	0	8	474	0	0	3	0	16	0	0	0	1	761	3,101	0	0	0	0
7:45 AM	0	0	319	2	0	11	525	0	0	2	0	14	0	0	0	0	873	3,022	0	0	0	0
8:00 AM	0	0	267	3	0	12	453	0	0	6	0	19	0	0	0	0	760	2,832	0	0	0	0
8:15 AM	0	1	269	5	0	9	410	0	0	3	0	9	0	0	0	1	707		0	0	0	0
8:30 AM	0	1	263	2	0	7	385	0	0	8	0	15	0	0	0	1	682		0	0	0	0
8:45 AM	0	0	285	1	0	21	358	0	0	8	0	10	0	0	0	0	683		0	0	0	1
Count Total	1	3	2,212	16	0	83	3,436	0	0	37	0	107	0	1	0	4	5,900		0	0	0	2
Peak Hour	0	1	1,118	7	0	39	1,905	0	0	14	0	62	0	1	0	1	3,148		0	0	0	1



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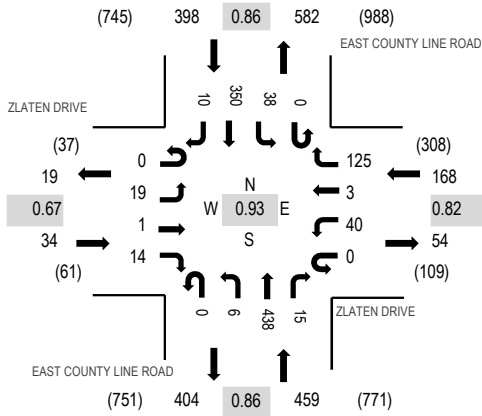
Location: 4 EAST COUNTY LINE ROAD & ZLATEN DRIVE AM

Date: Thursday, August 25, 2022

Peak Hour: 07:15 AM - 08:15 AM

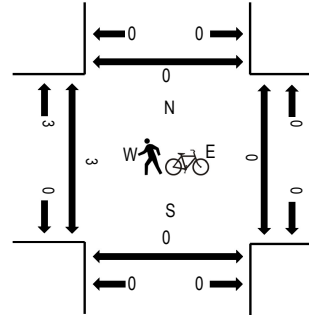
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	ZLATEN DRIVE Eastbound				ZLATEN DRIVE Westbound				E COUNTY LINE ROAD Northbound				E COUNTY LINE ROAD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	4	0	8	0	9	1	36	0	2	62	3	0	5	95	0	225	1,039	0	0	0	2
7:15 AM	0	11	1	4	0	11	0	40	0	1	100	2	0	5	71	2	248	1,059	0	0	0	0
7:30 AM	0	3	0	3	0	6	1	24	0	2	128	4	0	11	95	3	280	1,015	2	0	0	0
7:45 AM	0	4	0	5	0	14	1	25	0	3	113	3	0	13	102	3	286	940	1	0	0	0
8:00 AM	0	1	0	2	0	9	1	36	0	0	97	6	0	9	82	2	245	846	0	0	0	0
8:15 AM	0	2	0	3	0	8	0	26	0	4	84	3	0	10	61	3	204		0	0	0	0
8:30 AM	0	3	1	5	0	6	1	27	0	2	66	7	0	11	76	0	205		0	0	0	0
8:45 AM	0	0	0	1	0	3	0	23	0	1	73	5	0	10	72	4	192		0	0	0	0
Count Total	0	28	2	31	0	66	5	237	0	15	723	33	0	74	654	17	1,885		3	0	0	2
Peak Hour	0	19	1	14	0	40	3	125	0	6	438	15	0	38	350	10	1,059		3	0	0	0



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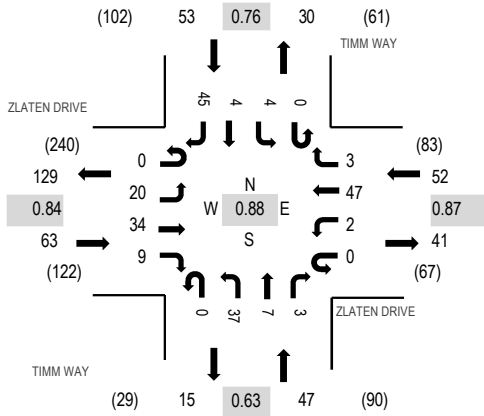
Location: 5 TIMM WAY & ZLATEN DRIVE AM

Date: Thursday, August 25, 2022

Peak Hour: 07:15 AM - 08:15 AM

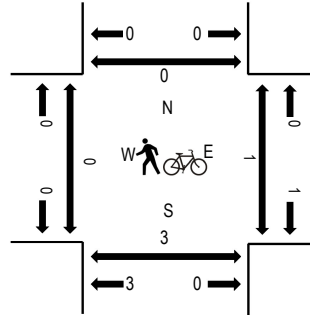
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	ZLATEN DRIVE Eastbound				ZLATEN DRIVE Westbound				TIMM WAY Northbound				TIMM WAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	1	4	3	0	0	13	0	0	14	2	2	0	0	0	12	51	208	0	2	1	0
7:15 AM	0	4	6	1	0	1	14	0	0	18	3	1	0	1	1	11	61	215	0	0	0	0
7:30 AM	0	6	12	2	0	0	9	1	0	4	1	0	0	0	2	7	44	193	0	0	2	0
7:45 AM	0	6	6	4	0	1	10	2	0	8	2	0	0	0	1	12	52	199	0	0	0	0
8:00 AM	0	4	10	2	0	0	14	0	0	7	1	2	0	3	0	15	58	189	0	1	1	0
8:15 AM	0	4	5	4	0	0	7	1	0	12	0	0	0	0	0	6	39		0	0	0	0
8:30 AM	0	11	8	1	0	0	4	0	0	9	0	1	0	0	1	15	50		0	0	0	0
8:45 AM	0	9	6	3	0	1	3	2	0	2	1	0	0	0	1	14	42		0	0	0	0
Count Total	0	45	57	20	0	3	74	6	0	74	10	6	0	4	6	92	397		0	3	4	0
Peak Hour	0	20	34	9	0	2	47	3	0	37	7	3	0	4	4	45	215		0	1	3	0



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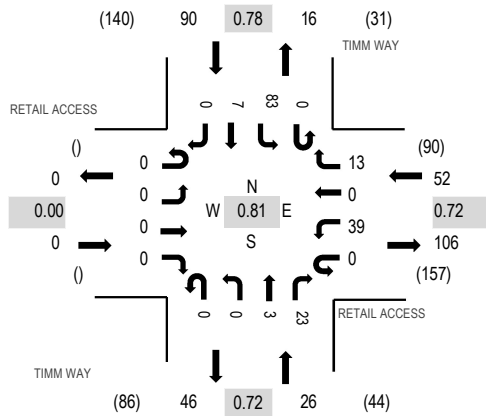
Location: 6 TIMM WAY & RETAIL ACCESS AM

Date: Thursday, August 25, 2022

Peak Hour: 08:00 AM - 09:00 AM

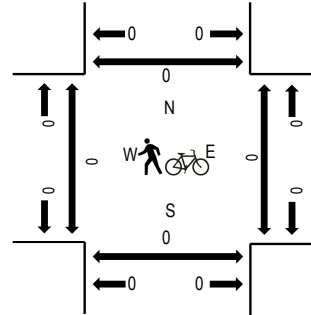
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	RETAIL ACCESS Eastbound				RETAIL ACCESS Westbound				TIMM WAY Northbound				TIMM WAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	11	0	1	0	0	0	2	0	6	0	0	20	106	0	0	0	0
7:15 AM	0	0	0	0	0	8	0	4	0	0	3	2	0	10	3	0	30	121	0	0	0	0
7:30 AM	0	0	0	0	0	4	0	2	0	0	1	2	0	15	3	0	27	125	0	0	0	0
7:45 AM	0	0	0	0	0	7	0	1	0	0	3	5	0	9	4	0	29	145	0	0	0	0
8:00 AM	0	0	0	0	0	13	0	5	0	0	1	4	0	8	4	0	35	168	0	0	0	0
8:15 AM	0	0	0	0	0	7	0	0	0	0	0	5	0	21	1	0	34		0	0	0	0
8:30 AM	0	0	0	0	0	10	0	3	0	0	0	7	0	25	2	0	47		0	0	0	0
8:45 AM	0	0	0	0	0	9	0	5	0	0	2	7	0	29	0	0	52		0	0	0	0
Count Total	0	0	0	0	0	69	0	21	0	0	10	34	0	123	17	0	274		0	0	0	0
Peak Hour	0	0	0	0	0	39	0	13	0	0	3	23	0	83	7	0	168		0	0	0	0



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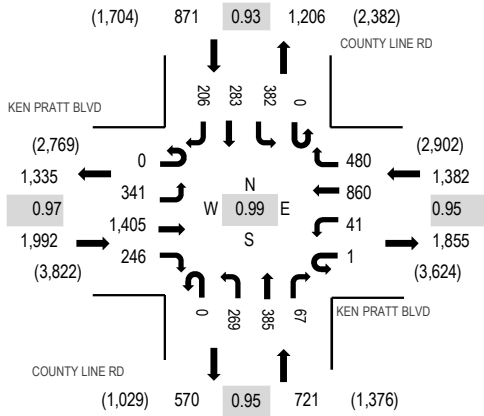
Location: 1 COUNTY LINE RD & KEN PRATT BLVD PM

Date: Thursday, August 25, 2022

Peak Hour: 04:30 PM - 05:30 PM

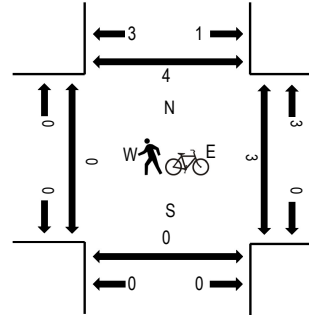
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	KEN PRATT BLVD Eastbound				KEN PRATT BLVD Westbound				COUNTY LINE RD Northbound				COUNTY LINE RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	98	322	57	0	9	244	118	0	66	93	17	0	96	71	56	1,247	4,921	0	0	0	0
4:15 PM	0	85	291	48	0	9	251	133	0	86	94	13	0	88	59	49	1,206	4,930	0	0	0	0
4:30 PM	0	80	335	62	0	13	210	118	0	72	100	19	0	96	84	52	1,241	4,966	0	0	0	0
4:45 PM	0	80	343	66	0	10	194	120	0	69	89	15	0	100	78	63	1,227	4,949	0	0	0	1
5:00 PM	0	91	359	62	0	11	233	128	0	71	96	13	0	85	59	48	1,256	4,883	0	0	0	0
5:15 PM	0	90	368	56	1	7	223	114	0	57	100	20	0	101	62	43	1,242		0	1	0	1
5:30 PM	0	76	347	43	0	10	241	137	0	54	81	15	0	116	59	45	1,224		0	1	0	1
5:45 PM	0	80	345	38	0	16	233	119	0	54	62	20	0	99	40	55	1,161		0	0	0	0
Count Total	0	680	2,710	432	1	85	1,829	987	0	529	715	132	0	781	512	411	9,804		0	2	0	3
Peak Hour	0	341	1,405	246	1	41	860	480	0	269	385	67	0	382	283	206	4,966		0	1	0	2



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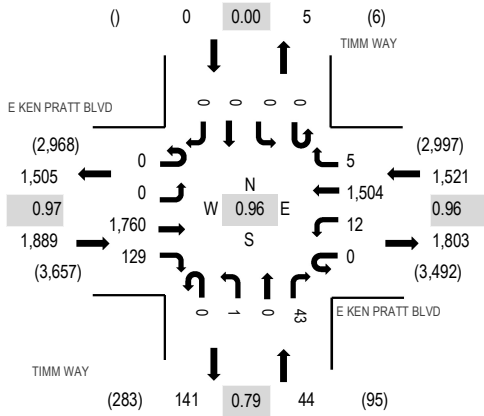
Location: 2 TIMM WAY & E KEN PRATT BLVD PM

Date: Thursday, August 25, 2022

Peak Hour: 05:00 PM - 06:00 PM

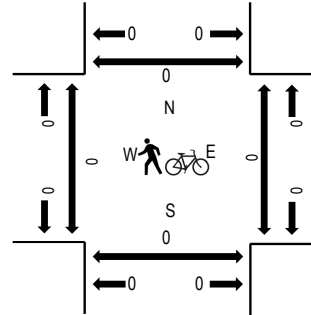
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	E KEN PRATT BLVD Eastbound				E KEN PRATT BLVD Westbound				TIMM WAY Northbound				TIMM WAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	390	35	0	2	381	0	0	0	0	22	0	0	0	0	830	3,295	0	0	0	0
4:15 PM	0	0	382	32	0	4	401	0	0	0	0	5	0	0	0	0	824	3,307	0	0	0	0
4:30 PM	0	0	414	32	0	3	350	1	0	0	0	8	0	0	0	0	808	3,351	0	0	0	0
4:45 PM	0	0	452	31	0	3	331	0	0	0	0	16	0	0	0	0	833	3,438	0	0	0	0
5:00 PM	0	0	416	31	0	2	380	2	0	1	0	10	0	0	0	0	842	3,454	0	0	0	0
5:15 PM	0	0	461	33	0	4	352	1	0	0	0	17	0	0	0	0	868		0	0	0	0
5:30 PM	0	0	454	33	0	5	393	0	0	0	0	10	0	0	0	0	895		0	0	0	0
5:45 PM	0	0	429	32	0	1	379	2	0	0	0	6	0	0	0	0	849		0	0	0	0
Count Total	0	0	3,398	259	0	24	2,967	6	0	1	0	94	0	0	0	0	6,749		0	0	0	0
Peak Hour	0	0	1,760	129	0	12	1,504	5	0	1	0	43	0	0	0	0	3,454		0	0	0	0



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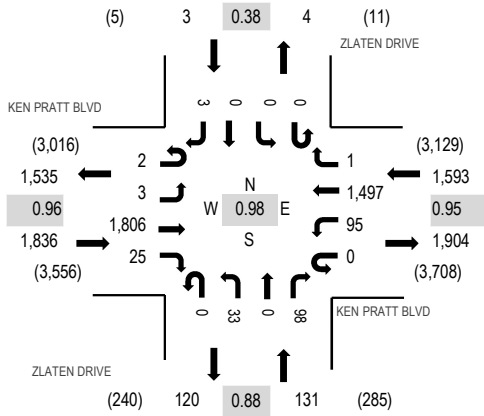
Location: 3 ZLATEN DRIVE & KEN PRATT BLVD PM

Date: Thursday, August 25, 2022

Peak Hour: 05:00 PM - 06:00 PM

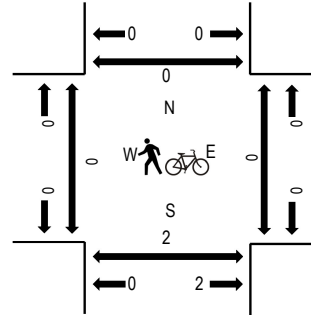
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	KEN PRATT BLVD Eastbound				KEN PRATT BLVD Westbound				ZLATEN DRIVE Northbound				ZLATEN DRIVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	1	407	6	0	27	382	0	0	11	0	27	0	0	0	0	861	3,412	0	0	0	0
4:15 PM	1	0	399	2	0	24	374	1	0	15	1	28	0	0	0	0	845	3,442	0	0	0	0
4:30 PM	1	1	426	6	0	20	348	0	0	8	0	27	1	0	0	1	839	3,483	0	0	0	0
4:45 PM	1	0	465	4	0	31	327	2	0	12	0	25	0	0	0	0	867	3,554	0	0	0	0
5:00 PM	0	1	432	1	0	31	390	0	0	9	0	26	0	0	0	1	891	3,563	0	0	0	0
5:15 PM	2	1	476	3	0	28	336	1	0	5	0	34	0	0	0	0	886		0	0	0	0
5:30 PM	0	1	463	8	0	19	389	0	0	8	0	22	0	0	0	0	910		0	0	0	0
5:45 PM	0	0	435	13	0	17	382	0	0	11	0	16	0	0	0	2	876		0	0	0	0
Count Total	5	5	3,503	43	0	197	2,928	4	0	79	1	205	1	0	0	4	6,975		0	0	0	0
Peak Hour	2	3	1,806	25	0	95	1,497	1	0	33	0	98	0	0	0	3	3,563		0	0	0	0



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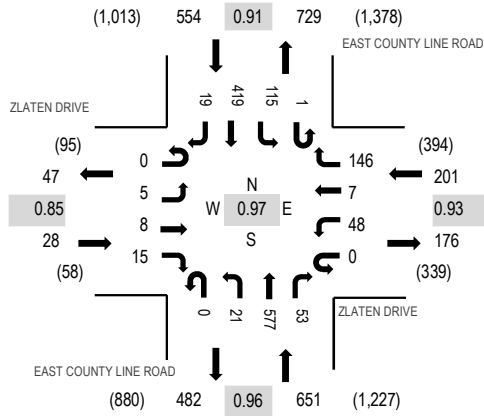
Location: 4 EAST COUNTY LINE ROAD & ZLATEN DRIVE PM

Date: Thursday, August 25, 2022

Peak Hour: 04:00 PM - 05:00 PM

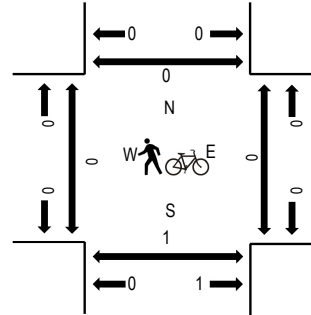
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	ZLATEN DRIVE Eastbound				ZLATEN DRIVE Westbound				E COUNTY LINE ROAD Northbound				E COUNTY LINE ROAD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	1	1	3	0	9	3	39	0	3	153	12	0	37	91	2	354	1,434	0	0	0	0
4:15 PM	0	1	1	1	0	18	0	29	0	4	151	15	0	25	90	5	340	1,425	0	0	0	0
4:30 PM	0	3	3	4	0	8	2	39	0	8	134	14	0	27	121	6	369	1,422	0	0	0	0
4:45 PM	0	0	3	7	0	13	2	39	0	6	139	12	1	26	117	6	371	1,359	0	0	0	0
5:00 PM	0	0	1	8	0	8	4	39	0	1	141	13	0	21	103	6	345	1,258	0	0	0	0
5:15 PM	0	0	1	4	0	8	3	33	0	1	148	14	0	21	97	7	337		0	0	0	0
5:30 PM	0	2	4	1	0	9	2	40	0	7	109	22	0	23	80	7	306		0	0	0	0
5:45 PM	0	4	2	3	0	10	2	35	0	5	98	17	0	24	67	3	270		0	1	0	0
Count Total	0	11	16	31	0	83	18	293	0	35	1,073	119	1	204	766	42	2,692		0	1	0	0
Peak Hour	0	5	8	15	0	48	7	146	0	21	577	53	1	115	419	19	1,434		0	0	0	0



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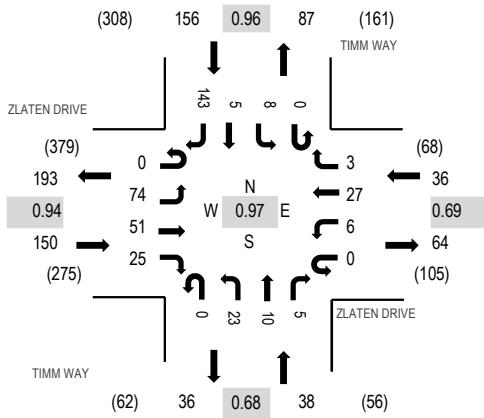
Location: 5 TIMM WAY & ZLATEN DRIVE PM

Date: Thursday, August 25, 2022

Peak Hour: 04:00 PM - 05:00 PM

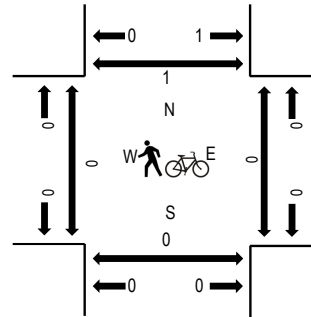
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	ZLATEN DRIVE Eastbound				ZLATEN DRIVE Westbound				TIMM WAY Northbound				TIMM WAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	21	12	4	0	1	7	1	0	4	0	2	0	3	1	36	92	380	0	0	0	0
4:15 PM	0	15	18	7	0	3	10	0	0	4	0	1	0	0	2	37	97	367	0	0	0	1
4:30 PM	0	17	9	8	0	1	4	1	0	7	5	2	0	2	0	37	93	344	0	0	0	0
4:45 PM	0	21	12	6	0	1	6	1	0	8	5	0	0	3	2	33	98	346	0	0	0	0
5:00 PM	0	16	4	6	0	1	5	0	0	6	0	0	0	1	1	39	79	327	0	0	1	0
5:15 PM	0	14	9	3	0	1	9	0	0	3	1	0	0	1	0	33	74		0	0	0	0
5:30 PM	0	25	12	6	0	0	7	1	0	4	1	0	0	1	4	34	95		0	0	0	0
5:45 PM	0	15	11	4	0	0	8	0	0	2	1	0	0	2	0	36	79		0	0	1	1
Count Total	0	144	87	44	0	8	56	4	0	38	13	5	0	13	10	285	707		0	0	2	2
Peak Hour	0	74	51	25	0	6	27	3	0	23	10	5	0	8	5	143	380		0	0	0	1



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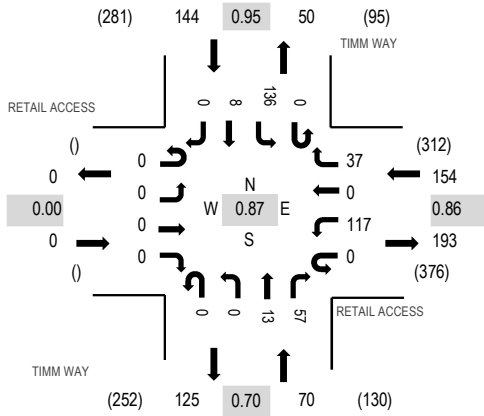
Location: 6 TIMM WAY & RETAIL ACCESS PM

Date: Thursday, August 25, 2022

Peak Hour: 04:00 PM - 05:00 PM

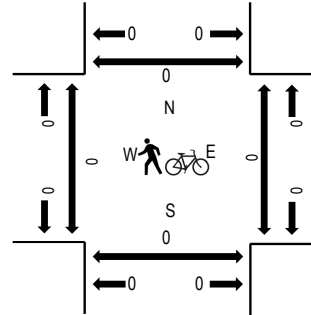
Peak 15-Minutes: 04:00 PM - 04:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

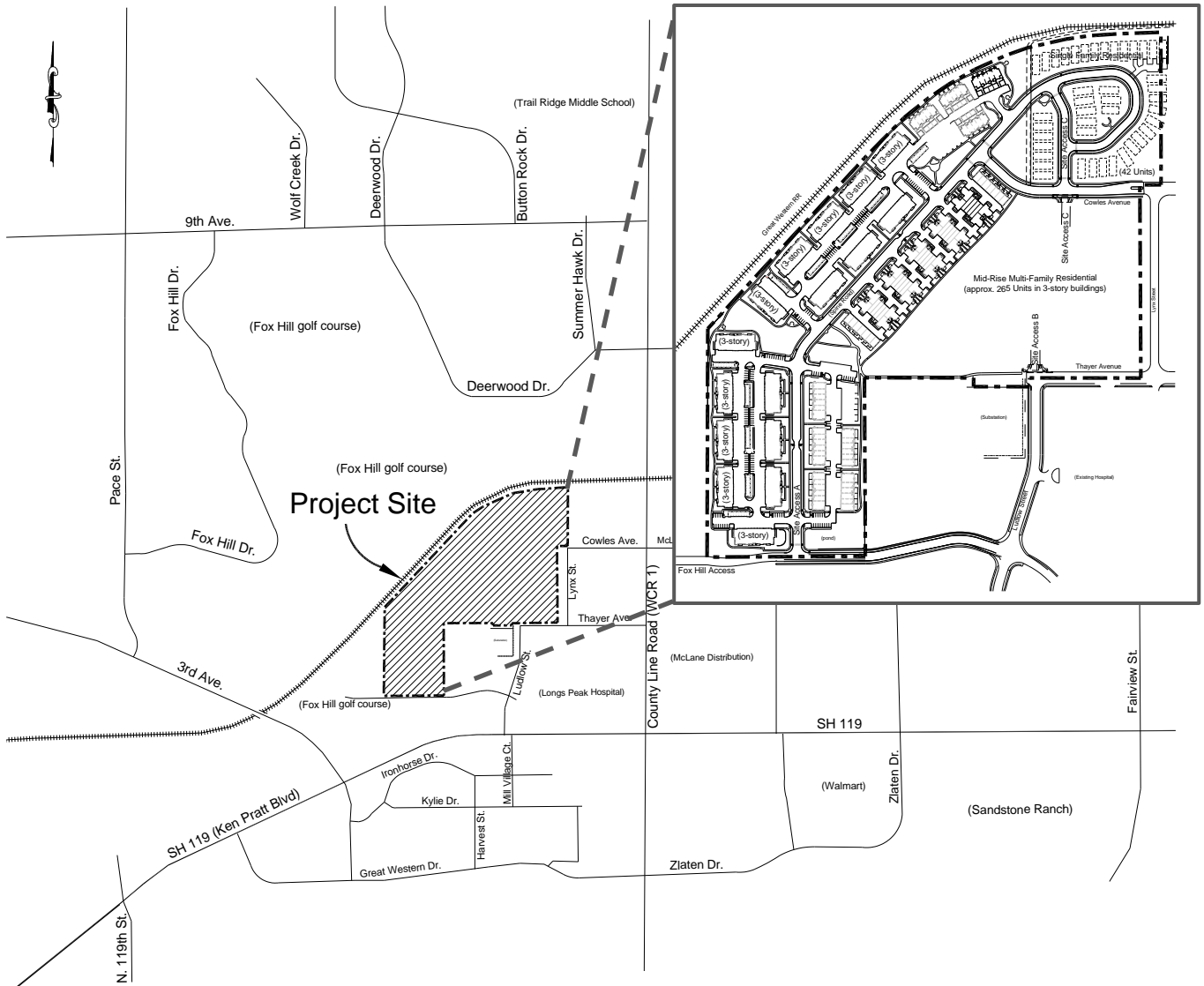
Interval Start Time	RETAIL ACCESS Eastbound				RETAIL ACCESS Westbound				TIMM WAY Northbound				TIMM WAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	0	0	0	32	0	20	0	0	1	15	0	36	2	0	106	368	0	0	0	0
4:15 PM	0	0	0	0	0	30	0	4	0	0	1	11	0	34	2	0	82	346	0	0	0	0
4:30 PM	0	0	0	0	0	25	0	6	0	0	3	14	0	34	2	0	84	357	0	0	0	0
4:45 PM	0	0	0	0	0	30	0	7	0	0	8	17	0	32	2	0	96	366	0	0	0	0
5:00 PM	0	0	0	0	0	30	0	10	0	0	0	13	0	30	1	0	84	355	0	0	0	0
5:15 PM	0	0	0	0	0	30	0	16	0	0	1	9	0	35	2	0	93		0	0	0	0
5:30 PM	0	0	0	0	0	27	0	7	0	0	3	19	0	35	2	0	93		0	0	0	0
5:45 PM	0	0	0	0	0	31	0	7	0	0	1	14	0	28	4	0	85		0	0	0	0
Count Total	0	0	0	0	0	235	0	77	0	0	18	112	0	264	17	0	723		0	0	0	0
Peak Hour	0	0	0	0	0	117	0	37	0	0	13	57	0	136	8	0	368		0	0	0	0

APPENDIX C

Future Traffic Projections and Background Studies

The Highlands Residential Project

Revised Final Traffic Impact Study



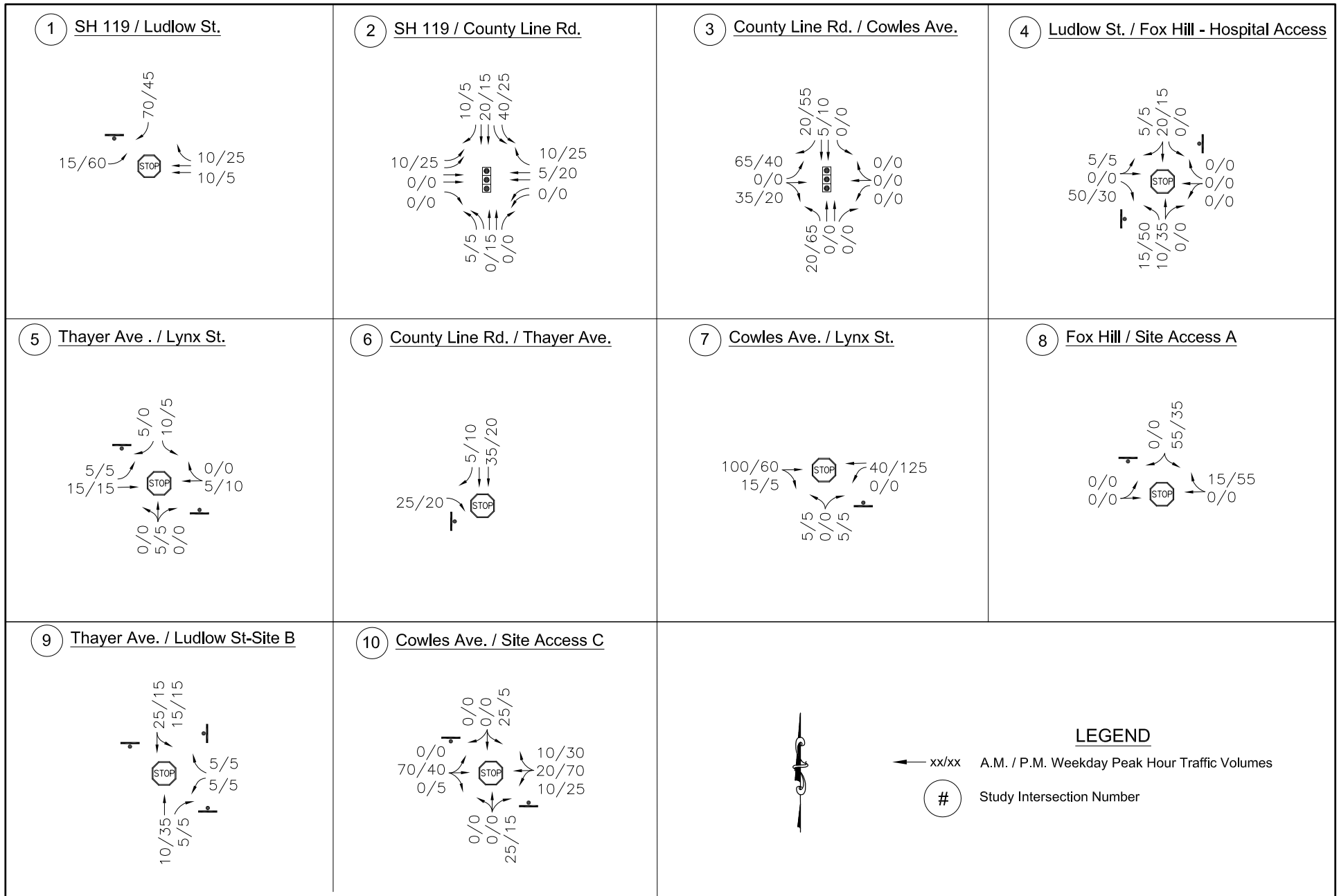
Prepared For:

County Line Ventures, LLC
6800 N. 79th Street, Suite 202
Niwot, CO 80503

Date: July 9, 2020

(Prior dates: Nov. 28, 2018, April 27, 2019, Aug. 2, 2019, and March 17, 2020)

PG#218.003



THE HIGHLANDS RESIDENTIAL PROJECT TRAFFIC IMPACT STUDY
SITE ADDED PEAK HOUR TRAFFIC VOLUMES

TRAFFIC IMPACT REPORT

SANDSTONE RANCH MULTIFAMILY LONGMONT, COLORADO

June 11, 2021

Prepared for:
Davis Development
7375 W 52nd Ave, Suite 200
Arvada, CO 80002

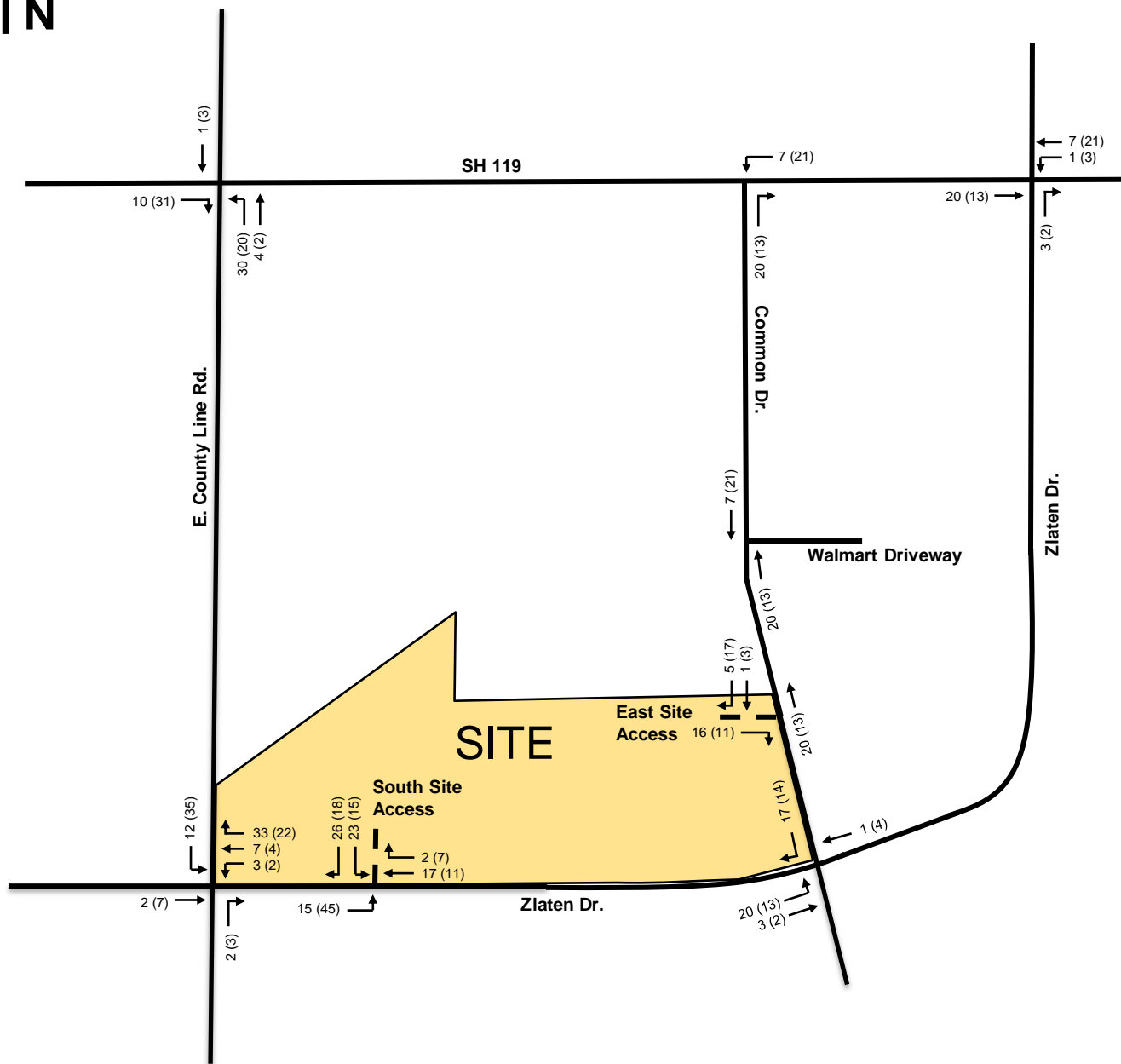
Prepared by:



