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# Sterling Ranch East Filing No. 6
# Traffic Impact Study
# PCD File No. SF2610
(LSC #S244252)
August 14, 2026

**Traffic Engineer's Statement**

This traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.

COLORADO LICENSED
JEFFREY C. HODSON
31684
8-14-26
PROFESSIONAL ENGINEER

**Developer's Statement**

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

V.P.

8/17/2026
Date

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_____ _____
Date

# Sterling Ranch East Filing No. 6
# Traffic Impact Study

Prepared for:
Loren J. Moreland
Vice President/ Project Manager
Classic SRJ
2138 Flying Horse Club Drive
Colorado Springs, CO 80921

AUGUST 13, 2026

LSC Transportation Consultants
Prepared by: Kirstin D. Ferrin, P.E.
Reviewed by: Jeffrey C. Hodsdon, P.E.

LSC #S244252
PCD File No.: SF2610

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August 13, 2026

Loren J. Moreland
Vice President/ Project Manager
Classic SRJ
2138 Flying Horse Club Drive
Colorado Springs, CO 80921

RE: Sterling Ranch East Filing No. 6
Traffic Impact Study
El Paso County, Colorado
PCD File No.: P2414 and SP244
LSC #S244251

Dear Mr. Moreland:

LSC Transportation Consultants, Inc. has prepared this updated Traffic Impact Study for the proposed Sterling Ranch Filing No. 6 rezone and preliminary plat. As shown in Figure 1, the site is located east of the future Sterling Ranch Road and north of the future Briargate Parkway in El Paso County, Colorado.

## REPORT CONTENTS

The preparation of this report included the following:

- A list of previous Sterling Ranch traffic reports and the context of this project;
- The existing roadway and traffic conditions in the site's vicinity including the roadway widths, surface conditions, lane geometries, traffic controls, and posted speed limits;
- A summary of the proposed land use and access plan;
- Existing traffic-volume data;
- Estimates of projected short-term and long-term baseline traffic volumes;
- The projected average weekday and peak-hour vehicle trips to be generated by the proposed future development within the preliminary plan area;
- The assignment of the projected preliminary-plan site-generated traffic volumes to the area roadways;
- The projected short-term and long-term total traffic volumes on the area roadways;
- The projected levels of service at the key intersections within the study area;
- Signal-warrant analysis;
- The recommended street classifications;
- Findings and recommendations for study-area roadways and intersections, including number of lanes, auxiliary turn lanes, intersection traffic control, etc.; and
- The project's obligation to the County roadway improvement fee program.

## RECENT TRAFFIC REPORTS

Most recently, LSC prepared a TIS for Sterling Ranch East Filing No. 4 dated June 25, 2026. Several elements of this report, including existing and total traffic volumes, level of service, and traffic signal warrant analysis have been taken directly from that report.

The master traffic impact study (MTIS) by LSC for the entire Sterling Ranch development is dated March 17, 2023 (SKP224). LSC also prepared a technical memorandum for the Sterling Ranch Amendment #3 dated January 17, 2024 (SKP235, P239, P2310, and P2311) and for Sterling Ranch Amendment #4 dated November 18, 2024 (SKP241). Appendix Table 1, which includes a list of other traffic studies within Sterling Ranch and in the vicinity of area of study completed within the past five years (that LSC is aware of), is attached for reference.

El Paso County recently studied the Briargate Stapleton Corridor as part of a Pikes Peak Rural Transportation Authority (PPRTA) study. The final version of the *Briargate-Stapleton Corridor Study* by Wilson & Company was published December 7, 2023.

## STUDY AREA

Figure 1 shows the location of Sterling Ranch East Filing No. 6 relative to the overall Sterling Ranch Sketch Plan Area. As shown in Figure 1, the site is located generally in the middle of the Sketch Plan Area adjacent to the future extensions of Sterling Ranch Road and Briargate Parkway.

### Land Use

Figure 2 shows the proposed Sterling Ranch Filing No. 6. The site is planned to be developed with 198 residential dwelling units.

### Pedestrian Plan

Detached sidewalks will be provided along Briargate Parkway and Sterling Ranch Road. The multi-use paved shoulder on Sterling Ranch Road will accommodate bicycles. Attached 5-foot-wide concrete sidewalks are planned on all of the local streets within Sterling Ranch East Filing No. 6.

There are no existing schools within two miles of the site. However, there are multiple future school sites in the area, including a future K-8 school site southwest of the site (south of Briargate Parkway and west of Sterling Ranch Road) and an elementary school site further south of Briargate Parkway and east of Sterling Ranch Road. No information or plans are available for the school sites and separate site-specific traffic impact studies including pedestrian plans will be required to be approved prior to school-site development.

### Proposed Access Points

Figure 3 shows the roadway connections that have been completed and are planned to be constructed in the short term.

Figure 2 shows the proposed access plan. Full-movement access points are proposed to Sterling Ranch Road and Oshkosh Road. The proposed spacing is greater than the 330-foot minimum intersection spacing for Urban Non-Residential Collectors when intersecting local roadways, per criteria contained in Table 2-7 of the *El Paso County Engineering Criteria Manual* (*ECM*).

An additional right-in/right-out access is proposed to Briargate Parkway about 1,350 feet east of Sterling Ranch Road. A deviation request was approved for this access with the Preliminary Plan (PCD File No. SF 2404) The Master TIS showed a right-in/right-out only access point in this general location.

### Sight Distance Analysis

Figure 4a shows the intersection sight-distance analysis at the intersections of Sterling Ranch Road (Urban Minor Collector)/Vancouver Street (Urban Local), Sterling Ranch Road (Urban Minor Collector)/Oshkosh Road (Uban Minor Collector), and Oshkosh Road (Uban Minor Collector)/Sioux Falls Way (Urban Local). Based on a design speed of 40 miles per hour (mph) and the criteria contained in Table 2-21 of the *ECM*, the required intersection sight distance at these intersections is 445 feet. As shown in Figure 4a, the intersection sight distance can be met at all three intersections.

Figure 4b shows the intersection sight-distance analysis at the proposed right-in/right-out only access (Sioux Falls Way) to Briargate Parkway (Principal Arterial). Based on a design speed of 50 miles per hour (mph) and the criteria contained in Table 2-21 of the *ECM*, the required intersection sight distance at the future intersections is 555 feet. As shown on Figure 4b the intersection sight distance can be met at these intersections.

## REPORT SCENARIOS

### Short-Term Scenario

The short-term scenario includes the roadway segments to be added in the short term only, as shown in Figure 3. This scenario includes the Sterling Ranch East Filing No. 6 area (“the site”) as well as traffic to be generated in the short term by buildout of the planned Sterling Ranch East Filing Nos. 4 and 8 developments, the approved filings within Sterling Ranch East Preliminary Plan 1 (Sterling Ranch East Filings 1 and 2), Sterling Ranch East Filing 5 and the Villages at Sterling Ranch East. See Appendix Table 1 for the PCD file numbers associated with the above-mentioned projects. The short-term scenario also assumes some of the existing traffic from the Retreat at

TimberRidge Filing No. 1 north of the site will be shifted to use the new connection through the Sterling Ranch East Filing No. 4.

Note that the short-term scenario assumes no traffic due to the future school sites within the Sterling Ranch East Preliminary Plan 1. Trips projected from these other short-term developments outside of the Sterling Ranch East Filing No. 4 boundary are included as short-term "background traffic" in this report.

### Long-Term Scenario

The long-term scenario is essentially the same as the 2045 long-term scenario contained in the approved *the Sterling Ranch Sketch Plan Amendment #4 and Sterling Ranch East Filing No. 7 Site Rezone Traffic Impact Study* by LSC dated November 18, 2024 with additional detail added for this application.

The study area of this report is more focused than the Sketch Plan. Included is analysis of the Arterial/Arterial and Arterial/Collector intersections adjacent to the existing, approved, and currently proposed areas within the Sterling Ranch Sketch Plan Area (Briargate Parkway/Vollmer Road [#4], Briargate Parkway/Sterling Ranch Road [#5], Research Parkway/Marksheffel Road/Vollmer Road [#12], and Marksheffel Road/Sterling Ranch Road [#13]), and new analysis of Arterial/Local and Collector/Local intersections adjacent to the site Briargate Parkway/Sioux Falls Way (#104), Sterling Ranch Road/Vancouver Street [#309]) and Sterling Ranch Road/Oshkosh Road (#310).

## EXISTING ROAD AND TRAFFIC CONDITIONS

The adjacent streets are shown in Figure 1 and are described below. Excerpts from the 2024 *El Paso County Major Transportation Corridors Plan* (*MTCP*) *2045 Roadway Functional Classifications (Figure 22) and 2065 Corridor Preservation Plan (Figure 39)* with the site location identified on them have been attached to this report. The *2045* and *2065 Through Lane Requirements* (Figures 23 and 40, respectively) are also reflected in this report.

**Vollmer Road** is currently a five-lane urban street within the City of Colorado Springs limits between Black Forest Road and Cowpoke Road and a two-lane, rural, paved roadway north of Cowpoke Road extending to north of Hodgen Road. In the southbound direction, Vollmer Road has a posted speed limit of 45 mph. South of Cowpoke Road, Vollmer Road has a 40-mph posted speed limit. Note: the new *Connect COS* City of Colorado Springs transportation plan shows Vollmer as a Principal Arterial. The 2024 *MTCP* shows Vollmer Road as an Urban – Major Collector in the vicinity of the site. The South Vollmer Road improvements (CDR2116) which provided two through lanes in each direction on Vollmer Road in the vicinity of Marksheffel Road were recently completed.

The North Vollmer Road improvements (CDR217), which provided two through lanes in each direction on Vollmer Road in the vicinity of Briargate Parkway were recently completed.

**Marksheffel Road** is a Principal Arterial extending north from the City of Fountain to Woodmen Road. Marksheffel Road is planned to ultimately be widened to six lanes and extended north and west from Woodmen Road to connect to Research Parkway at Black Forest Road. Marksheffel Road is shown as a four-lane Principal Arterial through the site on the El Paso County *MTCP*. The City of Colorado Springs has taken ownership and maintenance of Marksheffel Road.

The section of Marksheffel Road adjacent to Sterling Ranch has been constructed on 107 feet of right-of-way to the City's required cross section(s) and criteria. The section of Marksheffel Road southeast of Sterling Ranch Road was completed in November 2024 and Marksheffel Road is now open between Woodmen Road and Vollmer Road.

**Briargate Parkway** is a Principal Arterial that extends east from I-25 to Grand Lawn Circle (about one-half mile east of Powers Boulevard). Briargate Parkway is planned ultimately to extend to Towner Drive. The segment of Briargate Parkway between Vollmer Road and Sterling Ranch Road was recently constructed to its full-lane cross section (CDR 221).

**Sterling Ranch Road** is an Urban Non-Residential Collector shown extending through the Sterling Ranch development between Marksheffel Road and the north end of the Sketch Plan area (Arroya Road). Sterling Ranch Road has been constructed between Marksheffel Road and Briargate Parkway. Sections north of Briargate Parkway are planned in the short-term Sterling Ranch East Filings No. 2, Sterling Ranch East Filing No. 6, and/or Sterling Ranch East Filing No. 8.

## Existing Traffic Volumes

Figure 5a shows the existing peak-hour traffic volumes at the key study-area intersections. The peak-hour traffic volumes shown are based on manual turning-movement counts by LSC Transportation Consultants in March 2025. The traffic-count sheets are attached.

## Existing Levels of Service

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection. Level of service is indicated on a scale from "A" to "F." LOS A represents control delay of less than 10 seconds for unsignalized intersections. LOS F represents control delay of more than 50 seconds for unsignalized intersections. Table 1 shows the level of service delay ranges.

**Table 1: Intersection Levels of Service Delay Ranges**

| Level of Service | Signalized Intersections Average Control Delay (seconds per vehicle) | Unsignalized Intersections Average Control Delay (seconds per vehicle)(1) |
|---|---|---|
| A | 10.0 sec or less | 10.0 sec or less |
| B | 10.1-20.0 sec | 10.1-15.0 sec |
| C | 20.1-35.0 sec | 15.1-25.0 sec |
| D | 35.1-55.0 sec | 25.1-35.0 sec |
| E | 55.1-80.0 sec | 35.1-50.0 sec |
| F | 80.1 sec or more | 50.1 sec or more |

(1) For unsignalized intersections, if V/C ratio is greater than 1.0 the level of service is LOS F, regardless of the projected average control delay per vehicle.

The intersections of Marksheffel Road/Vollmer Road, Briargate/Vollmer, and Marksheffel/Sterling Ranch have been analyzed based on the unsignalized-intersection analysis procedures from the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board. The results of the analysis are shown in Figure 5b.

All movements at the two-way, stop-sign-controlled intersections of Briargate/Vollmer, Marksheffel/Vollmer and Marksheffel/Sterling Ranch are currently operating at LOS C or better during the peak hours.

## Safety and Accident Analysis

LSC obtained three-year crash history data from the Colorado Department of Transportation for Vollmer Road and Marksheffel Road adjacent to the Sterling Ranch Sketch Plan area. One single vehicle crash was reported at the intersection of Vollmer Road/Briargate Parkway (#4) in December 2024. The vehicle was making a right-turn and hit a sign and the curb. One non-intersection related crash was reported in the vicinity of Vollmer Road/Marksheffel Road (#12) in September 2025. The crash involved a fatigued driver that ran off the left side of the road. No crashes were reported at the intersection of Marksheffel Road/Sterling Ranch Road (#13).

## BASELINE CONDITIONS

Baseline traffic is the traffic estimated to be on the adjacent roadways and at adjacent intersections without the proposed development's trip generation of site-generated traffic volumes. Baseline traffic (for a specified horizon year) includes the through traffic and the traffic generated by nearby developments (existing and planned, including traffic generated by existing and planned developments within the greater Sterling Ranch overall development) but assumes zero traffic generated by land uses within the site (the Sterling Ranch East Filing No. 6 boundary area).

### Short-Term Scenario Baseline Conditions

Please refer to the description of the short-term scenario above. Projected volumes for the short-term baseline are included in the short-term total volumes. Figure 6a shows the short-term background traffic volumes on key street segments and at the key area intersections.

Note: the short-term baseline scenario assumes only the following approved subdivisions to be developed and generating trips (in the short term): Sterling Ranch East Preliminary Plan 1 (Filing Nos 1, 2, and 3), Villages at Sterling Ranch, Sterling Ranch East Filing No. 5, Sterling Ranch East Filing No. 4 and Sterling Ranch East Filing No. 8. No potential future traffic generation due to future school sites within Sterling Ranch East Preliminary Plan 1 are included in the short-term background volumes. The short-term scenario also assumes some of the existing traffic from the Retreat at TimberRidge Filing No. 1 north of the site will be shifted to use the new connection through the Sterling Ranch East Filing No. 4.

### Long-Term Scenario Baseline Conditions

Figure 7a shows the projected 2045 baseline/background daily traffic volumes on key street segments and the projected 2045 peak-hour baseline turning movement traffic volumes at the key area intersections. These volumes assume buildout of the area street network, including the completion of Marksheffel Road between Vollmer Road and Black Forest Road, Briargate Parkway between Meridian Road and Black Forest Road, and Sterling Ranch Road between Marksheffel Road and Briargate Parkway.

The 2045 baseline traffic volumes are estimates by LSC, based on the traffic projections in the LSC September 13, 2024 Master TIS Addendum. The 2045 baseline daily traffic volumes assume buildout of the land uses within the Sterling Ranch Master Plan that are not included in the Sterling Ranch Filing No. 6 Preliminary Plan area, including the preliminary estimates of future traffic to be generated by the Sterling Ranch school sites. The estimates of future school trip generation and traffic volumes at intersections are only preliminary estimates because no school site plans/student enrollment numbers etc. are available. The long-term scenario also assumes some of the existing traffic from the Retreat at TimberRidge Filing No. 1 north of the site will be

shifted to use the new connection through the Sterling Ranch East Filing No. 4 (in conjunction with development of Filing No. 4).

## TRIP GENERATION

The site-generated vehicle trips were estimated using the nationally-published trip-generation rates from *Trip Generation, 12th Edition*, 20251 by the Institute of Transportation Engineers (ITE). Table 2 shows the trip-generation estimates. Table 2 also shows the trip-generation estimate assumed for the same area in the Sterling Ranch MTIS for comparison. Note that the trip-generation estimate in the Sterling Ranch MTIS was based on the trip-generation rates from the 11th edition of Trip Generation.

Sterling Ranch East Filing No. 6 is projected to generate about 1,800 new external vehicle trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. This is about 67 fewer vehicle trips per day than were assumed for the same area in the MTIS. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 37 vehicles would enter and 101 vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:15 and 6:15 p.m., about 114 vehicles would enter and 70 vehicles would exit the site.

## TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution of the site-generated traffic volumes on the street and roadway system serving the site is an important factor in determining the site's traffic impacts. The distribution estimates for short-term and long-term residential-related traffic are shown in Figure 8. The short-term directional-distribution estimate assumes the short-term roadway network shown in Figure 3 only and the long-term directional-distribution estimate assumes buildout of the roadway network. The directional-distribution estimates are based, in part, on the estimates contained in the sketch plan MTIS report. Factors include: the location of the site with respect to the Colorado Springs metropolitan area, the planned access system for the site, the street and roadway system serving the site, and the land uses proposed for the site.

When the distribution percentages (from Figure 8) are applied to the new, external trip-generation estimates (from Table 2), the resulting site-generated traffic volumes can be determined. Figure 9 show the short-term site-generated traffic volumes. These volumes assume only the street network shown in Figure 3. Figure 10 shows the long-term residential site-generated traffic volumes, assuming buildout of the area roadway network.

## TOTAL TRAFFIC

### Short-Term Total Traffic

Figure 11a shows the projected short-term **total** daily traffic volumes on key street segments and the projected short-term-total peak-hour traffic volumes at the key study-area intersections. These volumes include short-term-baseline traffic volumes and short-term site-generated traffic volumes (from Figure 9).

Figure 11b shows the level of service analysis results for the key area intersections based on the projected short-term total volumes. The figure also shows the general intersection lane geometry and intersection traffic control used in the analysis.

### 2045 Total Traffic

Figure 12a shows the projected 2045 total daily traffic volumes on key street segments and the projected 2045 total peak-hour traffic volumes at the key study-area intersections. These volumes are the sum of the 2045 baseline traffic volumes and the long-term site-generated traffic volumes (from Figure 10).

Figure 12b shows the level of service analysis results for the key area intersections, based on the projected 2045 total volumes. The figure also shows the general intersection lane geometry and intersection traffic control used in the analysis.

## SIGNAL-WARRANT-THRESHOLD ANALYSIS

The intersections of Marksheffel/Vollmer and Marksheffel/Sterling Ranch were analyzed to determine if the thresholds for Four-Hour and/or Eight-Hour Vehicular-Volume Traffic-Signal Warrant thresholds would be reached or exceeded, based on the projected short-term peak-hour traffic volumes and the criteria contained in the *Manual of Uniform Traffic Control Devices* 11$^{th}$ Edition, December 2023 (*MUTCD*). The *MUTCD* contains nine traffic signal warrants. However, for evaluation of the intersections listed above, only Warrant Nos. 1, 2 and 7 would likely apply. This report includes analysis of Warrant Nos. 12 and 7.

This warrant analysis is primarily a predictive analysis of the warrants based on the traffic data collected and projected conditions/estimates of short-term future traffic volumes. This has been completed for purposes of estimating the timing when an *MUTCD* warrant would potentially be satisfied.

Prior to installation of a traffic signal, the following from MUTCD Section 4C.01 would apply:

> *[..] before a traffic control signal is installed at a particular location, an engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of the location*

> *shall be performed to determine whether installation of a traffic control signal is justified at that location.*

The following regarding projected/predictive warrants is per MUTCD Section 4C.01

> *At a location that is under development or construction or at a location where it is not possible to obtain a traffic count that would represent future traffic conditions, hourly volumes should be estimated as part of an engineering study for comparison with traffic signal warrants. Except for locations where the engineering study uses the satisfaction of Warrant 8 to justify a signal, a traffic control signal installed under projected conditions should have an engineering study done within 1 year of putting the signal into steady (stop-and-go) operation to determine if the signal is justified. If not justified, the signal should be taken out of steady (stop-and-go) operation or removed.*

### Marksheffel Road/Vollmer Road

Table 3 shows the results of the analysis for the intersection of Marksheffel/Vollmer. Based on the projected short-term total traffic volumes, none of the hours analyzed are projected to meet the criteria for a Four-Hour Vehicular Volume Warrant and only six hours of the day are projected to meet the criteria for an Eight-Hour Vehicular-Volume Traffic-Signal Warrant. This analysis indicates that traffic-signal warrant(s) will likely **not** be met in the short-term.

Based on the three-year crash history data discussed above this intersection does not currently meet the criteria for Warrant 7 Crash Experience.

### Marksheffel Road/Sterling Ranch Road

Table 4 shows the results of the analysis for the intersection of Marksheffel Road/Sterling Ranch Road. Based on the projected short-term total traffic volumes, only seven hours of the day are projected to meet the criteria for an Eight-Hour Vehicular-Volume Warrant, however, six hours of the day are projected to meet the criteria for a Four-Hour Vehicular-Volume Traffic-Signal Warrant. This analysis indicates that traffic-signal Warrant 2 has the potential to be satisfied in the short-term.

Based on the three-year crash history data discussed above this intersection does not currently meet the criteria for Warrant 7 Crash Experience.

## LEVEL OF SERVICE ANALYSIS

The key area future signalized intersections have been analyzed to determine the projected intersection levels of service for short-term and 2045 total traffic scenarios for the morning and afternoon peak-hour periods using Synchro. The key area future stop-sign-controlled and modern-roundabout-controlled intersections have been analyzed based on the unsignalized-intersection analysis procedures from the *Highway Capacity Manual 6th Edition*. Figures 11b and 12b_ show the level of service analysis results. The level of service reports are attached.

### Intersection #4: Vollmer Road/Briargate Parkway

The intersection of Vollmer/Briargate could operate at a satisfactory level of service (LOS C or better) in the short term as a stop-sign-controlled intersection.

Briargate is built west thru Prairie Ridge already and plans to Black Forest Road are in design. Extension will be done well before 2045. Does this change the scenario for the future signal?

By 2045, it was assumed Briargate Parkway would be extended west to Black Forest Road and East to Towner Avenue and that the intersection of Vollmer/Briargate will be converted to traffic-signal control. The intersection of Vollmer/Briargate is projected to operate at an overall LOS C during the peak hours as a signalized intersection, based on the projected 2045 total traffic volumes shown in Figure 12a and the lane geometry shown in Figure 12b.

### Intersection #5: Briargate Parkway/Sterling Ranch Road

The intersection of Briargate/Sterling Ranch is projected to operate at LOS C or better for all movements in the short term as a stop-sign-controlled intersection.

By 2045, it was assumed Briargate Parkway would be extended west to Black Forest Road and East to Towner Avenue and that the intersection of Briargate/Sterling Ranch will be converted to traffic-signal control. The intersection of Briargate/Sterling Ranch is projected to operate at an overall LOS C during the peak hours as a signalized intersection, based on the projected 2045 total traffic volumes shown in Figure 12a and the lane geometry shown in Figure 12b.

