

Traffic Impact Study

Chick-fil-A Dry Creek & Gartrell

Aurora, Colorado

Prepared for:

Merrick & Company

Kimley»Horn

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

Chick-fil-A Dry Creek and Gartrell

Aurora, Colorado

**Prepared for
Merrick & Company**

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1.0 EXECUTIVE SUMMARY


This report has been prepared to document the results of a Traffic Impact Study for a Chick-fil-A restaurant proposed to be located on the northwest corner of the Dry Creek Road and Gartrell Road intersection in Aurora, Colorado. A 2,931 square foot Chick-fil-A restaurant is proposed to replace a previous bank that is currently unoccupied. It is expected that Chick-fil-A will be completed in the next couple years; therefore, analysis was conducted for the 2025 short-term buildout horizon as well as the 2040 long-term planning horizon. The restaurant is proposed to include three entry drive-through lanes that will merge down to two continuous drive through lanes after the order boards. The site is anticipated to operate with primarily drive-through only service, as no indoor seating will be provided, though there will be some outdoor seating and a walk-up pickup window for mobile orders.

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 in accordance with the City of Aurora standards and requirements:

- Dry Creek Road & Hinsdale Avenue (Intersection #1)
- Dry Creek Road & Gartrell Road (#2)
- Hinsdale Avenue & Gartrell Road (#3)

In addition, the existing full movement shared access on the east side of Hinsdale Avenue (#4) and the existing right-in/right-out shared access along the west side of Gartrell Road (#5) were evaluated.

Regional access to Chick-fil-A will be provided by E-470, Parker Road (SH-83), and Arapahoe Road (SH-88). Primary access will be provided by Gartrell Road and Dry Creek Road. Direct access will be provided by the existing full movement shared access on the east side of Hinsdale Avenue (#4) and the existing right-in/right-out shared access along the west side of Gartrell Road (#5).



Chick-fil-A is expected to generate approximately 2,350 daily weekday driveway trips, with 165 of these trips occurring during the morning peak hour and 235 trips occurring during the afternoon peak hour. Accounting for pass-by, expected net new (non pass-by) trips to the surrounding street network results in approximately 1,622 weekday daily trips, of which 113 trips and 162 trips are anticipated during the weekday morning and afternoon peak hours, respectively.

Based on the analysis presented in this report, Kimley-Horn believes the proposed Chick-fil-A redevelopment project 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:

- It is recommended that the eastbound approach at the Dry Creek Road and Gartrell Road (#1) intersection be restriped to include dual left turn lanes with approximately 175 feet in length. These dual left turn lanes are recommended to operate with protected-only left turn phasing. The westbound approach is anticipated to continue operating well with one lane each for left, through, and right-turning movements. It is believed that the dual eastbound left turn lanes and the single westbound left turn lane can operate concurrently without causing vehicle conflicts. Of note, the mast arm on the southeast corner of this intersection would need to be extended to allow for the new signal head to align with the inside eastbound left turn lane. Additionally, to meet City of Aurora standards, it is recommended that the northbound and westbound left turn phasing at this intersection be changed from permissive-only to protected-permissive phasing.
- Any onsite or offsite improvements should be incorporated into the Civil Drawings and conform to standards of the City of Aurora and the Manual on Uniform Traffic Control Devices (MUTCD) – 2009 Edition.

2.0 INTRODUCTION

Kimley-Horn has prepared this report to document the results of a Traffic Impact Study for a Chick-fil-A redevelopment project proposed to be located on the northwest corner of the Dry Creek Road and Gartrell Road intersection in Aurora, Colorado. A vicinity map illustrating the Chick-fil-A development location is shown in **Figure 1**. A 2,931 square foot Chick-fil-A restaurant is proposed to replace a previous bank that is currently unoccupied. A conceptual site plan is attached in **Appendix F**. It is expected that Chick-fil-A will be completed in the next couple years; therefore, analysis was conducted for the 2025 short-term buildout horizon as well as the 2040 long-term planning horizon. The restaurant is proposed to include three entry drive-through lanes that will merge down to two continuous drive through lanes after the order boards. The site is anticipated to operate with primarily drive-through only service, as no indoor seating will be provided, though there will be some outdoor seating and a walk-up pickup window for mobile orders.

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 in accordance with the City of Aurora standards and requirements:

- Dry Creek Road & Hinsdale Avenue (Intersection #1)
- Dry Creek Road & Gartrell Road (#2)
- Hinsdale Avenue & Gartrell Road (#3)

In addition, the existing full movement shared access on the east side of Hinsdale Avenue (#4) and the existing right-in/right-out shared access along the west side of Gartrell Road (#5) were evaluated.

Regional access to the Chick-fil-A project will be provided by E-470, Parker Road (SH-83), and Arapahoe Road (SH-88). Primary access will be provided by Gartrell Road and Dry Creek Road. Direct access will be provided by the existing full movement shared access on the east side of Hinsdale Avenue (#4) and the existing right-in/right-out shared access along the west side of Gartrell Road (#5).

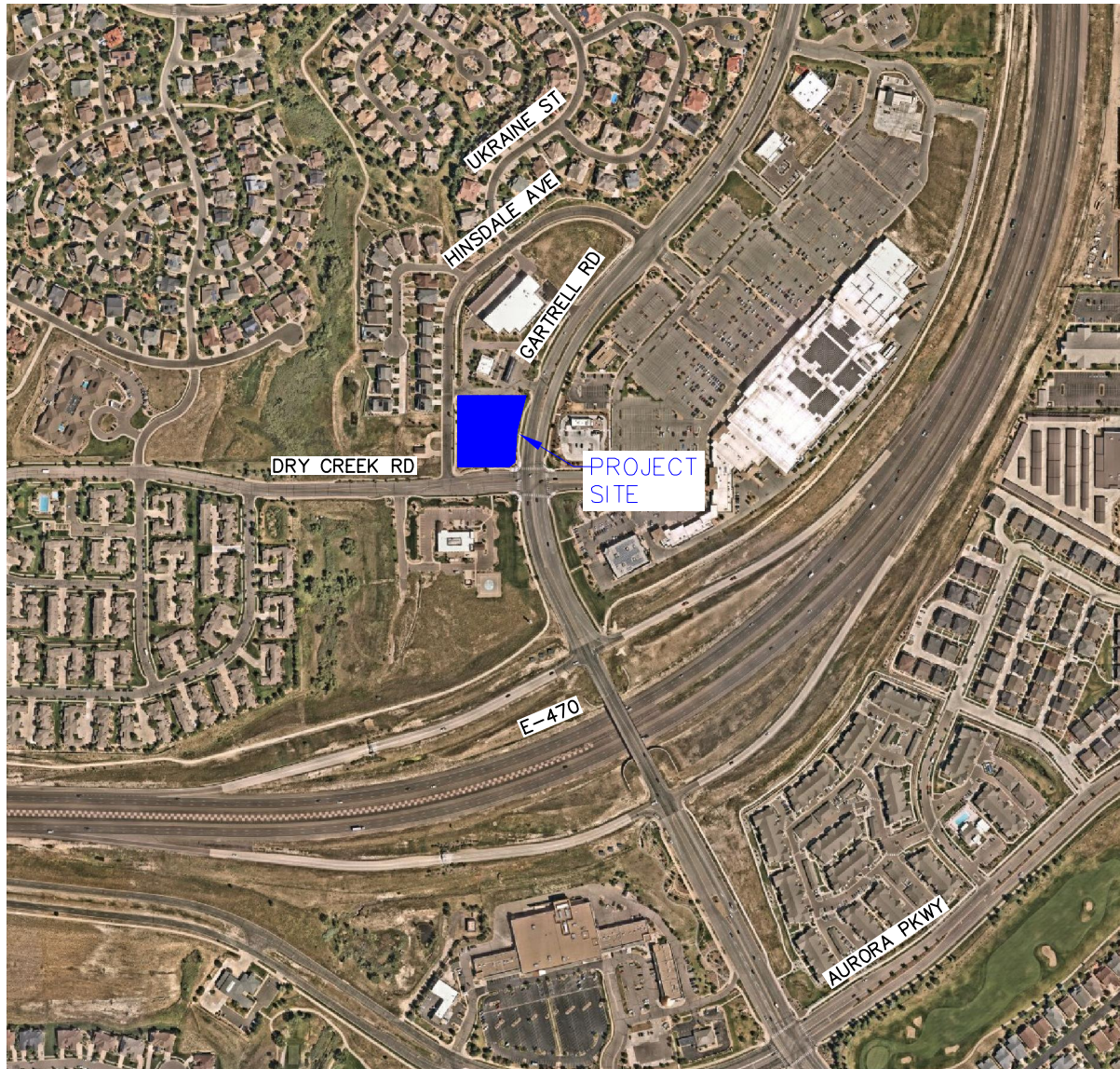


FIGURE 1
CHICK-FIL-A
AURORA, COLORADO
VICINITY MAP

3.0 EXISTING AND FUTURE CONDITIONS

3.1 Existing Study Area

The existing site is comprised of an unoccupied bank. A gas station is located to the north of the project site while a medical center is located to the south of Dry Creek Road. South of the project site is a hospital. To the east of the project is the Saddle Rock Village retail center while single family homes are located to the west of the project site. The surrounding area primarily consists of single-family residences with a mix of multi-family residences.

3.2 Existing Roadway Network

Hinsdale Avenue extends north/south with one through lane in each direction. The posted speed limit is 25 miles per hour along Hinsdale Avenue.

Dry Creek Road extends in the east/west direction as a two-lane roadway. It has a posted speed limit of 35 miles per hour.

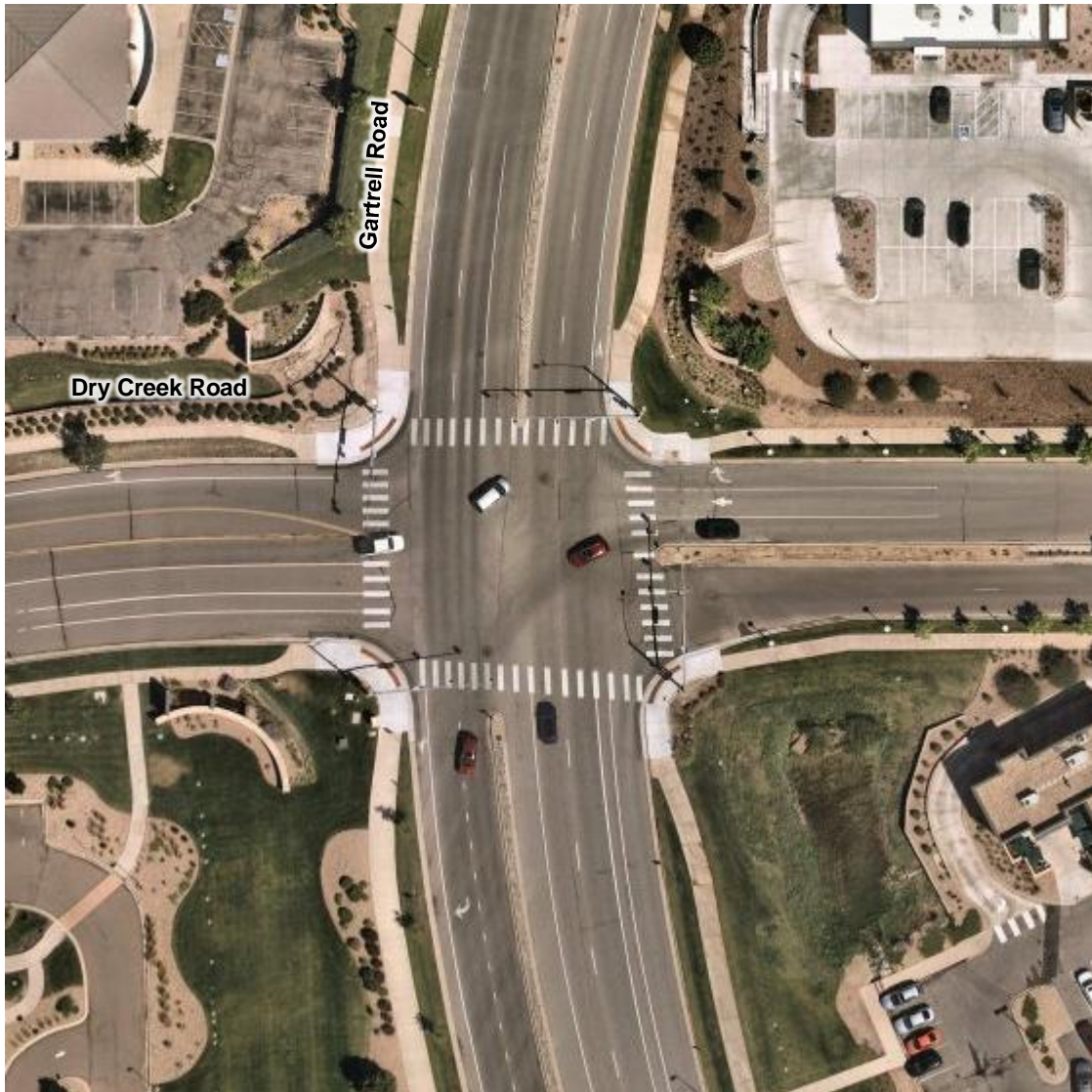
Gartrell Road extends north/south and provides two lanes of travel in each direction. The posted speed limit along the roadway is 40 miles per hour.

The unsignalized 'T'-intersection of Dry Creek Road and Hinsdale Avenue (#1) operates with stop control on the southbound Hinsdale Avenue approach. The southbound approach of this intersection consists of a shared left/right turn lane. The eastbound approach provides a left turn lane and one through lane while the westbound approach consists of a shared through/right turn lane. An aerial photo of the existing intersection configuration is below (north is up - typical).



Dry Creek Road & Hinsdale Avenue (#1)

The signalized intersection of Dry Creek Road and Gartrell Road (#2) operates with permissive-only left turn phasing on all four approaches. The northbound approach provides a left turn lane, two through lanes, and a right turn lane while the southbound approach provides a left turn lane and two through lanes with the outside lane being a shared through/right turn lane. The eastbound and westbound approaches provide one left turn lane, one through lane, and one right turn lane. An aerial photo of the existing intersection configuration is below.



Dry Creek Road & Gartrell Road (#2)

The unsignalized intersection of Hinsdale Avenue and Gartrell Road (#3) operates with stop control on the eastbound Hinsdale Avenue and westbound private access approaches. The northbound approach provides one left turn lane, two through lanes, and a right turn lane while the southbound approach consists of one left turn lane a two through lanes with the outside lane being a shared through/right turn lane. The eastbound approach provides one shared lane for all movements. The westbound approach consists of one left turn lane, one through lane, and one right turn lane. The east leg at this intersection provides access to a retail center. An aerial photo of the existing intersection configuration is below.

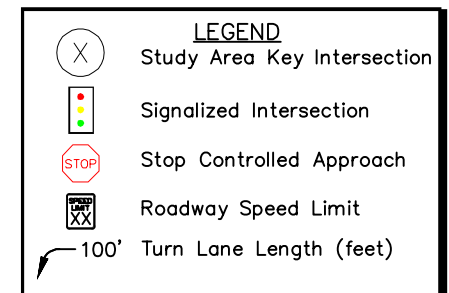
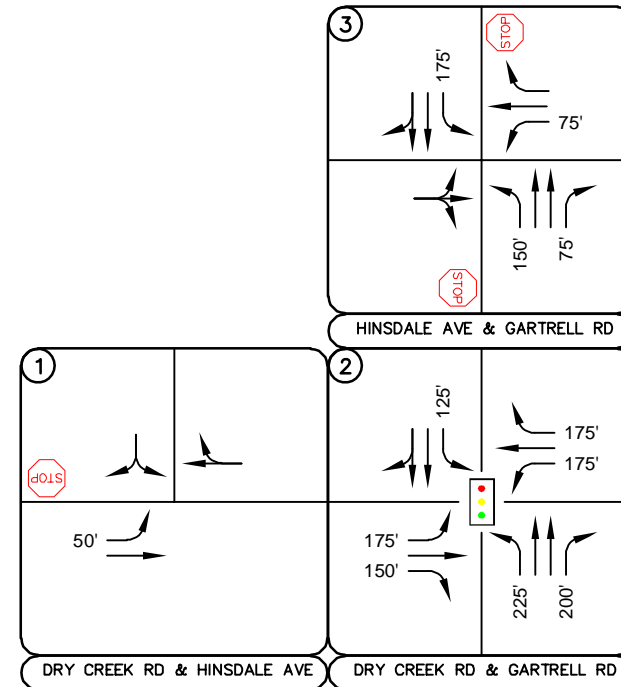


Gartrell Road & Hinsdale Avenue (#3)

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



FIGURE 2
 CHICK-FIL-A
 AURORA, COLORADO
 EXISTING GEOMETRY AND CONTROL



3.3 Existing Traffic Volumes

Existing turning movement counts were conducted at the Dry Creek Road/Hinsdale Avenue (#1) and Dry Creek Road/Gartrell Road (#2) intersections on Wednesday, October 4, 2023 in 15-minute intervals from 7:00 AM to 9:00 AM and 3:00 PM to 6:00 PM. The counts at these two intersections included the 3:00 PM to 4:00 PM hour to account for the release time of Liberty Middle School located to west along Dry Creek Road. The middle school bell times are 8:50 AM and 3:45 PM while school is in session, which coincides with the turning movement count periods included in this study.

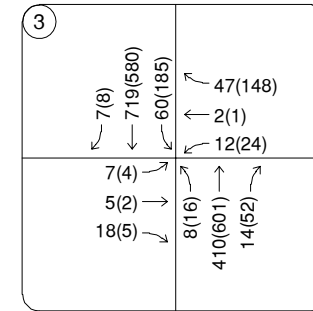
Turning movement counts were collected at the Hinsdale Avenue and Gartrell Road (#3) intersection on Wednesday, January 24, 2024 in 15-minute intervals from 7:00 AM to 9:00 AM and 3:00 PM to 7:00 PM. The count times during the afternoon peak hours at this intersection were expanded to include four hours of PM peak hour data points in the requested signal warrant analysis. Turning movement counts were also collected at the existing shared accesses along Hinsdale Avenue and Gartrell Road (Intersections #4 and #5) on Wednesday, October 4, 2023 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. Since these traffic counts were collected on different dates and have slightly different peak hours the traffic volumes were balanced based on the volumes at the Dry Creek Road and Gartrell Road (#1) intersection. The existing study area key intersections balanced traffic volumes are shown in **Figure 3** with count sheets provided in **Appendix A**.

3.4 Unspecified Development Traffic Growth

To conform to City of Aurora Traffic Impact Study Guidelines, a two (2) percent annual growth rate was used to estimate future traffic volume conditions for the short-term and long-term horizons. This annual growth rate was used to estimate short-term 2025 and long-term 2040 traffic volume projections at the key intersections. The calculated background traffic volumes for 2025 and 2040 are shown in **Figure 4** and **Figure 5**, respectively. Of note, the two percent annual traffic growth rate used in this traffic study exceeds the 1.2 percent annual traffic growth utilized in the Kings Point Traffic Impact Study; therefore, a more conservative analysis was applied along the Dry Creek Road and Gartrell Road corridors with this application.

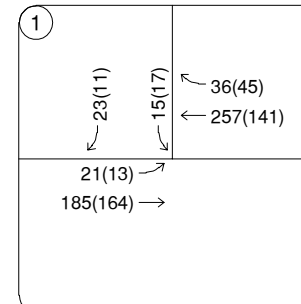


FIGURE 3
CHICK-FIL-A
AURORA, COLORADO
EXISTING TRAFFIC VOLUMES – BALANCED



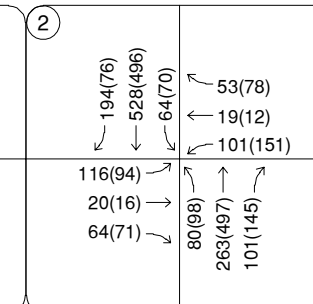
HINSDALE AVE & GARTRELL RD

Weds, Jan 24, 2024
8:00 to 9:00AM
(3:45 to 4:45PM)



DRY CREEK RD & HINSDALE AVE

Weds, Oct 4, 2023
7:45 to 8:45AM
(4:00 to 5:00PM)



DRY CREEK RD & GARTRELL RD

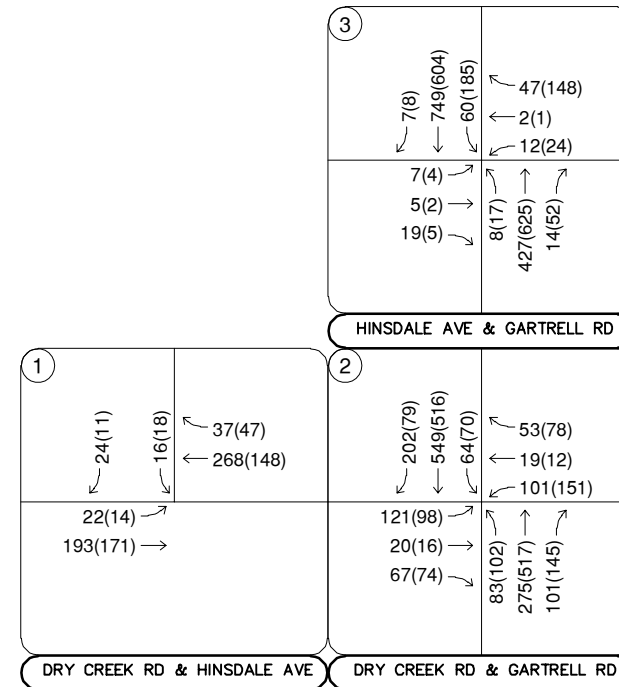
Weds, Oct 4, 2023
7:45 to 8:45AM
(4:00 to 5:00PM)

LEGEND

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



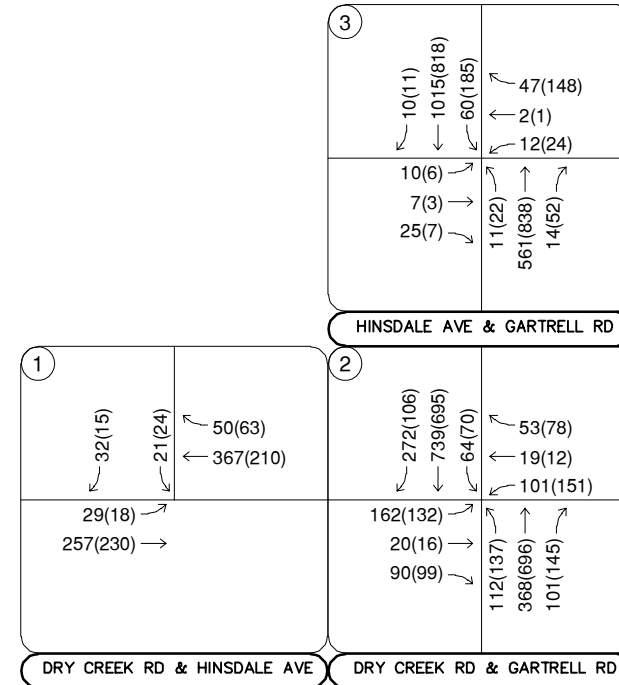
FIGURE 4
CHICK-FIL-A
AURORA, COLORADO
2025 BACKGROUND TRAFFIC VOLUMES



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



FIGURE 5
CHICK-FIL-A
AURORA, COLORADO
2040 BACKGROUND TRAFFIC VOLUMES



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

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 comparison purposes, Kimley-Horn used the ITE Trip Generation Report average rates that apply to Fast-Food Restaurant with Drive-Through Window and With Indoor Seating (ITE Land Use Code 934) and Fast-Food Restaurant with Drive-Through Window and No Indoor Seating (ITE Land Use Code 935) for traffic associated with the development. Further, user specific trip generation data was utilized for both fast-food restaurants with and without indoor seating. With the current application not having indoor seating, it is not applicable to utilize trip generation data for fast-food restaurants with indoor seating and the data was provided for informational purposes. However, the most applicable trip generation data, user-specific without indoor seating, resulted in the highest trip generation and was utilized in the analysis in this study.

It is recognized that Chick-fil-A restaurants can generate more traffic than a typical fast-food restaurant with drive-through. In addition, because this proposed site is anticipated to be almost exclusively drive-through operations only, the traffic generation from this site will be unique to other typical Chick-fil-A restaurants as well as being different from other fast-food restaurants with no indoor seating. There are limited existing Chick-fil-A sites nationwide that operate in this nature. Data from two existing sites of a similar nature—one in Glendale, Wisconsin, and the other in Raleigh, North Carolina—were provided for use in this study. Each of these sites operate with a near-identical building size and these sites provide two drive-through lanes beginning prior to the order boards and continuing through the pickup area.

While the proposed site at Dry Creek Road & Gartrell Road begins with three drive-through lanes prior to the order boards, soon thereafter it reduces to two continuous drive-through lanes.

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

Operationally, because the third drive-through lane at the proposed site is only provided at the order board location and one of the primary chokepoints downstream at the pickup window and the remainder of the drive-through queue operates with only two drive-through lanes, this proposed site will be very similar in nature to the two existing sites where data were collected. However, to be conservative, in this study it was assumed that an average of 2.5 drive-through lanes is provided to calculate the trip generation for the proposed site.

Based on the site-specific traffic generation rates for restaurants without indoor seating, Chick-fil-A Dry Creek and Gartrell is expected to generate approximately 2,350 weekday daily trips, with 165 of these trips occurring during the morning peak hour and 235 of these trips occurring during the afternoon peak hour. Based on the site-specific data collected for Chick-fil-A sites, this results in a 58 percent increase in daily and afternoon peak hour trip projections and a 53 percent in morning peak hour trips, compared to whether ITE trip generation projections had instead been used. Further, this user-specific traffic generation for restaurants without indoor seating is higher than ITE Trip Generation and user-specific data for fast-food restaurants with indoor (which is less applicable). As such, it is believed that use of the Chick-fil-A site-specific data for fast-food restaurants without indoor seating provides a conservative analysis of the expected traffic operations of the site and the surrounding intersections included in this study. **Table 1** summarizes a trip generation comparison for Chick-fil-A Dry Creek and Gartrell based on the site-specific data and ITE Trip Generation for both fast-food restaurants with (informational purposes) and without indoor seating.

Table 1 – Chick-fil-A Trip Generation Comparison

Land Use and Size	Weekday Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
ITE 934 – Fast Food with Indoor Seating & DT (informational purposes)							
Fast-Food Restaurant w/ Indoor Seating & DT (ITE 934) – 2,931 SF	1,372	67	64	131	50	47	97
ITE 935 – Fast Food without Indoor Seating & with DT (applicable use)							
Fast-Food Restaurant w/o Indoor Seating & w/ DT (ITE 935) – 2.5 Lanes	1,488	51	57	108	76	73	149
User Specific – Fast Food w/ Indoor Seating & DT (informational purposes)							
Fast-Food Restaurant w/ Indoor Seating & DT (User Specific) – 2,931 SF	2,264	42	45	87	77	81	158
User Specific - Fast Food w/o Indoor Seating & w/ DT (applicable use)							
Fast-Food w/o Indoor Seating & w/ DT (User Specific) – 2.5 Lanes	2,350	76	89	165	113	122	235

Because Chick-fil-A Dry Creek and Gartrell is a fast-food restaurant, pass-by trips are expected to occur. These pass-by trips are vehicles already on the street network that will be attracted to the development on their way to a destination. Of note, pass-by trips do not reduce the number of trips entering and exiting the proposed site. Based on the ITE Trip Generation Manual for fast-food restaurants with a drive-through window and no indoor seating, the morning and afternoon peak hour pass-by percentages are 31 percent.

Accounting for pass-by trips, new trips to the surrounding street network would result in approximately 1,622 weekday daily new trips, with 113 of these new trips occurring during the morning peak hour and 162 of these new trips occurring during the afternoon peak hour. **Table 2** summarizes a trip generation comparison for Chick-fil-A Dry Creek and Gartrell based on the site-specific data (without indoor seating) and pass-by percentages from ITE.

Table 2 – Chick-fil-A Trip Generation: Non Pass-By & Pass-By

Land Use and Size	Weekday Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
User Specific – Fast Food Restaurant without Indoor Seating & with Drive Through							
Non Pass-By Trips	1,622	52	61	113	78	84	162
Pass-By Trips	728	24	28	52	35	38	73
Total Project Trips	2,350	76	89	165	113	122	235

Trip generation for this Chick-fil-A redevelopment project has been compared to the trip generation of the bank use previously occupied in the same development area. The previous use was an approximate 4,800 square foot bank. For this study, Kimley-Horn used the ITE Trip Generation Report average rates that apply to Drive-In Bank (ITE 912) for traffic associated with the previous use on site. The trip generation worksheet for the previous bank use is also included in **Appendix C**. The following **Table 3** summarizes the estimated trip generation for the proposed Chick-fil-A project compared to the trips generated by the previous bank use that occupied the same development area.

Table 3 – Chick-fil-A Redevelopment Trip Generation Comparison

Land Use and Size	Weekday Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Previous Use (Currently Vacant) – ITE 11 th Edition							
Bank (ITE 912) – 4,800 Square Feet	482	28	20	48	50	51	101
Current Proposal – Site-Specific Data							
Fast-Food Restaurant w/ DT and No Indoor Seating (Chick-fil-A Data) – 2.5 Lanes	2,350	76	89	165	113	122	235
Net Difference in Trips	+1,868	+48	+69	+117	+63	+71	+134

As summarized in **Table 3**, the previous bank use has been calculated to be previously generating approximately 482 weekday daily vehicle trips, with 48 of these trips occurring during the morning peak hour, and 101 trips occurring during the afternoon peak hour. The currently proposed Chick-fil-A is anticipated to generate approximately 2,350 weekday daily trips with 165 trips occurring during the morning peak hour and 235 trips occurring during the afternoon peak hour. Therefore, the proposed redevelopment is anticipated to generate 1,868 more daily trips, 117 more morning peak hour trips, and 134 more afternoon peak hour trips than the use that previously occupied the site. Therefore, the net change is the difference in trips that were approved with the previous development application.

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 trip distribution for the proposed development is illustrated in **Figure 6**.

Since the project is a commercial development, a certain amount of traffic attracted to the development will already be passing by the site. This pass-by distribution is a means to quantify the amount of traffic arriving to the site from a given direction and then leaving the site in the same original direction of travel, continuing the driver's trip. 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 hours were accounted for in the pass-by distributions as shown in **Figures 7 and 8**, respectively.

4.3 Traffic Assignment

Chick-fil-A 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 project.

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 2040 planning horizon. These total traffic volumes for the study area are illustrated for the 2025 and 2040 horizon years in **Figures 11 and 12**, respectively.



FIGURE 6
 CHICK-FIL-A
 AURORA, COLORADO
 NON PASS-BY PROJECT TRIP DISTRIBUTION

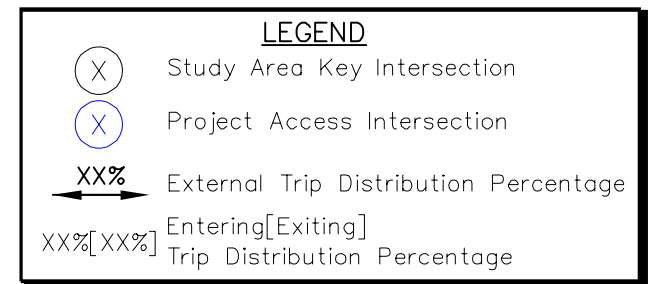
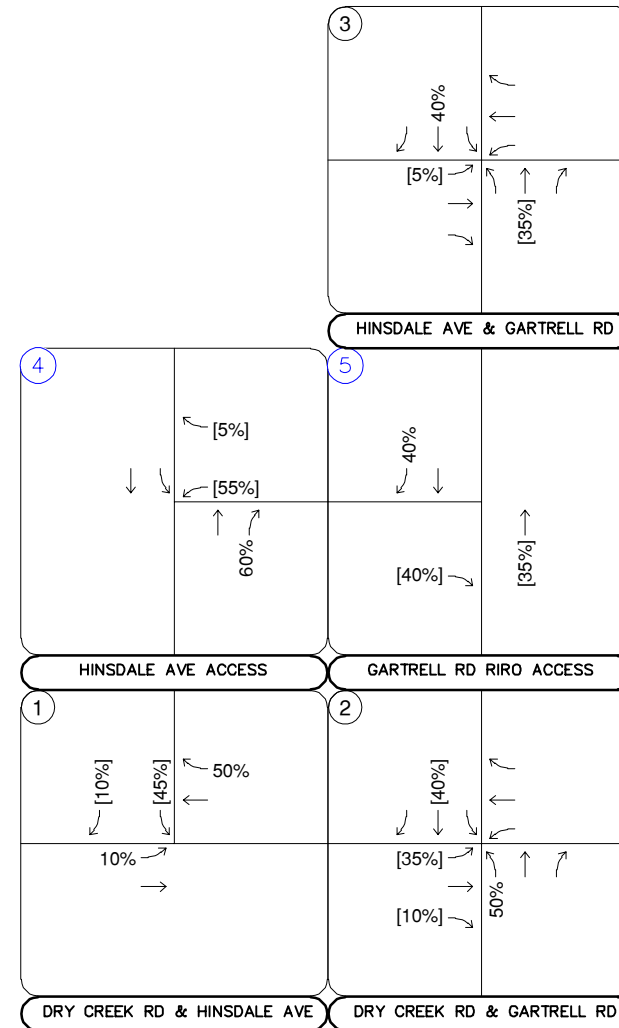




FIGURE 7
CHICK-FIL-A
AURORA, COLORADO
AM PASS-BY PROJECT TRIP DISTRIBUTION

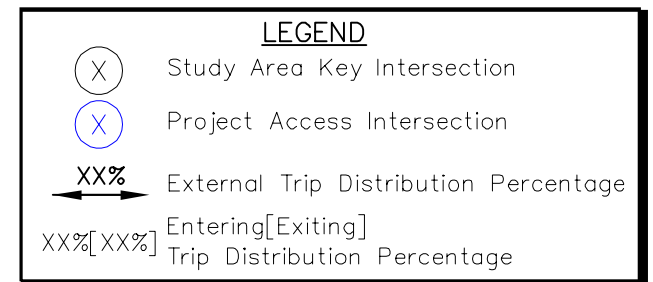
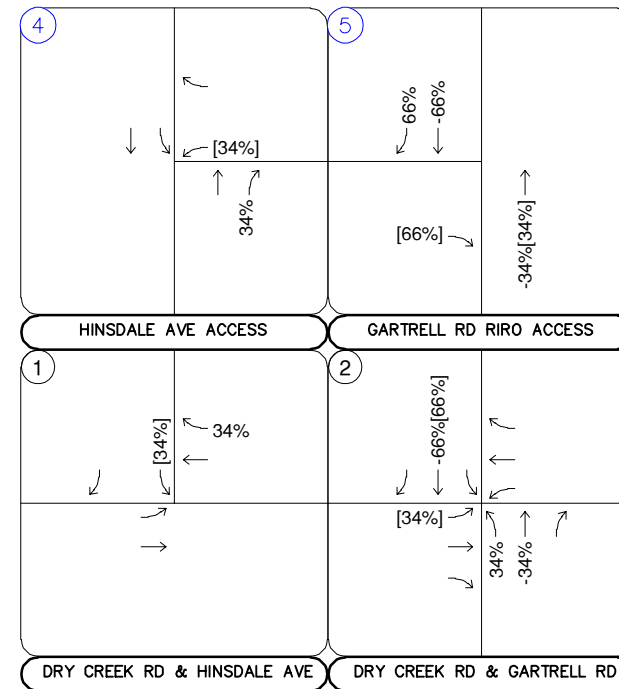




FIGURE 8
CHICK-FIL-A
AURORA, COLORADO
PM PASS-BY PROJECT TRIP DISTRIBUTION

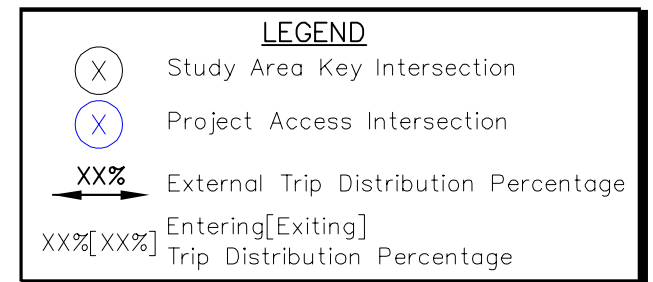
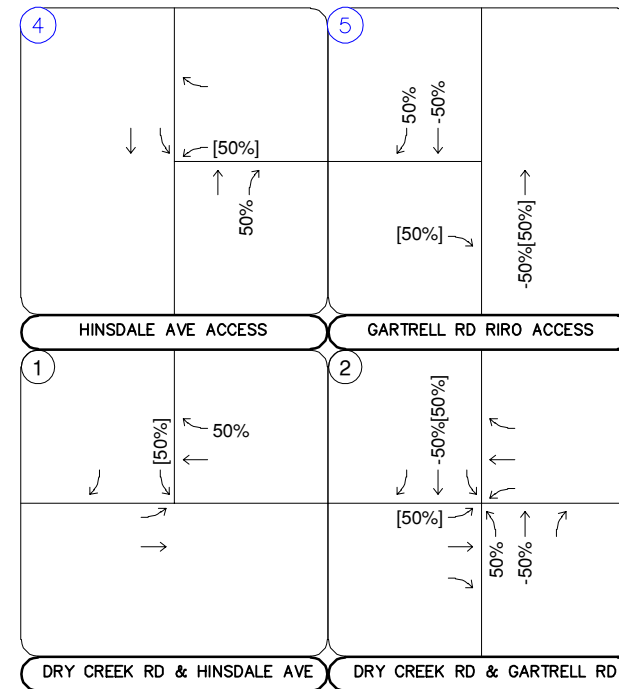
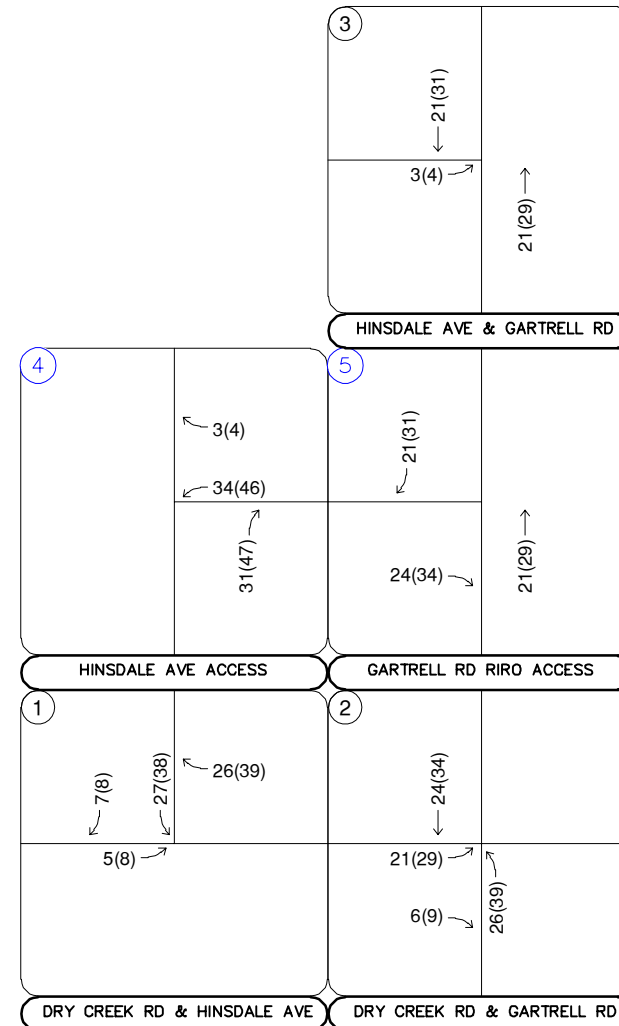