1120 Lincoln Street
Denver, CO 80203
Ph: 303-623-6300



Harris Kocher Smith Project No. 200913



Legend:

Drawing Not To Scale

- | | | |
|---|---------|----------------------|
| ↑ | 5 (8) | Weekday AM (PM) |
| ← | 64 (50) | Peak Hour |
| ↘ | 8 (7) | Traffic Volumes, vph |



Sandstone Ranch
Davis Development
HKS #200913

**Site Generated Trip Assignment
(Modifications at the E. County Line
Rd./Zlaten Dr. Intersection)**

Figure 14

SPRINGS AT LONGMONT

Traffic Impact Analysis

Prepared for:

Continental 510 Fund LLC
c/o Continental Properties Company, Inc.
W134 N8675 Executive Parkway
Menomonee Falls, WI 53051

Prepared by:

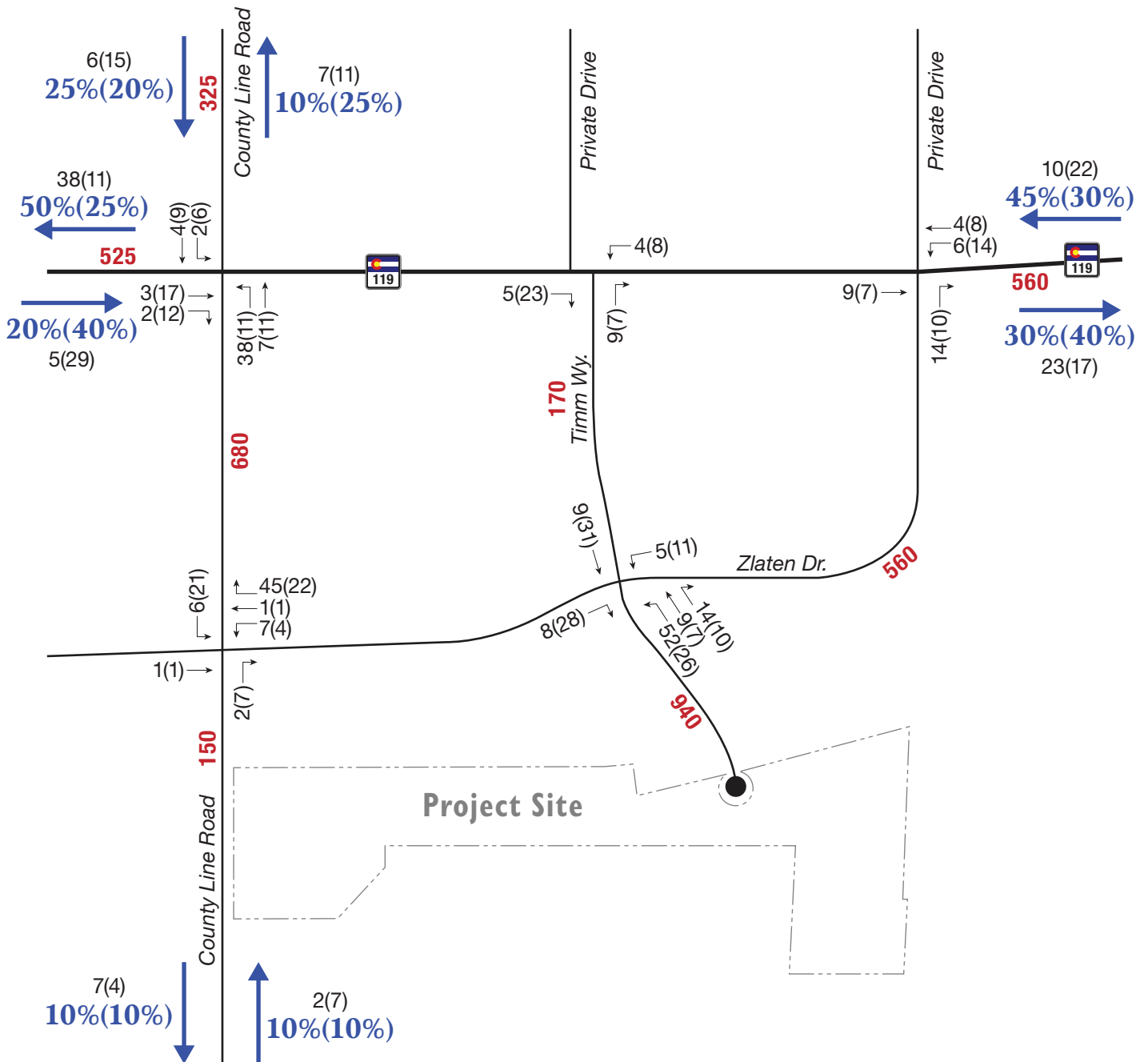
Felsburg Holt & Ullevig
6400 S Fiddlers Green Circle, Suite 1500
Greenwood Village, CO 80111
303.721.1440

Project Manager: Richard R. Follmer, PE, PTOE



FHU Reference No. 120049-01

March 2020
Revised September 2020



LEGEND

- XXX(XXX) = AM(PM) Peak Hour Traffic Volumes
- XX%(XX%) = AM(PM) Peak Hour Site Trip Distribution
- XXXX = Daily Traffic Volumes

TRAFFIC IMPACT STUDY

For

**7-Eleven Ken Pratt & Zlaten
Longmont, Colorado**

August 2020

Revised:

March 2021

Prepared for:

United Properties
1331 17th Street, Suite 604
Denver, Colorado 80202

Prepared by:



SM ROCHA, LLC

TRAFFIC AND TRANSPORTATION CONSULTANTS

8703 Yates Drive, Suite 210
Westminster, Colorado 80031
(303) 458-9798

Project Engineer:
Stephen Simon, EIT

Engineer in Responsible Charge:
Fred Lantz, PE



19-081049

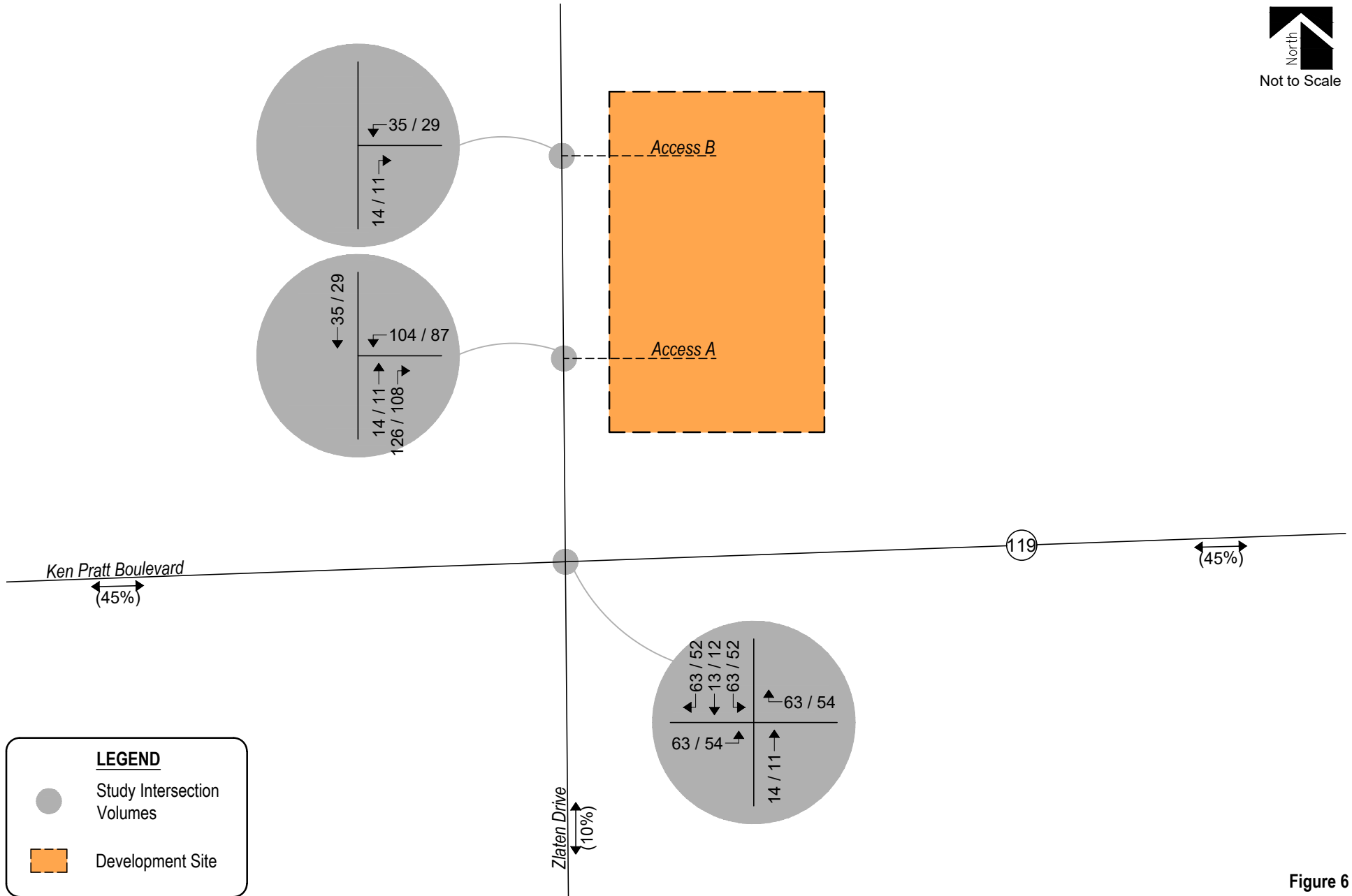


Figure 6
SITE DEVELOPMENT DISTRIBUTION
(%) : Overall
SITE-GENERATED
AM / PM Peak Hour



Longmont Roadway Plan Traffic Projections: Sandstone Marketplace

Location	Daily Volumes			
	2010	2035	Growth Factor	Annual Growth
Ken Pratt Blvd W/O County Line Rd	32,000	45,300	1.42	1.4%
Ken Pratt Blvd E/O County Line Rd	31,900	41,900	1.31	1.1%
County Line Rd N/O Ken Pratt Blvd	14,400	28,900	2.01	2.8%
County Line Rd S/O Ken Pratt Blvd	6,900	21,100	3.06	4.6%
Zlaten Dr E/O County Line Rd	1,500	3,800	2.53	3.8%
Total (Average)	86,700	141,000	1.63	2.0%

APPENDIX D

Trip Generation Worksheets

Trip Generation Planner (ITE 11th Edition) - Summary Report



Weekday Trip Generation
Trips Based on Average Rates/Equations

Project Name
Project Number

Sandstone Marketplace
196569000

ITE Code	Internal Capture Land Use	Land Use Description	Independent Variable	Setting/Location	No. of Units	Avg Rate or Eq	Rates			Total Trips								Net Trips after Internal Capture								Net Trips after Internal Capture & Pass-By									
							Daily Rate	AM Rate	PM Rate	Daily Trips	AM Trips	PM Trips	AM Trips In	AM Trips Out	PM Trips In	PM Trips Out	Daily Trips	AM Trips	PM Trips	AM Trips In	AM Trips Out	PM Trips In	PM Trips Out	Daily Trips	AM Trips	PM Trips	AM Trips In	AM Trips Out	PM Trips In	PM Trips Out					
252	Residential	Senior Adult Housing-Attached	Dwelling Unit(s)	General Urban/Suburban	130	Avg	3.24	0.20	0.25	422	26	33	9	17	18	15	258	23	11	9	14	6	5	258	23	11	9	14	6	5					
720	Office	Medical-Dental Office Building	1,000 Sq Ft	General Urban/Suburban	60	Avg	36.00	3.10	3.93	2,160	186	236	147	39	71	165	1,676	123	210	120	3	60	150	1,676	123	210	120	3	60	150					
565	Other	Day Care Center	1,000 Sq Ft	General Urban/Suburban	10	Avg	47.62	11.00	11.12	478	110	111	58	52	52	59	478	110	111	58	52	52	59	268	62	62	32	29	29	33					
822	Retail	Strip Retail Plaza	1,000 Sq Ft	General Urban/Suburban	30.9	Avg	54.45	2.36	6.59	1,682	73	204	44	29	102	102	962	48	99	29	19	37	62	577	29	59	17	11	22	37					
930	Restaurant	Fast Casual Restaurant	1,000 Sq Ft	General Urban/Suburban	11.5	Avg	97.14	1.43	12.55	1,118	16	144	8	8	79	65	966	14	119	7	7	69	50	966	14	119	7	7	69	50					
932	Restaurant	High-Turnover (Sit-Down) Restaurant	1,000 Sq Ft	General Urban/Suburban	6	Avg	107.20	9.57	9.05	644	57	54	31	26	33	21	558	51	45	28	24	29	16	318	29	25	16	14	16	9					
934	Restaurant	Fast-Food Restaurant w/ D.T.	1,000 Sq Ft	General Urban/Suburban	11.5	Avg	467.48	44.61	33.03	5,378	513	380	262	251	198	182	4,648	463	314	234	229	173	140	2,092	232	141	117	114	78	63					
Grand Total							11,882	981	1,162	559	422	553	609	Grand Total								9,546	833	908	485	348	426	482	6,155	512	627	318	192	280	347

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	Sandstone Marketplace			Organization:	Kimley-Horn and Associates, Inc.
Project Location:	Longmont, CO			Performed By:	TES
Scenario Description:				Date:	8/16/2022
Analysis Year:				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		60	1,000 Sq Ft	186	147	39
Retail		31	1,000 Sq Ft	73	44	29
Restaurant		29	1,000 Sq Ft	586	301	285
Cinema/Entertainment		-	Screen(s)	0	0	0
Residential		130	Dwelling Unit(s)	26	9	17
Hotel		-	Room(s)	0	0	0
All Other Land Uses ²		10	0	110	58	52
				981	559	422

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	1.00	0%	0%	1.00	0%	0%
Restaurant	1.00	0%	0%	1.00	0%	0%
Cinema/Entertainment	1.00	0%	0%	1.00	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	1.00	0%	0%	1.00	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		11	25	0	0	0
Retail	6		4	0	0	0
Restaurant	21	4		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	3	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	981	559	422
Internal Capture Percentage	15%	13%	18%
External Vehicle-Trips ⁵	833	485	348
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	18%	92%
Retail	34%	34%
Restaurant	11%	9%
Cinema/Entertainment	N/A	N/A
Residential	0%	18%
Hotel	N/A	N/A

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

Project Name:	Sandstone Marketplace
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	147	147	1.00	39	39
Retail	1.00	44	44	1.00	29	29
Restaurant	1.00	301	301	1.00	285	285
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	9	9	1.00	17	17
Hotel	1.00	0	0	1.00	0	0

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		11	25	0	0	0
Retail	8		4	0	4	0
Restaurant	88	40		0	11	9
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	3	0		0
Hotel	0	0	0	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		14	69	0	0	0
Retail	6		151	0	0	0
Restaurant	21	4		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	4	7	60	0		0
Hotel	4	2	18	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	27	120	147	120	0	0
Retail	15	29	44	29	0	0
Restaurant	32	269	301	269	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	9	9	9	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	58	58	58	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	36	3	39	3	0	0
Retail	10	19	29	19	0	0
Restaurant	25	260	285	260	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	3	14	17	14	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	52	52	52	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.

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	Sandstone Marketplace			Organization:	Kimley-Horn and Associates, Inc.
Project Location:	Longmont, CO			Performed By:	TES
Scenario Description:				Date:	8/16/2022
Analysis Year:				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		60	1,000 Sq Ft	236	71	165
Retail		31	1,000 Sq Ft	204	102	102
Restaurant		29	1,000 Sq Ft	578	310	268
Cinema/Entertainment		-	Screen(s)	0	0	0
Residential		130	Dwelling Unit(s)	33	18	15
Hotel		-	Room(s)	0	0	0
All Other Land Uses ²		10	0	111	52	59
				1,162	553	609

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	1.00	0%	0%	1.00	0%	0%
Restaurant	1.00	0%	0%	1.00	0%	0%
Cinema/Entertainment	1.00	0%	0%	1.00	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	1.00	0%	0%	1.00	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						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		8	6	0	1	0
Retail	2		30	0	8	0
Restaurant	8	51		0	3	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	6	3	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	1,162	553	609
Internal Capture Percentage	22%	23%	21%
External Vehicle-Trips ⁵	908	426	482
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	15%	9%
Retail	64%	39%
Restaurant	13%	23%
Cinema/Entertainment	N/A	N/A
Residential	67%	67%
Hotel	N/A	N/A

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

Project Name:	Sandstone Marketplace
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	71	71	1.00	165	165
Retail	1.00	102	102	1.00	102	102
Restaurant	1.00	310	310	1.00	268	268
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	18	18	1.00	15	15
Hotel	1.00	0	0	1.00	0	0

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		33	7	0	3	0
Retail	2		30	4	27	5
Restaurant	8	110		21	48	19
Cinema/Entertainment	0	0	0		0	0
Residential	1	6	3	0		0
Hotel	0	0	0	0	0	

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		8	6	0	1	0
Retail	22		90	0	8	0
Restaurant	21	51		0	3	0
Cinema/Entertainment	4	4	9		1	0
Residential	40	10	43	0		0
Hotel	0	2	16	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	11	60	71	60	0	0
Retail	65	37	102	37	0	0
Restaurant	39	271	310	271	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	12	6	18	6	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	52	52	52	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	15	150	165	150	0	0
Retail	40	62	102	62	0	0
Restaurant	62	206	268	206	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	10	5	15	5	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	59	59	59	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.

Project Sandstone Marketplace
 Subject Trip Generation for Senior Adult Housing - Multifamily
 Designed by TES Date August 16, 2022 Job No. 196569000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rate Equations

Land Use Code - Senior Adult Housing - Multifamily (252)

Independent Variable - Dwelling Units (X)

$$X = 130$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 416)

Average Weekday	Directional Distribution:	34% ent.	66% exit.
(T) = 0.20 (X)	T = 26	Average Vehicle Trip Ends	
(T) = 0.20 * (130.0)	9 entering	17 exiting	
	9 + 17 = 26		

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 417)

Average Weekday	Directional Distribution:	56% ent.	44% exit.
(T) = 0.25 (X)	T = 33	Average Vehicle Trip Ends	
(T) = 0.25 * (130.0)	18 entering	15 exiting	
	18 + 15 = 33		

Weekday (200 Series Page 415)

Average Weekday	Directional Distribution:	50% ent.	50% exit.
(T) = 3.24 (X)	T = 422	Average Vehicle Trip Ends	
(T) = 3.24 * (130.0)	211 entering	211 exiting	
	211 + 211 = 422		

Project Sandstone Marketplace
 Subject Trip Generation for Day Care Center
 Designed by TES Date August 16, 2022 Job No. 196569000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rate Equations

Land Use Code - Day Care Center (565)

Independent Variable - 1000 Square Feet Gross Floor Area (X)

Gross Floor Area = 10,000 Square Feet

X = 10.000

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (500 Series page 519)

Average Weekday		Directional Distribution:	53% ent.	47% exit.
T = 11.00 (X)		T = 110	Average Vehicle Trip Ends	
T = 11.00 *	10.000	58 entering	52 exiting	
		58 + 52 =	110	

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (500 Series page 520)

Average Weekday		Directional Distribution:	47% ent.	53% exit.
T = 11.12 (X)		T = 111	Average Vehicle Trip Ends	
T = 11.12 *	10.000	52 entering	59 exiting	
		52 + 59 =	111	

Weekday (500 Series page 518)

Average Weekday		Directional Distribution:	50% entering, 50% exiting
T = 47.62 (X)		T = 478	Average Vehicle Trip Ends
T = 47.62 *	10.000	239 entering	239 exiting
		239 + 239 =	478

Non Pass-By Trip Volumes (Per ITE Trip Generation Manual, 11th Edition)

AM Peak Hour =	56%	Non-Pass By	PM Peak Hour =	56%	Non-Pass By
	IN	Out	Total		
AM Peak	32	29	62	PM Peak Hour Rate Applied to AM	
PM Peak	29	33	62		
Daily	134	134	268	PM Peak Hour Rate Applied to Daily	

Pass-By Trip Volumes (Per Trip Generation Manual, 11th Edition)

AM Peak Hour =	44%	Pass By	PM Peak Hour =	44%	Pass By
	IN	Out	Total		
AM Peak	26	23	48	PM Peak Hour Rate Applied to AM	
PM Peak	23	26	49		
Daily	105	105	210	PM Peak Hour Rate Applied to Daily	

Project Sandstone Marketplace
 Subject Trip Generation for General Medical-Dental Office Building - Stand-Alone
 Designed by TES Date August 16, 2022 Job No. 196569000
 Checked by _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rates

Land Use Code - Medical-Dental Office Building (720)

Independent Variable - 1000 Square Feet (X)

SF = 60,000

X = 60.000

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (700 Series Page 762)

(T) = 3.10 (X)	Directional Distribution:	79% ent.	21% exit.
(T) = 3.10 * (60.0)	T = 186	Average Vehicle Trip Ends	
	147 entering	39 exiting	
	147 + 39 = 186		

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (700 Series Page 763)

(T) = 3.93 (X)	Directional Distribution:	30% ent.	70% exit.
(T) = 3.93 * (60.0)	T = 236	Average Vehicle Trip Ends	
	71 entering	165 exiting	
	71 + 165 = 236		

Weekday (700 Series Page 761)

(T) = 36.00 (X)	Directional Distribution:	50% ent.	50% exit.
(T) = 36.00 * (60.0)	T = 2160	Average Vehicle Trip Ends	
	1080 entering	1080 exiting	
	1080 + 1080 = 2160		

Project Sandstone Marketplace
 Subject Trip Generation for Strip Retail Plaza (<40k)
 Designed by TES Date August 16, 2022 Job No. 196569000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rate Equations

Land Use Code - Strip Retail Plaza (<40k) (822)

Independent Variable - 1000 Square Feet Gross Leasable Area (X)

Gross Leasable Area = 30,900 Square Feet

X = 30.900

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (800 Series Page 230)

Average Weekday	Directional Distribution:	60% ent.	40% exit.
T = 2.36 * (X)	T = 73	Average Vehicle Trip Ends	
T = 2.36 * 30.9	44 entering	29 exiting	
	44 + 29 = 73		

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (800 Series page 231)

Average Weekday	Directional Distribution:	50% ent.	50% exit.
T = 6.59 * (X)	T = 204	Average Vehicle Trip Ends	
T = 6.59 * 30.9	102 entering	102 exiting	
	102 + 102 = 204		

Weekday (800 Series page 229)

Average Weekday	Directional Distribution: 50% entering, 50% exiting
T = 54.45 * (X)	T = 1682 Average Vehicle Trip Ends
T = 54.45 * 30.9	841 entering 841 exiting
	841 + 841 = 1682

Non Pass-By Trip Volumes (Per ITE Trip Generation Manual, 11th Edition)

AM Peak Hour = 60% Non-Pass By	PM Peak Hour = 60% Non-Pass By
IN Out Total	Pass-By Rates from ITE 821
AM Peak 26 17 44	PM Peak Hour Rate Applied to AM Peak Hour
PM Peak 61 61 123	
Daily 505 505 1010	PM Peak Hour Rate Applied to Daily

Pass-By Trip Volumes (Per ITE Trip Generation Manual, 11th Edition)

AM Peak Hour = 40% Pass By	PM Peak Hour = 40% Pass By
IN Out Total	
AM Peak 18 12 30	PM Peak Hour Rate Applied to AM Peak Hour
PM Peak 41 41 82	
Daily 336 336 672	PM Peak Hour Rate Applied to Daily

Project Sandstone Marketplace
 Subject Trip Generation for Fast Casual Restaurant
 Designed by TES Date August 16, 2022 Job No. 196569000
 Checked by _____ Date _____ Sheet No. 1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rates

Land Use Code - Fast Casual Restaurant (930)

Independant Variable - 1000 Square Feet (X)

SF = 11,500

X = 11.500

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (900 Series Page 640)

(Note: Small Sample Size < 5)

(T) = 1.43 (X)		Directional Distribution:	50% ent.	50% exit.
(T) = 1.43 *	(11.5)	T = 16	Average Vehicle Trip Ends	
		8 entering	8 exiting	
		8 + 8 = 16		

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (900 Series Page 641)

(T) = 12.55 (X)		Directional Distribution:	55% ent.	45% exit.
(T) = 12.55 *	(11.5)	T = 144	Average Vehicle Trip Ends	
		79 entering	65 exiting	
		79 + 65 = 144		

Weekday (900 Series Page 639)

(Note: Small Sample Size < 5)

(T) = 97.14 (X)		Directional Distribution:	50% ent.	50% exit.
(T) = 97.14 *	(11.5)	T = 1118	Average Vehicle Trip Ends	
		559 entering	559 exiting	
		559 + 559 = 1118		

Project Sandstone Marketplace
 Subject Trip Generation for High Turnover Sit-Down Restaurant
 Designed by TES Date August 16, 2022 Job No. 196569000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rates

Land Use Code - High Turnover Sit-Down Restaurant (932)

Independent Variable - 1000 Square Feet (X)

SF = 6,000

X = 6.000

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (900 Series Page 674)

Directional Distribution: 55% ent. 45% exit.
 (T) = 9.57 (X) T = 57 Average Vehicle Trip Ends
 (T) = 9.57 * (6.0) 31 entering 26 exiting
 31 + 26 = 57

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (900 Series Page 674)

Directional Distribution: 61% ent. 39% exit.
 (T) = 9.05 (X) T = 54 Average Vehicle Trip Ends
 (T) = 9.05 * (6.0) 33 entering 21 exiting
 33 + 21 = 54

Weekday (900 Series Page 673)

Directional Distribution: 50% ent. 50% exit.
 (T) = 107.20 (X) T = 644 Average Vehicle Trip Ends
 (T) = 107.20 * (6.0) 322 entering 322 exiting
 322 + 322 = 644

Non Pass-By Trip Volumes (Per ITE Trip Generation Manual, 11th Edition)

AM Peak Hour =	57%	Non-Pass By	PM Peak Hour =	57%	Non-Pass By
	IN	Out	Total		
AM Peak	18	15	33	PM Peak Hour Rate Applied to AM Peak Hour	
PM Peak	19	12	31		
Daily	184	184	368	PM Peak Hour Rate Applied to Daily	

Pass-By Trip Volumes (Per ITE Trip Generation Manual, 11th Edition)

AM Peak Hour =	43%	Pass By	PM Peak Hour =	43%	Pass By
	IN	Out	Total		
AM Peak	13	11	25	PM Peak Hour Rate Applied to AM Peak Hour	
PM Peak	14	9	23		
Daily	138	138	276	PM Peak Hour Rate Applied to Daily	

Project Sandstone Marketplace
 Subject Trip Generation for Fast-Food Restaurant with Drive-Through Window
 Designed by TES Date August 16, 2022 Job No. 196569000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rates

Land Use Code - Fast-Food Restaurant with Drive-Through Window (934)

Independant Variable - 1000 Square Feet (X)

SF = 11,500

X = 11.500

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (900 Series Page 726)

Directional Distribution: 51% ent. 49% exit.
 T = 513 Average Vehicle Trip Ends
 (T) = 44.61 (X) 262 entering 251 exiting
 (T) = 44.61 * (11.5) 262 + 251 = 513

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (900 Series Page 727)

Directional Distribution: 52% ent. 48% exit.
 T = 380 Average Vehicle Trip Ends
 (T) = 33.03 (X) 198 entering 182 exiting
 (T) = 33.03 * (11.5) 198 + 182 = 380

Weekday (900 Series Page 725)

Directional Distribution: 50% ent. 50% exit.
 T = 5378 Average Vehicle Trip Ends
 (T) = 467.48 (X) 2689 entering 2689 exiting
 (T) = 467.48 * (11.5) 2689 + 2689 = 5378

Non Pass-By Trip Volumes (Per ITE Trip Generation Manual, 11th Edition)

AM Peak Hour =	50%	Non-Pass By	PM Peak Hour =	45%	Non-Pass By
	IN	Out	Total		
AM Peak	131	126	257		
PM Peak	89	82	171		
Daily	1210	1210	2420	PM Peak Hour Rate Applied to Daily	

Pass-By Trip Volumes (Per Trip Generation Manual, 11th Edition)

























AM Peak Hour =	50%	Pass By	PM Peak Hour =	55%	Pass By
	IN	Out	Total		
AM Peak	131	126	257		
PM Peak	109	100	209		
Daily	1479	1479	2958	PM Peak Hour Rate Applied to Daily	

APPENDIX E

Intersection Analysis Worksheets

Timings
1: County Line Rd & SH-119

2022 Existing AM
09/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	674	91	52	1462	335	309	229	47	427	266	481
Future Volume (vph)	120	674	91	52	1462	335	309	229	47	427	266	481
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			Free
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0		11.0	24.0	
Total Split (s)	11.0	62.0	62.0	11.0	62.0	62.0	23.0	24.0		23.0	24.0	
Total Split (%)	9.2%	51.7%	51.7%	9.2%	51.7%	51.7%	19.2%	20.0%		19.2%	20.0%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	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	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Act Effect Green (s)	5.0	58.2	58.2	5.0	56.0	56.0	15.6	18.0	120.0	17.0	19.4	120.0
Actuated g/C Ratio	0.04	0.48	0.48	0.04	0.47	0.47	0.13	0.15	1.00	0.14	0.16	1.00
v/c Ratio	0.90	0.42	0.12	0.39	0.95	0.39	0.74	0.46	0.03	0.94	0.50	0.33
Control Delay	110.3	21.5	1.4	52.8	53.8	11.2	60.8	49.8	0.0	80.4	49.8	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.3	21.5	1.4	52.8	53.8	11.2	60.8	49.8	0.0	80.4	49.8	0.6
LOS	F	C	A	D	D	B	E	D	A	F	D	A
Approach Delay		31.5			46.1			51.6			40.8	
Approach LOS		C			D			D			D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 42.5

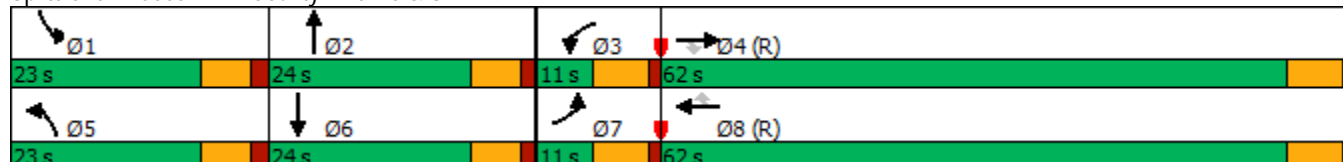
Intersection LOS: D

Intersection Capacity Utilization 83.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: County Line Rd & SH-119



























HCM 6th Signalized Intersection Summary

1: County Line Rd & SH-119

























2022 Existing AM

09/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	674	91	52	1462	335	309	229	47	427	266	481
Future Volume (veh/h)	120	674	91	52	1462	335	309	229	47	427	266	481
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	725	0	56	1572	360	332	246	0	459	286	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1681		122	1658	740	395	533		490	630	
Arrive On Green	0.04	0.47	0.00	0.01	0.15	0.15	0.11	0.15	0.00	0.14	0.18	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	129	725	0	56	1572	360	332	246	0	459	286	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	4.5	16.2	0.0	1.9	52.6	24.9	11.3	7.6	0.0	15.8	8.6	0.0
Cycle Q Clear(g_c), s	4.5	16.2	0.0	1.9	52.6	24.9	11.3	7.6	0.0	15.8	8.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	1681		122	1658	740	395	533		490	630	
V/C Ratio(X)	0.90	0.43		0.46	0.95	0.49	0.84	0.46		0.94	0.45	
Avail Cap(c_a), veh/h	144	1681		144	1658	740	490	533		490	630	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.2	20.9	0.0	58.2	49.3	37.6	52.1	46.6	0.0	51.0	44.2	0.0
Incr Delay (d2), s/veh	45.6	0.8	0.0	2.7	12.8	2.3	10.4	2.9	0.0	25.9	2.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	6.9	0.0	0.9	28.0	11.1	5.5	3.6	0.0	8.6	4.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	102.9	21.7	0.0	60.9	62.1	39.9	62.4	49.4	0.0	76.9	46.5	0.0
LnGrp LOS	F	C		E	E	D	E	D		E	D	
Approach Vol, veh/h	854		A	1988			578		A	745		A
Approach Delay, s/veh	34.0			58.0			56.9			65.2		
Approach LOS	C			E			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.0	24.0	10.2	62.8	19.7	27.3	11.0	62.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	17.0	18.0	5.0	56.0	17.0	18.0	5.0	56.0				
Max Q Clear Time (g_c+I1), s	17.8	9.6	3.9	18.2	13.3	10.6	6.5	54.6				
Green Ext Time (p_c), s	0.0	0.9	0.0	5.9	0.4	1.0	0.0	1.3				
Intersection Summary												
HCM 6th Ctrl Delay	54.2											
HCM 6th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Timings
1: County Line Rd & SH-119