### Intersection #12: Marksheffel Road/Vollmer Road

Based on the projected short-term total traffic volumes, the westbound left-turn movement at the intersection of Marksheffel/Vollmer is projected to operate at LOS F during the morning and afternoon peak hours. This intersection is planned as a future signalized intersection. However, as discussed in the Signal Warrant Analysis section above, traffic-signal warrant(s) may not be met in the short term. It is not uncommon for the minor movements at a stop-sign-controlled intersection to operate at LOS E or F as the traffic volumes approach the levels needed to meet vehicular-volume traffic-signal warrants.

By 2045, it was assumed that Marksheffel Road would be constructed west to Briargate Parkway and that the intersection of Marksheffel/Vollmer will be converted to traffic-signal control. The intersection of Marksheffel/Vollmer is projected to operate at an overall LOS C or better during the peak hours as a signalized intersection, based on the projected 2045 total traffic volumes shown in Figure 12a and the lane geometry shown in Figure 12b.

### Intersection #13: Marksheffel Road/Sterling Ranch Road

The final section of Marksheffel Road between Vollmer Road and Woodmen Road was recently opened. Based on the projected short-term total traffic volumes, the southbound left-turn movement is projected to operate at LOS F during the morning and afternoon peak hours if it remains stop-sign controlled. As discussed in the Signal Warrant Analysis section above, this intersection is expected to meet a Four-Hour Vehicular-Volume Traffic-Signal Warrant following buildout of the Sterling Ranch parcels assumed in the short-term baseline scenario. If this intersection is converted to signal control, it is projected to operate at an overall LOS C or better during the peak hours, through 2045.

### Intersection #104 Briargate Parkway/Sioux Falls Way

The intersection of Briargate/Sioux Falls is projected to operate at LOS B or better for all movements as a limited access stop-sign-controlled intersection, based on the projected short-term and 2045 total traffic volumes.

### Intersection #309 Sterling Ranch Road/Vancouver Street

The intersection of Sterling Ranch/Vancouver Street is projected to operate at LOS C or better for all movements as a stop-sign-controlled intersection, based on the projected short-term and 2045 total traffic volumes.

### Intersection #310 Sterling Ranch Road/Oshkosh Road

The intersection of Sterling Ranch/Oshkosh Road is projected to operate at LOS C or better for all movements as a stop-sign controlled intersection, based on the projected short-term and 2045 total traffic volumes.

## ROADWAY FUNCTIONAL CLASSIFICATIONS AND LANEAGE

Figure 13 shows the recommended functional classifications for the Filing No. 6 subdivision streets, and adjacent collector/arterial roads. The figure also shows the number of through (travel) lanes for the streets in the study area.

## RECOMMENDED IMPROVEMENTS

### Intersection Improvements

Figures 11b and 12b show the intersection traffic control and lane schematic diagrams. The intersection diagrams indicate with arrows where exclusive auxiliary turn lanes should be provided.

Table 5 shows detailed **intersection** improvements summary. Improvements needed with Sterling Ranch Filing No. 6 have been noted as such. The recommended improvements are based on the short-term and 2045 total traffic volumes shown in Figures 11a and 12a and the criteria contained in the El Paso County *Engineering Criteria Manual* (*ECM*). The following auxiliary lanes will be required with the currently-proposed Sterling Ranch East Filing No. 6:

- A westbound left-turn lane on Briargate Parkway approaching Sterling Ranch Road. This lane should be 285 feet long plus a 180-foot taper.
- A westbound right-turn deceleration lane on Briargate Parkway approaching Sterling Ranch Road. This lane should be 235 feet long plus a 180-foot taper.
- A westbound right-turn deceleration lane on Briargate Parkway approaching Sioux Falls Way. This lane should be 235 feet long plus a 180-foot taper.
- A southbound left-turn lane on Sterling Ranch Road approaching Vancouver Street. A center painted median is part of the standard Urban Minor Collector cross section.
- A northbound right-turn deceleration lane on Sterling Ranch Road approaching Vancouver Street. This lane should be 155 feet long plus a 160-foot taper.

The following auxiliary lane is shown because it is part of the plat. However, the SRE Filing No. 6 traffic for this turning movement would represent a relatively small percentage of the 2045 total traffic volumes shown in Figures 12a. The threshold turning volume would not be reached in the short term with development of this subdivision.

- A northbound right-turn deceleration lane on Sterling Ranch Road approaching Oshkosh Road. This lane should be 155 feet long plus a 160-foot taper.

The following auxiliary lane would be needed based on the 2045 background and total traffic volumes shown in Figures 7a and 12a. SRE Filing No. 6 would add negligible, if any, traffic to the turning movements triggering the requirement for these lanes. However, these have been included for completeness and per EPC staff request.

A northbound-to-eastbound right-turn acceleration lane on Briargate Parkway at Sterling Ranch Road. This lane should be 580 feet long plus a 180-foot taper.

### Intersection Traffic Control Upgrades (Future Traffic Signals)

The figures show intersections as stop-sign controlled or as signalized intersections.

For intersections shown with future traffic signal control, please refer to the escrow section below for the site-generated estimate percent impact of Filing 6 contributing to the warrant threshold volumes. The nearest intersection – Briargate/Sterling Ranch Road is included, as are other offsite intersections along Vollmer Road and Marksheffel Road.

### Roadway Segment Improvements

Table 6 is the **overall** list of Sterling Ranch/Sterling Ranch East area roadway-segment improvements. Please refer to Figure 14, which provides a graphic/map of the roadway-segments by identifier number and timing (short-, intermediate-, and long-term). These recommendations are consistent with the LSC MTIS for the Sterling Ranch Sketch Plan Amendment #4, dated February 18, 2024 (SKP224).

Notes specific to **SRE Filing No. 6** have been added to Table 6 and Figure 3.

## DEVIATION REQUESTS

A deviation to the criteria contained in *Land Development Code* (*LDC*) and the *El Paso County Engineering Criteria Manual* (*ECM*) to allow for the proposed right-in/right-out access to Briargate Parkway east of Sterling Ranch Road was approved with the Preliminary Plan (PCD File No. SF 2404).

2045

## AREA MTCP 2050 ROADWAY IMPROVEMENT PROJECTS

The *El Paso County 2024 Major Transportation Corridors Plan Update* identified the following roadway improvement projects within the study area:

- 158: Vollmer Road from Marksheffel Road to Burgess Road as an Urban Major Collector l
- 166: Stapleton Drive from west of Vollmer Road to Towner Avenue as a 4-Lane Urban Principal Arterial
- 329: Stapleton Drive/Briargate Parkway: from Black Forest Road to west of Vollmer Road and a 4-Lane Urban Principal Arterial

## ESCROW ANALYSIS

Table 7 shows the impact of Filing No. 6 site-generated traffic expressed as a percentage of 2045 total morning and afternoon peak-hour traffic volumes that contribute to the Four-Hour Vehicular-Volume Traffic-Signal-Warrant minor-approach volumes at the intersections of Briargate Parkway/Sterling Ranch Road (#5), Marksheffel Road/Research Parkway/Vollmer Road (#12), and Marksheffel Road/Sterling Ranch Road (#13). These percentages could be used as basis for a fair-share contribution towards the future signalization of these intersections.

## TRANSPORTATION IMPROVEMENT FEE PROGRAM AND CREDIT AGREEMENTS

The applicant will be required to participate in the Countywide Transportation Improvement Fee Program. These projects will annex into the 5 mil PID, which has a per-lot upfront building permit fee of $1,974 per single-family dwelling unit. The total building permit fee amount for the 198 residential dwelling units would be $390,852. Note: This is based on the current rate, which is subject to change. El Paso County updates this rate periodically.

A road-fee credit agreement, development agreement, and Subdivision Improvements Agreement will be required to address developer's road-fee credits for construction of Vollmer Road. Additional credit agreements will be needed with each phase of construction to account for reimbursement of costs for the additional lanes and major intersection improvements.

## CONCLUSIONS AND RECOMMENDATIONS

### Trip Generation

- Sterling Ranch East Filing No. 6 is projected to generate about 1,800 new external vehicle trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 37 vehicles would enter and 101 vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:15 and 6:15 p.m., about 114 vehicles would enter and 70 vehicles would exit the site.

### Level of Service

- The intersections of Vollmer/Briargate and Briargate/Sterling Ranch are projected to operate at a satisfactory level of service as stop-sign-controlled intersections in the short-term future. By 2045, these intersections will likely need to be converted to traffic-signal control. As signalized intersections, all movements are projected to operate at LOS D or better during the peak hours, based on the projected 2045 total traffic volumes.
- Some of the movements at the intersections of Marksheffel Road/Vollmer Road and Marksheffel Road/Sterling Ranch Road are projected to operate at LOS E or LOS F during the peak hours, if they remain stop-sign controlled in the short-term future. Once

signalized, all movements at these intersections are projected to operate at LOS D or better, based on the projected short-term and 2045 total traffic volumes.

- The intersections of Sterling Ranch/Vancouver and Sterling Ranch/Oshkosh are projected to operate at a satisfactory level of service as stop-sign-controlled intersections.

### Recommended Improvements

- Table 5 shows detailed **intersection** improvements needed with Sterling Ranch Filing No. 6. The recommended improvements are based on the short-term and 2045 total traffic volumes shown in Figures 11a and 12a and the criteria contained in the El Paso County *Engineering Criteria Manual* (*ECM*). The following auxiliary lanes will be required with the currently-proposed Sterling Ranch East Filing No. 6:
    - A northbound-to-eastbound right-turn acceleration lane on Briargate Parkway at Sterling Ranch Road. This lane should be 580 feet long plus a 180-foot taper.
    - A westbound left-turn lane on Briargate Parkway approaching Sterling Ranch Road. This lane should be 285 feet long plus a 180-foot taper.
    - A westbound right-turn deceleration lane on Briargate Parkway approaching Sterling Ranch Road. This lane should be 235 feet long plus a 180-foot taper.
    - A westbound right-turn deceleration lane on Briargate Parkway approaching Sterling Ranch Road. This lane should be 235 feet long plus a 180-foot taper.
    - A westbound right-turn deceleration lane on Briargate Parkway approaching Sioux Falls Way. This lane should be 235 feet long plus a 180-foot taper.
    - A southbound left-turn lane on Sterling Ranch Road approaching Vancouver Street. A center painted median is part of the standard Urban Minor Collector cross section.
    - A northbound right-turn deceleration lane on Sterling Ranch Road approaching Vancouver Street. This lane should be 155 feet long plus a 160-foot taper.
    - A northbound right-turn deceleration lane on Sterling Ranch Road approaching Oshkosh Drive. This lane should be 155 feet long plus a 160-foot taper.
- Roadway segment improvements specific to **SRE Filing No. 6** are detailed in Table 6 and Figure 3.

### Escrow Analysis

Table 7 shows the impact of Sterling Ranch East Filing No. 6 (site-generated) traffic expressed as a percentage of 2045 total morning and afternoon peak-hour traffic volumes that contribute to the Four-Hour Vehicular Volume Traffic-Signal-Warrant minor-approach volumes at the intersections of Briargate Parkway/Vollmer Road (#4), Briargate Parkway/Sterling Ranch Road (#5), Marksheffel Road/Research Parkway/Vollmer Road (#12), and Marksheffel Road/Sterling Ranch Road (#13). These percentages could be used as basis for a fair-share contribution towards the future signalization of these intersections.

* * * * *

Please contact me if you have any questions regarding this report.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By Jeffrey C. Hodsdon, P.E.
Principal

JCH/KDF:jas

Enclosures: Tables 2-7
Figures 1-14
Traffic Count Reports
Level of Service Reports
Appendix Table 1
MTCP Maps
Crash History

# Tables 2-7

TRANSPORTATION
CONSULTANTS, INC.

## Table 2: Trip Generation Estimate

| ITE Code | ITE Land Use | Quantity | Unit | Trip Generation Rates[1] Daily | AM Peak Hour In | AM Peak Hour Out | PM Peak Hour In | PM Peak Hour Out | Total Trips Generated Daily | AM Peak Hour In | AM Peak Hour Out | PM Peak Hour In | PM Peak Hour Out |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Trip Generation Estimate Based on the Currently Proposed Land Use** | | | | | | | | | | | | | |
| 210 | Single-Family Detached Housing | 198 | DU | 9.09 | 0.19 | 0.51 | 0.58 | 0.35 | 1,800 | 37 | 101 | 114 | 70 |
| **FOR REFERENCE/ COMPARISON/CONFORMANCE CHECK** | | | | | | | | | | | | | |
| **Trip Generation Estimate For the Same Parcel (TAZ 30) From the *Sterling Ranch Sketch Plan Amendment #4 Master Traffic Impact Study* (SKP 241) November 18, 2024** | | | | | | | | | | | | | |
| 210 | Single-Family Detached Housing | 198 | DU | 9.43 | 0.18 | 0.53 | 0.59 | 0.35 | 1,867 | 35 | 104 | 117 | 69 |
| | Change (Decrease) | **0** | **DU** | | | | | | **-67** | **2** | **-3** | **-3** | **1** |

Notes:

(1) Source: "Trip Generation, 12th Edition, 2025" by the Institute of Transportation Engineers (ITE)

(2) DU = Dwelling Unit

*Source: LSC Transportation Consultants, Inc.*

*Aug-26*

## Table 3: Traffic Signal Warrant Analysis
## Scenario: Short-Term Total Traffic
## Marksheffel Road/Vollmer Road

| | | | | | | | Warrant Analysis[1] | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Warrant 1: Eight-Hour Vehicular-Volume Evaluation | | | | | | | | Warrant 2: Four-Hour Vehicular-Volume Evaluation | | | |
| | | | | | | | | | | | Warrant Threshold Met? | | | | Short-Term Background | | Short-Term Total | |
| | Short-Term Background Traffic | | Sterling Ranch East Fil 6 Generated Traffic | | Short-Term Total Traffic | | Warrant Thresholds | | | | Short-Term Background | | Short-Term Total | | Warrant Threshold Minor Minimum | Warrant Threshold Met? WB | Warrant Threshold Minor Minimum | Warrant Threshold Met? WB |
| | | | | | | | Condition A | | Condition B | | | | | | | | | |
| Hour | Major[2] Vollmer | Minor[3] Marksheffel | Major Vollmer | Minor Marksheffel | Major Vollmer | Minor Marksheffel | Major | Minor | Major | Minor | Condition A | Condition B | Condition A | Condition B | | | | |
| **Short-Term Total Traffic[4]** | | | | | | | | | | | | | | | | | | |
| 12-1 AM | 48 | 3 | 4 | 0 | 52 | 3 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 1-2 AM | 20 | 3 | 2 | 0 | 22 | 3 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 2-3 AM | 15 | 0 | 2 | 0 | 17 | 0 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 3-4 AM | 28 | 3 | 2 | 0 | 30 | 3 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 4-5 AM | 54 | 12 | 2 | 0 | 56 | 12 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 5-6 AM | 123 | 29 | 4 | 0 | 127 | 29 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 6-7 AM | 474 | 86 | 13 | 0 | 487 | 86 | 600 | 150 | 900 | 75 | No | No | No | No | 353 | No | 347 | No |
| 7-8 AM | 974 | 149 | 25 | 0 | 999 | 149 | 600 | 150 | 900 | 75 | No | Yes | No | Yes | 157 | No | 150 | No |
| 8-9 AM | 873 | 126 | 29 | 0 | 902 | 126 | 600 | 150 | 900 | 75 | No | No | No | Yes | 182 | No | 175 | No |
| 9-10 AM | 714 | 79 | 25 | 0 | 739 | 79 | 600 | 150 | 900 | 75 | No | No | No | No | 243 | No | 231 | No |
| 10-11 AM | 725 | 79 | 33 | 0 | 758 | 79 | 600 | 150 | 900 | 75 | No | No | No | No | 238 | No | 221 | No |
| 11-12 PM | 909 | 75 | 42 | 0 | 951 | 75 | 600 | 150 | 900 | 75 | No | No | No | No | 173 | No | 162 | No |
| 12-1 PM | 742 | 75 | 40 | 0 | 782 | 75 | 600 | 150 | 900 | 75 | No | No | No | No | 229 | No | 209 | No |
| 1-2 PM | 758 | 79 | 43 | 0 | 801 | 79 | 600 | 150 | 900 | 75 | No | No | No | No | 221 | No | 200 | No |
| 2-3 PM | 856 | 83 | 51 | 0 | 907 | 83 | 600 | 150 | 900 | 75 | No | No | No | Yes | 186 | No | 173 | No |
| 3-4 PM | 958 | 81 | 62 | 0 | 1020 | 81 | 600 | 150 | 900 | 75 | No | Yes | No | Yes | 161 | No | 144 | No |
| 4-5 PM | 1074 | 101 | 76 | 0 | 1150 | 101 | 600 | 150 | 900 | 75 | No | Yes | No | Yes | 128 | No | 110 | No |
| 5-6 PM | 1022 | 100 | 75 | 0 | 1097 | 100 | 600 | 150 | 900 | 75 | No | Yes | No | Yes | 143 | No | 121 | No |
| 6-7 PM | 610 | 79 | 62 | 0 | 672 | 79 | 600 | 150 | 900 | 75 | No | No | No | No | 286 | No | 261 | No |
| 7-8 PM | 537 | 58 | 45 | 0 | 582 | 58 | 600 | 150 | 900 | 75 | No | No | No | No | 322 | No | 299 | No |
| 8-9 PM | 417 | 42 | 46 | 0 | 463 | 42 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | 359 | No |
| 9-10 PM | 269 | 32 | 33 | 0 | 302 | 32 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 10-11 PM | 143 | 15 | 16 | 0 | 159 | 15 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 11-12 AM | 60 | 9 | 9 | 0 | 69 | 9 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| | | | | | | | | | | **Numbers of Hours the Warrant Thresholds Are Met** | 0 | 4 | 0 | 6 | | 0 | | 0 |
| | | | | | | | | | | **Warrant Met?** | No | | No | | | No | | No |

Notes:
(1) Thresholds are based on 2 or more lanes on the major approach and 1 lane on the minor approach (Warrant evaluation assuming the westbound left turn only for the minor street)
(2) The major-street traffic includes all movements (left, through, and right)
(3) The minor-street traffic includes only the left turns from the minor street
(5) Off-peak-hour traffic volumes are based on the projected peak-hour traffic volumes, 72-hour machine counts conducted on Vollmer Road in April 2024 and vehicle time-of-day distribution data for single-family residential published by the Institute of Transportation Engineers

*Source: LSC Transportation Consultants, Inc.* *Aug-26*

## Table 4: Traffic Signal Warrant Analysis
## Scenario: Short-Term Total Traffic
## Marksheffel Road/Sterling Ranch Road

| | | | | | | | Warrant Analysis[1] | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Warrant 1: Eight-Hour Vehicular-Volume Evaluation | | | | | | | | Warrant 2: Four-Hour Vehicular-Volume Evaluation | | | |
| | | | | | | | | | | | Warrant Threshold Met? | | | | Short-Term Background | | Short-Term Total | |
| | Short-Term Background Traffic | | Sterling Ranch Filing No. 6 Generated Traffic | | Short-Term Total Traffic | | Warrant Thresholds | | | | Short-Term Background | | Short-Term Total | | | | | |
| | | | | | | | Condition A | | Condition B | | | | | | | | | |
| Hour | Major[2] Marksheffel | Minor[3] Sterling Ranch | Major Marksheffel | Minor Sterling Ranch | Major Marksheffel | Minor Sterling Ranch | Major | Minor | Major | Minor | Condition A | Condition B | Condition A | Condition B | Warrant Threshold Minor Minimum | Warrant Threshold Met? | Warrant Threshold Minor Minimum | Warrant Threshold Met? |
| **Short-Term Total Traffic[4]** | | | | | | | | | | | | | | | | | | |
| 12-1 AM | 53 | 12 | 1 | 1 | 54 | 13 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 1-2 AM | 22 | 12 | 1 | 1 | 23 | 13 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 2-3 AM | 20 | 0 | 1 | 0 | 21 | 0 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 3-4 AM | 23 | 12 | 1 | 1 | 24 | 13 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 4-5 AM | 38 | 48 | 1 | 4 | 39 | 52 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 5-6 AM | 70 | 120 | 1 | 11 | 71 | 131 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 6-7 AM | 240 | 353 | 5 | 33 | 245 | 386 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 7-8 AM | 482 | 610 | 9 | 57 | 491 | 667 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 8-9 AM | 503 | 514 | 10 | 48 | 513 | 562 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | 334 | Yes |
| 9-10 AM | 425 | 323 | 9 | 30 | 434 | 353 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 10-11 AM | 516 | 323 | 12 | 30 | 528 | 353 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 11-12 PM | 656 | 305 | 15 | 29 | 671 | 334 | 600 | 150 | 900 | 75 | Yes | No | Yes | No | 268 | Yes | 262 | Yes |
| 12-1 PM | 547 | 317 | 15 | 29 | 562 | 346 | 600 | 150 | 900 | 75 | No | No | No | No | 317 | Yes | 309 | Yes |
| 1-2 PM | 586 | 334 | 16 | 31 | 602 | 365 | 600 | 150 | 900 | 75 | No | No | Yes | No | Low Volume | No | 289 | Yes |
| 2-3 PM | 678 | 351 | 19 | 32 | 697 | 383 | 600 | 150 | 900 | 75 | Yes | No | Yes | No | 259 | Yes | 251 | Yes |
| 3-4 PM | 806 | 340 | 23 | 31 | 829 | 371 | 600 | 150 | 900 | 75 | Yes | No | Yes | No | 199 | Yes | 193 | Yes |
| 4-5 PM | 976 | 425 | 28 | 39 | 1004 | 464 | 600 | 150 | 900 | 75 | Yes | Yes | Yes | Yes | 156 | Yes | 149 | Yes |
| 5-6 PM | 952 | 419 | 27 | 38 | 979 | 457 | 600 | 150 | 900 | 75 | Yes | Yes | Yes | Yes | 162 | Yes | 155 | Yes |
| 6-7 PM | 748 | 334 | 23 | 31 | 771 | 365 | 600 | 150 | 900 | 75 | Yes | No | Yes | No | Low Volume | No | 215 | Yes |
| 7-8 PM | 558 | 244 | 17 | 22 | 575 | 266 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 8-9 PM | 541 | 176 | 17 | 16 | 558 | 192 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 9-10 PM | 382 | 136 | 12 | 12 | 394 | 148 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 10-11 PM | 188 | 62 | 6 | 6 | 194 | 68 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 11-12 AM | 107 | 40 | 3 | 4 | 110 | 44 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| | | | | | | | | | | **Numbers of Hours the Warrant Thresholds Are Met** | 6 | 2 | 7 | 2 | | 6 | | 9 |
| | | | | | | | | | | **Warrant Met?** | No | | No | | | Yes | | Yes |

Notes:

(1) Thresholds are based on 2 or more lanes on the major approach and 1 lane on the minor approach (Warrant evaluation assuming the southbound left turn only for the minor street)

(2) The major-street traffic includes all movements (left, through, and right)

(3) The minor-street traffic includes only the left turns from the minor street

(4) Off-peak-hour traffic volumes are based on the projected peak-hour traffic volumes, 72-hour machine counts conducted on Vollmer Road in April 2024 and vehicle time-of-day distribution data for single-family residential published by the Institute of Transportation Engineers

*Source: LSC Transportation Consultants, Inc.* *Aug-26*

Can we highlight items required with this filing and scale back or mark items that have been completed?