FIGURE 9
CHICK-FIL-A
AURORA, COLORADO
NON PASS-BY PROJECT TRAFFIC ASSIGNMENT

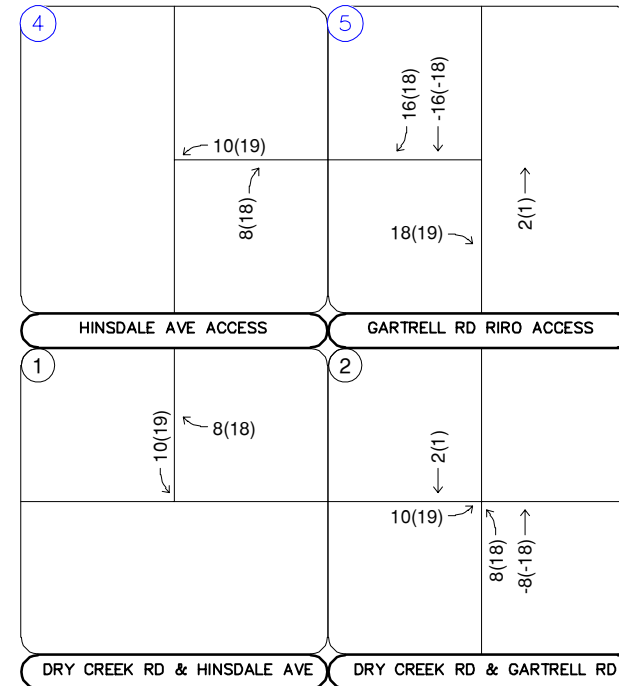


LEGEND

- (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
CHICK-FIL-A
AURORA, COLORADO
PASS-BY PROJECT TRAFFIC ASSIGNMENT

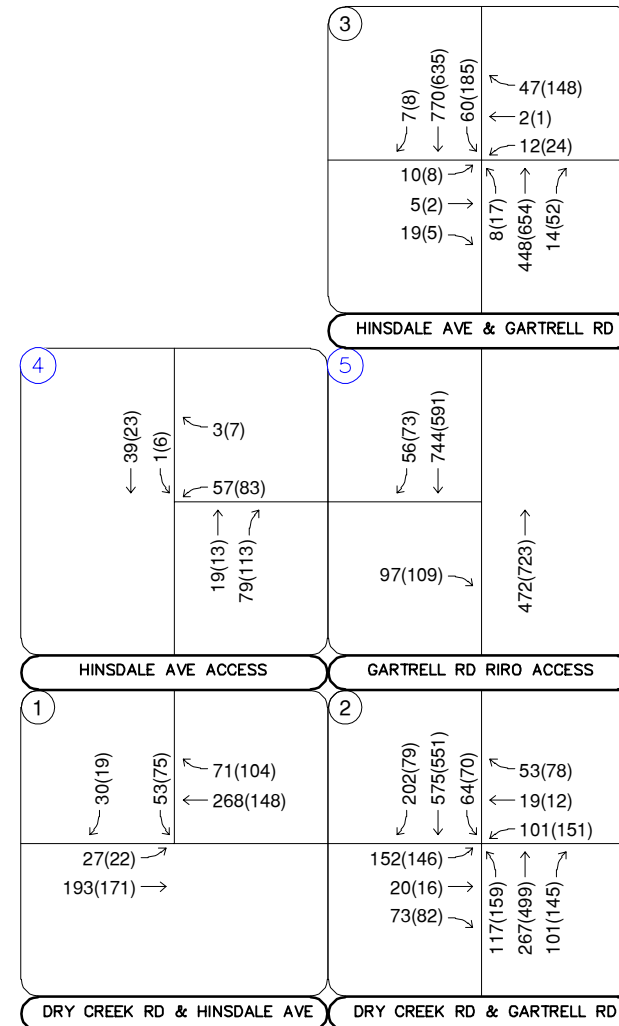


LEGEND

- (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 11
CHICK-FIL-A
AURORA, COLORADO
2025 TOTAL TRAFFIC VOLUMES

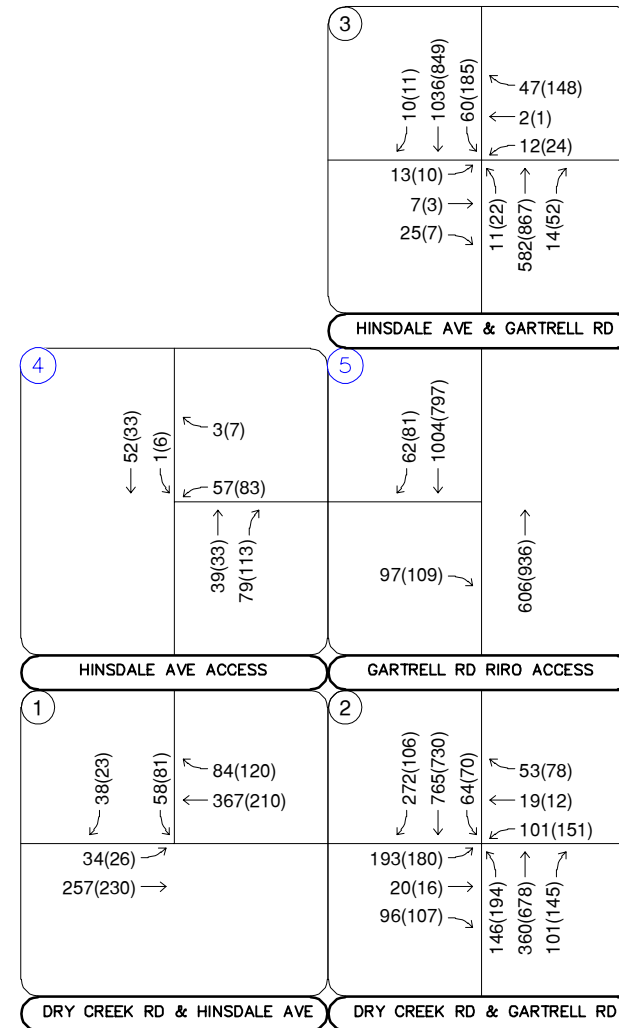


LEGEND

- (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 12
CHICK-FIL-A
AURORA, COLORADO
2040 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

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 2040 development horizons at the identified key intersections. The acknowledged source for determining overall capacity is 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). According to City of Aurora guidelines for signalized intersections, individual movements may be allowed to fall to LOS E, but in most cases the overall intersection must operate (or be projected to operate) at a LOS D or better during AM and PM peak periods. If the existing LOS for an intersection is worse than LOS D, potential alternatives to improve the intersection to achieve LOS D should be provided or maintain the existing critical lane volume with the addition of site generated traffic. Minor movements at unsignalized intersections, such as left turns onto a major arterial from a side street, may be allowed to fall below LOS D pending the specific conditions. Movements which have a light traffic demand, and a viable travel alternative may be allowed to fall below LOS D. **Table 4** shows the definition of level of service for signalized and unsignalized intersections.

Table 4 – 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.

² Transportation Research Board, *Highway Capacity Manual*, Sixth Edition, Washington DC, 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 and all-way stop controlled intersections are defined for each approach and for the overall intersection.

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 C**. 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 a mix of existing (school related movements), blended, and HCM urban standard of 0.92 were used for the long-term 2040 horizon analysis. The existing heavy vehicle percentages obtained from the turning movement counts were also used in each horizon year. 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.

Dry Creek Rd & Hinsdale Avenue (#1)

The unsignalized 'T'-intersection of Dry Creek Road and Hinsdale Avenue (#1) operates with stop control on the southbound Hinsdale Avenue approach. The intersection movements operate acceptably at LOS B or better during the three analyzed peak hours under existing conditions. Of note, the 3:00 PM to 4:00 PM peak hour was analyzed per request of the City of Aurora to align with the release times of the Liberty Middle School located to the west along Dry Creek Road. With project traffic, all movements are anticipated to continue operating at an acceptable level of service throughout the 2040 horizon. Therefore, no improvements or modifications are anticipated to be needed at this intersection based on the addition of project traffic and this operational level of service analysis. **Table 5** provides the results of the LOS analysis conducted at this intersection.

Table 5 – Dry Creek Rd & Hinsdale Avenue (#1) LOS Results

Scenario	AM Peak Hour		PM Peak Hour		3:00 PM–4:00 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2023 Existing						
Eastbound Left	8.7	A	7.8	A	8.5	A
Southbound Approach	12.9	B	10.4	B	11.3	B
2025 Background						
Eastbound Left	8.8	A	7.8	A	8.6	A
Southbound Approach	13.3	B	10.5	B	11.4	B
2025 Background Plus Project						
Eastbound Left	9.2	A	8.1	A	9.0	A
Southbound Approach	17.5	C	12.3	B	17.7	C
2040 Background						
Eastbound Left	9.2	A	7.9	A	8.9	A
Southbound Approach	14.4	B	10.9	B	12.1	B
2040 Background Plus Project						
Eastbound Left	9.6	A	8.2	A	9.5	A
Southbound Approach	20.1	C	13.0	B	20.6	C

Dry Creek Rd & Gartrell Road (#2)

The intersection of Dry Creek Road and Gartrell Road (#2) operates with permissive only left turn phasing on all four approaches. The intersection operates acceptably at LOS C or better during all three analyzed peak hours under existing conditions. Of note, the 3:00 PM to 4:00 PM peak hour was additionally analyzed at the intersection per request of the City of Aurora to align with the release times of the Liberty Middle School located to the west along Dry Creek Road.

Per request of the City of Aurora, left turn phasing was analyzed on each approach of this intersection based on City of Aurora Left Turn Phase Warrants (attached in **Appendix C**). From this analysis, which is documented in more detail in Section 5.3, protective-permissive left turn phasing is warranted on the eastbound, westbound, and northbound approaches of this intersection while the southbound left turn phasing should remain permissive. It is recommended that the eastbound, westbound, and northbound approaches operate with protected-permissive left turn phasing if the existing lane configurations remain at this intersection. Based on the operational delay analysis, it is shown that this intersection is anticipated to operate acceptably throughout 2040 with the addition of project traffic and protected-permissive left turn phasing on eastbound, westbound, and northbound approaches.

However, long vehicle queues have been observed on the eastbound approach of this intersection during the morning peak hour aligning with the start of Liberty Middle School and then again from 3:45 PM to 4:00 PM coinciding with the release of the school. Protective-permissive left turn phasing reduces vehicles on the eastbound approach but not to the extent that dual left turn lanes have been calculated to reduce queues. Therefore, this intersection was evaluated with two improvement alternatives, one alternative including protective-permissive left turn phasing on the eastbound, westbound, and northbound approaches, and the other alternative with dual left turn lanes on the eastbound approach while the northbound and westbound approaches would still provide one left turn lane and operate with protective-permissive left turn phasing. To alleviate most of these queueing issues, the eastbound approach could be restriped to include dual left turn lanes. If eastbound dual left turn lanes are implemented, it is recommended to operate with protected-only left turn phasing and the inside left turn lane should occupy the space of the center striped median. While dual westbound left turn lanes could be provided, it is believed that this is not needed operationally, and with maintaining only one westbound left turn lane, it is believed that eastbound and westbound left-turning movements could still happen simultaneously while

the westbound approach would still provide one left turn lane, one through lane, and a right turn lane. Of note, the mast arm on the southeast corner of this intersection would need to be extended to allow for the new signal head to align with the inside eastbound left turn lane. With dual left turn lanes on the eastbound approach, this intersection is anticipated to operate acceptably throughout 2040 with the addition of project traffic. This intersection is also expected to operate acceptably throughout the 2040 horizon with existing lane configurations and protective-permissive left turn phasing on the eastbound, westbound, and northbound approaches. Of note, the minor approach reports some movements operating with LOS E. This is because the cycle length is 120 seconds, and the delay is due to the vehicles waiting for the light to turn green. However, as documented in more detail later in Section 5.3 and 5.4, vehicles queues are shorter with dual left turn lanes on the eastbound approach to this intersection. **Table 6** provides the results of the LOS analysis conducted at this intersection.

Table 6 – Dry Creek Rd & Gartrell Road (#2) LOS Results

Scenario	AM Peak Hour		PM Peak Hour		3:00 PM – 4:00 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2023 Existing	18.7	B	17.0	B	20.1	C
Eastbound Approach	46.5	D	47.8	D	42.2	D
Eastbound Left	50.3	D	49.9	D	46.5	D
Eastbound Through	38.7	D	42.4	D	33.9	C
Eastbound Right	41.8	D	46.2	D	37.0	D
Westbound Approach	42.3	D	49.6	D	37.2	D
Westbound Left	44.5	D	52.7	D	39.4	D
Westbound Through	38.3	D	42.1	D	33.1	C
Westbound Right	39.6	D	44.9	D	34.4	C
Northbound Approach	7.2	A	5.4	A	9.5	A
Northbound Left	12.5	B	7.7	A	13.9	B
Northbound Through	6.1	A	5.1	A	8.8	A
Northbound Right	6.1	A	4.8	A	9.0	A
Southbound Approach	8.2	A	5.6	A	10.1	B
Southbound Left	7.3	A	6.9	A	11.1	B
Southbound Through	8.2	A	5.4	A	10.0	A
Southbound Right	8.2	A	5.4	A	10.0	B
2025 Background	18.9	B	17.0	B	20.2	C
Eastbound Approach	46.3	D	48.1	D	41.6	D
Eastbound Left	50.4	D	50.3	D	45.9	D
Eastbound Through	38.0	D	42.4	D	33.0	C
Eastbound Right	41.2	D	46.4	D	36.2	D
Westbound Approach	41.5	D	49.6	D	36.3	D
Westbound Left	43.6	D	52.7	D	38.4	D
Westbound Through	37.6	D	42.0	D	32.3	C
Westbound Right	38.8	D	44.8	D	33.5	C
Northbound Approach	7.7	A	5.5	A	10.2	B

Scenario	AM Peak Hour		PM Peak Hour		3:00 PM – 4:00 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Northbound Left	13.7	B	8.0	A	15.1	B
Northbound Through	6.4	A	5.1	A	9.3	A
Northbound Right	6.4	A	4.9	A	9.5	A
Southbound Approach	8.7	A	5.7	A	10.8	B
Southbound Left	7.8	A	7.1	A	11.9	B
Southbound Through	8.8	A	5.5	A	10.7	B
Southbound Right	8.8	A	5.5	A	10.7	B
2025 Background Plus Project #	22.8	C	19.2	B	27.0	C
Eastbound Approach	47.9	D	48.6	D	43.3	D
Eastbound Left	48.5	D	47.4	D	48.3	D
Eastbound Through	45.5	D	52.5	D	31.8	C
Eastbound Right	45.2	D	53.7	D	34.6	C
Westbound Approach	52.4	D	51.0	D	25.6	C
Westbound Left	51.3	D	49.6	D	26.7	C
Westbound Through	57.7	E	56.5	E	23.3	C
Westbound Right	55.6	E	58.6	E	24.2	C
Northbound Approach	9.0	A	7.6	A	16.4	B
Northbound Left	11.9	B	9.0	A	19.0	B
Northbound Through	8.1	A	7.4	A	15.7	B
Northbound Right	8.1	A	7.0	A	16.0	B
Southbound Approach	16.9	B	13.3	B	27.0	C
Southbound Left	12.7	B	12.0	B	22.8	C
Southbound Through	17.2	B	13.4	B	27.4	C
Southbound Right	17.3	B	13.4	B	27.5	C
2025 Background Plus Project ##	21.5	C	23.4	C	21.5	C
Eastbound Approach	58.2	E	59.2	E	56.0	E
Eastbound Left	59.1	E	58.2	E	56.7	E
Eastbound Through	54.0	D	49.4	D	52.8	D
Eastbound Right	53.5	D	63.1	E	53.9	D
Westbound Approach	52.8	D	46.1	D	52.8	D
Westbound Left	51.2	D	43.1	D	51.0	D
Westbound Through	57.7	E	47.3	D	57.1	E
Westbound Right	57.4	E	51.6	D	58.8	E
Northbound Approach	6.0	A	8.6	A	6.4	A
Northbound Left	8.1	A	10.1	B	7.8	A
Northbound Through	5.3	A	8.3	A	6.0	A
Northbound Right	5.3	A	7.9	A	6.2	A
Southbound Approach	11.7	B	14.7	B	11.5	B
Southbound Left	8.8	A	13.3	B	9.9	B
Southbound Through	11.9	B	14.9	B	11.6	B
Southbound Right	12.0	B	14.9	B	11.7	B
2040 Background	21.7	C	17.4	B	23.1	C
Eastbound Approach	45.3	D	49.1	D	37.9	D
Eastbound Left	51.8	D	53.0	D	43.8	D
Eastbound Through	32.5	C	39.9	D	26.1	C
Eastbound Right	36.4	D	45.3	D	29.8	C
Westbound Approach	35.5	D	46.6	D	28.7	C
Westbound Left	37.3	D	49.5	D	30.4	C
Westbound Through	32.2	C	39.6	D	25.5	C
Westbound Right	33.2	C	42.1	D	26.5	C

Scenario	AM Peak Hour		PM Peak Hour		3:00 PM – 4:00 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Northbound Approach	12.7	B	7.4	A	16.1	B
Northbound Left	27.1	C	13.2	B	27.0	C
Northbound Through	9.4	A	6.6	A	14.4	B
Northbound Right	9.0	A	5.8	A	14.1	B
Southbound Approach	13.5	B	7.5	A	17.1	B
Southbound Left	11.8	B	9.9	A	19.1	B
Southbound Through	13.6	B	7.3	A	16.9	B
Southbound Right	13.7	B	7.3	A	16.9	B
2040 Background Plus Project #	27.1	C	21.4	C	25.8	C
Eastbound Approach	48.4	D	47.9	D	51.7	D
Eastbound Left	50.0	D	46.6	D	53.7	D
Eastbound Through	41.7	D	49.1	D	41.1	D
Eastbound Right	43.0	D	52.6	D	41.3	D
Westbound Approach	52.3	D	50.8	D	52.2	D
Westbound Left	51.2	D	49.5	D	51.0	D
Westbound Through	57.7	E	56.5	E	57.1	E
Westbound Right	55.6	E	58.6	E	56.7	E
Northbound Approach	12.1	B	9.9	A	11.8	B
Northbound Left	17.9	B	12.8	B	14.6	B
Northbound Through	10.3	B	9.4	A	11.2	B
Northbound Right	9.9	A	8.3	A	11.1	B
Southbound Approach	23.6	C	17.9	B	20.8	C
Southbound Left	15.9	B	15.1	B	16.9	B
Southbound Through	24.0	C	18.2	B	21.1	C
Southbound Right	24.2	C	18.2	B	21.1	C
2040 Background Plus Project ##	24.2	C	20.9	C	23.0	C
Eastbound Approach	59.1	E	61.6	E	56.8	E
Eastbound Left	61.3	E	61.4	E	58.1	E
Eastbound Through	49.7	D	54.0	D	49.6	D
Eastbound Right	52.2	D	64.7	E	50.0	D
Westbound Approach	53.8	D	48.6	D	52.8	D
Westbound Left	52.6	D	47.7	D	51.1	D
Westbound Through	57.7	E	53.0	D	57.1	E
Westbound Right	57.4	E	53.9	D	58.8	E
Northbound Approach	7.6	A	7.7	A	7.8	A
Northbound Left	11.7	B	10.1	B	9.8	A
Northbound Through	6.4	A	7.3	A	7.3	A
Northbound Right	6.2	A	6.4	A	7.2	A
Southbound Approach	15.4	B	14.3	B	14.2	B
Southbound Left	10.6	B	12.1	B	11.7	B
Southbound Through	15.7	B	14.5	B	14.4	B
Southbound Right	15.8	B	14.4	B	14.4	B

= Protected-permissive eastbound, westbound, and northbound left turn phasing

= # But with dual eastbound left turn lanes with protected-only phasing

Hinsdale Avenue & Gartrell Road (#3)

The unsignalized intersection of Hinsdale Avenue and Gartrell Road (#3) operates with stop control on the eastbound Hinsdale Avenue and westbound private access approaches. The intersection movements operate acceptably at LOS D or better during both peak hours under existing conditions. With project traffic, all movements are anticipated to continue operating at an acceptable level of service throughout the 2040 horizon. Therefore, no improvements or modifications are anticipated to be needed at this intersection based on the addition of project traffic and this operational level of service analysis.

Per the request of the City of Aurora, a four-hour vehicular volume signal warrant analysis was conducted at this intersection, and it was found that a signal is not warranted at this intersection based on 2040 total traffic volumes. Of note, for this signal warrant analysis, all westbound right turns were removed based on there being an exclusive westbound right turn lane, and a low volume of left and through movements on the minor leg approaches. It is not effective traffic engineering practice to install signal control when the triggering volumes are predominantly right turn movements with acceptable level of service (LOS B for right turn movements). Further, signalization is not believed to be appropriate at this intersection due to the signalized Dry Creek Road and Gartrell Road intersection being located approximately 950 feet to the south. All minor leg movements at the Hinsdale Avenue and Gartrell Road intersection can easily reroute and utilize the minor legs of the Dry Creek Road and Gartrell Road intersection. Signal warrant analysis is provided in **Appendix D. Table 7** provides the results of the LOS analysis conducted at this intersection.

Table 7 – Hinsdale Avenue & Gartrell Road (#3) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2023 Existing				
Northbound Left	9.8	A	8.9	A
Eastbound Left	17.8	C	23.4	C
Westbound Left	19.6	C	29.1	D
Westbound Through	23.0	C	28.9	D
Westbound Right	10.2	B	12.2	B
Southbound Left	8.8	A	10.4	B
2025 Background				
Northbound Left	10.0	B	9.0	A
Eastbound Left	18.2	C	24.5	C
Westbound Left	20.2	C	30.4	D
Westbound Through	23.8	C	30.0	D
Westbound Right	10.3	B	12.4	B
Southbound Left	8.9	A	10.6	B
2025 Background Plus Project				
Northbound Left	10.1	B	9.2	A
Eastbound Left	20.0	C	29.8	D
Westbound Left	20.8	C	31.9	D
Westbound Through	24.5	C	31.5	D
Westbound Right	10.4	B	12.7	B
Southbound Left	8.9	A	10.8	B
2040 Background				
Northbound Left	10.9	B	10.0	A
Eastbound Left	22.4	C	38.1	E
Westbound Left	22.9	C	43.1	E
Westbound Through	28.0	D	41.2	E
Westbound Right	10.6	B	14.2	B
Southbound Left	9.1	A	12.1	B
2040 Background Plus Project				
Northbound Left	11.0	B	10.1	B
Eastbound Left	24.5	C	47.0	E
Westbound Left	23.6	C	45.7	E
Westbound Through	28.9	D	43.7	E
Westbound Right	10.7	B	14.5	B
Southbound Left	9.1	A	12.4	B

Project Accesses

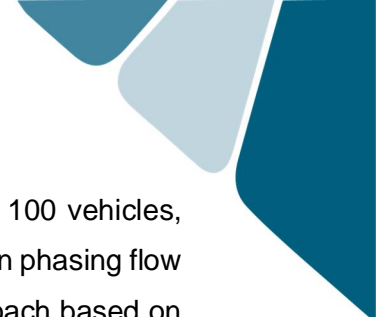
With completion of the Chick-fil-A project, access will be provided from the existing full movement shared access on the east side of Hinsdale Avenue (#4) and the existing right-in/right-out shared access along the west side of Gartrell Road (#5). **Table 8** provides the results of the level of service for these project accesses. 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 2040 long-term horizons.

Table 8 – Project Access Level of Service Results

Intersection	2025 Total				2040 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
Hinsdale Ave Access (#4)								
Westbound Approach	9.6	A	9.6	A	9.7	A	9.8	A
Southbound Left	7.5	A	7.6	A	7.5	A	7.6	A
Gartrell Rd RIRO Access (#5)								
Eastbound Right	14.3	B	11.8	B	15.2	C	13.4	B

5.3 Left Turning Phasing Warrants & Vehicle Queuing Observations

Per request of the City of Aurora, left turn phasing was analyzed on each approach of the Dry Creek Road and Gartrell Road (#2) intersection based on City of Aurora Left Turn Phase Warrants (attached in **Appendix C**). It is believed that the appropriate sight distance is currently provided on the eastbound, westbound, and southbound approaches at this intersection. However, the southbound left turning vehicles may block a portion of the line of sight for the northbound left turning vehicles. Therefore, protected left turn phasing could be considered on the northbound approach; otherwise, protective-permissive is recommended based on the findings of volume analysis. The speed limit along Gartrell Road is 40 miles per hour, whereas the speed limit along Dry Creek Road is 35 miles per hour; both speed limits are under the 45 mile per hour speed limit shown in the City of Aurora Left Turn Phase Warrants flow chart. The eastbound and westbound approaches provide one through lane in each direction, whereas the northbound and southbound approaches along Gartrell Road provide two through lanes northbound and southbound.



The eastbound and westbound left turn volumes are currently both greater than 100 vehicles, therefore protected-permissive left turn phasing is desirable according to the left turn phasing flow chart. Protected-permissive left turn phasing is desirable for the northbound approach based on the left turn volume for the 2025 horizon prior to the addition of project traffic being greater than 100 vehicles. The southbound left turn volume is under 100 vehicles (70 vehicles) during the 2040 horizon with the addition of project traffic, and the southbound left turn volume multiplied by the opposing traffic volume is under 100,000 (57,400) for this same horizon; therefore, it is recommended that the southbound left turn phasing remain permissive. As such, if the existing lane configurations remain at the Dry Creek Road and Gartrell Road intersection, then protective-permissive left turn phasing is recommended on the eastbound, westbound, and northbound approaches of this intersection while permitted left turn phasing would remain on southbound approach. However, as documented in the paragraph to follow and in Section 5.4, dual left turn lanes with protected only left turn phasing are recommended on the eastbound approach of the Dry Creek Road and Gartrell Road intersection.

Long vehicle queues have been observed on the eastbound approach of Dry Creek Road and Gartrell Road intersection during the morning peak hour aligning with start of Liberty Middle School and then again from 3:45 PM to 4:00 PM coinciding with the release of the school, with the school beginning at 8:50 AM and ending at 3:45 PM. Protective-permissive left turn phasing reduces vehicles on the eastbound approach but not to the extent that dual left turn lanes have been calculated to reduce queues. Vehicle queues on the eastbound approach of this intersection were observed not clearing each signal cycle coinciding with the school release. The eastbound approach was observed with approximately 36 seconds of green time under permissive left turning phasing during this time. With protective-permissive left turn phasing and 56 seconds of green time on the eastbound approach (33 seconds designated for left turn movements) of this intersection, vehicle queues are calculated to clear each signal cycle in 2040 and observed as such in SimTraffic. With dual left turn lanes on the eastbound approach (and protective left turn phasing) and 52 seconds of green time (28 seconds designated for left turn movements) on the eastbound approach, vehicle queues are calculated to clear each signal cycle in 2040 and observed as such in SimTraffic.

5.4 Vehicle Queuing Analysis

A 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 **Table 9** with calculations provided within the LOS outputs in **Appendix C** for unsignalized intersections and **Appendix E** 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)	2040 Calculated Queue (feet)	2040 Recommended Length (feet)
Dry Creek Rd & Hinsdale Ave (#1) Eastbound Left	50'	25'	50'	25'	50'
Dry Creek Rd & Gartrell Rd (#2) (Dual EBL – Recommended)					
Eastbound Left	175'	86' DL	175' DL	105' DL	175' DL
Eastbound Right	150'	25'	150'	25'	150'
Westbound Left	175'	161'	175'	171'	175'
Westbound Right	175'	25'	175'	34'	175'
Northbound Left	225'	86'	225'	89'	225'
Northbound Right	200'	26'	200'	25'	200'
Southbound Left	125'	69'	125'	67'	125'
Dry Creek Rd & Gartrell Rd (#2) (Single EBL)					
Eastbound Left	175'	149'	-	173'	-
Eastbound Right	150'	25'	-	25'	-
Westbound Left	175'	164'	-	154'	-
Westbound Right	175'	25'	-	34'	-
Northbound Left	225'	105'	-	110'	-
Northbound Right	200'	32'	-	28'	-
Southbound Left	125'	75'	-	83'	-
Hinsdale Ave & Gartrell Rd (#3)					
Westbound Left	75'	25'	75'	25'	75'
Northbound Left	150'	25'	150'	25'	150'
Northbound Right	75'	25'	75'	25'	75'
Southbound Left	175'	25'	175'	50'	175'

Red Text = Storage Deficiency; **Blue** Text = Recommendation; DL = Dual Left Turn Lanes

As shown in the table above, the dual eastbound left turn lanes at the Dry Creek Road and Gartrell Road (#2) intersection are recommended to be striped to a maximum length of approximately 175 feet—because of the northbound left turn lane curvature, it is possible the inner eastbound left turn lane stop bar should be placed further west to avoid any potential collision between eastbound left turning vehicles queued in this lane the northbound left-turning vehicles. These eastbound dual left turn lanes cannot be extended further due to the intersection to the west.

While overall intersection operations are not improved significantly, it is believed that these dual eastbound left turn lanes will help to alleviate existing morning peak hour queues and queueing issues observed coinciding with student dismissal at Liberty Middle School starting at approximately 3:50 PM and occurring for approximately 15 minutes. It is believed that a single westbound left turn lane can be maintained at this intersection and that eastbound and westbound left-turning movements can occur simultaneously.

5.5 Pedestrian Safety and Traffic Calming

Sidewalks are provided on both sides of Gartrell Road, Hinsdale Avenue, and Dry Creek Road in the site vicinity. Crosswalks are provided on all four legs at the Dry Creek Road and Gartrell Road intersection. Bicycle lanes are currently provided along both sides of Gartrell Road and Dry Creek Road west of Gartrell Road. Public transportation does not currently exist near the project site or in the surrounding area.

5.6 Drive Through Queueing Analysis

The maximum vehicle queues experienced at the two site-specific Chick-fil-A locations with no indoor seating were observed during the morning and afternoon peak periods. Based on these observations, the maximum observed queue onsite at either of these locations during all peak periods was 32 vehicles and occurred in one instance at one of the sites during the afternoon peak hour, while the maximum observed queue at the other site was 16 vehicles, equating to an average maximum vehicle queue during the peak hours of 24 vehicles.

Based on the site plan developed for this project, the queue of cars anticipated to be accommodated specifically within the drive-through lanes from the entry point to the final pickup window is approximately 640 feet total length, which is approximately 32 vehicles. Additional storage is provided onsite to the north of the drive-through lanes for 12 additional vehicles prior to spilling into the private east/west access road to the north of the site for a total onsite storage of approximately 44 vehicles. There is additional storage capacity onsite in the east/west drive aisles onsite as well. The proposed site plan for the Dry Creek & Gartrell site has three lanes for ordering while then merging to two lanes after the order boards. Employees will deliver orders to vehicles in the outside pick-up lane. The proposed project is expected to have a streamlined process for moving vehicles through the designated drive through area. Therefore, it is believed the site has been designed with an appropriate configuration to accommodate drive-through

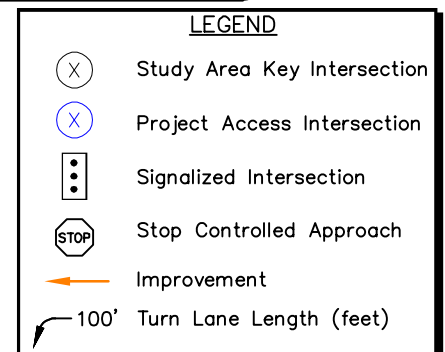
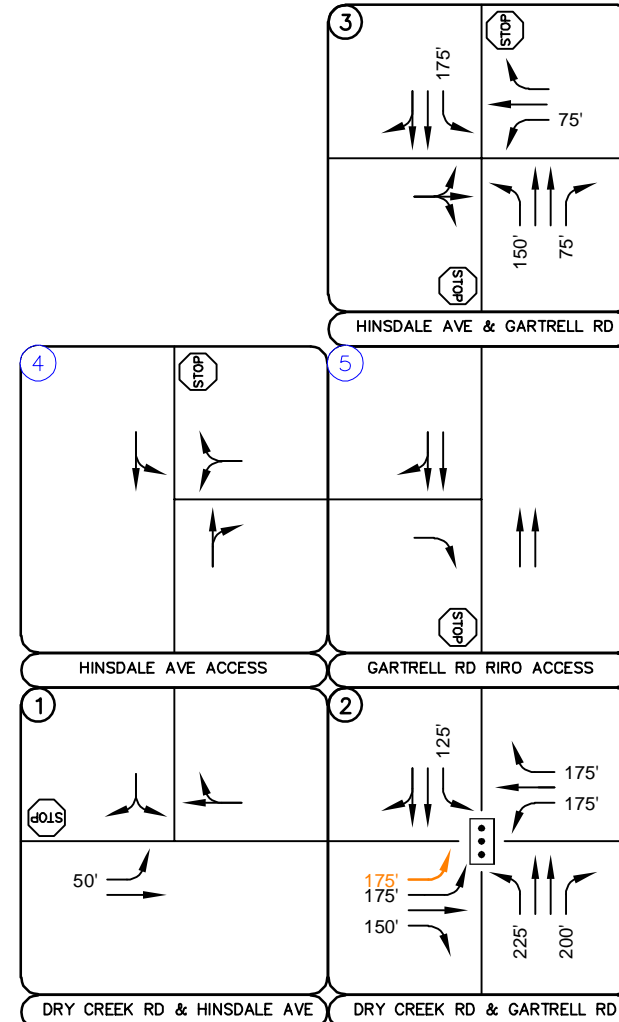
queueing needs onsite and within the designated drive-through area. Site-specific queueing data is provided along with the site-specific trip generation worksheets in **Appendix B**.

5.7 Improvement Summary

Based on the results of the intersection operational and vehicle queueing analysis, the key intersection recommended improvements and control are shown in **Figure 13**.



FIGURE 13
CHICK-FIL-A
AURORA, COLORADO
RECOMMENDED GEOMETRY AND CONTROL



6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, Kimley-Horn believes the proposed Chick-fil-A redevelopment project 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:

- It is recommended that the eastbound approach at the Dry Creek Road and Gartrell Road (#1) intersection be restriped to include dual left turn lanes with approximately 175 feet in length. These dual left turn lanes are recommended to operate with protected-only left turn phasing. The westbound approach is anticipated to continue operating well with one lane each for left, through, and right-turning movements. It is believed that the dual eastbound left turn lanes and the single westbound left turn lane can operate concurrently without causing vehicle conflicts. Of note, the mast arm on the southeast corner of this intersection would need to be extended to allow for the new signal head to align with the inside eastbound left turn lane. Additionally, to meet City of Aurora standards, it is recommended that the northbound and westbound left turn phasing at this intersection be changed from permissive-only to protected-permissive phasing.
- Any onsite or offsite improvements should be incorporated into the Civil Drawings and conform to standards of the City of Aurora and the Manual on Uniform Traffic Control Devices (MUTCD) – 2009 Edition.