2022 Existing PM
09/15/2022

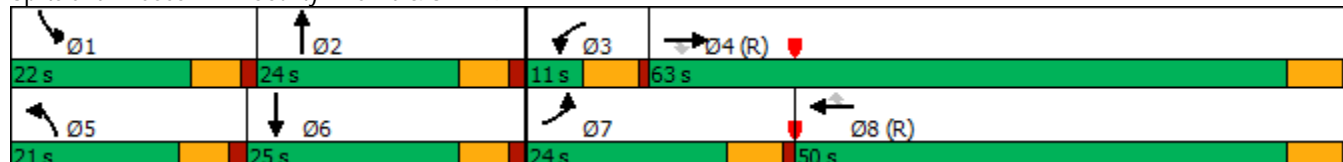
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	341	1405	246	42	860	480	269	385	67	382	283	206
Future Volume (vph)	341	1405	246	42	860	480	269	385	67	382	283	206
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			Free
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0		11.0	24.0	
Total Split (s)	24.0	63.0	63.0	11.0	50.0	50.0	21.0	24.0		22.0	25.0	
Total Split (%)	20.0%	52.5%	52.5%	9.2%	41.7%	41.7%	17.5%	20.0%		18.3%	20.8%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	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	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Act Effect Green (s)	16.3	59.2	59.2	5.0	45.7	45.7	13.7	18.3	120.0	15.7	20.3	120.0
Actuated g/C Ratio	0.14	0.49	0.49	0.04	0.38	0.38	0.11	0.15	1.00	0.13	0.17	1.00
v/c Ratio	0.74	0.81	0.28	0.29	0.64	0.57	0.69	0.72	0.04	0.86	0.48	0.13
Control Delay	59.8	31.1	4.8	51.9	51.0	25.1	60.8	57.0	0.0	70.4	48.5	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.8	31.1	4.8	51.9	51.0	25.1	60.8	57.0	0.0	70.4	48.5	0.2
LOS	E	C	A	D	D	C	E	E	A	E	D	A
Approach Delay		32.8			42.0			53.1			46.7	
Approach LOS		C			D			D			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 40.7
 Intersection Capacity Utilization 84.5%
 Analysis Period (min) 15

Intersection LOS: D
 ICU Level of Service E

Splits and Phases: 1: County Line Rd & SH-119



























HCM 6th Signalized Intersection Summary

1: County Line Rd & SH-119

2022 Existing PM

























09/15/2022

																														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR																		
Lane Configurations																														
Traffic Volume (veh/h)	341	1405	246	42	860	480	269	385	67	382	283	206																		
Future Volume (veh/h)	341	1405	246	42	860	480	269	385	67	382	283	206																		
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0																		
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00																		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																		
Work Zone On Approach	No			No			No			No																				
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870																		
Adj Flow Rate, veh/h	344	1419	0	42	869	243	272	389	0	386	286	0																		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99																		
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2																		
Cap, veh/h	409	1745		108	1436	641	334	533		441	643																			
Arrive On Green	0.12	0.49	0.00	0.01	0.13	0.13	0.10	0.15	0.00	0.13	0.18	0.00																		
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	1585																		
Grp Volume(v), veh/h	344	1419	0	42	869	243	272	389	0	386	286	0																		
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585																		
Q Serve(g_s), s	11.7	40.6	0.0	1.4	27.7	16.8	9.3	12.5	0.0	13.2	8.6	0.0																		
Cycle Q Clear(g_c), s	11.7	40.6	0.0	1.4	27.7	16.8	9.3	12.5	0.0	13.2	8.6	0.0																		
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00																		
Lane Grp Cap(c), veh/h	409	1745		108	1436	641	334	533		441	643																			
V/C Ratio(X)	0.84	0.81		0.39	0.61	0.38	0.81	0.73		0.88	0.44																			
Avail Cap(c_a), veh/h	518	1745		144	1436	641	432	533		461	643																			
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00																		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00																		
Uniform Delay (d), s/veh	51.8	25.9	0.0	58.2	43.0	38.3	53.2	48.7	0.0	51.4	43.8	0.0																		
Incr Delay (d2), s/veh	9.7	4.3	0.0	2.2	1.9	1.7	9.0	8.5	0.0	16.6	2.2	0.0																		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																		
%ile BackOfQ(50%),veh/ln	5.6	17.7	0.0	0.7	13.6	7.5	4.4	6.2	0.0	6.7	4.0	0.0																		
Unsig. Movement Delay, s/veh																														
LnGrp Delay(d),s/veh	61.5	30.1	0.0	60.5	44.9	40.0	62.1	57.2	0.0	68.0	46.0	0.0																		
LnGrp LOS	E	C		E	D	D	E	E		E	D																			
Approach Vol, veh/h	1763		A	1154			661		A	672		A																		
Approach Delay, s/veh	36.3			44.4			59.2			58.6																				
Approach LOS	D			D			E			E																				
Timer - Assigned Phs	1	2	3	4	5	6	7	8																						
Phs Duration (G+Y+Rc), s	21.3	24.0	9.8	64.9	17.6	27.7	20.2	54.5																						
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0																						
Max Green Setting (Gmax), s	16.0	18.0	5.0	57.0	15.0	19.0	18.0	44.0																						
Max Q Clear Time (g_c+l1), s	15.2	14.5	3.4	42.6	11.3	10.6	13.7	29.7																						
Green Ext Time (p_c), s	0.1	0.8	0.0	8.8	0.3	1.1	0.5	6.0																						
Intersection Summary																														
HCM 6th Ctrl Delay	45.6																													
HCM 6th LOS	D																													
Notes																														
User approved pedestrian interval to be less than phase max green.																														
Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.																														

Timings
1: County Line Rd & SH-119

2025 Background AM

09/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	781	109	55	1619	366	401	254	50	495	307	520
Future Volume (vph)	137	781	109	55	1619	366	401	254	50	495	307	520
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			Free
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0		11.0	24.0	
Total Split (s)	11.0	62.0	62.0	11.0	62.0	62.0	23.0	24.0		23.0	24.0	
Total Split (%)	9.2%	51.7%	51.7%	9.2%	51.7%	51.7%	19.2%	20.0%		19.2%	20.0%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	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	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Act Effect Green (s)	5.0	58.2	58.2	5.0	56.0	56.0	16.9	18.0	120.0	17.0	18.1	120.0
Actuated g/C Ratio	0.04	0.48	0.48	0.04	0.47	0.47	0.14	0.15	1.00	0.14	0.15	1.00
v/c Ratio	1.03	0.49	0.14	0.41	1.05	0.42	0.89	0.52	0.03	1.09	0.62	0.35
Control Delay	139.0	22.6	2.4	51.3	78.4	11.1	72.7	50.9	0.0	116.8	53.4	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	139.0	22.6	2.4	51.3	78.4	11.1	72.7	50.9	0.0	116.8	53.4	0.6
LOS	F	C	A	D	E	B	E	D	A	F	D	A
Approach Delay		36.0			65.6			59.6			56.4	
Approach LOS		D			E			E			E	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.09

Intersection Signal Delay: 56.4









Intersection LOS: E

Intersection Capacity Utilization 90.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: County Line Rd & SH-119

























			
Ø1	Ø2	Ø3	Ø4 (R)
23 s	24 s	11 s	62 s
			
Ø5	Ø6	Ø7	Ø8 (R)
23 s	24 s	11 s	62 s

HCM 6th Signalized Intersection Summary

1: County Line Rd & SH-119

2025 Background AM

09/15/2022

























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	781	109	55	1619	366	401	254	50	495	307	520
Future Volume (veh/h)	137	781	109	55	1619	366	401	254	50	495	307	520
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	840	0	59	1741	394	431	273	0	532	330	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1679		124	1658	740	483	533		490	540	
Arrive On Green	0.04	0.47	0.00	0.01	0.15	0.15	0.14	0.15	0.00	0.14	0.15	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	147	840	0	59	1741	394	431	273	0	532	330	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	5.0	19.6	0.0	2.0	56.0	27.5	14.7	8.5	0.0	17.0	10.4	0.0
Cycle Q Clear(g_c), s	5.0	19.6	0.0	2.0	56.0	27.5	14.7	8.5	0.0	17.0	10.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	1679		124	1658	740	483	533		490	540	
V/C Ratio(X)	1.02	0.50		0.48	1.05	0.53	0.89	0.51		1.09	0.61	
Avail Cap(c_a), veh/h	144	1679		144	1658	740	490	533		490	540	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.5	21.9	0.0	58.2	50.8	38.7	50.7	47.0	0.0	51.5	47.6	0.0
Incr Delay (d2), s/veh	80.6	1.1	0.0	2.8	36.5	2.7	18.3	3.5	0.0	66.2	5.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	8.3	0.0	0.9	35.1	12.3	7.6	4.0	0.0	11.8	5.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	138.1	22.9	0.0	61.0	87.2	41.4	69.0	50.4	0.0	117.7	52.7	0.0
LnGrp LOS	F	C		E	F	D	E	D		F	D	
Approach Vol, veh/h	987		A	2194		704		A	862		A	
Approach Delay, s/veh	40.1			78.3		61.8			92.8			
Approach LOS	D			E		E			F			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.0	24.0	10.3	62.7	22.8	24.2	11.0	62.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	17.0	18.0	5.0	56.0	17.0	18.0	5.0	56.0				
Max Q Clear Time (g_c+l1), s	19.0	10.5	4.0	21.6	16.7	12.4	7.0	58.0				
Green Ext Time (p_c), s	0.0	0.9	0.0	7.0	0.1	1.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	70.5											
HCM 6th LOS	E											
Notes												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Timings

1: County Line Rd & SH-119

2025 Background PM

09/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	387	1562	304	45	985	534	321	437	71	436	327	224
Future Volume (vph)	387	1562	304	45	985	534	321	437	71	436	327	224
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			Free
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0		11.0	24.0	
Total Split (s)	22.0	63.0	63.0	11.0	52.0	52.0	22.0	24.0		22.0	24.0	
Total Split (%)	18.3%	52.5%	52.5%	9.2%	43.3%	43.3%	18.3%	20.0%		18.3%	20.0%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	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	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Act Effect Green (s)	15.8	59.2	59.2	5.0	46.2	46.2	15.0	18.0	120.0	16.0	19.0	120.0
Actuated g/C Ratio	0.13	0.49	0.49	0.04	0.38	0.38	0.12	0.15	1.00	0.13	0.16	1.00
v/c Ratio	0.87	0.90	0.34	0.31	0.73	0.63	0.76	0.83	0.05	0.96	0.59	0.14
Control Delay	71.2	37.1	6.2	50.3	46.6	24.5	62.6	64.1	0.1	85.7	52.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.2	37.1	6.2	50.3	46.6	24.5	62.6	64.1	0.1	85.7	52.0	0.2
LOS	E	D	A	D	D	C	E	E	A	F	D	A
Approach Delay		38.8			39.1			58.0			55.2	
Approach LOS		D			D			E			E	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 44.6

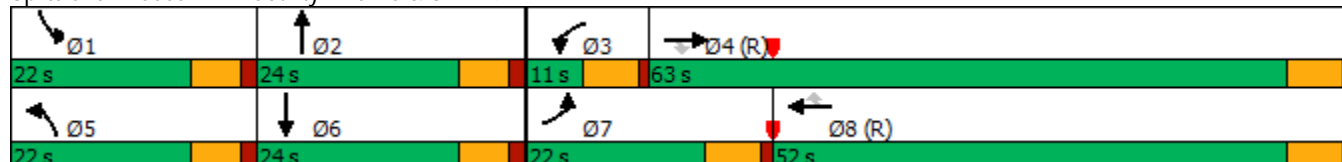
Intersection LOS: D

Intersection Capacity Utilization 91.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: County Line Rd & SH-119



























HCM 6th Signalized Intersection Summary

1: County Line Rd & SH-119

2025 Background PM

09/15/2022

























																														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR																		
Lane Configurations																														
Traffic Volume (veh/h)	387	1562	304	45	985	534	321	437	71	436	327	224																		
Future Volume (veh/h)	387	1562	304	45	985	534	321	437	71	436	327	224																		
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0																		
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00																		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																		
Work Zone On Approach	No			No			No			No																				
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870																		
Adj Flow Rate, veh/h	391	1578	0	45	995	276	324	441	0	440	330	0																		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99																		
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2																		
Cap, veh/h	445	1721		112	1378	615	385	533		461	611																			
Arrive On Green	0.13	0.48	0.00	0.01	0.13	0.13	0.11	0.15	0.00	0.13	0.17	0.00																		
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	1585																		
Grp Volume(v), veh/h	391	1578	0	45	995	276	324	441	0	440	330	0																		
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585																		
Q Serve(g_s), s	13.3	49.4	0.0	1.6	32.3	19.3	11.0	14.5	0.0	15.2	10.2	0.0																		
Cycle Q Clear(g_c), s	13.3	49.4	0.0	1.6	32.3	19.3	11.0	14.5	0.0	15.2	10.2	0.0																		
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00																		
Lane Grp Cap(c), veh/h	445	1721		112	1378	615	385	533		461	611																			
V/C Ratio(X)	0.88	0.92		0.40	0.72	0.45	0.84	0.83		0.95	0.54																			
Avail Cap(c_a), veh/h	461	1721		144	1378	615	461	533		461	611																			
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00																		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00																		
Uniform Delay (d), s/veh	51.4	28.7	0.0	58.2	46.1	40.5	52.3	49.5	0.0	51.6	45.4	0.0																		
Incr Delay (d2), s/veh	17.0	9.3	0.0	2.3	3.3	2.4	11.4	13.7	0.0	30.6	3.4	0.0																		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																		
%ile BackOfQ(50%),veh/ln	6.8	22.5	0.0	0.7	16.0	8.6	5.4	7.4	0.0	8.5	4.8	0.0																		
Unsig. Movement Delay, s/veh																														
LnGrp Delay(d),s/veh	68.4	38.0	0.0	60.5	49.4	42.8	63.7	63.2	0.0	82.3	48.8	0.0																		
LnGrp LOS	E	D		E	D	D	E	E		F	D																			
Approach Vol, veh/h	1969		A	1316			765		A	770		A																		
Approach Delay, s/veh	44.0			48.4			63.4			67.9																				
Approach LOS	D			D			E			E																				
Timer - Assigned Phs	1	2	3	4	5	6	7	8																						
Phs Duration (G+Y+Rc), s	22.0	24.0	9.9	64.1	19.4	26.6	21.5	52.5																						
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0																						
Max Green Setting (Gmax), s	16.0	18.0	5.0	57.0	16.0	18.0	16.0	46.0																						
Max Q Clear Time (g_c+l1), s	17.2	16.5	3.6	51.4	13.0	12.2	15.3	34.3																						
Green Ext Time (p_c), s	0.0	0.5	0.0	4.4	0.3	1.0	0.1	6.1																						
Intersection Summary																														
HCM 6th Ctrl Delay	52.1																													
HCM 6th LOS	D																													
Notes																														
User approved pedestrian interval to be less than phase max green.																														
Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.																														

Timings

1: County Line Rd & SH-119

2025 Total AM

09/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	816	207	93	1566	354	545	318	72	527	373	502
Future Volume (vph)	132	816	207	93	1566	354	545	318	72	527	373	502
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			Free
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0		11.0	24.0	
Total Split (s)	11.0	58.0	58.0	13.0	60.0	60.0	25.0	24.0		25.0	24.0	
Total Split (%)	9.2%	48.3%	48.3%	10.8%	50.0%	50.0%	20.8%	20.0%		20.8%	20.0%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	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	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Act Effect Green (s)	5.0	52.1	52.1	6.9	54.0	54.0	19.0	18.0	120.0	19.0	18.0	120.0
Actuated g/C Ratio	0.04	0.43	0.43	0.06	0.45	0.45	0.16	0.15	1.00	0.16	0.15	1.00
v/c Ratio	0.99	0.57	0.27	0.51	1.06	0.41	1.08	0.65	0.05	1.04	0.76	0.34
Control Delay	131.1	27.4	3.6	49.2	76.1	10.2	106.0	57.7	0.1	99.5	59.0	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	131.1	27.4	3.6	49.2	76.1	10.2	106.0	57.7	0.1	99.5	59.0	0.6
LOS	F	C	A	D	E	B	F	E	A	F	E	A
Approach Delay		35.0			63.3			81.4			53.3	
Approach LOS		C			E			F			D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 57.9

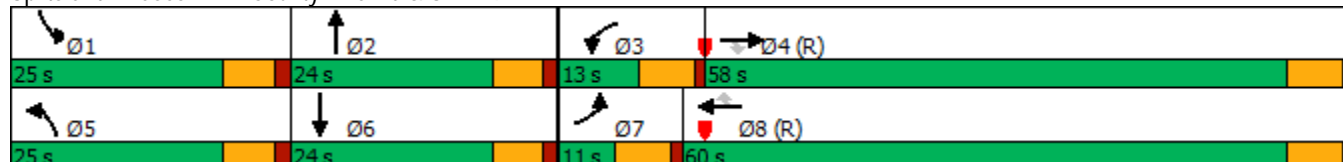
Intersection LOS: E

Intersection Capacity Utilization 93.3%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: County Line Rd & SH-119



























HCM 6th Signalized Intersection Summary

2025 Total AM

























1: County Line Rd & SH-119

09/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	816	207	93	1566	354	545	318	72	527	373	502
Future Volume (veh/h)	132	816	207	93	1566	354	545	318	72	527	373	502
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	142	877	0	100	1684	381	586	342	0	567	401	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1590		152	1599	713	547	533		547	533	
Arrive On Green	0.04	0.45	0.00	0.01	0.15	0.15	0.05	0.05	0.00	0.16	0.15	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	142	877	0	100	1684	381	586	342	0	567	401	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	4.9	21.7	0.0	3.5	54.0	26.7	19.0	11.3	0.0	19.0	13.0	0.0
Cycle Q Clear(g_c), s	4.9	21.7	0.0	3.5	54.0	26.7	19.0	11.3	0.0	19.0	13.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	1590		152	1599	713	547	533		547	533	
V/C Ratio(X)	0.99	0.55		0.66	1.05	0.53	1.07	0.64		1.04	0.75	
Avail Cap(c_a), veh/h	144	1590		202	1599	713	547	533		547	533	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.5	24.3	0.0	58.2	51.1	39.5	56.9	53.9	0.0	50.5	48.9	0.0
Incr Delay (d2), s/veh	70.6	1.4	0.0	4.7	37.9	2.9	58.9	5.8	0.0	48.2	9.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	9.3	0.0	1.6	34.2	11.9	13.3	5.9	0.0	11.8	6.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	128.1	25.7	0.0	62.9	89.0	42.3	115.7	59.7	0.0	98.7	58.3	0.0
LnGrp LOS	F	C		E	F	D	F	E		F	E	
Approach Vol, veh/h	1019		A	2165		928		A	968		A	
Approach Delay, s/veh	40.0			79.6		95.1			82.0			
Approach LOS	D			E		F			F			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.0	24.0	11.3	59.7	25.0	24.0	11.0	60.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	19.0	18.0	7.0	52.0	19.0	18.0	5.0	54.0				
Max Q Clear Time (g_c+l1), s	21.0	13.3	5.5	23.7	21.0	15.0	6.9	56.0				
Green Ext Time (p_c), s	0.0	0.9	0.0	7.1	0.0	0.7	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	74.9											
HCM 6th LOS	E											
Notes												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Timings
1: County Line Rd & SH-119

2025 Total PM
09/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	377	1584	405	71	960	519	488	547	107	464	375	218
Future Volume (vph)	377	1584	405	71	960	519	488	547	107	464	375	218
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			Free
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0		11.0	24.0	
Total Split (s)	31.0	61.0	61.0	11.0	41.0	41.0	24.0	25.0		23.0	24.0	
Total Split (%)	25.8%	50.8%	50.8%	9.2%	34.2%	34.2%	20.0%	20.8%		19.2%	20.0%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	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	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Act Effect Green (s)	18.5	57.2	57.2	5.0	41.5	41.5	18.0	19.0	120.0	17.0	18.0	120.0
Actuated g/C Ratio	0.15	0.48	0.48	0.04	0.35	0.35	0.15	0.16	1.00	0.14	0.15	1.00
v/c Ratio	0.72	0.95	0.45	0.50	0.79	0.66	0.96	0.99	0.07	0.97	0.72	0.14
Control Delay	56.1	43.8	7.6	61.6	42.2	23.2	75.5	83.3	0.1	84.4	56.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.1	43.8	7.6	61.6	42.2	23.2	75.5	83.3	0.1	84.4	56.9	0.2
LOS	E	D	A	E	D	C	E	F	A	F	E	A
Approach Delay		39.5			36.7			72.2			57.3	
Approach LOS		D			D			E			E	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 48.0

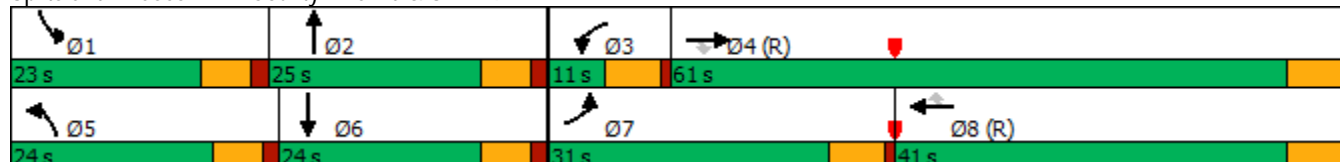
Intersection LOS: D

Intersection Capacity Utilization 96.3%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: County Line Rd & SH-119



























HCM 6th Signalized Intersection Summary

1: County Line Rd & SH-119

























2025 Total PM

09/15/2022

																														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR																		
Lane Configurations																														
Traffic Volume (veh/h)	377	1584	405	71	960	519	488	547	107	464	375	218																		
Future Volume (veh/h)	377	1584	405	71	960	519	488	547	107	464	375	218																		
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0																		
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00																		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																		
Work Zone On Approach	No			No			No			No																				
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870																		
Adj Flow Rate, veh/h	381	1600	0	72	970	524	493	553	0	469	379	0																		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99																		
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2																		
Cap, veh/h	458	1642		131	1306	582	518	563		490	533																			
Arrive On Green	0.13	0.46	0.00	0.01	0.12	0.12	0.05	0.05	0.00	0.14	0.15	0.00																		
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	1585																		
Grp Volume(v), veh/h	381	1600	0	72	970	524	493	553	0	469	379	0																		
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585																		
Q Serve(g_s), s	12.9	52.9	0.0	2.5	31.6	39.1	17.1	18.7	0.0	16.2	12.2	0.0																		
Cycle Q Clear(g_c), s	12.9	52.9	0.0	2.5	31.6	39.1	17.1	18.7	0.0	16.2	12.2	0.0																		
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00																		
Lane Grp Cap(c), veh/h	458	1642		131	1306	582	518	563		490	533																			
V/C Ratio(X)	0.83	0.97		0.55	0.74	0.90	0.95	0.98		0.96	0.71																			
Avail Cap(c_a), veh/h	720	1642		144	1306	582	518	563		490	533																			
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00																		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00																		
Uniform Delay (d), s/veh	50.7	31.6	0.0	58.2	47.2	50.5	56.6	56.7	0.0	51.1	48.5	0.0																		
Incr Delay (d2), s/veh	4.8	16.9	0.0	3.6	3.9	19.4	27.6	33.9	0.0	30.2	7.8	0.0																		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																		
%ile BackOfQ(50%),veh/ln	5.9	25.7	0.0	1.2	15.8	19.8	9.9	11.6	0.0	9.0	6.0	0.0																		
Unsig. Movement Delay, s/veh																														
LnGrp Delay(d),s/veh	55.5	48.5	0.0	61.8	51.1	69.9	84.2	90.6	0.0	81.3	56.4	0.0																		
LnGrp LOS	E	D		E	D	E	F	F		F	E																			
Approach Vol, veh/h	1981		A	1566			1046		A	848		A																		
Approach Delay, s/veh	49.8			57.9			87.6			70.2																				
Approach LOS	D			E			F			E																				
Timer - Assigned Phs	1	2	3	4	5	6	7	8																						
Phs Duration (G+Y+Rc), s	23.0	25.0	10.5	61.5	24.0	24.0	21.9	50.1																						
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0																						
Max Green Setting (Gmax), s	17.0	19.0	5.0	55.0	18.0	18.0	25.0	35.0																						
Max Q Clear Time (g_c+l1), s	18.2	20.7	4.5	54.9	19.1	14.2	14.9	41.1																						
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	0.8	1.0	0.0																						
Intersection Summary																														
HCM 6th Ctrl Delay	62.6																													
HCM 6th LOS	E																													
Notes																														
User approved pedestrian interval to be less than phase max green.																														
Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.																														

Timings
1: County Line Rd & SH-119

2025 Total AM - Improved
09/15/2022









												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	816	207	93	1566	354	545	318	72	527	373	502
Future Volume (vph)	132	816	207	93	1566	354	545	318	72	527	373	502
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			Free
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0		11.0	24.0	
Total Split (s)	13.0	53.0	53.0	13.0	53.0	53.0	30.0	25.0		29.0	24.0	
Total Split (%)	10.8%	44.2%	44.2%	10.8%	44.2%	44.2%	25.0%	20.8%		24.2%	20.0%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	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	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Act Effect Green (s)	7.0	47.1	47.1	6.9	47.0	47.0	23.2	19.6	120.0	22.4	18.8	120.0
Actuated g/C Ratio	0.06	0.39	0.39	0.06	0.39	0.39	0.19	0.16	1.00	0.19	0.16	1.00
v/c Ratio	0.71	0.44	0.29	0.51	0.85	0.45	0.88	0.59	0.05	0.89	0.72	0.34
Control Delay	75.1	27.7	4.1	49.2	44.5	10.8	59.2	54.8	0.1	64.5	56.8	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.1	27.7	4.1	49.2	44.5	10.8	59.2	54.8	0.1	64.5	56.8	0.6
LOS	E	C	A	D	D	B	E	D	A	E	E	A
Approach Delay		28.9			38.8			53.2			39.6	
Approach LOS		C			D			D			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 39.3
 Intersection Capacity Utilization 80.3%
 Analysis Period (min) 15

Intersection LOS: D
 ICU Level of Service D

Splits and Phases: 1: County Line Rd & SH-119

























			
Ø1	Ø2	Ø3	Ø4 (R)
29 s	25 s	13 s	53 s
			
Ø5	Ø6	Ø7	Ø8 (R)
30 s	24 s	13 s	53 s

HCM 6th Signalized Intersection Summary

1: County Line Rd & SH-119

2025 Total AM - Improved

























09/15/2022

																		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations																		
Traffic Volume (veh/h)	132	816	207	93	1566	354	545	318	72	527	373	502						
Future Volume (veh/h)	132	816	207	93	1566	354	545	318	72	527	373	502						
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0						
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00						
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Work Zone On Approach	No			No			No			No								
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870						
Adj Flow Rate, veh/h	142	877	0	100	1684	381	586	342	0	567	401	0						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93						
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2						
Cap, veh/h	196	2127		152	2063	640	653	563		626	534							
Arrive On Green	0.06	0.42	0.00	0.01	0.13	0.13	0.06	0.05	0.00	0.18	0.15	0.00						
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3554	1585	3456	3554	1585						
Grp Volume(v), veh/h	142	877	0	100	1684	381	586	342	0	567	401	0						
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1777	1585	1728	1777	1585						
Q Serve(g_s), s	4.9	14.5	0.0	3.5	38.5	27.2	20.2	11.3	0.0	19.3	13.0	0.0						
Cycle Q Clear(g_c), s	4.9	14.5	0.0	3.5	38.5	27.2	20.2	11.3	0.0	19.3	13.0	0.0						
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00						
Lane Grp Cap(c), veh/h	196	2127		152	2063	640	653	563		626	534							
V/C Ratio(X)	0.73	0.41		0.66	0.82	0.60	0.90	0.61		0.91	0.75							
Avail Cap(c_a), veh/h	202	2127		202	2063	640	691	563		662	534							
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00						
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00						
Uniform Delay (d), s/veh	55.7	24.7	0.0	58.2	47.7	42.8	55.1	53.2	0.0	48.1	48.8	0.0						
Incr Delay (d2), s/veh	11.9	0.6	0.0	4.7	3.7	4.0	14.0	4.8	0.0	15.7	9.4	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	2.4	6.0	0.0	1.6	18.3	12.3	10.7	5.8	0.0	9.6	6.4	0.0						
Unsig. Movement Delay, s/veh																		
LnGrp Delay(d),s/veh	67.6	25.3	0.0	62.9	51.4	46.8	69.1	58.0	0.0	63.8	58.2	0.0						
LnGrp LOS	E	C		E	D	D	E	E		E	E							
Approach Vol, veh/h	1019		A	2165			928		A	968		A						
Approach Delay, s/veh	31.2			51.1			65.0			61.5								
Approach LOS	C			D			E			E								
Timer - Assigned Phs	1	2	3	4	5	6	7	8										
Phs Duration (G+Y+Rc), s	27.7	25.0	11.3	56.0	28.7	24.0	12.8	54.5										
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0										
Max Green Setting (Gmax), s	23.0	19.0	7.0	47.0	24.0	18.0	7.0	47.0										
Max Q Clear Time (g_c+l1), s	21.3	13.3	5.5	16.5	22.2	15.0	6.9	40.5										
Green Ext Time (p_c), s	0.4	1.0	0.0	7.1	0.5	0.7	0.0	5.5										
Intersection Summary																		
HCM 6th Ctrl Delay	51.6																	
HCM 6th LOS	D																	
Notes																		
User approved pedestrian interval to be less than phase max green.																		
Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.																		

Timings
1: County Line Rd & SH-119

2025 Total PM - Improved

09/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	377	1584	405	71	960	519	488	547	107	464	375	218
Future Volume (vph)	377	1584	405	71	960	519	488	547	107	464	375	218
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			Free
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0		11.0	24.0	
Total Split (s)	24.0	51.0	51.0	11.0	38.0	38.0	30.0	30.0		28.0	28.0	
Total Split (%)	20.0%	42.5%	42.5%	9.2%	31.7%	31.7%	25.0%	25.0%		23.3%	23.3%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	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	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Act Effect Green (s)	16.9	47.2	47.2	5.0	33.1	33.1	21.5	25.8	120.0	20.2	24.5	120.0
Actuated g/C Ratio	0.14	0.39	0.39	0.04	0.28	0.28	0.18	0.22	1.00	0.17	0.20	1.00
v/c Ratio	0.79	0.80	0.48	0.50	0.69	0.69	0.80	0.73	0.07	0.81	0.52	0.14
Control Delay	62.3	36.6	6.1	57.1	40.8	22.4	51.0	51.8	0.1	59.8	46.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.3	36.6	6.1	57.1	40.8	22.4	51.0	51.8	0.1	59.8	46.3	0.2
LOS	E	D	A	E	D	C	D	D	A	E	D	A
Approach Delay		35.5			35.4			46.6			42.7	
Approach LOS		D			D			D			D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 38.8

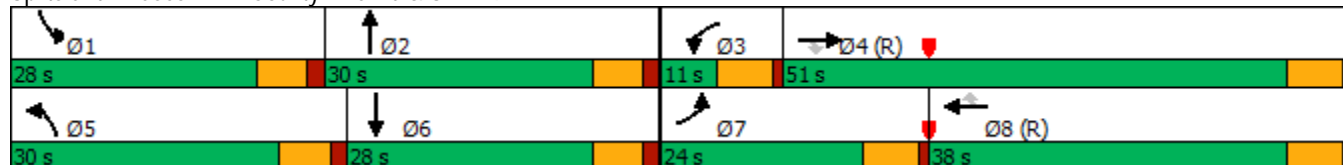
Intersection LOS: D

Intersection Capacity Utilization 83.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: County Line Rd & SH-119



























HCM 6th Signalized Intersection Summary

1: County Line Rd & SH-119

2025 Total PM - Improved

09/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	377	1584	405	71	960	519	488	547	107	464	375	218
Future Volume (veh/h)	377	1584	405	71	960	519	488	547	107	464	375	218
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	381	1600	0	72	970	261	493	553	0	469	379	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	443	2077		131	1615	501	572	711		537	674	
Arrive On Green	0.13	0.41	0.00	0.01	0.10	0.10	0.05	0.07	0.00	0.16	0.19	0.00
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	381	1600	0	72	970	261	493	553	0	469	379	0
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	13.0	32.5	0.0	2.5	21.8	18.7	17.0	18.4	0.0	15.9	11.6	0.0
Cycle Q Clear(g_c), s	13.0	32.5	0.0	2.5	21.8	18.7	17.0	18.4	0.0	15.9	11.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	443	2077		131	1615	501	572	711		537	674	
V/C Ratio(X)	0.86	0.77		0.55	0.60	0.52	0.86	0.78		0.87	0.56	
Avail Cap(c_a), veh/h	518	2077		144	1615	501	691	711		634	674	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	51.2	30.7	0.0	58.2	46.5	45.1	55.4	53.4	0.0	49.5	44.1	0.0
Incr Delay (d2), s/veh	12.1	2.8	0.0	3.6	1.7	3.8	9.4	8.2	0.0	11.5	3.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	13.7	0.0	1.2	10.2	8.5	8.7	9.6	0.0	7.7	5.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.4	33.6	0.0	61.8	48.1	48.9	64.7	61.6	0.0	61.0	47.5	0.0
LnGrp LOS	E	C		E	D	D	E	E		E	D	
Approach Vol, veh/h	1981		A	1303			1046		A	848		A
Approach Delay, s/veh	39.3			49.1			63.1			54.9		
Approach LOS	D			D			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.6	30.0	10.5	54.8	25.9	28.8	21.4	44.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	22.0	24.0	5.0	45.0	24.0	22.0	18.0	32.0				
Max Q Clear Time (g_c+l1), s	17.9	20.4	4.5	34.5	19.0	13.6	15.0	23.8				
Green Ext Time (p_c), s	0.7	1.2	0.0	7.5	0.9	1.5	0.4	4.6				

Intersection Summary

HCM 6th Ctrl Delay 49.1

HCM 6th LOS D

Notes

























User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Timings
1: County Line Rd & SH-119

2045 Background AM

09/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	199	1129	155	82	2373	538	560	372	74	715	444	768
Future Volume (vph)	199	1129	155	82	2373	538	560	372	74	715	444	768
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			Free
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0		11.0	24.0	
Total Split (s)	11.0	57.0	57.0	12.0	58.0	58.0	27.0	24.0		27.0	24.0	
Total Split (%)	9.2%	47.5%	47.5%	10.0%	48.3%	48.3%	22.5%	20.0%		22.5%	20.0%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	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	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Act Effect Green (s)	5.0	51.0	51.0	6.0	52.0	52.0	21.0	18.0	120.0	21.0	18.0	120.0
Actuated g/C Ratio	0.04	0.42	0.42	0.05	0.43	0.43	0.18	0.15	1.00	0.18	0.15	1.00
v/c Ratio	1.50	0.56	0.22	0.51	1.16	0.59	1.00	0.75	0.05	1.28	0.90	0.52
Control Delay	295.4	27.3	3.9	50.4	116.0	14.6	80.2	64.2	0.1	179.6	71.3	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	295.4	27.3	3.9	50.4	116.0	14.6	80.2	64.2	0.1	179.6	71.3	1.2
LOS	F	C	A	D	F	B	F	E	A	F	E	A
Approach Delay		60.8			96.0			68.3			83.6	
Approach LOS		E			F			E			F	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.50

Intersection Signal Delay: 82.0









Intersection LOS: F

Intersection Capacity Utilization 102.2%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 1: County Line Rd & SH-119

























			
Ø1	Ø2	Ø3	Ø4 (R)
27 s	24 s	12 s	57 s
			
Ø5	Ø6	Ø7	Ø8 (R)
27 s	24 s	11 s	58 s

HCM 6th Signalized Intersection Summary

1: County Line Rd & SH-119

2045 Background AM

























09/15/2022

																														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR																		
Lane Configurations																														
Traffic Volume (veh/h)	199	1129	155	82	2373	538	560	372	74	715	444	768																		
Future Volume (veh/h)	199	1129	155	82	2373	538	560	372	74	715	444	768																		
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0																		
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00																		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																		
Work Zone On Approach	No			No			No			No																				
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870																		
Adj Flow Rate, veh/h	214	1214	0	88	2552	578	602	400	0	769	477	0																		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93																		
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2																		
Cap, veh/h	144	2222		138	2213	687	605	533		605	533																			
Arrive On Green	0.04	0.44	0.00	0.01	0.14	0.14	0.06	0.05	0.00	0.17	0.15	0.00																		
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3554	1585	3456	3554	1585																		
Grp Volume(v), veh/h	214	1214	0	88	2552	578	602	400	0	769	477	0																		
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1777	1585	1728	1777	1585																		
Q Serve(g_s), s	5.0	21.1	0.0	3.0	52.0	42.6	20.9	13.3	0.0	21.0	15.8	0.0																		
Cycle Q Clear(g_c), s	5.0	21.1	0.0	3.0	52.0	42.6	20.9	13.3	0.0	21.0	15.8	0.0																		
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00																		
Lane Grp Cap(c), veh/h	144	2222		138	2213	687	605	533		605	533																			
V/C Ratio(X)	1.49	0.55		0.64	1.15	0.84	1.00	0.75		1.27	0.89																			
Avail Cap(c_a), veh/h	144	2222		173	2213	687	605	533		605	533																			
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00																		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.89	0.89	0.00	1.00	1.00	0.00																		
Uniform Delay (d), s/veh	57.5	25.1	0.0	58.3	51.4	47.4	56.5	54.8	0.0	49.5	50.1	0.0																		
Incr Delay (d2), s/veh	252.0	1.0	0.0	5.1	74.7	11.9	33.3	8.4	0.0	134.9	20.2	0.0																		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																		
%ile BackOfQ(50%),veh/ln	7.2	8.7	0.0	1.5	39.1	20.4	12.5	7.0	0.0	20.3	8.5	0.0																		
Unsig. Movement Delay, s/veh																														
LnGrp Delay(d),s/veh	309.5	26.1	0.0	63.5	126.1	59.3	89.8	63.2	0.0	184.4	70.2	0.0																		
LnGrp LOS	F	C		E	F	E	F	E		F	E																			
Approach Vol, veh/h	1428		A	3218			1002		A	1246		A																		
Approach Delay, s/veh	68.6			112.4			79.2			140.7																				
Approach LOS	E			F			E			F																				
Timer - Assigned Phs	1	2	3	4	5	6	7	8																						
Phs Duration (G+Y+Rc), s	27.0	24.0	10.8	58.2	27.0	24.0	11.0	58.0																						
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0																						
Max Green Setting (Gmax), s	21.0	18.0	6.0	51.0	21.0	18.0	5.0	52.0																						
Max Q Clear Time (g_c+l1), s	23.0	15.3	5.0	23.1	22.9	17.8	7.0	54.0																						
Green Ext Time (p_c), s	0.0	0.7	0.0	10.4	0.0	0.1	0.0	0.0																						
Intersection Summary																														
HCM 6th Ctrl Delay	103.6																													
HCM 6th LOS	F																													
Notes																														
User approved pedestrian interval to be less than phase max green.																														
Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.																														