**Table 5**
**Sterling Ranch East Filing No. 6**
**Intersection Improvements**

| Item # | Improvement | Trigger | Timing | Responsibility |
|---|---|---|---|---|
| **5) Briargate Parkway/Sterling Ranch Road** | | | | |
| 2 | Construct an eastbound left-turn lane on Briargate Parkway approaching Sterling Ranch Road. The lane should be 435' long plus a 200' taper. | eastbound left-turn volume > 10 vph | complete | Sterling Ranch |
| 3 | Construct an eastbound right-turn deceleration lane on Briargate Parkway approaching Sterling Ranch Road. The lane should be 235' long plus a 200' taper. | eastbound right-turn volume > 25 vph | complete | Sterling Ranch |
| 4 | Construct a northbound to eastbound right-turn acceleration lane on Briargate Parkway at Sterling Ranch Road. The lane should be 580' long plus a 180' taper. | northbound right-turn volume > 50 vph | Long-Term | Sterling Ranch |
| 5 | Construct a westbound left-turn lane on Briargate Parkway approaching Sterling Ranch Road. The lane should be 285' long plus a 200' taper. | westbound left-turn volume > 10 vph | With Sterling Ranch East Filing No. 6 | Sterling Ranch |
| 6 | Construct an westbound right-turn deceleration lane on Briargate Parkway approaching Sterling Ranch Road. The lane should be 235' long plus a 200' taper. | westbound right-turn volume > 25 vph | With Sterling Ranch East Filing No. 6 | Sterling Ranch |
| 7 | Construct a southbound to westbound right-turn acceleration lane on Briargate Parkway at Sterling Ranch Road. The lane should be 580' long plus a 180' taper. | southbound right-turn volume > 50 vph | complete | Sterling Ranch |
| 7 | Provide interim stop-sign control with a stop sign on the eastbound approach | with construction of the intersection | complete | Sterling Ranch |
| 8 | Signalization of the intersection | If and when warrants are met. The decision on timing of traffic signal installation rests with El Paso County Public Works. | Long Term (note: to be analyzed at the time of developmen of the school at which point a determination would be made regarding the intersection traffi control beyond TWSC) | Sterling Ranch or potentially the school district |
| **12) Marksheffel Road/Vollmer Road** | | | | |
| 9 | Signalization of the intersection | Once warrants are met. The decision on timing of traffic signal installation rests with El Paso County Public Works. | Not Anticipated With Sterling Ranch Filing No. 6 | This intersection may be an eligible intersection under the fee impact program |
| **13) Marksheffel Road/Sterling Ranch Road** | | | | |
| 10 | Signalization of the intersection | Once warrants are met. The decision on timing of traffic signal installation rests with The City of Colorado Springs. | A Four-Hour Vehicular Volume Traffic Signal Warrant is Anticipated to be met with Sterling Ranch East Filing No. 6 | SRMD#3 |
| **104) Briargate Parkway/Sioux Falls Way** | | | | |
| 11 | Construct an westbound right-turn deceleration lane on Briargate Parkway approaching Sioux Falls Way. The lane should be 235' long plus a 200' taper. | westbound right-turn volume > 25 vph | With the construction of Briargate Parkway eas of the access | Sterling Ranch |
| **309) Sterling Ranch Road/Vancouver Street** | | | | |
| 12 | Construct a southbound left-turn lane on Sterling Ranch Road approaching Vancouver Street. The lane should be 205' long plus a 160' taper. | southbound left-turn volume > 25 vph | A center painter median is part of the standard Urban Minor Collector cross section | Sterling Ranch |
| 13 | Construct a northbound right-turn deceleration lane on Sterling Ranch Road approaching Vancouver Street. The lane should be 155' long plus a 160' taper. | northboundbound right-turn volume > 50 vph | With Sterling Ranch East Filing 6 | Sterling Ranch |
| **310) Sterling Ranch Road/Oshkosh Road** | | | | |
| 14 | Construct a southbound left-turn lane on Sterling Ranch Road approaching Appleton Drive. The lane should be 305' long plus a 160' taper. | southbound left-turn volume > 25 vph | With the construction of Sterling Ranch Parkway north of Banning Lewis Parkway | Sterling Ranch |
| 15 | Construct a northbound right-turn deceleration lane on Sterling Ranch Road approaching Appleton Drive. The lane should be 155' long plus a 160' taper. | northboundbound right-turn volume > 50 vph | Long-Term, but to be installed with the adjacent | Sterling Ranch |

*Source: LSC Transportation Consultants, Inc.* (August 2026)

# Table 6

## Roadway Segment Improvements

### Sterling Ranch East Filing No. 6 Rezone and Preliminary Plat

### (Page 1 of 2)

| Segment ID[1] (See Figure 14 for map) | Improvement Description | Timing | Design ADT (vpd) | Projected 2045 ADT (vpd) | Responsibility |
|---|---|---|---|---|---|
| V1 (Short-Term) Northbound | UPDATE (November 2023): It is our understanding that a meeting(s) with JR Engineering/the applicant, City staff and County staff were held, that a short-term/interim improvement to segment V1 will not be required. The original LSC recommendation for this segment was for restriping. However, City staff indicated that the striped bike lane in the southbound direction needs to remain. | Updated November 2023 - It is our understanding that following a meeting with the City of Colorado Springs and El Paso County, a V1 interim shoulder improvement will no longer be required. | 5,500 (Directional northbound) | 15,710 | N/A |
| V1 (Short-Term) Southbound | | | 10,000 (Directional southbound) | | |
| V1 | Improve Vollmer Road between Dry Needle Place and the Sterling Ranch south boundary to a standard 4-Lane Urban Minor Arterial Cross Section (Add a second northbound through lane and painted center median) [2]<br>8/22/2024 Note: the 2024 MTCP shows Vollmer Road as an Urban – Major Collector | Intermediate-Term Future | 20,000 | | Updated November 2023<br>Adjacent parcel owner which could potentially include:<br>• "Pioneer Landscape Center Parcel" (5300000742) (redevelopment is unlikely in the foreseeable future)<br>• "Schmidt Parcel" west of Vollmer Rd (5200000571)<br>• The triangular parcels southeast of Vollmer/Marksheffel (5232400001 and 5232400003) |
| V2 | Improve Vollmer Road between the Sterling Ranch south boundary to Lochwinnoch Lane/Sterling property boundary to a standard 4-Lane Urban Minor Arterial Cross Section [2]<br>8/22/2024 Note: the 2024 *MTCP* shows Vollmer Road as an Urban – Major Collector | **Updated September 2024: Complete** | 20,000 (Note: Existing Capacity 8,000[3]) | 17,115 | Sterling Ranch |
| V3 | **Short Term:** Improve Vollmer Road from Lochwinnoch Lane to Sterling Ranch boundary (northeast of Glider Loop) to provide 36' of pavement (existing pavement 1 approx. 23.38') and stripe for one through lane and plus a 6' paved, striped outside shoulder in each direction [2] | **Updated November 2023 – Future as required due to net increase traffic demand. The construction documents have been approved.** | 11,000 (Note: Existing Capacity 8,000) | 16925 | Sterling Ranch |
| | **Long Term:** Improve Vollmer Road from Lochwinnoch Lane to Sterling Ranch boundary (northeast of Glider Loop) to a standard 4-Lane Urban Minor Arterial Cross Section [2]<br>8/22/2024 Note: the 2024 *MTCP* shows Vollmer Road as an Urban – Major Collector | Long-Term Future | 20,000 | | By others - pursuant to the recent development agreement between Sterling Ranch and EPC. |
| V4 | Improve Vollmer Road from Sterling Ranch boundary (northeast of Glider Loop) to Briargate Parkway to a standard 4-Lane Urban Minor Arterial Cross Section [2] Update November 2023 - with transition section to the existing two-lane section to the south as shown on the Vollmer North CDs. Improvements consist of curb and gutter on west side (as most of the east side is already built) and repaving. | **Updated September 2024: Complete** | 20,000 | 16,155 | Sterling Ranch |
| V5 | Improve Vollmer Road from Briargate Parkway to Jane Kirkham Drive to a standard 4-Lane Urban Minor Arterial Cross Section [2]<br>8/22/2024 Note: the 2024 *MTCP* shows Vollmer Road as an Urban – Major Collector | **Updated September 2024: Complete** | 20,000 | 11,515 | Sterling Ranch |
| V6 | Improve Vollmer Road from Jane Kirkham Drive to Sam Bass Drive to a standard 4-Lane Urban Minor Arterial Cross Section [2]<br>8/22/2024 Note: the 2024 *MTCP* shows Vollmer Road as an Urban – Major Collector | **Updated September 2024: Complete** | 20,000 | 11,245 | Sterling Ranch |
| V7 | Improve Vollmer Road between Sam Bass Drive and Poco Road to a 4-lane Urban Minor Arterial but with necessary lane transitions, redirect tapers, etc. south of Poco to adequately transition between the 4-Lane Urban Minor Arterial Cross Section and the 2-Lane Rural Arterial Cross Section north of Poco Road.<br>8/22/2024 Note: the 2024 *MTCP* shows Vollmer Road as an Urban – Major Collector | **Updated September 2024: Complete** | 20,000 | 11,010 | Sterling Ranch |
| V8 | Improve Vollmer Road from Poco Road to Burgess Road to a 2-Lane Urban – Major Collector Cross Section [2] | Long-Term Future | 20,000 | 11,395 | El Paso County |

**Part 1/2 of this table (see Part 2 on next page)**

**Notes:**

(1) See Figure 14

(2) Adequate transition/redirect tapers would be needed between the various cross sections on Vollmer Road. Based on the criteria contained in Table 2-29 of the *El Paso Engineering Criteria Manual* an appropriate taper ratio for a roadway with a design speed of 40 miles per hour is 20:1

(3) Source: Table 20 *Road Impact Fee Study Updated* November 16, 2016

*Source: LSC Transportation Consultants, Inc. (August 2026)*

# Table 6

## Roadway Segment Improvements

### Sterling Ranch East Filing No. 6 Rezone and Preliminary Plat

### (Page 2 of 2)

| Segment ID[1] (See Figure 12 for map) | Improvement Description | Timing | Design ADT (vpd) | Projected 2045 ADT (vpd) | Responsibility |
|---|---|---|---|---|---|
| SR1 | Construct Sterling Ranch Road as an Urban Major Collector from Marksheffel Road to Dines Boulevard | **Completed** | 20,000 | 14,430 | Sterling Ranch |
| SR2 | Construct Sterling Ranch Road as an Urban Major Collector from Dines Boulevard to Briargate Parkway | **Short-Term - with SRE Preliminary Plan 1** | 20,000 | 9,760 | Sterling Ranch |
| SR3 | Construct Sterling Ranch Road as an Urban Minor Collector from Briargate Parkway to Vancouver Street | **Short-Term - with SRE Preliminary Plan 1** | 10,000 | 8,075 | Sterling Ranch |
| SR4 | Construct Sterling Ranch Road from Vancouver Street north to Oshkosh Road | **Short-Term - with SRE Filing 6** | 10,000 | 6,910 | Sterling Ranch |
| SR5 | Construct Sterling Ranch Road from Oshkosh Road north to ultimate north terminus | Intermediate-Term Future | 10,000 | 4,330 | Sterling Ranch |
| M1 | Construct Marksheffel Road as an Urban Principal Arterial to City of Colorado Springs standards in 107' of right-of-way between Vollmer Road and Sterling Ranch Road | **Completed** | 40,000 | 23,000 | Sterling Ranch |
| M2 | Construct Marksheffel Road as an Urban Principal Arterial to City of Colorado Springs standards in 107' of right-of-way between Sterling Ranch Road and the south boundary of the Sterling Ranch Master Plan Area. **NOTE: With the completion of this improvement, the connection between Vollmer Road and Woodmen Road will be completed** | To be completed **in 2024** | 40,000 | 28,180 | Sterling Ranch |
| M3 | Construct Marksheffel Road between the south boundary of the Sterling Ranch Master Plan Area and Woodmen Road (Note this segment is located within the City of Colorado Springs) | **Completed** (by Others) | 40,000 | 24,525 | Others (Completed) |
| M4 | Construct Marksheffel Road between Black Forest Road and Vollmer Road | Long-Term Future | 40,000 | 27,910 | Others |
| B1 | Construct the full section of Briargate Parkway (4-Lane Principal Arterial) between Vollmer Road and Wheatland Drive | **Completed** | 40,000 | 24,190 | Sterling Ranch |
| B2 | Construct Briargate Parkway **(full section)** as a 4-Lane Principal Arterial between Wheatland Drive and Sterling Ranch Road | **Updated September 2024: In Progress Anticipated Completion Fall 2024** | 40,000 | 25,220 | Sterling Ranch |
| B3 | Construct Briargate Parkway as a 4-Lane Principal Arterial between Sterling Ranch Road and Sioux Falls Way | **Short-Term - with SRE Filing 6** | 40,000 | 21,930 | Sterling Ranch |
| B4 | Construct Briargate Parkway as a 4-Lane Principal Arterial between Sioux Falls Way and Banning Lewis Parkway | Intermediate Term | 40,000 | 21,235 | Sterling Ranch |
| B5 | Construct Stapleton Road as a 4-Lane Principal Arterial between Banning Lewis Parkway and Meridian Road (including upgrade of existing rural two-lane segment between Towner and Meridian) | Long-Term Future | 40,000 | 17,655 | Others |
| B6 | Construct Briargate Parkway as a 4-Lane Principal Arterial between its current terminus and Black Forest Road and between Black Forest Road and Vollmer Road | Long-Term Future | 40,000 | 24,340 | Others |
| BL1 | Construct Banning Lewis Parkway as a 4-Lane Principal Arterial between the south Sterling Ranch boundary and Briargate Pkwy | Long-Term Future | 40,000 | 20,320 | Future - TBD with the future preliminary plan for that area - potentially, financial assurances for half-section, west-side half-section or full-section w/ cost recover may be required |
| BL2 | Construct Banning Lewis Parkway as a 4-Lane Principal Arterial between Woodmen Road and the south Sterling Ranch boundary (Note this segment will be located within the City of Colorado Springs) | Long-Term Future | 40,000 | 28,480 | Others |
| W1 | Widen Woodmen Road from 4-lane to 6-lane section from Powers Boulevard to US 24 | Long-Term Future | 72,000 | 66,690 | Others |

**Part 2/2 of this table**

**Notes:**

(1) See Figure 14

(2) Adequate transition/redirect tapers would be needed between the various cross sections on Vollmer Road. Based on the criteria contained in Table 2-29 of the *El Paso Engineering Criteria Manual*, an appropriate taper ratio for a roadway with a design speed of 40 miles per hour is 20:1

(3) Source: Table 20 *Road Impact Fee Study Updated* November 16, 2016

*Source: LSC Transportation Consultants, Inc. (August 2026)*

## Table 7: Traffic Signal Escrow Calculations

SRE Filing No. 6

| | Traffic Volumes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Northbound (Minor Approach) | | | | | | Southbound (Minor Approach) | | | | | | Eastbound (Major Approach) | | | | Westbound (Major Approach) | | | | | | | | | | | | | | | | | | | |
| | | | | (1) | | | | | | (1) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | LT (vph) | TH (vph) | All RT (vph) | Minor Approach Volume[2] (%) | Minor Approach Volume[2] (vph) | | LT | TH | All RT (vph) | Minor Approach Volume[2] (%) | Minor Approach Volume[2] (vph) | | LT (vph) | TH (vph) | RT (vph) | | LT (vph) | TH (vph) | RT (vph) | | Total Intersection Volume veh/hr | Minor Approach Volume % | Minor Approach Volume veh/hr | Minor Approach Volume "%" | Total Traffic Signal Cost | Fair Share Amount |
| **#4 Briargate Parkway/Vollmer Road** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **AM Peak Hour** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2045 Background Traffic | 153 | 100 | 96 | | 0 | | 107 | 310 | 139 | | 0 | | 88 | 520 | 153 | | 217 | 958 | 78 | | | | | | | | | | | | | | | | | |
| Long-Term Sterling Ranch East Filing No. 6 Site-Generated Traffic | 0 | 0 | 6 | 0% | 0 | | 0 | 0 | 0 | 0% | 0 | | 0 | 4 | 0 | | 11 | 17 | 1 | | | | | | | | | | | | | | | | | |
| **Total** | **153** | **100** | **102** | | **0** | | **107** | **310** | **139** | | **0** | | **88** | **524** | **153** | | **228** | **1,015** | **79** | | | | | | | | | | | | | | | | | |
| **PM Peak Hour** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2045 Background Traffic | 291 | 414 | 239 | | 0 | | 84 | 211 | 115 | | 0 | | 227 | 968 | 176 | | 178 | 702 | 64 | | | | | | | | | | | | | | | | | |
| Long-Term Sterling Ranch East Filing No. 6 Site-Generated Traffic | 0 | 0 | 23 | 0% | 0 | | 8 | 0 | 0 | 0% | 0 | | 0 | 20 | 0 | | 9 | 13 | 1 | | | | | | | | | | | | | | | | | |
| **Total** | **291** | **414** | **262** | | **0** | | **91** | **211** | **115** | | **0** | | **227** | **979** | **176** | | **187** | **720** | **65** | | | | | | | | | | | | | | | | | |
| **AM Peak Hour + PM Peak Hour** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2045 Background Traffic | 444 | 544 | 335 | | 0 | | 186 | 521 | 257 | | 0 | | 295 | 1,472 | 329 | | 406 | 1,705 | 144 | | 1,705 | 99.8% | | | | $649,238 | |
| Long-Term Sterling Ranch East Filing No. 6 Site-Generated Traffic | 0 | 0 | 29 | 0% | 0 | | 2 | 0 | 0 | 0% | 0 | | 0 | 26 | 0 | | 20 | 30 | 2 | | 2 | 0.1% | | | $600,000 | $762 | |
| **Total** | **444** | **544** | **362** | | **0** | | **188** | **521** | **257** | | **0** | | **295** | **1,498** | **329** | | **415** | **1,735** | **144** | | **1,707** | | | | | | |
| **#5 Briargate Parkway/Sterling Ranch Road** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **AM Peak Hour** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2045 Background Traffic | 241 | 91 | 123 | | 0 | | 43 | 556 | 140 | | 0 | | 55 | 555 | 135 | | 148 | 512 | 9 | | | | | | | | | | | | | | | | | |
| Long-Term Sterling Ranch East Filing No. 6 Site-Generated Traffic | 0 | 13 | 0 | 0% | 0 | | 5 | 18 | 6 | 0% | 0 | | 1 | 0 | 0 | | 16 | 26 | 1 | | | | | | | | | | | | | | | | | |
| **Total** | **241** | **104** | **123** | | **0** | | **47** | **123** | **146** | | **0** | | **56** | **555** | **135** | | **148** | **538** | **10** | | | | | | | | | | | | | | | | | |
| **PM Peak Hour** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2045 Background Traffic | 146 | 93 | 84 | | 0 | | 33 | 511 | 121 | | 0 | | 215 | 853 | 134 | | 164 | 512 | 33 | | | | | | | | | | | | | | | | | |
| Long-Term Sterling Ranch East Filing No. 6 Site-Generated Traffic | 0 | 21 | 0 | 0% | 0 | | 4 | 9 | 5 | 0% | 0 | | 47 | 0 | 0 | | 10 | 18 | 7 | | | | | | | | | | | | | | | | | |
| **Total** | **146** | **114** | **84** | | **0** | | **37** | **520** | **126** | | **0** | | **262** | **853** | **134** | | **174** | **530** | **39** | | | | | | | | | | | | | | | | | |
| **AM Peak Hour + PM Peak Hour** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2045 Background Traffic | 387 | 184 | 207 | | 0 | | 75 | 556 | 241 | | 0 | | 260 | 1,037 | 269 | | 308 | 1,224 | 41 | | 802 | 92.1% | | | | $596,507 | |
| Long-Term Sterling Ranch East Filing No. 6 Site-Generated Traffic | 0 | 34 | 0 | 0% | 0 | | 9 | 26 | 11 | 0% | 0 | | 58 | 0 | 0 | | 26 | 44 | 8 | | 69 | 7.9% | | | $600,000 | $51,493 | |
| **Total** | **387** | **218** | **207** | | **0** | | **84** | **582** | **252** | | **0** | | **318** | **1,037** | **269** | | **334** | **1,768** | **49** | | **871** | | | | | | |
| **#12 Marksheffel Road/Research Parkway/Vollmer Road[2]** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **AM Peak Hour** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2045 Background Traffic | 108 | 205 | 104 | | 52 | 121 | 556 | 135 | | 68 | 83 | 831 | 42 | | 162 | 893 | 69 | | | | | | | | | | | | | | | | | | | |
| Long-Term Sterling Ranch East Filing No. 6 Site-Generated Traffic | 0 | 8 | 0 | 50% | 0 | | 0 | 11 | 0 | 50% | 0 | | 0 | 1 | 0 | | 0 | 4 | 0 | | | | | | | | | | | | | | | | | |
| **Total** | **108** | **213** | **104** | | **52** | **121** | **567** | **135** | | **68** | **83** | **832** | **42** | | **162** | **897** | **69** | | | | | | | | | | | | | | | | | | | |
| **PM Peak Hour** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2045 Background Traffic | 169 | 157 | 176 | | 59 | 126 | 372 | 196 | | 98 | 138 | 903 | 89 | | 187 | 697 | 149 | | | | | | | | | | | | | | | | | | | |
| Long-Term Sterling Ranch East Filing No. 6 Site-Generated Traffic | 0 | 20 | 0 | 50% | 0 | 0 | 0 | 9 | 0 | 50% | 0 | 0 | 0 | 9 | 0 | 0 | 3 | 0 | | | | | | | | | | | | | | | | | | |
| **Total** | **169** | **178** | **176** | | **59** | **126** | **381** | **196** | | **98** | **138** | **912** | **89** | | **187** | **700** | **149** | | | | | | | | | | | | | | | | | | | |
| **AM Peak Hour + PM Peak Hour** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2045 Background Traffic | 277 | 362 | 280 | | 140 | 247 | 928 | 331 | | 166 | 206 | 1,737 | 131 | | 349 | 1,590 | 212 | | 7,275 | 95.1% | | | | | | $644,419 | |
| Long-Term Sterling Ranch East Filing No. 6 Site-Generated Traffic | 0 | 28 | 0 | 50% | 0 | 0 | 0 | 20 | 0 | 50% | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 62 | 0.9% | | | $600,000 | | | $5,581 | |
| **Total** | **277** | **1,016** | **280** | | **140** | **247** | **948** | **331** | | **166** | **206** | **1,744** | **131** | | **349** | **1,597** | **212** | | **7,338** | | | | | | | | |
| **#13 Marksheffel Road/Sterling Ranch Road[2]** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **AM Peak Hour** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Short-Term Background Traffic | 10 | 3 | 5 | | 5 | 601 | 0 | 142 | | 71 | 74 | 98 | 4 | | 8 | 60 | 239 | | | | | | | | | | | | | | | | | | | |
| Short-Term Sterling Ranch East Filing No. 6 Site-Generated Traffic | 0 | 0 | 0 | 100% | 0 | 58 | 0 | 0 | 50% | 0 | 0 | 0 | 0 | | 0 | 0 | 9 | | | | | | | | | | | | | | | | | | | |
| **Short-Term Total** | **10** | **3** | **5** | | **5** | **659** | **0** | **142** | | **71** | **74** | **98** | **4** | | **8** | **60** | **248** | | | | | | | | | | | | | | | | | | | |
| 2045 Background Traffic | 7 | 2 | 7 | | 7 | 482 | 9 | 304 | | 152 | 140 | 884 | 12 | | 53 | 837 | 170 | | | | | | | | | | | | | | | | | | | |
| Short-Term Sterling Ranch East Filing No. 6 Site-Generated Traffic | 0 | 0 | 0 | 100% | 0 | 18 | 0 | 4 | 50% | 2 | 2 | 0 | 0 | | 0 | 0 | 2 | | | | | | | | | | | | | | | | | | | |
| **Total** | **7** | **2** | **7** | | **7** | **499** | **9** | **308** | | **154** | **142** | **884** | **12** | | **53** | **837** | **172** | | | | | | | | | | | | | | | | | | | |
| **PM Peak Hour** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Short-Term Background Traffic | 3 | 11 | 10 | | 10 | 418 | 15 | 95 | | 48 | 114 | 68 | 6 | | 8 | 54 | 672 | | | | | | | | | | | | | | | | | | | |
| Short-Term Sterling Ranch East Filing No. 6 Site-Generated Traffic | 0 | 0 | 0 | 100% | 0 | 39 | 0 | 0 | 50% | 0 | 0 | 0 | 0 | | 0 | 0 | 29 | | | | | | | | | | | | | | | | | | | |
| **Short-Term Total** | **3** | **11** | **10** | | **10** | **457** | **15** | **95** | | **48** | **114** | **68** | **6** | | **8** | **54** | **701** | | | | | | | | | | | | | | | | | | | |
| 2045 Background Traffic | 16 | 4 | 24 | | 24 | 467 | 16 | 177 | | 89 | 289 | 840 | 6 | | 62 | 838 | 238 | | | | | | | | | | | | | | | | | | | |
| Short-Term Sterling Ranch East Filing No. 6 Site-Generated Traffic | 0 | 0 | 0 | 100% | 0 | 11 | 1 | 3 | 50% | 2 | 6 | 0 | 0 | | 0 | 0 | 11 | | | | | | | | | | | | | | | | | | | |
| **Total** | **16** | **4** | **24** | | **24** | **478** | **16** | **180** | | **91** | **295** | **840** | **6** | | **62** | **838** | **249** | | | | | | | | | | | | | | | | | | | |
| **AM Peak Hour + PM Peak Hour** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Short-Term Background Traffic | 13 | 14 | 15 | | 15 | 1,019 | 15 | 237 | | 119 | 188 | 166 | 10 | | 16 | 114 | 911 | | | | 2,837 | 95.1% | | | | $918,344 | |
| Short-Term Sterling Ranch East Filing No. 6 Site-Generated Traffic | 0 | 0 | 0 | 100% | 0 | 97 | 0 | 0 | 50% | 0 | 0 | 0 | 0 | | 0 | 0 | 38 | | | | 135 | 4.9% | | | $600,000 | $91,656 | |
| **Short-Term Total** | **13** | **14** | **15** | | **15** | **1,116** | **15** | **237** | | **119** | **188** | **166** | **10** | | **16** | **114** | **949** | | | | **2,772** | | | | | | |
| 2045 Background Traffic | 25 | 9 | 31 | | 31 | 930 | 23 | 481 | | 241 | 429 | 1,834 | 18 | | 115 | 1,648 | 708 | | | | 3,875 | 99.1% | | | | $944,189 | |
| Long-Term Sterling Ranch East Filing No. 6 Site-Generated Traffic | 0 | 0 | 0 | 100% | 0 | 26 | 2 | 7 | 50% | 4 | 8 | 0 | 0 | | 0 | 0 | 13 | | | | 53 | 0.9% | | | $600,000 | $5,811 | |
| **Total** | **25** | **9** | **31** | | **31** | **956** | **25** | **488** | | **245** | **437** | **1,834** | **18** | | **115** | **1,648** | **721** | | | | **3,928** | | | | | | |