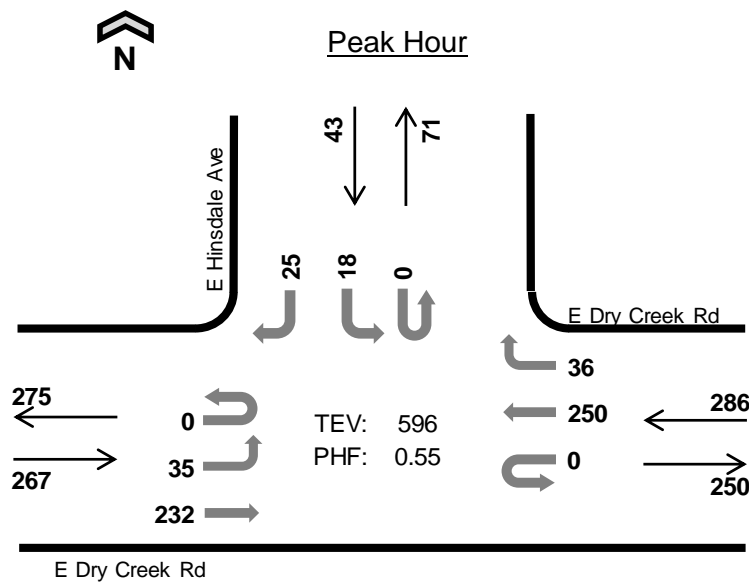


APPENDICES

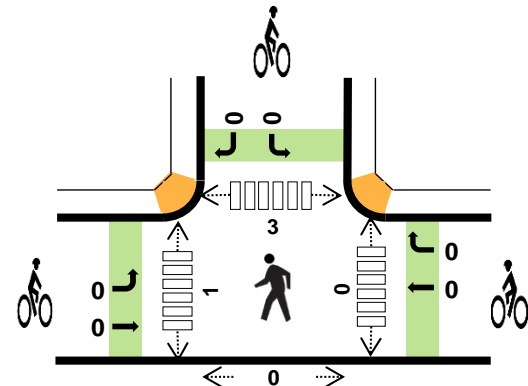
APPENDIX A

Intersection Count Sheets

E Hinsdale Ave E Dry Creek Rd



Date: 10/04/2023
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %	PHF
EB	6.4%	0.57
WB	5.9%	0.53
NB	-	-
SB	2.3%	0.60
TOTAL	5.9%	0.55

Count Summaries

Interval Start		E Dry Creek Rd				E Dry Creek Rd				n/a				E Hinsdale Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	3	21	0	0	0	9	3	0	0	0	0	0	5	0	1	42	0
7:15 AM		0	5	27	0	0	0	13	7	0	0	0	0	0	2	0	0	54	0
7:30 AM		0	1	36	0	0	0	30	10	0	0	0	0	0	4	0	2	83	0
7:45 AM		0	2	28	0	0	0	42	9	0	0	0	0	0	3	0	1	85	264
8:00 AM		0	0	25	0	0	0	27	12	0	0	0	0	0	4	0	0	68	290
8:15 AM		0	3	35	0	0	0	49	11	0	0	0	0	0	5	0	7	110	346
8:30 AM		0	16	102	0	0	0	132	4	0	0	0	0	0	3	0	15	272	535
8:45 AM		0	16	70	0	0	0	42	9	0	0	0	0	0	6	0	3	146	596
Count Total		0	46	344	0	0	0	344	65	0	0	0	0	0	32	0	29	860	0
Peak Hour	All	0	35	232	0	0	0	250	36	0	0	0	0	0	18	0	25	596	0
	HV	0	0	17	0	0	0	17	0	0	0	0	0	0	1	0	0	35	0
	HV%	-	0%	7%	-	-	-	7%	0%	-	-	-	-	-	6%	-	0%	6%	0

Note: Count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1
7:15 AM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0
7:30 AM	3	4	0	1	8	1	0	0	0	1	0	0	4	0	4
7:45 AM	1	1	0	1	3	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1
8:15 AM	0	2	0	1	3	0	0	0	0	0	0	1	2	0	3
8:30 AM	6	12	0	0	18	0	0	0	0	0	0	0	0	0	0
8:45 AM	11	2	0	0	13	0	0	0	0	0	0	0	0	0	0
Count Total	22	24	0	3	49	1	0	0	0	1	0	1	8	0	9
Peak Hr	17	17	0	1	35	0	0	0	0	0	0	1	3	0	4

Count Summaries - Heavy Vehicles

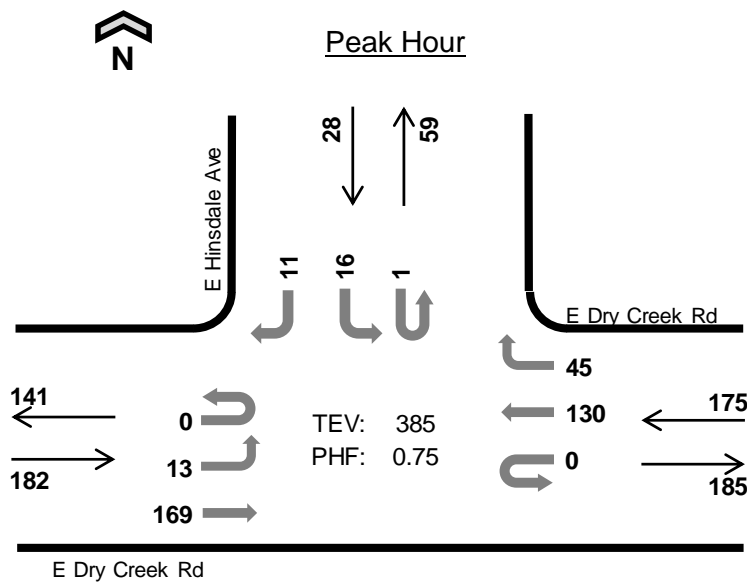
Interval Start	E Dry Creek Rd				E Dry Creek Rd				n/a				E Hinsdale Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0
7:30 AM	0	0	3	0	0	0	3	1	0	0	0	0	0	0	0	1	8	0
7:45 AM	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0	3	14
8:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	14
8:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0	3	15
8:30 AM	0	0	6	0	0	0	12	0	0	0	0	0	0	0	0	0	18	25
8:45 AM	0	0	11	0	0	0	2	0	0	0	0	0	0	0	0	0	13	35
Count Total	0	1	21	0	0	0	22	2	0	0	0	0	0	2	0	1	49	0
Peak Hour	0	0	17	0	0	0	17	0	0	0	0	0	0	1	0	0	35	0

Count Summaries - Bikes

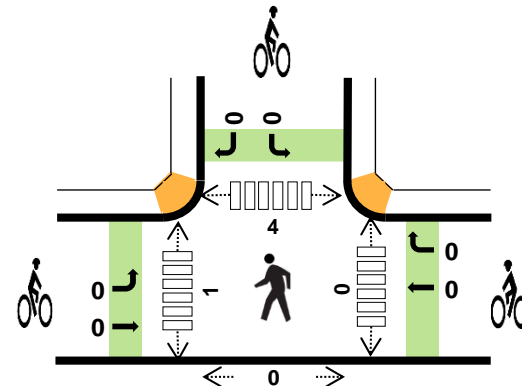
Interval Start	E Dry Creek Rd			E Dry Creek Rd			n/a			E Hinsdale Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	1	0	0	0	0	0	0	0	0	0	0	1	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

E Hinsdale Ave E Dry Creek Rd



Date: 10/04/2023
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV %	PHF
EB	6.0%	0.59
WB	6.3%	0.84
NB	-	-
SB	3.6%	0.58
TOTAL	6.0%	0.75

Count Summaries

Interval Start		E Dry Creek Rd				E Dry Creek Rd				n/a				E Hinsdale Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	1	48	0	0	0	27	11	0	0	0	0	0	2	0	2	91	0
4:15 PM		0	1	32	0	0	0	27	15	0	0	0	0	0	1	0	2	78	0
4:30 PM		0	1	22	0	0	0	42	10	0	0	0	0	1	8	0	3	87	0
4:45 PM		0	10	67	0	0	0	34	9	0	0	0	0	0	5	0	4	129	385
5:00 PM		0	5	28	0	0	0	27	8	0	0	0	0	0	4	0	2	74	368
5:15 PM		0	0	26	0	0	0	28	11	0	0	0	0	0	7	0	0	72	362
5:30 PM		0	4	23	0	0	0	26	11	0	0	0	0	0	4	0	0	68	343
5:45 PM		0	1	10	0	0	0	26	6	0	0	0	0	0	2	0	3	48	262
Count Total		0	23	256	0	0	0	237	81	0	0	0	0	1	33	0	16	647	0
Peak Hour	All	0	13	169	0	0	0	130	45	0	0	0	0	1	16	0	11	385	0
	HV	0	0	11	0	0	0	11	0	0	0	0	0	0	1	0	0	23	0
	HV%	-	0%	7%	-	-	-	8%	0%	-	-	-	-	0%	6%	-	0%	6%	0

Note: Count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	1	0	0	3	0	0	0	0	0	0	1	2	0	3
4:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1
4:30 PM	0	7	0	1	8	0	0	0	0	0	0	0	0	0	0
4:45 PM	9	1	0	0	10	0	0	0	0	0	0	0	1	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	4	0	5
5:15 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	11	12	0	1	24	0	0	0	0	0	0	5	10	0	15
Peak Hr	11	11	0	1	23	0	0	0	0	0	0	1	4	0	5

Count Summaries - Heavy Vehicles

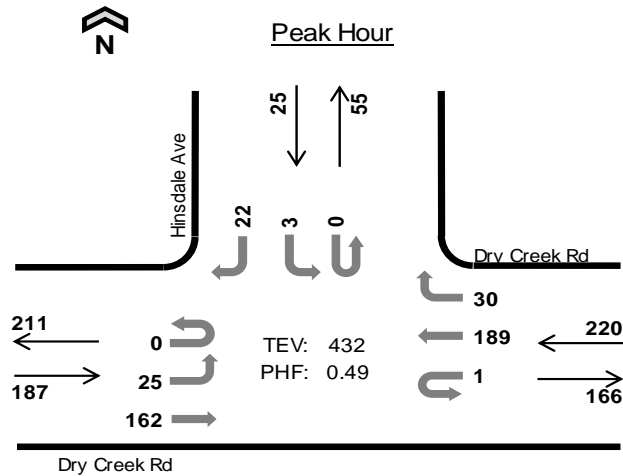
Interval Start	E Dry Creek Rd				E Dry Creek Rd				n/a				E Hinsdale Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0
4:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0
4:30 PM	0	0	0	0	0	0	7	0	0	0	0	0	0	1	0	0	8	0
4:45 PM	0	0	9	0	0	0	1	0	0	0	0	0	0	0	0	0	10	23
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	19
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	11	0	0	0	11	1	0	0	0	0	0	1	0	0	24	0
Peak Hour	0	0	11	0	0	0	11	0	0	0	0	0	0	1	0	0	23	0

Count Summaries - Bikes

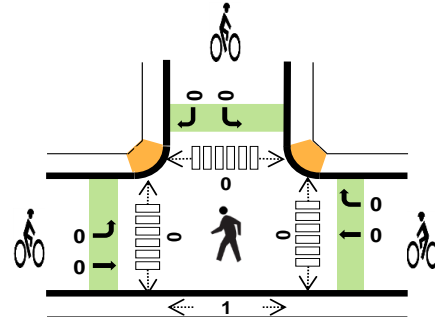
Interval Start	E Dry Creek Rd			E Dry Creek Rd			n/a			E Hinsdale Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Hinsdale Ave Dry Creek Rd



Date: 01/24/2024
Count Period: 3:00 PM to 4:00 PM
Peak Hour: 3:00 PM to 4:00 PM



	HV %:	PHF
EB	7.0%	0.31
WB	2.7%	0.65
NB	-	-
SB	8.0%	0.48
TOTAL	4.9%	0.49

Count Summaries

Interval Start		Dry Creek Rd				Dry Creek Rd				N/A				Hinsdale Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:00 PM		0	0	13	0	0	0	19	4	0	0	0	0	0	0	0	0	36	0
3:15 PM		0	1	7	0	0	0	39	8	0	0	0	0	0	1	0	4	60	0
3:30 PM		0	0	17	0	1	0	78	6	0	0	0	0	0	2	0	11	115	0
3:45 PM		0	24	125	0	0	0	53	12	0	0	0	0	0	0	0	7	221	432
Count Total		0	25	162	0	1	0	189	30	0	0	0	0	0	3	0	22	432	0
Peak Hour	All	0	25	162	0	1	0	189	30	0	0	0	0	0	3	0	22	432	0
	HV	0	0	13	0	0	0	5	1	0	0	0	0	0	0	0	2	21	0
	HV%	-	0%	8%	-	0%	-	3%	3%	-	-	-	-	-	0%	-	9%	5%	0

Note: Count summary volumes include heavy vehicles but exclude bicycles in overall count.

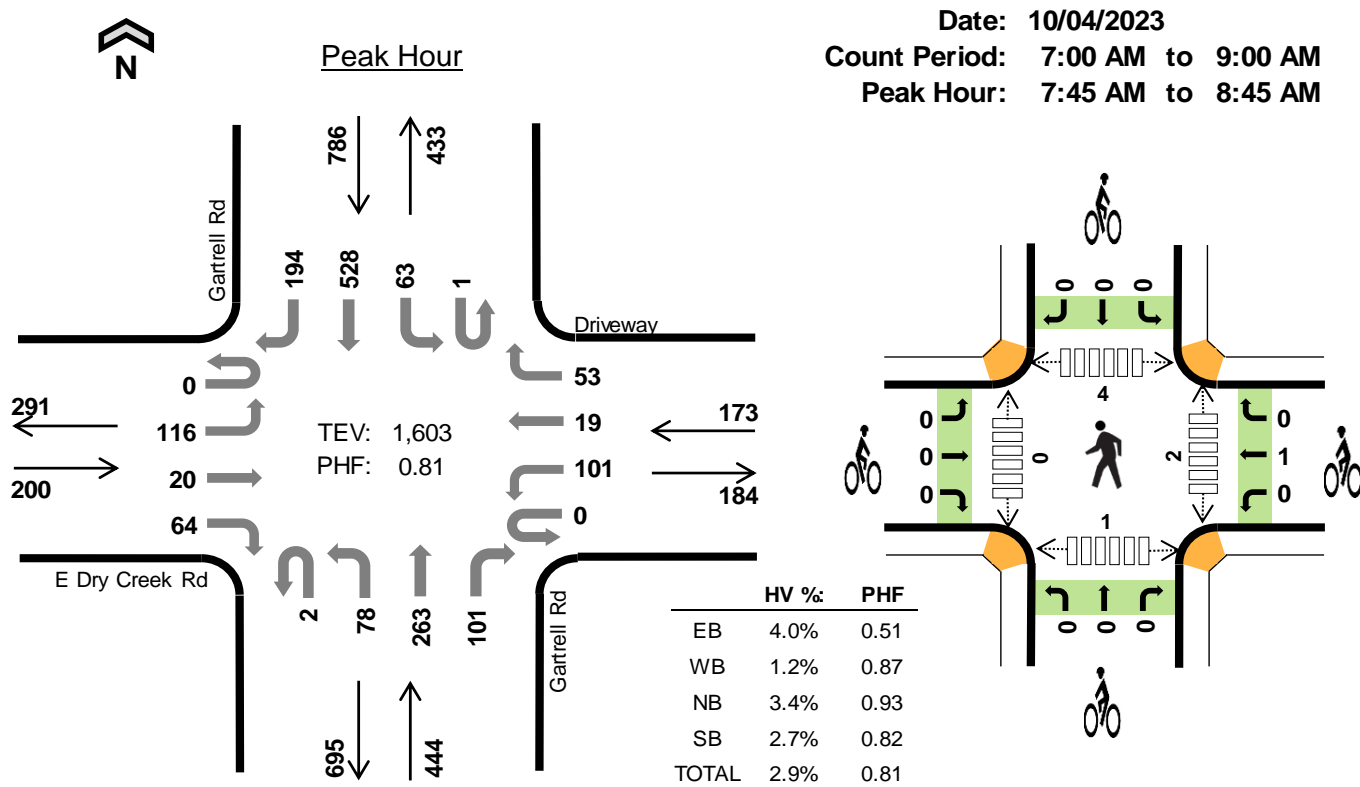
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
3:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	5	0	1	6	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	1	0	1	2	0	0	0	0	0	0	0	0	1	1
3:45 PM	12	0	0	0	12	0	0	0	0	0	0	0	0	0	0
Count Total	13	6	0	2	21	0	0	0	0	0	0	0	0	1	1
Peak Hr	13	6	0	2	21	0	0	0	0	0	0	0	0	1	1

Count Summaries - Heavy Vehicles																		
Interval Start	Dry Creek Rd				Dry Creek Rd				N/A				Hinsdale Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
3:15 PM	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	1	6	0
3:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2	0
3:45 PM	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	12	21
Count Total	0	0	13	0	0	0	5	1	0	0	0	0	0	0	0	2	21	0
Peak Hour	0	0	13	0	0	0	5	1	0	0	0	0	0	0	0	2	21	0

Count Summaries - Bikes																		
Interval Start	Dry Creek Rd			Dry Creek Rd			N/A			Hinsdale Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Gartrell Rd E Dry Creek Rd



Count Summaries

Interval Start		E Dry Creek Rd				Driveway				Gartrell Rd				Gartrell Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	8	0	13	0	15	0	13	0	5	45	23	0	10	108	7	247	0
7:15 AM		0	17	1	15	0	22	1	8	0	8	63	20	0	13	134	10	312	0
7:30 AM		0	21	3	15	0	30	3	8	5	19	80	24	0	12	143	17	380	0
7:45 AM		0	16	3	13	0	25	3	8	1	16	75	23	0	14	140	33	370	1,309
8:00 AM		0	17	4	11	0	23	1	14	0	17	60	28	0	15	136	19	345	1,407
8:15 AM		0	17	6	14	0	27	4	18	0	22	71	27	1	21	130	37	395	1,490
8:30 AM		0	66	7	26	0	26	11	13	1	23	57	23	0	13	122	105	493	1,603
8:45 AM		0	52	3	26	0	31	4	9	0	15	59	25	1	7	101	29	362	1,595
Count Total		0	214	27	133	0	199	27	91	7	125	510	193	2	105	1,014	257	2,904	0
Peak Hour	All	0	116	20	64	0	101	19	53	2	78	263	101	1	63	528	194	1,603	0
	HV	0	2	1	5	0	2	0	0	0	7	6	2	0	1	11	9	46	0
	HV%	-	2%	5%	8%	-	2%	0%	0%	0%	9%	2%	2%	0%	2%	2%	5%	3%	0

Note: Count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	3	5	8	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	1	1	3	5	0	0	0	0	0	0	0	0	0	0
7:30 AM	3	0	2	8	13	2	0	0	0	2	5	0	4	0	9
7:45 AM	2	1	1	2	6	0	0	0	0	0	0	0	2	0	2
8:00 AM	0	0	2	1	3	0	0	0	0	0	0	0	0	1	1
8:15 AM	1	1	3	9	14	0	1	0	0	1	2	0	2	0	4
8:30 AM	5	0	9	9	23	0	0	0	0	0	0	0	0	0	0
8:45 AM	12	0	6	5	23	0	0	0	0	0	0	0	0	0	0
Count Total	23	3	27	42	95	2	1	0	0	3	7	0	9	1	17
Peak Hour	8	2	15	21	46	0	1	0	0	1	2	0	4	1	7

Count Summaries - Heavy Vehicles

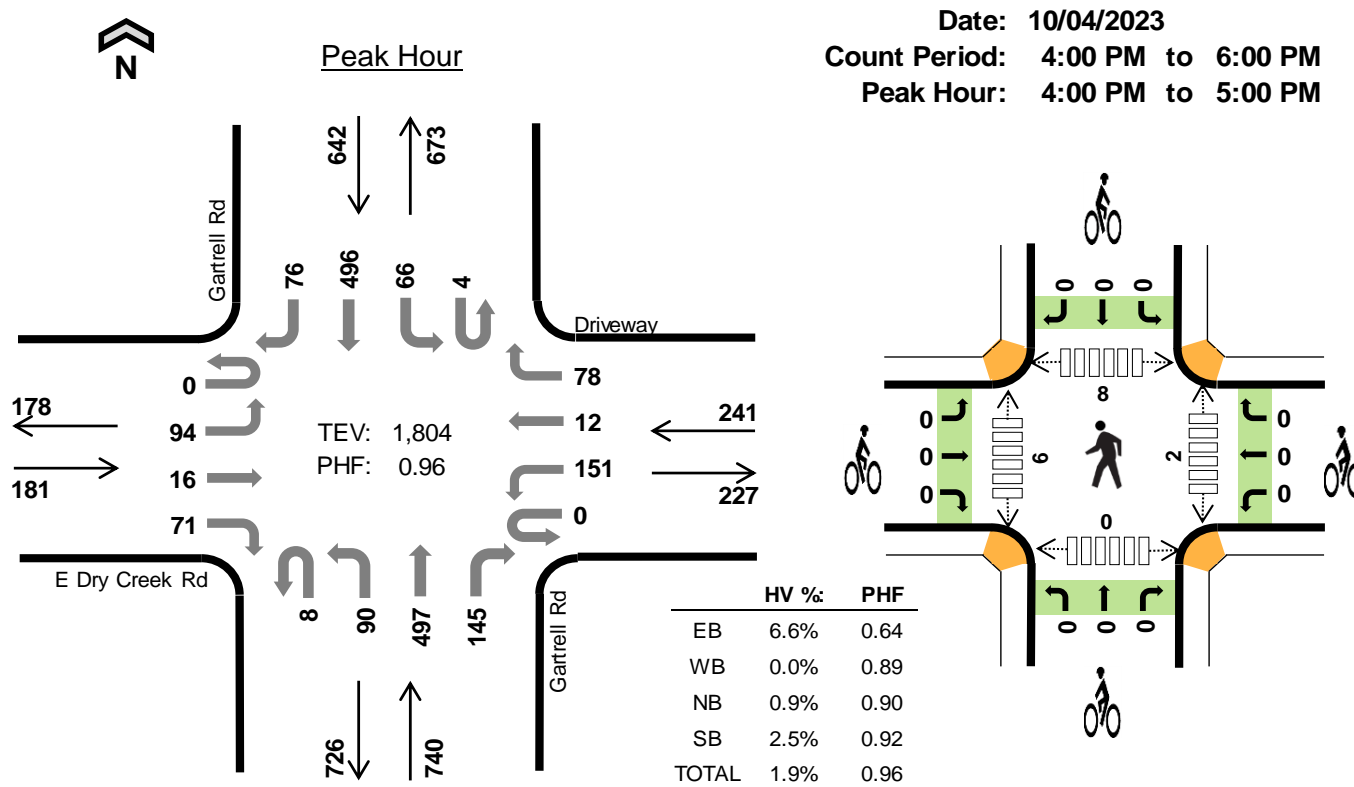
Interval Start	E Dry Creek Rd				Driveway				Gartrell Rd				Gartrell Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	2	1	0	0	4	1	8	0
7:15 AM	0	0	0	0	0	1	0	0	0	0	0	1	0	1	1	1	5	0
7:30 AM	0	3	0	0	0	0	0	0	0	1	1	0	0	1	5	2	13	0
7:45 AM	0	0	0	2	0	1	0	0	0	1	0	0	0	0	2	0	6	32
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	3	27
8:15 AM	0	0	1	0	0	1	0	0	0	1	1	1	0	1	7	1	14	36
8:30 AM	0	2	0	3	0	0	0	0	0	5	4	0	0	0	2	7	23	46
8:45 AM	0	3	0	9	0	0	0	0	0	0	6	0	0	0	3	2	23	63
Count Total	0	8	1	14	0	3	0	0	0	8	15	4	0	3	24	15	95	0
Peak Hour	0	2	1	5	0	2	0	0	0	7	6	2	0	1	11	9	46	0

Count Summaries - Bikes

Interval Start	E Dry Creek Rd			Driveway			Gartrell Rd			Gartrell Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	2	0	0	0	0	0	0	0	0	0	2	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	3
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	2	0	1	0	0	0	0	0	0	0	3	0
Peak Hour	0	0	0	0	1	0	0	0	0	0	0	0	1	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Gartrell Rd E Dry Creek Rd



Count Summaries

Interval Start		E Dry Creek Rd				Driveway				Gartrell Rd				Gartrell Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	26	4	17	0	41	3	24	0	16	110	30	2	23	133	16	445	0
4:15 PM		0	16	6	14	0	40	3	16	2	32	132	40	1	15	119	8	444	0
4:30 PM		0	11	3	13	0	38	3	22	4	22	128	42	0	7	116	34	443	0
4:45 PM		0	41	3	27	0	32	3	16	2	20	127	33	1	21	128	18	472	1,804
5:00 PM		0	22	3	9	0	36	2	22	3	19	107	42	2	16	110	13	406	1,765
5:15 PM		0	19	6	6	0	33	5	20	2	20	125	38	3	13	99	11	400	1,721
5:30 PM		0	14	4	10	0	32	5	21	0	16	106	34	2	16	99	17	376	1,654
5:45 PM		0	10	0	3	0	42	2	21	0	16	98	52	1	13	118	12	388	1,570
Count Total		0	159	29	99	0	294	26	162	13	161	933	311	12	124	922	129	3,374	0
Peak Hour	All	0	94	16	71	0	151	12	78	8	90	497	145	4	66	496	76	1,804	0
	HV	0	7	0	5	0	0	0	0	0	3	4	0	0	0	8	8	35	0
	HV%	-	7%	0%	7%	-	0%	0%	0%	0%	3%	1%	0%	0%	0%	2%	11%	2%	0

Note: Count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	0	0	5	7	0	0	0	0	0	1	6	8	0	15
4:15 PM	0	0	5	4	9	0	0	0	0	0	1	0	0	0	1
4:30 PM	0	0	2	7	9	0	0	0	0	0	0	0	0	0	0
4:45 PM	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	6	0	6
5:15 PM	0	0	1	0	1	0	0	0	0	0	0	1	1	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
5:45 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
Count Total	12	0	8	18	38	0	0	0	0	0	3	7	15	2	27
Peak Hour	12	0	7	16	35	0	0	0	0	0	2	6	8	0	16

Count Summaries - Heavy Vehicles

Interval Start	E Dry Creek Rd				Driveway				Gartrell Rd				Gartrell Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	4	1	7	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	4	0	0	0	3	1	9	0
4:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	6	9	0
4:45 PM	0	6	0	4	0	0	0	0	0	0	0	0	0	0	0	0	10	35
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	29
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	21
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
Count Total	0	7	0	5	0	0	0	0	0	4	4	0	0	0	10	8	38	0
Peak Hour	0	7	0	5	0	0	0	0	0	3	4	0	0	0	8	8	35	0

Count Summaries - Bikes

Interval Start	E Dry Creek Rd			Driveway			Gartrell Rd			Gartrell Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Gartrell Rd Dry Creek Rd

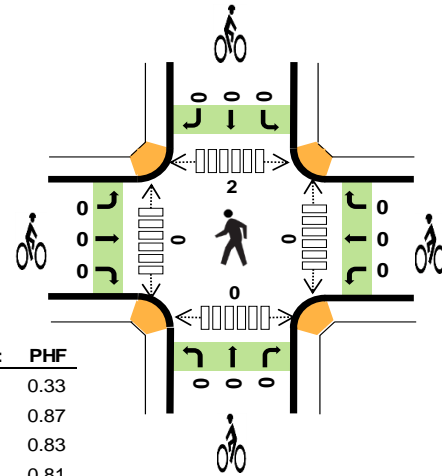
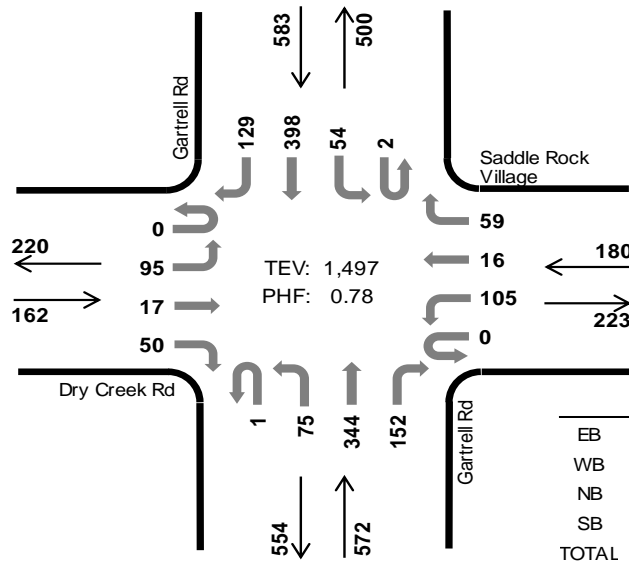


Peak Hour

Date: 01/24/2024

Count Period: 3:00 PM to 4:00 PM

Peak Hour: 3:00 PM to 4:00 PM



	HV %	PHF
EB	6.8%	0.33
WB	1.7%	0.87
NB	1.0%	0.83
SB	1.9%	0.81
TOTAL	2.1%	0.78

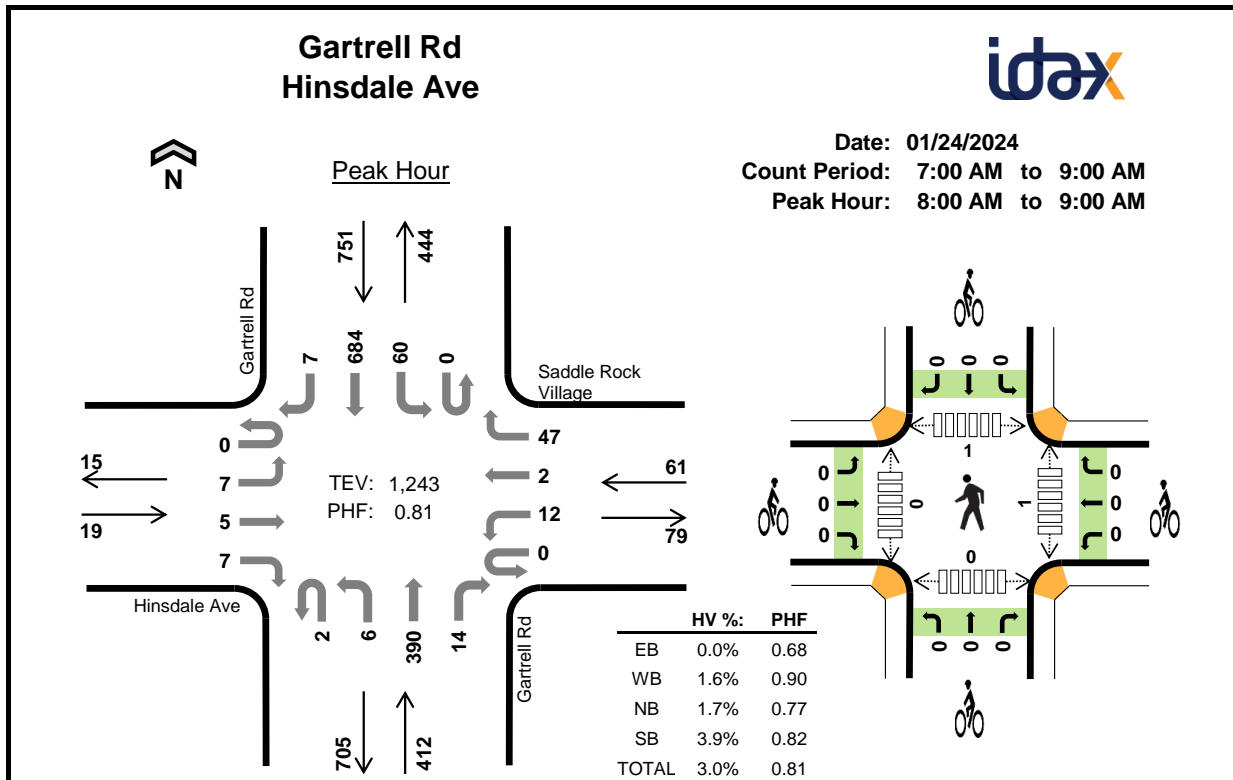
Count Summaries

Interval Start		Dry Creek Rd				Saddle Rock Village				Gartrell Rd				Gartrell Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:00 PM		0	4	1	6	0	27	2	9	0	13	77	41	1	11	86	9	287	0
3:15 PM		0	4	1	3	0	18	6	17	0	18	81	26	0	14	93	25	306	0
3:30 PM		0	7	5	8	0	31	7	11	1	21	108	43	0	14	107	59	422	0
3:45 PM		0	80	10	33	0	29	1	22	0	23	78	42	1	15	112	36	482	1,497
Count Total		0	95	17	50	0	105	16	59	1	75	344	152	2	54	398	129	1,497	0
Peak Hour	All	0	95	17	50	0	105	16	59	1	75	344	152	2	54	398	129	1,497	0
	HV	0	5	0	6	0	0	3	0	0	1	2	3	0	0	9	2	31	0
	HV%	-	5%	0%	12%	-	0%	19%	0%	0%	1%	1%	2%	0%	0%	2%	2%	2%	0

Note: Count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
3:00 PM	1	0	1	5	7	0	0	0	0	0	0	0	1	0	1
3:15 PM	0	3	2	0	5	0	0	0	0	0	0	0	1	0	1
3:30 PM	0	0	1	5	6	0	0	0	0	0	0	0	0	0	0
3:45 PM	10	0	2	1	13	0	0	0	0	0	0	0	0	0	0
Count Total	11	3	6	11	31	0	0	0	0	0	0	0	2	0	2
Peak Hour	11	3	6	11	31	0	0	0	0	0	0	0	2	0	2

Count Summaries - Heavy Vehicles																		
Interval Start	Dry Creek Rd				Saddle Rock Village				Gartrell Rd				Gartrell Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:00 PM	0	0	0	1	0	0	0	0	0	0	1	0	0	0	4	1	7	0
3:15 PM	0	0	0	0	0	0	3	0	0	1	0	1	0	0	0	0	5	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4	1	6	0
3:45 PM	0	5	0	5	0	0	0	0	0	0	0	2	0	0	1	0	13	31
Count Total	0	5	0	6	0	0	3	0	0	1	2	3	0	0	9	2	31	0
Peak Hour	0	5	0	6	0	0	3	0	0	1	2	3	0	0	9	2	31	0
Count Summaries - Bikes																		
Interval Start	Dry Creek Rd			Saddle Rock Village			Gartrell Rd			Gartrell Rd			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Note: U-Turn volumes for bikes are included in Left-Turn, if any.																		

**Two-Hour Count Summaries**

Interval Start		Hinsdale Ave				Saddle Rock Village				Gartrell Rd				Gartrell Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	2	0	3	0	2	0	4	0	1	71	1	0	6	108	2	200	0
7:15 AM		0	3	0	6	0	6	0	4	2	0	89	3	0	7	121	0	241	0
7:30 AM		0	2	0	5	0	6	0	8	2	2	110	1	0	19	129	1	285	0
7:45 AM		0	3	0	0	0	3	0	8	1	1	85	3	0	26	155	1	286	1,012
8:00 AM		0	1	0	1	0	2	0	14	1	2	71	2	0	16	145	1	256	1,068
8:15 AM		0	2	1	1	0	4	1	11	0	2	77	4	0	15	191	2	311	1,138
8:30 AM		0	4	2	1	0	5	0	7	0	1	131	2	0	12	216	1	382	1,235
8:45 AM		0	0	2	4	0	1	1	15	1	1	111	6	0	17	132	3	294	1,243
Count Total		0	17	5	21	0	29	2	71	7	10	745	22	0	118	1,197	11	2,255	0
Peak Hour	All	0	7	5	7	0	12	2	47	2	6	390	14	0	60	684	7	1,243	0
	HV	0	0	0	0	0	0	0	1	0	0	7	0	0	3	26	0	37	0
	HV%	-	0%	0%	0%	-	0%	0%	2%	0%	0%	2%	0%	-	5%	4%	0%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

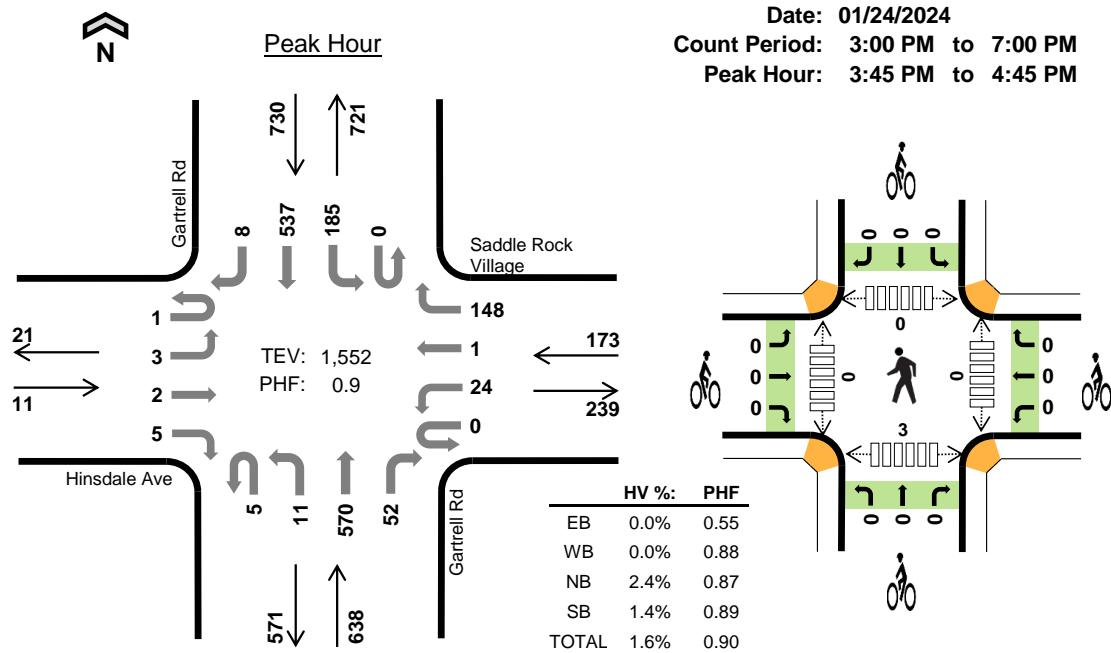
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	3	4	7	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	6	0	7	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	1	4	5	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	2	4	7	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	1	15	16	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	3	6	9	0	0	0	0	0	1	0	1	0	2
Count Total	0	2	17	40	59	0	0	0	0	0	1	0	1	0	2
Peak Hour	0	1	7	29	37	0	0	0	0	0	1	0	1	0	2

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Hinsdale Ave				Saddle Rock Village				Gartrell Rd				Gartrell Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	7	0
7:30 AM	0	0	0	0	0	0	0	1	1	0	5	0	0	0	0	0	7	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	22
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3	0	5	23
8:15 AM	0	0	0	0	0	0	0	1	0	0	2	0	0	0	4	0	7	23
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	2	13	0	16	32
8:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	6	0	9	37
Count Total	0	0	0	0	0	0	0	2	1	0	16	0	0	3	37	0	59	0
Peak Hour	0	0	0	0	0	0	0	1	0	0	7	0	0	3	26	0	37	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Hinsdale Ave			Saddle Rock Village			Gartrell Rd			Gartrell Rd			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Gartrell Rd Hinsdale Ave



Four-Hour Count Summaries

Interval Start		Hinsdale Ave				Saddle Rock Village				Gartrell Rd				Gartrell Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:45 PM		1	2	1	0	0	6	0	32	1	1	166	16	0	46	155	4	431	0
4:00 PM		0	0	0	0	0	4	0	40	1	3	141	14	0	40	108	1	352	0
4:15 PM		0	0	1	1	0	8	0	34	2	3	120	9	0	61	137	1	377	0
4:30 PM		0	1	0	4	0	6	1	42	1	4	143	13	0	38	137	2	392	1,552
Peak Hour	All	1	3	2	5	0	24	1	148	5	11	570	52	0	185	537	8	1,552	0
	HV	0	0	0	0	0	0	0	0	1	0	14	0	0	0	10	0	25	0
	HV%	0%	0%	0%	0%	-	0%	0%	0%	20%	0%	2%	0%	-	0%	2%	0%	2%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
3:45 PM	0	0	9	3	12	0	0	0	0	0	0	0	0	1	1
4:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	5	6	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	4	2	6	0	0	0	0	0	0	0	0	2	2
Peak Hour	0	0	15	10	25	0	0	0	0	0	0	0	0	3	3

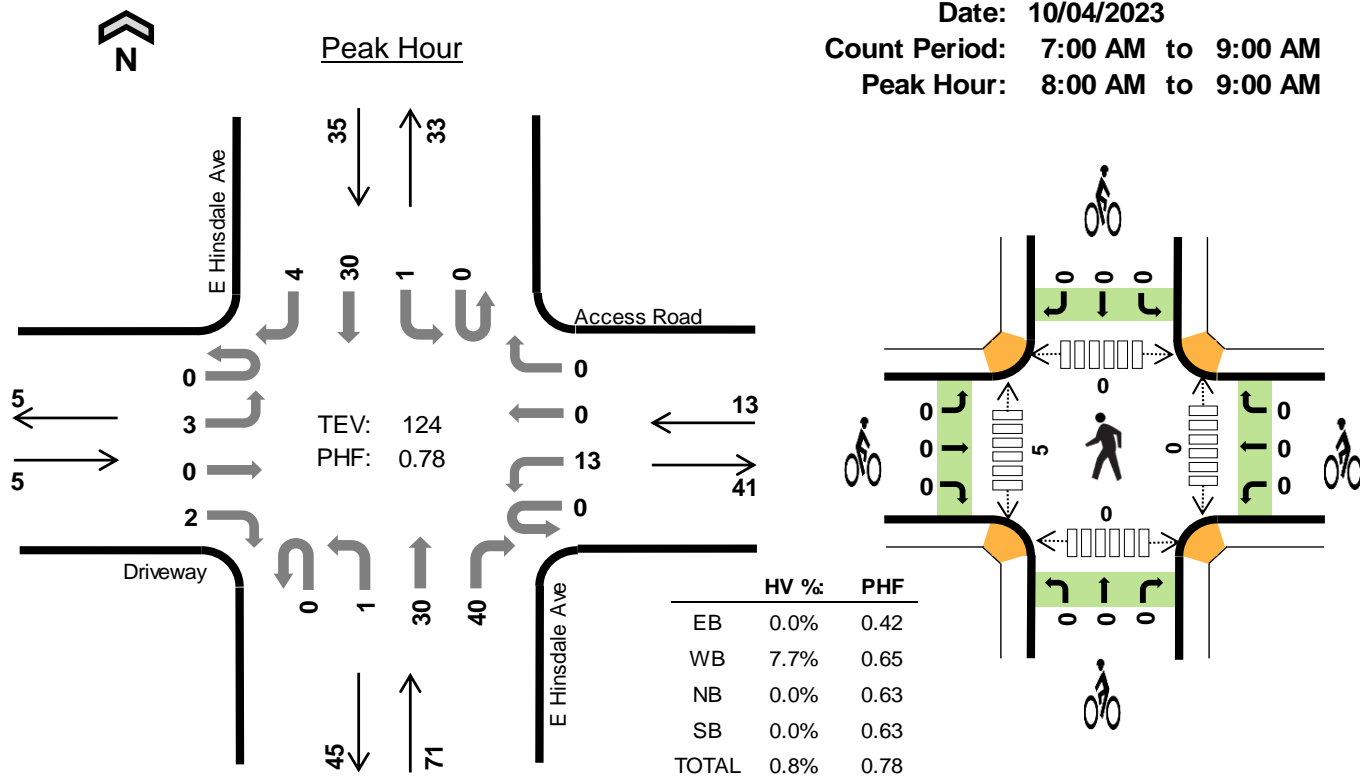
Four-Hour Count Summaries																			
Interval Start		Hinsdale Ave				Saddle Rock Village				Gartrell Rd				Gartrell Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:00 PM		0	3	1	1	0	4	0	33	0	2	86	10	0	33	85	2	260	0
3:15 PM		0	1	0	0	0	8	0	30	1	3	92	10	0	31	125	4	305	0
3:30 PM		0	0	0	1	0	6	0	31	1	3	114	15	0	35	172	2	380	0
3:45 PM		1	2	1	0	0	6	0	32	1	1	166	16	0	46	155	4	431	1,376
4:00 PM		0	0	0	0	0	4	0	40	1	3	141	14	0	40	108	1	352	1,468
4:15 PM		0	0	1	1	0	8	0	34	2	3	120	9	0	61	137	1	377	1,540
4:30 PM		0	1	0	4	0	6	1	42	1	4	143	13	0	38	137	2	392	1,552
4:45 PM		0	0	0	0	0	10	0	27	4	4	143	12	0	39	141	5	385	1,506
5:00 PM		0	4	0	0	0	6	0	37	1	0	156	8	0	45	100	5	362	1,516
5:15 PM		0	0	1	0	0	10	0	36	6	3	115	19	0	36	110	3	339	1,478
5:30 PM		0	0	0	2	0	8	0	31	1	2	110	10	0	45	111	2	322	1,408
5:45 PM		0	3	0	2	0	9	0	41	1	1	113	15	0	44	123	3	355	1,378
6:00 PM		0	0	1	0	0	12	1	37	1	2	118	11	0	29	84	2	298	1,314
6:15 PM		0	3	0	1	0	6	0	33	1	5	102	10	0	24	109	5	299	1,274
6:30 PM		0	0	1	2	0	6	0	27	0	0	83	9	0	35	73	1	237	1,189
6:45 PM		0	0	0	0	0	5	0	34	0	3	62	10	0	24	92	1	231	1,065
Count Total		1	17	6	14	0	114	2	545	22	39	1,864	191	0	605	1,862	43	5,325	0
Peak Hour	All	1	3	2	5	0	24	1	148	5	11	570	52	0	185	537	8	1,552	0
	HV	0	0	0	0	0	0	0	0	1	0	14	0	0	0	10	0	25	0
	HV%	0%	0%	0%	0%	-	0%	0%	0%	20%	0%	2%	0%	-	0%	2%	0%	2%	0
Note: Four-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.																			
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)								
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total				
3:00 PM		0	3	2	5	10	0	0	0	0	0	1	0	0	0	1			
3:15 PM		0	0	0	1	1	0	0	0	0	0	1	0	0	0	1			
3:30 PM		0	0	1	3	4	0	0	0	0	0	0	0	0	0	0			
3:45 PM		0	0	9	3	12	0	0	0	0	0	0	0	0	1	1			
4:00 PM		0	0	1	0	1	0	0	0	0	0	0	0	0	0	0			
4:15 PM		0	0	1	5	6	0	0	0	0	0	0	0	0	0	0			
4:30 PM		0	0	4	2	6	0	0	0	0	0	0	0	0	2	2			
4:45 PM		0	0	5	1	6	0	0	0	0	0	0	0	0	0	0			
5:00 PM		0	0	3	2	5	0	0	0	0	0	0	0	0	0	0			
5:15 PM		0	0	1	1	2	0	0	0	0	0	0	0	0	0	0			
5:30 PM		1	0	1	0	2	0	0	0	0	0	0	0	0	0	0			
5:45 PM		0	0	0	1	1	0	0	0	0	0	0	0	0	0	0			
6:00 PM		0	0	1	1	2	0	0	0	0	0	0	0	0	0	0			
6:15 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
6:30 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
6:45 PM		0	0	0	1	1	0	0	0	0	0	0	0	0	0	0			
Count Total		1	3	29	26	59	0	0	0	0	0	2	0	0	3	5			
Peak Hour		0	0	15	10	25	0	0	0	0	0	0	0	0	0	3	3		