Timings
1: County Line Rd & SH-119

2045 Background PM

09/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	563	2287	431	66	1428	782	460	635	106	633	473	330
Future Volume (vph)	563	2287	431	66	1428	782	460	635	106	633	473	330
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			Free
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0		11.0	24.0	
Total Split (s)	30.0	56.0	56.0	15.0	41.0	41.0	25.0	24.0		25.0	24.0	
Total Split (%)	25.0%	46.7%	46.7%	12.5%	34.2%	34.2%	20.8%	20.0%		20.8%	20.0%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	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	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Act Effect Green (s)	22.9	53.8	53.8	7.6	36.1	36.1	18.6	18.0	120.0	19.0	18.4	120.0
Actuated g/C Ratio	0.19	0.45	0.45	0.06	0.30	0.30	0.16	0.15	1.00	0.16	0.15	1.00
v/c Ratio	0.87	1.01	0.50	0.31	0.94	1.06	0.88	1.21	0.07	1.18	0.88	0.21
Control Delay	61.7	56.2	10.1	48.0	54.6	77.9	53.6	147.1	0.1	141.7	68.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.7	56.2	10.1	48.0	54.6	77.9	53.6	147.1	0.1	141.7	68.4	0.3
LOS	E	E	B	D	D	E	D	F	A	F	E	A
Approach Delay		51.1			62.4			98.3			85.1	
Approach LOS		D			E			F			F	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.21

Intersection Signal Delay: 67.1

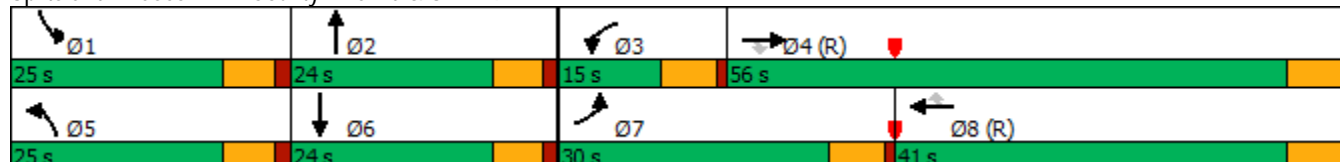
Intersection LOS: E

Intersection Capacity Utilization 104.0%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 1: County Line Rd & SH-119



























HCM 6th Signalized Intersection Summary

1: County Line Rd & SH-119

2045 Background PM

09/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	563	2287	431	66	1428	782	460	635	106	633	473	330
Future Volume (veh/h)	563	2287	431	66	1428	782	460	635	106	633	473	330
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	569	2310	0	67	1442	396	465	641	0	639	478	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	633	2321		129	1576	489	526	533		547	555	
Arrive On Green	0.18	0.45	0.00	0.01	0.10	0.10	0.05	0.05	0.00	0.16	0.16	0.00
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	569	2310	0	67	1442	396	465	641	0	639	478	0
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	19.3	54.1	0.0	2.3	33.6	29.3	16.0	18.0	0.0	19.0	15.7	0.0
Cycle Q Clear(g_c), s	19.3	54.1	0.0	2.3	33.6	29.3	16.0	18.0	0.0	19.0	15.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	633	2321		129	1576	489	526	533		547	555	
V/C Ratio(X)	0.90	1.00		0.52	0.92	0.81	0.88	1.20		1.17	0.86	
Avail Cap(c_a), veh/h	691	2321		259	1576	489	547	533		547	555	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.79	0.79	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	47.9	32.6	0.0	58.2	52.3	50.4	55.9	57.0	0.0	50.5	49.4	0.0
Incr Delay (d2), s/veh	14.0	17.6	0.0	3.2	9.8	13.5	12.8	104.9	0.0	93.9	16.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.5	25.3	0.0	1.1	16.8	14.3	8.4	16.4	0.0	15.3	8.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	50.3	0.0	61.4	62.1	64.0	68.7	161.9	0.0	144.4	65.3	0.0
LnGrp LOS	E	D		E	E	E	E	F		F	E	
Approach Vol, veh/h	2879		A	1905			1106		A	1117		A
Approach Delay, s/veh	52.6			62.5			122.7			110.6		
Approach LOS	D			E			F			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.0	24.0	10.5	60.5	24.2	24.8	28.0	43.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	19.0	18.0	9.0	50.0	19.0	18.0	24.0	35.0				
Max Q Clear Time (g_c+l1), s	21.0	20.0	4.3	56.1	18.0	17.7	21.3	35.6				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.0	0.2	0.1	0.6	0.0				

Intersection Summary

HCM 6th Ctrl Delay 75.6

HCM 6th LOS E

























Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Timings
1: County Line Rd & SH-119

2045 Total AM
09/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	1164	253	120	2320	526	704	436	96	747	510	750
Future Volume (vph)	194	1164	253	120	2320	526	704	436	96	747	510	750
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			Free
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0		11.0	24.0	
Total Split (s)	11.0	54.0	54.0	14.0	57.0	57.0	27.0	24.0		28.0	25.0	
Total Split (%)	9.2%	45.0%	45.0%	11.7%	47.5%	47.5%	22.5%	20.0%		23.3%	20.8%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	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	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Act Effect Green (s)	5.0	48.2	48.2	7.8	51.0	51.0	21.0	18.0	120.0	22.0	19.0	120.0
Actuated g/C Ratio	0.04	0.40	0.40	0.06	0.42	0.42	0.18	0.15	1.00	0.18	0.16	1.00
v/c Ratio	1.46	0.61	0.34	0.58	1.15	0.58	1.26	0.88	0.07	1.28	0.98	0.51
Control Delay	281.8	30.2	4.0	47.4	111.4	13.0	167.5	71.5	0.1	176.8	83.6	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	281.8	30.2	4.0	47.4	111.4	13.0	167.5	71.5	0.1	176.8	83.6	1.2
LOS	F	C	A	D	F	B	F	E	A	F	F	A
Approach Delay		56.4			91.4			120.6			87.5	
Approach LOS		E			F			F			F	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.46

Intersection Signal Delay: 87.8

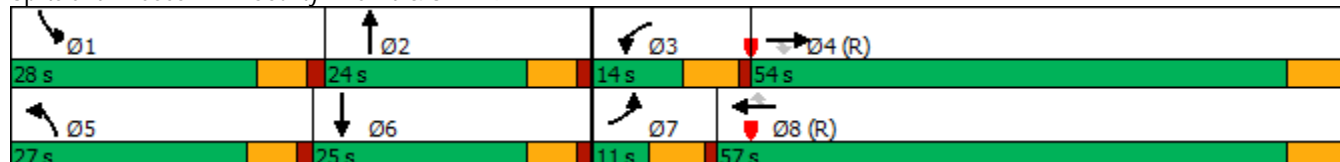
Intersection LOS: F

Intersection Capacity Utilization 104.5%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 1: County Line Rd & SH-119



























HCM 6th Signalized Intersection Summary

1: County Line Rd & SH-119

























2045 Total AM

09/15/2022

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (veh/h)	194	1164	253	120	2320	526	704	436	96	747	510	750		
Future Volume (veh/h)	194	1164	253	120	2320	526	704	436	96	747	510	750		
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870		
Adj Flow Rate, veh/h	209	1252	0	129	2495	566	757	469	0	803	548	0		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2		
Cap, veh/h	144	2110		185	2170	674	605	533		634	563			
Arrive On Green	0.04	0.41	0.00	0.02	0.14	0.14	0.06	0.05	0.00	0.18	0.16	0.00		
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3554	1585	3456	3554	1585		
Grp Volume(v), veh/h	209	1252	0	129	2495	566	757	469	0	803	548	0		
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1777	1585	1728	1777	1585		
Q Serve(g_s), s	5.0	22.9	0.0	4.5	51.0	41.8	21.0	15.7	0.0	22.0	18.4	0.0		
Cycle Q Clear(g_c), s	5.0	22.9	0.0	4.5	51.0	41.8	21.0	15.7	0.0	22.0	18.4	0.0		
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00		
Lane Grp Cap(c), veh/h	144	2110		185	2170	674	605	533		634	563			
V/C Ratio(X)	1.45	0.59		0.70	1.15	0.84	1.25	0.88		1.27	0.97			
Avail Cap(c_a), veh/h	144	2110		230	2170	674	605	533		634	563			
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	57.5	27.4	0.0	58.0	51.6	47.6	56.5	56.0	0.0	49.0	50.3	0.0		
Incr Delay (d2), s/veh	237.6	1.2	0.0	6.7	73.2	12.0	126.5	18.4	0.0	132.6	32.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.9	9.5	0.0	2.2	38.0	20.0	20.4	8.9	0.0	21.1	10.7	0.0		
Unsig. Movement Delay, s/veh														
LnGrp Delay(d),s/veh	295.1	28.6	0.0	64.6	124.8	59.6	183.1	74.4	0.0	181.6	82.3	0.0		
LnGrp LOS	F	C		E	F	E	F	E		F	F			
Approach Vol, veh/h	1461		A	3190				1226		A	1351		A	
Approach Delay, s/veh	66.7			110.8				141.5			141.3			
Approach LOS	E			F				F			F			
Timer - Assigned Phs														
Phs Duration (G+Y+Rc), s	28.0	24.0	12.4	55.6	27.0	25.0	11.0	57.0						
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0						
Max Green Setting (Gmax), s	22.0	18.0	8.0	48.0	21.0	19.0	5.0	51.0						
Max Q Clear Time (g_c+l1), s	24.0	17.7	6.5	24.9	23.0	20.4	7.0	53.0						
Green Ext Time (p_c), s	0.0	0.1	0.1	9.9	0.0	0.0	0.0	0.0						
Intersection Summary														
HCM 6th Ctrl Delay	112.8													
HCM 6th LOS	F													
Notes														
User approved pedestrian interval to be less than phase max green.														
Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.														

Timings
1: County Line Rd & SH-119

2045 Total PM
09/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	553	2309	532	92	1403	767	627	745	142	661	521	324
Future Volume (vph)	553	2309	532	92	1403	767	627	745	142	661	521	324
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			Free
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0		11.0	24.0	
Total Split (s)	25.0	55.0	55.0	11.0	41.0	41.0	29.0	28.0		26.0	25.0	
Total Split (%)	20.8%	45.8%	45.8%	9.2%	34.2%	34.2%	24.2%	23.3%		21.7%	20.8%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	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	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Act Effect Green (s)	19.0	49.0	49.0	5.0	35.0	35.0	23.0	22.0	120.0	20.0	19.0	120.0
Actuated g/C Ratio	0.16	0.41	0.41	0.04	0.29	0.29	0.19	0.18	1.00	0.17	0.16	1.00
v/c Ratio	1.03	1.12	0.63	0.65	0.96	1.02	0.96	1.16	0.09	1.17	0.94	0.21
Control Delay	95.8	96.5	12.7	63.2	56.2	63.5	64.3	128.1	0.1	137.3	75.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.8	96.5	12.7	63.2	56.2	63.5	64.3	128.1	0.1	137.3	75.9	0.3
LOS	F	F	B	E	E	E	E	F	A	F	E	A
Approach Delay		83.3			59.0			89.7			86.6	
Approach LOS		F			E			F			F	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.17

Intersection Signal Delay: 78.6

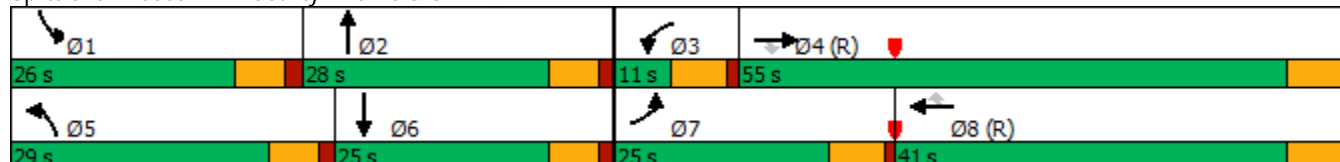
Intersection LOS: E

Intersection Capacity Utilization 108.2%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 1: County Line Rd & SH-119



























HCM 6th Signalized Intersection Summary

1: County Line Rd & SH-119

























2045 Total PM

09/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	553	2309	532	92	1403	767	627	745	142	661	521	324
Future Volume (veh/h)	553	2309	532	92	1403	767	627	745	142	661	521	324
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	559	2332	0	93	1417	512	633	753	0	668	526	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	547	2086		143	1489	462	662	652		576	563	
Arrive On Green	0.16	0.41	0.00	0.01	0.10	0.10	0.06	0.06	0.00	0.17	0.16	0.00
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	559	2332	0	93	1417	512	633	753	0	668	526	0
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	19.0	49.0	0.0	3.2	33.1	35.0	21.9	22.0	0.0	20.0	17.5	0.0
Cycle Q Clear(g_c), s	19.0	49.0	0.0	3.2	33.1	35.0	21.9	22.0	0.0	20.0	17.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	547	2086		143	1489	462	662	652		576	563	
V/C Ratio(X)	1.02	1.12		0.65	0.95	1.11	0.96	1.16		1.16	0.93	
Avail Cap(c_a), veh/h	547	2086		144	1489	462	662	652		576	563	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	50.5	35.5	0.0	58.3	53.4	54.2	55.7	56.4	0.0	50.0	49.9	0.0
Incr Delay (d2), s/veh	44.1	60.3	0.0	9.7	14.3	74.4	24.5	86.7	0.0	90.0	24.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.5	31.4	0.0	1.6	17.1	24.5	12.4	18.4	0.0	15.8	9.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.6	95.8	0.0	68.0	67.7	128.7	80.2	143.0	0.0	140.0	74.7	0.0
LnGrp LOS	F	F		E	E	F	F	F		F	E	
Approach Vol, veh/h	2891		A	2022				1386	A	1194		A
Approach Delay, s/veh	95.5			83.1				114.3		111.3		
Approach LOS	F			F				F		F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.0	28.0	11.0	55.0	29.0	25.0	25.0	41.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	20.0	22.0	5.0	49.0	23.0	19.0	19.0	35.0				
Max Q Clear Time (g_c+l1), s	22.0	24.0	5.2	51.0	23.9	19.5	21.0	37.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	98.2											
HCM 6th LOS	F											
Notes												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Timings
1: County Line Rd & SH-119

2045 Total AM - Improved
09/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	1164	253	120	2320	526	704	436	96	747	510	750
Future Volume (vph)	194	1164	253	120	2320	526	704	436	96	747	510	750
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			Free
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0		11.0	24.0	
Total Split (s)	15.0	77.0	77.0	16.0	78.0	78.0	28.0	26.0		31.0	29.0	
Total Split (%)	10.0%	51.3%	51.3%	10.7%	52.0%	52.0%	18.7%	17.3%		20.7%	19.3%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	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	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Act Effect Green (s)	9.0	71.5	71.5	9.5	72.0	72.0	22.0	20.0	150.0	25.0	23.0	150.0
Actuated g/C Ratio	0.06	0.48	0.48	0.06	0.48	0.48	0.15	0.13	1.00	0.17	0.15	1.00
v/c Ratio	1.02	0.52	0.30	0.59	1.02	0.56	1.04	1.00	0.07	0.97	1.01	0.51
Control Delay	135.4	28.3	3.3	79.9	62.5	6.7	103.8	104.4	0.1	85.6	103.3	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	135.4	28.3	3.3	79.9	62.5	6.7	103.8	104.4	0.1	85.6	103.3	1.2
LOS	F	C	A	E	E	A	F	F	A	F	F	A
Approach Delay		37.3			53.3			96.0			58.5	
Approach LOS		D			D			F			E	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 58.1

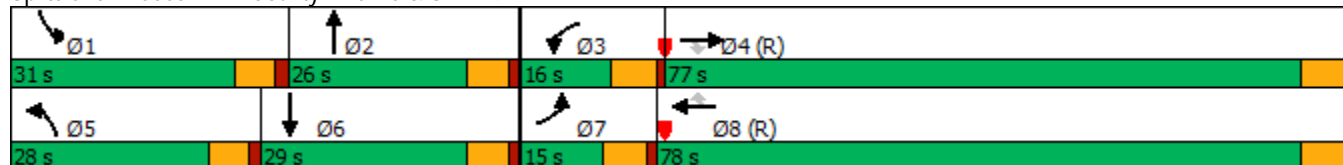
Intersection LOS: E

Intersection Capacity Utilization 97.8%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: County Line Rd & SH-119



























HCM 6th Signalized Intersection Summary

1: County Line Rd & SH-119

2045 Total AM - Improved

























09/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	1164	253	120	2320	526	704	436	96	747	510	750
Future Volume (veh/h)	194	1164	253	120	2320	526	704	436	96	747	510	750
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	209	1252	0	129	2495	566	757	469	0	803	548	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	207	2500		174	2451	761	737	474		837	545	
Arrive On Green	0.06	0.49	0.00	0.05	0.48	0.48	0.15	0.13	0.00	0.17	0.15	0.00
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	5023	3554	1585	5023	3554	1585
Grp Volume(v), veh/h	209	1252	0	129	2495	566	757	469	0	803	548	0
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1674	1777	1585	1674	1777	1585
Q Serve(g_s), s	9.0	24.9	0.0	5.5	72.0	43.3	22.0	19.8	0.0	23.8	23.0	0.0
Cycle Q Clear(g_c), s	9.0	24.9	0.0	5.5	72.0	43.3	22.0	19.8	0.0	23.8	23.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	207	2500		174	2451	761	737	474		837	545	
V/C Ratio(X)	1.01	0.50		0.74	1.02	0.74	1.03	0.99		0.96	1.01	
Avail Cap(c_a), veh/h	207	2500		230	2451	761	737	474		837	545	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	70.5	25.9	0.0	70.2	39.0	31.5	64.0	64.9	0.0	62.0	63.5	0.0
Incr Delay (d2), s/veh	64.6	0.7	0.0	8.5	22.8	6.5	40.4	38.9	0.0	21.7	40.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	10.3	0.0	2.7	34.7	17.9	12.2	11.5	0.0	11.8	13.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	135.1	26.6	0.0	78.7	61.8	38.0	104.4	103.8	0.0	83.7	103.5	0.0
LnGrp LOS	F	C		E	F	D	F	F		F	F	
Approach Vol, veh/h	1461		A	3190			1226		A	1351		A
Approach Delay, s/veh	42.1			58.3			104.1			91.7		
Approach LOS	D			E			F			F		
Timer - Assigned Phs												
	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.0	26.0	13.6	79.4	28.0	29.0	15.0	78.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	25.0	20.0	10.0	71.0	22.0	23.0	9.0	72.0				
Max Q Clear Time (g_c+l1), s	25.8	21.8	7.5	26.9	24.0	25.0	11.0	74.0				
Green Ext Time (p_c), s	0.0	0.0	0.1	12.4	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	69.0											
HCM 6th LOS	E											
Notes												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Timings
1: County Line Rd & SH-119

2045 Total PM - Improved

09/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	553	2309	532	92	1403	767	627	745	142	661	521	324
Future Volume (vph)	553	2309	532	92	1403	767	627	745	142	661	521	324
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			Free
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0		11.0	24.0	
Total Split (s)	30.0	76.0	76.0	11.0	57.0	57.0	28.0	37.0		26.0	35.0	
Total Split (%)	20.0%	50.7%	50.7%	7.3%	38.0%	38.0%	18.7%	24.7%		17.3%	23.3%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	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	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Act Effect Green (s)	24.0	70.0	70.0	5.0	51.0	51.0	21.6	31.0	150.0	20.0	29.4	150.0
Actuated g/C Ratio	0.16	0.47	0.47	0.03	0.34	0.34	0.14	0.21	1.00	0.13	0.20	1.00
v/c Ratio	1.02	0.98	0.59	0.82	0.82	1.03	0.88	1.03	0.09	1.00	0.76	0.21
Control Delay	104.1	54.1	14.4	116.2	50.1	66.9	77.6	98.4	0.1	99.8	65.0	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	104.1	54.1	14.4	116.2	50.1	66.9	77.6	98.4	0.1	99.8	65.0	0.3
LOS	F	D	B	F	D	E	E	F	A	F	E	A
Approach Delay		56.0			58.5			80.6			66.4	
Approach LOS		E			E			F			E	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 62.7

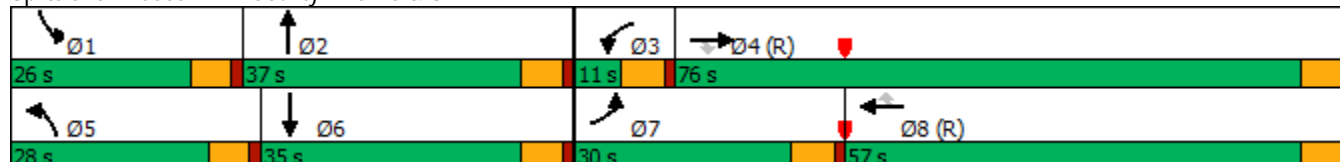
Intersection LOS: E

Intersection Capacity Utilization 101.9%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 1: County Line Rd & SH-119



























HCM 6th Signalized Intersection Summary

1: County Line Rd & SH-119

2045 Total PM - Improved

09/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	553	2309	532	92	1403	767	627	745	142	661	521	324
Future Volume (veh/h)	553	2309	532	92	1403	767	627	745	142	661	521	324
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	559	2332	0	93	1417	512	633	753	0	668	526	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	553	2383		115	1736	539	704	734		670	710	
Arrive On Green	0.16	0.47	0.00	0.03	0.34	0.34	0.14	0.21	0.00	0.13	0.20	0.00
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	5023	3554	1585	5023	3554	1585
Grp Volume(v), veh/h	559	2332	0	93	1417	512	633	753	0	668	526	0
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1674	1777	1585	1674	1777	1585
Q Serve(g_s), s	24.0	67.3	0.0	4.0	38.0	47.2	18.6	31.0	0.0	19.9	20.9	0.0
Cycle Q Clear(g_c), s	24.0	67.3	0.0	4.0	38.0	47.2	18.6	31.0	0.0	19.9	20.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	553	2383		115	1736	539	704	734		670	710	
V/C Ratio(X)	1.01	0.98		0.81	0.82	0.95	0.90	1.03		1.00	0.74	
Avail Cap(c_a), veh/h	553	2383		115	1736	539	737	734		670	710	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	63.0	39.3	0.0	72.0	45.2	48.3	63.4	59.5	0.0	65.0	56.4	0.0
Incr Delay (d2), s/veh	41.0	14.1	0.0	33.1	4.4	28.2	13.7	39.8	0.0	34.1	6.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.7	30.8	0.0	2.3	16.8	22.8	8.8	18.0	0.0	10.6	10.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.0	53.3	0.0	105.1	49.6	76.4	77.1	99.3	0.0	99.0	63.2	0.0
LnGrp LOS	F	D		F	D	E	E	F		F	E	
Approach Vol, veh/h	2891		A	2022				1386	A	1194		A
Approach Delay, s/veh	63.1			58.9				89.2		83.3		
Approach LOS	E			E				F		F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.0	37.0	11.0	76.0	27.0	36.0	30.0	57.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	20.0	31.0	5.0	70.0	22.0	29.0	24.0	51.0				
Max Q Clear Time (g_c+l1), s	21.9	33.0	6.0	69.3	20.6	22.9	26.0	49.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.7	0.4	1.8	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay	70.0											
HCM 6th LOS	E											
Notes												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

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	0	1099	47	9	1846	3	0	0	19	0	0	0
Future Vol, veh/h	0	1099	47	9	1846	3	0	0	19	0	0	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	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	600	-	475	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1157	49	9	1943	3	0	0	20	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	1206	0	0	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.14	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	-	-	*946	-	-	0	0	0
Stage 1	0	-	-	-	-	-	0	0	0
Stage 2	0	-	-	-	-	-	0	0	0
Platoon blocked, %	-	-	-	1	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	*946	-	-	0	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	0	-	-
Stage 1	-	-	-	-	-	-	0	-	-
Stage 2	-	-	-	-	-	-	0	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	-	-	-	* 946	-	-
HCM Lane V/C Ratio	-	-	-	0.01	-	-
HCM Control Delay (s)	0	-	-	8.8	-	-
HCM Lane LOS	A	-	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	0	-	-

Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

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	0	1760	129	12	1504	5	0	0	43	0	0	0
Future Vol, veh/h	0	1760	129	12	1504	5	0	0	43	0	0	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	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	600	-	475	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1833	134	13	1567	5	0	0	45	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	1967	0	0	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.14	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	-	-	*518	-	-	0	0	0
Stage 1	0	-	-	-	-	-	0	0	0
Stage 2	0	-	-	-	-	-	0	0	0
Platoon blocked, %	-	-	-	1	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	*518	-	-	-	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-
Stage 1	-	-	-	-	-	-	-	0	-
Stage 2	-	-	-	-	-	-	-	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	-	-	-	* 518	-	-
HCM Lane V/C Ratio	-	-	-	0.024	-	-
HCM Control Delay (s)	0	-	-	12.1	-	-
HCM Lane LOS	A	-	-	B	-	-
HCM 95th %tile Q(veh)	-	-	-	0.1	-	-

Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

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	0	1269	55	21	2037	3	0	0	49	0	0	0
Future Vol, veh/h	0	1269	55	21	2037	3	0	0	49	0	0	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	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	600	-	475	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1336	58	22	2144	3	0	0	52	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	1394	0	0	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.14	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	-	-	*829	-	-	0	0	0
Stage 1	0	-	-	-	-	-	0	0	0
Stage 2	0	-	-	-	-	-	0	0	0
Platoon blocked, %	-	-	-	1	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	*829	-	-	-	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-
Stage 1	-	-	-	-	-	-	-	0	-
Stage 2	-	-	-	-	-	-	-	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	-	-	-	* 829	-	-
HCM Lane V/C Ratio	-	-	-	0.027	-	-
HCM Control Delay (s)	0	-	-	9.5	-	-
HCM Lane LOS	A	-	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	0.1	-	-

Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑	↑			↑			
Traffic Vol, veh/h	0	1947	160	42	1693	5	0	0	66	0	0	0
Future Vol, veh/h	0	1947	160	42	1693	5	0	0	66	0	0	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	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	600	-	475	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2028	167	44	1764	5	0	0	69	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	2195	0	0	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.14	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	-	-	*401	-	-	0	0	0
Stage 1	0	-	-	-	-	-	0	0	0
Stage 2	0	-	-	-	-	-	0	0	0
Platoon blocked, %	-	-	-	1	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	*401	-	-	-	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-
Stage 1	-	-	-	-	-	-	-	0	-
Stage 2	-	-	-	-	-	-	-	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	-	-	-	* 401	-	-
HCM Lane V/C Ratio	-	-	-	0.109	-	-
HCM Control Delay (s)	0	-	-	15.1	-	-
HCM Lane LOS	A	-	-	C	-	-
HCM 95th %tile Q(veh)	-	-	-	0.4	-	-

Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

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	1251	163	112	2010	3	0	0	105	0	0	0
Future Vol, veh/h	0	1251	163	112	2010	3	0	0	105	0	0	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	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	600	-	475	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1317	172	118	2116	3	0	0	111	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	1489	0	0	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.14	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	-	-	797	-	-	0	0	0
Stage 1	0	-	-	-	-	-	0	0	0
Stage 2	0	-	-	-	-	-	0	0	0
Platoon blocked, %	-	-	-	1	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	797	-	-	-	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-
Stage 1	-	-	-	-	-	-	-	0	-
Stage 2	-	-	-	-	-	-	-	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	-	-	-	797	-	-
HCM Lane V/C Ratio	-	-	-	0.148	-	-
HCM Control Delay (s)	0	-	-	10.3	-	-
HCM Lane LOS	A	-	-	B	-	-
HCM 95th %tile Q(veh)	-	-	-	0.5	-	-

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	0	1932	262	112	1679	5	0	0	148	0	0	0
Future Vol, veh/h	0	1932	262	112	1679	5	0	0	148	0	0	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	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	600	-	475	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2013	273	117	1749	5	0	0	154	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	2286	0	0	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.14	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	-	-	365	-	-	0	0	0
Stage 1	0	-	-	-	-	-	0	0	0
Stage 2	0	-	-	-	-	-	0	0	0
Platoon blocked, %	-	-	-	1	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	365	-	-	-	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-
Stage 1	-	-	-	-	-	-	-	0	-
Stage 2	-	-	-	-	-	-	-	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	-	-	-	365	-	-
HCM Lane V/C Ratio	-	-	-	0.32	-	-
HCM Control Delay (s)	0	-	-	19.4	-	-
HCM Lane LOS	A	-	-	C	-	-
HCM 95th %tile Q(veh)	-	-	-	1.4	-	-