**Notes:**

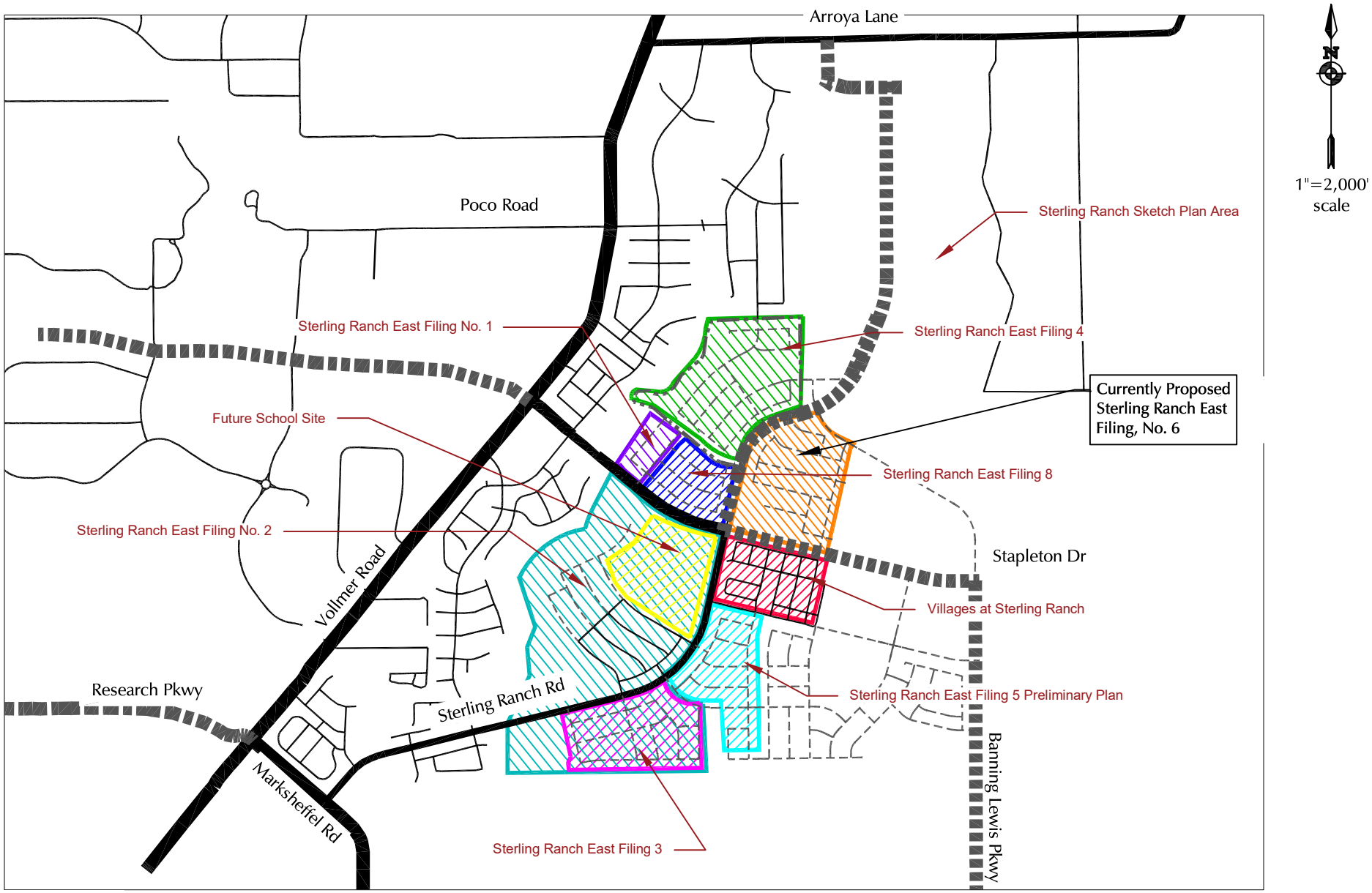
(1): Traffic Volumes That Contribute to the Four-Hour and Eight-Hour Vehicular Volume Traffic Signal Warrant Minor Street Volume

(2) Intersections No. 12 and 13 are City of Colorado Springs intersections. The City may modify this formula (or use their own formula) for signal participation based on City-standard methodology.

*Source: LSC Transportation Consultants, Inc.* 8/12/2026

# Figures 1-14

TRANSPORTATION
CONSULTANTS, INC.




TRANSPORTATION CONSULTANTS, INC.

Figure 1

# Vicinity Map

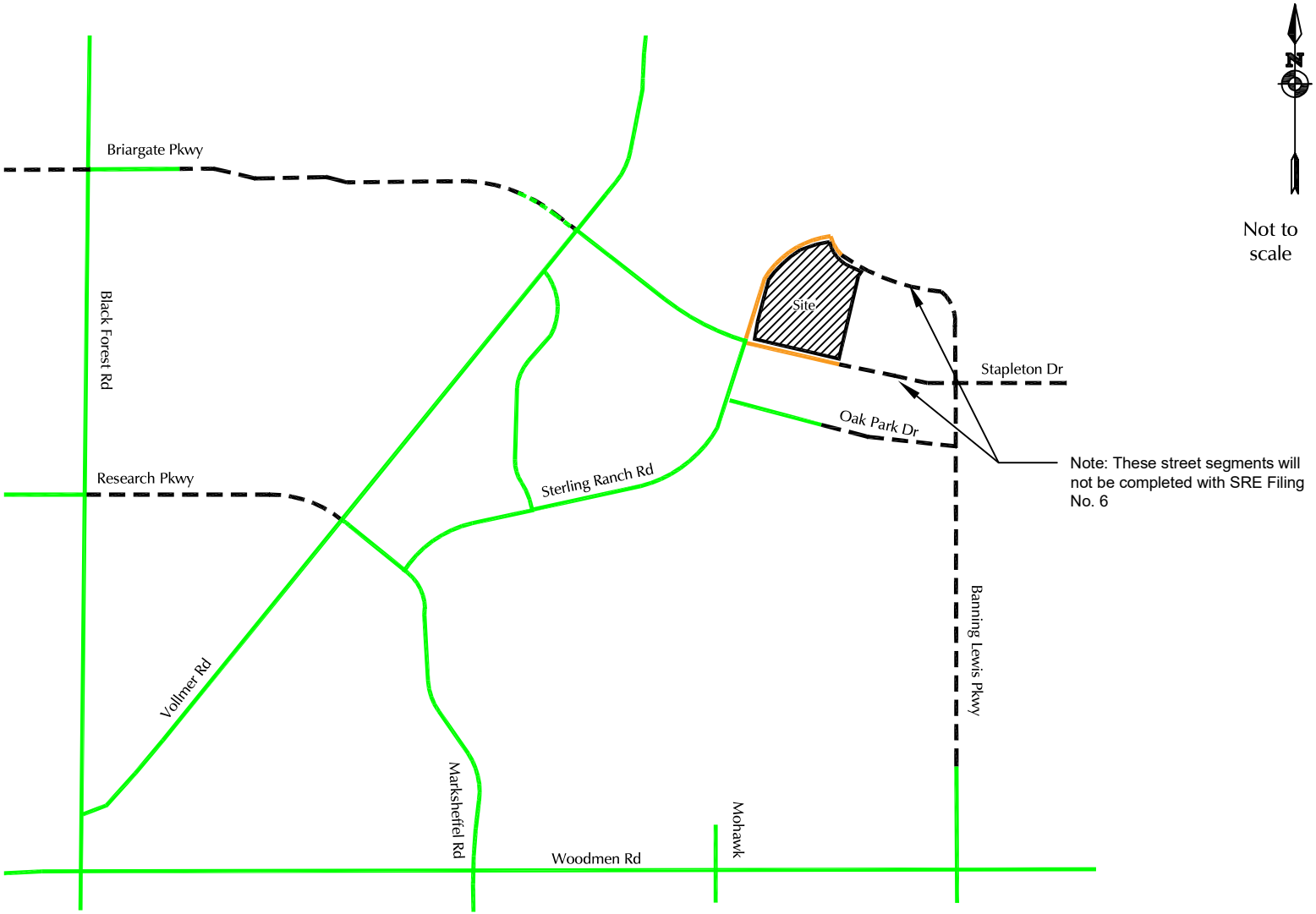
Sterling Ranch East Filing No. 6 (LSC #S244252)

TRANSPORTATION CONSULTANTS, INC.

Figure 2

# Site Plan

Sterling Ranch East Filing No. 6 (LSC #S244252)

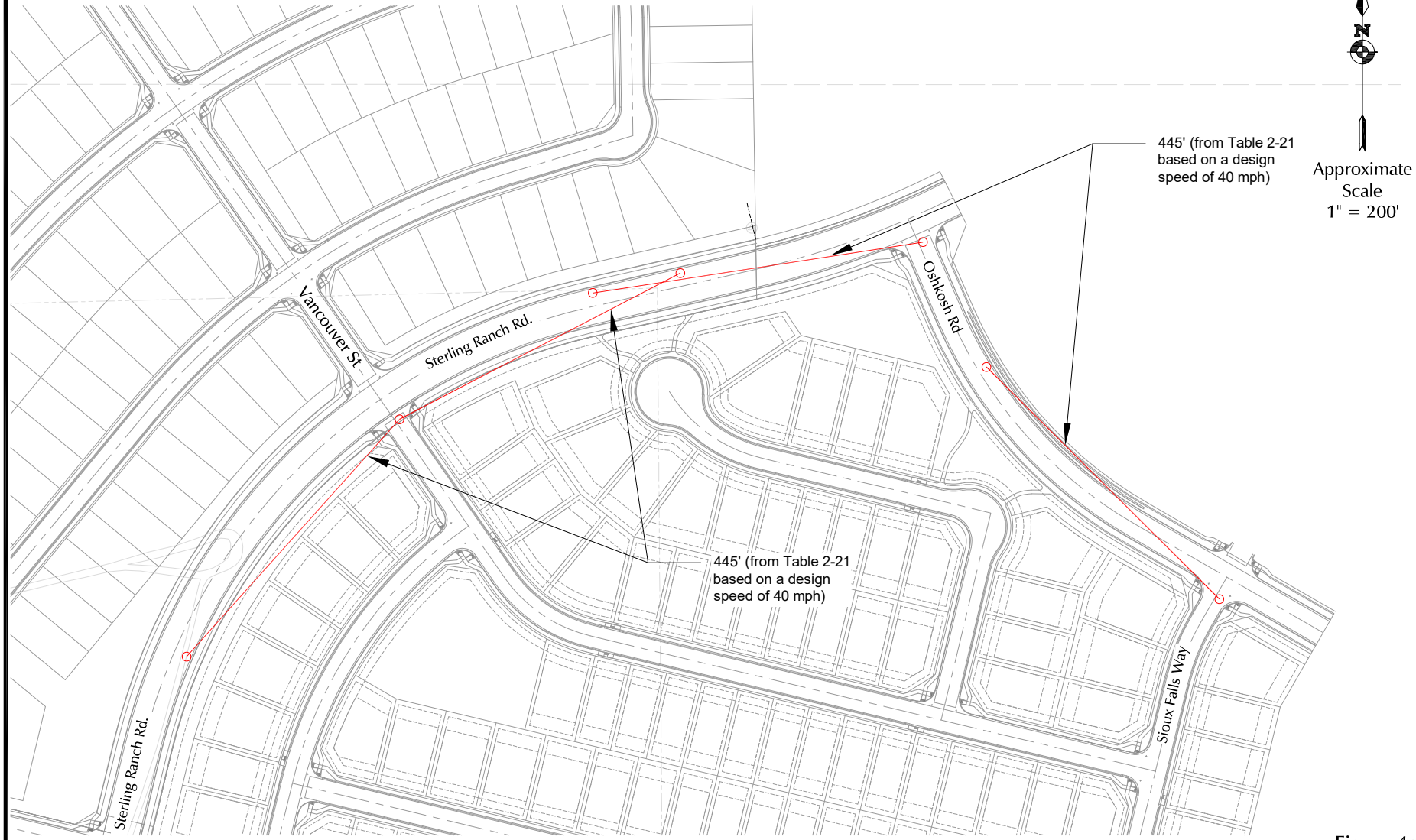



Roadway connection planned with Sterling Ranch East Fil. No. 6
Existing Roadway
Future Roadway

Figure 3

# Short-Term Roadway Connections

Sterling Ranch East Filing No. 6 (LSC #S244252)




LEGEND:

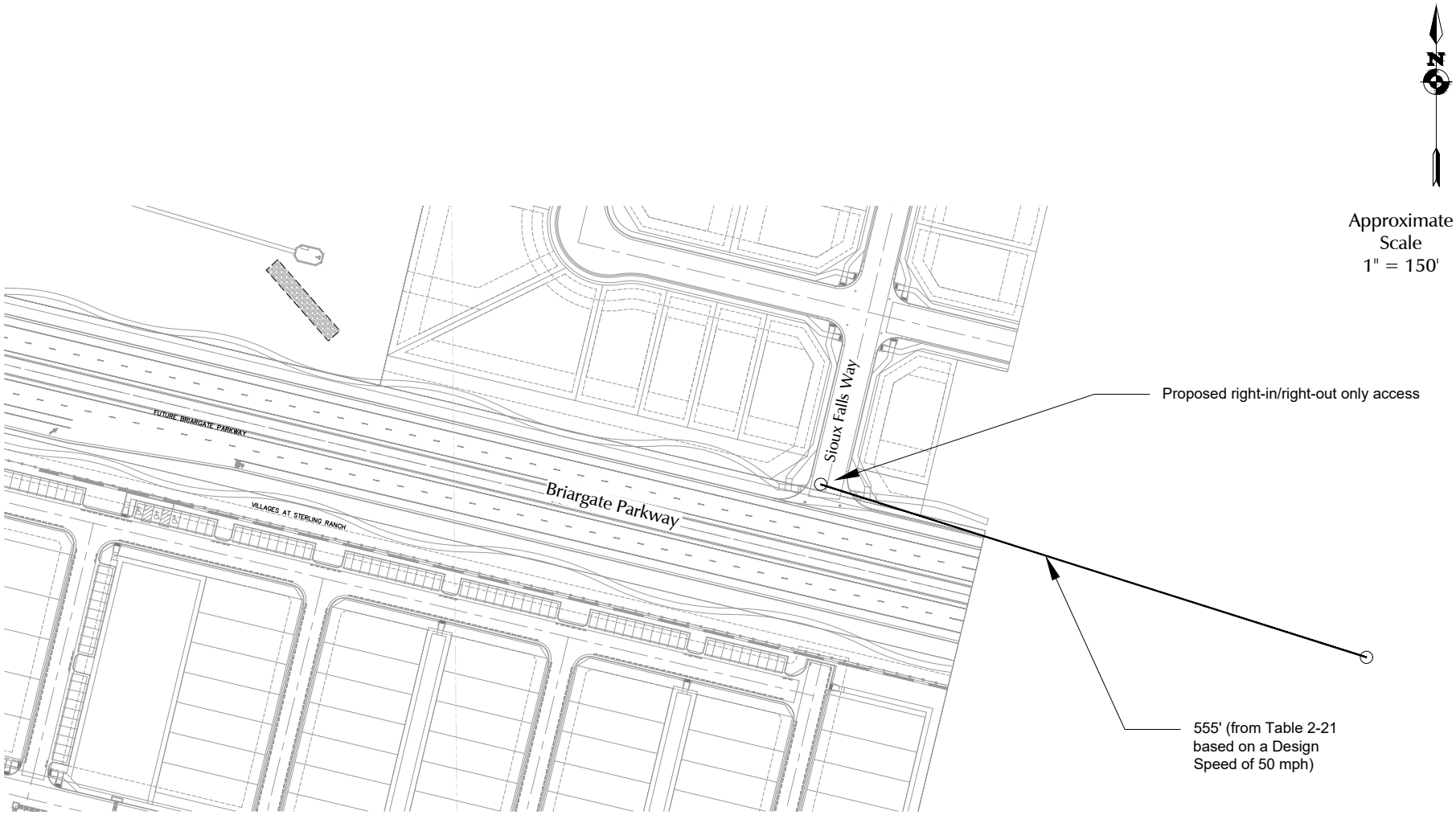
ECM Required Intersection Sight Distance

Figure 4a

# Sight Distance Analysis-Collector Intersections

Sterling Ranch East Filing No. 6 (LSC #S244252)

LSC TRANSPORTATION CONSULTANTS, INC.




LEGEND:

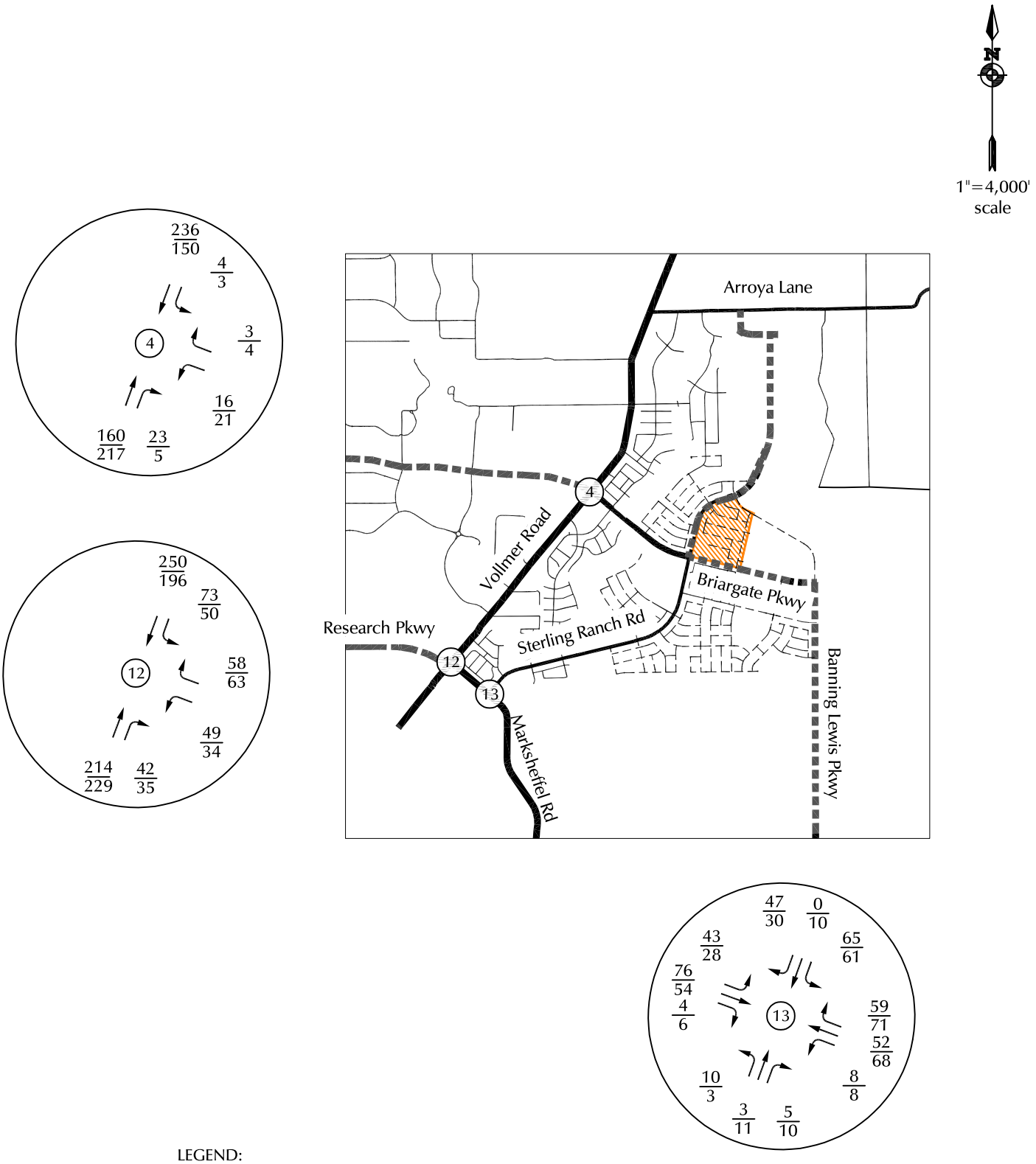
ECM Required Intersection Sight Distance

Figure 4b

# Sight Distance Analysis - Briargate Pkwy
# Right-in/Right-out Only Access (Sioux Falls Way)

Sterling Ranch East Filing No. 6 (LSC #S244252)

LSC TRANSPORTATION CONSULTANTS, INC.