Four-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Hinsdale Ave				Saddle Rock Village				Gartrell Rd				Gartrell Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:00 PM	0	0	0	0	0	0	0	3	0	0	2	0	0	1	4	0	10	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
3:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3	4	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	9	0	0	0	3	0	12	27
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	18
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	5	0	6	23
4:30 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	2	0	6	25
4:45 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	1	0	6	19
5:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	1	5	23
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	19
5:30 PM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	2	15
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	10
6:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	7
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
Count Total	0	0	0	1	0	0	0	3	1	2	26	0	0	1	24	1	59	0
Peak Hour	0	0	0	0	0	0	0	0	1	0	14	0	0	0	10	0	25	0

Four-Hour Count Summaries - Bikes																		
Interval Start	Hinsdale Ave			Saddle Rock Village			Gartrell Rd			Gartrell Rd			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

E Hinsdale Ave Access Road



Count Summaries

Interval Start		Driveway				Access Road				E Hinsdale Ave				E Hinsdale Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	2	0	1	0	3	0	0	0	0	1	7	0	0	2	0	16	0
7:15 AM		0	0	0	1	0	1	0	2	0	1	0	9	0	0	0	0	14	0
7:30 AM		0	2	0	0	0	2	0	0	0	0	2	11	0	0	4	0	21	0
7:45 AM		0	2	0	0	0	3	0	0	0	0	1	9	0	0	1	1	17	68
8:00 AM		0	1	0	1	0	1	0	0	0	0	0	11	0	0	2	3	19	71
8:15 AM		0	0	0	0	0	5	0	0	0	1	3	8	0	1	8	1	27	84
8:30 AM		0	2	0	1	0	3	0	0	0	0	15	5	0	0	14	0	40	103
8:45 AM		0	0	0	0	0	4	0	0	0	0	12	16	0	0	6	0	38	124
Count Total		0	9	0	4	0	22	0	2	0	2	34	76	0	1	37	5	192	0
Peak Hour	All	0	3	0	2	0	13	0	0	0	1	30	40	0	1	30	4	124	0
	HV	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
	HV%	-	0%	-	0%	-	8%	-	-	-	0%	0%	0%	-	0%	0%	0%	1%	0

Note: Count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:30 AM	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	1	0	0	0	0	0	2	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
8:15 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	2	3	1	6	0	0	0	0	0	2	6	0	0	8
Peak Hour	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5

Count Summaries - Heavy Vehicles

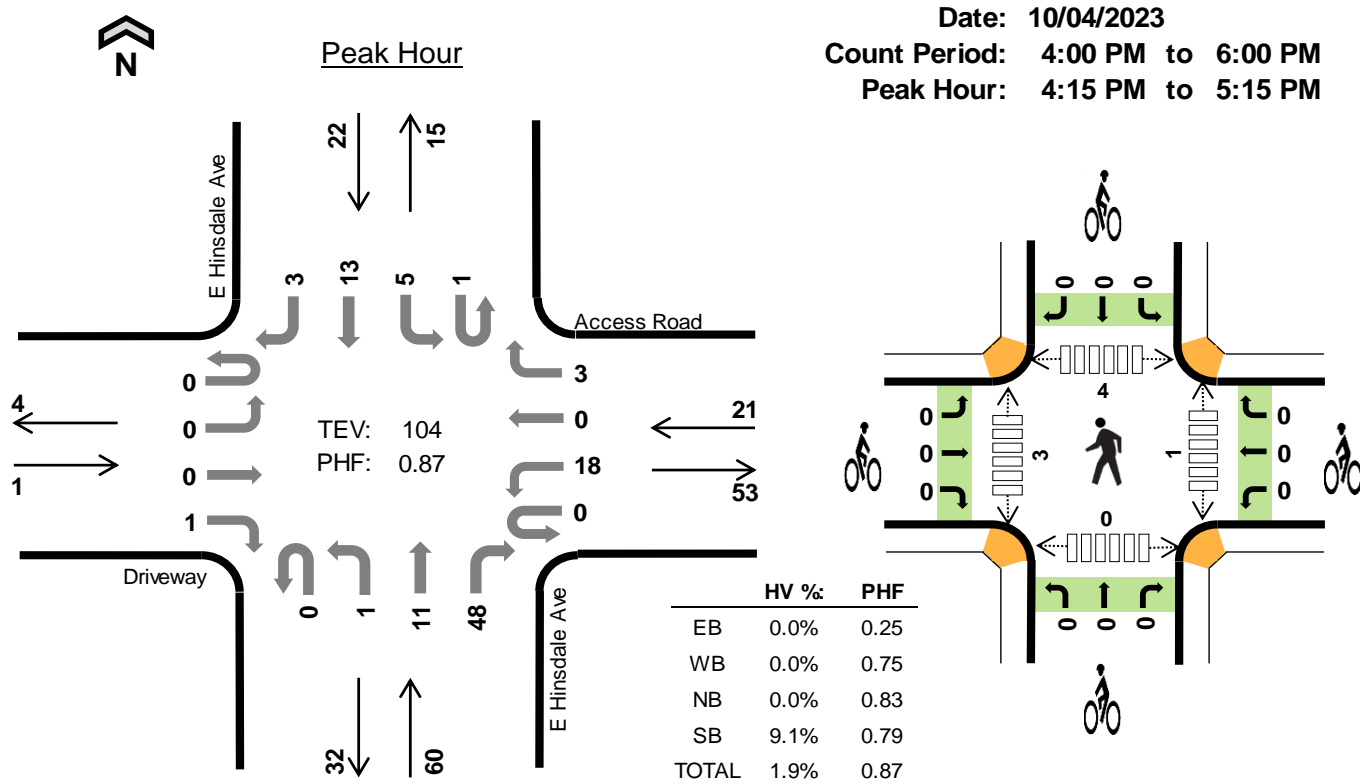
Interval Start	Driveway				Access Road				E Hinsdale Ave				E Hinsdale Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	3	0
7:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	5
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	5
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	2	0	0	0	0	2	1	0	0	1	0	6	0
Peak Hour	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0

Count Summaries - Bikes

Interval Start	Driveway			Access Road			E Hinsdale Ave			E Hinsdale Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

E Hinsdale Ave Access Road



Count Summaries

Interval Start		Driveway				Access Road				E Hinsdale Ave				E Hinsdale Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	2	0	0	0	0	3	9	0	0	2	1	17	0
4:15 PM		0	0	0	0	0	2	0	1	0	0	0	17	0	1	2	1	24	0
4:30 PM		0	0	0	0	0	7	0	0	0	0	2	9	0	0	6	1	25	0
4:45 PM		0	0	0	0	0	5	0	1	0	0	7	11	0	2	3	1	30	96
5:00 PM		0	0	0	1	0	4	0	1	0	1	2	11	1	2	2	0	25	104
5:15 PM		0	0	0	1	0	2	0	2	0	2	0	9	0	2	3	0	21	101
5:30 PM		0	1	0	3	0	1	0	0	1	1	2	11	0	1	0	1	22	98
5:45 PM		0	0	0	0	0	3	0	0	0	1	0	6	0	0	2	2	14	82
Count Total		0	1	0	5	0	26	0	5	1	5	16	83	1	8	20	7	178	0
Peak Hour	All	0	0	0	1	0	18	0	3	0	1	11	48	1	5	13	3	104	0
	HV	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0
	HV%	-	-	-	0%	-	0%	-	0%	-	0%	0%	0%	0%	20%	8%	0%	2%	0

Note: Count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
4:15 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	1	1	0	0	0	0	0	0	0	2	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4
5:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	1	2	3	0	0	0	0	0	2	4	4	0	10
Peak Hour	0	0	0	2	2	0	0	0	0	0	1	3	4	0	8

Count Summaries - Heavy Vehicles

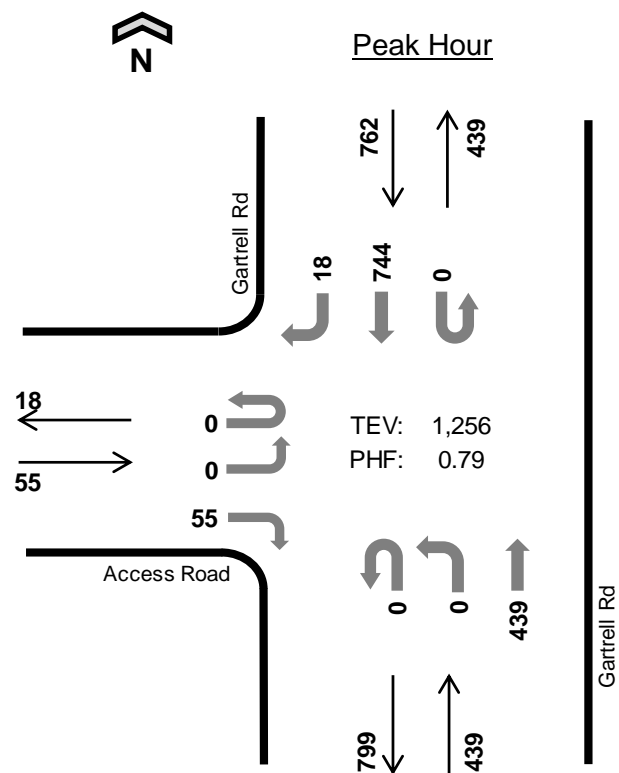
Interval Start	Driveway				Access Road				E Hinsdale Ave				E Hinsdale Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0

Count Summaries - Bikes

Interval Start	Driveway			Access Road			E Hinsdale Ave			E Hinsdale Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

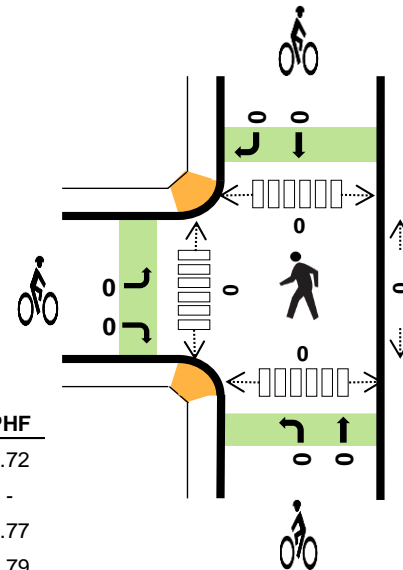
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Gartrell Rd Access Road



Date: 10/04/2023
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM

	HV %	PHF
EB	0.0%	0.72
WB	-	-
NB	1.8%	0.77
SB	3.0%	0.79
TOTAL	2.5%	0.79



Count Summaries

Interval Start		Access Road				n/a				Gartrell Rd				Gartrell Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	14	0	0	0	0	0	0	67	0	0	0	109	8	198	0
7:15 AM		0	0	0	11	0	0	0	0	0	0	81	0	0	0	144	2	238	0
7:30 AM		0	0	0	16	0	0	0	0	0	0	112	0	0	0	161	7	296	0
7:45 AM		0	0	0	13	0	0	0	0	0	0	98	0	0	0	167	5	283	1,015
8:00 AM		0	0	0	19	0	0	0	0	0	0	92	0	0	0	156	3	270	1,087
8:15 AM		0	0	0	11	0	0	0	0	0	0	107	0	0	0	182	7	307	1,156
8:30 AM		0	0	0	12	0	0	0	0	0	0	142	0	0	0	239	3	396	1,256
8:45 AM		0	0	0	12	0	0	0	0	0	0	120	0	0	0	114	4	250	1,223
Count Total		0	0	0	108	0	0	0	0	0	0	819	0	0	0	1,272	39	2,238	0
Peak Hour	All	0	0	0	55	0	0	0	0	0	0	439	0	0	0	744	18	1,256	0
	HV	0	0	0	0	0	0	0	0	0	0	8	0	0	0	23	0	31	0
	HV%	-	-	-	0%	-	-	-	-	-	-	2%	-	-	-	3%	0%	2%	0

Note: Count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	2	5	7	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	4	7	11	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	1	7	8	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	6	11	17	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	9	3	12	0	0	0	0	0	0	0	0	1	1
Count Total	0	0	23	42	65	0	0	0	0	0	0	0	0	1	1
Peak Hr	0	0	8	23	31	0	0	0	0	0	0	0	0	0	0

Count Summaries - Heavy Vehicles

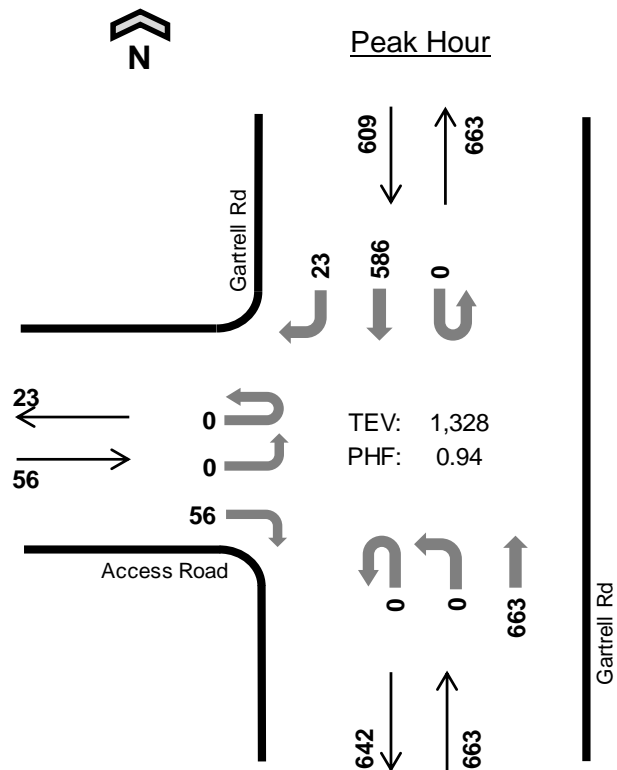
Interval Start	Access Road				n/a				Gartrell Rd				Gartrell Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	5	0	7	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	7	0	11	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	24
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	21
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	7	0	8	25
8:30 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	11	0	17	31
8:45 AM	0	0	0	0	0	0	0	0	0	0	9	0	0	0	3	0	12	41
Count Total	0	0	0	0	0	0	0	0	0	0	23	0	0	0	42	0	65	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	8	0	0	0	23	0	31	0

Count Summaries - Bikes

Interval Start	Access Road			n/a			Gartrell Rd			Gartrell Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

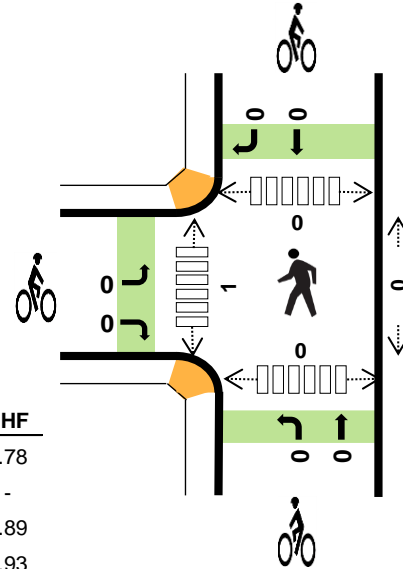
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Gartrell Rd Access Road



Date: 10/04/2023
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM

	HV %	PHF
EB	1.8%	0.78
WB	-	-
NB	1.7%	0.89
SB	2.3%	0.93
TOTAL	2.0%	0.94



Count Summaries

Interval Start		Access Road				n/a				Gartrell Rd				Gartrell Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	18	0	0	0	0	0	0	159	0	0	0	157	7	341	0
4:15 PM		0	0	0	16	0	0	0	0	0	0	158	0	0	0	130	7	311	0
4:30 PM		0	0	0	6	0	0	0	0	0	0	160	0	0	0	149	6	321	0
4:45 PM		0	0	0	16	0	0	0	0	0	0	186	0	0	0	150	3	355	1,328
5:00 PM		0	0	0	10	0	0	0	0	0	0	156	0	0	0	132	2	300	1,287
5:15 PM		0	0	0	9	0	0	0	0	0	0	172	0	0	0	115	5	301	1,277
5:30 PM		0	0	0	16	0	0	0	0	0	0	145	0	0	0	116	5	282	1,238
5:45 PM		0	0	0	14	0	0	0	0	0	0	131	0	0	0	135	7	287	1,170
Count Total		0	0	0	105	0	0	0	0	0	0	1,267	0	0	0	1,084	42	2,498	0
Peak Hour	All	0	0	0	56	0	0	0	0	0	0	663	0	0	0	586	23	1,328	0
	HV	0	0	0	1	0	0	0	0	0	0	11	0	0	0	14	0	26	0
	HV%	-	-	-	2%	-	-	-	-	-	-	2%	-	-	-	2%	0%	2%	0

Note: Count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	5	6	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	4	3	8	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	6	6	0	0	0	0	0	0	1	0	0	1
4:45 PM	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	0	0	1	2	0	0	0	0	0	0	2	1	0	3
Count Total	2	0	11	16	29	0	0	0	0	0	0	4	1	0	5
Peak Hr	1	0	11	14	26	0	0	0	0	0	0	1	0	0	1

Count Summaries - Heavy Vehicles

Interval Start	Access Road				n/a				Gartrell Rd				Gartrell Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5	0	6	0
4:15 PM	0	0	0	1	0	0	0	0	0	0	4	0	0	0	3	0	8	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	6	26
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	21
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
5:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	2	3
Count Total	0	0	0	2	0	0	0	0	0	0	11	0	0	0	16	0	29	0
Peak Hour	0	0	0	1	0	0	0	0	0	0	11	0	0	0	14	0	26	0

Count Summaries - Bikes

Interval Start	Access Road			n/a			Gartrell Rd			Gartrell Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



APPENDIX B

Trip Generation Worksheets and Site-Specific Data

Project Chick-fil-A Dry Creek & Gartrell - Site-Specific Data from Drive-Through Only Chick-fil-A Sites
 Subject Trip Generation for Fast-Food Restaurant with Drive-Through Window and No Indoor Seating
 Designed by TJD Date May 20, 2024 Job No. 096206016
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

Site-Specific Chick-fil-A Drive-Through Only Existing Sites

*Collected in February and March 2023 in Raleigh, NC and Glendale, WI

Fast-Food Restaurant with Drive-Through Window and No Indoor Seating (935)

Independent Variable - Number of Drive Through Lanes (X)

Lanes = 2.5

X = 2.5

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.

(T) = 66.0 (X)		Directional Distribution:	46% ent.	54% exit.
(T) = 66.0 *	(2.5)	T = 165	Average Vehicle Trip Ends	
		76 entering	89 exiting	
		76 + 89 = 165		

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.

(T) = 94.0 (X)		Directional Distribution:	48% ent.	52% exit.
(T) = 94.0 *	(2.5)	T = 235	Average Vehicle Trip Ends	
		113 entering	122 exiting	
		113 + 122 = 235		

Weekday Daily (No Data - 10% K-Factor from PM)

(T) = 10% K-Factor		Directional Distribution:	50% ent.	50% exit.
(T) =	(2.5)	T = 2350	Average Vehicle Trip Ends	
		1175 entering	1175 exiting	
		1175 + 1175 = 2350		

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

AM Peak Hour =	69%	Non-Pass By	PM Peak Hour =	69%	Non-Pass By
	IN	Out	Total		
AM Peak	52	61	113		
PM Peak	78	84	162		
Daily	811	811	1622	PM Peak Hour Rate Applied to Daily	

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

AM Peak Hour =	31%	Pass By	PM Peak Hour =	31%	Pass By
	IN	Out	Total		
AM Peak	24	28	52		
PM Peak	35	38	73		
Daily	364	364	728	PM Peak Hour Rate Applied to Daily	

Project Chick-fil-A Dry Creek & Gartrell - ITE Land Use Code
 Subject Trip Generation for Fast-Food Restaurant with Drive-Through Window and No Indoor Seating
 Designed by TJD Date May 20, 2024 Job No. 096206016
 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 and No Indoor Seating (935)

Independent Variable - Number of Drive Through Lanes (X)

Lanes = 2.5

X = 2.5

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (Page 761)

Directional Distribution: 47% ent. 53% exit.
 (T) = 43.0 (X) T = 108 Average Vehicle Trip Ends
 (T) = 43.0 * (2.5) 51 entering 57 exiting
 51 + 57 = 108

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (Page 762)

Directional Distribution: 51% ent. 49% exit.
 (T) = 59.5 (X) T = 149 Average Vehicle Trip Ends
 (T) = 59.5 * (2.5) 76 entering 73 exiting
 76 + 73 = 149

Weekday Daily (No Data - 10% K-Factor)

Directional Distribution: 50% ent. 50% exit.
 (T) = 10% K-Factor T = 1488 Average Vehicle Trip Ends
 (T) = (2.5) 744 entering 744 exiting
 744 + 744 = 1488

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

AM Peak Hour =	69%	Non-Pass By	PM Peak Hour =	69%	Non-Pass By
	IN	Out	Total		
AM Peak	35	39	74		
PM Peak	52	50	102		
Daily	513	513	1026	PM Peak Hour Rate Applied to Daily	

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

AM Peak Hour =	31%	Pass By	PM Peak Hour =	31%	Pass By
	IN	Out	Total		
AM Peak	16	18	34		
PM Peak	24	23	47		
Daily	231	231	462	PM Peak Hour Rate Applied to Daily	

Site Locations	# DT Lanes	Observed Trips					
		AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
5201 N Port Washington Rd, Glendale, WI 53217	2	47	53	100	115	105	220
615 East Six Forks Road, Raleigh, NC 27609	2	74	89	163	65	90	155
Average		61	71	132	90	98	188

Site Locations	# DT Lanes	Maximum Observed Drive-Through Queue*	
		AM Peak	PM Peak
5201 N Port Washington Rd, Glendale, WI 53217	2	9	32
615 East Six Forks Road, Raleigh, NC 27609	2	15	16
Average Maximum Queues		12	24

*Total queue of both drive-through lanes from pick-up window to back of queue

Project Chick-fil-A Dry Creek & Gartrell - ITE with Indoor Seating
 Subject Trip Generation for Fast-Food Restaurant with Drive-Through Window and with Indoor Seating
 Designed by TES Date October 13, 2023 Job No. 096206016
 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)

Independent Variable - 1000 Square Feet (X)

SF = 2,931

X = 2.931

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) = 44.61 (X) T = 131 Average Vehicle Trip Ends
 (T) = 44.61 * (2.9) 67 entering 64 exiting
 67 + 64 = 131

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) = 33.03 (X) T = 97 Average Vehicle Trip Ends
 (T) = 33.03 * (2.9) 50 entering 47 exiting
 50 + 47 = 97

Weekday (900 Series Page 725)

Directional Distribution: 50% ent. 50% exit.
 (T) = 467.48 (X) T = 1372 Average Vehicle Trip Ends
 (T) = 467.48 * (2.9) 686 entering 686 exiting
 686 + 686 = 1372

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	34	32	65		
PM Peak	23	21	44		
Daily	309	309	618	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	34	32	65		
PM Peak	28	26	53		
Daily	377	377	754	PM Peak Hour Rate Applied to Daily	

Land Use and Size	Square Footage	Weekday Vehicle Trips						Weekday Vehicle Trip Rates					
		AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total Per 1 KSF	In	Out	Total Per 1 KSF
Existing Chick-Fil-A Counts (User-Specific)													
Chick-fil-A Greeley - 4,950 Square Feet	4,950	71	66	137	133	112	245	52%	48%	27.68	54%	46%	49.49
Chick-fil-A Timnath - 4,760 Square Feet	4,760	77	73	150	147	138	285	51%	49%	31.51	52%	48%	59.87
Chick-fil-A Broomfield - 5,120 Square Feet	5,120	39	40	79	61	92	153	49%	51%	15.43	40%	60%	29.88
Chick-fil-A Parker - 4,460 Square Feet	4,460	93	101	194	174	169	343	48%	52%	43.50	51%	49%	76.91
Average								50%	50%	29.53	49%	51%	54.04

Project Chick-fil-A Dry Creek & Gartrell - Site-Specific (with Indoor Seating - informational purposes)
 Subject Trip Generation for Fast-Food Restaurant with Drive-Through Window & with Indoor Seating
 Designed by TES Date February 05, 2024 Job No. 096206016
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

Site Specific, Average Rates

Independent Variable - 1000 Square Feet (X)

SF = 2,931

X = 2.931

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.

Directional Distribution: 50% ent. 50% exit.
 T = 87 Average Vehicle Trip Ends
 (T) = 29.53 (X)
 (T) = 29.53 * (2.9)
 42 entering 44 exiting
 42 + 45 = 87

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.

Directional Distribution: 49% ent. 51% exit.
 T = 158 Average Vehicle Trip Ends
 (T) = 54.04 (X)
 (T) = 54.04 * (2.9)
 77 entering 81 exiting
 77 + 81 = 158

Weekday (K-Factor of 0.07 based on ITE 934)

Directional Distribution: 50% ent. 50% exit.
 T = 2264 Average Vehicle Trip Ends
 1132 entering 1132 exiting
 1132 + 1132 = 2264

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	21	23	44		
PM Peak	35	37	72		
Daily	509	509	1018	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	21	22	43		
PM Peak	42	44	86		
Daily	623	623	1246	PM Peak Hour Rate Applied to Daily	

Project Chick-fil-A Dry Creek & Gartrell - Previous Use
 Subject Trip Generation for Drive-In Bank
 Designed by JRP Date October 25, 2023 Job No. 096206016
 Checked by _____ Date _____ Sheet No. 1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rate Equations

Land Use Code - Drive-In Bank (912)

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

SF = 4,800
 X = 4.800
 T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (Page 599)

Average Weekday	Directional Distribution:	58% ent.	42% exit.
T = 9.95 (X)	T = 48	Average Vehicle Trip Ends	
T = 9.95 * 4.800	28 entering	20 exiting	
	28 + 20 = 48		

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (Page 600)

Average Weekday	Directional Distribution:	50% ent.	50% exit.
T = 21.01 (X)	T = 101	Average Vehicle Trip Ends	
T = 21.01 * 4.800	50 entering	51 exiting	
	50 + 51 = 101		

Weekday (Page 598)

Average Weekday	Directional Distribution:	50% entering,	50% exiting
T = 100.35 (X)	T = 482	Average Vehicle Trip Ends	
T = 100.35 * 4.800	241 entering	241 exiting	
	241 + 241 = 482		

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

PM Peak Hour = 65% Non-Pass By	AM Peak Hour = 71% Non-Pass By
IN Out Total	
AM Peak 20 14 34	
PM Peak 33 33 66	
Daily 157 157 314	PM Peak Hour Rate Applied to Daily






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





PM Peak Hour = 35% Pass By	AM Peak Hour = 29% Pass By
IN Out Total	
AM Peak 8 6 14	
PM Peak 18 18 24	
Daily 84 84 168	PM Peak Hour Rate Applied to Daily













APPENDIX C






Intersection Analysis Worksheets and
Left-Turn Phase Warrant Worksheets





Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	185	257	36	15	23
Future Vol, veh/h	21	185	257	36	15	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	55	55	55	55	55	55
Heavy Vehicles, %	6	6	6	6	2	2
Mvmt Flow	38	336	467	65	27	42
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	532	0	-	0	912	500
Stage 1	-	-	-	-	500	-
Stage 2	-	-	-	-	412	-
Critical Hdwy	4.16	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.254	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	999	-	-	-	297	631
Stage 1	-	-	-	-	633	-
Stage 2	-	-	-	-	669	-
Platoon blocked, %	1	-	-	-	1	1
Mov Cap-1 Maneuver	999	-	-	-	286	631
Mov Cap-2 Maneuver	-	-	-	-	421	-
Stage 1	-	-	-	-	609	-
Stage 2	-	-	-	-	669	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.9	0		12.9		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	999	-	-	-	527	
HCM Lane V/C Ratio	0.038	-	-	-	0.131	
HCM Control Delay (s)	8.7	-	-	-	12.9	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4	





Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	164	141	45	17	11
Future Vol, veh/h	13	164	141	45	17	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	6	6	6	6	4	4
Mvmt Flow	17	219	188	60	23	15
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	248	0	-	0	471	218
Stage 1	-	-	-	-	218	-
Stage 2	-	-	-	-	253	-
Critical Hdwy	4.16	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.254	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1312	-	-	-	575	885
Stage 1	-	-	-	-	849	-
Stage 2	-	-	-	-	785	-
Platoon blocked, %	1	-	-	-	1	1
Mov Cap-1 Maneuver	1312	-	-	-	567	885
Mov Cap-2 Maneuver	-	-	-	-	628	-
Stage 1	-	-	-	-	838	-
Stage 2	-	-	-	-	785	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.6	0		10.4		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1312	-	-	-	709	
HCM Lane V/C Ratio	0.013	-	-	-	0.053	
HCM Control Delay (s)	7.8	-	-	-	10.4	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	25	159	191	30	3	22
Future Vol, veh/h	25	159	191	30	3	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	49	49	49	49	49	49
Heavy Vehicles, %	7	7	3	3	8	8
Mvmt Flow	51	324	390	61	6	45
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	451	0	-	0	847	421
Stage 1	-	-	-	-	421	-
Stage 2	-	-	-	-	426	-
Critical Hdwy	4.17	-	-	-	6.48	6.28
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	2.263	-	-	-	3.572	3.372
Pot Cap-1 Maneuver	1078	-	-	-	323	664
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	646	-
Platoon blocked, %	1	-	-	-	1	1
Mov Cap-1 Maneuver	1078	-	-	-	308	664
Mov Cap-2 Maneuver	-	-	-	-	434	-
Stage 1	-	-	-	-	638	-
Stage 2	-	-	-	-	646	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.2	0		11.3		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1078	-	-	-	624	
HCM Lane V/C Ratio	0.047	-	-	-	0.082	
HCM Control Delay (s)	8.5	-	-	-	11.3	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	193	268	37	16	24
Future Vol, veh/h	22	193	268	37	16	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	55	55	55	55	55	55
Heavy Vehicles, %	6	6	6	6	2	2
Mvmt Flow	40	351	487	67	29	44
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	554	0	-	0	952	521
Stage 1	-	-	-	-	521	-
Stage 2	-	-	-	-	431	-
Critical Hdwy	4.16	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.254	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	976	-	-	-	278	610
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	655	-
Platoon blocked, %	1	-	-	-	1	1
Mov Cap-1 Maneuver	976	-	-	-	266	610
Mov Cap-2 Maneuver	-	-	-	-	404	-
Stage 1	-	-	-	-	591	-
Stage 2	-	-	-	-	655	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.9	0		13.3		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	976	-	-	-	507	
HCM Lane V/C Ratio	0.041	-	-	-	0.143	
HCM Control Delay (s)	8.8	-	-	-	13.3	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5	

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	171	148	47	18	11
Future Vol, veh/h	14	171	148	47	18	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	6	6	6	6	4	4
Mvmt Flow	19	228	197	63	24	15
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	260	0	-	0	495	229
Stage 1	-	-	-	-	229	-
Stage 2	-	-	-	-	266	-
Critical Hdwy	4.16	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.254	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1297	-	-	-	555	871
Stage 1	-	-	-	-	839	-
Stage 2	-	-	-	-	774	-
Platoon blocked, %	1	-	-	-	1	1
Mov Cap-1 Maneuver	1297	-	-	-	547	871
Mov Cap-2 Maneuver	-	-	-	-	614	-
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	774	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.6	0		10.5		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1297	-	-	-	691	
HCM Lane V/C Ratio	0.014	-	-	-	0.056	
HCM Control Delay (s)	7.8	-	-	-	10.5	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	





Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	165	199	31	3	23
Future Vol, veh/h	26	165	199	31	3	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	49	49	49	49	49	49
Heavy Vehicles, %	7	7	3	3	8	8
Mvmt Flow	53	337	406	63	6	47
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	469	0	-	0	881	438
Stage 1	-	-	-	-	438	-
Stage 2	-	-	-	-	443	-
Critical Hdwy	4.17	-	-	-	6.48	6.28
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	2.263	-	-	-	3.572	3.372
Pot Cap-1 Maneuver	1060	-	-	-	306	659
Stage 1	-	-	-	-	661	-
Stage 2	-	-	-	-	635	-
Platoon blocked, %	1	-	-	-	1	1
Mov Cap-1 Maneuver	1060	-	-	-	290	659
Mov Cap-2 Maneuver	-	-	-	-	421	-
Stage 1	-	-	-	-	628	-
Stage 2	-	-	-	-	635	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.2	0		11.4		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1060	-	-	-	619	
HCM Lane V/C Ratio	0.05	-	-	-	0.086	
HCM Control Delay (s)	8.6	-	-	-	11.4	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3	

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	193	268	71	53	30
Future Vol, veh/h	27	193	268	71	53	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	55	55	55	55	55	55
Heavy Vehicles, %	6	6	6	6	2	2
Mvmt Flow	49	351	487	129	96	55

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	616	0	0 1001 552
Stage 1	-	-	- 552 -
Stage 2	-	-	- 449 -
Critical Hdwy	4.16	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.254	-	- 3.518 3.318
Pot Cap-1 Maneuver	913	-	- 255 580
Stage 1	-	-	- 592 -
Stage 2	-	-	- 643 -
Platoon blocked, %	1	-	- 1 1
Mov Cap-1 Maneuver	913	-	- 242 580
Mov Cap-2 Maneuver	-	-	- 383 -
Stage 1	-	-	- 560 -
Stage 2	-	-	- 643 -

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	17.5
HCM LOS			C






Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	913	-	-	-	437
HCM Lane V/C Ratio	0.054	-	-	-	0.345
HCM Control Delay (s)	9.2	-	-	-	17.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	1.5






Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	171	148	104	75	19
Future Vol, veh/h	22	171	148	104	75	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	6	6	6	6	4	4
Mvmt Flow	29	228	197	139	100	25






Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	336	0	0 553 267
Stage 1	-	-	- 267 -
Stage 2	-	-	- 286 -
Critical Hdwy	4.16	-	- 6.44 6.24
Critical Hdwy Stg 1	-	-	- 5.44 -
Critical Hdwy Stg 2	-	-	- 5.44 -
Follow-up Hdwy	2.254	-	- 3.536 3.336
Pot Cap-1 Maneuver	1207	-	- 509 825
Stage 1	-	-	- 804 -
Stage 2	-	-	- 758 -
Platoon blocked, %	1	-	- 1 1
Mov Cap-1 Maneuver	1207	-	- 497 825
Mov Cap-2 Maneuver	-	-	- 578 -
Stage 1	-	-	- 784 -
Stage 2	-	-	- 758 -





Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1207	-	-	-	615
HCM Lane V/C Ratio	0.024	-	-	-	0.204
HCM Control Delay (s)	8.1	-	-	-	12.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

Intersection						
Int Delay, s/veh	3.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	165	199	79	51	30
Future Vol, veh/h	33	165	199	79	51	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	49	49	49	49	49	49
Heavy Vehicles, %	7	7	3	3	8	8
Mvmt Flow	67	337	406	161	104	61
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	567	0	-	0	958	487
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	471	-
Critical Hdwy	4.17	-	-	-	6.48	6.28
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	2.263	-	-	-	3.572	3.372
Pot Cap-1 Maneuver	960	-	-	-	270	611
Stage 1	-	-	-	-	622	-
Stage 2	-	-	-	-	616	-
Platoon blocked, %	1	-	-	-	1	1
Mov Cap-1 Maneuver	960	-	-	-	251	611
Mov Cap-2 Maneuver	-	-	-	-	387	-
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	616	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.5	0		17.7		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	960	-	-	-	448	
HCM Lane V/C Ratio	0.07	-	-	-	0.369	
HCM Control Delay (s)	9	-	-	-	17.7	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0.2	-	-	-	1.7	

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	29	257	367	50	21	32
Future Vol, veh/h	29	257	367	50	21	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	55	70	70	55	55	55
Heavy Vehicles, %	6	6	6	6	2	2
Mvmt Flow	53	367	524	91	38	58
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	615	0	-	0	1043	570
Stage 1	-	-	-	-	570	-
Stage 2	-	-	-	-	473	-
Critical Hdwy	4.16	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.254	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	913	-	-	-	234	594
Stage 1	-	-	-	-	593	-
Stage 2	-	-	-	-	627	-
Platoon blocked, %	1	-	-	-	1	1
Mov Cap-1 Maneuver	913	-	-	-	220	594
Mov Cap-2 Maneuver	-	-	-	-	370	-
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	627	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.2	0		14.4		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	913	-	-	-	479	
HCM Lane V/C Ratio	0.058	-	-	-	0.201	
HCM Control Delay (s)	9.2	-	-	-	14.4	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.2	-	-	-	0.7	





Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	18	230	210	63	24	15
Future Vol, veh/h	18	230	210	63	24	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	92	92	75	75	75
Heavy Vehicles, %	6	6	6	6	4	4
Mvmt Flow	24	250	228	84	32	20
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	312	0	-	0	568	270
Stage 1	-	-	-	-	270	-
Stage 2	-	-	-	-	298	-
Critical Hdwy	4.16	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.254	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1246	-	-	-	509	859
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	749	-
Platoon blocked, %	1	-	-	-	1	1
Mov Cap-1 Maneuver	1246	-	-	-	500	859
Mov Cap-2 Maneuver	-	-	-	-	582	-
Stage 1	-	-	-	-	805	-
Stage 2	-	-	-	-	749	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.7	0		10.9		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1246	-	-	-	664	
HCM Lane V/C Ratio	0.019	-	-	-	0.078	
HCM Control Delay (s)	7.9	-	-	-	10.9	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	





Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	217	273	42	4	31
Future Vol, veh/h	35	217	273	42	4	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	49	60	60	49	49	49
Heavy Vehicles, %	7	7	3	3	8	8
Mvmt Flow	71	362	455	86	8	63





Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	541	0	0 1002 498
Stage 1	-	-	- 498 -
Stage 2	-	-	- 504 -
Critical Hdwy	4.17	-	- 6.48 6.28
Critical Hdwy Stg 1	-	-	- 5.48 -
Critical Hdwy Stg 2	-	-	- 5.48 -
Follow-up Hdwy	2.263	-	- 3.572 3.372
Pot Cap-1 Maneuver	986	-	- 249 621
Stage 1	-	-	- 624 -
Stage 2	-	-	- 595 -
Platoon blocked, %	1	-	- 1 1
Mov Cap-1 Maneuver	986	-	- 231 621
Mov Cap-2 Maneuver	-	-	- 373 -
Stage 1	-	-	- 579 -
Stage 2	-	-	- 595 -

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	986	-	-	-	577
HCM Lane V/C Ratio	0.072	-	-	-	0.124
HCM Control Delay (s)	8.9	-	-	-	12.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	34	257	367	84	58	38
Future Vol, veh/h	34	257	367	84	58	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	55	70	70	55	55	55
Heavy Vehicles, %	6	6	6	6	2	2
Mvmt Flow	62	367	524	153	105	69
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	677	0	-	0	1092	601
Stage 1	-	-	-	-	601	-
Stage 2	-	-	-	-	491	-
Critical Hdwy	4.16	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.254	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	850	-	-	-	213	563
Stage 1	-	-	-	-	567	-
Stage 2	-	-	-	-	615	-
Platoon blocked, %	1	-	-	-	1	1
Mov Cap-1 Maneuver	850	-	-	-	198	563
Mov Cap-2 Maneuver	-	-	-	-	348	-
Stage 1	-	-	-	-	526	-
Stage 2	-	-	-	-	615	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.4	0		20.1		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	850	-	-	-	410	
HCM Lane V/C Ratio	0.073	-	-	-	0.426	
HCM Control Delay (s)	9.6	-	-	-	20.1	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0.2	-	-	-	2.1	

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	230	210	120	81	23
Future Vol, veh/h	26	230	210	120	81	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	92	92	75	75	75
Heavy Vehicles, %	6	6	6	6	4	4
Mvmt Flow	35	250	228	160	108	31
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	388	0	-	0	628	308
Stage 1	-	-	-	-	308	-
Stage 2	-	-	-	-	320	-
Critical Hdwy	4.16	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.254	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1154	-	-	-	463	811
Stage 1	-	-	-	-	783	-
Stage 2	-	-	-	-	732	-
Platoon blocked, %	1	-	-	-	1	1
Mov Cap-1 Maneuver	1154	-	-	-	450	811
Mov Cap-2 Maneuver	-	-	-	-	546	-
Stage 1	-	-	-	-	760	-
Stage 2	-	-	-	-	732	-
Approach	EB	WB		SB		
HCM Control Delay, s	1	0		13		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1154	-	-	-	589	
HCM Lane V/C Ratio	0.03	-	-	-	0.235	
HCM Control Delay (s)	8.2	-	-	-	13	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9	

Intersection						
Int Delay, s/veh	3.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	42	217	273	90	52	38
Future Vol, veh/h	42	217	273	90	52	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	49	60	60	49	49	49
Heavy Vehicles, %	7	7	3	3	8	8
Mvmt Flow	86	362	455	184	106	78

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	639	0	0	1081	547
Stage 1	-	-	-	547	-
Stage 2	-	-	-	534	-
Critical Hdwy	4.17	-	-	6.48	6.28
Critical Hdwy Stg 1	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	5.48	-
Follow-up Hdwy	2.263	-	-	3.572	3.372
Pot Cap-1 Maneuver	887	-	-	217	574
Stage 1	-	-	-	585	-
Stage 2	-	-	-	576	-
Platoon blocked, %	1	-	-	1	1
Mov Cap-1 Maneuver	887	-	-	196	574
Mov Cap-2 Maneuver	-	-	-	341	-
Stage 1	-	-	-	528	-
Stage 2	-	-	-	576	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	20.6
HCM LOS			C























Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	887	-	-	-	412
HCM Lane V/C Ratio	0.097	-	-	-	0.446
HCM Control Delay (s)	9.5	-	-	-	20.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	2.2

Timings

2: Gartrell Rd & Dry Creek Rd

2023 Existing AM

02/05/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	116	20	64	101	19	53	80	263	101	64	528
Future Volume (vph)	116	20	64	101	19	53	80	263	101	64	528
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases		4			8			2			6
Permitted Phases	4		4	8		8	2		2	6	
Detector Phase	4	4	4	8	8	8	2	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	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	24.0	24.0	24.0	24.0	24.0
Total Split (s)	42.0	42.0	42.0	42.0	42.0	42.0	78.0	78.0	78.0	78.0	78.0
Total Split (%)	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	65.0%	65.0%	65.0%	65.0%	65.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120

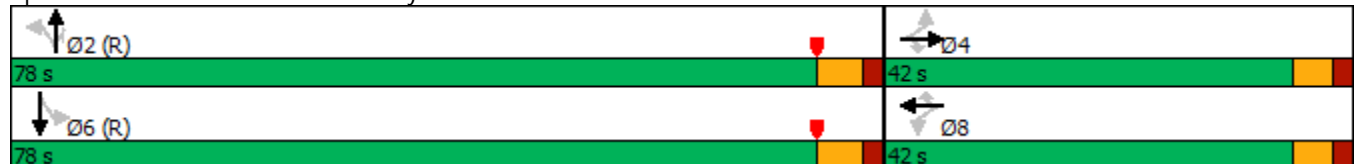
Actuated Cycle Length: 120

Offset: 53.5 (45%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Splits and Phases: 2: Gartrell Rd & Dry Creek Rd



























HCM 6th Signalized Intersection Summary

2023 Existing AM

2: Gartrell Rd & Dry Creek Rd

02/05/2024























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	20	64	101	19	53	80	263	101	64	528	194
Future Volume (veh/h)	116	20	64	101	19	53	80	263	101	64	528	194
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	1841	1841	1841	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	227	39	125	116	22	61	86	283	109	78	644	237
Peak Hour Factor	0.51	0.51	0.51	0.87	0.87	0.87	0.93	0.93	0.93	0.82	0.82	0.82
Percent Heavy Veh, %	4	4	4	2	2	2	3	3	3	3	3	3
Cap, veh/h	315	380	322	291	386	327	431	2460	1097	721	1760	647
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.70	0.70	0.70	0.70	0.70	0.70
Sat Flow, veh/h	1294	1841	1560	1222	1870	1585	625	3526	1572	984	2523	928
Grp Volume(v), veh/h	227	39	125	116	22	61	86	283	109	78	450	431
Grp Sat Flow(s),veh/h/ln	1294	1841	1560	1222	1870	1585	625	1763	1572	984	1763	1688
Q Serve(g_s), s	20.5	2.1	8.3	10.2	1.1	3.8	7.8	3.2	2.7	3.4	12.4	12.4
Cycle Q Clear(g_c), s	21.6	2.1	8.3	12.3	1.1	3.8	20.2	3.2	2.7	6.6	12.4	12.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.55
Lane Grp Cap(c), veh/h	315	380	322	291	386	327	431	2460	1097	721	1230	1178
V/C Ratio(X)	0.72	0.10	0.39	0.40	0.06	0.19	0.20	0.12	0.10	0.11	0.37	0.37
Avail Cap(c_a), veh/h	441	560	474	411	569	482	431	2460	1097	721	1230	1178
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	38.6	41.1	43.6	38.2	39.3	11.5	6.0	5.9	7.0	7.4	7.4
Incr Delay (d2), s/veh	3.4	0.1	0.8	0.9	0.1	0.3	1.0	0.1	0.2	0.3	0.8	0.9
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	1.0	3.3	3.2	0.5	1.5	1.2	1.1	0.9	0.7	4.6	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.3	38.7	41.8	44.5	38.3	39.6	12.5	6.1	6.1	7.3	8.2	8.2
LnGrp LOS	D	D	D	D	D	D	B	A	A	A	A	A
Approach Vol, veh/h	391			199			478			959		
Approach Delay, s/veh	46.5			42.3			7.2			8.2		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	89.7			30.3			89.7			30.3		
Change Period (Y+Rc), s	6.0			5.5			6.0			5.5		
Max Green Setting (Gmax), s	72.0			36.5			72.0			36.5		
Max Q Clear Time (g_c+I1), s	22.2			23.6			14.4			14.3		
Green Ext Time (p_c), s	3.4			1.1			7.8			0.7		
Intersection Summary												
HCM 6th Ctrl Delay	18.7											
HCM 6th LOS	B											

Timings

2023 Existing PM

2: Gartrell Rd & Dry Creek Rd

02/06/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	94	16	71	151	12	78	98	497	145	70	496
Future Volume (vph)	94	16	71	151	12	78	98	497	145	70	496
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases		4			8			2			6
Permitted Phases	4		4	8		8	2		2	6	
Detector Phase	4	4	4	8	8	8	2	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	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	24.0	24.0	24.0	24.0	24.0
Total Split (s)	34.0	34.0	34.0	34.0	34.0	34.0	86.0	86.0	86.0	86.0	86.0
Total Split (%)	28.3%	28.3%	28.3%	28.3%	28.3%	28.3%	71.7%	71.7%	71.7%	71.7%	71.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 53.5 (45%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Splits and Phases: 2: Gartrell Rd & Dry Creek Rd



























HCM 6th Signalized Intersection Summary

2: Gartrell Rd & Dry Creek Rd

2023 Existing PM

02/06/2024























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	16	71	151	12	78	98	497	145	70	496	76
Future Volume (veh/h)	94	16	71	151	12	78	98	497	145	70	496	76
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	1796	1796	1796	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	147	25	111	170	13	88	109	552	161	76	539	83
Peak Hour Factor	0.64	0.64	0.64	0.89	0.89	0.89	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	2	2	2	2	2	2	3	3	3
Cap, veh/h	259	299	253	254	311	264	607	2622	1170	564	2261	347
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.74	0.74	0.74	0.74	0.74	0.74
Sat Flow, veh/h	1242	1796	1522	1253	1870	1585	802	3554	1585	731	3064	470
Grp Volume(v), veh/h	147	25	111	170	13	88	109	552	161	76	309	313
Grp Sat Flow(s),veh/h/ln	1242	1796	1522	1253	1870	1585	802	1777	1585	731	1763	1771
Q Serve(g_s), s	13.5	1.4	7.9	15.9	0.7	5.9	6.0	5.8	3.6	4.3	6.7	6.7
Cycle Q Clear(g_c), s	14.2	1.4	7.9	17.3	0.7	5.9	12.7	5.8	3.6	10.1	6.7	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.27
Lane Grp Cap(c), veh/h	259	299	253	254	311	264	607	2622	1170	564	1301	1307
V/C Ratio(X)	0.57	0.08	0.44	0.67	0.04	0.33	0.18	0.21	0.14	0.13	0.24	0.24
Avail Cap(c_a), veh/h	348	427	362	343	444	376	607	2622	1170	564	1301	1307
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	42.3	45.0	49.6	42.0	44.2	7.0	4.9	4.6	6.4	5.0	5.0
Incr Delay (d2), s/veh	1.9	0.1	1.2	3.1	0.1	0.7	0.6	0.2	0.2	0.5	0.4	0.4
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	4.3	0.6	3.1	5.2	0.3	2.4	1.1	2.0	1.1	0.7	2.3	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.9	42.4	46.2	52.7	42.1	44.9	7.7	5.1	4.8	6.9	5.4	5.4
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h	283			271			822			698		
Approach Delay, s/veh	47.8			49.6			5.4			5.6		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	94.5			25.5			94.5			25.5		
Change Period (Y+Rc), s	6.0			5.5			6.0			5.5		
Max Green Setting (Gmax), s	80.0			28.5			80.0			28.5		
Max Q Clear Time (g_c+I1), s	14.7			16.2			12.1			19.3		
Green Ext Time (p_c), s	6.0			0.8			5.2			0.6		
Intersection Summary												
HCM 6th Ctrl Delay	17.0											
HCM 6th LOS	B											

Timings

2: Gartrell Rd & Dry Creek Rd

2023 Existing 3-4 PM

02/06/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	95	17	50	105	16	59	76	344	152	56	398
Future Volume (vph)	95	17	50	105	16	59	76	344	152	56	398
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases		4			8			2			6
Permitted Phases	4		4	8		8	2		2	6	
Detector Phase	4	4	4	8	8	8	2	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	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	24.0	24.0	24.0	24.0	24.0
Total Split (s)	63.0	63.0	63.0	63.0	63.0	63.0	57.0	57.0	57.0	57.0	57.0
Total Split (%)	52.5%	52.5%	52.5%	52.5%	52.5%	52.5%	47.5%	47.5%	47.5%	47.5%	47.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120





Actuated Cycle Length: 120

Offset: 53.5 (45%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Splits and Phases: 2: Gartrell Rd & Dry Creek Rd

























	
Ø2 (R)	Ø4
57 s	63 s
	
Ø6 (R)	Ø8
57 s	63 s

HCM 6th Signalized Intersection Summary

2: Gartrell Rd & Dry Creek Rd

2023 Existing 3-4 PM

02/06/2024























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	17	50	105	16	59	76	344	152	56	398	129
Future Volume (veh/h)	95	17	50	105	16	59	76	344	152	56	398	129
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	1796	1796	1796	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	288	52	152	121	18	68	92	414	183	69	491	159
Peak Hour Factor	0.33	0.33	0.33	0.87	0.87	0.87	0.83	0.83	0.83	0.81	0.81	0.81
Percent Heavy Veh, %	7	7	7	2	2	2	2	2	2	2	2	2
Cap, veh/h	379	468	397	341	488	413	499	2286	1020	550	1701	547
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1259	1796	1522	1178	1870	1585	782	3554	1585	821	2643	851
Grp Volume(v), veh/h	288	52	152	121	18	68	92	414	183	69	329	321
Grp Sat Flow(s),veh/h/ln	1259	1796	1522	1178	1870	1585	782	1777	1585	821	1777	1717
Q Serve(g_s), s	26.6	2.6	9.8	10.5	0.9	4.0	7.0	5.6	5.6	4.4	9.7	9.8
Cycle Q Clear(g_c), s	27.4	2.6	9.8	13.1	0.9	4.0	16.9	5.6	5.6	10.1	9.7	9.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	379	468	397	341	488	413	499	2286	1020	550	1143	1105
V/C Ratio(X)	0.76	0.11	0.38	0.35	0.04	0.16	0.18	0.18	0.18	0.13	0.29	0.29
Avail Cap(c_a), veh/h	654	861	729	599	896	760	499	2286	1020	550	1143	1105
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.3	33.8	36.4	38.8	33.1	34.3	13.1	8.6	8.6	10.7	9.4	9.4
Incr Delay (d2), s/veh	3.1	0.1	0.6	0.6	0.0	0.2	0.8	0.2	0.4	0.5	0.6	0.7
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	8.5	1.2	3.7	3.1	0.4	1.6	1.3	2.2	2.0	0.9	3.8	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.5	33.9	37.0	39.4	33.1	34.4	13.9	8.8	9.0	11.1	10.0	10.0
LnGrp LOS	D	C	D	D	C	C	B	A	A	B	A	B
Approach Vol, veh/h	492			207			689			719		
Approach Delay, s/veh	42.2			37.2			9.5			10.1		
Approach LOS	D			D			A			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	83.2			36.8			83.2			36.8		
Change Period (Y+Rc), s	6.0			5.5			6.0			5.5		
Max Green Setting (Gmax), s	51.0			57.5			51.0			57.5		
Max Q Clear Time (g_c+I1), s	18.9			29.4			12.1			15.1		
Green Ext Time (p_c), s	4.4			1.9			5.2			0.8		
Intersection Summary												
HCM 6th Ctrl Delay	20.1											
HCM 6th LOS	C											

Timings

2: Gartrell Rd & Dry Creek Rd

2025 Background AM

02/05/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	121	20	67	101	19	53	83	275	101	64	549
Future Volume (vph)	121	20	67	101	19	53	83	275	101	64	549
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases		4			8			2			6
Permitted Phases	4		4	8		8	2		2	6	
Detector Phase	4	4	4	8	8	8	2	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	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	24.0	24.0	24.0	24.0	24.0
Total Split (s)	42.0	42.0	42.0	42.0	42.0	42.0	78.0	78.0	78.0	78.0	78.0
Total Split (%)	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	65.0%	65.0%	65.0%	65.0%	65.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120

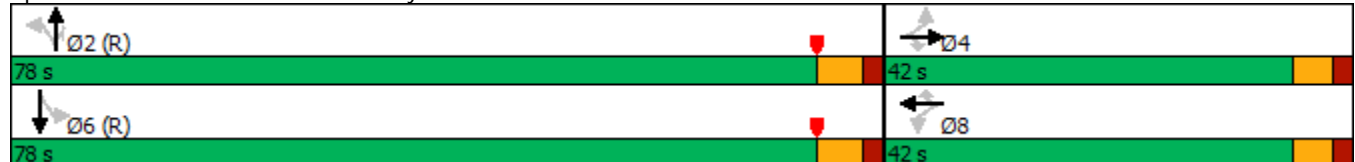
Actuated Cycle Length: 120

Offset: 53.5 (45%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Splits and Phases: 2: Gartrell Rd & Dry Creek Rd



























HCM 6th Signalized Intersection Summary

2: Gartrell Rd & Dry Creek Rd

2025 Background AM

02/05/2024























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	20	67	101	19	53	83	275	101	64	549	202
Future Volume (veh/h)	121	20	67	101	19	53	83	275	101	64	549	202
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	1841	1841	1841	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	237	39	131	116	22	61	89	296	109	78	670	246
Peak Hour Factor	0.51	0.51	0.51	0.87	0.87	0.87	0.93	0.93	0.93	0.82	0.82	0.82
Percent Heavy Veh, %	4	4	4	2	2	2	3	3	3	3	3	3
Cap, veh/h	325	394	334	299	400	339	410	2433	1085	703	1742	640
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1294	1841	1560	1215	1870	1585	605	3526	1572	972	2525	927
Grp Volume(v), veh/h	237	39	131	116	22	61	89	296	109	78	468	448
Grp Sat Flow(s),veh/h/ln	1294	1841	1560	1215	1870	1585	605	1763	1572	972	1763	1689
Q Serve(g_s), s	21.4	2.0	8.6	10.2	1.1	3.8	8.7	3.4	2.8	3.5	13.4	13.4
Cycle Q Clear(g_c), s	22.5	2.0	8.6	12.2	1.1	3.8	22.2	3.4	2.8	6.9	13.4	13.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.55
Lane Grp Cap(c), veh/h	325	394	334	299	400	339	410	2433	1085	703	1217	1165
V/C Ratio(X)	0.73	0.10	0.39	0.39	0.05	0.18	0.22	0.12	0.10	0.11	0.38	0.38
Avail Cap(c_a), veh/h	442	560	474	409	569	482	410	2433	1085	703	1217	1165
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	37.9	40.5	42.8	37.5	38.5	12.5	6.3	6.2	7.5	7.8	7.8
Incr Delay (d2), s/veh	4.0	0.1	0.8	0.8	0.1	0.3	1.2	0.1	0.2	0.3	0.9	1.0
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	0.9	3.4	3.1	0.5	1.5	1.3	1.2	0.9	0.8	5.0	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.4	38.0	41.2	43.6	37.6	38.8	13.7	6.4	6.4	7.8	8.8	8.8
LnGrp LOS	D	D	D	D	D	D	B	A	A	A	A	A
Approach Vol, veh/h	407			199			494			994		
Approach Delay, s/veh	46.3			41.5			7.7			8.7		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	88.8			31.2			88.8			31.2		
Change Period (Y+Rc), s	6.0			5.5			6.0			5.5		
Max Green Setting (Gmax), s	72.0			36.5			72.0			36.5		
Max Q Clear Time (g_c+I1), s	24.2			24.5			15.4			14.2		
Green Ext Time (p_c), s	3.6			1.2			8.2			0.7		
Intersection Summary												
HCM 6th Ctrl Delay	18.9											
HCM 6th LOS	B											

Timings

2: Gartrell Rd & Dry Creek Rd

2025 Background PM

02/06/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	98	16	74	151	12	78	102	517	145	70	516
Future Volume (vph)	98	16	74	151	12	78	102	517	145	70	516
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases		4			8			2			6
Permitted Phases	4		4	8		8	2		2	6	
Detector Phase	4	4	4	8	8	8	2	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	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	24.0	24.0	24.0	24.0	24.0
Total Split (s)	34.0	34.0	34.0	34.0	34.0	34.0	86.0	86.0	86.0	86.0	86.0
Total Split (%)	28.3%	28.3%	28.3%	28.3%	28.3%	28.3%	71.7%	71.7%	71.7%	71.7%	71.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 53.5 (45%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Splits and Phases: 2: Gartrell Rd & Dry Creek Rd



























HCM 6th Signalized Intersection Summary

2: Gartrell Rd & Dry Creek Rd

2025 Background PM

02/06/2024























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	16	74	151	12	78	102	517	145	70	516	79
Future Volume (veh/h)	98	16	74	151	12	78	102	517	145	70	516	79
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	1796	1796	1796	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	153	25	116	170	13	88	113	574	161	76	561	86
Peak Hour Factor	0.64	0.64	0.64	0.89	0.89	0.89	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	2	2	2	2	2	2	3	3	3
Cap, veh/h	260	300	254	253	312	264	592	2620	1169	552	2260	345
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.74	0.74	0.74	0.74	0.74	0.74
Sat Flow, veh/h	1242	1796	1522	1248	1870	1585	784	3554	1585	716	3065	469
Grp Volume(v), veh/h	153	25	116	170	13	88	113	574	161	76	322	325
Grp Sat Flow(s),veh/h/ln	1242	1796	1522	1248	1870	1585	784	1777	1585	716	1763	1771
Q Serve(g_s), s	14.1	1.4	8.2	16.0	0.7	5.9	6.5	6.1	3.6	4.5	7.0	7.1
Cycle Q Clear(g_c), s	14.8	1.4	8.2	17.4	0.7	5.9	13.6	6.1	3.6	10.5	7.0	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	260	300	254	253	312	264	592	2620	1169	552	1300	1306
V/C Ratio(X)	0.59	0.08	0.46	0.67	0.04	0.33	0.19	0.22	0.14	0.14	0.25	0.25
Avail Cap(c_a), veh/h	348	427	362	342	444	376	592	2620	1169	552	1300	1306
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.2	42.2	45.1	49.6	41.9	44.1	7.3	4.9	4.6	6.6	5.1	5.1
Incr Delay (d2), s/veh	2.1	0.1	1.3	3.1	0.1	0.7	0.7	0.2	0.2	0.5	0.5	0.5
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	4.5	0.6	3.2	5.2	0.3	2.4	1.2	2.1	1.1	0.7	2.5	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.3	42.4	46.4	52.7	42.0	44.8	8.0	5.1	4.9	7.1	5.5	5.5
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h	294			271			848			723		
Approach Delay, s/veh	48.1			49.6			5.5			5.7		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	94.5			25.5			94.5			25.5		
Change Period (Y+Rc), s	6.0			5.5			6.0			5.5		
Max Green Setting (Gmax), s	80.0			28.5			80.0			28.5		
Max Q Clear Time (g_c+I1), s	15.6			16.8			12.5			19.4		
Green Ext Time (p_c), s	6.3			0.8			5.5			0.6		
Intersection Summary												
HCM 6th Ctrl Delay	17.0											
HCM 6th LOS	B											

Timings

2025 Background 3-4 PM

2: Gartrell Rd & Dry Creek Rd

02/06/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	99	17	52	105	16	59	79	358	152	56	414
Future Volume (vph)	99	17	52	105	16	59	79	358	152	56	414
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases		4			8			2			6
Permitted Phases	4		4	8		8	2		2	6	
Detector Phase	4	4	4	8	8	8	2	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	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	24.0	24.0	24.0	24.0	24.0
Total Split (s)	63.0	63.0	63.0	63.0	63.0	63.0	57.0	57.0	57.0	57.0	57.0
Total Split (%)	52.5%	52.5%	52.5%	52.5%	52.5%	52.5%	47.5%	47.5%	47.5%	47.5%	47.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120





Actuated Cycle Length: 120

Offset: 53.5 (45%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Splits and Phases: 2: Gartrell Rd & Dry Creek Rd

























	
Ø2 (R)	Ø4
57 s	63 s
	
Ø6 (R)	Ø8
57 s	63 s

HCM 6th Signalized Intersection Summary

2025 Background 3-4 PM

2: Gartrell Rd & Dry Creek Rd

02/06/2024























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	17	52	105	16	59	79	358	152	56	414	134
Future Volume (veh/h)	99	17	52	105	16	59	79	358	152	56	414	134
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	1796	1796	1796	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	300	52	158	121	18	68	95	431	183	69	511	165
Peak Hour Factor	0.33	0.33	0.33	0.87	0.87	0.87	0.83	0.83	0.83	0.81	0.81	0.81
Percent Heavy Veh, %	7	7	7	2	2	2	2	2	2	2	2	2
Cap, veh/h	392	486	411	351	506	428	476	2252	1005	531	1676	539
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	1259	1796	1522	1172	1870	1585	763	3554	1585	808	2645	850
Grp Volume(v), veh/h	300	52	158	121	18	68	95	431	183	69	342	334
Grp Sat Flow(s),veh/h/ln	1259	1796	1522	1172	1870	1585	763	1777	1585	808	1777	1717
Q Serve(g_s), s	27.6	2.6	10.1	10.4	0.9	3.9	7.8	6.1	5.7	4.7	10.5	10.6
Cycle Q Clear(g_c), s	28.5	2.6	10.1	13.0	0.9	3.9	18.3	6.1	5.7	10.7	10.5	10.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	392	486	411	351	506	428	476	2252	1005	531	1126	1089
V/C Ratio(X)	0.77	0.11	0.38	0.34	0.04	0.16	0.20	0.19	0.18	0.13	0.30	0.31
Avail Cap(c_a), veh/h	655	861	729	596	896	760	476	2252	1005	531	1126	1089
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.8	32.9	35.6	37.8	32.3	33.4	14.2	9.2	9.1	11.4	10.0	10.0
Incr Delay (d2), s/veh	3.2	0.1	0.6	0.6	0.0	0.2	0.9	0.2	0.4	0.5	0.7	0.7
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	8.9	1.2	3.8	3.0	0.4	1.5	1.5	2.3	2.0	0.9	4.2	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.9	33.0	36.2	38.4	32.3	33.5	15.1	9.3	9.5	11.9	10.7	10.7
LnGrp LOS	D	C	D	D	C	C	B	A	A	B	B	B
Approach Vol, veh/h	510			207			709			745		
Approach Delay, s/veh	41.6			36.3			10.2			10.8		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	82.1			37.9			82.1			37.9		
Change Period (Y+Rc), s	6.0			5.5			6.0			5.5		
Max Green Setting (Gmax), s	51.0			57.5			51.0			57.5		
Max Q Clear Time (g_c+I1), s	20.3			30.5			12.7			15.0		
Green Ext Time (p_c), s	4.6			1.9			5.5			0.8		
Intersection Summary												
HCM 6th Ctrl Delay	20.2											
HCM 6th LOS	C											

Timings

2025 Total AM (PT+PM NB, EB, WB)

2: Gartrell Rd & Dry Creek Rd

07/31/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	152	20	73	101	19	53	117	267	101	64	575
Future Volume (vph)	152	20	73	101	19	53	117	267	101	64	575
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		5	2			6
Permitted Phases	4		4	8		8	2		2	6	
Detector Phase	7	4	4	3	8	8	5	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	5.0	5.0
Minimum Split (s)	9.5	23.5	23.5	9.5	23.5	23.5	9.5	24.0	24.0	24.0	24.0
Total Split (s)	27.0	37.4	37.4	13.6	24.0	24.0	17.0	69.0	69.0	52.0	52.0
Total Split (%)	22.5%	31.2%	31.2%	11.3%	20.0%	20.0%	14.2%	57.5%	57.5%	43.3%	43.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120

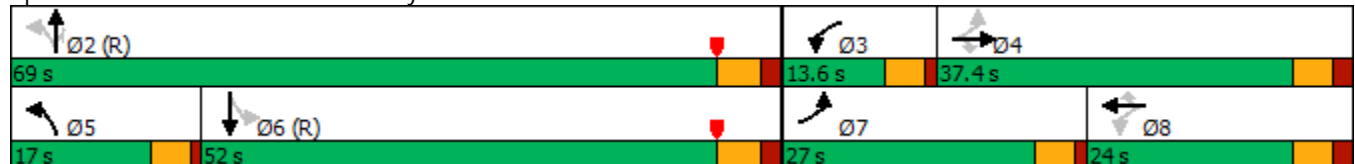
Actuated Cycle Length: 120

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

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 2: Gartrell Rd & Dry Creek Rd



























HCM 6th Signalized Intersection Summary

2025 Total AM (PT+PM NB, EB, WB)

2: Gartrell Rd & Dry Creek Rd

07/31/2024























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	20	73	101	19	53	117	267	101	64	575	202
Future Volume (veh/h)	152	20	73	101	19	53	117	267	101	64	575	202
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	1841	1841	1841	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	298	39	25	116	22	4	126	287	109	78	701	246
Peak Hour Factor	0.51	0.51	0.51	0.87	0.87	0.87	0.93	0.93	0.93	0.82	0.82	0.82
Percent Heavy Veh, %	4	4	4	2	2	2	3	3	3	3	3	3
Cap, veh/h	408	259	220	251	78	66	378	2292	1022	616	1450	509
Arrive On Green	0.18	0.14	0.14	0.08	0.04	0.04	0.05	0.65	0.65	0.57	0.57	0.57
Sat Flow, veh/h	1753	1841	1560	1781	1870	1585	1767	3526	1572	981	2559	898
Grp Volume(v), veh/h	298	39	25	116	22	4	126	287	109	78	483	464
Grp Sat Flow(s),veh/h/ln	1753	1841	1560	1781	1870	1585	1767	1763	1572	981	1763	1694
Q Serve(g_s), s	18.8	2.2	1.7	7.4	1.4	0.3	3.4	3.7	3.1	4.5	19.6	19.6
Cycle Q Clear(g_c), s	18.8	2.2	1.7	7.4	1.4	0.3	3.4	3.7	3.1	4.5	19.6	19.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	408	259	220	251	78	66	378	2292	1022	616	999	960
V/C Ratio(X)	0.73	0.15	0.11	0.46	0.28	0.06	0.33	0.13	0.11	0.13	0.48	0.48
Avail Cap(c_a), veh/h	430	489	415	251	288	244	481	2292	1022	616	999	960
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	45.2	45.0	50.0	55.8	55.2	11.4	8.0	7.9	12.2	15.5	15.5
Incr Delay (d2), s/veh	5.9	0.3	0.2	1.3	2.0	0.4	0.5	0.1	0.2	0.4	1.7	1.7
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	8.8	1.0	0.7	3.4	0.7	0.1	1.3	1.4	1.1	1.0	8.1	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.5	45.5	45.2	51.3	57.7	55.6	11.9	8.1	8.1	12.7	17.2	17.3
LnGrp LOS	D	D	D	D	E	E	B	A	A	B	B	B
Approach Vol, veh/h	362			142			522			1025		
Approach Delay, s/veh	47.9			52.4			9.0			16.9		
Approach LOS	D			D			A			B		
Timer - Assigned Phs	2		3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	84.0		13.6	22.4	10.0	74.0	25.5	10.5				
Change Period (Y+Rc), s	6.0		4.5	5.5	4.5	6.0	4.5	5.5				
Max Green Setting (Gmax), s	63.0		9.1	31.9	12.5	46.0	22.5	18.5				
Max Q Clear Time (g_c+I1), s	5.7		9.4	4.2	5.4	21.6	20.8	3.4				
Green Ext Time (p_c), s	2.4		0.0	0.2	0.2	7.4	0.2	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	22.8											
HCM 6th LOS	C											

Timings

2025 Total PM (PT+PM NB, EB, WB)

2: Gartrell Rd & Dry Creek Rd

07/31/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	146	16	82	151	12	78	159	499	145	70	551
Future Volume (vph)	146	16	82	151	12	78	159	499	145	70	551
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		5	2			6
Permitted Phases	4		4	8		8	2		2	6	
Detector Phase	7	4	4	3	8	8	5	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	5.0	5.0
Minimum Split (s)	9.5	23.5	23.5	9.5	23.5	23.5	9.5	24.0	24.0	24.0	24.0
Total Split (s)	26.0	32.0	32.0	20.0	26.0	26.0	21.0	68.0	68.0	47.0	47.0
Total Split (%)	21.7%	26.7%	26.7%	16.7%	21.7%	21.7%	17.5%	56.7%	56.7%	39.2%	39.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120

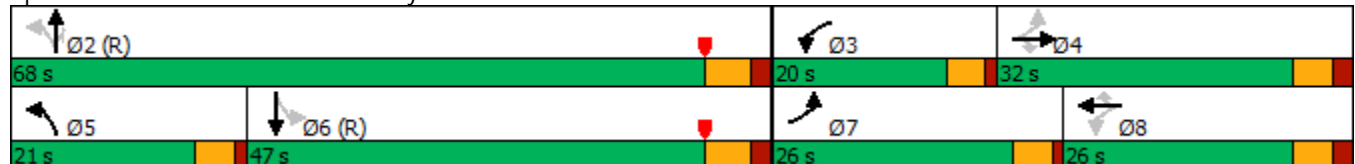
Actuated Cycle Length: 120

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

Natural Cycle: 70

Control Type: Actuated-Coordinated

























Splits and Phases: 2: Gartrell Rd & Dry Creek Rd



HCM 6th Signalized Intersection Summary 2: Gartrell Rd & Dry Creek Rd

2025 Total PM (PT+PM NB, EB, WB)

07/31/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	16	82	151	12	78	159	499	145	70	551	79
Future Volume (veh/h)	146	16	82	151	12	78	159	499	145	70	551	79
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	1796	1796	1796	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	228	25	34	170	13	21	177	554	161	76	599	86
Peak Hour Factor	0.64	0.64	0.64	0.89	0.89	0.89	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	2	2	2	2	2	2	3	3	3
Cap, veh/h	349	138	117	307	78	66	531	2427	1082	490	1822	261
Arrive On Green	0.14	0.08	0.08	0.11	0.04	0.04	0.06	0.68	0.68	0.59	0.59	0.59
Sat Flow, veh/h	1711	1796	1522	1781	1870	1585	1781	3554	1585	730	3095	443
Grp Volume(v), veh/h	228	25	34	170	13	21	177	554	161	76	341	344
Grp Sat Flow(s),veh/h/ln	1711	1796	1522	1781	1870	1585	1781	1777	1585	730	1763	1776
Q Serve(g_s), s	14.8	1.6	2.5	10.8	0.8	1.5	4.5	7.0	4.3	5.7	11.8	11.9
Cycle Q Clear(g_c), s	14.8	1.6	2.5	10.8	0.8	1.5	4.5	7.0	4.3	5.7	11.8	11.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	349	138	117	307	78	66	531	2427	1082	490	1038	1046
V/C Ratio(X)	0.65	0.18	0.29	0.55	0.17	0.32	0.33	0.23	0.15	0.16	0.33	0.33
Avail Cap(c_a), veh/h	413	397	336	346	320	271	676	2427	1082	490	1038	1046
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	51.9	52.3	48.1	55.5	55.8	8.7	7.2	6.7	11.3	12.6	12.6
Incr Delay (d2), s/veh	2.8	0.6	1.4	1.6	1.0	2.7	0.4	0.2	0.3	0.7	0.8	0.8
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	6.5	0.7	1.0	4.9	0.4	0.7	1.7	2.6	1.5	1.0	4.8	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	52.5	53.7	49.6	56.5	58.6	9.0	7.4	7.0	12.0	13.4	13.4
LnGrp LOS	D	D	D	D	E	E	A	A	A	B	B	B
Approach Vol, veh/h	287				204				892			
Approach Delay, s/veh	48.6				51.0				7.6			
Approach LOS	D				D				A			
Timer - Assigned Phs	2		3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	87.9		17.3	14.7	11.3	76.7	21.6	10.5				
Change Period (Y+Rc), s	6.0		4.5	5.5	4.5	6.0	4.5	5.5				
Max Green Setting (Gmax), s	62.0		15.5	26.5	16.5	41.0	21.5	20.5				
Max Q Clear Time (g_c+I1), s	9.0		12.8	4.5	6.5	13.9	16.8	3.5				
Green Ext Time (p_c), s	4.9		0.1	0.2	0.3	5.3	0.3	0.1				
Intersection Summary												
HCM 6th Ctrl Delay	19.2											
HCM 6th LOS	B											

Timings

2025 Total 3-4 PM (PT+PM NB, EB, WB)

2: Gartrell Rd & Dry Creek Rd

07/31/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	140	17	59	105	16	59	127	343	152	56	443
Future Volume (vph)	140	17	59	105	16	59	127	343	152	56	443
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases		4		3	8		5	2			6
Permitted Phases	4		4	8		8	2		2	6	
Detector Phase	4	4	4	3	8	8	5	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	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	9.5	23.5	23.5	9.5	24.0	24.0	24.0	24.0
Total Split (s)	49.0	49.0	49.0	13.0	62.0	62.0	19.0	58.0	58.0	39.0	39.0
Total Split (%)	40.8%	40.8%	40.8%	10.8%	51.7%	51.7%	15.8%	48.3%	48.3%	32.5%	32.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	4.5	5.5	5.5	4.5	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead			Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes			Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120

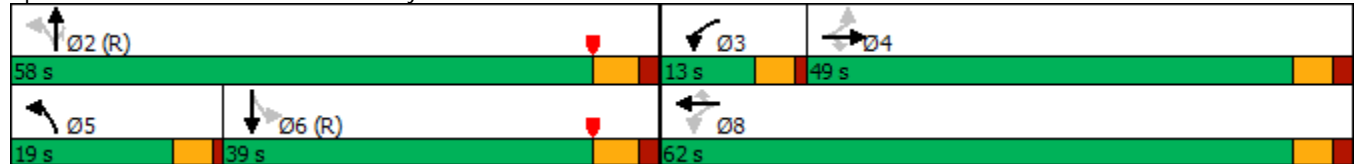
Actuated Cycle Length: 120

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

Natural Cycle: 70

Control Type: Actuated-Coordinated

























Splits and Phases: 2: Gartrell Rd & Dry Creek Rd



HCM 6th Signalized Intersection Summary 2: Gartrell Rd & Dry Creek Rd

2025 Total 3-4 PM (PT+PM NB, EB, WB)

07/31/2024























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	17	59	105	16	59	127	343	152	56	443	134
Future Volume (veh/h)	140	17	59	105	16	59	127	343	152	56	443	134
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	1796	1796	1796	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	326	40	137	121	18	68	153	413	183	69	547	165
Peak Hour Factor	0.43	0.43	0.43	0.87	0.87	0.87	0.83	0.83	0.83	0.81	0.81	0.81
Percent Heavy Veh, %	7	7	7	2	2	2	2	2	2	2	2	2
Cap, veh/h	413	504	427	490	711	603	377	1861	830	406	1135	341
Arrive On Green	0.28	0.28	0.28	0.06	0.38	0.38	0.06	0.52	0.52	0.42	0.42	0.42
Sat Flow, veh/h	1259	1796	1522	1781	1870	1585	1781	3554	1585	822	2692	809
Grp Volume(v), veh/h	326	40	137	121	18	68	153	413	183	69	360	352
Grp Sat Flow(s),veh/h/ln	1259	1796	1522	1781	1870	1585	1781	1777	1585	822	1777	1725
Q Serve(g_s), s	30.2	2.0	8.5	5.6	0.7	3.3	5.6	7.5	7.5	6.4	17.7	17.8
Cycle Q Clear(g_c), s	30.2	2.0	8.5	5.6	0.7	3.3	5.6	7.5	7.5	6.4	17.7	17.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h	413	504	427	490	711	603	377	1861	830	406	749	727
V/C Ratio(X)	0.79	0.08	0.32	0.25	0.03	0.11	0.41	0.22	0.22	0.17	0.48	0.48
Avail Cap(c_a), veh/h	517	651	552	505	881	746	477	1861	830	406	749	727
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	31.8	34.1	26.5	23.3	24.1	18.3	15.4	15.4	21.9	25.2	25.2
Incr Delay (d2), s/veh	6.4	0.1	0.4	0.3	0.0	0.1	0.7	0.3	0.6	0.9	2.2	2.3
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	10.0	0.9	3.2	2.4	0.3	1.3	2.4	3.1	2.8	1.3	7.9	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.3	31.8	34.6	26.7	23.3	24.2	19.0	15.7	16.0	22.8	27.4	27.5
LnGrp LOS	D	C	C	C	C	C	B	B	B	C	C	C
Approach Vol, veh/h	503			207			749			781		
Approach Delay, s/veh	43.3			25.6			16.4			27.0		
Approach LOS	D			C			B			C		
Timer - Assigned Phs	2			3			4			5		
Phs Duration (G+Y+Rc), s	68.9			12.0			39.2			12.3		
Change Period (Y+Rc), s	6.0			4.5			5.5			4.5		
Max Green Setting (Gmax), s	52.0			8.5			43.5			14.5		
Max Q Clear Time (g_c+I1), s	9.5			7.6			32.2			7.6		
Green Ext Time (p_c), s	3.7			0.0			1.5			0.2		
Intersection Summary												
HCM 6th Ctrl Delay	27.0											
HCM 6th LOS	C											