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	0	1836	79	25	2989	5	0	0	59	0	0	0
Future Vol, veh/h	0	1836	79	25	2989	5	0	0	59	0	0	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	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	600	-	475	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1933	83	26	3146	5	0	0	62	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	-	0	0	2016	0	0	-	-	-			
Stage 1	-	-	-	-	-	-	-	-	-			
Stage 2	-	-	-	-	-	-	-	-	-			
Critical Hdwy	-	-	-	5.34	-	-	-	-	-			
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-			
Follow-up Hdwy	-	-	-	3.12	-	-	-	-	-			
Pot Cap-1 Maneuver	0	-	-	*618	-	-	0	0	0			
Stage 1	0	-	-	-	-	-	0	0	0			
Stage 2	0	-	-	-	-	-	0	0	0			
Platoon blocked, %		-	-	1	-	-						
Mov Cap-1 Maneuver	-	-	-	*618	-	-	-	0	-			
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-			
Stage 1	-	-	-	-	-	-	-	0	-			
Stage 2	-	-	-	-	-	-	-	0	-			
Approach	EB			WB			NB					
HCM Control Delay, s	0			0.1			0					
HCM LOS	A											
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR						
Capacity (veh/h)	-	-	-	* 618	-	-						
HCM Lane V/C Ratio	-	-	-	0.043	-	-						
HCM Control Delay (s)	0	-	-	11.1	-	-						
HCM Lane LOS	A	-	-	B	-	-						
HCM 95th %tile Q(veh)	-	-	-	0.1	-	-						
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑	↑	↑	↑↑↑↑	↑			↑			
Traffic Vol, veh/h	0	2854	226	48	2469	8	0	0	88	0	0	0
Future Vol, veh/h	0	2854	226	48	2469	8	0	0	88	0	0	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	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	600	-	475	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2973	235	50	2572	8	0	0	92	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	-	0	0	3208	0	0	-	-	-			
Stage 1	-	-	-	-	-	-	-	-	-			
Stage 2	-	-	-	-	-	-	-	-	-			
Critical Hdwy	-	-	-	5.34	-	-	-	-	-			
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-			
Follow-up Hdwy	-	-	-	3.12	-	-	-	-	-			
Pot Cap-1 Maneuver	0	-	-	*285	-	-	0	0	0			
Stage 1	0	-	-	-	-	-	0	0	0			
Stage 2	0	-	-	-	-	-	0	0	0			
Platoon blocked, %		-	-	1	-	-						
Mov Cap-1 Maneuver	-	-	-	*285	-	-	-	0	-			
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-			
Stage 1	-	-	-	-	-	-	-	0	-			
Stage 2	-	-	-	-	-	-	-	0	-			
Approach	EB			WB			NB					
HCM Control Delay, s	0			0.4			0					
HCM LOS	A											
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR						
Capacity (veh/h)	-	-	-	* 285	-	-						
HCM Lane V/C Ratio	-	-	-	0.175	-	-						
HCM Control Delay (s)	0	-	-	20.3	-	-						
HCM Lane LOS	A	-	-	C	-	-						
HCM 95th %tile Q(veh)	-	-	-	0.6	-	-						
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

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	1818	187	116	2962	5	0	0	115	0	0	0
Future Vol, veh/h	0	1818	187	116	2962	5	0	0	115	0	0	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	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	600	-	475	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1914	197	122	3118	5	0	0	121	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	2111	0	0	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	5.34	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	3.12	-	-	-	-	-
Pot Cap-1 Maneuver	0	-	-	591	-	-	0	0	0
Stage 1	0	-	-	-	-	-	0	0	0
Stage 2	0	-	-	-	-	-	0	0	0
Platoon blocked, %	-	-	-	1	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	591	-	-	-	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-
Stage 1	-	-	-	-	-	-	-	0	-
Stage 2	-	-	-	-	-	-	-	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	-	-	-	591	-	-
HCM Lane V/C Ratio	-	-	-	0.207	-	-
HCM Control Delay (s)	0	-	-	12.7	-	-
HCM Lane LOS	A	-	-	B	-	-
HCM 95th %tile Q(veh)	-	-	-	0.8	-	-

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	0	2839	328	118	2455	8	0	0	170	0	0	0
Future Vol, veh/h	0	2839	328	118	2455	8	0	0	170	0	0	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	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	600	-	475	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2957	342	123	2557	8	0	0	177	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	3299	0	0	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	5.34	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	3.12	-	-	-	-	-
Pot Cap-1 Maneuver	0	-	-	*285	-	-	0	0	0
Stage 1	0	-	-	-	-	-	0	0	0
Stage 2	0	-	-	-	-	-	0	0	0
Platoon blocked, %	-	-	-	1	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	*285	-	-	-	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-
Stage 1	-	-	-	-	-	-	-	0	-
Stage 2	-	-	-	-	-	-	-	0	-



















Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	-	-	-	* 285	-	-
HCM Lane V/C Ratio	-	-	-	0.431	-	-
HCM Control Delay (s)	0	-	-	26.9	-	-
HCM Lane LOS	A	-	-	D	-	-
HCM 95th %tile Q(veh)	-	-	-	2.1	-	-

Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Timings
3: Zlaten Dr & SH-119

2022 Existing AM
09/14/2022

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	1	1118	7	39	1905	14	0	1	0
Future Volume (vph)	1	1118	7	39	1905	14	0	1	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases			4			2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	23.0	23.0	23.0	23.0
Total Split (s)	11.0	82.0	82.0	15.0	86.0	23.0	23.0	23.0	23.0
Total Split (%)	9.2%	68.3%	68.3%	12.5%	71.7%	19.2%	19.2%	19.2%	19.2%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.0
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	5.0	5.0		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max
Act Effect Green (s)	5.0	79.5	79.5	7.8	88.8	18.0	18.0		18.5
Actuated g/C Ratio	0.04	0.66	0.66	0.06	0.74	0.15	0.15		0.15
v/c Ratio	0.01	0.53	0.01	0.38	0.81	0.04	0.19		0.01
Control Delay	60.0	12.7	0.0	62.9	14.2	44.1	1.2		0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	60.0	12.7	0.0	62.9	14.2	44.1	1.2		0.0
LOS	E	B	A	E	B	D	A		A
Approach Delay		12.6			15.2		9.3		
Approach LOS		B			B		A		

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 14.1

Intersection LOS: B

Intersection Capacity Utilization 66.0%

ICU Level of Service C

Analysis Period (min) 15





















Splits and Phases: 3: Zlaten Dr & SH-119



HCM 6th Signalized Intersection Summary

















3: Zlaten Dr & SH-119

2022 Existing AM
09/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1118	7	39	1905	0	14	0	62	1	0	1
Future Volume (veh/h)	1	1118	7	39	1905	0	14	0	62	1	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	1242	8	43	2117	0	16	0	69	1	0	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	2	2390	1066	57	2498	0	556	0	244	129	14	98
Arrive On Green	0.00	0.89	0.89	0.03	0.70	0.00	0.15	0.00	0.15	0.15	0.00	0.15
Sat Flow, veh/h	1781	3554	1585	1781	3647	0	2748	0	1585	543	93	636
Grp Volume(v), veh/h	1	1242	8	43	2117	0	16	0	69	2	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	0	1374	0	1585	1271	0	0
Q Serve(g_s), s	0.1	8.3	0.1	2.9	52.6	0.0	0.0	0.0	4.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	8.3	0.1	2.9	52.6	0.0	0.5	0.0	4.6	4.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.50		0.50
Lane Grp Cap(c), veh/h	2	2390	1066	57	2498	0	556	0	244	241	0	0
V/C Ratio(X)	0.41	0.52	0.01	0.76	0.85	0.00	0.03	0.00	0.28	0.01	0.00	0.00
Avail Cap(c_a), veh/h	74	2390	1066	134	2498	0	556	0	244	241	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.8	2.5	2.1	57.6	13.1	0.0	43.2	0.0	44.9	43.0	0.0	0.0
Incr Delay (d2), s/veh	84.5	0.8	0.0	18.7	3.8	0.0	0.1	0.0	2.9	0.1	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.1	0.0	1.6	19.7	0.0	0.2	0.0	2.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	144.4	3.3	2.1	76.3	16.9	0.0	43.2	0.0	47.8	43.1	0.0	0.0
LnGrp LOS	F	A	A	E	B	A	D	A	D	D	A	A
Approach Vol, veh/h	1251			2160			85			2		
Approach Delay, s/veh	3.4			18.1			46.9			43.1		
Approach LOS	A			B			D			D		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	23.5		9.8	86.7		23.5		6.2	90.3			
Change Period (Y+Rc), s	5.0		6.0	6.0		* 5		6.0	6.0			
Max Green Setting (Gmax), s	18.0		9.0	76.0		* 19		5.0	80.0			
Max Q Clear Time (g_c+I1), s	6.6		4.9	10.3		6.6		2.1	54.6			
Green Ext Time (p_c), s	0.2		0.0	13.7		0.0		0.0	19.8			
Intersection Summary												
HCM 6th Ctrl Delay	13.6											
HCM 6th LOS	B											
Notes												

Timings
3: Zlaten Dr & SH-119

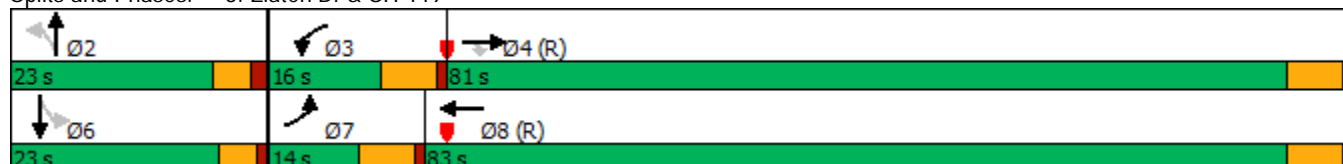
2022 Existing PM
09/14/2022

								
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Configurations								
Traffic Volume (vph)	5	1806	25	95	1497	33	0	0
Future Volume (vph)	5	1806	25	95	1497	33	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	NA
Protected Phases	7	4		3	8		2	6
Permitted Phases			4			2		
Detector Phase	7	4	4	3	8	2	2	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	23.0	23.0	23.0
Total Split (s)	14.0	81.0	81.0	16.0	83.0	23.0	23.0	23.0
Total Split (%)	11.7%	67.5%	67.5%	13.3%	69.2%	19.2%	19.2%	19.2%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.0
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	5.0	5.0	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max
Act Effect Green (s)	6.0	75.5	75.5	9.5	88.4	18.0	18.0	18.5
Actuated g/C Ratio	0.05	0.63	0.63	0.08	0.74	0.15	0.15	0.15
v/c Ratio	0.06	0.83	0.03	0.69	0.59	0.08	0.29	0.01
Control Delay	44.6	23.4	1.5	78.8	9.1	44.6	6.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	23.4	1.5	78.8	9.1	44.6	6.9	0.0
LOS	D	C	A	E	A	D	A	A
Approach Delay		23.1			13.2		16.5	
Approach LOS		C			B		B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 18.4
 Intersection LOS: B
 Intersection Capacity Utilization 77.0%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 3: Zlaten Dr & SH-119























HCM 6th Signalized Intersection Summary

3: Zlaten Dr & SH-119

2022 Existing PM

09/14/2022



















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1806	25	95	1497	1	33	0	98	0	0	3
Future Volume (veh/h)	5	1806	25	95	1497	1	33	0	98	0	0	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	1843	26	97	1528	1	34	0	100	0	0	3
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	11	2261	1009	121	2543	2	538	0	244	0	0	244
Arrive On Green	0.01	0.64	0.64	0.07	0.70	0.70	0.15	0.00	0.15	0.00	0.00	0.15
Sat Flow, veh/h	1781	3554	1585	1781	3644	2	2743	0	1585	0	0	1585
Grp Volume(v), veh/h	5	1843	26	97	745	784	34	0	100	0	0	3
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1870	1371	0	1585	0	0	1585
Q Serve(g_s), s	0.3	47.0	0.7	6.4	26.2	26.2	1.3	0.0	6.8	0.0	0.0	0.2
Cycle Q Clear(g_c), s	0.3	47.0	0.7	6.4	26.2	26.2	1.5	0.0	6.8	0.0	0.0	0.2
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	11	2261	1009	121	1240	1305	538	0	244	0	0	244
V/C Ratio(X)	0.44	0.81	0.03	0.80	0.60	0.60	0.06	0.00	0.41	0.00	0.00	0.01
Avail Cap(c_a), veh/h	119	2261	1009	148	1240	1305	538	0	244	0	0	244
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	59.4	16.5	8.1	55.1	9.4	9.4	43.6	0.0	45.8	0.0	0.0	43.0
Incr Delay (d2), s/veh	24.3	3.4	0.0	22.2	2.2	2.1	0.2	0.0	5.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	18.7	0.3	3.6	10.0	10.5	0.5	0.0	3.0	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.7	19.9	8.1	77.3	11.6	11.5	43.9	0.0	50.8	0.0	0.0	43.1
LnGrp LOS	F	B	A	E	B	B	D	A	D	A	A	D
Approach Vol, veh/h	1874					1626		134		3		
Approach Delay, s/veh	19.9					15.5		49.1		43.1		
Approach LOS	B					B		D		D		
Timer - Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	23.5		14.1		82.4		23.5		6.8		89.7	
Change Period (Y+Rc), s	5.0		6.0		6.0		* 5		6.0		6.0	
Max Green Setting (Gmax), s	18.0		10.0		75.0		* 19		8.0		77.0	
Max Q Clear Time (g_c+I1), s	8.8		8.4		49.0		2.2		2.3		28.2	
Green Ext Time (p_c), s	0.4		0.0		17.5		0.0		0.0		17.0	
Intersection Summary												
HCM 6th Ctrl Delay	19.0											
HCM 6th LOS	B											
Notes												

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings 3: Zlaten Dr & SH-119

2025 Background AM

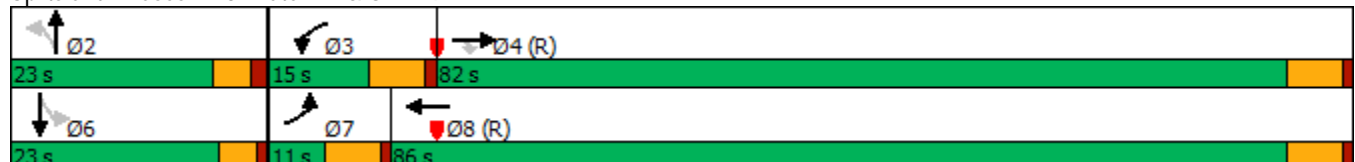
09/14/2022

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	64	1255	7	48	2048	15	14	64	13
Future Volume (vph)	64	1255	7	48	2048	15	14	64	13
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases			4			2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	23.0	23.0	23.0	23.0
Total Split (s)	11.0	82.0	82.0	15.0	86.0	23.0	23.0	23.0	23.0
Total Split (%)	9.2%	68.3%	68.3%	12.5%	71.7%	19.2%	19.2%	19.2%	19.2%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.0
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	5.0	5.0		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max
Act Effect Green (s)	5.0	79.3	79.3	8.0	80.0	18.0	18.0		18.5
Actuated g/C Ratio	0.04	0.66	0.66	0.07	0.67	0.15	0.15		0.15
v/c Ratio	0.97	0.60	0.01	0.45	1.00	0.06	0.34		0.70
Control Delay	133.2	16.2	0.0	65.7	38.4	44.4	15.5		56.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	133.2	16.2	0.0	65.7	38.4	44.4	15.5		56.3
LOS	F	B	A	E	D	D	B		E
Approach Delay		21.7			39.0		19.4		56.3
Approach LOS		C			D		B		E

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 32.9
Intersection Capacity Utilization 82.2%
Analysis Period (min) 15
Intersection LOS: C
ICU Level of Service E

Splits and Phases: 3: Zlaten Dr & SH-119























HCM 6th Signalized Intersection Summary

3: Zlaten Dr & SH-119

2025 Background AM



















09/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	1255	7	48	2048	63	15	14	83	64	13	64
Future Volume (veh/h)	64	1255	7	48	2048	63	15	14	83	64	13	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	1394	8	53	2276	70	17	16	92	71	14	71
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	2869	1280	68	2831	87	396	37	213	106	30	76
Arrive On Green	0.06	1.00	1.00	0.04	0.80	0.80	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1781	3554	1585	1781	3520	108	2547	240	1381	402	192	496
Grp Volume(v), veh/h	71	1394	8	53	1143	1203	17	0	108	156	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1851	1273	0	1622	1090	0	0
Q Serve(g_s), s	4.8	0.0	0.0	3.5	42.4	43.6	0.0	0.0	7.2	10.1	0.0	0.0
Cycle Q Clear(g_c), s	4.8	0.0	0.0	3.5	42.4	43.6	1.0	0.0	7.2	17.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.85	0.46		0.46
Lane Grp Cap(c), veh/h	74	2869	1280	68	1429	1488	396	0	250	212	0	0
V/C Ratio(X)	0.96	0.49	0.01	0.77	0.80	0.81	0.04	0.00	0.43	0.74	0.00	0.00
Avail Cap(c_a), veh/h	74	2869	1280	134	1429	1488	396	0	250	212	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.6	0.0	0.0	57.2	6.4	6.6	43.3	0.0	46.0	51.6	0.0	0.0
Incr Delay (d2), s/veh	89.4	0.6	0.0	16.7	4.8	4.8	0.2	0.0	5.4	20.3	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.2	0.0	1.9	13.5	14.5	0.2	0.0	3.3	5.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	145.9	0.6	0.0	73.9	11.2	11.4	43.6	0.0	51.4	71.9	0.0	0.0
LnGrp LOS	F	A	A	E	B	B	D	A	D	E	A	A
Approach Vol, veh/h		1473			2399			125			156	
Approach Delay, s/veh		7.6			12.7			50.3			71.9	
Approach LOS		A			B			D			E	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.5	10.6	103.4		23.5	11.0	103.0				
Change Period (Y+Rc), s		5.0	6.0	6.0		* 5	6.0	6.0				
Max Green Setting (Gmax), s		18.0	9.0	76.0		* 19	5.0	80.0				
Max Q Clear Time (g_c+I1), s		9.2	5.5	2.0		19.4	6.8	45.6				
Green Ext Time (p_c), s		0.4	0.0	17.1		0.0	0.0	28.3				
Intersection Summary												
HCM 6th Ctrl Delay			14.2									
HCM 6th LOS			B									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
3: Zlaten Dr & SH-119

2025 Background PM

09/14/2022

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	59	1962	27	118	1663	35	11	52	12
Future Volume (vph)	59	1962	27	118	1663	35	11	52	12
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases			4			2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	23.0	23.0	23.0	23.0
Total Split (s)	14.0	81.0	81.0	16.0	83.0	23.0	23.0	23.0	23.0
Total Split (%)	11.7%	67.5%	67.5%	13.3%	69.2%	19.2%	19.2%	19.2%	19.2%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.0
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	5.0	5.0		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max
Act Effect Green (s)	7.6	75.1	75.1	9.9	79.8	18.0	18.0		18.5
Actuated g/C Ratio	0.06	0.63	0.63	0.08	0.66	0.15	0.15		0.15
v/c Ratio	0.54	0.90	0.03	0.82	0.75	0.11	0.38		0.55
Control Delay	47.5	26.2	1.7	93.6	16.7	45.2	13.7		45.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	47.5	26.2	1.7	93.6	16.7	45.2	13.7		45.0
LOS	D	C	A	F	B	D	B		D
Approach Delay		26.5			21.6		20.6		45.0
Approach LOS		C			C		C		D

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 24.6

Intersection LOS: C

Intersection Capacity Utilization 93.3%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 3: Zlaten Dr & SH-119























HCM 6th Signalized Intersection Summary

3: Zlaten Dr & SH-119



















2025 Background PM

09/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	1962	27	118	1663	55	35	11	116	52	12	55
Future Volume (veh/h)	59	1962	27	118	1663	55	35	11	116	52	12	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	2002	28	120	1697	56	36	11	118	53	12	56
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	2494	1112	145	2598	85	407	21	226	94	31	71
Arrive On Green	0.04	0.70	0.70	0.08	0.74	0.74	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1781	3554	1585	1781	3511	115	2586	137	1469	330	203	458
Grp Volume(v), veh/h	60	2002	28	120	856	897	36	0	129	121	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1850	1293	0	1606	991	0	0
Q Serve(g_s), s	4.0	46.2	0.6	8.0	29.0	29.4	0.0	0.0	8.9	6.8	0.0	0.0
Cycle Q Clear(g_c), s	4.0	46.2	0.6	8.0	29.0	29.4	2.2	0.0	8.9	15.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.91	0.44		0.46
Lane Grp Cap(c), veh/h	77	2494	1112	145	1315	1369	407	0	248	196	0	0
V/C Ratio(X)	0.78	0.80	0.03	0.83	0.65	0.66	0.09	0.00	0.52	0.62	0.00	0.00
Avail Cap(c_a), veh/h	119	2494	1112	148	1315	1369	407	0	248	196	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.8	12.2	5.4	54.3	7.8	7.9	43.8	0.0	46.7	50.5	0.0	0.0
Incr Delay (d2), s/veh	15.7	2.8	0.0	29.9	2.5	2.5	0.4	0.0	7.6	13.8	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	17.1	0.2	4.8	10.5	11.0	0.5	0.0	4.1	4.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.6	15.1	5.5	84.2	10.3	10.3	44.3	0.0	54.3	64.3	0.0	0.0
LnGrp LOS	E	B	A	F	B	B	D	A	D	E	A	A
Approach Vol, veh/h	2090			1873			165			121		
Approach Delay, s/veh	16.6			15.1			52.1			64.3		
Approach LOS	B			B			D			E		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	23.5		15.8	90.5		23.5		11.2	95.1			
Change Period (Y+Rc), s	5.0		6.0	6.0		* 5		6.0	6.0			
Max Green Setting (Gmax), s	18.0		10.0	75.0		* 19		8.0	77.0			
Max Q Clear Time (g_c+I1), s	10.9		10.0	48.2		17.6		6.0	31.4			
Green Ext Time (p_c), s	0.4		0.0	19.6		0.0		0.0	21.7			
Intersection Summary												
HCM 6th Ctrl Delay	18.7											
HCM 6th LOS	B											
Notes												

Timings
3: Zlaten Dr & SH-119

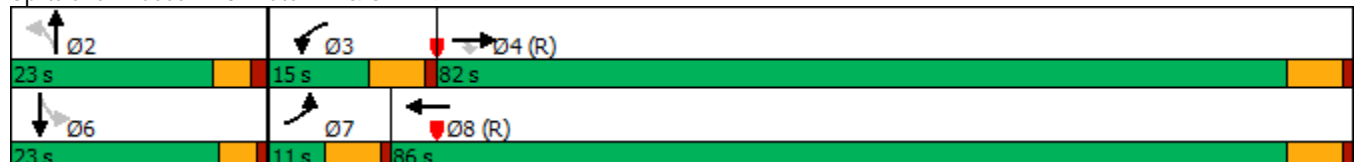
2025 Total AM
09/14/2022

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	64	1293	7	48	2112	15	14	64	13
Future Volume (vph)	64	1293	7	48	2112	15	14	64	13
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases			4			2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	23.0	23.0	23.0	23.0
Total Split (s)	11.0	82.0	82.0	15.0	86.0	23.0	23.0	23.0	23.0
Total Split (%)	9.2%	68.3%	68.3%	12.5%	71.7%	19.2%	19.2%	19.2%	19.2%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.0
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	5.0	5.0		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max
Act Effect Green (s)	5.0	79.3	79.3	8.0	80.0	18.0	18.0		18.5
Actuated g/C Ratio	0.04	0.66	0.66	0.07	0.67	0.15	0.15		0.15
v/c Ratio	0.97	0.61	0.01	0.45	1.03	0.06	0.34		0.70
Control Delay	131.5	17.2	0.0	65.7	46.9	44.4	15.5		56.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	131.5	17.2	0.0	65.7	46.9	44.4	15.5		56.3
LOS	F	B	A	E	D	D	B		E
Approach Delay		22.5			47.3		19.4		56.3
Approach LOS		C			D		B		E

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.03
 Intersection Signal Delay: 38.0
 Intersection LOS: D
 Intersection Capacity Utilization 83.9%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 3: Zlaten Dr & SH-119



























HCM 6th Signalized Intersection Summary

3: Zlaten Dr & SH-119

2025 Total AM

09/14/2022



















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	1293	7	48	2112	63	15	14	83	64	13	64
Future Volume (veh/h)	64	1293	7	48	2112	63	15	14	83	64	13	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	1437	8	53	2347	70	17	16	92	71	14	71
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	2869	1280	68	2834	84	396	37	213	106	30	76
Arrive On Green	0.06	1.00	1.00	0.04	0.80	0.80	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1781	3554	1585	1781	3524	105	2547	240	1381	402	192	496
Grp Volume(v), veh/h	71	1437	8	53	1178	1239	17	0	108	156	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1852	1273	0	1622	1090	0	0
Q Serve(g_s), s	4.8	0.0	0.0	3.5	46.2	47.6	0.0	0.0	7.2	10.1	0.0	0.0
Cycle Q Clear(g_c), s	4.8	0.0	0.0	3.5	46.2	47.6	1.0	0.0	7.2	17.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.85	0.46		0.46
Lane Grp Cap(c), veh/h	74	2869	1280	68	1429	1489	396	0	250	212	0	0
V/C Ratio(X)	0.96	0.50	0.01	0.77	0.82	0.83	0.04	0.00	0.43	0.74	0.00	0.00
Avail Cap(c_a), veh/h	74	2869	1280	134	1429	1489	396	0	250	212	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.6	0.0	0.0	57.2	6.8	7.0	43.3	0.0	46.0	51.6	0.0	0.0
Incr Delay (d2), s/veh	89.4	0.6	0.0	16.7	5.5	5.6	0.2	0.0	5.4	20.3	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.3	0.0	1.9	14.9	15.9	0.2	0.0	3.3	5.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	145.9	0.6	0.0	73.9	12.3	12.6	43.6	0.0	51.4	71.9	0.0	0.0
LnGrp LOS	F	A	A	E	B	B	D	A	D	E	A	A
Approach Vol, veh/h	1516		2470				125		156			
Approach Delay, s/veh	7.4		13.8				50.3		71.9			
Approach LOS	A		B				D		E			
Timer - Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	23.5		10.6		103.4		23.5		11.0		103.0	
Change Period (Y+Rc), s	5.0		6.0		6.0		* 5		6.0		6.0	
Max Green Setting (Gmax), s	18.0		9.0		76.0		* 19		5.0		80.0	
Max Q Clear Time (g_c+I1), s	9.2		5.5		2.0		19.4		6.8		49.6	
Green Ext Time (p_c), s	0.4		0.0		18.2		0.0		0.0		26.2	
Intersection Summary												
HCM 6th Ctrl Delay	14.7											
HCM 6th LOS	B											
Notes												

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
3: Zlaten Dr & SH-119

2025 Total PM

09/14/2022

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	59	2031	27	118	1719	35	11	52	12
Future Volume (vph)	59	2031	27	118	1719	35	11	52	12
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases			4			2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	23.0	23.0	23.0	23.0
Total Split (s)	14.0	81.0	81.0	16.0	83.0	23.0	23.0	23.0	23.0
Total Split (%)	11.7%	67.5%	67.5%	13.3%	69.2%	19.2%	19.2%	19.2%	19.2%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.0
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	5.0	5.0		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max
Act Effect Green (s)	7.6	75.1	75.1	9.9	79.8	18.0	18.0		18.5
Actuated g/C Ratio	0.06	0.63	0.63	0.08	0.66	0.15	0.15		0.15
v/c Ratio	0.54	0.94	0.03	0.82	0.77	0.11	0.38		0.55
Control Delay	48.4	28.3	1.8	93.6	17.5	45.2	14.0		45.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	48.4	28.3	1.8	93.6	17.5	45.2	14.0		45.0
LOS	D	C	A	F	B	D	B		D
Approach Delay		28.5			22.3		20.8		45.0
Approach LOS		C			C		C		D

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 25.9

Intersection LOS: C

Intersection Capacity Utilization 95.2%

ICU Level of Service F

Analysis Period (min) 15





















Splits and Phases: 3: Zlaten Dr & SH-119



HCM 6th Signalized Intersection Summary

3: Zlaten Dr & SH-119

2025 Total PM
09/14/2022

























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	2031	27	118	1719	55	35	11	116	52	12	55
Future Volume (veh/h)	59	2031	27	118	1719	55	35	11	116	52	12	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	2072	28	120	1754	56	36	11	118	53	12	56
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	2494	1112	145	2601	83	407	21	226	94	31	71
Arrive On Green	0.04	0.70	0.70	0.08	0.74	0.74	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1781	3554	1585	1781	3515	112	2586	137	1469	330	203	458
Grp Volume(v), veh/h	60	2072	28	120	883	927	36	0	129	121	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1850	1293	0	1606	991	0	0
Q Serve(g_s), s	4.0	50.0	0.6	8.0	30.8	31.3	0.0	0.0	8.9	6.8	0.0	0.0
Cycle Q Clear(g_c), s	4.0	50.0	0.6	8.0	30.8	31.3	2.2	0.0	8.9	15.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.91	0.44		0.46
Lane Grp Cap(c), veh/h	77	2494	1112	145	1315	1369	407	0	248	196	0	0
V/C Ratio(X)	0.78	0.83	0.03	0.83	0.67	0.68	0.09	0.00	0.52	0.62	0.00	0.00
Avail Cap(c_a), veh/h	119	2494	1112	148	1315	1369	407	0	248	196	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.8	12.8	5.4	54.3	8.1	8.1	43.8	0.0	46.7	50.5	0.0	0.0
Incr Delay (d2), s/veh	15.7	3.4	0.0	29.9	2.7	2.7	0.4	0.0	7.6	13.8	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	18.7	0.2	4.8	11.2	11.8	0.5	0.0	4.1	4.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.6	16.2	5.5	84.2	10.8	10.8	44.3	0.0	54.3	64.3	0.0	0.0
LnGrp LOS	E	B	A	F	B	B	D	A	D	E	A	A
Approach Vol, veh/h	2160			1930			165			121		
Approach Delay, s/veh	17.6			15.4			52.1			64.3		
Approach LOS	B			B			D			E		
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	23.5		15.8	90.5		23.5	11.2	95.1				
Change Period (Y+Rc), s	5.0		6.0	6.0		* 5	6.0	6.0				
Max Green Setting (Gmax), s	18.0		10.0	75.0		* 19	8.0	77.0				
Max Q Clear Time (g_c+I1), s	10.9		10.0	52.0		17.6	6.0	33.3				
Green Ext Time (p_c), s	0.4		0.0	17.9		0.0	0.0	22.5				
Intersection Summary												
HCM 6th Ctrl Delay	19.2											
HCM 6th LOS	B											
Notes												

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
3: Zlaten Dr & SH-119

2045 Background AM

09/14/2022

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		  			  	 			 
Traffic Volume (vph)	64	1832	11	68	3030	22	14	64	13
Future Volume (vph)	64	1832	11	68	3030	22	14	64	13
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases			4			2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	23.0	23.0	23.0	23.0
Total Split (s)	11.0	82.0	82.0	15.0	86.0	23.0	23.0	23.0	23.0
Total Split (%)	9.2%	68.3%	68.3%	12.5%	71.7%	19.2%	19.2%	19.2%	19.2%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.0
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	5.0	5.0		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max
Act Effect Green (s)	5.0	79.0	79.0	8.5	80.0	18.0	18.0		18.5
Actuated g/C Ratio	0.04	0.66	0.66	0.07	0.67	0.15	0.15		0.15
v/c Ratio	0.97	0.61	0.01	0.61	1.02	0.08	0.46		0.81
Control Delay	84.0	16.1	0.0	74.8	40.3	44.8	27.0		70.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	84.0	16.1	0.0	74.8	40.3	44.8	27.0		70.5
LOS	F	B	A	E	D	D	C		E
Approach Delay		18.2			41.0		29.5		70.5
Approach LOS		B			D		C		E

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 33.4

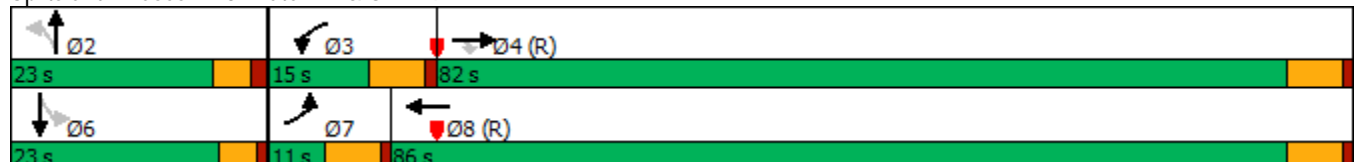
Intersection LOS: C

Intersection Capacity Utilization 88.8%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Zlaten Dr & SH-119





























HCM 6th Signalized Intersection Summary

3: Zlaten Dr & SH-119

2045 Background AM



















09/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 				 	
Traffic Volume (veh/h)	64	1832	11	68	3030	63	22	14	115	64	13	64
Future Volume (veh/h)	64	1832	11	68	3030	63	22	14	115	64	13	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	2036	12	76	3367	70	24	16	128	71	14	71
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	4042	1255	97	4141	86	386	28	221	90	27	61
Arrive On Green	0.06	1.00	1.00	0.05	0.80	0.80	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1781	5106	1585	1781	5149	106	2547	179	1433	300	172	394
Grp Volume(v), veh/h	71	2036	12	76	2218	1219	24	0	144	156	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1851	1273	0	1612	866	0	0
Q Serve(g_s), s	4.8	0.0	0.0	5.1	44.0	45.3	0.0	0.0	10.0	8.5	0.0	0.0
Cycle Q Clear(g_c), s	4.8	0.0	0.0	5.1	44.0	45.3	1.4	0.0	10.0	18.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.89	0.46		0.46
Lane Grp Cap(c), veh/h	74	4042	1255	97	2737	1489	386	0	249	177	0	0
V/C Ratio(X)	0.96	0.50	0.01	0.79	0.81	0.82	0.06	0.00	0.58	0.88	0.00	0.00
Avail Cap(c_a), veh/h	74	4042	1255	134	2737	1489	386	0	249	177	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.6	0.0	0.0	56.0	6.6	6.7	43.5	0.0	47.1	53.7	0.0	0.0
Incr Delay (d2), s/veh	89.4	0.5	0.0	18.5	2.7	5.1	0.3	0.0	9.5	42.0	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.2	0.0	2.8	12.6	15.1	0.3	0.0	4.7	6.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	145.9	0.5	0.0	74.6	9.3	11.9	43.8	0.0	56.6	95.6	0.0	0.0
LnGrp LOS	F	A	A	E	A	B	D	A	E	F	A	A
Approach Vol, veh/h		2119			3513			168			156	
Approach Delay, s/veh		5.3			11.6			54.8			95.6	
Approach LOS		A			B			D			F	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.5	12.5	101.5		23.5	11.0	103.0				
Change Period (Y+Rc), s		5.0	6.0	6.0		* 5	6.0	6.0				
Max Green Setting (Gmax), s		18.0	9.0	76.0		* 19	5.0	80.0				
Max Q Clear Time (g_c+I1), s		12.0	7.1	2.0		20.5	6.8	47.3				
Green Ext Time (p_c), s		0.4	0.0	33.2		0.0	0.0	31.3				
Intersection Summary												
HCM 6th Ctrl Delay			12.8									
HCM 6th LOS			B									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
3: Zlaten Dr & SH-119