LEGEND:

$$\frac{XX}{XX} = \frac{\text{AM Peak-Hour Traffic (Veh/Hr)}}{\text{PM Peak-Hour Traffic (Veh/Hr)}}$$

*Counts by LSC March 2024
**Counts by LSC March 2025 (These traffic counts were conducted about 4 months after the completion of Marksheffel Road between Vollmer Road and Woodmen Road)

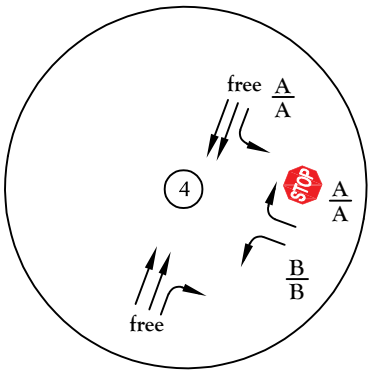
— Existing Roadway
- - - Future Roadway

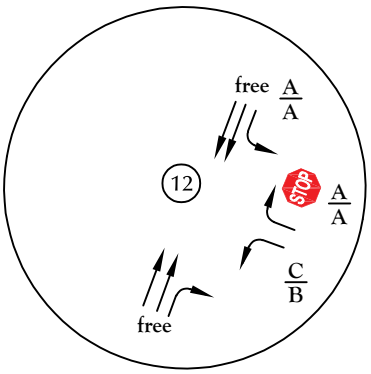
TRANSPORTATION CONSULTANTS, INC.

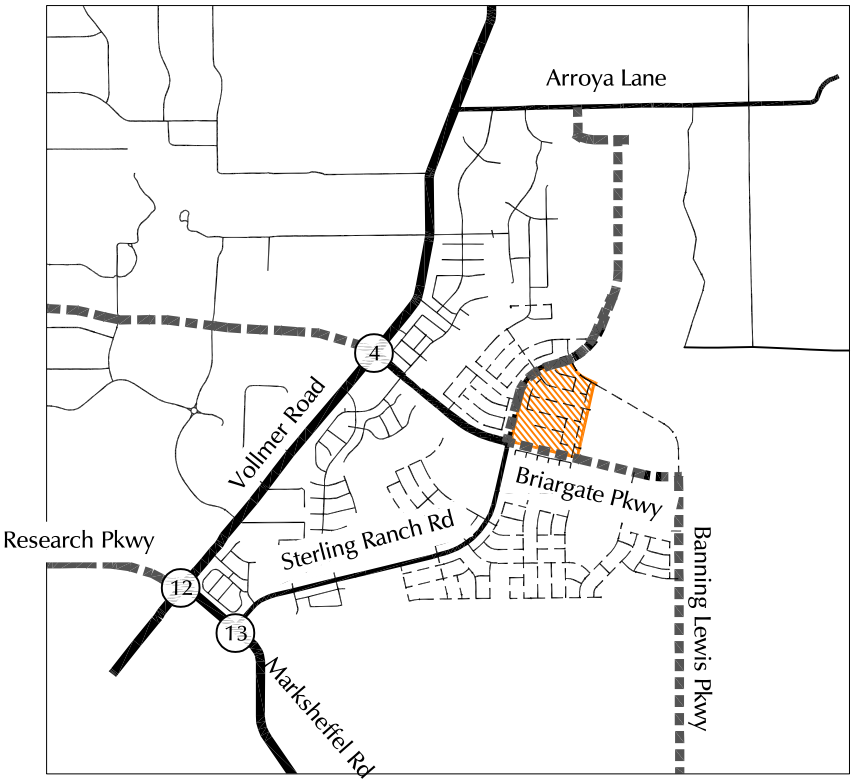
Figure 5a

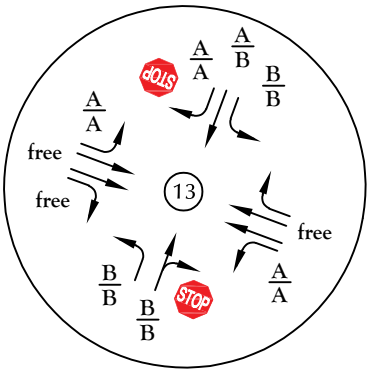
# Existing Peak-Hour Traffic

Sterling Ranch East Filing No. 6 (LSC #S244252)




1"=4,000'
scale

LEGEND:

STOP = Stop Sign

A/B = AM Individual Movement Peak-Hour LOS / PM Individual Movement Peak-Hour LOS

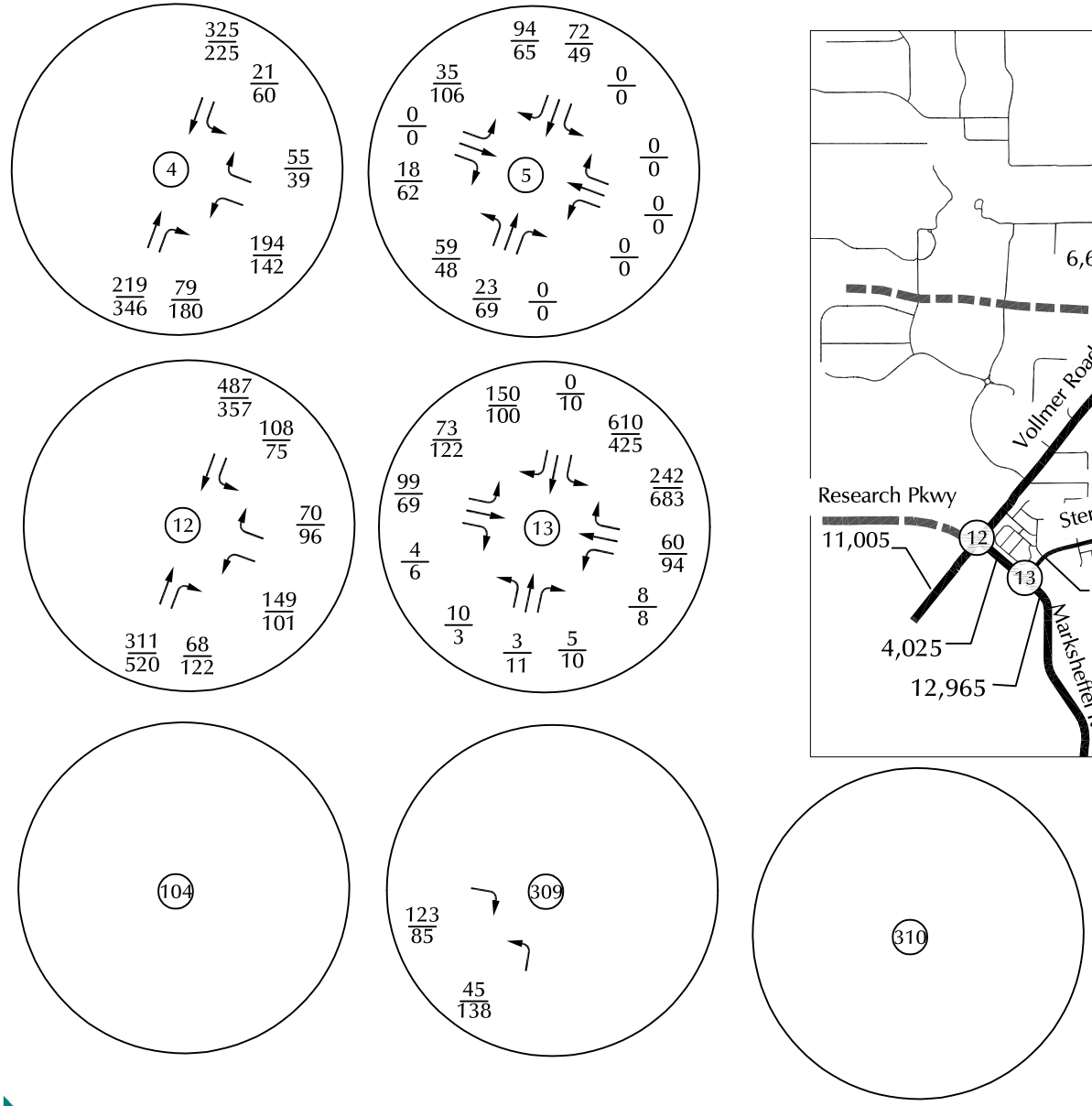
—— Existing Roadway
- - - Future Roadway

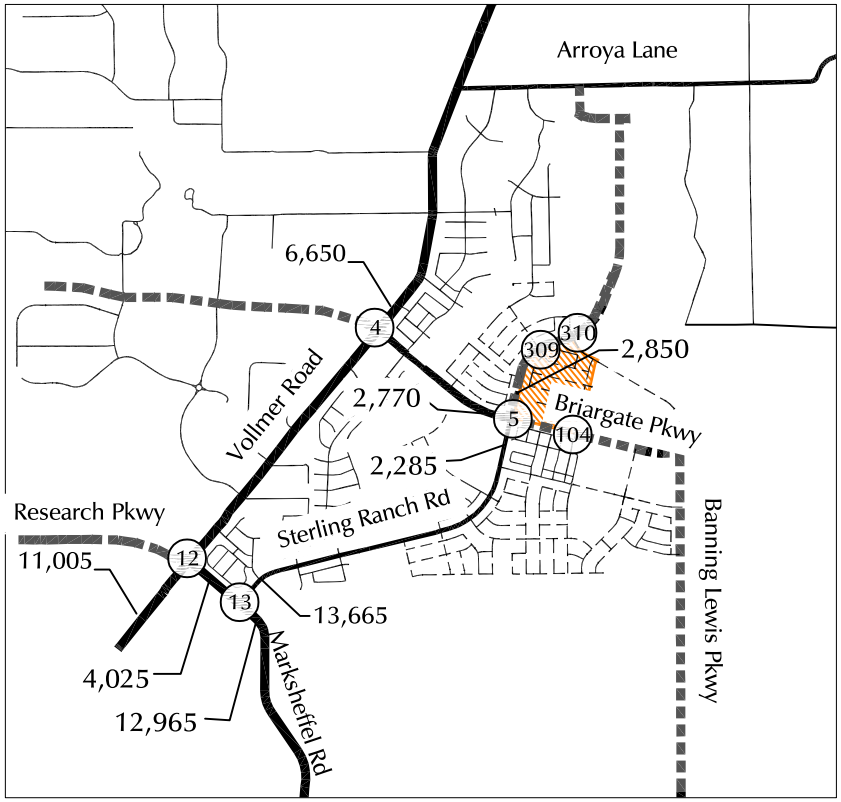
TRANSPORTATION CONSULTANTS, INC.

Figure 5b

# 2025 Existing Traffic, Lane Geometry, Traffic Control, and LOS

Sterling Ranch East Filing No. 6 (LSC #S244252)




N

1"=4,000'
scale

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Peak-Hour Traffic (Veh/Hr)}}{\text{PM Peak-Hour Traffic (Veh/Hr)}}$

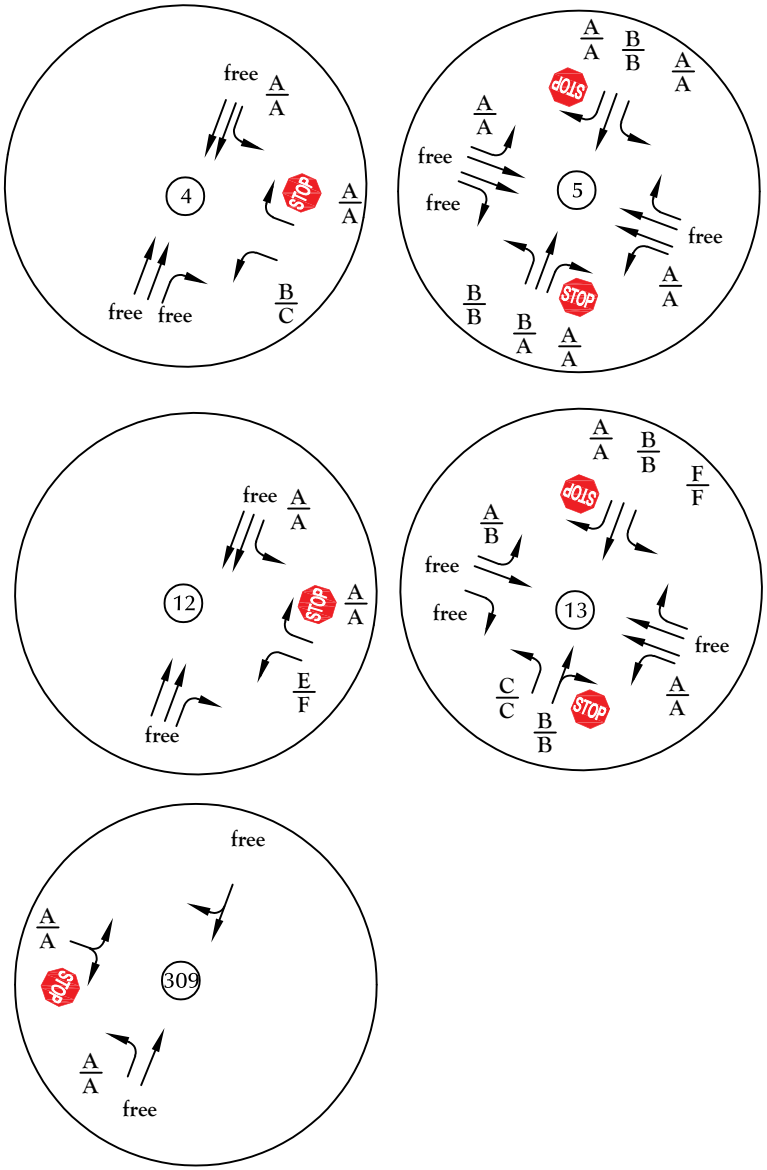
—— Existing Roadway
- - - Future Roadway

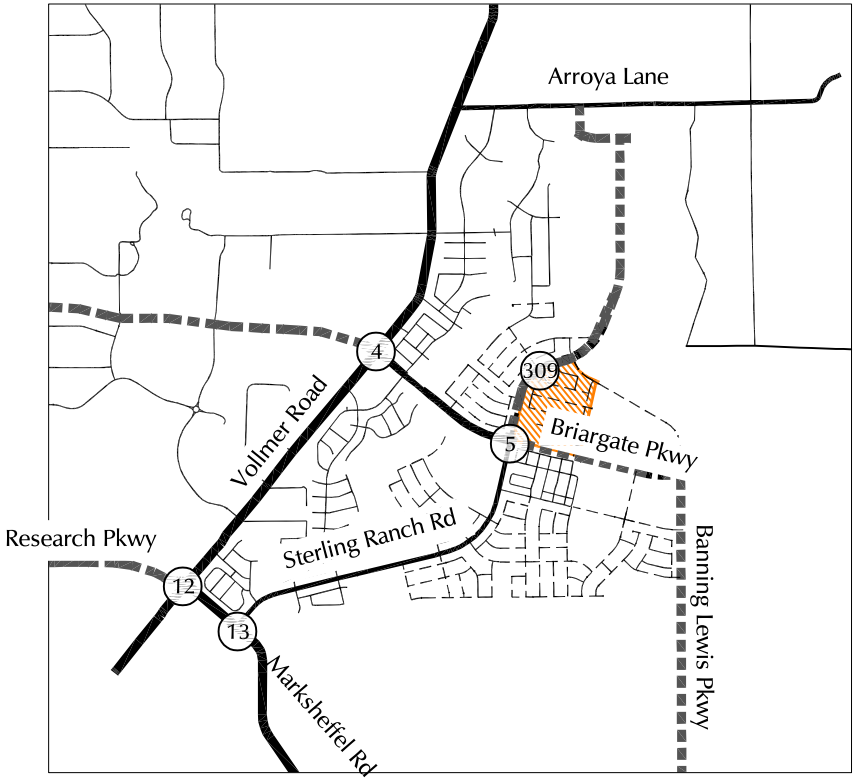
TRANSPORTATION CONSULTANTS, INC.

Figure 6a

# Short-Term Background Traffic

Sterling Ranch East Filing No. 6 (LSC #S244252)




N

1"=4,000'
scale

LEGEND:

$\frac{A}{B}$ = $\frac{\text{AM Individual Movement Peak-Hour LOS}}{\text{PM Individual Movement Peak-Hour LOS}}$

$\frac{C}{D}$ = $\frac{\text{AM Entire Intersection Peak-Hour Level of Service}}{\text{PM Entire Intersection Peak-Hour Level of Service}}$

— Existing Roadway
- - - Future Roadway

= Traffic Signal

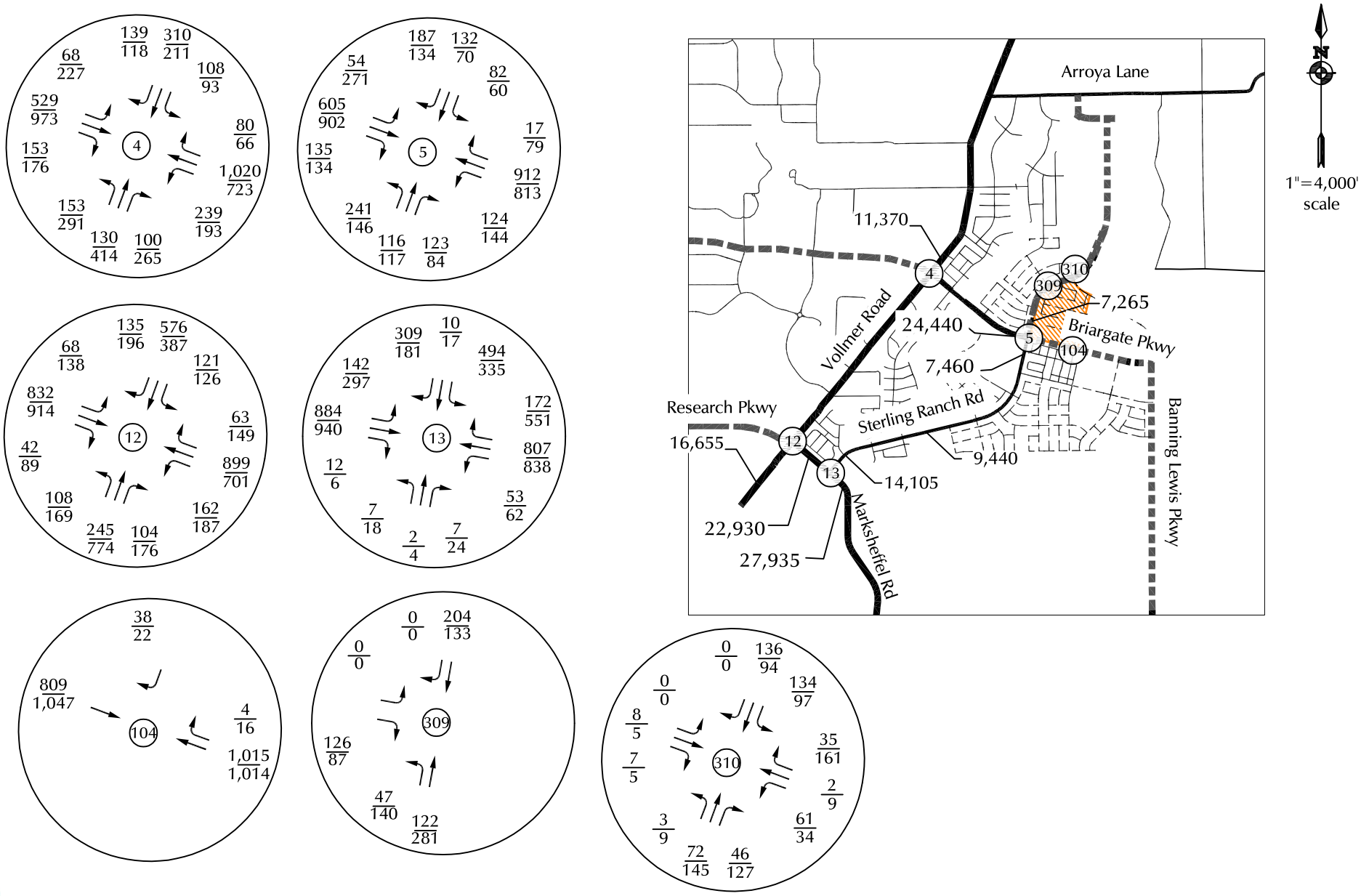
= Stop Sign

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 6b

# Short-Term Background Lane Geometry, Traffic Control, and LOS

Sterling Ranch East Filing No. 6 (LSC #S244252)




LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Peak-Hour Traffic (Veh/Hr)}}{\text{PM Peak-Hour Traffic (Veh/Hr)}}$