Timings

2025 Total AM - Dual EBL

2: Gartrell Rd & Dry Creek Rd

07/31/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	152	20	73	101	19	53	117	267	101	64	575
Future Volume (vph)	152	20	73	101	19	53	117	267	101	64	575
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		5	2			6
Permitted Phases			4	8		8	2		2	6	
Detector Phase	7	4	4	3	8	8	5	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	5.0	5.0
Minimum Split (s)	9.5	23.5	23.5	9.5	23.5	23.5	9.5	24.0	24.0	24.0	24.0
Total Split (s)	23.0	33.0	33.0	14.0	24.0	24.0	17.2	73.0	73.0	55.8	55.8
Total Split (%)	19.2%	27.5%	27.5%	11.7%	20.0%	20.0%	14.3%	60.8%	60.8%	46.5%	46.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120

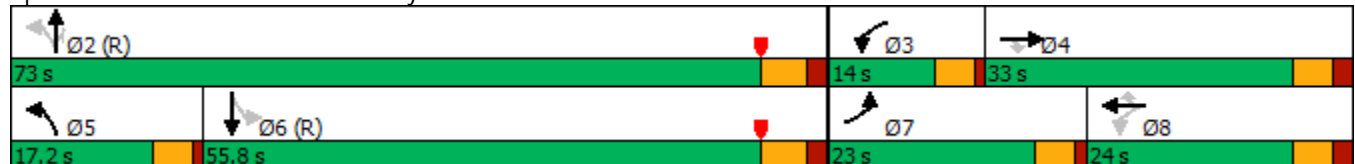
Actuated Cycle Length: 120

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

Natural Cycle: 75

Control Type: Actuated-Coordinated

Splits and Phases: 2: Gartrell Rd & Dry Creek Rd



























HCM 6th Signalized Intersection Summary

2: Gartrell Rd & Dry Creek Rd

2025 Total AM - Dual EBL

07/31/2024


























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	20	73	101	19	53	117	267	101	64	575	202
Future Volume (veh/h)	152	20	73	101	19	53	117	267	101	64	575	202
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	1841	1841	1841	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	298	39	25	116	22	15	126	287	109	78	701	246
Peak Hour Factor	0.51	0.51	0.51	0.87	0.87	0.87	0.93	0.93	0.93	0.82	0.82	0.82
Percent Heavy Veh, %	4	4	4	2	2	2	3	3	3	3	3	3
Cap, veh/h	364	133	113	252	78	66	428	2531	1129	687	1636	574
Arrive On Green	0.11	0.07	0.07	0.08	0.04	0.04	0.04	0.72	0.72	0.64	0.64	0.64
Sat Flow, veh/h	3401	1841	1560	1781	1870	1585	1767	3526	1572	981	2559	898
Grp Volume(v), veh/h	298	39	25	116	22	15	126	287	109	78	483	464
Grp Sat Flow(s),veh/h/ln	1700	1841	1560	1781	1870	1585	1767	1763	1572	981	1763	1694
Q Serve(g_s), s	10.3	2.4	1.8	7.4	1.4	1.1	2.8	3.0	2.5	3.7	16.3	16.3
Cycle Q Clear(g_c), s	10.3	2.4	1.8	7.4	1.4	1.1	2.8	3.0	2.5	3.7	16.3	16.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	364	133	113	252	78	66	428	2531	1129	687	1127	1083
V/C Ratio(X)	0.82	0.29	0.22	0.46	0.28	0.23	0.29	0.11	0.10	0.11	0.43	0.43
Avail Cap(c_a), veh/h	524	422	357	257	288	244	543	2531	1129	687	1127	1083
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.4	52.8	52.5	49.9	55.8	55.6	7.7	5.2	5.1	8.5	10.7	10.7
Incr Delay (d2), s/veh	6.7	1.2	1.0	1.3	2.0	1.7	0.4	0.1	0.2	0.3	1.2	1.2
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	4.7	1.2	0.7	3.4	0.7	0.5	1.0	1.0	0.8	0.8	6.4	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.1	54.0	53.5	51.2	57.7	57.4	8.1	5.3	5.3	8.8	11.9	12.0
LnGrp LOS	E	D	D	D	E	E	A	A	A	A	B	B
Approach Vol, veh/h		362			153			522			1025	
Approach Delay, s/veh		58.2			52.8			6.0			11.7	
Approach LOS		E			D			A			B	
Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		92.2	13.7	14.2	9.4	82.7	17.3	10.5				
Change Period (Y+Rc), s		6.0	4.5	5.5	4.5	6.0	4.5	5.5				
Max Green Setting (Gmax), s		67.0	9.5	27.5	12.7	49.8	18.5	18.5				
Max Q Clear Time (g_c+I1), s		5.0	9.4	4.4	4.8	18.3	12.3	3.4				
Green Ext Time (p_c), s		2.4	0.0	0.2	0.2	7.9	0.6	0.1				
Intersection Summary												
HCM 6th Ctrl Delay			21.5									
HCM 6th LOS			C									
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings

2025 Total PM - Dual EBL

2: Gartrell Rd & Dry Creek Rd

07/31/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	 							 			 
Traffic Volume (vph)	146	16	82	151	12	78	159	499	145	70	551
Future Volume (vph)	146	16	82	151	12	78	159	499	145	70	551
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		5	2			6
Permitted Phases			4	8		8	2		2	6	
Detector Phase	7	4	4	3	8	8	5	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	5.0	5.0
Minimum Split (s)	9.5	23.5	23.5	9.5	23.5	23.5	9.5	24.0	24.0	24.0	24.0
Total Split (s)	23.0	29.0	29.0	20.0	26.0	26.0	22.0	71.0	71.0	49.0	49.0
Total Split (%)	19.2%	24.2%	24.2%	16.7%	21.7%	21.7%	18.3%	59.2%	59.2%	40.8%	40.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120

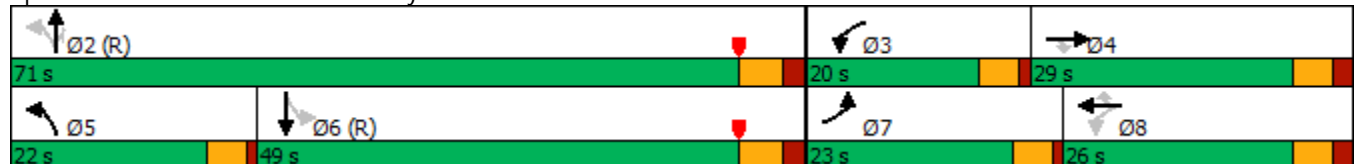
Actuated Cycle Length: 120

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

Natural Cycle: 70

Control Type: Actuated-Coordinated




























Splits and Phases: 2: Gartrell Rd & Dry Creek Rd



HCM 6th Signalized Intersection Summary 2: Gartrell Rd & Dry Creek Rd

2025 Total PM - Dual EBL

07/31/2024


























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 							 			 	
Traffic Volume (veh/h)	146	16	82	151	12	78	159	499	145	70	551	79
Future Volume (veh/h)	146	16	82	151	12	78	159	499	145	70	551	79
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	1796	1796	1796	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	228	25	128	170	13	88	177	554	161	76	599	86
Peak Hour Factor	0.64	0.64	0.64	0.89	0.89	0.89	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	2	2	2	2	2	2	3	3	3
Cap, veh/h	292	183	155	351	216	183	515	2356	1051	474	1754	251
Arrive On Green	0.09	0.10	0.10	0.10	0.12	0.12	0.06	0.66	0.66	0.57	0.57	0.57
Sat Flow, veh/h	3319	1796	1522	1781	1870	1585	1781	3554	1585	730	3095	443
Grp Volume(v), veh/h	228	25	128	170	13	88	177	554	161	76	341	344
Grp Sat Flow(s),veh/h/ln	1659	1796	1522	1781	1870	1585	1781	1777	1585	730	1763	1776
Q Serve(g_s), s	8.1	1.5	9.9	10.1	0.7	6.2	4.7	7.5	4.6	6.0	12.5	12.5
Cycle Q Clear(g_c), s	8.1	1.5	9.9	10.1	0.7	6.2	4.7	7.5	4.6	6.0	12.5	12.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	292	183	155	351	216	183	515	2356	1051	474	999	1006
V/C Ratio(X)	0.78	0.14	0.82	0.48	0.06	0.48	0.34	0.24	0.15	0.16	0.34	0.34
Avail Cap(c_a), veh/h	512	352	298	400	320	271	670	2356	1051	474	999	1006
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	49.1	52.8	42.1	47.2	49.7	9.7	8.1	7.6	12.6	14.0	14.0
Incr Delay (d2), s/veh	4.6	0.3	10.3	1.0	0.1	1.9	0.4	0.2	0.3	0.7	0.9	0.9
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	0.7	4.2	4.5	0.4	2.6	1.8	2.8	1.6	1.1	5.1	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.2	49.4	63.1	43.1	47.4	51.6	10.1	8.3	7.9	13.3	14.9	14.9
LnGrp LOS	E	D	E	D	D	D	B	A	A	B	B	B
Approach Vol, veh/h		381			271			892			761	
Approach Delay, s/veh		59.3			46.1			8.6			14.7	
Approach LOS		E			D			A			B	
Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		85.6	16.7	17.8	11.6	74.0	15.0	19.4				
Change Period (Y+Rc), s		6.0	4.5	5.5	4.5	6.0	4.5	5.5				
Max Green Setting (Gmax), s		65.0	15.5	23.5	17.5	43.0	18.5	20.5				
Max Q Clear Time (g_c+I1), s		9.5	12.1	11.9	6.7	14.5	10.1	8.2				
Green Ext Time (p_c), s		4.9	0.1	0.4	0.3	5.4	0.5	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			23.4									
HCM 6th LOS			C									

Timings

2025 Total 3-4 PM - Dual EBL

2: Gartrell Rd & Dry Creek Rd

07/31/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	 							 			 
Traffic Volume (vph)	140	17	59	105	16	59	127	343	152	56	443
Future Volume (vph)	140	17	59	105	16	59	127	343	152	56	443
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		5	2			6
Permitted Phases			4	8		8	2		2	6	
Detector Phase	7	4	4	3	8	8	5	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	5.0	5.0
Minimum Split (s)	9.5	23.5	23.5	9.5	23.5	23.5	9.5	24.0	24.0	24.0	24.0
Total Split (s)	27.0	36.0	36.0	16.0	25.0	25.0	20.0	68.0	68.0	48.0	48.0
Total Split (%)	22.5%	30.0%	30.0%	13.3%	20.8%	20.8%	16.7%	56.7%	56.7%	40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120

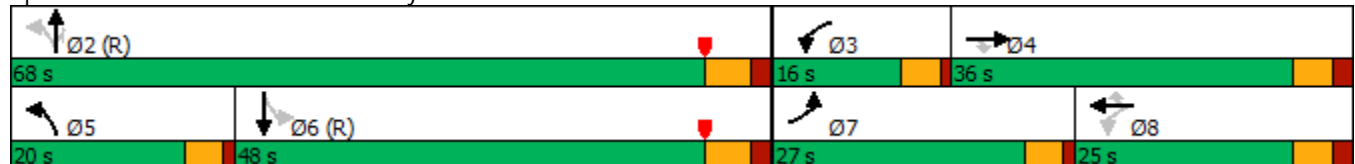
Actuated Cycle Length: 120

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

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 2: Gartrell Rd & Dry Creek Rd


























HCM 6th Signalized Intersection Summary

2: Gartrell Rd & Dry Creek Rd

2025 Total 3-4 PM - Dual EBL

07/31/2024























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	17	59	105	16	59	127	343	152	56	443	134
Future Volume (veh/h)	140	17	59	105	16	59	127	343	152	56	443	134
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	1796	1796	1796	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	326	40	44	121	18	22	153	413	183	69	547	165
Peak Hour Factor	0.43	0.43	0.43	0.87	0.87	0.87	0.83	0.83	0.83	0.81	0.81	0.81
Percent Heavy Veh, %	7	7	7	2	2	2	2	2	2	2	2	2
Cap, veh/h	395	146	124	257	78	66	532	2508	1119	570	1670	502
Arrive On Green	0.12	0.08	0.08	0.08	0.04	0.04	0.05	0.71	0.71	0.62	0.62	0.62
Sat Flow, veh/h	3319	1796	1522	1781	1870	1585	1781	3554	1585	822	2692	809
Grp Volume(v), veh/h	326	40	44	121	18	22	153	413	183	69	360	352
Grp Sat Flow(s),veh/h/ln	1659	1796	1522	1781	1870	1585	1781	1777	1585	822	1777	1725
Q Serve(g_s), s	11.5	2.5	3.3	7.7	1.1	1.6	3.6	4.6	4.6	4.2	11.6	11.7
Cycle Q Clear(g_c), s	11.5	2.5	3.3	7.7	1.1	1.6	3.6	4.6	4.6	4.2	11.6	11.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h	395	146	124	257	78	66	532	2508	1119	570	1102	1070
V/C Ratio(X)	0.82	0.27	0.36	0.47	0.23	0.33	0.29	0.16	0.16	0.12	0.33	0.33
Avail Cap(c_a), veh/h	622	457	387	285	304	258	676	2508	1119	570	1102	1070
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.6	51.8	52.2	49.7	55.6	55.9	7.5	5.9	5.9	9.4	10.9	10.9
Incr Delay (d2), s/veh	5.1	1.0	1.7	1.3	1.5	2.9	0.3	0.1	0.3	0.4	0.8	0.8
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	5.1	1.2	1.3	3.5	0.6	0.7	1.3	1.7	1.5	0.8	4.7	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.7	52.8	53.9	51.0	57.1	58.8	7.8	6.0	6.2	9.9	11.6	11.7
LnGrp LOS	E	D	D	D	E	E	A	A	A	A	B	B
Approach Vol, veh/h	410			161			749			781		
Approach Delay, s/veh	56.0			52.8			6.4			11.5		
Approach LOS	E			D			A			B		
Timer - Assigned Phs	2			3			4			5		
Phs Duration (G+Y+Rc), s	90.7			14.1			15.2			10.3		
Change Period (Y+Rc), s	6.0			4.5			4.5			6.0		
Max Green Setting (Gmax), s	62.0			11.5			30.5			15.5		
Max Q Clear Time (g_c+I1), s	6.6			9.7			5.3			5.6		
Green Ext Time (p_c), s	3.7			0.0			0.3			0.3		
Intersection Summary												
HCM 6th Ctrl Delay	21.5											
HCM 6th LOS	C											
Notes												

Timings

2: Gartrell Rd & Dry Creek Rd

2040 Background AM

02/06/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	162	20	90	101	19	53	112	368	101	64	739
Future Volume (vph)	162	20	90	101	19	53	112	368	101	64	739
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases		4			8			2			6
Permitted Phases	4		4	8		8	2		2	6	
Detector Phase	4	4	4	8	8	8	2	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	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	24.0	24.0	24.0	24.0	24.0
Total Split (s)	42.0	42.0	42.0	42.0	42.0	42.0	78.0	78.0	78.0	78.0	78.0
Total Split (%)	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	65.0%	65.0%	65.0%	65.0%	65.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120

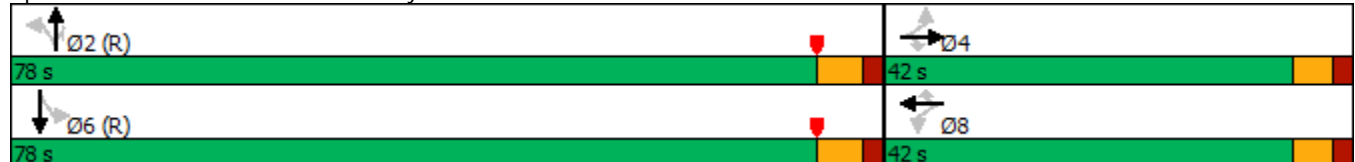
Actuated Cycle Length: 120

Offset: 53.5 (45%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 2: Gartrell Rd & Dry Creek Rd



























HCM 6th Signalized Intersection Summary

2: Gartrell Rd & Dry Creek Rd

2040 Background AM

02/06/2024























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	20	90	101	19	53	112	368	101	64	739	272
Future Volume (veh/h)	162	20	90	101	19	53	112	368	101	64	739	272
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	1841	1841	1841	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	318	39	176	116	22	61	120	396	109	78	803	296
Peak Hour Factor	0.51	0.51	0.51	0.87	0.87	0.87	0.93	0.93	0.93	0.82	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	2	2	3	3	3	3	3	3
Cap, veh/h	402	502	425	360	510	432	294	2226	993	579	1593	587
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	1294	1841	1560	1166	1870	1585	509	3526	1572	887	2522	929
Grp Volume(v), veh/h	318	39	176	116	22	61	120	396	109	78	561	538
Grp Sat Flow(s),veh/h/ln	1294	1841	1560	1166	1870	1585	509	1763	1572	887	1763	1688
Q Serve(g_s), s	28.8	1.9	11.1	9.8	1.0	3.5	20.0	5.6	3.3	4.8	20.6	20.7
Cycle Q Clear(g_c), s	29.8	1.9	11.1	11.7	1.0	3.5	40.7	5.6	3.3	10.4	20.6	20.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.55
Lane Grp Cap(c), veh/h	402	502	425	360	510	432	294	2226	993	579	1113	1066
V/C Ratio(X)	0.79	0.08	0.41	0.32	0.04	0.14	0.41	0.18	0.11	0.13	0.50	0.50
Avail Cap(c_a), veh/h	442	560	474	396	569	482	294	2226	993	579	1113	1066
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	32.4	35.8	36.8	32.1	33.0	23.0	9.2	8.8	11.3	12.0	12.0
Incr Delay (d2), s/veh	8.7	0.1	0.6	0.5	0.0	0.1	4.2	0.2	0.2	0.5	1.6	1.7
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	10.1	0.9	4.3	2.9	0.5	1.4	2.7	2.1	1.2	1.0	8.2	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	32.5	36.4	37.3	32.2	33.2	27.1	9.4	9.0	11.8	13.6	13.7
LnGrp LOS	D	C	D	D	C	C	C	A	A	B	B	B
Approach Vol, veh/h	533			199			625			1177		
Approach Delay, s/veh	45.3			35.5			12.7			13.5		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	81.8			38.2			81.8			38.2		
Change Period (Y+Rc), s	6.0			5.5			6.0			5.5		
Max Green Setting (Gmax), s	72.0			36.5			72.0			36.5		
Max Q Clear Time (g_c+I1), s	42.7			31.8			22.7			13.7		
Green Ext Time (p_c), s	5.0			0.9			10.8			0.7		
Intersection Summary												
HCM 6th Ctrl Delay				21.7								
HCM 6th LOS				C								

Timings

2: Gartrell Rd & Dry Creek Rd

2040 Background PM

02/06/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	132	16	99	151	12	78	137	696	145	70	695
Future Volume (vph)	132	16	99	151	12	78	137	696	145	70	695
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases		4			8			2			6
Permitted Phases	4		4	8		8	2		2	6	
Detector Phase	4	4	4	8	8	8	2	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	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	24.0	24.0	24.0	24.0	24.0
Total Split (s)	34.0	34.0	34.0	34.0	34.0	34.0	86.0	86.0	86.0	86.0	86.0
Total Split (%)	28.3%	28.3%	28.3%	28.3%	28.3%	28.3%	71.7%	71.7%	71.7%	71.7%	71.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 53.5 (45%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 2: Gartrell Rd & Dry Creek Rd

























				
Ø2 (R)			Ø4	
86 s			34 s	
				
Ø6 (R)			Ø8	
86 s			34 s	

HCM 6th Signalized Intersection Summary

2: Gartrell Rd & Dry Creek Rd

2040 Background PM

02/06/2024























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	16	99	151	12	78	137	696	145	70	695	106
Future Volume (veh/h)	132	16	99	151	12	78	137	696	145	70	695	106
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	1796	1796	1796	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	206	25	155	170	13	88	149	757	161	76	755	115
Peak Hour Factor	0.64	0.64	0.64	0.89	0.89	0.89	0.92	0.92	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	2	2	2	2	2	2	3	3	3
Cap, veh/h	290	343	290	276	357	302	454	2535	1131	444	2188	333
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	1242	1796	1522	1204	1870	1585	637	3554	1585	604	3067	467
Grp Volume(v), veh/h	206	25	155	170	13	88	149	757	161	76	434	436
Grp Sat Flow(s),veh/h/ln	1242	1796	1522	1204	1870	1585	637	1777	1585	604	1763	1771
Q Serve(g_s), s	19.4	1.4	11.0	16.2	0.7	5.7	13.9	9.3	3.9	6.3	11.2	11.2
Cycle Q Clear(g_c), s	20.1	1.4	11.0	17.6	0.7	5.7	25.2	9.3	3.9	15.6	11.2	11.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	290	343	290	276	357	302	454	2535	1131	444	1257	1264
V/C Ratio(X)	0.71	0.07	0.53	0.62	0.04	0.29	0.33	0.30	0.14	0.17	0.34	0.35
Avail Cap(c_a), veh/h	348	427	362	332	444	376	454	2535	1131	444	1257	1264
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	39.8	43.7	47.0	39.6	41.6	11.3	6.3	5.5	9.1	6.5	6.5
Incr Delay (d2), s/veh	5.3	0.1	1.5	2.4	0.0	0.5	1.9	0.3	0.3	0.8	0.8	0.7
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	0.6	4.3	5.0	0.3	2.3	2.1	3.3	1.3	0.9	4.1	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.0	39.9	45.3	49.5	39.6	42.1	13.2	6.6	5.8	9.9	7.3	7.3
LnGrp LOS	D	D	D	D	D	D	B	A	A	A	A	A
Approach Vol, veh/h	386			271			1067			946		
Approach Delay, s/veh	49.1			46.6			7.4			7.5		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	91.6			28.4			91.6			28.4		
Change Period (Y+Rc), s	6.0			5.5			6.0			5.5		
Max Green Setting (Gmax), s	80.0			28.5			80.0			28.5		
Max Q Clear Time (g_c+I1), s	27.2			22.1			17.6			19.6		
Green Ext Time (p_c), s	9.4			0.8			8.1			0.6		
Intersection Summary												
HCM 6th Ctrl Delay	17.4											
HCM 6th LOS	B											

Timings

2040 Background 3-4 PM

2: Gartrell Rd & Dry Creek Rd

02/06/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	133	17	70	105	16	59	106	482	152	56	557
Future Volume (vph)	133	17	70	105	16	59	106	482	152	56	557
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases		4			8			2			6
Permitted Phases	4		4	8		8	2		2	6	
Detector Phase	4	4	4	8	8	8	2	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	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	24.0	24.0	24.0	24.0	24.0
Total Split (s)	63.0	63.0	63.0	63.0	63.0	63.0	57.0	57.0	57.0	57.0	57.0
Total Split (%)	52.5%	52.5%	52.5%	52.5%	52.5%	52.5%	47.5%	47.5%	47.5%	47.5%	47.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120





Actuated Cycle Length: 120

Offset: 53.5 (45%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Splits and Phases: 2: Gartrell Rd & Dry Creek Rd

























	
Ø2 (R)	Ø4
57 s	63 s
	
Ø6 (R)	Ø8
57 s	63 s

HCM 6th Signalized Intersection Summary

2: Gartrell Rd & Dry Creek Rd

2040 Background 3-4 PM

02/06/2024























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	17	70	105	16	59	106	482	152	56	557	181
Future Volume (veh/h)	133	17	70	105	16	59	106	482	152	56	557	181
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	1796	1796	1796	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	403	52	212	121	18	68	115	524	183	69	605	197
Peak Hour Factor	0.33	0.33	0.33	0.87	0.87	0.87	0.92	0.92	0.83	0.81	0.92	0.92
Percent Heavy Veh, %	7	7	7	2	2	2	2	2	2	2	2	2
Cap, veh/h	495	631	535	430	657	557	344	1964	876	412	1457	474
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	1259	1796	1522	1115	1870	1585	678	3554	1585	741	2636	857
Grp Volume(v), veh/h	403	52	212	121	18	68	115	524	183	69	407	395
Grp Sat Flow(s),veh/h/ln	1259	1796	1522	1115	1870	1585	678	1777	1585	741	1777	1716
Q Serve(g_s), s	37.0	2.3	12.6	9.8	0.8	3.5	14.2	9.3	7.0	6.5	16.0	16.0
Cycle Q Clear(g_c), s	37.7	2.3	12.6	12.1	0.8	3.5	30.2	9.3	7.0	15.7	16.0	16.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	495	631	535	430	657	557	344	1964	876	412	982	949
V/C Ratio(X)	0.81	0.08	0.40	0.28	0.03	0.12	0.33	0.27	0.21	0.17	0.41	0.42
Avail Cap(c_a), veh/h	656	861	729	573	896	760	344	1964	876	412	982	949
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.8	26.0	29.3	30.0	25.5	26.4	24.4	14.1	13.6	18.2	15.6	15.6
Incr Delay (d2), s/veh	5.9	0.1	0.5	0.4	0.0	0.1	2.6	0.3	0.5	0.9	1.3	1.3
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	12.0	1.0	4.7	2.7	0.3	1.3	2.5	3.8	2.6	1.2	6.7	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.8	26.1	29.8	30.4	25.5	26.5	27.0	14.4	14.1	19.1	16.9	16.9
LnGrp LOS	D	C	C	C	C	C	C	B	B	B	B	B
Approach Vol, veh/h	667			207			822			871		
Approach Delay, s/veh	37.9			28.7			16.1			17.1		
Approach LOS	D			C			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	72.3			47.7			72.3			47.7		
Change Period (Y+Rc), s	6.0			5.5			6.0			5.5		
Max Green Setting (Gmax), s	51.0			57.5			51.0			57.5		
Max Q Clear Time (g_c+I1), s	32.2			39.7			18.0			14.1		
Green Ext Time (p_c), s	5.0			2.4			6.7			0.8		
Intersection Summary												
HCM 6th Ctrl Delay	23.1											
HCM 6th LOS	C											

Timings

2040 Total AM (PT+PM NB, EB, WB)

2: Gartrell Rd & Dry Creek Rd

07/31/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	193	20	96	101	19	53	146	360	101	64	765
Future Volume (vph)	193	20	96	101	19	53	146	360	101	64	765
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		5	2			6
Permitted Phases	4		4	8		8	2		2	6	
Detector Phase	7	4	4	3	8	8	5	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	5.0	5.0
Minimum Split (s)	9.5	23.5	23.5	9.5	23.5	23.5	9.5	24.0	24.0	24.0	24.0
Total Split (s)	30.0	37.0	37.0	17.0	24.0	24.0	17.0	66.0	66.0	49.0	49.0
Total Split (%)	25.0%	30.8%	30.8%	14.2%	20.0%	20.0%	14.2%	55.0%	55.0%	40.8%	40.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120

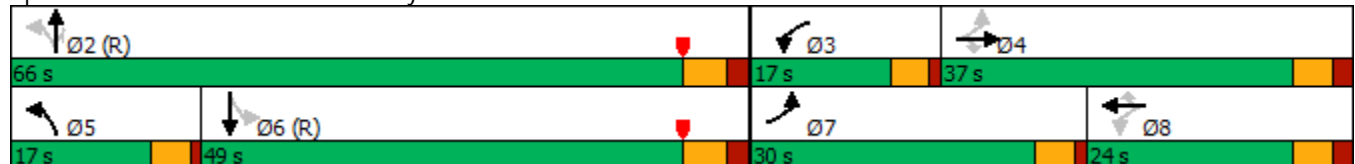
Actuated Cycle Length: 120

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

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 2: Gartrell Rd & Dry Creek Rd



























HCM 6th Signalized Intersection Summary

2040 Total AM (PT+PM NB, EB, WB)

2: Gartrell Rd & Dry Creek Rd

07/31/2024























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	20	96	101	19	53	146	360	101	64	765	272
Future Volume (veh/h)	193	20	96	101	19	53	146	360	101	64	765	272
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	1841	1841	1841	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	378	39	70	116	22	4	157	387	109	78	832	296
Peak Hour Factor	0.51	0.51	0.51	0.87	0.87	0.87	0.93	0.93	0.93	0.82	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	2	2	3	3	3	3	3	3
Cap, veh/h	474	326	276	251	78	66	302	2159	963	523	1319	468
Arrive On Green	0.21	0.18	0.18	0.08	0.04	0.04	0.06	0.61	0.61	0.52	0.52	0.52
Sat Flow, veh/h	1753	1841	1560	1781	1870	1585	1767	3526	1572	894	2550	906
Grp Volume(v), veh/h	378	39	70	116	22	4	157	387	109	78	575	553
Grp Sat Flow(s),veh/h/ln	1753	1841	1560	1781	1870	1585	1767	1763	1572	894	1763	1693
Q Serve(g_s), s	24.1	2.1	4.6	7.4	1.4	0.3	4.8	5.7	3.5	5.5	28.0	28.1
Cycle Q Clear(g_c), s	24.1	2.1	4.6	7.4	1.4	0.3	4.8	5.7	3.5	5.5	28.0	28.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.54
Lane Grp Cap(c), veh/h	474	326	276	251	78	66	302	2159	963	523	912	876
V/C Ratio(X)	0.80	0.12	0.25	0.46	0.28	0.06	0.52	0.18	0.11	0.15	0.63	0.63
Avail Cap(c_a), veh/h	474	483	409	299	288	244	384	2159	963	523	912	876
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	41.5	42.5	49.9	55.8	55.2	16.5	10.1	9.7	15.3	20.7	20.8
Incr Delay (d2), s/veh	9.3	0.2	0.5	1.3	2.0	0.4	1.4	0.2	0.2	0.6	3.3	3.5
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	1.0	1.8	3.4	0.7	0.1	2.0	2.2	1.2	1.2	12.1	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	41.7	43.0	51.2	57.7	55.6	17.9	10.3	9.9	15.9	24.0	24.2
LnGrp LOS	D	D	D	D	E	E	B	B	A	B	C	C
Approach Vol, veh/h	487			142			653			1206		
Approach Delay, s/veh	48.4			52.3			12.1			23.6		
Approach LOS	D			D			B			C		
Timer - Assigned Phs	2			3			4			5		
Phs Duration (G+Y+Rc), s	79.5			13.7			26.8			11.4		
Change Period (Y+Rc), s	6.0			4.5			5.5			4.5		
Max Green Setting (Gmax), s	60.0			12.5			12.5			43.0		
Max Q Clear Time (g_c+I1), s	7.7			9.4			6.6			6.8		
Green Ext Time (p_c), s	3.2			0.1			0.4			0.2		
Intersection Summary												
HCM 6th Ctrl Delay				27.1								
HCM 6th LOS				C								

Timings

2040 Total PM (PT+PM NB, EB, WB)

2: Gartrell Rd & Dry Creek Rd

07/31/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	180	16	107	151	12	78	194	678	145	70	730
Future Volume (vph)	180	16	107	151	12	78	194	678	145	70	730
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		5	2			6
Permitted Phases	4		4	8		8	2		2	6	
Detector Phase	7	4	4	3	8	8	5	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	5.0	5.0
Minimum Split (s)	9.5	23.5	23.5	9.5	23.5	23.5	9.5	24.0	24.0	24.0	24.0
Total Split (s)	29.6	27.0	27.0	27.0	24.4	24.4	20.0	66.0	66.0	46.0	46.0
Total Split (%)	24.7%	22.5%	22.5%	22.5%	20.3%	20.3%	16.7%	55.0%	55.0%	38.3%	38.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120







Actuated Cycle Length: 120

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

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 2: Gartrell Rd & Dry Creek Rd

























 Ø2 (R)	 Ø3	 Ø4
66 s	27 s	27 s
 Ø5	 Ø7	 Ø8
20 s	29.6 s	24.4 s

HCM 6th Signalized Intersection Summary

2040 Total PM (PT+PM NB, EB, WB)

2: Gartrell Rd & Dry Creek Rd

07/31/2024























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	16	107	151	12	78	194	678	145	70	730	106
Future Volume (veh/h)	180	16	107	151	12	78	194	678	145	70	730	106
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	1796	1796	1796	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	281	25	73	170	13	21	211	737	161	76	793	115
Peak Hour Factor	0.64	0.64	0.64	0.89	0.89	0.89	0.92	0.92	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	2	2	2	2	2	2	3	3	3
Cap, veh/h	399	188	159	307	78	66	423	2323	1036	397	1691	245
Arrive On Green	0.17	0.10	0.10	0.11	0.04	0.04	0.07	0.65	0.65	0.55	0.55	0.55
Sat Flow, veh/h	1711	1796	1522	1781	1870	1585	1781	3554	1585	615	3090	448
Grp Volume(v), veh/h	281	25	73	170	13	21	211	737	161	76	452	456
Grp Sat Flow(s),veh/h/ln	1711	1796	1522	1781	1870	1585	1781	1777	1585	615	1763	1775
Q Serve(g_s), s	18.2	1.5	5.4	10.8	0.8	1.5	5.9	10.9	4.7	7.7	18.7	18.8
Cycle Q Clear(g_c), s	18.2	1.5	5.4	10.8	0.8	1.5	5.9	10.9	4.7	7.7	18.7	18.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	399	188	159	307	78	66	423	2323	1036	397	965	972
V/C Ratio(X)	0.70	0.13	0.46	0.55	0.17	0.32	0.50	0.32	0.16	0.19	0.47	0.47
Avail Cap(c_a), veh/h	464	322	273	448	295	250	530	2323	1036	397	965	972
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.7	48.8	50.5	47.9	55.5	55.8	11.9	9.1	8.0	14.0	16.5	16.5
Incr Delay (d2), s/veh	4.0	0.3	2.1	1.6	1.0	2.7	0.9	0.4	0.3	1.1	1.6	1.6
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	8.1	0.7	2.2	4.9	0.4	0.7	2.3	4.1	1.6	1.2	7.9	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.6	49.1	52.6	49.5	56.5	58.6	12.8	9.4	8.3	15.1	18.2	18.2
LnGrp LOS	D	D	D	D	E	E	B	A	A	B	B	B
Approach Vol, veh/h	379			204			1109			984		
Approach Delay, s/veh	47.9			50.8			9.9			17.9		
Approach LOS	D			D			A			B		
Timer - Assigned Phs	2		3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	84.4		17.5	18.0	12.8	71.7	25.1	10.5				
Change Period (Y+Rc), s	6.0		4.5	5.5	4.5	6.0	4.5	5.5				
Max Green Setting (Gmax), s	60.0		22.5	21.5	15.5	40.0	25.1	18.9				
Max Q Clear Time (g_c+I1), s	12.9		12.8	7.4	7.9	20.8	20.2	3.5				
Green Ext Time (p_c), s	6.8		0.3	0.2	0.3	6.6	0.4	0.1				
Intersection Summary												
HCM 6th Ctrl Delay	21.4											
HCM 6th LOS	C											

Timings

2040 Total 3-4 PM (PT+PM NB, EB, WB)

2: Gartrell Rd & Dry Creek Rd

07/31/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	174	17	77	105	16	59	154	467	152	56	586
Future Volume (vph)	174	17	77	105	16	59	154	467	152	56	586
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		5	2			6
Permitted Phases	4		4	8		8	2		2	6	
Detector Phase	7	4	4	3	8	8	5	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	5.0	5.0
Minimum Split (s)	9.5	23.5	23.5	9.5	23.5	23.5	9.5	24.0	24.0	24.0	24.0
Total Split (s)	31.0	42.0	42.0	16.0	27.0	27.0	19.0	62.0	62.0	43.0	43.0
Total Split (%)	25.8%	35.0%	35.0%	13.3%	22.5%	22.5%	15.8%	51.7%	51.7%	35.8%	35.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120

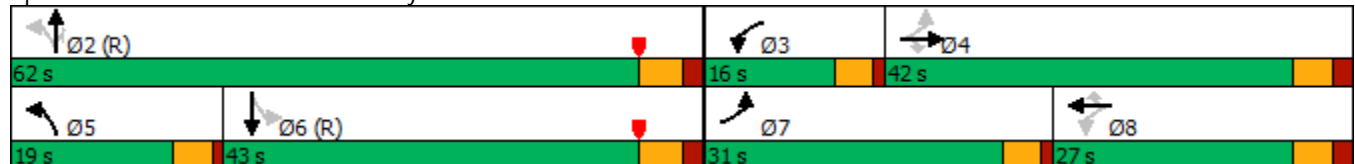
Actuated Cycle Length: 120

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

Natural Cycle: 75

Control Type: Actuated-Coordinated

























Splits and Phases: 2: Gartrell Rd & Dry Creek Rd



HCM 6th Signalized Intersection Summary 2: Gartrell Rd & Dry Creek Rd

2040 Total 3-4 PM (PT+PM NB, EB, WB)

07/31/2024


























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	17	77	105	16	59	154	467	152	56	586	181
Future Volume (veh/h)	174	17	77	105	16	59	154	467	152	56	586	181
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	1796	1796	1796	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	405	40	39	121	18	11	167	508	183	69	637	197
Peak Hour Factor	0.43	0.43	0.43	0.87	0.87	0.87	0.92	0.92	0.83	0.81	0.92	0.92
Percent Heavy Veh, %	7	7	7	2	2	2	2	2	2	2	2	2
Cap, veh/h	481	328	278	257	78	66	400	2147	958	440	1350	417
Arrive On Green	0.22	0.18	0.18	0.08	0.04	0.04	0.06	0.60	0.60	0.51	0.51	0.51
Sat Flow, veh/h	1711	1796	1522	1781	1870	1585	1781	3554	1585	752	2673	826
Grp Volume(v), veh/h	405	40	39	121	18	11	167	508	183	69	423	411
Grp Sat Flow(s),veh/h/ln	1711	1796	1522	1781	1870	1585	1781	1777	1585	752	1777	1722
Q Serve(g_s), s	26.5	2.2	2.6	7.7	1.1	0.8	5.2	7.9	6.2	6.0	18.6	18.6
Cycle Q Clear(g_c), s	26.5	2.2	2.6	7.7	1.1	0.8	5.2	7.9	6.2	6.0	18.6	18.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	481	328	278	257	78	66	400	2147	958	440	898	870
V/C Ratio(X)	0.84	0.12	0.14	0.47	0.23	0.17	0.42	0.24	0.19	0.16	0.47	0.47
Avail Cap(c_a), veh/h	481	546	463	286	335	284	506	2147	958	440	898	870
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	41.0	41.1	49.7	55.6	55.5	13.9	11.0	10.6	16.2	19.3	19.3
Incr Delay (d2), s/veh	12.8	0.2	0.2	1.3	1.5	1.2	0.7	0.3	0.4	0.8	1.8	1.8
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	12.9	1.0	1.0	3.5	0.6	0.3	2.1	3.1	2.2	1.1	8.0	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.7	41.1	41.3	51.0	57.1	56.7	14.6	11.2	11.1	16.9	21.1	21.1
LnGrp LOS	D	D	D	D	E	E	B	B	B	B	C	C
Approach Vol, veh/h	484			150			858			903		
Approach Delay, s/veh	51.7			52.2			11.8			20.8		
Approach LOS	D			D			B			C		
Timer - Assigned Phs	2		3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	78.5		14.1	27.4	11.9	66.6	31.0	10.5				
Change Period (Y+Rc), s	6.0		4.5	5.5	4.5	6.0	4.5	5.5				
Max Green Setting (Gmax), s	56.0		11.5	36.5	14.5	37.0	26.5	21.5				
Max Q Clear Time (g_c+I1), s	9.9		9.7	4.6	7.2	20.6	28.5	3.1				
Green Ext Time (p_c), s	4.6		0.0	0.3	0.2	5.5	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay			25.8									
HCM 6th LOS			C									