2045 Background PM

09/14/2022

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	59	2893	39	167	2435	52	11	52	12
Future Volume (vph)	59	2893	39	167	2435	52	11	52	12
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases			4			2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	23.0	23.0	23.0	23.0
Total Split (s)	14.0	81.0	81.0	16.0	83.0	23.0	23.0	23.0	23.0
Total Split (%)	11.7%	67.5%	67.5%	13.3%	69.2%	19.2%	19.2%	19.2%	19.2%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.0
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	5.0	5.0		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max
Act Effect Green (s)	7.6	75.0	75.0	10.0	79.8	18.0	18.0		18.5
Actuated g/C Ratio	0.06	0.62	0.62	0.08	0.66	0.15	0.15		0.15
v/c Ratio	0.54	0.93	0.04	1.16	0.75	0.16	0.55		0.69
Control Delay	43.8	26.4	3.4	170.7	16.0	46.0	27.0		56.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	43.8	26.4	3.4	170.7	16.0	46.0	27.0		56.8
LOS	D	C	A	F	B	D	C		E
Approach Delay		26.4			25.7		31.3		56.8
Approach LOS		C			C		C		E

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 26.9

Intersection LOS: C

Intersection Capacity Utilization 100.8%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 3: Zlaten Dr & SH-119





























HCM 6th Signalized Intersection Summary

3: Zlaten Dr & SH-119

2045 Background PM
























09/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 				 	
Traffic Volume (veh/h)	59	2893	39	167	2435	55	52	11	167	52	12	55
Future Volume (veh/h)	59	2893	39	167	2435	55	52	11	167	52	12	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	2952	40	170	2485	56	53	11	170	53	12	56
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	3893	1209	148	4123	93	378	15	232	72	26	47
Arrive On Green	0.04	0.76	0.76	0.08	0.80	0.80	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1781	5106	1585	1781	5138	115	2586	97	1503	185	170	306
Grp Volume(v), veh/h	60	2952	40	170	1643	898	53	0	181	121	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1850	1293	0	1600	662	0	0
Q Serve(g_s), s	4.0	39.1	0.7	10.0	22.1	22.4	0.0	0.0	12.9	5.6	0.0	0.0
Cycle Q Clear(g_c), s	4.0	39.1	0.7	10.0	22.1	22.4	3.3	0.0	12.9	18.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.94	0.44		0.46
Lane Grp Cap(c), veh/h	77	3893	1209	148	2732	1484	378	0	247	145	0	0
V/C Ratio(X)	0.78	0.76	0.03	1.15	0.60	0.61	0.14	0.00	0.73	0.83	0.00	0.00
Avail Cap(c_a), veh/h	119	3893	1209	148	2732	1484	378	0	247	145	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.8	8.0	3.5	55.0	4.5	4.6	44.3	0.0	48.4	53.3	0.0	0.0
Incr Delay (d2), s/veh	15.7	1.4	0.1	118.2	1.0	1.8	0.8	0.0	17.5	40.4	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	12.2	0.2	9.4	6.3	7.2	0.7	0.0	6.4	5.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.6	9.5	3.5	173.2	5.5	6.4	45.1	0.0	66.0	93.7	0.0	0.0
LnGrp LOS	E	A	A	F	A	A	D	A	E	F	A	A
Approach Vol, veh/h		3052			2711			234			121	
Approach Delay, s/veh		10.6			16.3			61.2			93.7	
Approach LOS		B			B			E			F	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.5	16.0	98.0		23.5	11.2	102.8				
Change Period (Y+Rc), s		5.0	6.0	6.0		* 5	6.0	6.0				
Max Green Setting (Gmax), s		18.0	10.0	75.0		* 19	8.0	77.0				
Max Q Clear Time (g_c+I1), s		14.9	12.0	41.1		20.5	6.0	24.4				
Green Ext Time (p_c), s		0.3	0.0	30.9		0.0	0.0	37.5				
Intersection Summary												
HCM 6th Ctrl Delay			16.7									
HCM 6th LOS			B									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
3: Zlaten Dr & SH-119

2045 Total AM

09/14/2022

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		  			  	 			
Traffic Volume (vph)	64	1870	11	68	3094	22	14	64	13
Future Volume (vph)	64	1870	11	68	3094	22	14	64	13
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases			4			2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	23.0	23.0	23.0	23.0
Total Split (s)	11.0	82.0	82.0	15.0	86.0	23.0	23.0	23.0	23.0
Total Split (%)	9.2%	68.3%	68.3%	12.5%	71.7%	19.2%	19.2%	19.2%	19.2%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.0
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	5.0	5.0		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max
Act Effect Green (s)	5.0	79.0	79.0	8.5	80.0	18.0	18.0		18.5
Actuated g/C Ratio	0.04	0.66	0.66	0.07	0.67	0.15	0.15		0.15
v/c Ratio	0.97	0.62	0.01	0.61	1.04	0.08	0.47		0.81
Control Delay	106.8	19.8	0.0	74.8	47.1	44.8	27.3		70.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	106.8	19.8	0.0	74.8	47.1	44.8	27.3		70.5
LOS	F	B	A	E	D	D	C		E
Approach Delay		22.5			47.7		29.8		70.5
Approach LOS		C			D		C		E

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 38.8

Intersection LOS: D

Intersection Capacity Utilization 90.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Zlaten Dr & SH-119





























HCM 6th Signalized Intersection Summary

3: Zlaten Dr & SH-119

2045 Total AM
























09/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 				 	
Traffic Volume (veh/h)	64	1870	11	68	3094	63	22	14	115	64	13	64
Future Volume (veh/h)	64	1870	11	68	3094	63	22	14	115	64	13	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	2078	12	76	3438	70	24	16	128	71	14	71
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	4042	1255	97	4143	84	386	28	221	90	27	61
Arrive On Green	0.06	1.00	1.00	0.05	0.80	0.80	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1781	5106	1585	1781	5151	104	2547	179	1433	300	172	394
Grp Volume(v), veh/h	71	2078	12	76	2264	1244	24	0	144	156	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1852	1273	0	1612	866	0	0
Q Serve(g_s), s	4.8	0.0	0.0	5.1	46.7	48.1	0.0	0.0	10.0	8.5	0.0	0.0
Cycle Q Clear(g_c), s	4.8	0.0	0.0	5.1	46.7	48.1	1.4	0.0	10.0	18.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.89	0.46		0.46
Lane Grp Cap(c), veh/h	74	4042	1255	97	2737	1489	386	0	249	177	0	0
V/C Ratio(X)	0.96	0.51	0.01	0.79	0.83	0.84	0.06	0.00	0.58	0.88	0.00	0.00
Avail Cap(c_a), veh/h	74	4042	1255	134	2737	1489	386	0	249	177	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.6	0.0	0.0	56.0	6.9	7.0	43.5	0.0	47.1	53.7	0.0	0.0
Incr Delay (d2), s/veh	89.4	0.5	0.0	18.5	3.0	5.7	0.3	0.0	9.5	42.0	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.2	0.0	2.8	13.4	16.1	0.3	0.0	4.7	6.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	145.9	0.5	0.0	74.6	9.9	12.7	43.8	0.0	56.6	95.6	0.0	0.0
LnGrp LOS	F	A	A	E	A	B	D	A	E	F	A	A
Approach Vol, veh/h	2161			3584				168			156	
Approach Delay, s/veh	5.2			12.2				54.8			95.6	
Approach LOS	A			B				D			F	
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	23.5		12.5	101.5		23.5		11.0	103.0			
Change Period (Y+Rc), s	5.0		6.0	6.0		* 5		6.0	6.0			
Max Green Setting (Gmax), s	18.0		9.0	76.0		* 19		5.0	80.0			
Max Q Clear Time (g_c+I1), s	12.0		7.1	2.0		20.5		6.8	50.1			
Green Ext Time (p_c), s	0.4		0.0	34.6		0.0		0.0	28.9			
Intersection Summary												
HCM 6th Ctrl Delay	13.1											
HCM 6th LOS	B											
Notes												

Timings
3: Zlaten Dr & SH-119

2045 Total PM

09/14/2022

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		  			  	 			
Traffic Volume (vph)	59	2962	39	167	2491	52	11	52	12
Future Volume (vph)	59	2962	39	167	2491	52	11	52	12
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases			4			2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	23.0	23.0	23.0	23.0
Total Split (s)	14.0	81.0	81.0	16.0	83.0	23.0	23.0	23.0	23.0
Total Split (%)	11.7%	67.5%	67.5%	13.3%	69.2%	19.2%	19.2%	19.2%	19.2%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.0
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	5.0	5.0		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	Max	Max
Act Effect Green (s)	7.6	75.0	75.0	10.0	79.8	18.0	18.0		18.5
Actuated g/C Ratio	0.06	0.62	0.62	0.08	0.66	0.15	0.15		0.15
v/c Ratio	0.54	0.95	0.04	1.16	0.77	0.16	0.55		0.69
Control Delay	44.1	27.4	0.8	170.7	16.5	46.0	27.0		56.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	44.1	27.4	0.8	170.7	16.5	46.0	27.0		56.8
LOS	D	C	A	F	B	D	C		E
Approach Delay		27.4			26.0		31.3		56.8
Approach LOS		C			C		C		E

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 27.5

Intersection LOS: C

Intersection Capacity Utilization 102.2%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 3: Zlaten Dr & SH-119





























HCM 6th Signalized Intersection Summary

3: Zlaten Dr & SH-119




2045 Total PM

09/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 				 	
Traffic Volume (veh/h)	59	2962	39	167	2491	55	52	11	167	52	12	55
Future Volume (veh/h)	59	2962	39	167	2491	55	52	11	167	52	12	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	3022	40	170	2542	56	53	11	170	53	12	56
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	3893	1209	148	4126	90	378	15	232	72	26	47
Arrive On Green	0.04	0.76	0.76	0.08	0.80	0.80	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1781	5106	1585	1781	5141	113	2586	97	1503	185	170	306
Grp Volume(v), veh/h	60	3022	40	170	1679	919	53	0	181	121	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1850	1293	0	1600	662	0	0
Q Serve(g_s), s	4.0	41.3	0.7	10.0	23.1	23.4	0.0	0.0	12.9	5.6	0.0	0.0
Cycle Q Clear(g_c), s	4.0	41.3	0.7	10.0	23.1	23.4	3.3	0.0	12.9	18.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.94	0.44		0.46
Lane Grp Cap(c), veh/h	77	3893	1209	148	2732	1485	378	0	247	145	0	0
V/C Ratio(X)	0.78	0.78	0.03	1.15	0.61	0.62	0.14	0.00	0.73	0.83	0.00	0.00
Avail Cap(c_a), veh/h	119	3893	1209	148	2732	1485	378	0	247	145	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.8	8.3	3.5	55.0	4.6	4.7	44.3	0.0	48.4	53.3	0.0	0.0
Incr Delay (d2), s/veh	15.7	1.6	0.1	118.2	1.0	1.9	0.8	0.0	17.5	40.4	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	13.0	0.2	9.4	6.6	7.6	0.7	0.0	6.4	5.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.6	9.9	3.5	173.2	5.7	6.6	45.1	0.0	66.0	93.7	0.0	0.0
LnGrp LOS	E	A	A	F	A	A	D	A	E	F	A	A
Approach Vol, veh/h	3122			2768			234			121		
Approach Delay, s/veh	11.0			16.3			61.2			93.7		
Approach LOS	B			B			E			F		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	23.5		16.0	98.0		23.5		11.2	102.8			
Change Period (Y+Rc), s	5.0		6.0	6.0		* 5		6.0	6.0			
Max Green Setting (Gmax), s	18.0		10.0	75.0		* 19		8.0	77.0			
Max Q Clear Time (g_c+I1), s	14.9		12.0	43.3		20.5		6.0	25.4			
Green Ext Time (p_c), s	0.3		0.0	29.4		0.0		0.0	38.0			
Intersection Summary												
HCM 6th Ctrl Delay	16.8											
HCM 6th LOS	B											
Notes												




HCM 6th TWSC
4: Timm Way & Retail Access




2022 Existing AM
09/14/2022




Intersection						
Int Delay, s/veh	6.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	39	13	3	23	83	7
Future Vol, veh/h	39	13	3	23	83	7
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	16	4	28	102	9
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	231	18	0	0	32	0
Stage 1	18	-	-	-	-	-
Stage 2	213	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	757	1061	-	-	1580	-
Stage 1	1005	-	-	-	-	-
Stage 2	823	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	708	1061	-	-	1580	-
Mov Cap-2 Maneuver	708	-	-	-	-	-
Stage 1	1005	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	10.1	0		6.9		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	772	1580	-	
HCM Lane V/C Ratio	-	-	0.083	0.065	-	
HCM Control Delay (s)	-	-	10.1	7.4	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-	

HCM 6th TWSC
4: Timm Way & Retail Access

2022 Existing PM
09/14/2022

Intersection						
Int Delay, s/veh	8.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	117	37	13	57	136	8
Future Vol, veh/h	117	37	13	57	136	8
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	134	43	15	66	156	9
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	369	48	0	0	81	0
Stage 1	48	-	-	-	-	-
Stage 2	321	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	631	1021	-	-	1517	-
Stage 1	974	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	566	1021	-	-	1517	-
Mov Cap-2 Maneuver	566	-	-	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	12.9	0		7.2		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-		634	1517	-
HCM Lane V/C Ratio	-	-		0.279	0.103	-
HCM Control Delay (s)	-	-		12.9	7.6	0
HCM Lane LOS	-	-		B	A	A
HCM 95th %tile Q(veh)	-	-		1.1	0.3	-

Intersection						
Int Delay, s/veh	5.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	39	13	32	23	83	23
Future Vol, veh/h	39	13	32	23	83	23
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	16	40	28	102	28
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	286	54	0	0	68	0
Stage 1	54	-	-	-	-	-
Stage 2	232	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	704	1013	-	-	1533	-
Stage 1	969	-	-	-	-	-
Stage 2	807	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	656	1013	-	-	1533	-
Mov Cap-2 Maneuver	656	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	752	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	10.5	0		5.9		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	- 719		1533	-	
HCM Lane V/C Ratio	-	- 0.089		0.067	-	
HCM Control Delay (s)	-	- 10.5		7.5	0	
HCM Lane LOS	-	- B		A	A	
HCM 95th %tile Q(veh)	-	- 0.3		0.2	-	

Intersection						
Int Delay, s/veh	7.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	117	37	34	57	136	60
Future Vol, veh/h	117	37	34	57	136	60
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	134	43	39	66	156	69
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	453	72	0	0	105	0
Stage 1	72	-	-	-	-	-
Stage 2	381	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	565	990	-	-	1486	-
Stage 1	951	-	-	-	-	-
Stage 2	691	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	503	990	-	-	1486	-
Mov Cap-2 Maneuver	503	-	-	-	-	-
Stage 1	951	-	-	-	-	-
Stage 2	616	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	14.1	0		5.3		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-		570	1486	
HCM Lane V/C Ratio	-	-		0.311	0.105	
HCM Control Delay (s)	-	-		14.1	7.7	
HCM Lane LOS	-	-		B	A	
HCM 95th %tile Q(veh)	-	-		1.3	0.4	

HCM 6th TWSC
4: Timm Way & South Access/Retail Access

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Intersection												
Int Delay, s/veh	4.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	0	28	39	0	13	10	38	23	83	38	75
Future Vol, veh/h	19	0	28	39	0	13	10	38	23	83	38	75
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	81	92	81	92	81	81	81	81	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	0	30	48	0	16	11	47	28	102	47	82

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	383	389	88	390	416	61	129	0	0	75	0	0
Stage 1	292	292	-	83	83	-	-	-	-	-	-	-
Stage 2	91	97	-	307	333	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	575	546	970	569	527	1004	1457	-	-	1524	-	-
Stage 1	716	671	-	925	826	-	-	-	-	-	-	-
Stage 2	916	815	-	703	644	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	531	502	970	517	485	1004	1457	-	-	1524	-	-
Mov Cap-2 Maneuver	531	502	-	517	485	-	-	-	-	-	-	-
Stage 1	710	622	-	918	819	-	-	-	-	-	-	-
Stage 2	894	808	-	631	597	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.3		11.9		0.9		3.3	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1457	-	-	727 588	1524	-	-
HCM Lane V/C Ratio	0.007	-	-	0.07 0.109	0.067	-	-
HCM Control Delay (s)	7.5	0	-	10.3 11.9	7.5	0	-
HCM Lane LOS	A	A	-	B B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2 0.4	0.2	-	-

HCM 6th TWSC
4: Timm Way & South Access/Retail Access




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Intersection												
Int Delay, s/veh	8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	26	0	47	117	0	37	8	40	57	136	81	62
Future Vol, veh/h	26	0	47	117	0	37	8	40	57	136	81	62
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	0	54	134	0	43	9	46	66	156	93	71
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	560	571	129	565	573	79	164	0	0	112	0	0
Stage 1	441	441	-	97	97	-	-	-	-	-	-	-
Stage 2	119	130	-	468	476	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	439	431	921	436	430	981	1414	-	-	1478	-	-
Stage 1	595	577	-	910	815	-	-	-	-	-	-	-
Stage 2	885	789	-	575	557	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	380	378	921	371	377	981	1414	-	-	1478	-	-
Mov Cap-2 Maneuver	380	378	-	371	377	-	-	-	-	-	-	-
Stage 1	591	509	-	904	809	-	-	-	-	-	-	-
Stage 2	841	783	-	478	492	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.8		18.8		0.6		3.8					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1414	-	-	611	436	1478	-	-				
HCM Lane V/C Ratio	0.007	-	-	0.137	0.406	0.106	-	-				
HCM Control Delay (s)	7.6	0	-	11.8	18.8	7.7	0	-				
HCM Lane LOS	A	A	-	B	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.5	1.9	0.4	-	-				

HCM 6th TWSC
4: Timm Way & Retail Access

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Intersection						
Int Delay, s/veh	5.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	39	13	34	23	83	27
Future Vol, veh/h	39	13	34	23	83	27
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	-	-	-	-	-
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	42	14	37	25	90	29
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	259	50	0	0	62	0
Stage 1	50	-	-	-	-	-
Stage 2	209	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	730	1018	-	-	1541	-
Stage 1	972	-	-	-	-	-
Stage 2	826	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	687	1018	-	-	1541	-
Mov Cap-2 Maneuver	687	-	-	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	777	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	10.2	0		5.6		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	- 748		1541	-	
HCM Lane V/C Ratio	-	- 0.076		0.059	-	
HCM Control Delay (s)	-	- 10.2		7.5	0	
HCM Lane LOS	-	- B		A	A	
HCM 95th %tile Q(veh)	-	- 0.2		0.2	-	

Intersection						
Int Delay, s/veh	7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	117	37	40	57	136	65
Future Vol, veh/h	117	37	40	57	136	65
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	-	-	-	-	-
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	127	40	43	62	148	71
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	441	74	0	0	105	0
Stage 1	74	-	-	-	-	-
Stage 2	367	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	574	988	-	-	1486	-
Stage 1	949	-	-	-	-	-
Stage 2	701	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	514	988	-	-	1486	-
Mov Cap-2 Maneuver	514	-	-	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	13.7	0	5.2			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	581	1486	-	
HCM Lane V/C Ratio	-	-	0.288	0.099	-	
HCM Control Delay (s)	-	-	13.7	7.7	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	1.2	0.3	-	

HCM 6th TWSC
4: Timm Way & South Access/Retail Access

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Intersection												
Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	0	28	39	0	13	10	40	23	83	42	75
Future Vol, veh/h	19	0	28	39	0	13	10	40	23	83	42	75
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	-	-	-	-	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	0	30	42	0	14	11	43	25	90	46	82
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	352	357	87	360	386	56	128	0	0	68	0	0
Stage 1	267	267	-	78	78	-	-	-	-	-	-	-
Stage 2	85	90	-	282	308	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	603	569	971	596	548	1011	1458	-	-	1533	-	-
Stage 1	738	688	-	931	830	-	-	-	-	-	-	-
Stage 2	923	820	-	725	660	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	562	529	971	546	509	1011	1458	-	-	1533	-	-
Mov Cap-2 Maneuver	562	529	-	546	509	-	-	-	-	-	-	-
Stage 1	732	644	-	924	823	-	-	-	-	-	-	-
Stage 2	903	813	-	657	618	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.2		11.4		1		3.1					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1458	-	-	750	617	1533	-	-				
HCM Lane V/C Ratio	0.007	-	-	0.068	0.092	0.059	-	-				
HCM Control Delay (s)	7.5	0	-	10.2	11.4	7.5	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0.2	-	-				

HCM 6th TWSC
4: Timm Way & South Access/Retail Access









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Intersection												
Int Delay, s/veh	7.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	26	0	47	117	0	37	8	46	57	136	86	62
Future Vol, veh/h	26	0	47	117	0	37	8	46	57	136	86	62
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	-	-	-	-	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	0	51	127	0	40	9	50	62	148	93	67

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	542	553	127	547	555	81	160	0	0	112	0	0
Stage 1	423	423	-	99	99	-	-	-	-	-	-	-
Stage 2	119	130	-	448	456	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	451	441	923	448	440	979	1419	-	-	1478	-	-
Stage 1	609	588	-	907	813	-	-	-	-	-	-	-
Stage 2	885	789	-	590	568	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	394	389	923	385	389	979	1419	-	-	1478	-	-
Mov Cap-2 Maneuver	394	389	-	385	389	-	-	-	-	-	-	-
Stage 1	605	523	-	901	807	-	-	-	-	-	-	-
Stage 2	843	783	-	495	505	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.6		17.6		0.5		3.7	
HCM LOS	B		C					









Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1419	-	-	624	451	1478	-
HCM Lane V/C Ratio	0.006	-	-	0.127	0.371	0.1	-
HCM Control Delay (s)	7.6	0	-	11.6	17.6	7.7	0
HCM Lane LOS	A	A	-	B	C	A	A
HCM 95th %tile Q(veh)	0	-	-	0.4	1.7	0.3	-

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	1	14	40	3	125	6	438	15	38	350	10
Future Vol, veh/h	19	1	14	40	3	125	6	438	15	38	350	10
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	-	-	0	150	-	0	225	-	225	350	-	0
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	1	15	43	3	134	6	471	16	41	376	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	707	957	376	963	960	244	387	0	0	487	0	0
Stage 1	458	458	-	491	491	-	-	-	-	-	-	-
Stage 2	249	499	-	472	469	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	336	257	670	222	256	757	1170	-	-	1074	-	-
Stage 1	582	566	-	529	547	-	-	-	-	-	-	-
Stage 2	734	543	-	572	560	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	265	246	670	209	245	757	1170	-	-	1074	-	-
Mov Cap-2 Maneuver	380	349	-	337	358	-	-	-	-	-	-	-
Stage 1	579	544	-	526	544	-	-	-	-	-	-	-
Stage 2	597	540	-	537	539	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.5		12.4		0.1		0.8	
HCM LOS	B		B					









Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1170	-	-	670	337	757	1074
HCM Lane V/C Ratio	0.006	-	-	0.022	0.128	0.178	0.038
HCM Control Delay (s)	8.1	-	-	10.5	17.2	10.8	8.5
HCM Lane LOS	A	-	-	B	C	B	A
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.6	0.1

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	8	15	48	7	146	21	577	53	116	419	19
Future Vol, veh/h	5	8	15	48	7	146	21	577	53	116	419	19
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	-	-	0	150	-	0	225	-	225	350	-	0
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	8	15	49	7	151	22	595	55	120	432	20

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1017	1366	432	1361	1359	325	452	0	0	650	0	0
Stage 1	672	672	-	667	667	-	-	-	-	-	-	-
Stage 2	345	694	-	694	692	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	204	147	623	116	148	671	1107	-	-	934	-	-
Stage 1	444	454	-	415	456	-	-	-	-	-	-	-
Stage 2	645	443	-	432	444	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	137	126	623	98	127	671	1107	-	-	934	-	-
Mov Cap-2 Maneuver	242	216	-	213	241	-	-	-	-	-	-	-
Stage 1	435	396	-	407	447	-	-	-	-	-	-	-
Stage 2	482	434	-	360	387	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.9		15.6		0.3		2	
HCM LOS	B		C					









Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1107	-	-	623	213	671	934
HCM Lane V/C Ratio	0.02	-	-	0.025	0.232	0.224	0.128
HCM Control Delay (s)	8.3	-	-	10.9	26.9	11.9	9.4
HCM Lane LOS	A	-	-	B	D	B	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.9	0.9	0.4

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	4	15	59	11	218	6	470	27	65	391	11
Future Vol, veh/h	20	4	15	59	11	218	6	470	27	65	391	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	-	-	0	150	-	0	225	-	225	350	-	0
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	4	16	63	12	234	6	505	29	70	420	12

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	831	1106	420	1108	1104	267	432	0	0	534	0	0
Stage 1	560	560	-	532	532	-	-	-	-	-	-	-
Stage 2	271	546	-	576	572	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	275	210	632	175	210	732	1126	-	-	1032	-	-
Stage 1	512	510	-	500	525	-	-	-	-	-	-	-
Stage 2	712	517	-	502	503	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	172	195	632	159	195	732	1126	-	-	1032	-	-
Mov Cap-2 Maneuver	281	298	-	287	312	-	-	-	-	-	-	-
Stage 1	509	475	-	498	522	-	-	-	-	-	-	-
Stage 2	471	514	-	452	469	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.8		14.1		0.1		1.2	
HCM LOS	B		B					



















Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1126	-	-	632	287	732	1032
HCM Lane V/C Ratio	0.006	-	-	0.026	0.221	0.32	0.068
HCM Control Delay (s)	8.2	-	-	10.8	21.1	12.2	8.7
HCM Lane LOS	A	-	-	B	C	B	A
HCM 95th %tile Q(veh)	0	-	-	0.1	0.8	1.4	0.2

Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	16	16	63	12	205	22	632	72	185	460	20
Future Vol, veh/h	5	16	16	63	12	205	22	632	72	185	460	20
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	-	-	0	150	-	0	225	-	225	350	-	0
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	16	16	65	12	211	23	652	74	191	474	21
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1234	1628	474	1618	1612	363	495	0	0	726	0	0
Stage 1	856	856	-	735	735	-	-	-	-	-	-	-
Stage 2	378	772	-	883	877	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	143	101	590	76	104	635	1067	-	-	875	-	-
Stage 1	352	373	-	378	425	-	-	-	-	-	-	-
Stage 2	616	408	-	340	365	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	74	77	590	~ 55	80	635	1067	-	-	875	-	-
Mov Cap-2 Maneuver	146	145	-	149	181	-	-	-	-	-	-	-
Stage 1	344	292	-	370	416	-	-	-	-	-	-	-
Stage 2	390	399	-	244	285	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.3		21.3		0.3		2.9					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	1067	-	-	590	149	635	875	-	-			
HCM Lane V/C Ratio	0.021	-	-	0.028	0.436	0.333	0.218	-	-			
HCM Control Delay (s)	8.4	-	-	11.3	46.6	13.5	10.3	-	-			
HCM Lane LOS	A	-	-	B	E	B	B	-	-			
HCM 95th %tile Q(veh)	0.1	-	-	0.1	2	1.5	0.8	-	-			
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

Timings
5: County Line Rd & Zlaten Dr

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09/14/2022









									
Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	4	59	11	218	6	470	65	391	11
Future Volume (vph)	4	59	11	218	6	470	65	391	11
Turn Type	NA	Split	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	4	8	8		5	2	1	6	
Permitted Phases				8	2		6		6
Detector Phase	4	8	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	24.0	29.0	29.0	29.0	10.0	55.0	12.0	57.0	57.0
Total Split (%)	20.0%	24.2%	24.2%	24.2%	8.3%	45.8%	10.0%	47.5%	47.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effect Green (s)	7.5	10.1	10.1	10.1	86.1	81.5	90.5	88.8	88.8
Actuated g/C Ratio	0.06	0.08	0.08	0.08	0.72	0.68	0.75	0.74	0.74
v/c Ratio	0.34	0.42	0.08	0.67	0.01	0.22	0.11	0.30	0.01
Control Delay	44.6	59.6	49.3	16.5	5.8	9.2	1.5	4.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	59.6	49.3	16.5	5.8	9.2	1.5	4.0	0.0
LOS	D	E	D	B	A	A	A	A	A
Approach Delay	44.6		26.5			9.2		3.6	
Approach LOS	D		C			A		A	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 12.1
 Intersection Capacity Utilization 44.9%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service A

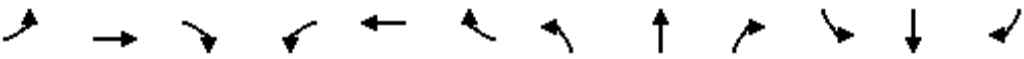
Splits and Phases: 5: County Line Rd & Zlaten Dr

				
Ø1	Ø2 (R)		Ø4	Ø8
12 s	55 s		24 s	29 s
				
Ø5	Ø6 (R)			
10 s	57 s			

HCM 6th Signalized Intersection Summary 5: County Line Rd & Zlaten Dr

2025 Background AM - Improved

09/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↑	↔	↔	↕		↔	↑	↔
Traffic Volume (veh/h)	20	4	15	59	11	218	6	470	27	65	391	11
Future Volume (veh/h)	20	4	15	59	11	218	6	470	27	65	391	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	4	16	63	12	234	6	505	29	70	420	12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	5	21	294	309	262	593	2103	121	605	1207	1023
Arrive On Green	0.03	0.03	0.03	0.17	0.17	0.17	0.01	0.62	0.62	0.04	0.65	0.65
Sat Flow, veh/h	895	163	651	1781	1870	1585	1781	3416	196	1781	1870	1585
Grp Volume(v), veh/h	42	0	0	63	12	234	6	262	272	70	420	12
Grp Sat Flow(s),veh/h/ln	1708	0	0	1781	1870	1585	1781	1777	1835	1781	1870	1585
Q Serve(g_s), s	2.9	0.0	0.0	3.7	0.6	17.3	0.2	8.0	8.0	1.7	12.3	0.3
Cycle Q Clear(g_c), s	2.9	0.0	0.0	3.7	0.6	17.3	0.2	8.0	8.0	1.7	12.3	0.3
Prop In Lane	0.52		0.38	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	54	0	0	294	309	262	593	1094	1129	605	1207	1023
V/C Ratio(X)	0.78	0.00	0.00	0.21	0.04	0.89	0.01	0.24	0.24	0.12	0.35	0.01
Avail Cap(c_a), veh/h	278	0	0	364	382	324	661	1094	1129	649	1207	1023
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	57.7	0.0	0.0	43.3	42.1	49.0	8.9	10.4	10.4	7.5	9.7	7.6
Incr Delay (d2), s/veh	20.8	0.0	0.0	0.4	0.1	22.2	0.0	0.5	0.5	0.1	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	1.7	0.3	8.5	0.1	3.2	3.3	0.6	5.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.5	0.0	0.0	43.7	42.1	71.3	8.9	10.9	10.9	7.6	10.5	7.6
LnGrp LOS	E	A	A	D	D	E	A	B	B	A	B	A
Approach Vol, veh/h	42			309			540			502		
Approach Delay, s/veh	78.5			64.5			10.9			10.0		
Approach LOS	E			E			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	78.4		8.3	5.4	82.0		24.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	50.5		19.5	5.5	52.5		24.5				
Max Q Clear Time (g_c+I1), s	3.7	10.0		4.9	2.2	14.3		19.3				
Green Ext Time (p_c), s	0.0	3.6		0.1	0.0	2.9		0.5				
Intersection Summary												
HCM 6th Ctrl Delay	24.5											
HCM 6th LOS	C											

Timings 5: County Line Rd & Zlaten Dr

2025 Background PM - Improved

09/14/2022

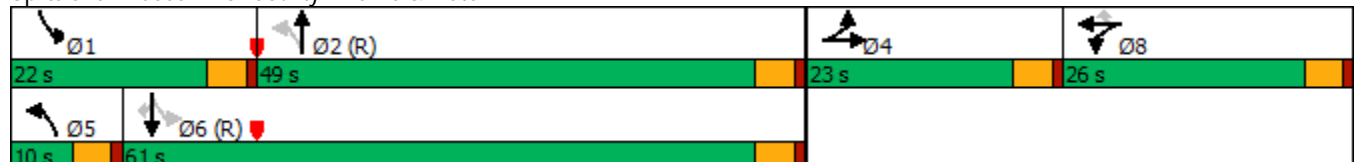
	→	↖	←	↗	↖	↑	↘	↓	↗
Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↕	↖	↑	↗	↖	↕	↖	↑	↗
Traffic Volume (vph)	16	63	12	205	22	632	185	460	20
Future Volume (vph)	16	63	12	205	22	632	185	460	20
Turn Type	NA	Split	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	4	8	8		5	2	1	6	
Permitted Phases				8	2		6		6
Detector Phase	4	8	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	23.0	26.0	26.0	26.0	10.0	49.0	22.0	61.0	61.0
Total Split (%)	19.2%	21.7%	21.7%	21.7%	8.3%	40.8%	18.3%	50.8%	50.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effect Green (s)	7.2	10.1	10.1	10.1	85.6	79.6	93.0	86.8	86.8
Actuated g/C Ratio	0.06	0.08	0.08	0.08	0.71	0.66	0.78	0.72	0.72
v/c Ratio	0.31	0.44	0.08	0.65	0.03	0.31	0.34	0.35	0.02
Control Delay	42.0	60.4	49.4	16.4	5.5	10.6	6.7	5.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	60.4	49.4	16.4	5.5	10.6	6.7	5.3	0.1
LOS	D	E	D	B	A	B	A	A	A
Approach Delay	42.0		27.7			10.4		5.5	
Approach LOS	D		C			B		A	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 12.0
 Intersection Capacity Utilization 51.4%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 5: County Line Rd & Zlaten Dr
