Existing Roadway

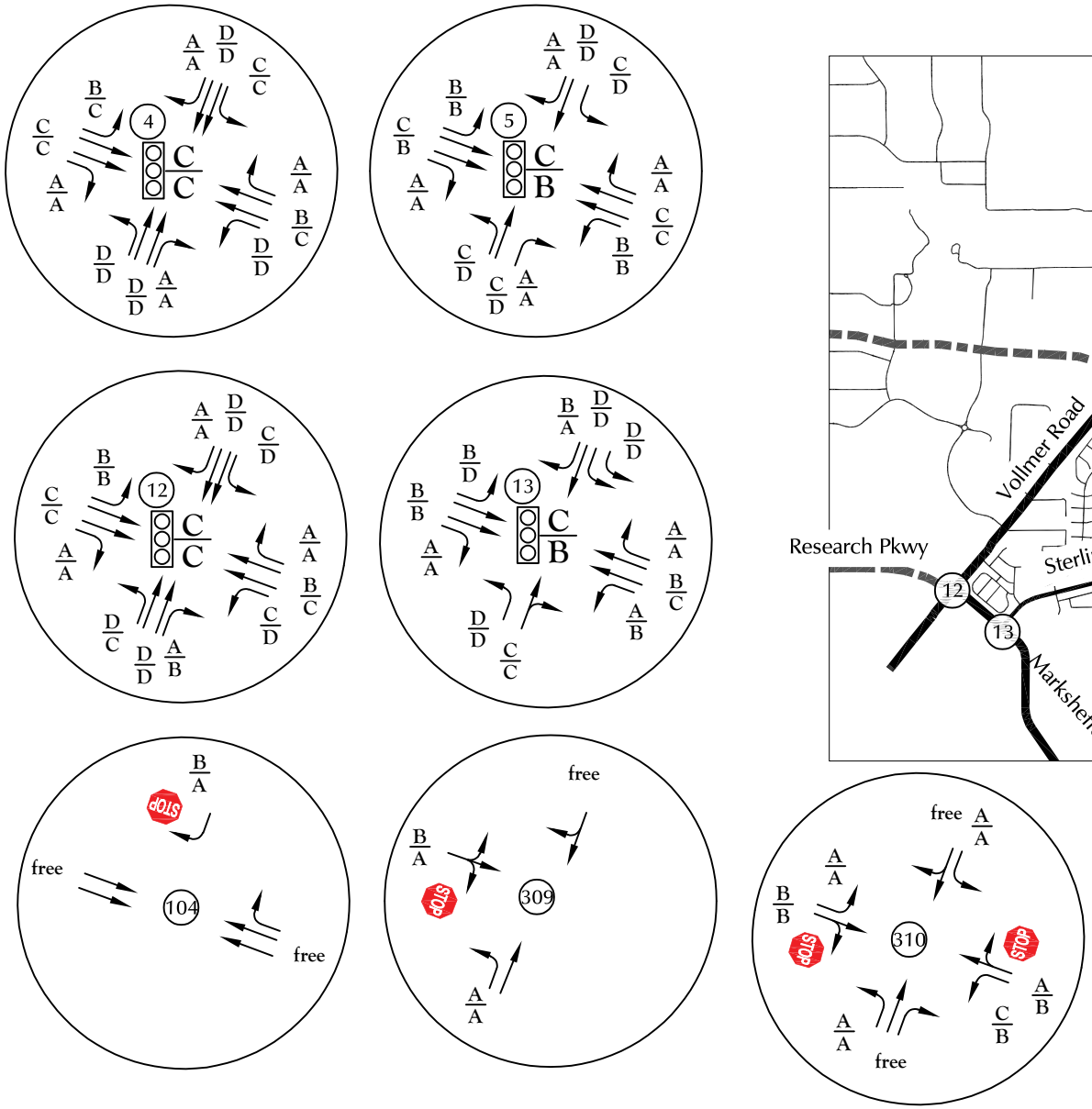
Future Roadway

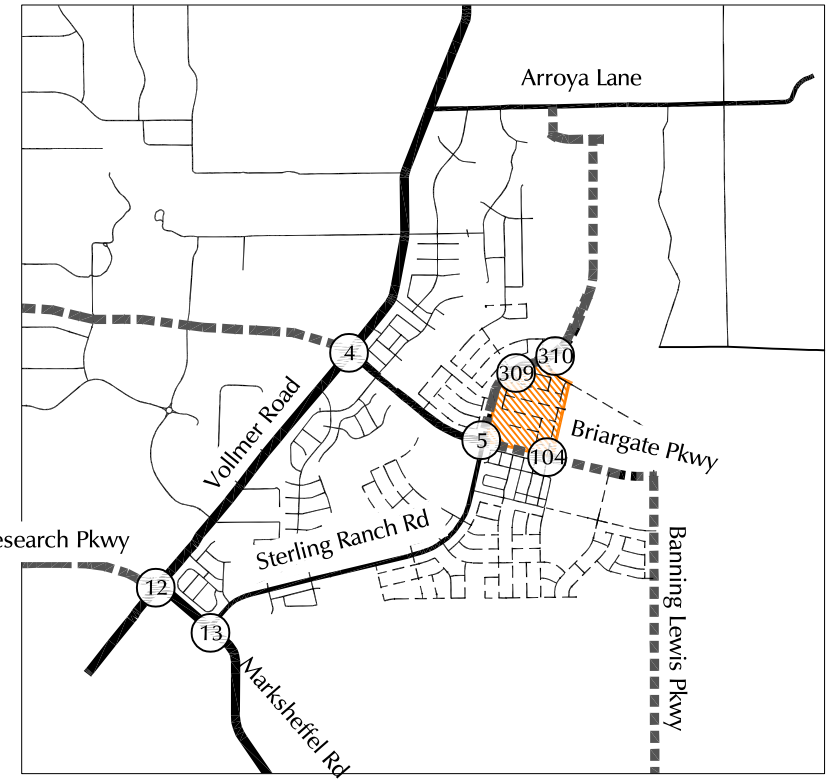
LSC TRANSPORTATION CONSULTANTS, INC.

Figure 7a

# 2045 Background Traffic

Sterling Ranch East Filing No. 6 (LSC #S244252)




N

1"=4,000' scale

LEGEND:

$\frac{A}{B}$ = AM Individual Movement Peak-Hour LOS / PM Individual Movement Peak-Hour LOS

$\frac{C}{D}$ = AM Entire Intersection Peak-Hour Level of Service / PM Entire Intersection Peak-Hour Level of Service

Existing Roadway

Future Roadway

= Traffic Signal

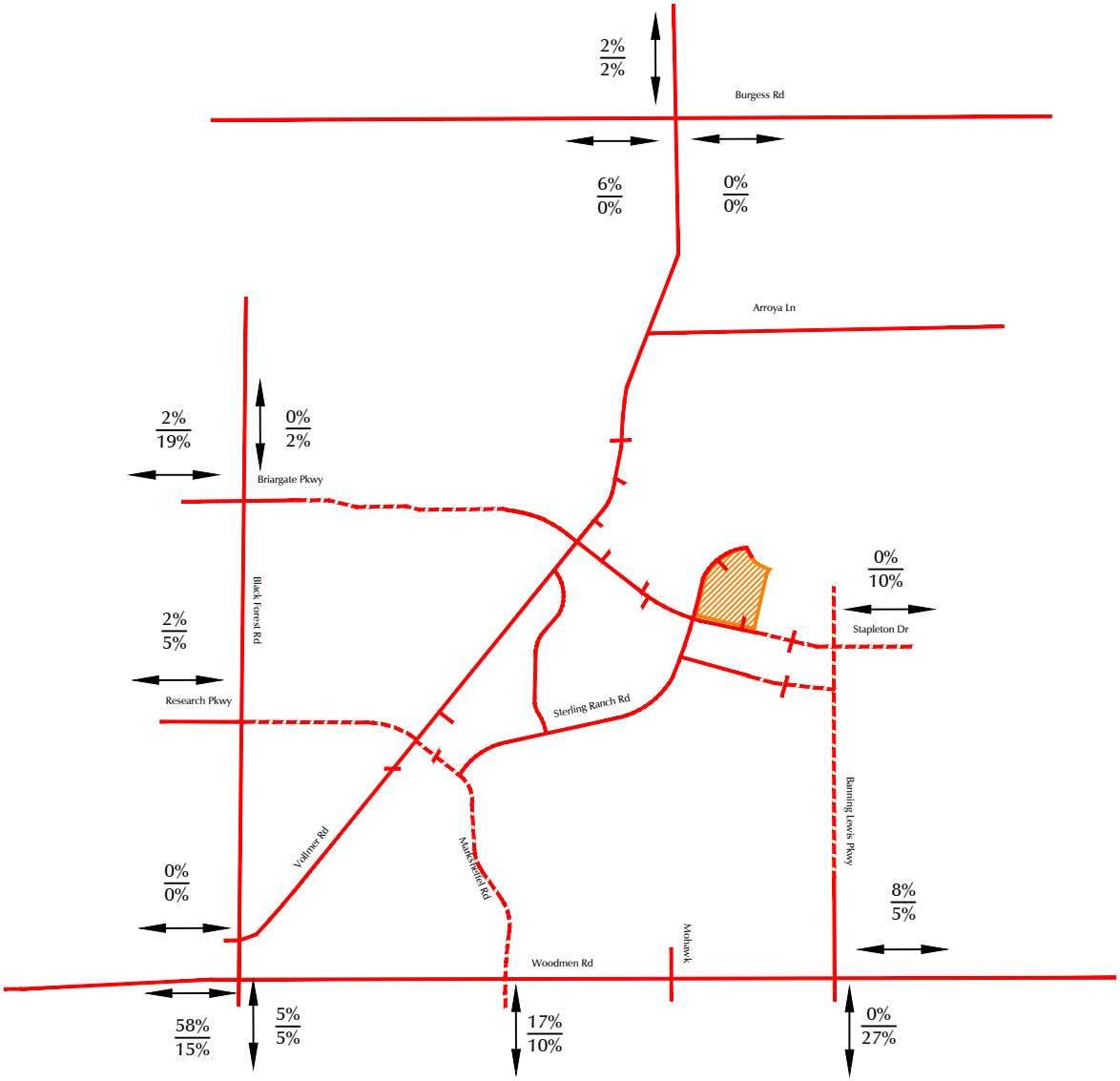
= Stop Sign

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 7b

# 2045 Background Lane Geometry, Traffic Control, and LOS

Sterling Ranch East Filing No. 4 (LSC #S244300)




Not to scale

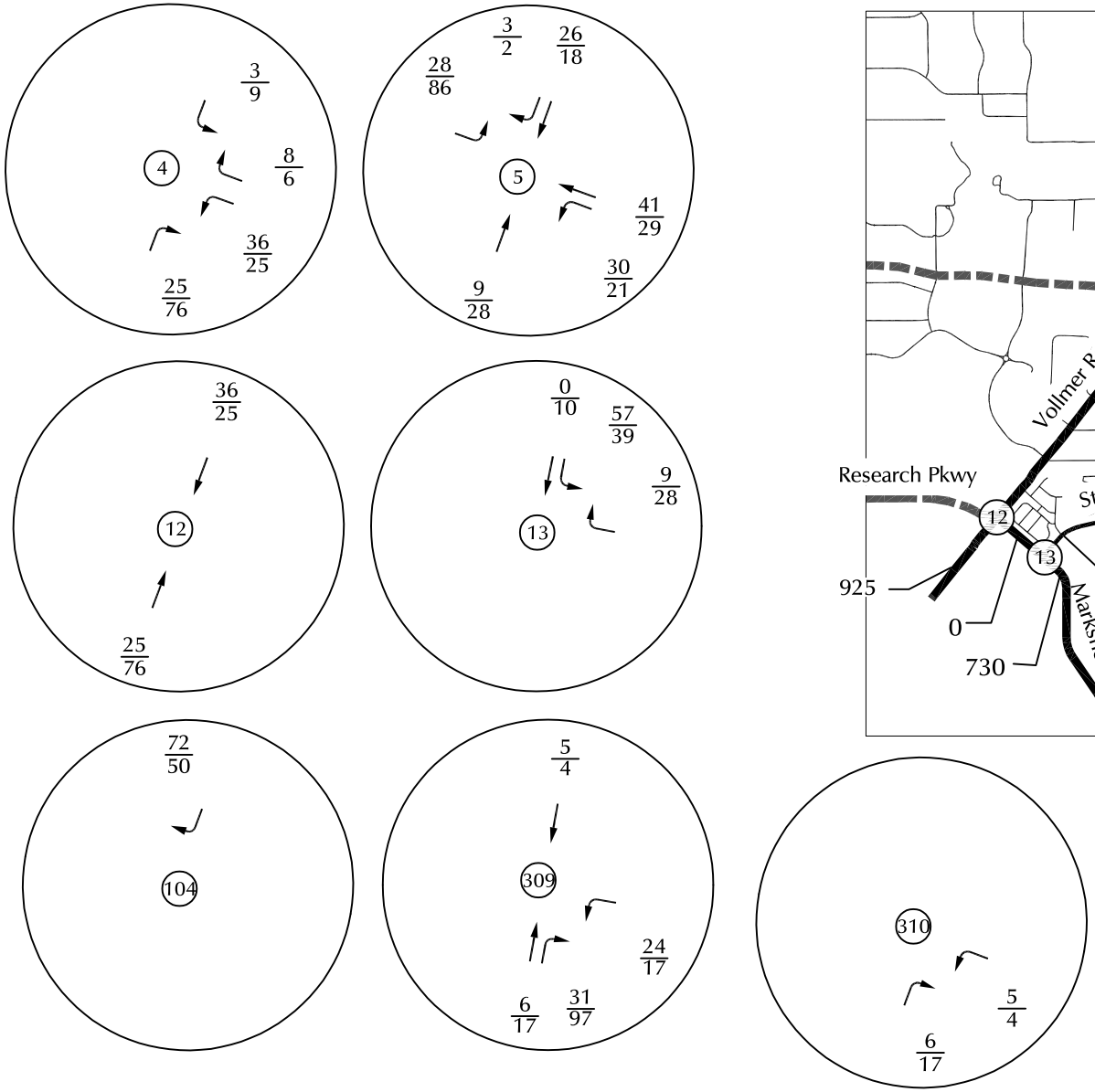
LEGEND: $\frac{XX\%}{XX\%} = \frac{\text{Percent of Short-Term Trips}}{\text{Percent of Buildout Long-Term Trips}}$

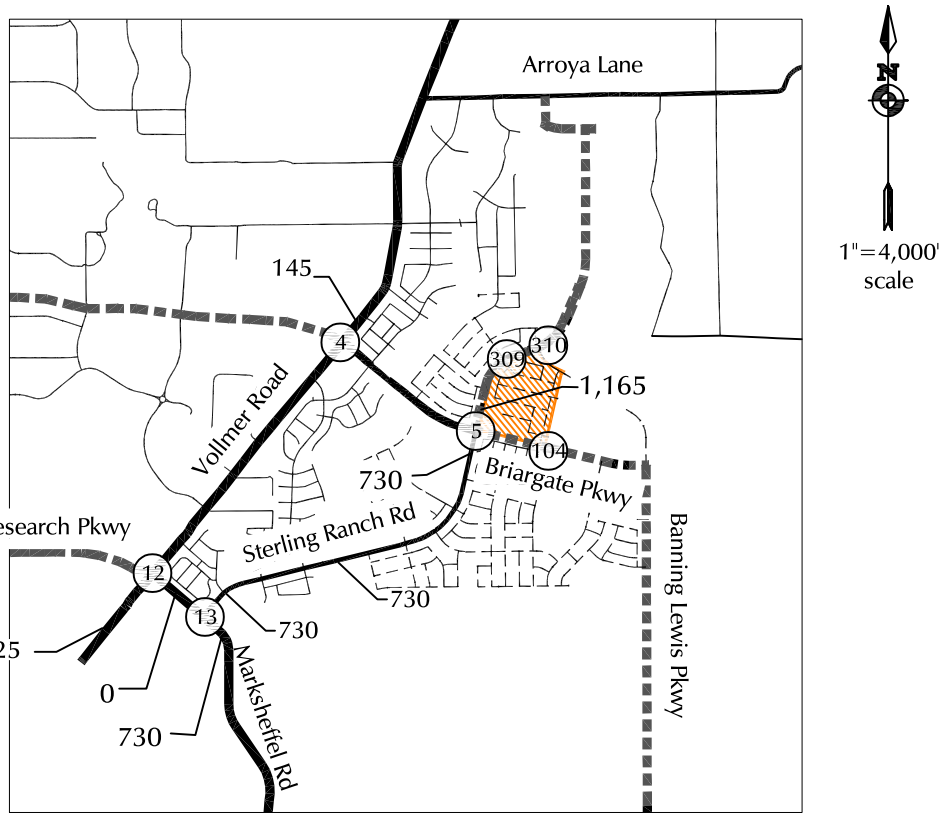
Figure 8

# Estimated Directional Distribution of Site-Generated Trips

Sterling Ranch East Filing No. 6 (LSC #S244252)

LSC TRANSPORTATION CONSULTANTS, INC.




LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Peak-Hour Traffic (Veh/Hr)}}{\text{PM Peak-Hour Traffic (Veh/Hr)}}$

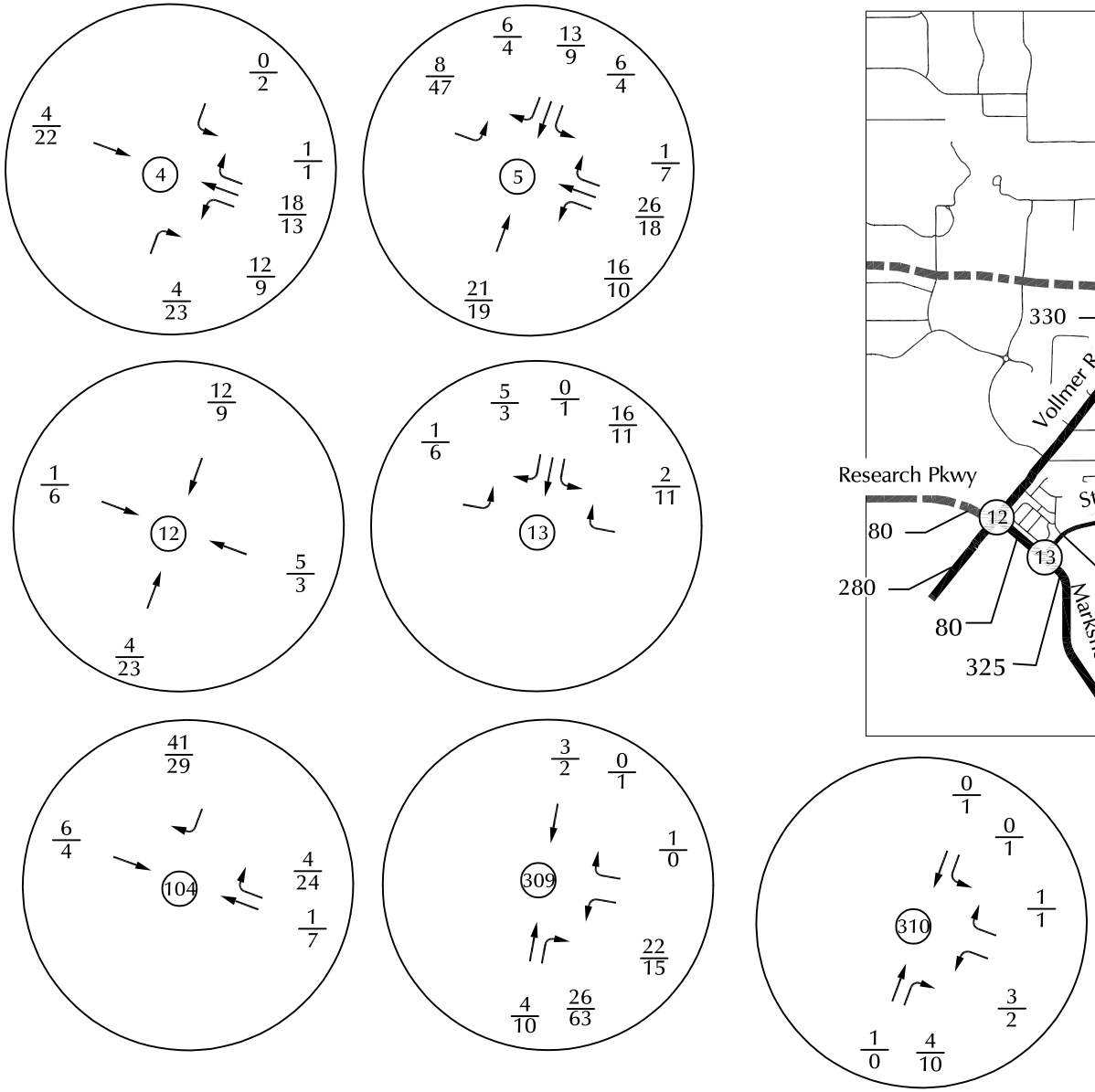
— Existing Roadway
--- Future Roadway

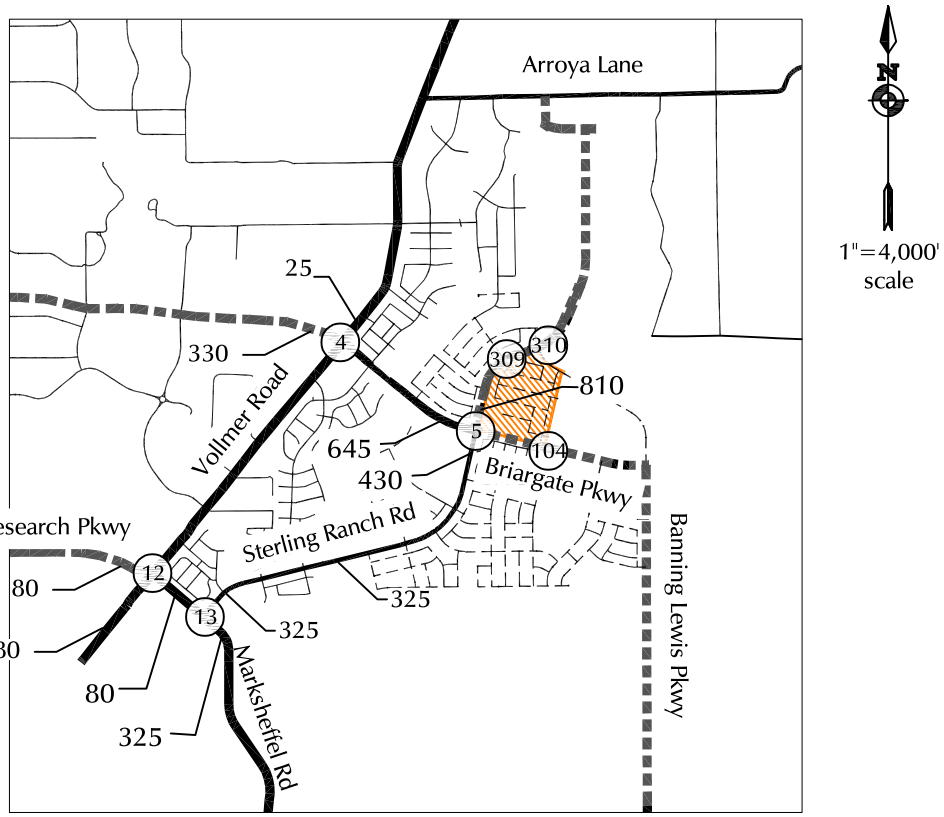
TRANSPORTATION CONSULTANTS, INC.