Timings

2040 Total AM - Dual EBL

2: Gartrell Rd & Dry Creek Rd

07/31/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	 							 			 
Traffic Volume (vph)	193	20	96	101	19	53	146	360	101	64	765
Future Volume (vph)	193	20	96	101	19	53	146	360	101	64	765
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		5	2			6
Permitted Phases			4	8		8	2		2	6	
Detector Phase	7	4	4	3	8	8	5	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	5.0	5.0
Minimum Split (s)	9.5	23.5	23.5	9.5	23.5	23.5	9.5	24.0	24.0	24.0	24.0
Total Split (s)	24.0	35.0	35.0	12.6	23.6	23.6	18.0	72.4	72.4	54.4	54.4
Total Split (%)	20.0%	29.2%	29.2%	10.5%	19.7%	19.7%	15.0%	60.3%	60.3%	45.3%	45.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120

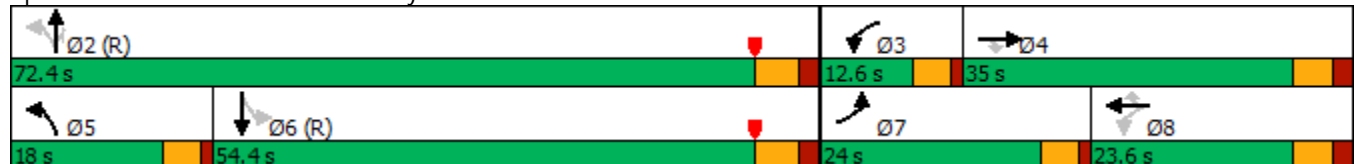
Actuated Cycle Length: 120

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

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 2: Gartrell Rd & Dry Creek Rd



























HCM 6th Signalized Intersection Summary

2: Gartrell Rd & Dry Creek Rd

2040 Total AM - Dual EBL

07/31/2024


























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	20	96	101	19	53	146	360	101	64	765	272
Future Volume (veh/h)	193	20	96	101	19	53	146	360	101	64	765	272
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	1841	1841	1841	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	378	39	70	116	22	15	157	387	109	78	832	296
Peak Hour Factor	0.51	0.51	0.51	0.87	0.87	0.87	0.93	0.93	0.93	0.82	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	2	2	3	3	3	3	3	3
Cap, veh/h	443	192	163	234	78	66	355	2449	1092	603	1548	550
Arrive On Green	0.13	0.10	0.10	0.07	0.04	0.04	0.05	0.69	0.69	0.61	0.61	0.61
Sat Flow, veh/h	3401	1841	1560	1781	1870	1585	1767	3526	1572	894	2550	906
Grp Volume(v), veh/h	378	39	70	116	22	15	157	387	109	78	575	553
Grp Sat Flow(s),veh/h/ln	1700	1841	1560	1781	1870	1585	1767	1763	1572	894	1763	1693
Q Serve(g_s), s	13.0	2.3	5.0	7.4	1.4	1.1	3.8	4.5	2.7	4.5	22.8	22.9
Cycle Q Clear(g_c), s	13.0	2.3	5.0	7.4	1.4	1.1	3.8	4.5	2.7	4.5	22.8	22.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.54
Lane Grp Cap(c), veh/h	443	192	163	234	78	66	355	2449	1092	603	1070	1027
V/C Ratio(X)	0.85	0.20	0.43	0.50	0.28	0.23	0.44	0.16	0.10	0.13	0.54	0.54
Avail Cap(c_a), veh/h	553	453	383	234	282	239	465	2449	1092	603	1070	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	49.2	50.4	50.9	55.8	55.6	10.8	6.3	6.0	10.1	13.7	13.8
Incr Delay (d2), s/veh	10.3	0.5	1.8	1.6	2.0	1.7	0.9	0.1	0.2	0.4	1.9	2.0
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	6.2	1.1	2.1	3.4	0.7	0.5	1.5	1.6	0.9	0.9	9.3	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	49.7	52.2	52.6	57.7	57.4	11.7	6.4	6.2	10.6	15.7	15.8
LnGrp LOS	E	D	D	D	E	E	B	A	A	B	B	B
Approach Vol, veh/h	487				153				653			
Approach Delay, s/veh	59.1				53.8				7.6			
Approach LOS	E				D				A			
Timer - Assigned Phs	2		3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	89.4		12.6	18.0	10.5	78.8	20.1	10.5				
Change Period (Y+Rc), s	6.0		4.5	5.5	4.5	6.0	4.5	5.5				
Max Green Setting (Gmax), s	66.4		8.1	29.5	13.5	48.4	19.5	18.1				
Max Q Clear Time (g_c+I1), s	6.5		9.4	7.0	5.8	24.9	15.0	3.4				
Green Ext Time (p_c), s	3.2		0.0	0.4	0.2	9.1	0.6	0.1				
Intersection Summary												
HCM 6th Ctrl Delay	24.2											
HCM 6th LOS	C											

Timings

2040 Total PM - Dual EBL

2: Gartrell Rd & Dry Creek Rd

07/31/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	 							 			 
Traffic Volume (vph)	180	16	107	151	12	78	194	678	145	70	730
Future Volume (vph)	180	16	107	151	12	78	194	678	145	70	730
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		5	2			6
Permitted Phases			4	8		8	2		2	6	
Detector Phase	7	4	4	3	8	8	5	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	5.0	5.0
Minimum Split (s)	9.5	23.5	23.5	9.5	23.5	23.5	9.5	24.0	24.0	24.0	24.0
Total Split (s)	21.0	28.0	28.0	17.0	24.0	24.0	21.0	75.0	75.0	54.0	54.0
Total Split (%)	17.5%	23.3%	23.3%	14.2%	20.0%	20.0%	17.5%	62.5%	62.5%	45.0%	45.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120








Actuated Cycle Length: 120

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

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 2: Gartrell Rd & Dry Creek Rd

























  Ø2 (R)	 Ø3	 Ø4
75 s	17 s	28 s
 Ø5	 Ø7	 Ø8
21 s	21 s	24 s
 Ø6 (R)		
54 s		

HCM 6th Signalized Intersection Summary

2040 Total PM - Dual EBL

2: Gartrell Rd & Dry Creek Rd

07/31/2024


























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	16	107	151	12	78	194	678	145	70	730	106
Future Volume (veh/h)	180	16	107	151	12	78	194	678	145	70	730	106
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	1796	1796	1796	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	281	25	73	170	13	21	211	737	161	76	793	115
Peak Hour Factor	0.64	0.64	0.64	0.89	0.89	0.89	0.92	0.92	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	2	2	2	2	2	2	3	3	3
Cap, veh/h	342	118	100	313	125	106	453	2477	1105	427	1842	267
Arrive On Green	0.10	0.07	0.07	0.10	0.07	0.07	0.06	0.70	0.70	0.60	0.60	0.60
Sat Flow, veh/h	3319	1796	1522	1781	1870	1585	1781	3554	1585	615	3090	448
Grp Volume(v), veh/h	281	25	73	170	13	21	211	737	161	76	452	456
Grp Sat Flow(s),veh/h/ln	1659	1796	1522	1781	1870	1585	1781	1777	1585	615	1763	1775
Q Serve(g_s), s	10.0	1.6	5.6	10.5	0.8	1.5	5.2	9.5	4.1	6.8	16.7	16.7
Cycle Q Clear(g_c), s	10.0	1.6	5.6	10.5	0.8	1.5	5.2	9.5	4.1	6.8	16.7	16.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	342	118	100	313	125	106	453	2477	1105	427	1051	1058
V/C Ratio(X)	0.82	0.21	0.73	0.54	0.10	0.20	0.47	0.30	0.15	0.18	0.43	0.43
Avail Cap(c_a), veh/h	456	337	285	314	288	244	585	2477	1105	427	1051	1058
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	53.1	55.0	45.7	52.6	53.0	9.4	6.9	6.1	11.2	13.2	13.2
Incr Delay (d2), s/veh	8.7	0.9	9.7	1.9	0.4	0.9	0.7	0.3	0.3	0.9	1.3	1.3
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	4.6	0.7	2.4	4.8	0.4	0.6	2.0	3.5	1.4	1.0	6.8	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.4	54.0	64.7	47.7	53.0	53.9	10.1	7.3	6.4	12.1	14.5	14.4
LnGrp LOS	E	D	E	D	D	D	B	A	A	B	B	B
Approach Vol, veh/h		379			204			1109			984	
Approach Delay, s/veh		61.6			48.6			7.7			14.3	
Approach LOS		E			D			A			B	
Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		89.6	17.0	13.4	12.1	77.5	16.9	13.5				
Change Period (Y+Rc), s		6.0	4.5	5.5	4.5	6.0	4.5	5.5				
Max Green Setting (Gmax), s		69.0	12.5	22.5	16.5	48.0	16.5	18.5				
Max Q Clear Time (g_c+I1), s		11.5	12.5	7.6	7.2	18.7	12.0	3.5				
Green Ext Time (p_c), s		6.9	0.0	0.2	0.4	7.7	0.4	0.1				
Intersection Summary												
HCM 6th Ctrl Delay			20.9									
HCM 6th LOS			C									
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings

2040 Total 3-4 PM - Dual EBL

2: Gartrell Rd & Dry Creek Rd

07/31/2024

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	 							 			 
Traffic Volume (vph)	174	17	77	105	16	59	154	467	152	56	586
Future Volume (vph)	174	17	77	105	16	59	154	467	152	56	586
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		5	2			6
Permitted Phases			4	8		8	2		2	6	
Detector Phase	7	4	4	3	8	8	5	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	5.0	5.0
Minimum Split (s)	9.5	23.5	23.5	9.5	23.5	23.5	9.5	24.0	24.0	24.0	24.0
Total Split (s)	28.0	38.0	38.0	14.0	24.0	24.0	20.0	68.0	68.0	48.0	48.0
Total Split (%)	23.3%	31.7%	31.7%	11.7%	20.0%	20.0%	16.7%	56.7%	56.7%	40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120

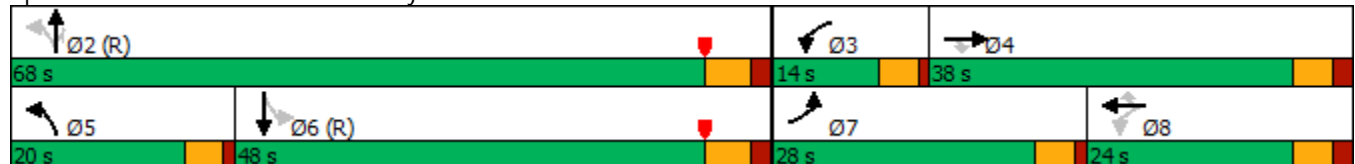
Actuated Cycle Length: 120

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

Natural Cycle: 75

Control Type: Actuated-Coordinated

Splits and Phases: 2: Gartrell Rd & Dry Creek Rd


























HCM 6th Signalized Intersection Summary

2040 Total 3-4 PM - Dual EBL

2: Gartrell Rd & Dry Creek Rd

07/31/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	17	77	105	16	59	154	467	152	56	586	181
Future Volume (veh/h)	174	17	77	105	16	59	154	467	152	56	586	181
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	1796	1796	1796	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	405	40	39	121	18	22	167	508	183	69	637	197
Peak Hour Factor	0.43	0.43	0.43	0.87	0.87	0.87	0.92	0.92	0.83	0.81	0.92	0.92
Percent Heavy Veh, %	7	7	7	2	2	2	2	2	2	2	2	2
Cap, veh/h	475	190	161	256	78	66	460	2423	1081	504	1578	487
Arrive On Green	0.14	0.11	0.11	0.08	0.04	0.04	0.05	0.68	0.68	0.59	0.59	0.59
Sat Flow, veh/h	3319	1796	1522	1781	1870	1585	1781	3554	1585	752	2673	826
Grp Volume(v), veh/h	405	40	39	121	18	22	167	508	183	69	423	411
Grp Sat Flow(s),veh/h/ln	1659	1796	1522	1781	1870	1585	1781	1777	1585	752	1777	1722
Q Serve(g_s), s	14.3	2.4	2.8	7.7	1.1	1.6	4.2	6.4	5.0	5.0	15.4	15.4
Cycle Q Clear(g_c), s	14.3	2.4	2.8	7.7	1.1	1.6	4.2	6.4	5.0	5.0	15.4	15.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	475	190	161	256	78	66	460	2423	1081	504	1049	1016
V/C Ratio(X)	0.85	0.21	0.24	0.47	0.23	0.33	0.36	0.21	0.17	0.14	0.40	0.40
Avail Cap(c_a), veh/h	650	486	412	256	288	244	594	2423	1081	504	1049	1016
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.2	49.1	49.2	49.8	55.6	55.9	9.3	7.1	6.9	11.1	13.2	13.2
Incr Delay (d2), s/veh	8.0	0.5	0.8	1.4	1.5	2.9	0.5	0.2	0.3	0.6	1.2	1.2
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	1.1	1.1	3.5	0.6	0.7	1.6	2.4	1.7	0.9	6.3	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.1	49.6	50.0	51.1	57.1	58.8	9.8	7.3	7.2	11.7	14.4	14.4
LnGrp LOS	E	D	D	D	E	E	A	A	A	B	B	B
Approach Vol, veh/h	484				161				858			
Approach Delay, s/veh	56.8				52.8				7.8			
Approach LOS	E				D				A			
Timer - Assigned Phs	2		3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	87.8		14.0	18.2	11.0	76.8	21.7	10.5				
Change Period (Y+Rc), s	6.0		4.5	5.5	4.5	6.0	4.5	5.5				
Max Green Setting (Gmax), s	62.0		9.5	32.5	15.5	42.0	23.5	18.5				
Max Q Clear Time (g_c+I1), s	8.4		9.7	4.8	6.2	17.4	16.3	3.6				
Green Ext Time (p_c), s	4.6		0.0	0.3	0.3	6.5	0.9	0.1				
Intersection Summary												
HCM 6th Ctrl Delay	23.0											
HCM 6th LOS	C											

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↑	↔	↔	↑↑	↔	↔	↑↑	
Traffic Vol, veh/h	7	5	18	12	2	47	8	410	14	60	719	7
Future Vol, veh/h	7	5	18	12	2	47	8	410	14	60	719	7
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	-	-	-	75	-	0	150	-	75	175	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	4	4	4
Mvmt Flow	9	6	22	15	2	58	10	506	17	74	888	9

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1315	1584	449	1121	1571	253	897	0	0	523	0	0
Stage 1	1041	1041	-	526	526	-	-	-	-	-	-	-
Stage 2	274	543	-	595	1045	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.18	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.24	-	-
Pot Cap-1 Maneuver	116	107	557	161	109	746	753	-	-	1026	-	-
Stage 1	246	305	-	503	527	-	-	-	-	-	-	-
Stage 2	709	518	-	458	304	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	99	98	557	141	100	746	753	-	-	1026	-	-
Mov Cap-2 Maneuver	191	199	-	262	203	-	-	-	-	-	-	-
Stage 1	243	283	-	496	520	-	-	-	-	-	-	-
Stage 2	642	511	-	399	282	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	17.8		12.5		0.2		0.7	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2WBLn3	SBL	SBT	SBR
Capacity (veh/h)	753	-	-	319 262 203 746 1026	-	-	-
HCM Lane V/C Ratio	0.013	-	-	0.116 0.057 0.012 0.078 0.072	-	-	-
HCM Control Delay (s)	9.8	-	-	17.8 19.6 23 10.2 8.8	-	-	-
HCM Lane LOS	A	-	-	C C C B A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4 0.2 0 0.3 0.2	-	-	-

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↑	↔	↔	↑↑	↔	↔	↑↑	
Traffic Vol, veh/h	4	2	5	24	1	148	16	601	52	185	580	8
Future Vol, veh/h	4	2	5	24	1	148	16	601	52	185	580	8
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	-	-	-	75	-	0	150	-	75	175	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	2	6	27	1	164	18	668	58	206	644	9

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1432	1823	327	1439	1769	334	653	0	0	726	0	0
Stage 1	1061	1061	-	704	704	-	-	-	-	-	-	-
Stage 2	371	762	-	735	1065	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	95	76	669	94	83	662	930	-	-	873	-	-
Stage 1	239	299	-	394	438	-	-	-	-	-	-	-
Stage 2	622	412	-	377	297	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	57	57	669	74	62	662	930	-	-	873	-	-
Mov Cap-2 Maneuver	137	123	-	176	152	-	-	-	-	-	-	-
Stage 1	234	228	-	387	430	-	-	-	-	-	-	-
Stage 2	457	404	-	283	227	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB				
HCM Control Delay, s	23.4		14.6		0.2			2.5				
HCM LOS	C		B									

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2WBLn3	SBL	SBT	SBR
Capacity (veh/h)	930	-	-	208 176 152 662 873	-	-	-
HCM Lane V/C Ratio	0.019	-	-	0.059 0.152 0.007 0.248 0.235	-	-	-
HCM Control Delay (s)	8.9	-	-	23.4 29.1 28.9 12.2 10.4	-	-	-
HCM Lane LOS	A	-	-	C D D B B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2 0.5 0 1 0.9	-	-	-

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↑	↔	↔	↑↑	↔	↔	↑↑	
Traffic Vol, veh/h	7	5	19	12	2	47	8	427	14	60	749	7
Future Vol, veh/h	7	5	19	12	2	47	8	427	14	60	749	7
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	-	-	-	75	-	0	150	-	75	175	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	4	4	4
Mvmt Flow	9	6	23	15	2	58	10	527	17	74	925	9

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1363	1642	467	1161	1629	264	934	0	0	544	0	0
Stage 1	1078	1078	-	547	547	-	-	-	-	-	-	-
Stage 2	285	564	-	614	1082	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.18	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.24	-	-
Pot Cap-1 Maneuver	107	99	542	150	101	734	729	-	-	1007	-	-
Stage 1	233	293	-	489	516	-	-	-	-	-	-	-
Stage 2	698	507	-	446	292	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	91	90	542	131	92	734	729	-	-	1007	-	-
Mov Cap-2 Maneuver	181	190	-	251	194	-	-	-	-	-	-	-
Stage 1	230	272	-	482	509	-	-	-	-	-	-	-
Stage 2	631	500	-	386	271	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	18.2		12.7		0.2		0.7	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2WBLn3	SBL	SBT	SBR
Capacity (veh/h)	729	-	-	310 251 194 734 1007	-	-	-
HCM Lane V/C Ratio	0.014	-	-	0.123 0.059 0.013 0.079 0.074	-	-	-
HCM Control Delay (s)	10	-	-	18.2 20.2 23.8 10.3 8.9	-	-	-
HCM Lane LOS	B	-	-	C C C B A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4 0.2 0 0.3 0.2	-	-	-

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕	↕	↕	↕	↕	↕	↕	
Traffic Vol, veh/h	4	2	5	24	1	148	17	625	52	185	604	8
Future Vol, veh/h	4	2	5	24	1	148	17	625	52	185	604	8
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	-	-	-	75	-	0	150	-	75	175	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	2	6	27	1	164	19	694	58	206	671	9

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1474	1878	340	1481	1824	347	680	0	0	752	0	0
Stage 1	1088	1088	-	732	732	-	-	-	-	-	-	-
Stage 2	386	790	-	749	1092	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	88	71	656	87	76	649	908	-	-	853	-	-
Stage 1	230	290	-	379	425	-	-	-	-	-	-	-
Stage 2	609	400	-	370	289	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	52	53	656	68	56	649	908	-	-	853	-	-
Mov Cap-2 Maneuver	129	116	-	168	145	-	-	-	-	-	-	-
Stage 1	225	220	-	371	416	-	-	-	-	-	-	-
Stage 2	444	392	-	275	219	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB				
HCM Control Delay, s	24.5		15		0.2			2.5				
HCM LOS	C		C									

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2WBLn3	SBL	SBT	SBR
Capacity (veh/h)	908	-	-	197 168 145 649	853	-	-
HCM Lane V/C Ratio	0.021	-	-	0.062 0.159 0.008 0.253	0.241	-	-
HCM Control Delay (s)	9	-	-	24.5 30.4 30 12.4	10.6	-	-
HCM Lane LOS	A	-	-	C D D B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2 0.5 0 1	0.9	-	-

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↑	↔	↔	↑↑	↔	↔	↑↑	
Traffic Vol, veh/h	10	5	19	12	2	47	8	448	14	60	770	7
Future Vol, veh/h	10	5	19	12	2	47	8	448	14	60	770	7
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	-	-	-	75	-	0	150	-	75	175	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	6	23	15	2	58	10	553	17	74	951	9

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1402	1694	480	1200	1681	277	960	0	0	570	0	0
Stage 1	1104	1104	-	573	573	-	-	-	-	-	-	-
Stage 2	298	590	-	627	1108	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	100	92	532	141	94	720	712	-	-	999	-	-
Stage 1	225	285	-	472	502	-	-	-	-	-	-	-
Stage 2	686	493	-	438	284	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	85	84	532	123	86	720	712	-	-	999	-	-
Mov Cap-2 Maneuver	174	183	-	243	187	-	-	-	-	-	-	-
Stage 1	222	264	-	465	495	-	-	-	-	-	-	-
Stage 2	619	486	-	379	263	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB				
HCM Control Delay, s	20		12.9		0.2			0.6				
HCM LOS	C		B									

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2WBLn3	SBL	SBT	SBR
Capacity (veh/h)	712	-	-	282 243 187 720 999	-	-	-
HCM Lane V/C Ratio	0.014	-	-	0.149 0.061 0.013 0.081 0.074	-	-	-
HCM Control Delay (s)	10.1	-	-	20 20.8 24.5 10.4 8.9	-	-	-
HCM Lane LOS	B	-	-	C C C B A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5 0.2 0 0.3 0.2	-	-	-

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↑	↔	↔	↑↑	↔	↔	↑↑	
Traffic Vol, veh/h	8	2	5	24	1	148	17	654	52	185	635	8
Future Vol, veh/h	8	2	5	24	1	148	17	654	52	185	635	8
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	-	-	-	75	-	0	150	-	75	175	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	2	6	27	1	164	19	727	58	206	706	9

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1525	1946	358	1531	1892	364	715	0	0	785	0	0
Stage 1	1123	1123	-	765	765	-	-	-	-	-	-	-
Stage 2	402	823	-	766	1127	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	81	64	638	80	69	633	881	-	-	829	-	-
Stage 1	219	279	-	362	410	-	-	-	-	-	-	-
Stage 2	596	386	-	361	278	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	47	47	638	62	51	633	881	-	-	829	-	-
Mov Cap-2 Maneuver	121	107	-	160	137	-	-	-	-	-	-	-
Stage 1	214	210	-	354	401	-	-	-	-	-	-	-
Stage 2	430	378	-	266	209	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB				
HCM Control Delay, s	29.8		15.5		0.2			2.4				
HCM LOS	D		C									

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2WBLn3	SBL	SBT	SBR
Capacity (veh/h)	881	-	-	162 160 137 633 829	-	-	-
HCM Lane V/C Ratio	0.021	-	-	0.103 0.167 0.008 0.26 0.248	-	-	-
HCM Control Delay (s)	9.2	-	-	29.8 31.9 31.5 12.7 10.8	-	-	-
HCM Lane LOS	A	-	-	D D D B B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3 0.6 0 1 1	-	-	-

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↑	↕	↕	↑↑	↕	↕	↑↑	
Traffic Vol, veh/h	10	7	25	12	2	47	11	561	14	60	1015	10
Future Vol, veh/h	10	7	25	12	2	47	11	561	14	60	1015	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	-	-	-	75	-	0	150	-	75	175	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	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	11	8	27	13	2	51	12	610	15	65	1103	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1569	1888	557	1320	1878	305	1114	0	0	625	0	0
Stage 1	1239	1239	-	634	634	-	-	-	-	-	-	-
Stage 2	330	649	-	686	1244	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	75	70	474	115	71	691	623	-	-	952	-	-
Stage 1	186	246	-	434	471	-	-	-	-	-	-	-
Stage 2	657	464	-	404	244	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	64	64	474	98	65	691	623	-	-	952	-	-
Mov Cap-2 Maneuver	144	158	-	214	159	-	-	-	-	-	-	-
Stage 1	182	229	-	426	462	-	-	-	-	-	-	-
Stage 2	594	455	-	343	227	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	22.4		13.6		0.2		0.5					
HCM LOS	C		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2WBLn3	SBL	SBT	SBR					
Capacity (veh/h)	623	-	-	252 214 159 691 952	-	-	-					
HCM Lane V/C Ratio	0.019	-	-	0.181 0.061 0.014 0.074 0.069	-	-	-					
HCM Control Delay (s)	10.9	-	-	22.4 22.9 28 10.6 9.1	-	-	-					
HCM Lane LOS	B	-	-	C C D B A	-	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	0.6 0.2 0 0.2 0.2	-	-	-					

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↑	↔	↔	↑↑	↔	↔	↑↑	
Traffic Vol, veh/h	6	3	7	24	1	148	22	838	52	185	818	11
Future Vol, veh/h	6	3	7	24	1	148	22	838	52	185	818	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	-	-	-	75	-	0	150	-	75	175	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	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	7	3	8	26	1	161	24	911	57	201	889	12











Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1801	2313	451	1807	2262	456	901	0	0	968	0	0
Stage 1	1297	1297	-	959	959	-	-	-	-	-	-	-
Stage 2	504	1016	-	848	1303	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	50	37	556	50	40	551	750	-	-	707	-	-
Stage 1	171	230	-	276	334	-	-	-	-	-	-	-
Stage 2	518	314	-	322	229	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	27	26	556	36	28	551	750	-	-	707	-	-
Mov Cap-2 Maneuver	85	69	-	120	100	-	-	-	-	-	-	-
Stage 1	166	165	-	267	323	-	-	-	-	-	-	-
Stage 2	354	304	-	223	164	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	38.1		18.4		0.2		2.2	
HCM LOS	E		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2WBLn3	SBL	SBT	SBR
Capacity (veh/h)	750	-	-	126 120 100 551 707	-	-	-
HCM Lane V/C Ratio	0.032	-	-	0.138 0.217 0.011 0.292 0.284	-	-	-
HCM Control Delay (s)	10	-	-	38.1 43.1 41.4 14.2 12.1	-	-	-
HCM Lane LOS	A	-	-	E E E B B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5 0.8 0 1.2 1.2	-	-	-

HCM 6th TWSC
3: Gartrell Rd & Hinsdale Ave

2040 Total AM
07/31/2024

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	7	25	12	2	47	11	582	14	60	1036	10
Future Vol, veh/h	13	7	25	12	2	47	11	582	14	60	1036	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	-	-	-	75	-	0	150	-	75	175	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	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	14	8	27	13	2	51	12	633	15	65	1126	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1604	1934	569	1354	1924	317	1137	0	0	648	0	0
Stage 1	1262	1262	-	657	657	-	-	-	-	-	-	-
Stage 2	342	672	-	697	1267	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	70	65	465	108	66	679	610	-	-	934	-	-
Stage 1	180	239	-	420	460	-	-	-	-	-	-	-
Stage 2	646	453	-	398	238	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	60	59	465	91	60	679	610	-	-	934	-	-
Mov Cap-2 Maneuver	139	152	-	207	153	-	-	-	-	-	-	-
Stage 1	176	222	-	412	451	-	-	-	-	-	-	-
Stage 2	583	444	-	337	221	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	24.5		13.8		0.2		0.5					
HCM LOS	C		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2WBLn3	SBL	SBT	SBR					
Capacity (veh/h)	610	-	-	233 207 153 679	934	-	-					
HCM Lane V/C Ratio	0.02	-	-	0.21 0.063 0.014 0.075	0.07	-	-					
HCM Control Delay (s)	11	-	-	24.5 23.6 28.9 10.7	9.1	-	-					
HCM Lane LOS	B	-	-	C C D B	A	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	0.8 0.2 0 0.2	0.2	-	-					

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↑	↕	↕	↑↑	↕	↕	↑↑	
Traffic Vol, veh/h	10	3	7	24	1	148	22	867	52	185	849	11
Future Vol, veh/h	10	3	7	24	1	148	22	867	52	185	849	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	-	-	-	75	-	0	150	-	75	175	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	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	11	3	8	26	1	161	24	942	57	201	923	12




Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1851	2378	468	1855	2327	471	935	0	0	999	0	0
Stage 1	1331	1331	-	990	990	-	-	-	-	-	-	-
Stage 2	520	1047	-	865	1337	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	46	34	542	46	37	539	728	-	-	689	-	-
Stage 1	163	222	-	264	323	-	-	-	-	-	-	-
Stage 2	507	303	-	315	220	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	24	23	542	33	25	539	728	-	-	689	-	-
Mov Cap-2 Maneuver	79	63	-	114	94	-	-	-	-	-	-	-
Stage 1	158	157	-	255	312	-	-	-	-	-	-	-
Stage 2	343	293	-	215	156	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	47		19		0.2		2.2	
HCM LOS	E		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2WBLn3	SBL	SBT	SBR
Capacity (veh/h)	728	-	-	107 114 94 539 689	-	-	-
HCM Lane V/C Ratio	0.033	-	-	0.203 0.229 0.012 0.298 0.292	-	-	-
HCM Control Delay (s)	10.1	-	-	47 45.7 43.7 14.5 12.4	-	-	-
HCM Lane LOS	B	-	-	E E E B B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7 0.8 0 1.2 1.2	-	-	-




HCM 6th TWSC
4: Hinsdale Ave & Access

2025 Total AM
07/31/2024

Intersection						
Int Delay, s/veh	2.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	3	19	79	1	39
Future Vol, veh/h	57	3	19	79	1	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	8	8	2	2	2	2
Mvmt Flow	73	4	24	101	1	50
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	127	75	0	0	125	0
Stage 1	75	-	-	-	-	-
Stage 2	52	-	-	-	-	-
Critical Hdwy	6.48	6.28	-	-	4.12	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	-	-	2.218	-
Pot Cap-1 Maneuver	853	970	-	-	1462	-
Stage 1	933	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	852	970	-	-	1462	-
Mov Cap-2 Maneuver	852	-	-	-	-	-
Stage 1	933	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.6	0		0.2		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-		857	1462	
HCM Lane V/C Ratio	-	-		0.09	0.001	
HCM Control Delay (s)	-	-		9.6	7.5	
HCM Lane LOS	-	-		A	A	
HCM 95th %tile Q(veh)	-	-		0.3	0	




HCM 6th TWSC
4: Hinsdale Ave & Access

2025 Total PM
07/31/2024

Intersection						
Int Delay, s/veh	3.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	83	7	13	113	6	23
Future Vol, veh/h	83	7	13	113	6	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	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	9	9
Mvmt Flow	95	8	15	130	7	26
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	120	80	0	0	145	0
Stage 1	80	-	-	-	-	-
Stage 2	40	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.19	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.281	-
Pot Cap-1 Maneuver	876	980	-	-	1395	-
Stage 1	943	-	-	-	-	-
Stage 2	982	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	872	980	-	-	1395	-
Mov Cap-2 Maneuver	872	-	-	-	-	-
Stage 1	943	-	-	-	-	-
Stage 2	977	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.6	0		1.6		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-		880	1395	-
HCM Lane V/C Ratio	-	-		0.118	0.005	-
HCM Control Delay (s)	-	-		9.6	7.6	0
HCM Lane LOS	-	-		A	A	A
HCM 95th %tile Q(veh)	-	-		0.4	0	-




HCM 6th TWSC
4: Hinsdale Ave & Access

2040 Total AM
07/31/2024

Intersection						
Int Delay, s/veh	2.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	3	39	79	1	52
Future Vol, veh/h	57	3	39	79	1	52
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, %	8	8	2	2	2	2
Mvmt Flow	62	3	42	86	1	57
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	144	85	0	0	128	0
Stage 1	85	-	-	-	-	-
Stage 2	59	-	-	-	-	-
Critical Hdwy	6.48	6.28	-	-	4.12	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	-	-	2.218	-
Pot Cap-1 Maneuver	835	958	-	-	1458	-
Stage 1	923	-	-	-	-	-
Stage 2	948	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	834	958	-	-	1458	-
Mov Cap-2 Maneuver	834	-	-	-	-	-
Stage 1	923	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.7	0		0.1		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	839	1458	-	
HCM Lane V/C Ratio	-	-	0.078	0.001	-	
HCM Control Delay (s)	-	-	9.7	7.5	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.3	0	-	

HCM 6th TWSC
4: Hinsdale Ave & Access

2040 Total PM
07/31/2024

Intersection						
Int Delay, s/veh	3.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	83	7	33	113	6	33
Future Vol, veh/h	83	7	33	113	6	33
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	9	9
Mvmt Flow	90	8	36	123	7	36
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	148	98	0	0	159	0
Stage 1	98	-	-	-	-	-
Stage 2	50	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.19	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.281	-
Pot Cap-1 Maneuver	844	958	-	-	1379	-
Stage 1	926	-	-	-	-	-
Stage 2	972	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	840	958	-	-	1379	-
Mov Cap-2 Maneuver	840	-	-	-	-	-
Stage 1	926	-	-	-	-	-
Stage 2	967	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.8	0		1.2		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	848	1379	-	
HCM Lane V/C Ratio	-	-	0.115	0.005	-	
HCM Control Delay (s)	-	-	9.8	7.6	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.4	0	-	

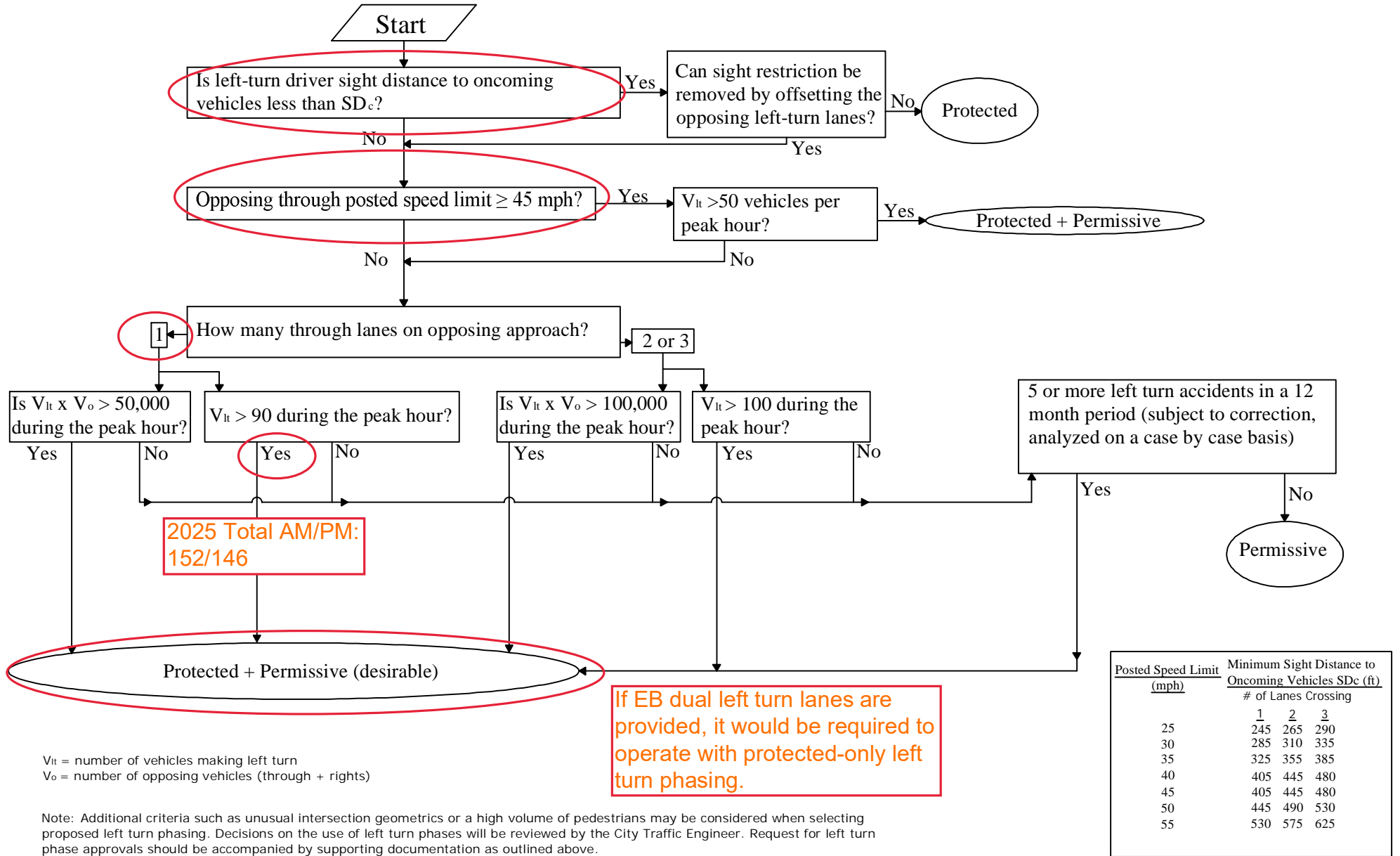
Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	97	0	472	744	56
Future Vol, veh/h	0	97	0	472	744	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	3	3
Mvmt Flow	0	123	0	597	942	71
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	507	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	511	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	511	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.3	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 511		-	-		
HCM Lane V/C Ratio	- 0.24		-	-		
HCM Control Delay (s)	- 14.3		-	-		
HCM Lane LOS	- B		-	-		
HCM 95th %tile Q(veh)	- 0.9		-	-		

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	109	0	723	591	73
Future Vol, veh/h	0	109	0	723	591	73
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	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	116	0	769	629	78
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	354	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	642	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	642	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.8	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 642		-	-		
HCM Lane V/C Ratio	- 0.181		-	-		
HCM Control Delay (s)	- 11.8		-	-		
HCM Lane LOS	- B		-	-		
HCM 95th %tile Q(veh)	- 0.7		-	-		

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	97	0	606	1004	62
Future Vol, veh/h	0	97	0	606	1004	62
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	3	3
Mvmt Flow	0	105	0	659	1091	67
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	579	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	458	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	458	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	15.2	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 458		-	-		
HCM Lane V/C Ratio	- 0.23		-	-		
HCM Control Delay (s)	- 15.2		-	-		
HCM Lane LOS	- C		-	-		
HCM 95th %tile Q(veh)	- 0.9		-	-		

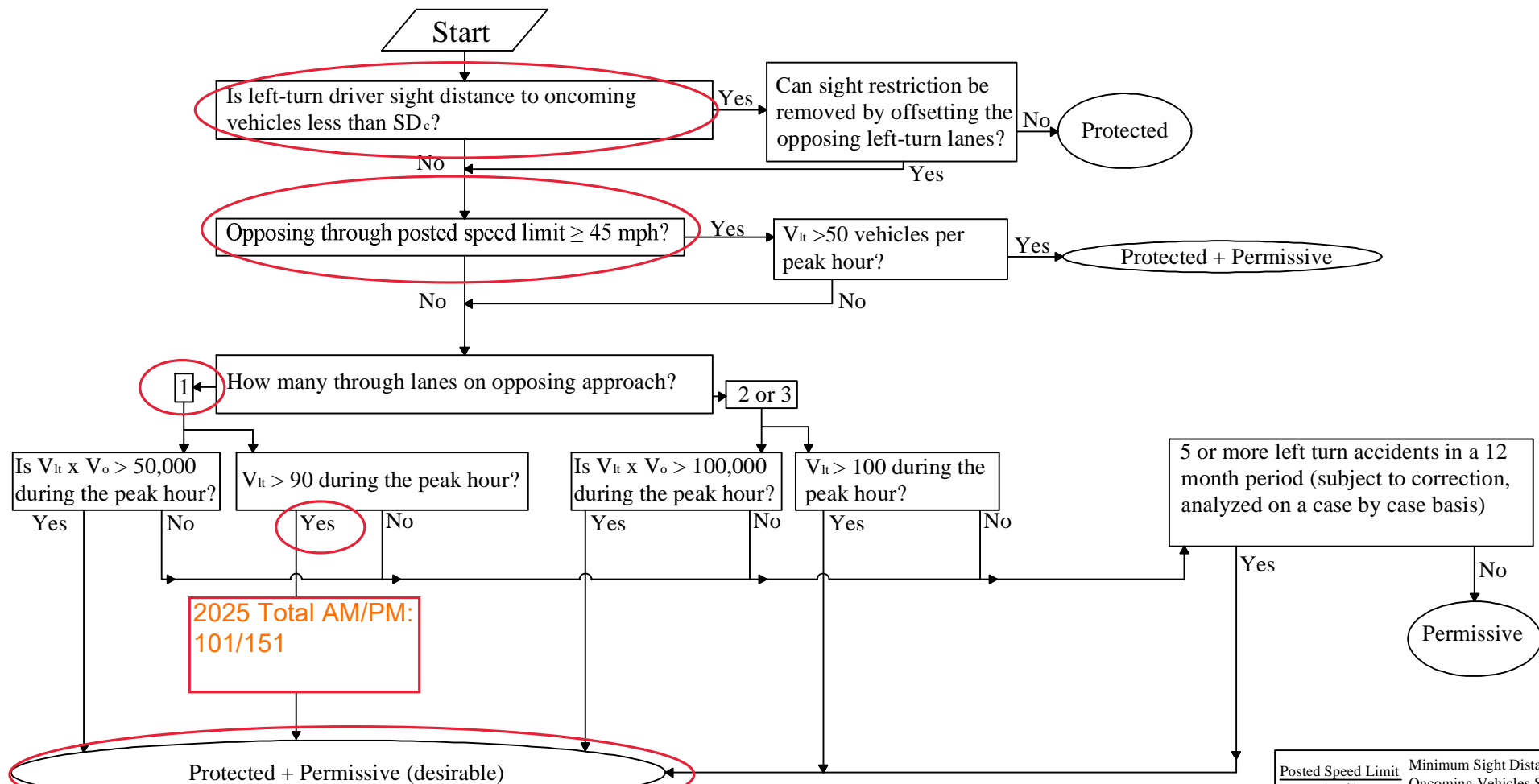
Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	109	0	936	797	81
Future Vol, veh/h	0	109	0	936	797	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	116	0	996	848	86
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	467	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	542	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	542	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	13.4	0	0			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	542	-	-		
HCM Lane V/C Ratio	-	0.214	-	-		
HCM Control Delay (s)	-	13.4	-	-		
HCM Lane LOS	-	B	-	-		
HCM 95th %tile Q(veh)	-	0.8	-	-		

EB Dry Creek Rd Approach



Source: Adapted from (Kell and Fullerton, 1998; Orcutt, 1993; Traffic Engineering Manual, 1999; FHWA, Traffic Signal Timing Manual, Chapter 4, 2013).