HCM 6th Signalized Intersection Summary

5: County Line Rd & Zlaten Dr

2025 Background PM - Improved

09/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	16	16	63	12	205	22	632	72	185	460	20
Future Volume (veh/h)	5	16	16	63	12	205	22	632	72	185	460	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	16	16	65	12	211	23	652	74	191	474	21
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	7	22	22	267	281	238	577	1971	223	537	1212	1027
Arrive On Green	0.03	0.03	0.03	0.15	0.15	0.15	0.02	0.61	0.61	0.06	0.65	0.65
Sat Flow, veh/h	233	746	746	1781	1870	1585	1781	3217	365	1781	1870	1585
Grp Volume(v), veh/h	37	0	0	65	12	211	23	360	366	191	474	21
Grp Sat Flow(s),veh/h/ln	1724	0	0	1781	1870	1585	1781	1777	1805	1781	1870	1585
Q Serve(g_s), s	2.6	0.0	0.0	3.9	0.7	15.7	0.6	11.8	11.8	4.5	14.3	0.6
Cycle Q Clear(g_c), s	2.6	0.0	0.0	3.9	0.7	15.7	0.6	11.8	11.8	4.5	14.3	0.6
Prop In Lane	0.14		0.43	1.00		1.00	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	51	0	0	267	281	238	577	1089	1106	537	1212	1027
V/C Ratio(X)	0.73	0.00	0.00	0.24	0.04	0.89	0.04	0.33	0.33	0.36	0.39	0.02
Avail Cap(c_a), veh/h	266	0	0	319	335	284	619	1089	1106	694	1212	1027
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	57.7	0.0	0.0	45.0	43.6	50.0	8.5	11.3	11.3	7.7	10.0	7.5
Incr Delay (d2), s/veh	17.7	0.0	0.0	0.5	0.1	24.1	0.0	0.8	0.8	0.4	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	1.7	0.3	7.8	0.2	4.8	4.8	1.7	5.9	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.5	0.0	0.0	45.4	43.7	74.0	8.6	12.1	12.1	8.1	10.9	7.6
LnGrp LOS	E	A	A	D	D	E	A	B	B	A	B	A
Approach Vol, veh/h		37			288			749			686	
Approach Delay, s/veh		75.5			66.3			12.0			10.0	
Approach LOS		E			E			B			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.4	78.0		8.0	7.2	82.3		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	17.5	44.5		18.5	5.5	56.5		21.5				
Max Q Clear Time (g_c+I1), s	6.5	13.8		4.6	2.6	16.3		17.7				
Green Ext Time (p_c), s	0.4	5.1		0.1	0.0	3.5		0.4				
Intersection Summary												
HCM 6th Ctrl Delay				21.4								
HCM 6th LOS				C								

Timings 5: County Line Rd & Zlaten Dr

2025 Total AM

09/14/2022

	→	↖	←	↗	↖	↑	↘	↓	↗
Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↕	↖	↑	↗	↖	↕	↖	↑	↗
Traffic Volume (vph)	4	102	11	218	6	502	65	376	11
Future Volume (vph)	4	102	11	218	6	502	65	376	11
Turn Type	NA	Split	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	4	8	8		5	2	1	6	
Permitted Phases				8	2		6		6
Detector Phase	4	8	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	24.0	29.0	29.0	29.0	10.0	55.0	12.0	57.0	57.0
Total Split (%)	20.0%	24.2%	24.2%	24.2%	8.3%	45.8%	10.0%	47.5%	47.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effect Green (s)	7.5	13.0	13.0	13.0	83.1	78.6	87.7	85.9	85.9
Actuated g/C Ratio	0.06	0.11	0.11	0.11	0.69	0.66	0.73	0.72	0.72
v/c Ratio	0.34	0.58	0.06	0.62	0.01	0.26	0.12	0.30	0.01
Control Delay	44.6	62.1	46.0	13.4	6.8	10.7	2.2	3.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	62.1	46.0	13.4	6.8	10.7	2.2	3.2	0.0
LOS	D	E	D	B	A	B	A	A	A
Approach Delay	44.6		29.5			10.7		3.0	
Approach LOS	D		C			B		A	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 13.7
Intersection Capacity Utilization 45.0%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service A

Splits and Phases: 5: County Line Rd & Zlaten Dr






















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HCM 6th Signalized Intersection Summary

5: County Line Rd & Zlaten Dr

2025 Total AM

09/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	4	15	102	11	218	6	502	43	65	376	11
Future Volume (veh/h)	20	4	15	102	11	218	6	502	43	65	376	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	4	16	110	12	234	6	540	46	70	404	12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	5	21	296	310	263	604	2038	173	575	1206	1022
Arrive On Green	0.03	0.03	0.03	0.17	0.17	0.17	0.01	0.61	0.61	0.04	0.64	0.64
Sat Flow, veh/h	895	163	651	1781	1870	1585	1781	3315	282	1781	1870	1585
Grp Volume(v), veh/h	42	0	0	110	12	234	6	289	297	70	404	12
Grp Sat Flow(s),veh/h/ln	1708	0	0	1781	1870	1585	1781	1777	1820	1781	1870	1585
Q Serve(g_s), s	2.9	0.0	0.0	6.6	0.6	17.3	0.2	9.0	9.0	1.7	11.7	0.3
Cycle Q Clear(g_c), s	2.9	0.0	0.0	6.6	0.6	17.3	0.2	9.0	9.0	1.7	11.7	0.3
Prop In Lane	0.52		0.38	1.00		1.00	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	54	0	0	296	310	263	604	1093	1119	575	1206	1022
V/C Ratio(X)	0.78	0.00	0.00	0.37	0.04	0.89	0.01	0.26	0.27	0.12	0.33	0.01
Avail Cap(c_a), veh/h	278	0	0	364	382	324	673	1093	1119	619	1206	1022
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.7	0.0	0.0	44.5	42.0	49.0	8.9	10.6	10.6	7.6	9.6	7.6
Incr Delay (d2), s/veh	20.8	0.0	0.0	0.8	0.1	21.7	0.0	0.6	0.6	0.1	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	3.0	0.3	8.4	0.1	3.6	3.7	0.6	4.9	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.5	0.0	0.0	45.3	42.1	70.7	8.9	11.2	11.2	7.7	10.4	7.6
LnGrp LOS	E	A	A	D	D	E	A	B	B	A	B	A
Approach Vol, veh/h	42				356				592			
Approach Delay, s/veh	78.5				61.9				11.2			
Approach LOS	E				E				B			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	78.3		8.3	5.4	81.9		24.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	50.5		19.5	5.5	52.5		24.5				
Max Q Clear Time (g_c+I1), s	3.7	11.0		4.9	2.2	13.7		19.3				
Green Ext Time (p_c), s	0.0	4.0		0.1	0.0	2.8		0.6				
Intersection Summary												
HCM 6th Ctrl Delay	24.9											
HCM 6th LOS	C											

Timings 5: County Line Rd & Zlaten Dr

2025 Total PM

09/14/2022

	→	↖	←	↗	↖	↑	↘	↓	↗
Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↕	↖	↑	↗	↖	↕	↖	↑	↗
Traffic Volume (vph)	16	131	12	205	22	660	185	442	20
Future Volume (vph)	16	131	12	205	22	660	185	442	20
Turn Type	NA	Split	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	4	8	8		5	2	1	6	
Permitted Phases				8	2		6		6
Detector Phase	4	8	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	23.0	26.0	26.0	26.0	10.0	49.0	22.0	61.0	61.0
Total Split (%)	19.2%	21.7%	21.7%	21.7%	8.3%	40.8%	18.3%	50.8%	50.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effect Green (s)	7.2	14.6	14.6	14.6	80.6	74.5	88.6	82.3	82.3
Actuated g/C Ratio	0.06	0.12	0.12	0.12	0.67	0.62	0.74	0.69	0.69
v/c Ratio	0.31	0.63	0.05	0.56	0.04	0.36	0.38	0.36	0.02
Control Delay	42.0	62.5	44.2	12.0	7.2	13.6	7.5	6.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	62.5	44.2	12.0	7.2	13.6	7.5	6.7	0.1
LOS	D	E	D	B	A	B	A	A	A
Approach Delay	42.0		32.1			13.4		6.7	
Approach LOS	D		C			B		A	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 15.2
Intersection Capacity Utilization 56.4%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service B

Splits and Phases: 5: County Line Rd & Zlaten Dr






















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HCM 6th Signalized Intersection Summary

5: County Line Rd & Zlaten Dr

2025 Total PM

09/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	16	16	131	12	205	22	660	86	185	442	20
Future Volume (veh/h)	5	16	16	131	12	205	22	660	86	185	442	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	16	16	135	12	211	23	680	89	191	456	21
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	7	22	22	269	282	239	589	1934	253	516	1211	1026
Arrive On Green	0.03	0.03	0.03	0.15	0.15	0.15	0.02	0.61	0.61	0.06	0.65	0.65
Sat Flow, veh/h	233	746	746	1781	1870	1585	1781	3160	413	1781	1870	1585
Grp Volume(v), veh/h	37	0	0	135	12	211	23	382	387	191	456	21
Grp Sat Flow(s),veh/h/ln	1724	0	0	1781	1870	1585	1781	1777	1796	1781	1870	1585
Q Serve(g_s), s	2.6	0.0	0.0	8.4	0.7	15.6	0.6	12.8	12.8	4.6	13.6	0.6
Cycle Q Clear(g_c), s	2.6	0.0	0.0	8.4	0.7	15.6	0.6	12.8	12.8	4.6	13.6	0.6
Prop In Lane	0.14		0.43	1.00		1.00	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	51	0	0	269	282	239	589	1087	1099	516	1211	1026
V/C Ratio(X)	0.73	0.00	0.00	0.50	0.04	0.88	0.04	0.35	0.35	0.37	0.38	0.02
Avail Cap(c_a), veh/h	266	0	0	319	335	284	631	1087	1099	673	1211	1026
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.7	0.0	0.0	46.8	43.5	49.9	8.5	11.5	11.5	7.9	9.9	7.6
Incr Delay (d2), s/veh	17.7	0.0	0.0	1.5	0.1	23.4	0.0	0.9	0.9	0.4	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	3.8	0.3	7.7	0.2	5.2	5.2	1.7	5.7	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.5	0.0	0.0	48.3	43.6	73.3	8.5	12.4	12.4	8.4	10.8	7.6
LnGrp LOS	E	A	A	D	D	E	A	B	B	A	B	A
Approach Vol, veh/h		37			358			792			668	
Approach Delay, s/veh		75.5			62.9			12.3			10.0	
Approach LOS		E			E			B			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.4	77.9		8.0	7.2	82.2		22.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	17.5	44.5		18.5	5.5	56.5		21.5				
Max Q Clear Time (g_c+I1), s	6.6	14.8		4.6	2.6	15.6		17.6				
Green Ext Time (p_c), s	0.4	5.4		0.1	0.0	3.3		0.5				
Intersection Summary												
HCM 6th Ctrl Delay				22.5								
HCM 6th LOS				C								

Timings
5: County Line Rd & Zlaten Dr

2045 Background AM

09/14/2022

	→	↖	←	↗	↖	↑	↘	↓	↗
Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↕	↖	↑	↗	↖	↕	↖	↑	↗
Traffic Volume (vph)	5	80	13	282	9	696	85	572	16
Future Volume (vph)	5	80	13	282	9	696	85	572	16
Turn Type	NA	Split	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	4	8	8		5	2	1	6	
Permitted Phases				8	2		6		6
Detector Phase	4	8	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	24.0	29.0	29.0	29.0	10.0	55.0	12.0	57.0	57.0
Total Split (%)	20.0%	24.2%	24.2%	24.2%	8.3%	45.8%	10.0%	47.5%	47.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effect Green (s)	8.3	11.8	11.8	11.8	82.2	76.4	88.2	86.2	86.2
Actuated g/C Ratio	0.07	0.10	0.10	0.10	0.68	0.64	0.74	0.72	0.72
v/c Ratio	0.44	0.50	0.08	0.71	0.02	0.35	0.19	0.46	0.01
Control Delay	45.0	60.0	47.5	15.0	6.9	12.3	2.4	6.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.0	60.0	47.5	15.0	6.9	12.3	2.4	6.8	0.0
LOS	D	E	D	B	A	B	A	A	A
Approach Delay	45.0		25.7			12.2		6.1	
Approach LOS	D		C			B		A	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 13.7
Intersection Capacity Utilization 55.5%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service B






















Splits and Phases: 5: County Line Rd & Zlaten Dr

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HCM 6th Signalized Intersection Summary 5: County Line Rd & Zlaten Dr

2045 Background AM

09/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	5	22	80	13	282	9	696	35	85	572	16
Future Volume (veh/h)	30	5	22	80	13	282	9	696	35	85	572	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	5	24	86	14	303	10	748	38	91	615	17
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	42	6	31	364	382	324	387	1926	98	432	1099	931
Arrive On Green	0.05	0.05	0.05	0.20	0.20	0.20	0.01	0.56	0.56	0.04	0.59	0.59
Sat Flow, veh/h	894	140	671	1781	1870	1585	1781	3441	175	1781	1870	1585
Grp Volume(v), veh/h	61	0	0	86	14	303	10	386	400	91	615	17
Grp Sat Flow(s),veh/h/ln	1705	0	0	1781	1870	1585	1781	1777	1839	1781	1870	1585
Q Serve(g_s), s	4.2	0.0	0.0	4.8	0.7	22.6	0.3	14.7	14.7	2.5	24.2	0.5
Cycle Q Clear(g_c), s	4.2	0.0	0.0	4.8	0.7	22.6	0.3	14.7	14.7	2.5	24.2	0.5
Prop In Lane	0.52		0.39	1.00		1.00	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	79	0	0	364	382	324	387	994	1029	432	1099	931
V/C Ratio(X)	0.77	0.00	0.00	0.24	0.04	0.94	0.03	0.39	0.39	0.21	0.56	0.02
Avail Cap(c_a), veh/h	277	0	0	364	382	324	448	994	1029	472	1099	931
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	56.6	0.0	0.0	39.9	38.3	47.0	12.9	14.9	14.9	11.0	15.2	10.3
Incr Delay (d2), s/veh	14.4	0.0	0.0	0.3	0.0	33.8	0.0	1.1	1.1	0.2	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.0	2.2	0.3	11.9	0.1	6.1	6.3	1.0	10.5	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.0	0.0	0.0	40.3	38.3	80.8	13.0	16.0	16.0	11.2	17.0	10.3
LnGrp LOS	E	A	A	D	D	F	B	B	B	B	B	B
Approach Vol, veh/h	61				403				796			
Approach Delay, s/veh	71.0				70.6				16.0			
Approach LOS	E				E				B			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	71.7		10.1	5.9	75.0		29.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	50.5		19.5	5.5	52.5		24.5				
Max Q Clear Time (g_c+I1), s	4.5	16.7		6.2	2.3	26.2		24.6				
Green Ext Time (p_c), s	0.0	5.7		0.2	0.0	4.6		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	28.8											
HCM 6th LOS	C											

Timings 5: County Line Rd & Zlaten Dr

2045 Background PM

09/14/2022

	→	↖	←	↗	↖	↑	↘	↓	↗
Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↕	↖	↑	↗	↖	↕	↖	↑	↗
Traffic Volume (vph)	21	88	16	280	33	930	245	676	30
Future Volume (vph)	21	88	16	280	33	930	245	676	30
Turn Type	NA	Split	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	4	8	8		5	2	1	6	
Permitted Phases				8	2		6		6
Detector Phase	4	8	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	23.0	26.0	26.0	26.0	10.0	49.0	22.0	61.0	61.0
Total Split (%)	19.2%	21.7%	21.7%	21.7%	8.3%	40.8%	18.3%	50.8%	50.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effect Green (s)	7.8	11.9	11.9	11.9	72.6	66.4	88.8	82.1	82.1
Actuated g/C Ratio	0.06	0.10	0.10	0.10	0.60	0.55	0.74	0.68	0.68
v/c Ratio	0.40	0.52	0.09	0.69	0.07	0.55	0.55	0.55	0.03
Control Delay	41.6	60.9	47.7	14.8	8.1	21.1	23.8	10.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.6	60.9	47.7	14.8	8.1	21.1	23.8	10.1	0.0
LOS	D	E	D	B	A	C	C	B	A
Approach Delay	41.6		26.7			20.7		13.3	
Approach LOS	D		C			C		B	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 19.2
Intersection Capacity Utilization 65.3%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service C

Splits and Phases: 5: County Line Rd & Zlaten Dr






















<div> <div>↖ Ø1</div> <div>↖ Ø2 (R)</div> </div>	<div> <div>↗ Ø4</div> <div>↗ Ø8</div> </div>
<div> <div>22 s</div> <div>49 s</div> </div>	<div> <div>23 s</div> <div>26 s</div> </div>
<div> <div>↖ Ø5</div> <div>↖ Ø6 (R)</div> </div>	
<div> <div>10 s</div> <div>61 s</div> </div>	

HCM 6th Signalized Intersection Summary

5: County Line Rd & Zlaten Dr

2045 Background PM

09/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	21	24	88	16	280	33	930	100	245	676	30
Future Volume (veh/h)	8	21	24	88	16	280	33	930	100	245	676	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	22	25	91	16	289	34	959	103	253	697	31
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	10	29	33	319	335	284	375	1780	191	393	1124	953
Arrive On Green	0.04	0.04	0.04	0.18	0.18	0.18	0.03	0.55	0.55	0.08	0.60	0.60
Sat Flow, veh/h	250	687	781	1781	1870	1585	1781	3237	348	1781	1870	1585
Grp Volume(v), veh/h	55	0	0	91	16	289	34	526	536	253	697	31
Grp Sat Flow(s),veh/h/ln	1717	0	0	1781	1870	1585	1781	1777	1808	1781	1870	1585
Q Serve(g_s), s	3.8	0.0	0.0	5.3	0.8	21.5	1.0	22.7	22.7	7.0	28.4	1.0
Cycle Q Clear(g_c), s	3.8	0.0	0.0	5.3	0.8	21.5	1.0	22.7	22.7	7.0	28.4	1.0
Prop In Lane	0.15		0.45	1.00		1.00	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	72	0	0	319	335	284	375	977	994	393	1124	953
V/C Ratio(X)	0.77	0.00	0.00	0.29	0.05	1.02	0.09	0.54	0.54	0.64	0.62	0.03
Avail Cap(c_a), veh/h	265	0	0	319	335	284	406	977	994	511	1124	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81	0.81	0.81
Uniform Delay (d), s/veh	56.9	0.0	0.0	42.6	40.8	49.3	13.1	17.3	17.3	13.6	15.2	9.7
Incr Delay (d2), s/veh	15.7	0.0	0.0	0.5	0.1	58.0	0.1	2.1	2.1	1.4	2.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	2.4	0.4	13.0	0.4	9.6	9.8	2.8	12.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.7	0.0	0.0	43.1	40.8	107.2	13.2	19.4	19.4	15.1	17.3	9.8
LnGrp LOS	E	A	A	D	D	F	B	B	B	B	B	A
Approach Vol, veh/h		55			396			1096			981	
Approach Delay, s/veh		72.7			89.8			19.2			16.5	
Approach LOS		E			F			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.0	70.5		9.5	7.9	76.6		26.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	17.5	44.5		18.5	5.5	56.5		21.5				
Max Q Clear Time (g_c+I1), s	9.0	24.7		5.8	3.0	30.4		23.5				
Green Ext Time (p_c), s	0.5	7.2		0.1	0.0	5.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				30.4								
HCM 6th LOS				C								

Timings

5: County Line Rd & Zlaten Dr

2045 Total AM

09/14/2022



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	5	123	13	282	9	728	85	557	16
Future Volume (vph)	5	123	13	282	9	728	85	557	16
Turn Type	NA	Split	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	4	8	8		5	2	1	6	
Permitted Phases				8	2		6		6
Detector Phase	4	8	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	24.0	29.0	29.0	29.0	10.0	55.0	12.0	57.0	57.0
Total Split (%)	20.0%	24.2%	24.2%	24.2%	8.3%	45.8%	10.0%	47.5%	47.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effect Green (s)	8.3	14.7	14.7	14.7	79.1	73.3	85.3	83.3	83.3
Actuated g/C Ratio	0.07	0.12	0.12	0.12	0.66	0.61	0.71	0.69	0.69
v/c Ratio	0.44	0.61	0.06	0.66	0.02	0.39	0.21	0.46	0.02
Control Delay	45.0	60.9	44.1	12.3	8.1	14.3	3.0	6.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.0	60.9	44.1	12.3	8.1	14.3	3.0	6.7	0.0
LOS	D	E	D	B	A	B	A	A	A
Approach Delay	45.0		27.6			14.2		6.0	
Approach LOS	D		C			B		A	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 15.3

Intersection LOS: B

Intersection Capacity Utilization 56.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: County Line Rd & Zlaten Dr























Ø1	Ø2 (R)	Ø4	Ø8
12 s	55 s	24 s	29 s
Ø5	Ø6 (R)		
10 s	57 s		

HCM 6th Signalized Intersection Summary

5: County Line Rd & Zlaten Dr

2045 Total AM

09/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	5	22	123	13	282	9	728	51	85	557	16
Future Volume (veh/h)	30	5	22	123	13	282	9	728	51	85	557	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	5	24	132	14	303	10	783	55	91	599	17
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	42	6	31	364	382	324	398	1885	132	410	1099	931
Arrive On Green	0.05	0.05	0.05	0.20	0.20	0.20	0.01	0.56	0.56	0.04	0.59	0.59
Sat Flow, veh/h	894	140	671	1781	1870	1585	1781	3368	237	1781	1870	1585
Grp Volume(v), veh/h	61	0	0	132	14	303	10	413	425	91	599	17
Grp Sat Flow(s),veh/h/ln	1705	0	0	1781	1870	1585	1781	1777	1828	1781	1870	1585
Q Serve(g_s), s	4.2	0.0	0.0	7.6	0.7	22.6	0.3	16.0	16.0	2.5	23.3	0.5
Cycle Q Clear(g_c), s	4.2	0.0	0.0	7.6	0.7	22.6	0.3	16.0	16.0	2.5	23.3	0.5
Prop In Lane	0.52		0.39	1.00		1.00	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	79	0	0	364	382	324	398	994	1023	410	1099	931
V/C Ratio(X)	0.77	0.00	0.00	0.36	0.04	0.94	0.03	0.42	0.42	0.22	0.55	0.02
Avail Cap(c_a), veh/h	277	0	0	364	382	324	459	994	1023	451	1099	931
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.6	0.0	0.0	41.0	38.3	47.0	12.8	15.2	15.2	11.2	15.0	10.3
Incr Delay (d2), s/veh	14.4	0.0	0.0	0.6	0.0	33.8	0.0	1.3	1.2	0.3	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.0	3.4	0.3	11.9	0.1	6.7	6.9	1.0	10.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.0	0.0	0.0	41.7	38.3	80.8	12.8	16.4	16.4	11.4	17.0	10.4
LnGrp LOS	E	A	A	D	D	F	B	B	B	B	B	B
Approach Vol, veh/h	61				449				848			
Approach Delay, s/veh	71.0				67.9				16.4			
Approach LOS	E				E				B			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	71.7		10.1	5.9	75.0		29.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	50.5		19.5	5.5	52.5		24.5				
Max Q Clear Time (g_c+I1), s	4.5	18.0		6.2	2.3	25.3		24.6				
Green Ext Time (p_c), s	0.0	6.1		0.2	0.0	4.4		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	29.1											
HCM 6th LOS	C											

Timings 5: County Line Rd & Zlaten Dr

2045 Total PM

09/14/2022

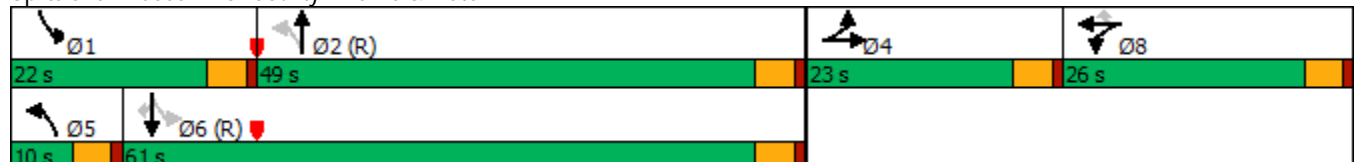
	→	↖	←	↗	↖	↑	↘	↓	↗
Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↕	↖	↑	↗	↖	↕	↖	↑	↗
Traffic Volume (vph)	21	156	16	280	33	958	245	658	30
Future Volume (vph)	21	156	16	280	33	958	245	658	30
Turn Type	NA	Split	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	4	8	8		5	2	1	6	
Permitted Phases				8	2		6		6
Detector Phase	4	8	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	23.0	26.0	26.0	26.0	10.0	49.0	22.0	61.0	61.0
Total Split (%)	19.2%	21.7%	21.7%	21.7%	8.3%	40.8%	18.3%	50.8%	50.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effect Green (s)	7.8	16.6	16.6	16.6	68.4	62.0	84.1	77.3	77.3
Actuated g/C Ratio	0.06	0.14	0.14	0.14	0.57	0.52	0.70	0.64	0.64
v/c Ratio	0.40	0.66	0.06	0.62	0.08	0.61	0.62	0.57	0.03
Control Delay	41.6	61.0	42.4	11.0	9.9	25.2	14.1	15.5	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.6	61.0	42.4	11.0	9.9	25.2	14.1	15.5	0.4
LOS	D	E	D	B	A	C	B	B	A
Approach Delay	41.6		29.4			24.8		14.6	
Approach LOS	D		C			C		B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 22.2
 Intersection Capacity Utilization 70.2%
 Analysis Period (min) 15

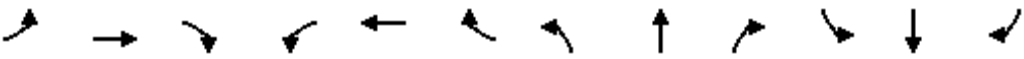
Intersection LOS: C
 ICU Level of Service C








Splits and Phases: 5: County Line Rd & Zlaten Dr



HCM 6th Signalized Intersection Summary 5: County Line Rd & Zlaten Dr

2045 Total PM
09/14/2022








												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↑	↔	↔	↔	↔	↔	↑	↔
Traffic Volume (veh/h)	8	21	24	156	16	280	33	958	114	245	658	30
Future Volume (veh/h)	8	21	24	156	16	280	33	958	114	245	658	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	22	25	161	16	289	34	988	118	253	678	31
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	10	29	33	319	335	284	387	1758	210	379	1124	953
Arrive On Green	0.04	0.04	0.04	0.18	0.18	0.18	0.03	0.55	0.55	0.08	0.60	0.60
Sat Flow, veh/h	250	687	781	1781	1870	1585	1781	3197	382	1781	1870	1585
Grp Volume(v), veh/h	55	0	0	161	16	289	34	549	557	253	678	31
Grp Sat Flow(s),veh/h/ln	1717	0	0	1781	1870	1585	1781	1777	1802	1781	1870	1585
Q Serve(g_s), s	3.8	0.0	0.0	9.8	0.8	21.5	1.0	24.1	24.2	7.0	27.2	1.0
Cycle Q Clear(g_c), s	3.8	0.0	0.0	9.8	0.8	21.5	1.0	24.1	24.2	7.0	27.2	1.0
Prop In Lane	0.15		0.45	1.00		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	72	0	0	319	335	284	387	977	991	379	1124	953
V/C Ratio(X)	0.77	0.00	0.00	0.50	0.05	1.02	0.09	0.56	0.56	0.67	0.60	0.03
Avail Cap(c_a), veh/h	265	0	0	319	335	284	418	977	991	497	1124	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.9	0.0	0.0	44.4	40.8	49.3	12.8	17.6	17.6	14.4	15.0	9.7
Incr Delay (d2), s/veh	15.7	0.0	0.0	1.3	0.1	58.0	0.1	2.3	2.3	2.2	2.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	4.4	0.4	13.0	0.4	10.3	10.4	2.8	11.8	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.7	0.0	0.0	45.7	40.8	107.2	12.9	19.9	19.9	16.6	17.4	9.8
LnGrp LOS	E	A	A	D	D	F	B	B	B	B	B	A
Approach Vol, veh/h		55			466			1140			962	
Approach Delay, s/veh		72.7			83.7			19.7			16.9	
Approach LOS		E			F			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.0	70.5		9.5	7.9	76.6		26.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	17.5	44.5		18.5	5.5	56.5		21.5				
Max Q Clear Time (g_c+I1), s	9.0	26.2		5.8	3.0	29.2		23.5				
Green Ext Time (p_c), s	0.5	7.3		0.1	0.0	5.3		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				31.2								
HCM 6th LOS				C								

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	34	9	2	47	3	37	7	3	4	4	45
Future Vol, veh/h	20	34	9	2	47	3	37	7	3	4	4	45
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	100	-	-	125	-	-	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	39	10	2	53	3	42	8	3	5	5	51

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	56	0	0	49	0	0	177	150	44	155	154	55
Stage 1	-	-	-	-	-	-	90	90	-	59	59	-
Stage 2	-	-	-	-	-	-	87	60	-	96	95	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1549	-	-	1558	-	-	785	742	1026	812	738	1012
Stage 1	-	-	-	-	-	-	917	820	-	953	846	-
Stage 2	-	-	-	-	-	-	921	845	-	911	816	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1549	-	-	1558	-	-	732	730	1026	793	726	1012
Mov Cap-2 Maneuver	-	-	-	-	-	-	731	705	-	775	705	-
Stage 1	-	-	-	-	-	-	903	808	-	939	845	-
Stage 2	-	-	-	-	-	-	869	844	-	886	804	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0.3	10.2	8.9
HCM LOS			B	A








Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	741	1549	-	-	1558	-	-	738	1012
HCM Lane V/C Ratio	0.072	0.015	-	-	0.001	-	-	0.012	0.051
HCM Control Delay (s)	10.2	7.4	-	-	7.3	-	-	9.9	8.7
HCM Lane LOS	B	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0	0.2

Intersection												
Int Delay, s/veh	6.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	74	51	25	6	27	3	23	10	5	8	5	143
Future Vol, veh/h	74	51	25	6	27	3	23	10	5	8	5	143
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	100	-	-	125	-	-	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	76	53	26	6	28	3	24	10	5	8	5	147

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	31	0	0	79	0	0	336	261	66	268	273	30
Stage 1	-	-	-	-	-	-	218	218	-	42	42	-
Stage 2	-	-	-	-	-	-	118	43	-	226	231	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1582	-	-	1519	-	-	618	644	998	685	634	1044
Stage 1	-	-	-	-	-	-	784	723	-	972	860	-
Stage 2	-	-	-	-	-	-	887	859	-	777	713	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1582	-	-	1519	-	-	506	611	998	646	601	1044
Mov Cap-2 Maneuver	-	-	-	-	-	-	553	606	-	642	600	-
Stage 1	-	-	-	-	-	-	746	688	-	925	857	-
Stage 2	-	-	-	-	-	-	754	856	-	725	679	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.6			1.2			11.4			9.2		
HCM LOS							B			A		








Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	602	1582	-	-	1519	-	-	625	1044
HCM Lane V/C Ratio	0.065	0.048	-	-	0.004	-	-	0.021	0.141
HCM Control Delay (s)	11.4	7.4	-	-	7.4	-	-	10.9	9
HCM Lane LOS	B	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0	-	-	0.1	0.5








Intersection												
Int Delay, s/veh	6.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	53	18	7	64	3	91	16	17	4	13	65
Future Vol, veh/h	41	53	18	7	64	3	91	16	17	4	13	65
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	100	-	-	125	-	-	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	47	60	20	8	73	3	103	18	19	5	15	74








Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	76	0	0	80	0	0	299	256	70	274	265	75
Stage 1	-	-	-	-	-	-	164	164	-	91	91	-
Stage 2	-	-	-	-	-	-	135	92	-	183	174	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1523	-	-	1518	-	-	653	648	993	678	640	986
Stage 1	-	-	-	-	-	-	838	762	-	916	820	-
Stage 2	-	-	-	-	-	-	868	819	-	819	755	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1523	-	-	1518	-	-	577	625	993	633	617	986
Mov Cap-2 Maneuver	-	-	-	-	-	-	614	628	-	651	627	-
Stage 1	-	-	-	-	-	-	812	738	-	888	816	-
Stage 2	-	-	-	-	-	-	784	815	-	759	732	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.7			0.7			12.1			9.3		
HCM LOS							B			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	650	1523	-	-	1518	-	-	632	986
HCM Lane V/C Ratio	0.217	0.031	-	-	0.005	-	-	0.031	0.075
HCM Control Delay (s)	12.1	7.4	-	-	7.4	-	-	10.9	8.9
HCM Lane LOS	B	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0	-	-	0.1	0.2

Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	92	67	55	17	45	3	50	18	15	8	36	166
Future Vol, veh/h	92	67	55	17	45	3	50	18	15	8	36	166
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	100	-	-	125	-	-	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	95	69	57	18	46	3	52	19	15	8	37	171
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	49	0	0	126	0	0	476	373	98	389	400	48
Stage 1	-	-	-	-	-	-	288	288	-	84	84	-
Stage 2	-	-	-	-	-	-	188	85	-	305	316	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1558	-	-	1460	-	-	499	557	958	570	538	1021
Stage 1	-	-	-	-	-	-	720	674	-	924	825	-
Stage 2	-	-	-	-	-	-	814	824	-	705	655	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1558	-	-	1460	-	-	371	517	958	516	499	1021
Mov Cap-2 Maneuver	-	-	-	-	-	-	439	539	-	541	524	-
Stage 1	-	-	-	-	-	-	676	633	-	868	815	-
Stage 2	-	-	-	-	-	-	639	814	-	632	615	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.2			2			13.5			9.9		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	509	1558	-	-	1460	-	-	527	1021			
HCM Lane V/C Ratio	0.168	0.061	-	-	0.012	-	-	0.086	0.168			
HCM Control Delay (s)	13.5	7.5	-	-	7.5	-	-	12.5	9.2			
HCM Lane LOS	B	A	-	-	A	-	-	B	A			
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0	-	-	0.3	0.6			








Intersection												
Int Delay, s/veh	7.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	53	18	7	64	3	91	16	17	4	13	108
Future Vol, veh/h	57	53	18	7	64	3	91	16	17	4	13	108
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	100	-	-	125	-	-	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	60	20	8	73	3	103	18	19	5	15	123
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	76	0	0	80	0	0	360	292	70	310	301	75
Stage 1	-	-	-	-	-	-	200	200	-	91	91	-
Stage 2	-	-	-	-	-	-	160	92	-	219	210	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1523	-	-	1528	-	-	610	630	1019	660	622	986
Stage 1	-	-	-	-	-	-	818	743	-	916	820	-
Stage 2	-	-	-	-	-	-	842	819	-	798	735	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1523	-	-	1528	-	-	505	600	1019	610	592	986
Mov Cap-2 Maneuver	-	-	-	-	-	-	550	606	-	629	605	-
Stage 1	-	-	-	-	-	-	783	711	-	877	816	-
Stage 2	-	-	-	-	-	-	720	815	-	731	704	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.3			0.7			12.9			9.5		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	595	1523	-	-	1528	-	-	610	986			
HCM Lane V/C Ratio	0.237	0.043	-	-	0.005	-	-	0.032	0.124			
HCM Control Delay (s)	12.9	7.5	-	-	7.4	-	-	11.1	9.2			
HCM Lane LOS	B	A	-	-	A	-	-	B	A			
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0	-	-	0.1	0.4			