Figure 9

# Short-Term Site-Generated Traffic

Sterling Ranch East Filing No. 6 (LSC #S244252)




LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Peak-Hour Traffic (Veh/Hr)}}{\text{PM Peak-Hour Traffic (Veh/Hr)}}$

— Existing Roadway

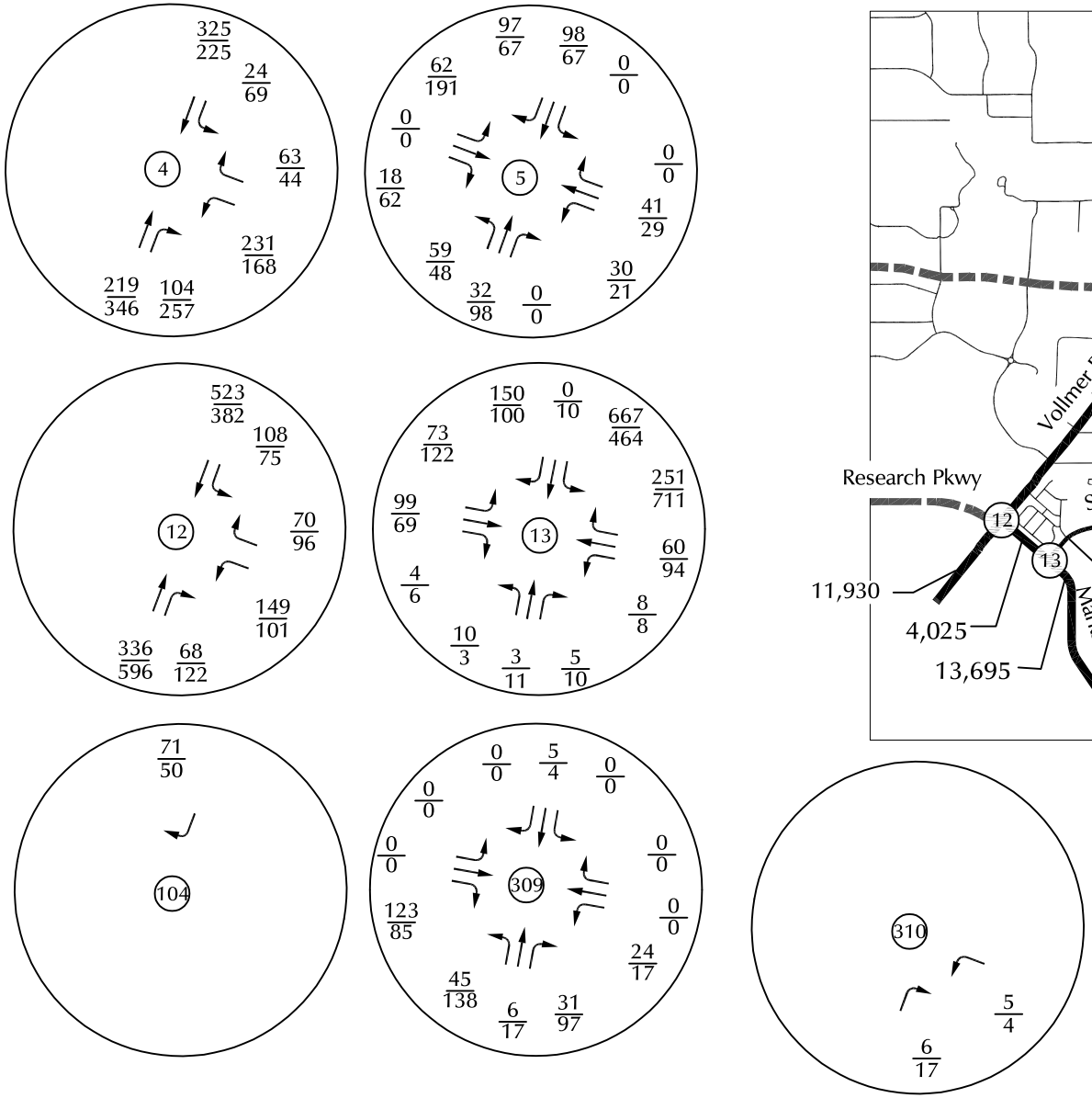
--- Future Roadway

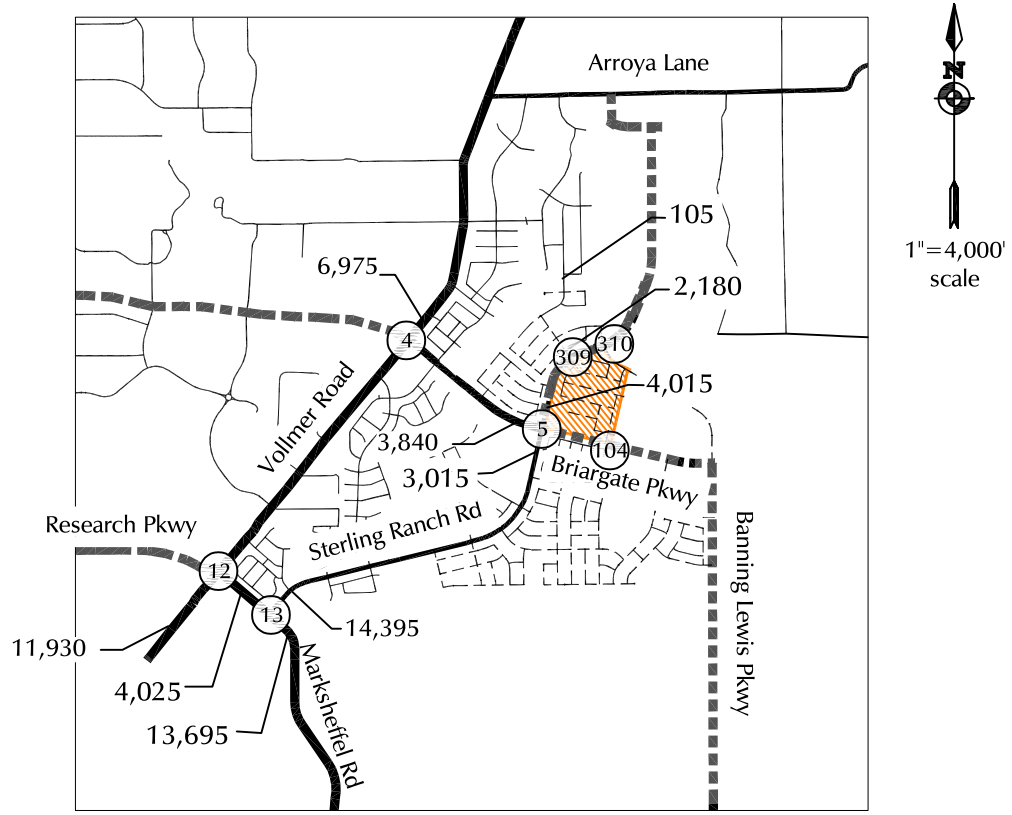
LSC TRANSPORTATION CONSULTANTS, INC.

Figure 10

# Long-Term Site-Generated Traffic

Sterling Ranch East Filing No. 6 (LSC #S244252)




LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Peak-Hour Traffic (Veh/Hr)}}{\text{PM Peak-Hour Traffic (Veh/Hr)}}$

— Existing Roadway
--- Future Roadway

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 11a

# Short-Term Total Traffic

Sterling Ranch East Filing No. 6 (LSC #S244252)

LEGEND:

$\frac{A}{B}$ = AM Individual Movement Peak-Hour LOS / PM Individual Movement Peak-Hour LOS

$\frac{C}{D}$ = AM Entire Intersection Peak-Hour Level of Service / PM Entire Intersection Peak-Hour Level of Service

= Yield Sign

= Traffic Signal

= Stop Sign

Existing Roadway

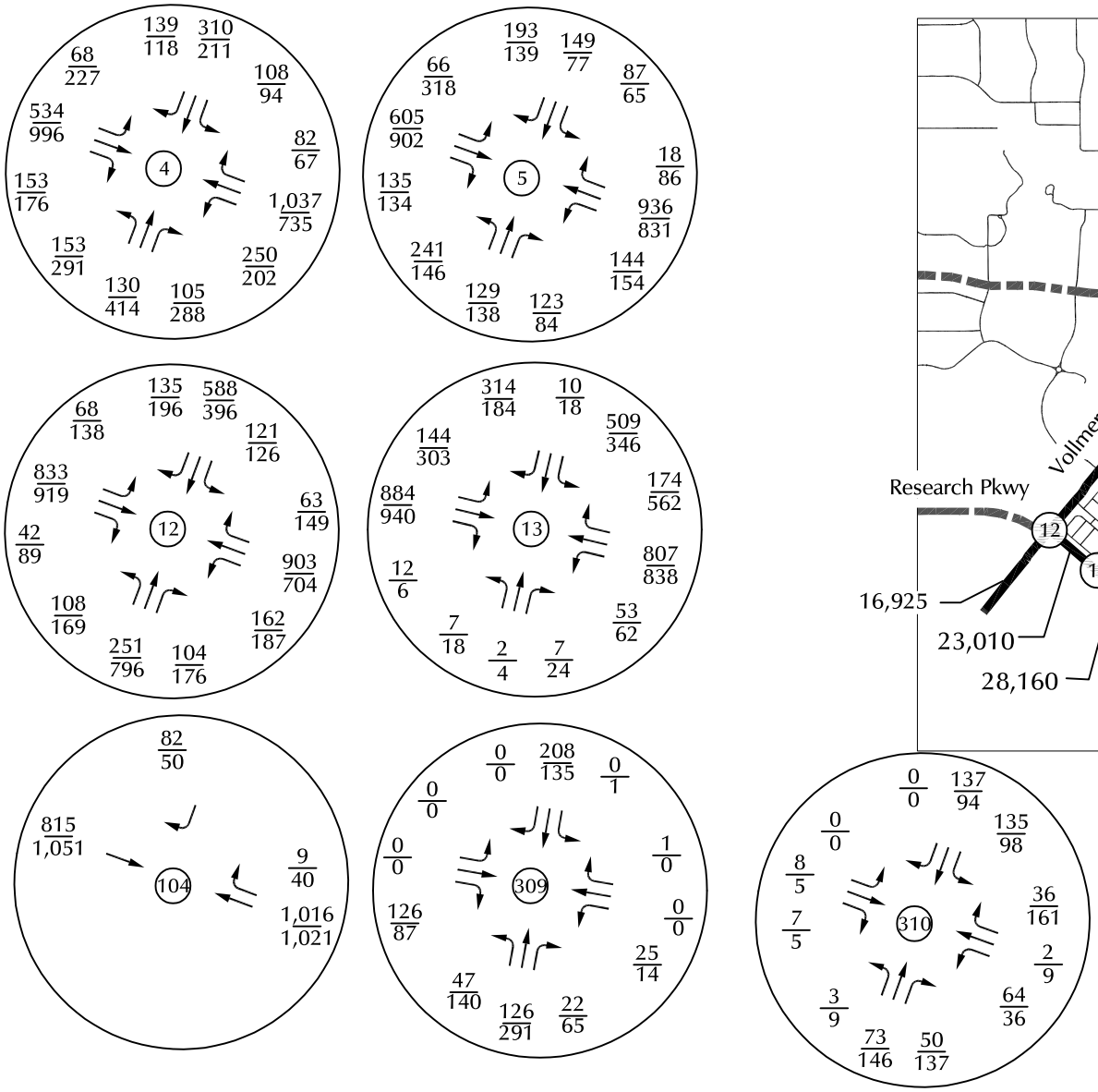
Future Roadway

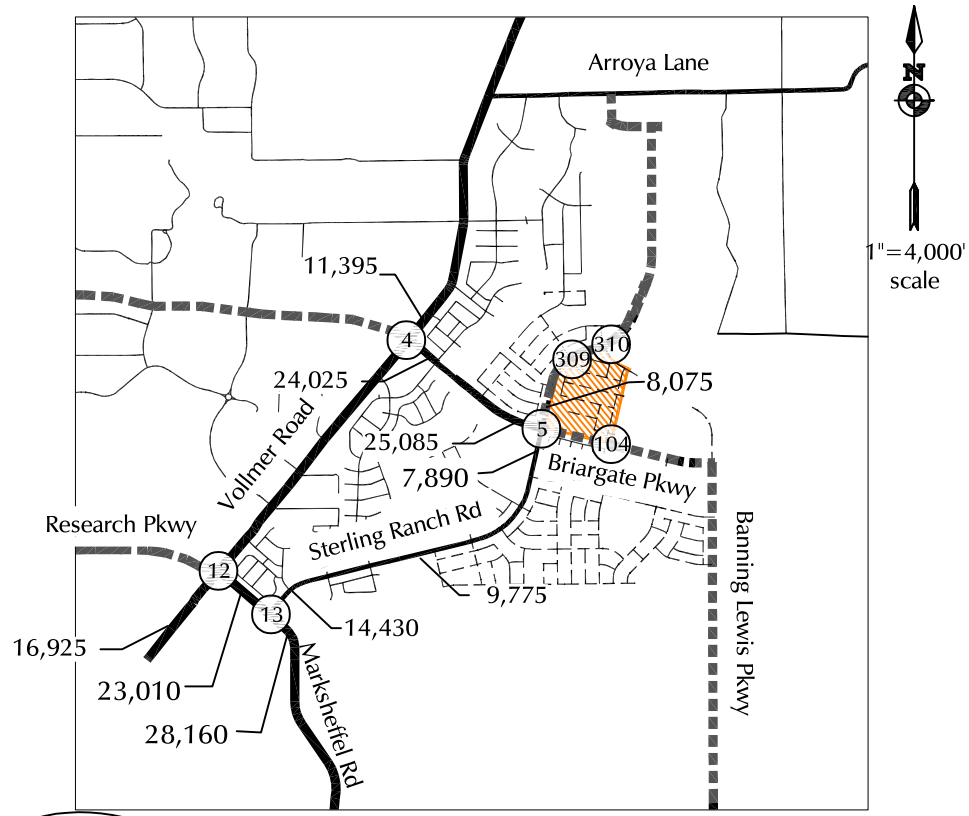
TRANSPORTATION CONSULTANTS, INC.

Figure 11b

# Short-Term Total Lane Geometry, Traffic Control, and LOS

Sterling Ranch East Filing No. 6 (LSC #S244252)




LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Peak-Hour Traffic (Veh/Hr)}}{\text{PM Peak-Hour Traffic (Veh/Hr)}}$

— Existing Roadway

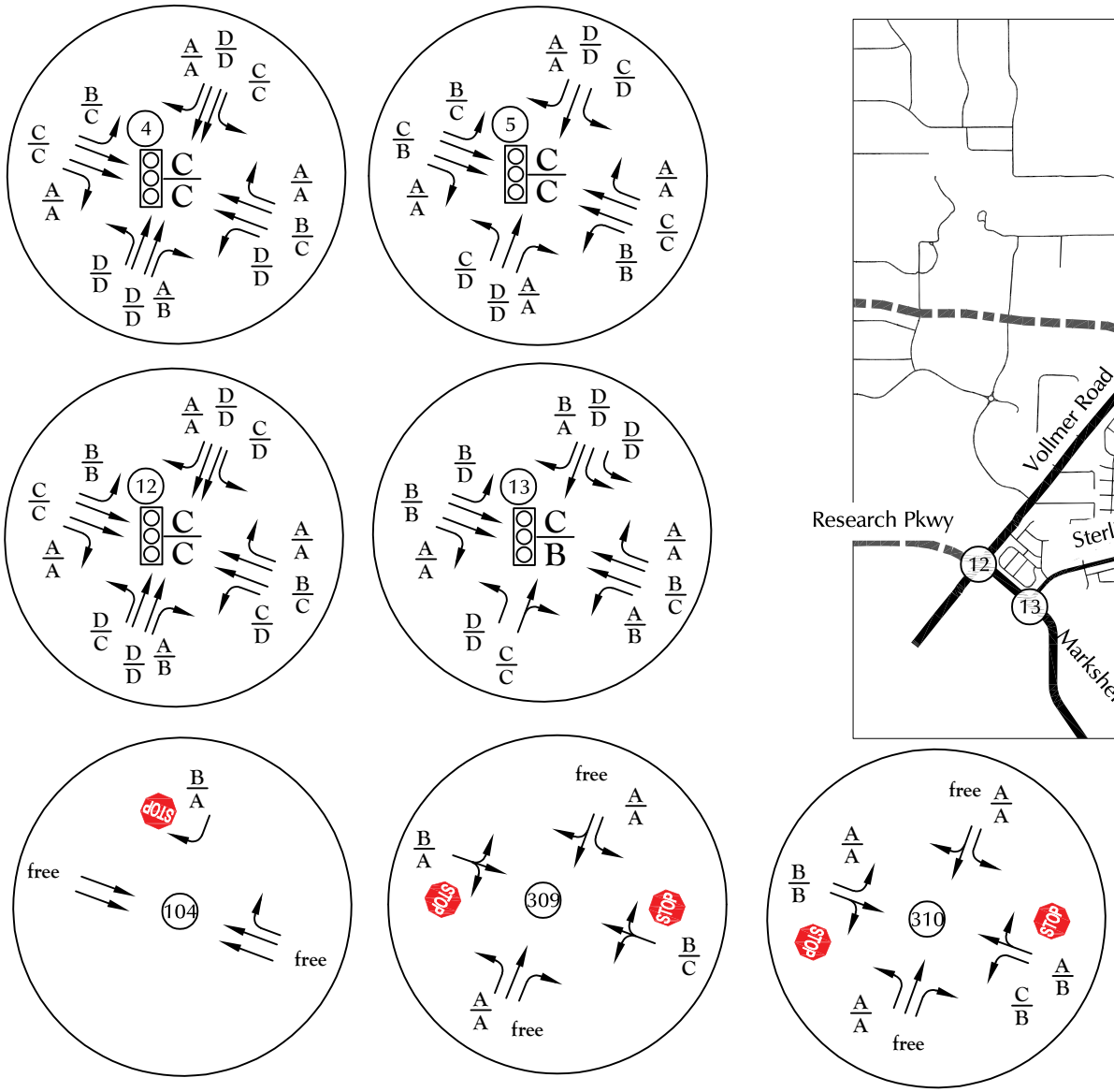
--- Future Roadway

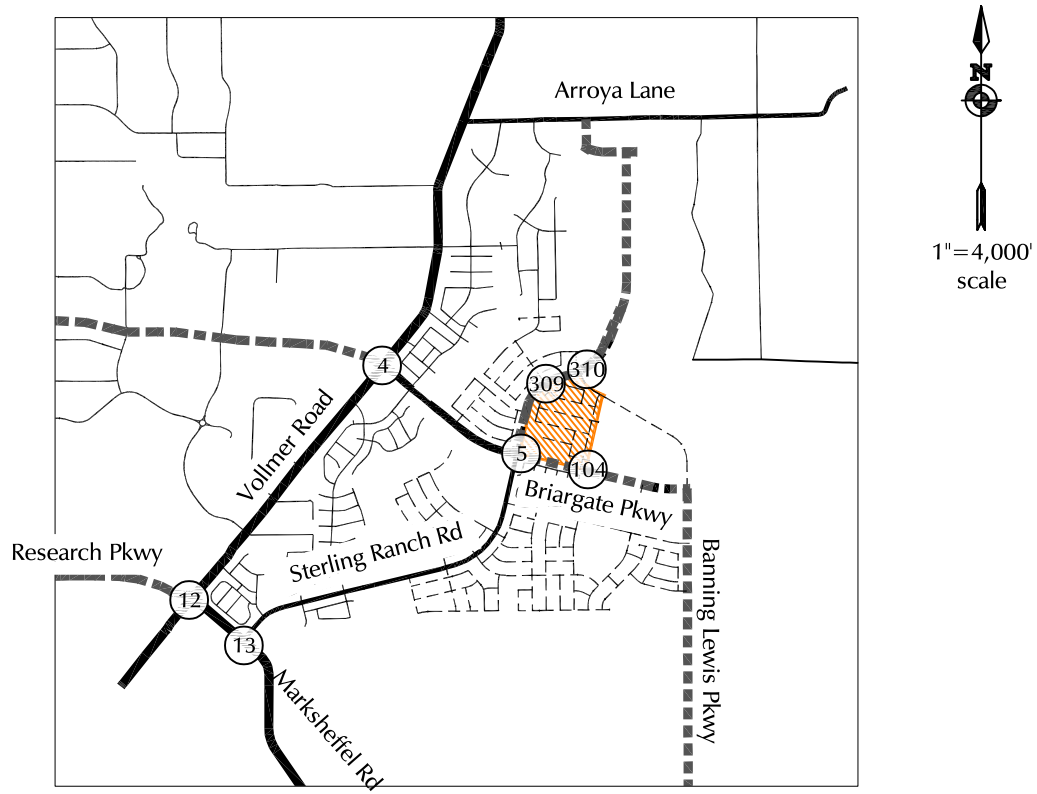
LSC TRANSPORTATION CONSULTANTS, INC.

Figure 12a

# 2045 Total Traffic

Sterling Ranch East Filing No. 6 (LSC #S244252)




LEGEND:

$\frac{A}{B}$ = AM Individual Movement Peak-Hour LOS / PM Individual Movement Peak-Hour LOS

$\frac{C}{D}$ = AM Entire Intersection Peak-Hour Level of Service / PM Entire Intersection Peak-Hour Level of Service

Existing Roadway
Future Roadway

= Traffic Signal
= Yield Sign
= Stop Sign
= Roundabout

TRANSPORTATION CONSULTANTS, INC.

Figure 12b

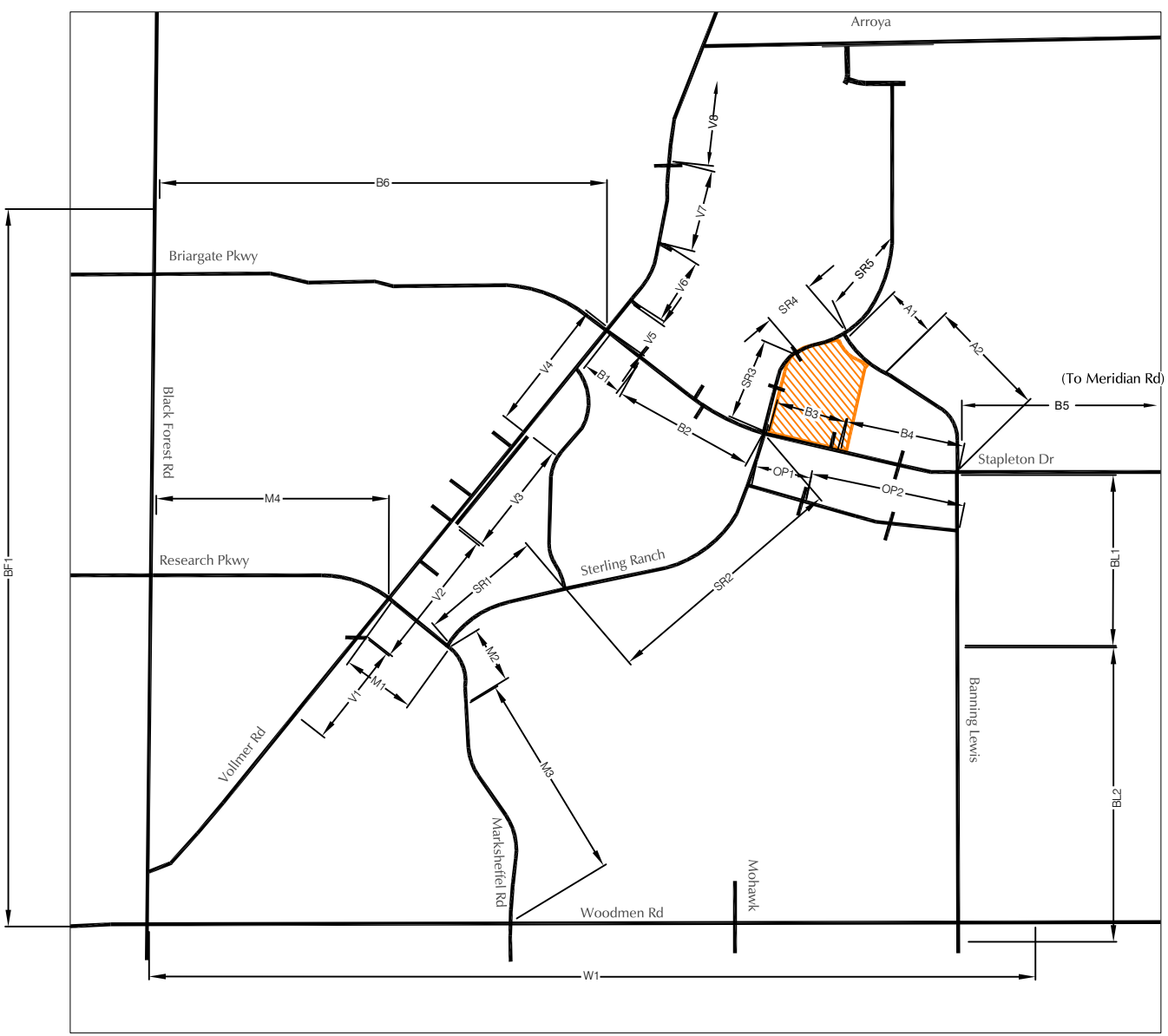
# 2045 Total Lane Geometry, Traffic Control, and LOS

Sterling Ranch East Filing No. 6 (LSC #S244252)

4-Lane Urban Principal Arterial
Urban Major Collector
Urban Minor Collector
Urban Local
Urban Local (Low Volume)

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 13
# Roadway Classification
Sterling Ranch East Filing No. 6 (LSC #S244252)




???
scale

V1, B4, SR3, etc - Segment Identifier*

*See Table 6 for recommended roadway segment improvements for each segment.