WB Dry Creek Rd (Target access) Approach



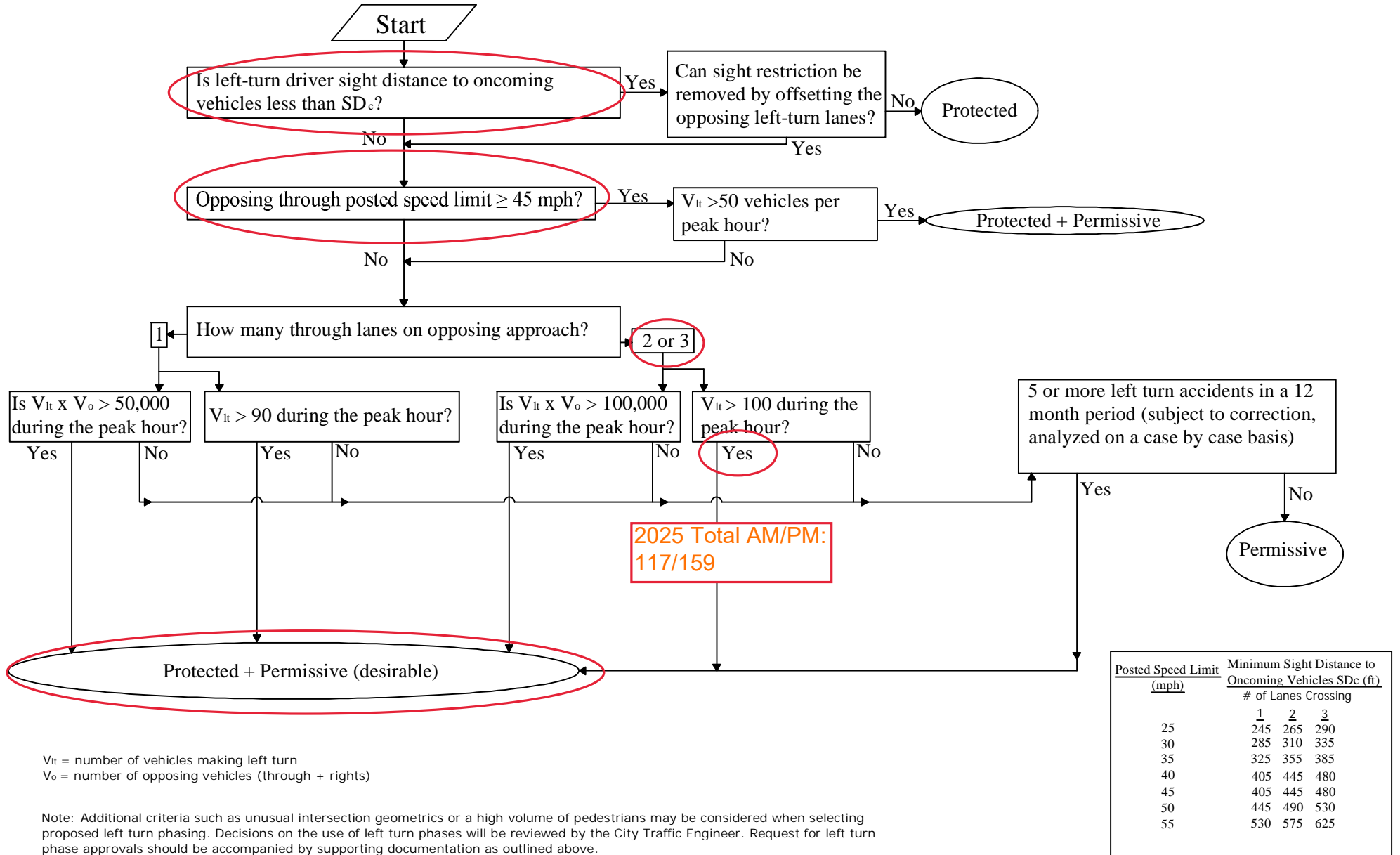
<u>Posted Speed Limit</u> (mph)	<u>Minimum Sight Distance to</u> <u>Oncoming Vehicles SDC (ft)</u> # of Lanes Crossing		
	<u>1</u>	<u>2</u>	<u>3</u>
25	245	265	290
30	285	310	335
35	325	355	385
40	405	445	480
45	405	445	480
50	445	490	530
55	530	575	625

V_{lt} = number of vehicles making left turn
 V_o = number of opposing vehicles (through + rights)

Note: Additional criteria such as unusual intersection geometrics or a high volume of pedestrians may be considered when selecting proposed left turn phasing. Decisions on the use of left turn phases will be reviewed by the City Traffic Engineer. Request for left turn phase approvals should be accompanied by supporting documentation as outlined above.

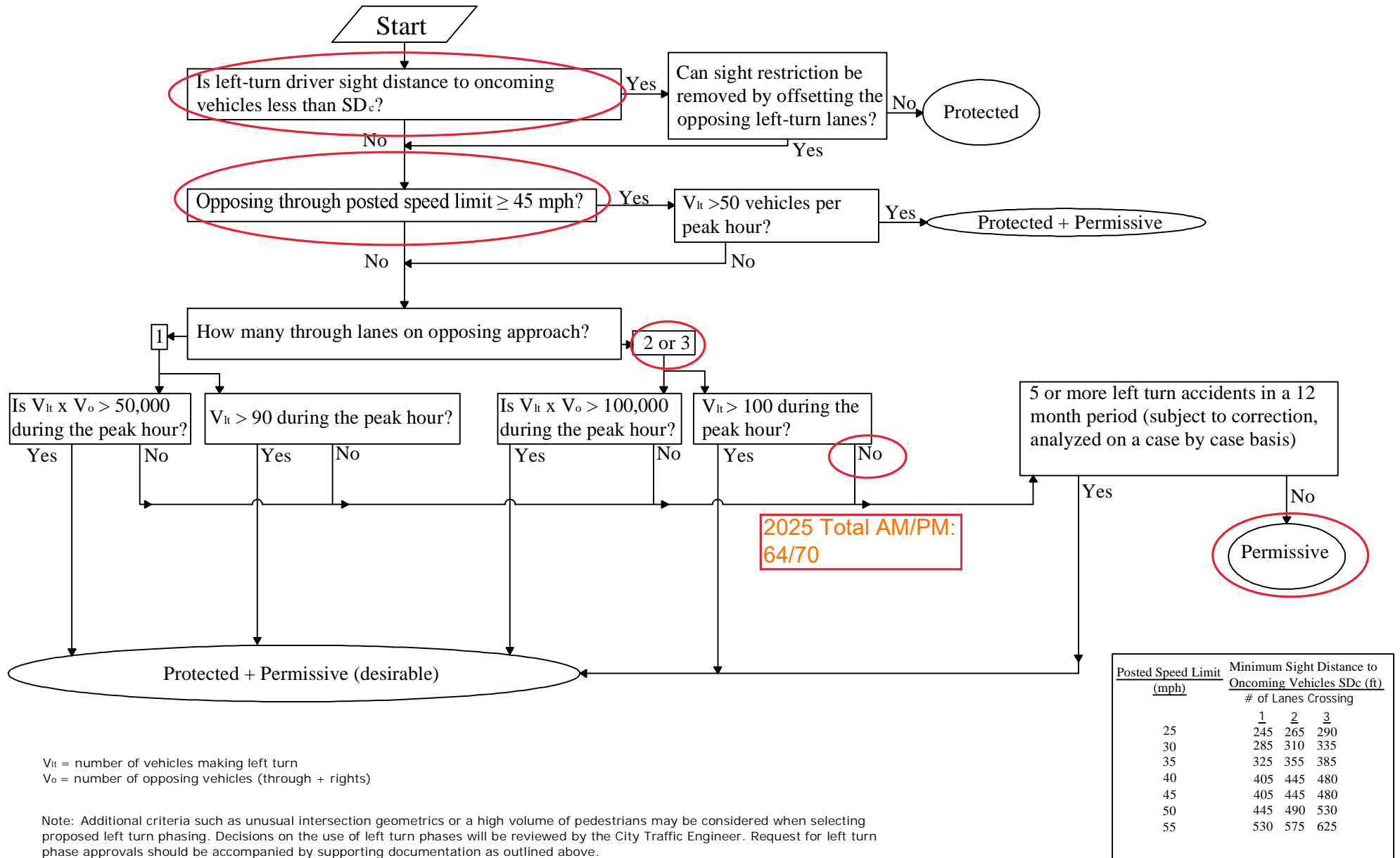
Source: Adapted from (Kell and Fullerton, 1998; Orcutt, 1993; Traffic Engineering Manual, 1999; FHA, Traffic Signal Timing Manual, Chapter 4, 2013).

NB Gartrell Rd Approach



Source: Adapted from (Kell and Fullerton, 1998; Orcutt, 1993; Traffic Engineering Manual, 1999; FHA, Traffic Signal Timing Manual, Chapter 4, 2013).

SB Gartrell Rd Approach



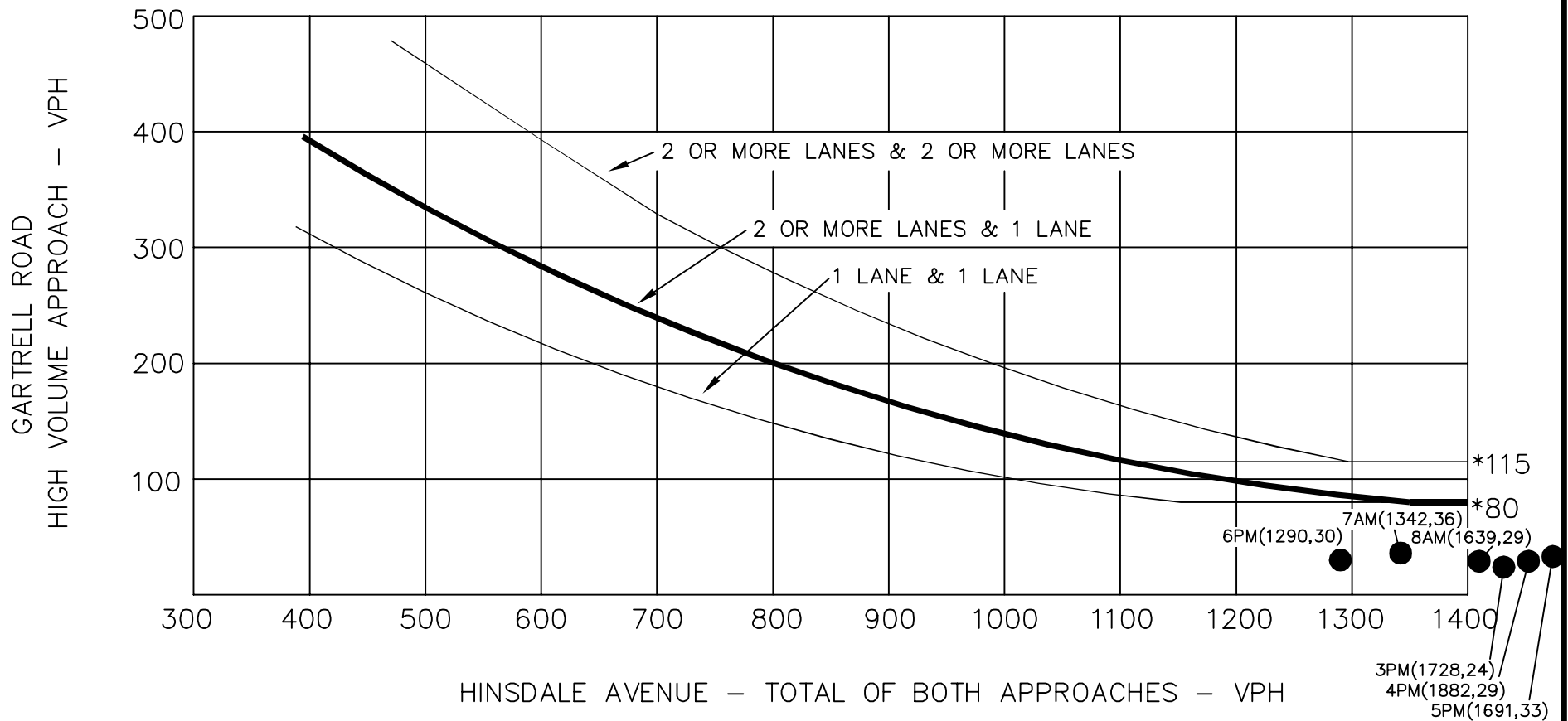
Source: Adapted from (Kell and Fullerton, 1998; Orcutt, 1993; Traffic Engineering Manual, 1999; FHA, Traffic Signal Timing Manual, Chapter 4, 2013).



APPENDIX D

Signal Warrant Analysis Worksheets

WARRANT 2 - FOUR HOUR VEHICULAR VOLUME



HINSDALE AVE & GARTRELL RD
SIGNAL WARRANT ANALYSIS
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.

● 2040 TOTAL TRAFFIC DATA POINT

Source: Manual of Uniform Traffic Control Devices 2009

Start Time	Existing				2040 BG (2% Growth)				Assign				2040 Total							
	Approach																Highest Minor Leg Volume	Major Street		
	EB	WB*	NB	SB	EB	WB*	NB	SB	EB	WB*	NB	SB	EB	WB*	NB	SB				
7:00 AM	24	17	372	575	33	17	511	789	3	0	21	21	36	17	532	810	36	1,342		
8:00 AM	19	14	412	751	26	14	566	1,031	3	0	21	21	29	14	587	1,052	29	1,639		
3:00 PM	11	24	521	694	15	24	715	953	4	0	29	31	19	24	744	984	24	1,728		
4:00 PM	7	29	617	710	10	29	847	975	4	0	29	31	14	29	876	1,006	29	1,882		
5:00 PM	12	33	561	627	16	33	770	861	4	0	29	31	20	33	799	892	33	1,691		
6:00 PM	8	30	417	479	11	30	572	658	4	0	29	31	15	30	601	689	30	1,290		

*Right turn volume removed

Note: Existing hourly volumes are taken directly from the existing traffic counts during each studied hour along each approach to the intersection. To be conservative, the Assignment volumes were assumed to be the AM/PM peak hour busiest trip generation for all hours.

APPENDIX E

Queue Analysis Worksheets

Queues

2025 Total AM (PT+PM NB, EB, WB)

2: Gartrell Rd & Dry Creek Rd

07/31/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	298	39	143	116	22	61	126	287	109	78	947
v/c Ratio	0.78	0.15	0.41	0.56	0.20	0.26	0.35	0.13	0.10	0.14	0.52
Control Delay	53.4	43.2	10.5	46.3	57.6	2.7	11.4	9.1	2.0	17.2	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	43.2	10.5	46.3	57.6	2.7	11.4	9.1	2.0	17.2	19.5
Queue Length 50th (ft)	198	26	0	68	17	0	36	44	0	31	239
Queue Length 95th (ft)	144	31	0	111	42	0	64	67	22	59	284
Internal Link Dist (ft)		264			185			440			278
Turn Bay Length (ft)	175		225	125		125	175		200	125	
Base Capacity (vph)	390	485	517	210	287	370	398	2264	1051	568	1822
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.08	0.28	0.55	0.08	0.16	0.32	0.13	0.10	0.14	0.52

Intersection Summary

Queues

2025 Total PM (PT+PM NB, EB, WB)

2: Gartrell Rd & Dry Creek Rd

07/31/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	228	25	128	170	13	88	177	554	161	76	685
v/c Ratio	0.68	0.15	0.50	0.58	0.13	0.39	0.36	0.24	0.15	0.17	0.37
Control Delay	48.6	51.2	15.6	45.0	56.5	5.4	9.9	9.1	1.7	17.5	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	51.2	15.6	45.0	56.5	5.4	9.9	9.1	1.7	17.5	17.4
Queue Length 50th (ft)	151	18	0	108	10	0	47	86	0	30	154
Queue Length 95th (ft)	149	32	13	164	30	3	83	123	25	67	223
Internal Link Dist (ft)		264			185			440			278
Turn Bay Length (ft)	175		225	125		125	175		200	125	
Base Capacity (vph)	361	392	432	313	318	394	561	2328	1096	440	1850
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.06	0.30	0.54	0.04	0.22	0.32	0.24	0.15	0.17	0.37

Intersection Summary

Queues

2025 Total 3-4 PM (PT+PM NB, EB, WB)

2: Gartrell Rd & Dry Creek Rd

07/31/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	326	40	137	121	18	68	153	413	183	69	712
v/c Ratio	0.85	0.08	0.26	0.23	0.02	0.10	0.43	0.23	0.20	0.19	0.54
Control Delay	59.8	28.2	5.6	22.2	18.9	4.6	21.0	18.2	3.4	31.3	31.7
Queue Delay	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	28.2	5.6	22.2	18.9	4.6	21.0	18.2	3.4	31.3	31.7
Queue Length 50th (ft)	235	22	0	58	8	0	61	93	0	36	218
Queue Length 95th (ft)	122	21	0	84	20	23	105	130	32	75	281
Internal Link Dist (ft)		264			185			440			278
Turn Bay Length (ft)	175		225	125		125	175		200	125	
Base Capacity (vph)	480	643	634	528	877	781	394	1795	893	359	1312
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.06	0.22	0.23	0.02	0.09	0.39	0.23	0.20	0.19	0.54

Intersection Summary

Queues

2025 Total AM - Dual EBL

2: Gartrell Rd & Dry Creek Rd

07/31/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	298	39	143	116	22	61	126	287	109	78	947
v/c Ratio	0.62	0.20	0.49	0.55	0.20	0.26	0.33	0.12	0.10	0.13	0.48
Control Delay	54.9	49.4	13.5	48.7	57.6	2.7	9.0	7.2	1.7	14.1	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.9	49.4	13.5	48.7	57.6	2.7	9.0	7.2	1.7	14.1	16.0
Queue Length 50th (ft)	114	28	0	74	17	0	29	37	0	27	205
Queue Length 95th (ft)	85	33	0	116	42	0	58	61	20	55	261
Internal Link Dist (ft)		264			404			480			278
Turn Bay Length (ft)	175		225	125		125	175		200	125	
Base Capacity (vph)	522	418	466	216	287	370	432	2400	1108	613	1964
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.09	0.31	0.54	0.08	0.16	0.29	0.12	0.10	0.13	0.48

Intersection Summary

Queues

2025 Total PM - Dual EBL

2: Gartrell Rd & Dry Creek Rd

07/31/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	228	25	128	170	13	88	177	554	161	76	685
v/c Ratio	0.62	0.22	0.59	0.53	0.09	0.39	0.35	0.23	0.14	0.17	0.36
Control Delay	57.9	56.2	20.2	43.7	50.9	10.8	9.3	8.4	1.7	16.8	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.9	56.2	20.2	43.7	50.9	10.8	9.3	8.4	1.7	16.8	16.3
Queue Length 50th (ft)	88	19	0	112	10	0	43	78	0	27	142
Queue Length 95th (ft)	86	33	14	161	29	32	86	127	26	69	230
Internal Link Dist (ft)		264			404			480			278
Turn Bay Length (ft)	175		225	125		125	175		200	125	
Base Capacity (vph)	559	377	421	359	364	397	586	2389	1121	455	1915
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.07	0.30	0.47	0.04	0.22	0.30	0.23	0.14	0.17	0.36

Intersection Summary

Queues

2025 Total 3-4 PM - Dual EBL

2: Gartrell Rd & Dry Creek Rd

07/31/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	326	40	137	121	18	68	153	413	183	69	712
v/c Ratio	0.65	0.22	0.49	0.53	0.17	0.30	0.31	0.17	0.16	0.13	0.37
Control Delay	54.0	49.9	13.9	45.8	57.1	3.3	9.1	8.1	1.6	15.8	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	49.9	13.9	45.8	57.1	3.3	9.1	8.1	1.6	15.8	15.7
Queue Length 50th (ft)	125	29	0	76	14	0	38	57	0	24	146
Queue Length 95th (ft)	74	28	0	116	37	0	67	84	20	53	197
Internal Link Dist (ft)		264			404			480			278
Turn Bay Length (ft)	175		225	125		125	175		200	125	
Base Capacity (vph)	613	451	485	242	302	382	554	2387	1127	531	1926
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.09	0.28	0.50	0.06	0.18	0.28	0.17	0.16	0.13	0.37

Intersection Summary

Queues

2040 Total AM (PT+PM NB, EB, WB)

2: Gartrell Rd & Dry Creek Rd

07/31/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	378	39	188	116	22	61	157	387	109	78	1128
v/c Ratio	0.89	0.14	0.47	0.49	0.20	0.26	0.53	0.18	0.11	0.16	0.67
Control Delay	62.1	42.9	10.1	40.3	57.6	2.7	16.8	10.7	2.3	21.3	26.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.1	42.9	10.1	40.3	57.6	2.7	16.8	10.7	2.3	21.3	26.6
Queue Length 50th (ft)	256	26	0	66	17	0	49	67	0	34	336
Queue Length 95th (ft)	173	32	0	106	42	0	84	96	24	69	481
Internal Link Dist (ft)		264			185			440			278
Turn Bay Length (ft)	175		225	125		125	175		200	125	
Base Capacity (vph)	434	479	546	260	287	370	325	2175	1014	473	1676
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.08	0.34	0.45	0.08	0.16	0.48	0.18	0.11	0.16	0.67

Intersection Summary

Queues

2040 Total PM (PT+PM NB, EB, WB)

2: Gartrell Rd & Dry Creek Rd

07/31/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	281	25	167	170	13	88	211	737	161	76	908
v/c Ratio	0.72	0.12	0.52	0.55	0.13	0.46	0.54	0.33	0.15	0.23	0.54
Control Delay	46.9	48.4	13.3	40.7	55.8	14.0	15.0	11.7	2.0	23.6	24.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.9	48.4	13.3	40.7	55.8	14.0	15.0	11.7	2.0	23.6	24.4
Queue Length 50th (ft)	183	17	0	102	10	0	65	137	0	33	249
Queue Length 95th (ft)	171	32	10	154	30	34	110	190	28	83	375
Internal Link Dist (ft)		264			185			440			278
Turn Bay Length (ft)	175		225	125		125	175		200	125	
Base Capacity (vph)	414	318	407	415	293	341	435	2216	1051	332	1672
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.08	0.41	0.41	0.04	0.26	0.49	0.33	0.15	0.23	0.54
Intersection Summary											

Queues

2040 Total 3-4 PM (PT+PM NB, EB, WB)

2: Gartrell Rd & Dry Creek Rd

07/31/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	405	40	179	121	18	68	167	508	183	69	834
v/c Ratio	0.95	0.14	0.45	0.53	0.17	0.30	0.43	0.23	0.18	0.16	0.50
Control Delay	71.4	41.8	9.7	41.6	57.1	3.3	13.8	11.6	2.0	21.3	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.4	41.8	9.7	41.6	57.1	3.3	13.8	11.6	2.0	21.3	22.5
Queue Length 50th (ft)	279	26	0	68	14	0	53	93	0	30	223
Queue Length 95th (ft)	151	27	0	109	37	0	90	128	23	60	311
Internal Link Dist (ft)		264			185			440			278
Turn Bay Length (ft)	175		225	125		125	175		200	125	
Base Capacity (vph)	433	540	583	242	333	406	435	2165	1040	421	1680
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.07	0.31	0.50	0.05	0.17	0.38	0.23	0.18	0.16	0.50

Intersection Summary

Queues

2040 Total AM - Dual EBL

2: Gartrell Rd & Dry Creek Rd

07/31/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	378	39	188	116	22	61	157	387	109	78	1128
v/c Ratio	0.72	0.17	0.52	0.59	0.20	0.26	0.48	0.16	0.10	0.15	0.60
Control Delay	56.8	45.7	11.6	51.1	57.6	2.7	12.6	8.1	1.8	16.9	20.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.8	45.7	11.6	51.1	57.6	2.7	12.6	8.1	1.8	16.9	20.6
Queue Length 50th (ft)	145	27	0	72	17	0	41	56	0	29	290
Queue Length 95th (ft)	104	32	0	115	42	0	72	83	21	61	427
Internal Link Dist (ft)		264			404			480			278
Turn Bay Length (ft)	175		225	125		125	175		200	125	
Base Capacity (vph)	547	449	523	195	281	366	368	2352	1088	528	1866
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.09	0.36	0.59	0.08	0.17	0.43	0.16	0.10	0.15	0.60

Intersection Summary

Queues

2040 Total 3-4 PM - Dual EBL

2: Gartrell Rd & Dry Creek Rd

07/31/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	405	40	179	121	18	68	167	508	183	69	834
v/c Ratio	0.72	0.17	0.51	0.58	0.17	0.30	0.39	0.22	0.17	0.15	0.45
Control Delay	54.9	44.9	11.4	47.6	57.1	3.3	11.1	9.3	1.8	17.9	18.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.9	44.9	11.4	47.6	57.1	3.3	11.1	9.3	1.8	17.9	18.4
Queue Length 50th (ft)	155	28	0	74	14	0	45	79	0	27	194
Queue Length 95th (ft)	88	27	0	114	37	0	84	120	21	56	290
Internal Link Dist (ft)		264			404			480			278
Turn Bay Length (ft)	175		225	125		125	175		200	125	
Base Capacity (vph)	640	481	539	213	287	370	484	2327	1103	465	1853
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.08	0.33	0.57	0.06	0.18	0.35	0.22	0.17	0.15	0.45

Intersection Summary

Queues

2040 Total 3-4 PM - Dual EBL

2: Gartrell Rd & Dry Creek Rd

07/31/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	405	40	179	121	18	68	167	508	183	69	834
v/c Ratio	0.72	0.17	0.51	0.58	0.17	0.30	0.39	0.22	0.17	0.15	0.45
Control Delay	54.9	44.9	11.4	47.6	57.1	3.3	11.1	9.3	1.8	17.9	18.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.9	44.9	11.4	47.6	57.1	3.3	11.1	9.3	1.8	17.9	18.4
Queue Length 50th (ft)	155	28	0	74	14	0	45	79	0	27	194
Queue Length 95th (ft)	88	27	0	114	37	0	84	120	21	56	290
Internal Link Dist (ft)		264			404			480			278
Turn Bay Length (ft)	175		225	125		125	175		200	125	
Base Capacity (vph)	640	481	539	213	287	370	484	2327	1103	465	1853
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.08	0.33	0.57	0.06	0.18	0.35	0.22	0.17	0.15	0.45

Intersection Summary

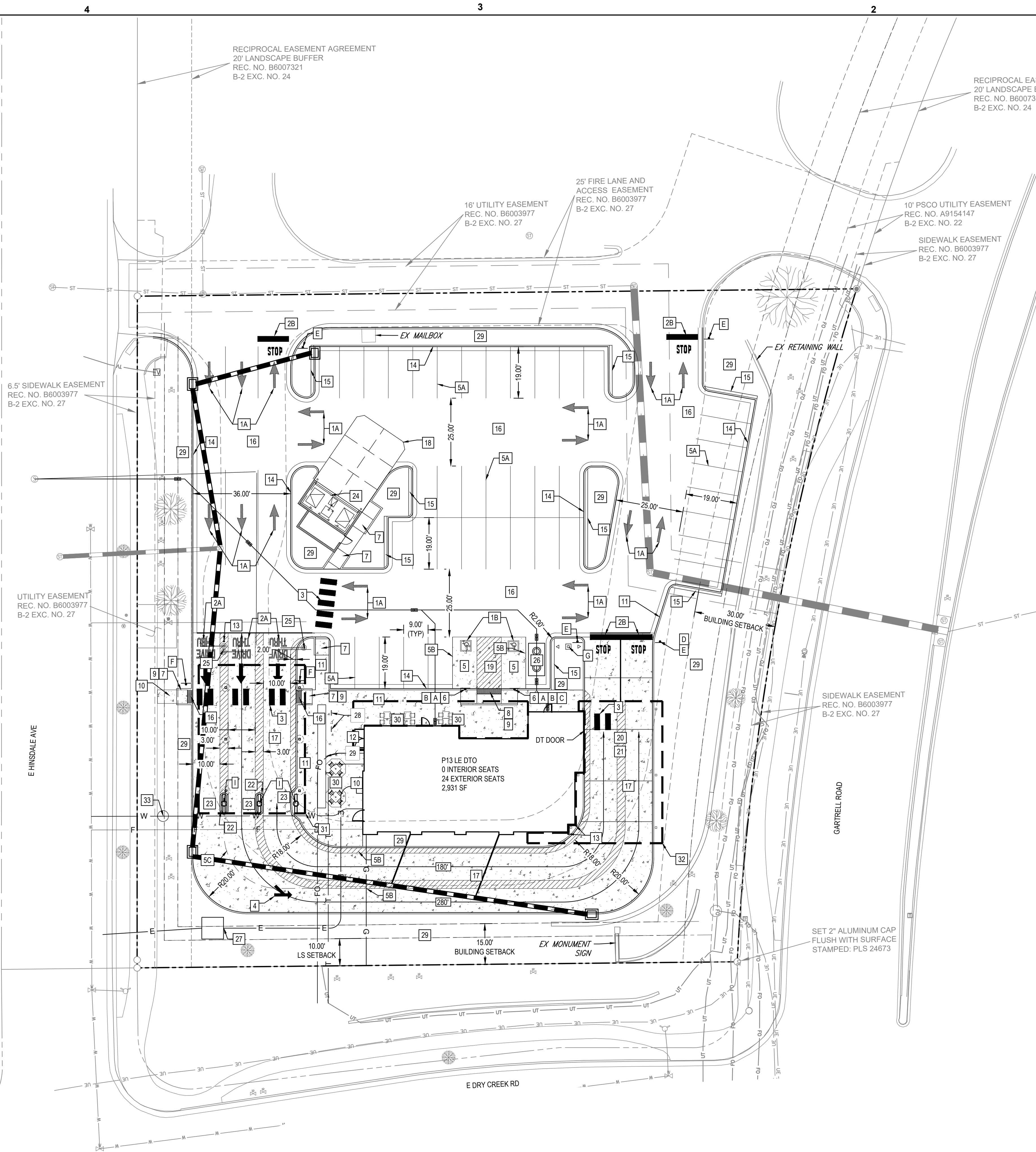
APPENDIX F

Conceptual Site Plan

File Path: Q:\DEN\Projects\1567-00 CFA Gartrell\5537\CAD\Entitlements\1567 C2.0 Preliminary Site Plan.dwg Last Saved By:
CHRISTIAN SCHILDER
9/22/2023 3:10 PM
00-LS-0000-A101-SHEET NAME



Know what's below.
Call before you dig.



SITE PLAN DESIGN NOTES & KEY PLAN

- 1A DIRECTIONAL ARROW
- 1B PAINTED HANDICAP PARKING SYMBOL
- 2A DRIVE-THRU GRAPHICS
- 2B STOP BAR GRAPHIC
- 3 CROSSWALK MARKINGS
- 4 MULTI-LANE DIRECTIONAL GRAPHICS
- 5 STANDARD OR HANDICAP PARKING STALL PER CODE
- 5A 4" SOLID WHITE STRIPING
- 5B 4" SOLID YELLOW STRIPING
- 5C 4" SKIP DASH YELLOW STRIPING
- 6 BOLLARD MOUNTED SIGN
- 7 RETURNED CURB HANDICAP RAMP
- 8 SIDEWALK ACCESSIBLE RAMP
- 9 DETECTABLE WARNING DEVICE
- 10 CONCRETE SIDEWALK
- 11 CONCRETE SIDEWALK w/ CURB & GUTTER
- 12 ENTRY DOOR FROST SLAB DETAIL
- 13 CONCRETE BOLLARD
- 14 CONCRETE CURB & GUTTER
- 15 LANDSCAPE & IRRIGATION PROTECTOR
- 16 TYPICAL HMAC PAVEMENT SECTION
- 17 CONCRETE PAVEMENT DRIVE-THRU LANE
- 18 CONCRETE APRON AT TRASH ENCLOSURE
- 19 CONCRETE PAVEMENT SECTIONS
- 20 DRIVE-THRU PLAN - FLUSH WITH FFE
- 21 DRIVE-THRU ISOMETRIC
- 22 DRIVE-THRU ORDER POINT ISLAND
- 23 MENU BOARD LOOP DETECTION SYSTEM
- 24 SCREENED REFUSE ENCLOSURE (REFER TO ARCH PLANS FOR ADDITIONAL DETAILS)
- 25 DRIVE-THRU CLEARANCE BAR (REFER TO SIGNAGE PACKAGE)
- 26 GREASE TRAP
- 27 PROPOSED TRANSFORMER
- 28 BIKE RACK
- 29 LANDSCAPED AREA
- 30 TYPICAL LOCATION FOR OUTDOOR TABLES
- 31 FREE-STANDING ORDER POINT CANOPY
- 32 FREE-STANDING OUTSIDE MEAL DELIVERY CANOPY
- 33 WATER METER

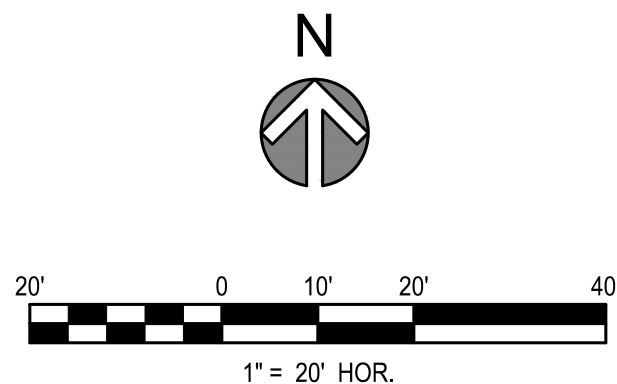
SIGN LEGEND

- ** CONTRACTOR TO REFER TO THE SIGNAGE PACKAGE FOR PLACEMENT AND SPECIFICATIONS OF ALL SIGNS **
- A HANDICAP PARKING SIGN (SEE SIGNAGE PACKAGE) R7-8; 12" X 18" (TYP.)
 - B HANDICAP PARKING FINE SIGN (SEE SIGNAGE PACKAGE) 6" X 12" (TYP.)
 - C "VAN ACCESSIBLE" SIGN (SEE SIGNAGE PACKAGE) R7-8P; 6" X 12" (TYP.)
 - D "DO NOT ENTER" SIGN (SEE SIGNAGE PACKAGE) R5-1; 24" X 24" (TYP.)
 - E STOP SIGN (SEE SIGNAGE PACKAGE) R1-1; 30" X 30" (TYP.)
 - F CFA PEDESTRIAN CROSSING SIGN (SEE SIGNAGE PACKAGE)
 - G FLAG POLE (SEE SIGNAGE PACKAGE)
 - H CFA MONUMENT OR PYLON SIGN
 - I DIGITAL DRIVE-THRU MENU BOARDS

SITE DATA

PARKING FORMULA:
REQUIRED PARKING SPACES:
PROVIDED PARKING SPACES:
BLDG S.F.:
PARCEL AREA:
REQUIRED BIKE SPACES:
PROVIDED BIKE SPACES:
PARKING STALL SIZE:
ACCESS AISLE WIDTH:

4 SPACES / 1000 GROSS FLOOR AREA
41(2,625 S.F. / 1000) = 11
43
2,625 S.F.
1.35 A.C.
2 (1 SPACE FOR EVERY 25 PARKING SPACES)
4
9' X 19'
25'



Chick-fil-A
4555 Centerplace Drive
Greeley, Colorado 80634

MERRICK
5970 GREENWOOD PLAZA BLVD
GREENWOOD VILLAGE, CO 80111
303-751-0741

CHICK-FIL-A
GARTRELL
7495 S GARTRELL RD
AURORA, CO 80016

FSR#5537

BUILDING TYPE / SIZE: P12 LS LRG
RELEASE: V.X.YY.MM

REVISION SCHEDULE
NO. DATE DESCRIPTION

CONSULTANT PROJECT # 65121567
PRINTED FOR REVIEW
DATE 7/17/2023
DRAWN BY ITR/LDV

SHEET
C2.0 SITE PLAN

SHEET NUMBER