Intersection												
Int Delay, s/veh	7.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	106	67	55	17	45	3	50	18	15	8	36	234
Future Vol, veh/h	106	67	55	17	45	3	50	18	15	8	36	234
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	100	-	-	125	-	-	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	109	69	57	18	46	3	52	19	15	8	37	241

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	49	0	0	126	0	0	539	401	98	417	428	48
Stage 1	-	-	-	-	-	-	316	316	-	84	84	-
Stage 2	-	-	-	-	-	-	223	85	-	333	344	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1558	-	-	1468	-	-	460	546	983	558	526	1021
Stage 1	-	-	-	-	-	-	705	659	-	924	825	-
Stage 2	-	-	-	-	-	-	780	824	-	691	641	-
Platoon blocked, %	-	-	-	1	-	-	1	1	1	1	1	-
Mov Cap-1 Maneuver	1558	-	-	1468	-	-	312	501	983	501	484	1021
Mov Cap-2 Maneuver	-	-	-	-	-	-	376	523	-	525	509	-
Stage 1	-	-	-	-	-	-	656	613	-	859	815	-
Stage 2	-	-	-	-	-	-	562	814	-	613	596	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.5	2	14.8	10.1
HCM LOS			B	B








Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	454	1558	-	-	1468	-	-	512	1021
HCM Lane V/C Ratio	0.188	0.07	-	-	0.012	-	-	0.089	0.236
HCM Control Delay (s)	14.8	7.5	-	-	7.5	-	-	12.7	9.6
HCM Lane LOS	B	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.7	0.2	-	-	0	-	-	0.3	0.9








Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	71	22	8	88	5	110	20	19	6	15	88
Future Vol, veh/h	52	71	22	8	88	5	110	20	19	6	15	88
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	100	-	-	125	-	-	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	81	25	9	100	6	125	23	22	7	17	100








Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	106	0	0	106	0	0	392	336	94	355	345	103
Stage 1	-	-	-	-	-	-	212	212	-	121	121	-
Stage 2	-	-	-	-	-	-	180	124	-	234	224	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1485	-	-	1494	-	-	580	594	988	614	587	952
Stage 1	-	-	-	-	-	-	805	734	-	883	796	-
Stage 2	-	-	-	-	-	-	822	793	-	783	725	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1485	-	-	1494	-	-	490	567	988	563	560	952
Mov Cap-2 Maneuver	-	-	-	-	-	-	543	585	-	600	586	-
Stage 1	-	-	-	-	-	-	773	704	-	848	791	-
Stage 2	-	-	-	-	-	-	715	788	-	712	696	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.7			0.6			13.7			9.6		
HCM LOS							B			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	582	1485	-	-	1494	-	-	590	952
HCM Lane V/C Ratio	0.291	0.04	-	-	0.006	-	-	0.04	0.105
HCM Control Delay (s)	13.7	7.5	-	-	7.4	-	-	11.4	9.2
HCM Lane LOS	B	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	1.2	0.1	-	-	0	-	-	0.1	0.4

Intersection												
Int Delay, s/veh	7.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	130	93	67	20	59	5	62	23	18	13	39	239
Future Vol, veh/h	130	93	67	20	59	5	62	23	18	13	39	239
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	100	-	-	125	-	-	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	134	96	69	21	61	5	64	24	19	13	40	246
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	66	0	0	165	0	0	648	507	131	526	539	64
Stage 1	-	-	-	-	-	-	399	399	-	106	106	-
Stage 2	-	-	-	-	-	-	249	108	-	420	433	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1536	-	-	1426	-	-	391	477	961	476	456	1000
Stage 1	-	-	-	-	-	-	642	608	-	900	807	-
Stage 2	-	-	-	-	-	-	755	806	-	625	586	-
Platoon blocked, %	-	-	-	1	-	-	1	1	1	1	1	-
Mov Cap-1 Maneuver	1536	-	-	1426	-	-	254	429	961	415	410	1000
Mov Cap-2 Maneuver	-	-	-	-	-	-	324	466	-	451	449	-
Stage 1	-	-	-	-	-	-	586	555	-	822	795	-
Stage 2	-	-	-	-	-	-	532	794	-	535	535	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.4			1.8			17.3			10.6		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	397	1536	-	-	1426	-	-	449	1000			
HCM Lane V/C Ratio	0.267	0.087	-	-	0.014	-	-	0.119	0.246			
HCM Control Delay (s)	17.3	7.6	-	-	7.6	-	-	14.1	9.8			
HCM Lane LOS	C	A	-	-	A	-	-	B	A			
HCM 95th %tile Q(veh)	1.1	0.3	-	-	0	-	-	0.4	1			

Intersection												
Int Delay, s/veh	7.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	68	71	22	8	88	5	110	20	19	6	15	131
Future Vol, veh/h	68	71	22	8	88	5	110	20	19	6	15	131
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	100	-	-	125	-	-	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	77	81	25	9	100	6	125	23	22	7	17	149
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	106	0	0	106	0	0	452	372	94	391	381	103
Stage 1	-	-	-	-	-	-	248	248	-	121	121	-
Stage 2	-	-	-	-	-	-	204	124	-	270	260	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1485	-	-	1494	-	-	528	567	988	581	560	952
Stage 1	-	-	-	-	-	-	769	707	-	883	796	-
Stage 2	-	-	-	-	-	-	798	793	-	748	699	-
Platoon blocked, %	-	-	-	1	-	-	1	1	1	1	1	-
Mov Cap-1 Maneuver	1485	-	-	1494	-	-	416	534	988	527	528	952
Mov Cap-2 Maneuver	-	-	-	-	-	-	477	558	-	566	559	-
Stage 1	-	-	-	-	-	-	729	671	-	837	791	-
Stage 2	-	-	-	-	-	-	655	788	-	670	662	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.2			0.6			15.2			9.8		
HCM LOS							C			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	522	1485	-	-	1494	-	-	561	952			
HCM Lane V/C Ratio	0.324	0.052	-	-	0.006	-	-	0.043	0.156			
HCM Control Delay (s)	15.2	7.6	-	-	7.4	-	-	11.7	9.5			
HCM Lane LOS	C	A	-	-	A	-	-	B	A			
HCM 95th %tile Q(veh)	1.4	0.2	-	-	0	-	-	0.1	0.6			

Intersection												
Int Delay, s/veh	8.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	144	93	67	20	59	5	62	23	18	13	39	307
Future Vol, veh/h	144	93	67	20	59	5	62	23	18	13	39	307
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	100	-	-	125	-	-	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	148	96	69	21	61	5	64	24	19	13	40	316

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	66	0	0	165	0	0	711	535	131	554	567	64
Stage 1	-	-	-	-	-	-	427	427	-	106	106	-
Stage 2	-	-	-	-	-	-	284	108	-	448	461	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1536	-	-	1426	-	-	353	459	961	455	439	1000
Stage 1	-	-	-	-	-	-	619	590	-	900	807	-
Stage 2	-	-	-	-	-	-	723	806	-	602	568	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1536	-	-	1426	-	-	206	409	961	393	391	1000
Mov Cap-2 Maneuver	-	-	-	-	-	-	264	448	-	430	431	-
Stage 1	-	-	-	-	-	-	560	533	-	814	795	-
Stage 2	-	-	-	-	-	-	462	794	-	510	513	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.6			1.8			20.5			10.9		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	338	1536	-	-	1426	-	-	431	1000
HCM Lane V/C Ratio	0.314	0.097	-	-	0.014	-	-	0.124	0.316
HCM Control Delay (s)	20.5	7.6	-	-	7.6	-	-	14.5	10.3
HCM Lane LOS	C	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	1.3	0.3	-	-	0	-	-	0.4	1.4

HCM 6th TWSC
7: Timm Way & North Access

2025 Total AM
09/14/2022

Intersection

Int Delay, s/veh 1.4

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations 

Traffic Vol, veh/h 36 15 6 65 186 125

Future Vol, veh/h 36 15 6 65 186 125

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 - - - - -

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 39 16 7 71 202 136

Major/Minor Minor2 Major1 Major2

Conflicting Flow All 355 270 338 0 - 0

Stage 1 270 - - - - -

Stage 2 85 - - - - -

Critical Hdwy 6.42 6.22 4.12 - - -

Critical Hdwy Stg 1 5.42 - - - - -

Critical Hdwy Stg 2 5.42 - - - - -

Follow-up Hdwy 3.518 3.318 2.218 - - -

Pot Cap-1 Maneuver 643 769 1221 - - -

Stage 1 775 - - - - -

Stage 2 938 - - - - -

Platoon blocked, % - - -

Mov Cap-1 Maneuver 639 769 1221 - - -

Mov Cap-2 Maneuver 639 - - - - -

Stage 1 770 - - - - -

Stage 2 938 - - - - -

Approach EB NB SB

HCM Control Delay, s 10.8 0.7 0

HCM LOS B

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h) 1221 - 672 - -

HCM Lane V/C Ratio 0.005 - 0.082 - -




HCM Control Delay (s) 8 0 10.8 - -

HCM Lane LOS A A B - -

HCM 95th %tile Q(veh) 0 - 0.3 - -




HCM 6th TWSC
7: Timm Way & North Access

2025 Total PM
09/14/2022

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	49	21	6	99	266	109
Future Vol, veh/h	49	21	6	99	266	109
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	-	-	-	-	-
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	53	23	7	108	289	118
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	470	348	407	0	-	0
Stage 1	348	-	-	-	-	-
Stage 2	122	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	552	695	1152	-	-	-
Stage 1	715	-	-	-	-	-
Stage 2	903	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	549	695	1152	-	-	-
Mov Cap-2 Maneuver	549	-	-	-	-	-
Stage 1	711	-	-	-	-	-
Stage 2	903	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	12.1	0.5		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1152	-	586	-	-	
HCM Lane V/C Ratio	0.006	-	0.13	-	-	
HCM Control Delay (s)	8.1	0	12.1	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.4	-	-	




HCM 6th TWSC
7: Timm Way & North Access






2045 Total AM
09/14/2022






Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	36	15	6	73	233	125
Future Vol, veh/h	36	15	6	73	233	125
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	-	-	-	-	-
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	39	16	7	79	253	136
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	414	321	389	0	-	0
Stage 1	321	-	-	-	-	-
Stage 2	93	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	595	720	1170	-	-	-
Stage 1	735	-	-	-	-	-
Stage 2	931	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	591	720	1170	-	-	-
Mov Cap-2 Maneuver	591	-	-	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	931	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.3	0.6		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1170	-	624	-	-	
HCM Lane V/C Ratio	0.006	-	0.089	-	-	
HCM Control Delay (s)	8.1	0	11.3	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.3	-	-	

HCM 6th TWSC
7: Timm Way & North Access

2045 Total PM
09/14/2022






Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	49	21	6	124	341	109
Future Vol, veh/h	49	21	6	124	341	109
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	-	-	-	-	-
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	53	23	7	135	371	118
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	579	430	489	0	-	0
Stage 1	430	-	-	-	-	-
Stage 2	149	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	477	625	1074	-	-	-
Stage 1	656	-	-	-	-	-
Stage 2	879	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	474	625	1074	-	-	-
Mov Cap-2 Maneuver	474	-	-	-	-	-
Stage 1	651	-	-	-	-	-
Stage 2	879	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	13.3	0.4		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1074	-	511	-	-	
HCM Lane V/C Ratio	0.006	-	0.149	-	-	
HCM Control Delay (s)	8.4	0	13.3	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.5	-	-	

Intersection						
Int Delay, s/veh	2.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	249	683	54	216	452
Future Vol, veh/h	0	249	683	54	216	452
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	-	150	150	-
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	271	742	59	235	491
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	371	0	0	801	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	*815	-	-	1143	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		1	-	-	1	-
Mov Cap-1 Maneuver	-	*815	-	-	1143	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	11.6	0		2.9		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	815	1143	-	
HCM Lane V/C Ratio	-	-	0.332	0.205	-	
HCM Control Delay (s)	-	-	11.6	9	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	1.5	0.8	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection						
Int Delay, s/veh	3.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	332	809	48	192	647
Future Vol, veh/h	0	332	809	48	192	647
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	-	150	150	-
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	361	879	52	209	703
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	440	0	0	931	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	*737	-	-	*1102	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		1	-	-	1	-
Mov Cap-1 Maneuver	-	*737	-	-	*1102	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	14.5	0		2.1		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	737	* 1102	-	
HCM Lane V/C Ratio	-	-	0.49	0.189	-	
HCM Control Delay (s)	-	-	14.5	9	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	2.7	0.7	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon






HCM 6th TWSC
8: County Line Rd & Access

2045 Total AM
09/14/2022

Intersection						
Int Delay, s/veh	2.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	249	984	54	216	658
Future Vol, veh/h	0	249	984	54	216	658
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	-	150	150	-
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	271	1070	59	235	715
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	535	0	0	1129	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	*685	-	-	991	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		1	-	-	1	-
Mov Cap-1 Maneuver	-	*685	-	-	991	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	13.6	0		2.4		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-	685	991	-	
HCM Lane V/C Ratio	-	-	0.395	0.237	-	
HCM Control Delay (s)	-	-	13.6	9.8	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	1.9	0.9	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 6th TWSC
8: County Line Rd & Access

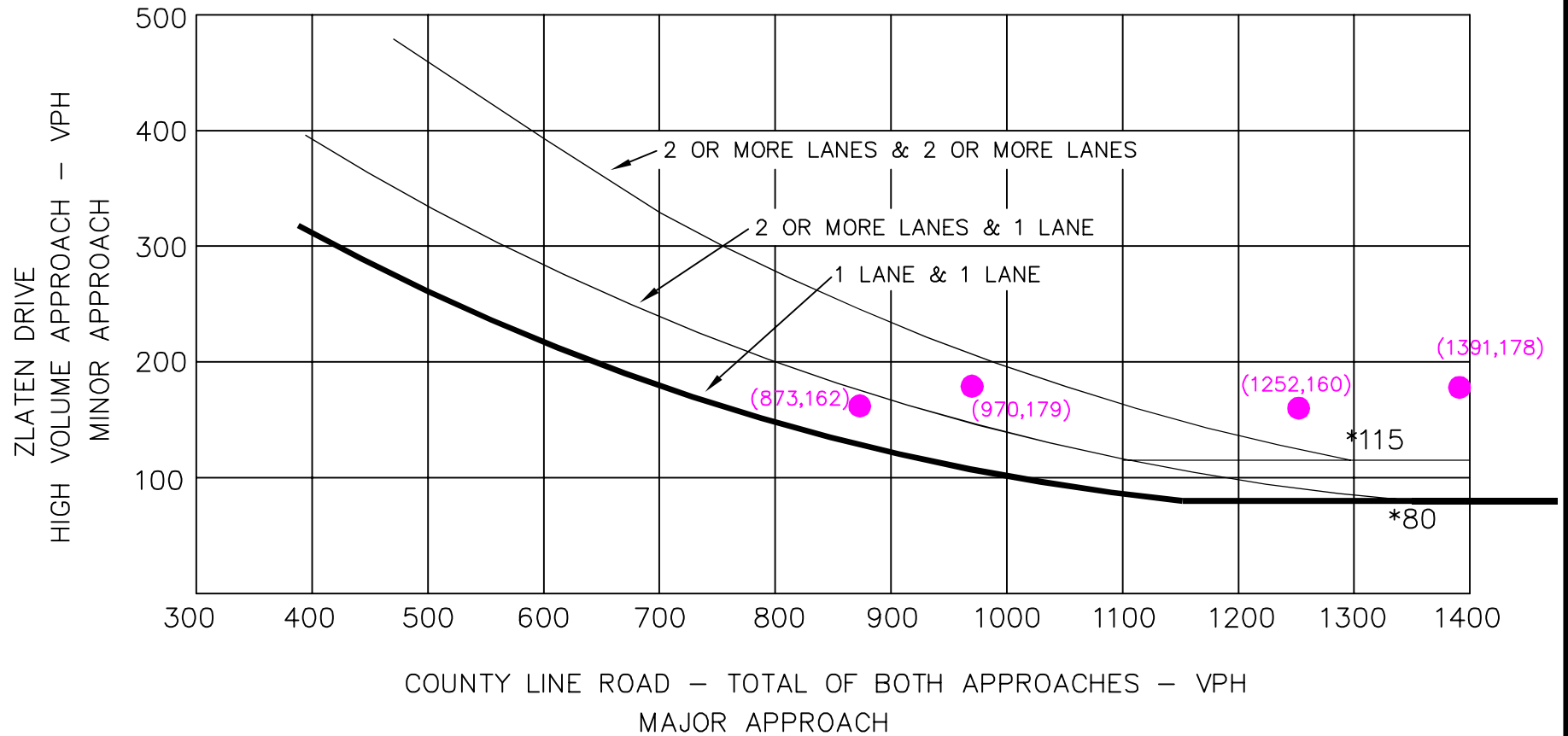
2045 Total PM
09/14/2022

Intersection						
Int Delay, s/veh	3.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	332	1181	48	192	933
Future Vol, veh/h	0	332	1181	48	192	933
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	-	150	150	-
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	361	1284	52	209	1014
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	642	0	0	1336	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	*580	-	-	*868	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		1	-	-	1	-
Mov Cap-1 Maneuver	-	*580	-	-	*868	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	20.9	0		1.8		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-	580	* 868	-	
HCM Lane V/C Ratio	-	-	0.622	0.24	-	
HCM Control Delay (s)	-	-	20.9	10.5	-	
HCM Lane LOS	-	-	C	B	-	
HCM 95th %tile Q(veh)	-	-	4.3	0.9	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

APPENDIX F

Signal Warrant Analysis Worksheets

WARRANT 2 - FOUR HOUR VEHICULAR VOLUME



SIGNAL WARRANT ANALYSIS
ZLATEN DR & COUNTY LINE RD
FOUR HOUR VOLUME WARRANT

* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

● 2025 BACKGROUND TRAFFIC DATA POINT

Source: Manual of Uniform Traffic Control Devices 2009

APPENDIX G













Queue Analysis Worksheets

Queues

2025 Total AM

1: County Line Rd & SH-119

09/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	142	877	223	100	1684	381	586	342	77	567	401	540
v/c Ratio	0.99	0.57	0.27	0.51	1.06	0.41	1.08	0.65	0.05	1.04	0.76	0.34
Control Delay	131.1	27.4	3.6	49.2	76.1	10.2	106.0	57.7	0.1	99.5	59.0	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	131.1	27.4	3.6	49.2	76.1	10.2	106.0	57.7	0.1	99.5	59.0	0.6
Queue Length 50th (ft)	57	264	0	38	~778	77	~261	141	0	~245	158	0
Queue Length 95th (ft)	#126	329	46	m38	m#749	m74	#380	194	0	#359	215	0
Internal Link Dist (ft)		729			1332			691			385	
Turn Bay Length (ft)	425			275		900	450		300	425		325
Base Capacity (vph)	143	1536	813	200	1592	921	543	530	1583	543	530	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.57	0.27	0.50	1.06	0.41	1.08	0.65	0.05	1.04	0.76	0.34

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.

Queues

2025 Total PM

1: County Line Rd & SH-119

09/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	381	1600	409	72	970	524	493	553	108	469	379	220
v/c Ratio	0.72	0.95	0.45	0.50	0.79	0.66	0.96	0.99	0.07	0.97	0.72	0.14
Control Delay	56.1	43.8	7.6	61.6	42.2	23.2	75.5	83.3	0.1	84.4	56.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.1	43.8	7.6	61.6	42.2	23.2	75.5	83.3	0.1	84.4	56.9	0.2
Queue Length 50th (ft)	146	630	50	26	406	252	197	236	0	188	148	0
Queue Length 95th (ft)	190	#808	127	m36	#508	377	#306	#355	0	#294	203	0
Internal Link Dist (ft)		729			1332			691			385	
Turn Bay Length (ft)	425			275		900	450		300	425		325
Base Capacity (vph)	715	1687	909	143	1223	796	514	560	1583	486	530	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.95	0.45	0.50	0.79	0.66	0.96	0.99	0.07	0.97	0.72	0.14

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.

Queues

2045 Total AM

1: County Line Rd & SH-119

09/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	209	1252	272	129	2495	566	757	469	103	803	548	806
v/c Ratio	1.46	0.61	0.34	0.58	1.15	0.58	1.26	0.88	0.07	1.28	0.98	0.51
Control Delay	281.8	30.2	4.0	47.4	111.4	13.0	167.5	71.5	0.1	176.8	83.6	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	281.8	30.2	4.0	47.4	111.4	13.0	167.5	71.5	0.1	176.8	83.6	1.2
Queue Length 50th (ft)	~114	279	0	48	~862	192	~382	198	0	~405	225	0
Queue Length 95th (ft)	#193	328	53	m47	m#815	m174	#507	#290	0	#529	#341	0
Internal Link Dist (ft)		729			1332			691			385	
Turn Bay Length (ft)	425			275		900	450		300	425		325
Base Capacity (vph)	143	2042	798	228	2161	975	600	530	1583	629	560	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.46	0.61	0.34	0.57	1.15	0.58	1.26	0.88	0.07	1.28	0.98	0.51

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.

Queues

2045 Total PM

1: County Line Rd & SH-119

09/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	559	2332	537	93	1417	775	633	753	143	668	526	327
v/c Ratio	1.03	1.12	0.63	0.65	0.96	1.02	0.96	1.16	0.09	1.17	0.94	0.21
Control Delay	95.8	96.5	12.7	63.2	56.2	63.5	64.3	128.1	0.1	137.3	75.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.8	96.5	12.7	63.2	56.2	63.5	64.3	128.1	0.1	137.3	75.9	0.3
Queue Length 50th (ft)	~238	~763	105	34	428	~473	253	~371	0	~317	214	0
Queue Length 95th (ft)	#351	#857	226	m47	#510	#651	#362	#500	0	#436	#322	0
Internal Link Dist (ft)		729			1332			691			385	
Turn Bay Length (ft)	425			275		900	450		300	425		325
Base Capacity (vph)	543	2076	854	143	1483	761	657	648	1583	572	560	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	1.12	0.63	0.65	0.96	1.02	0.96	1.16	0.09	1.17	0.94	0.21

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.

Queues

2025 Total AM

3: Zlaten Dr & SH-119

09/14/2022











Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	71	1437	8	53	2417	17	108	156
v/c Ratio	0.97	0.61	0.01	0.45	1.03	0.06	0.34	0.70
Control Delay	131.5	17.2	0.0	65.7	46.9	44.4	15.5	56.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	131.5	17.2	0.0	65.7	46.9	44.4	15.5	56.3
Queue Length 50th (ft)	58	415	0	40	~1053	5	11	94
Queue Length 95th (ft)	m#95	m441	m0	83	#1188	17	64	#189
Internal Link Dist (ft)		1150			462		432	458
Turn Bay Length (ft)	200			1000		100		
Base Capacity (vph)	73	2338	1070	132	2351	302	321	223
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	0.97	0.61	0.01	0.40	1.03	0.06	0.34	0.70

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.

Queues
3: Zlaten Dr & SH-119

2025 Total PM
09/14/2022

								
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	60	2072	28	120	1810	36	129	121
v/c Ratio	0.54	0.94	0.03	0.82	0.77	0.11	0.38	0.55
Control Delay	48.4	28.3	1.8	93.6	17.5	45.2	14.0	45.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.4	28.3	1.8	93.6	17.5	45.2	14.0	45.0
Queue Length 50th (ft)	46	561	0	93	503	12	9	65
Queue Length 95th (ft)	m48	m512	m0	#199	606	28	65	130
Internal Link Dist (ft)		1150			462		432	458
Turn Bay Length (ft)	200			1000		100		
Base Capacity (vph)	118	2214	1017	147	2343	326	339	220
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	0.51	0.94	0.03	0.82	0.77	0.11	0.38	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.							

Queues

2045 Total AM

3: Zlaten Dr & SH-119

09/14/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	71	2078	12	76	3508	24	144	156
v/c Ratio	0.97	0.62	0.01	0.61	1.04	0.08	0.47	0.81
Control Delay	106.8	19.8	0.0	74.8	47.1	44.8	27.3	70.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	106.8	19.8	0.0	74.8	47.1	44.8	27.3	70.5
Queue Length 50th (ft)	55	420	0	58	~1073	8	45	96
Queue Length 95th (ft)	m#66	m420	m0	#119	#1151	21	111	#215
Internal Link Dist (ft)		1150			462		432	458
Turn Bay Length (ft)	200			1000		100		
Base Capacity (vph)	73	3348	1067	132	3381	302	309	192
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	0.97	0.62	0.01	0.58	1.04	0.08	0.47	0.81

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.

Queues
3: Zlaten Dr & SH-119

2045 Total PM
09/14/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	60	3022	40	170	2598	53	181	121
v/c Ratio	0.54	0.95	0.04	1.16	0.77	0.16	0.55	0.69
Control Delay	44.1	27.4	0.8	170.7	16.5	46.0	27.0	56.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	27.4	0.8	170.7	16.5	46.0	27.0	56.8
Queue Length 50th (ft)	46	488	1	~155	501	18	52	67
Queue Length 95th (ft)	m40	m259	m0	#297	565	38	128	#156
Internal Link Dist (ft)		1150			462		432	458
Turn Bay Length (ft)	200			1000		100		
Base Capacity (vph)	118	3178	1016	147	3373	326	330	175
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	0.51	0.95	0.04	1.16	0.77	0.16	0.55	0.69

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.

Queues

2025 Total AM

5: County Line Rd & Zlaten Dr

09/14/2022



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	42	110	12	234	6	586	70	404	12
v/c Ratio	0.34	0.58	0.06	0.62	0.01	0.26	0.12	0.30	0.01
Control Delay	44.6	62.1	46.0	13.4	6.8	10.7	2.2	3.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	62.1	46.0	13.4	6.8	10.7	2.2	3.2	0.0
Queue Length 50th (ft)	20	83	8	0	1	97	4	26	0
Queue Length 95th (ft)	56	136	26	73	6	164	m10	58	m0
Internal Link Dist (ft)	303		1344			448		532	
Turn Bay Length (ft)		150		150	225		350		
Base Capacity (vph)	293	361	380	509	697	2292	589	1334	1160
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	0.14	0.30	0.03	0.46	0.01	0.26	0.12	0.30	0.01

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

2025 Total PM

5: County Line Rd & Zlaten Dr

09/14/2022



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	37	135	12	211	23	769	191	456	21
v/c Ratio	0.31	0.63	0.05	0.56	0.04	0.36	0.38	0.36	0.02
Control Delay	42.0	62.5	44.2	12.0	7.2	13.6	7.5	6.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	62.5	44.2	12.0	7.2	13.6	7.5	6.7	0.1
Queue Length 50th (ft)	16	101	8	0	5	152	21	72	0
Queue Length 95th (ft)	50	160	26	67	16	253	m41	359	m0
Internal Link Dist (ft)	303		1344			448		532	
Turn Bay Length (ft)		150		150	225		350		
Base Capacity (vph)	282	317	333	456	639	2165	585	1276	1115
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	0.13	0.43	0.04	0.46	0.04	0.36	0.33	0.36	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

2045 Total AM

5: County Line Rd & Zlaten Dr

09/14/2022



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	61	132	14	303	10	838	91	599	17
v/c Ratio	0.44	0.61	0.06	0.66	0.02	0.39	0.21	0.46	0.02
Control Delay	45.0	60.9	44.1	12.3	8.1	14.3	3.0	6.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.0	60.9	44.1	12.3	8.1	14.3	3.0	6.7	0.0
Queue Length 50th (ft)	29	99	10	0	2	166	6	63	0
Queue Length 95th (ft)	71	155	28	80	10	275	m11	581	m0
Internal Link Dist (ft)	303		1344			448		532	
Turn Bay Length (ft)		150		150	225		350		
Base Capacity (vph)	298	361	380	564	516	2143	442	1292	1127
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	0.20	0.37	0.04	0.54	0.02	0.39	0.21	0.46	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

2045 Total PM

5: County Line Rd & Zlaten Dr

09/14/2022



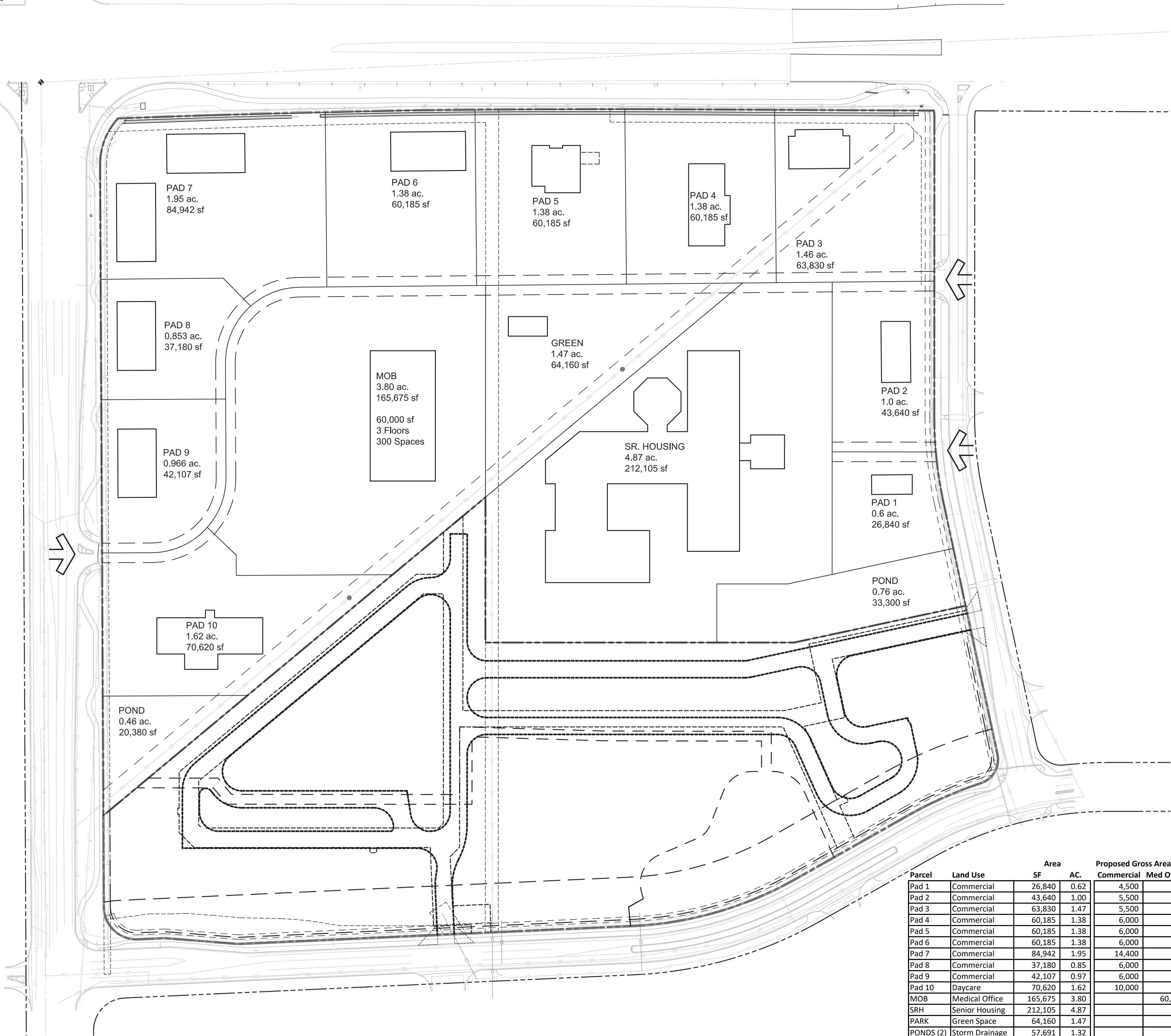
Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	55	161	16	289	34	1106	253	678	31
v/c Ratio	0.40	0.66	0.06	0.62	0.08	0.61	0.62	0.57	0.03
Control Delay	41.6	61.0	42.4	11.0	9.9	25.2	14.1	15.5	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.6	61.0	42.4	11.0	9.9	25.2	14.1	15.5	0.4
Queue Length 50th (ft)	23	120	11	0	8	313	29	415	0
Queue Length 95th (ft)	64	181	30	75	24	499	m54	640	m2
Internal Link Dist (ft)	303		1344			448		532	
Turn Bay Length (ft)		150		150	225		350		
Base Capacity (vph)	288	323	340	525	425	1806	434	1199	1052
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	0.19	0.50	0.05	0.55	0.08	0.61	0.58	0.57	0.03

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX H

Conceptual Site Plan



Parcel	Land Use	Area		Proposed Gross Areas (SF)						Ratio	Notes
		SF	AC.	Commercial	Med Office	Sr. Housing	FAR	Parking			
Pad 1	Commercial	26,840	0.62	4,500			0.17	45	10 / 1,000 SF	10	Drive-thru possible
Pad 2	Commercial	43,640	1.00	5,500			0.13	55	10 / 1,000 SF	10	Drive-thru possible
Pad 3	Commercial	63,830	1.47	5,500			0.09	66	12 / 1,000 SF	12	Drive-thru possible
Pad 4	Commercial	60,185	1.38	6,000			0.10	72	12 / 1,000 SF	12	Drive-thru possible
Pad 5	Commercial	60,185	1.38	6,000			0.10	72	12 / 1,000 SF	12	Drive-thru possible
Pad 6	Commercial	60,185	1.38	6,000			0.10	60	10 / 1,000 SF	10	Drive-thru possible
Pad 7	Commercial	84,942	1.95	14,400			0.17	98	6.8 / 1,000 SF	7	Multi-tenant w/ Drive-thru
Pad 8	Commercial	37,180	0.85	6,000			0.16	36	6 / 1,000 SF	6	Multi-tenant possible
Pad 9	Commercial	42,107	0.97	6,000			0.14	36	6 / 1,000 SF	6	Multi-tenant possible
Pad 10	Daycare	70,620	1.62	10,000			0.14	50	5/ 1,000 SF	5	
MOB	Medical Office	165,675	3.80		60,000		0.36	300	5/ 1,000 SF	5	3-Story Building, 80K SF max. possible
SRH	Senior Housing	212,105	4.87			130,000	0.61	130	1 per Bedroom		2-Story Building (could be larger)
PARK	Green Space	64,160	1.47					30	Shared On-Street	30	Kiosk use or food trucks possible
PONDS (2)	Storm Drainage	57,691	1.32								Pond sizes TBD by others
TOTALS		1,049,345	24.09	69,900	60,000	130,000	0.25	1,050			
						259,900					