TRANSPORTATION CONSULTANTS, INC.

Figure 14

# Roadway Improvement Segments*

Sterling Ranch East Filing No. 6 (LSC #S244252)

# Traffic Counts

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CONSULTANTS, INC.

# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Sterling Rannch Rd - Marksheffel Rd AM
Site Code : S224580
Start Date : 3/6/2025
Page No : 1

**Groups Printed- Unshifted**

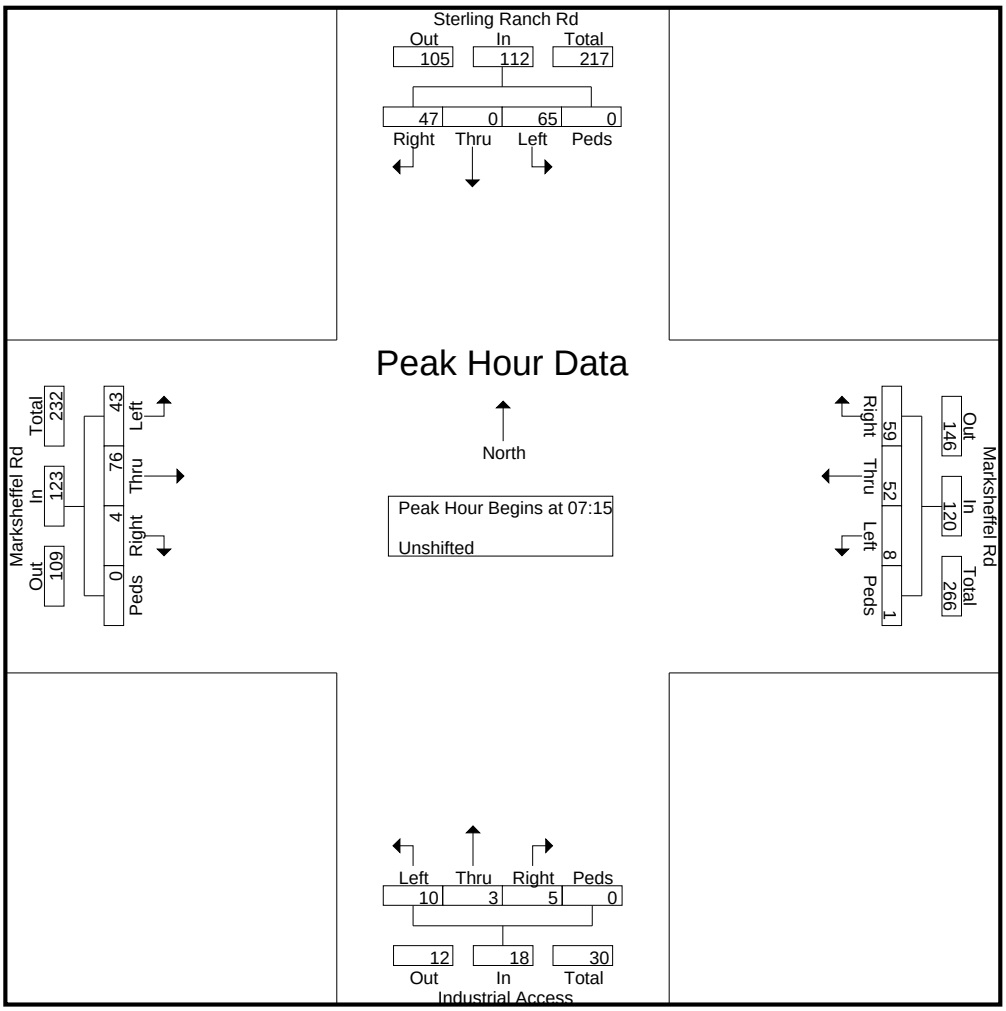
| | Sterling Ranch Rd Southbound | | | | | Marksheffel Rd Westbound | | | | | Industrial Access Northbound | | | | | Marksheffel Rd Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| 06:30 | 3 | 0 | 13 | 0 | 16 | 13 | 6 | 2 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 2 | 12 | 5 | 0 | 19 | 56 |
| 06:45 | 5 | 0 | 8 | 0 | 13 | 16 | 14 | 3 | 0 | 33 | 0 | 6 | 0 | 0 | 6 | 2 | 17 | 5 | 0 | 24 | 76 |
| Total | 8 | 0 | 21 | 0 | 29 | 29 | 20 | 5 | 0 | 54 | 0 | 6 | 0 | 0 | 6 | 4 | 29 | 10 | 0 | 43 | 132 |
| 07:00 | 8 | 0 | 17 | 0 | 25 | 17 | 11 | 0 | 0 | 28 | 2 | 4 | 0 | 0 | 6 | 3 | 12 | 5 | 0 | 20 | 79 |
| 07:15 | 10 | 0 | 17 | 0 | 27 | 8 | 6 | 1 | 0 | 15 | 3 | 0 | 3 | 0 | 6 | 1 | 24 | 4 | 0 | 29 | 77 |
| 07:30 | 16 | 0 | 15 | 0 | 31 | 16 | 19 | 4 | 0 | 39 | 1 | 1 | 2 | 0 | 4 | 1 | 20 | 9 | 0 | 30 | 104 |
| 07:45 | 9 | 0 | 18 | 0 | 27 | 18 | 15 | 1 | 1 | 35 | 0 | 2 | 3 | 0 | 5 | 1 | 13 | 12 | 0 | 26 | 93 |
| Total | 43 | 0 | 67 | 0 | 110 | 59 | 51 | 6 | 1 | 117 | 6 | 7 | 8 | 0 | 21 | 6 | 69 | 30 | 0 | 105 | 353 |
| 08:00 | 12 | 0 | 15 | 0 | 27 | 17 | 12 | 2 | 0 | 31 | 1 | 0 | 2 | 0 | 3 | 1 | 19 | 18 | 0 | 38 | 99 |
| 08:15 | 3 | 1 | 12 | 0 | 16 | 15 | 13 | 3 | 0 | 31 | 1 | 1 | 1 | 0 | 3 | 3 | 11 | 3 | 0 | 17 | 67 |
| Grand Total | 66 | 1 | 115 | 0 | 182 | 120 | 96 | 16 | 1 | 233 | 8 | 14 | 11 | 0 | 33 | 14 | 128 | 61 | 0 | 203 | 651 |
| Apprch % | 36.3 | 0.5 | 63.2 | 0 | | 51.5 | 41.2 | 6.9 | 0.4 | | 24.2 | 42.4 | 33.3 | 0 | | 6.9 | 63.1 | 30 | 0 | | |
| Total % | 10.1 | 0.2 | 17.7 | 0 | 28 | 18.4 | 14.7 | 2.5 | 0.2 | 35.8 | 1.2 | 2.2 | 1.7 | 0 | 5.1 | 2.2 | 19.7 | 9.4 | 0 | 31.2 | |

# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Sterling Rannch Rd - Marksheffel Rd AM
Site Code : S224580
Start Date : 3/6/2025
Page No : 2

| | Sterling Ranch Rd Southbound | | | | | Marksheffel Rd Westbound | | | | | Industrial Access Northbound | | | | | Marksheffel Rd Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 06:30 to 08:15 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:15 | | | | | | | | | | | | | | | | | | | | | |
| 07:15 | 10 | 0 | 17 | 0 | 27 | 8 | 6 | 1 | 0 | 15 | **3** | 0 | **3** | 0 | **6** | **1** | **24** | 4 | 0 | 29 | 77 |
| 07:30 | **16** | 0 | 15 | 0 | **31** | 16 | **19** | **4** | 0 | **39** | 1 | 1 | 2 | 0 | 4 | 1 | 20 | 9 | 0 | 30 | **104** |
| 07:45 | 9 | 0 | **18** | 0 | 27 | **18** | 15 | 1 | **1** | 35 | 0 | **2** | 3 | 0 | 5 | 1 | 13 | 12 | 0 | 26 | 93 |
| 08:00 | 12 | 0 | 15 | 0 | 27 | 17 | 12 | 2 | 0 | 31 | 1 | 0 | 2 | 0 | 3 | 1 | 19 | **18** | 0 | **38** | 99 |
| Total Volume | 47 | 0 | 65 | 0 | 112 | 59 | 52 | 8 | 1 | 120 | 5 | 3 | 10 | 0 | 18 | 4 | 76 | 43 | 0 | 123 | 373 |
| % App. Total | 42 | 0 | 58 | 0 | | 49.2 | 43.3 | 6.7 | 0.8 | | 27.8 | 16.7 | 55.6 | 0 | | 3.3 | 61.8 | 35 | 0 | | |
| PHF | .734 | .000 | .903 | .000 | .903 | .819 | .684 | .500 | .250 | .769 | .417 | .375 | .833 | .000 | .750 | 1.00 | .792 | .597 | .000 | .809 | .897 |

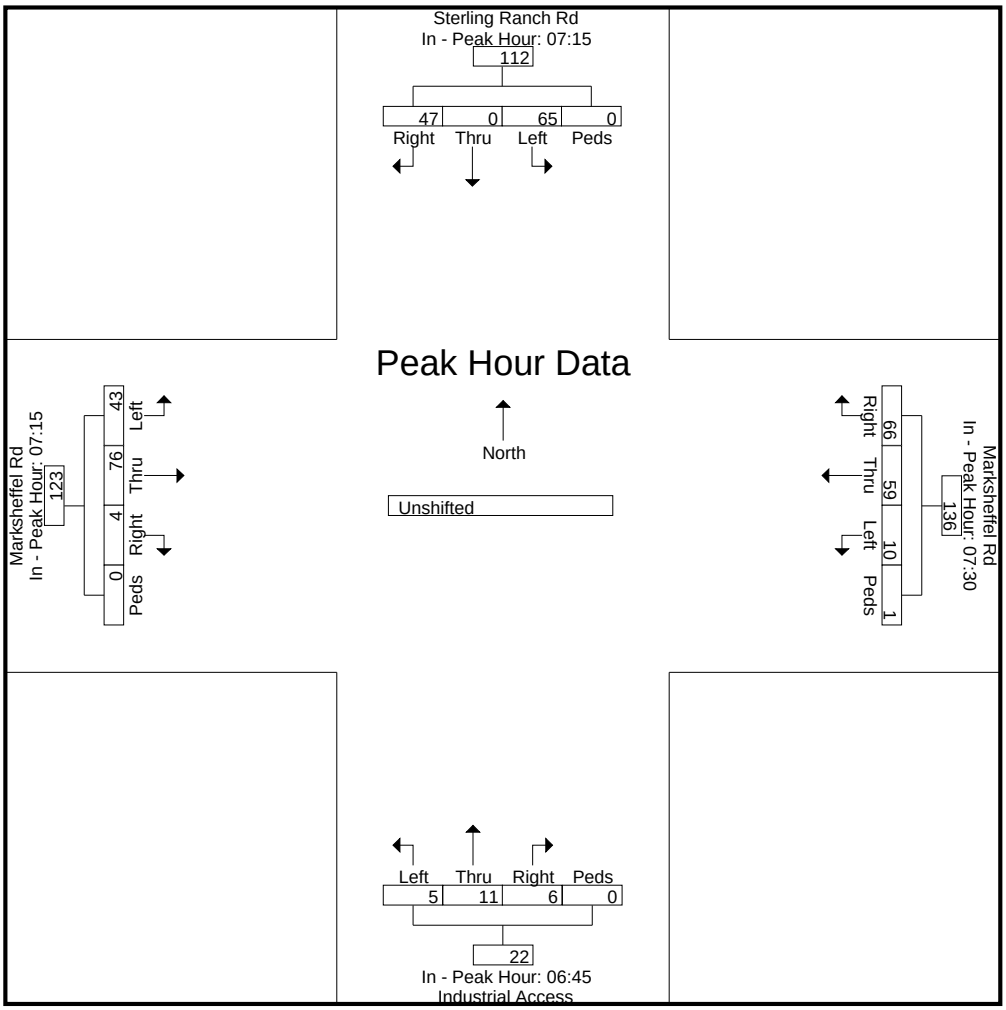


# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Sterling Rannch Rd - Marksheffel Rd AM
Site Code : S224580
Start Date : 3/6/2025
Page No : 3

| | Sterling Ranch Rd Southbound | | | | | Marksheffel Rd Westbound | | | | | Industrial Access Northbound | | | | | Marksheffel Rd Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 06:30 to 08:15 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Each Approach Begins at: | | | | | | | | | | | | | | | | | | | | | |
| | 07:15 | | | | | 07:30 | | | | | 06:45 | | | | | 07:15 | | | | | |
| +0 mins. | 10 | 0 | 17 | 0 | 27 | 16 | **19** | **4** | 0 | **39** | 0 | **6** | 0 | 0 | **6** | **1** | **24** | 4 | 0 | 29 | |
| +15 mins. | **16** | 0 | 15 | 0 | **31** | **18** | 15 | 1 | **1** | 35 | 2 | 4 | 0 | 0 | 6 | 1 | 20 | 9 | 0 | 30 | |
| +30 mins. | 9 | 0 | **18** | 0 | 27 | 17 | 12 | 2 | 0 | 31 | **3** | 0 | **3** | 0 | 6 | 1 | 13 | 12 | 0 | 26 | |
| +45 mins. | 12 | 0 | 15 | 0 | 27 | 15 | 13 | 3 | 0 | 31 | 1 | 1 | 2 | 0 | 4 | 1 | 19 | **18** | 0 | **38** | |
| Total Volume | 47 | 0 | 65 | 0 | 112 | 66 | 59 | 10 | 1 | 136 | 6 | 11 | 5 | 0 | 22 | 4 | 76 | 43 | 0 | 123 | |
| % App. Total | 42 | 0 | 58 | 0 | | 48.5 | 43.4 | 7.4 | 0.7 | | 27.3 | 50 | 22.7 | 0 | | 3.3 | 61.8 | 35 | 0 | | |
| PHF | .734 | .000 | .903 | .000 | .903 | .917 | .776 | .625 | .250 | .872 | .500 | .458 | .417 | .000 | .917 | 1.000 | .792 | .597 | .000 | .809 | |



# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Sterling Rannch Rd - Marksheffel Rd PM
Site Code : S224580
Start Date : 3/6/2025
Page No : 1

**Groups Printed- Unshifted**

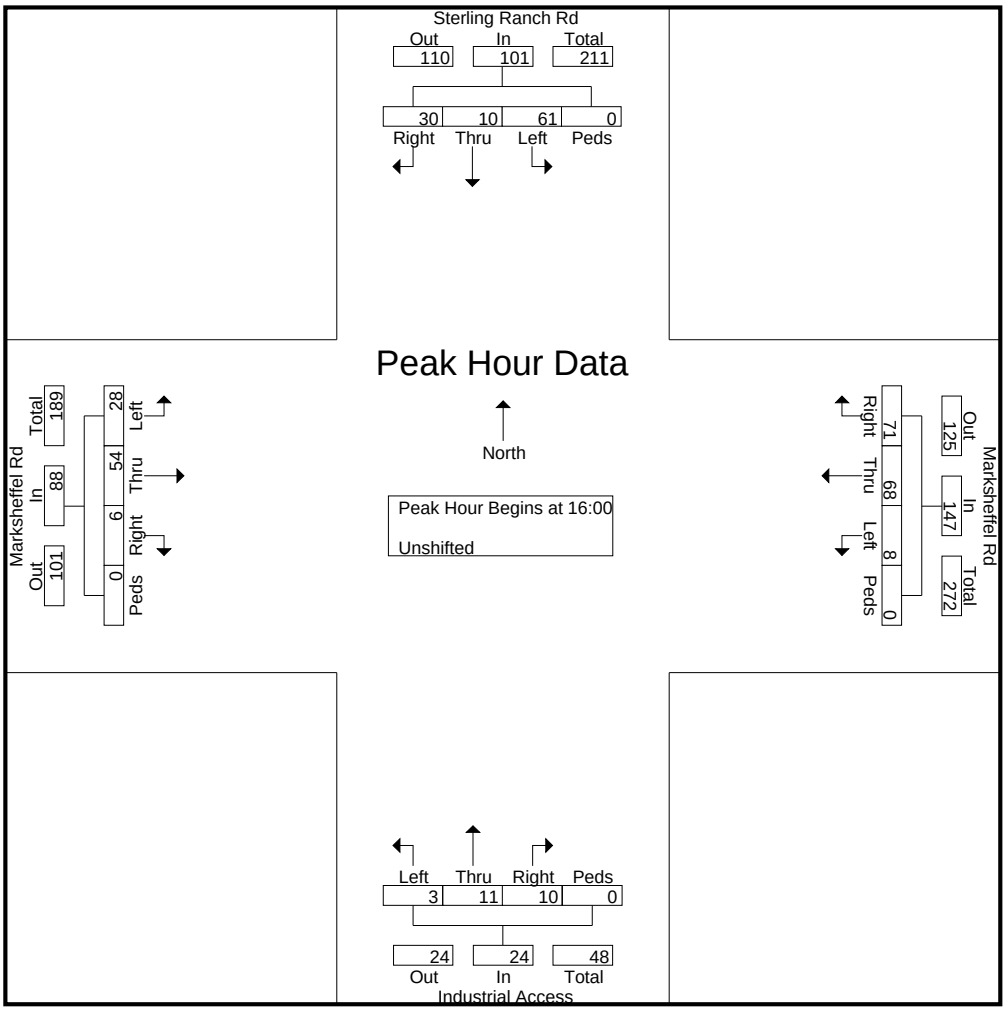
| | Sterling Ranch Rd Southbound | | | | | Marksheffel Rd Westbound | | | | | Industrial Access Northbound | | | | | Marksheffel Rd Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| 16:00 | 5 | 6 | 20 | 0 | 31 | 14 | 13 | 5 | 0 | 32 | 5 | 7 | 0 | 0 | 12 | 0 | 12 | 10 | 0 | 22 | 97 |
| 16:15 | 9 | 0 | 16 | 0 | 25 | 18 | 23 | 2 | 0 | 43 | 2 | 2 | 0 | 0 | 4 | 2 | 17 | 10 | 0 | 29 | 101 |
| 16:30 | 10 | 1 | 20 | 0 | 31 | 14 | 17 | 1 | 0 | 32 | 1 | 1 | 1 | 0 | 3 | 0 | 18 | 6 | 0 | 24 | 90 |
| 16:45 | 6 | 3 | 5 | 0 | 14 | 25 | 15 | 0 | 0 | 40 | 2 | 1 | 2 | 0 | 5 | 4 | 7 | 2 | 0 | 13 | 72 |
| Total | 30 | 10 | 61 | 0 | 101 | 71 | 68 | 8 | 0 | 147 | 10 | 11 | 3 | 0 | 24 | 6 | 54 | 28 | 0 | 88 | 360 |
| 17:00 | 3 | 2 | 17 | 0 | 22 | 20 | 19 | 1 | 0 | 40 | 1 | 2 | 0 | 0 | 3 | 0 | 16 | 7 | 0 | 23 | 88 |
| 17:15 | 4 | 12 | 20 | 0 | 36 | 13 | 14 | 1 | 0 | 28 | 1 | 0 | 2 | 0 | 3 | 1 | 17 | 8 | 0 | 26 | 93 |
| 17:30 | 8 | 0 | 25 | 0 | 33 | 11 | 20 | 3 | 0 | 34 | 13 | 0 | 3 | 0 | 16 | 0 | 13 | 7 | 0 | 20 | 103 |
| 17:45 | 11 | 0 | 14 | 0 | 25 | 14 | 10 | 0 | 0 | 24 | 4 | 0 | 1 | 0 | 5 | 0 | 9 | 10 | 0 | 19 | 73 |
| Total | 26 | 14 | 76 | 0 | 116 | 58 | 63 | 5 | 0 | 126 | 19 | 2 | 6 | 0 | 27 | 1 | 55 | 32 | 0 | 88 | 357 |
| Grand Total | 56 | 24 | 137 | 0 | 217 | 129 | 131 | 13 | 0 | 273 | 29 | 13 | 9 | 0 | 51 | 7 | 109 | 60 | 0 | 176 | 717 |
| Apprch % | 25.8 | 11.1 | 63.1 | 0 | | 47.3 | 48 | 4.8 | 0 | | 56.9 | 25.5 | 17.6 | 0 | | 4 | 61.9 | 34.1 | 0 | | |
| Total % | 7.8 | 3.3 | 19.1 | 0 | 30.3 | 18 | 18.3 | 1.8 | 0 | 38.1 | 4 | 1.8 | 1.3 | 0 | 7.1 | 1 | 15.2 | 8.4 | 0 | 24.5 | |

# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Sterling Rannch Rd - Marksheffel Rd PM
Site Code : S224580
Start Date : 3/6/2025
Page No : 2

| | Sterling Ranch Rd Southbound | | | | | Marksheffel Rd Westbound | | | | | Industrial Access Northbound | | | | | Marksheffel Rd Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 16:00 | | | | | | | | | | | | | | | | | | | | | |
| 16:00 | 5 | **6** | **20** | 0 | **31** | 14 | 13 | **5** | 0 | 32 | **5** | **7** | 0 | 0 | **12** | 0 | 12 | **10** | 0 | 22 | 97 |
| 16:15 | 9 | 0 | 16 | 0 | 25 | 18 | **23** | 2 | 0 | **43** | 2 | 2 | 0 | 0 | 4 | 2 | 17 | 10 | 0 | **29** | **101** |
| 16:30 | **10** | 1 | 20 | 0 | 31 | 14 | 17 | 1 | 0 | 32 | 1 | 1 | 1 | 0 | 3 | 0 | **18** | 6 | 0 | 24 | 90 |
| 16:45 | 6 | 3 | 5 | 0 | 14 | **25** | 15 | 0 | 0 | 40 | 2 | 1 | **2** | 0 | 5 | **4** | 7 | 2 | 0 | 13 | 72 |
| Total Volume | 30 | 10 | 61 | 0 | 101 | 71 | 68 | 8 | 0 | 147 | 10 | 11 | 3 | 0 | 24 | 6 | 54 | 28 | 0 | 88 | 360 |
| % App. Total | 29.7 | 9.9 | 60.4 | 0 | | 48.3 | 46.3 | 5.4 | 0 | | 41.7 | 45.8 | 12.5 | 0 | | 6.8 | 61.4 | 31.8 | 0 | | |
| PHF | .750 | .417 | .763 | .000 | .815 | .710 | .739 | .400 | .000 | .855 | .500 | .393 | .375 | .000 | .500 | .375 | .750 | .700 | .000 | .759 | .891 |

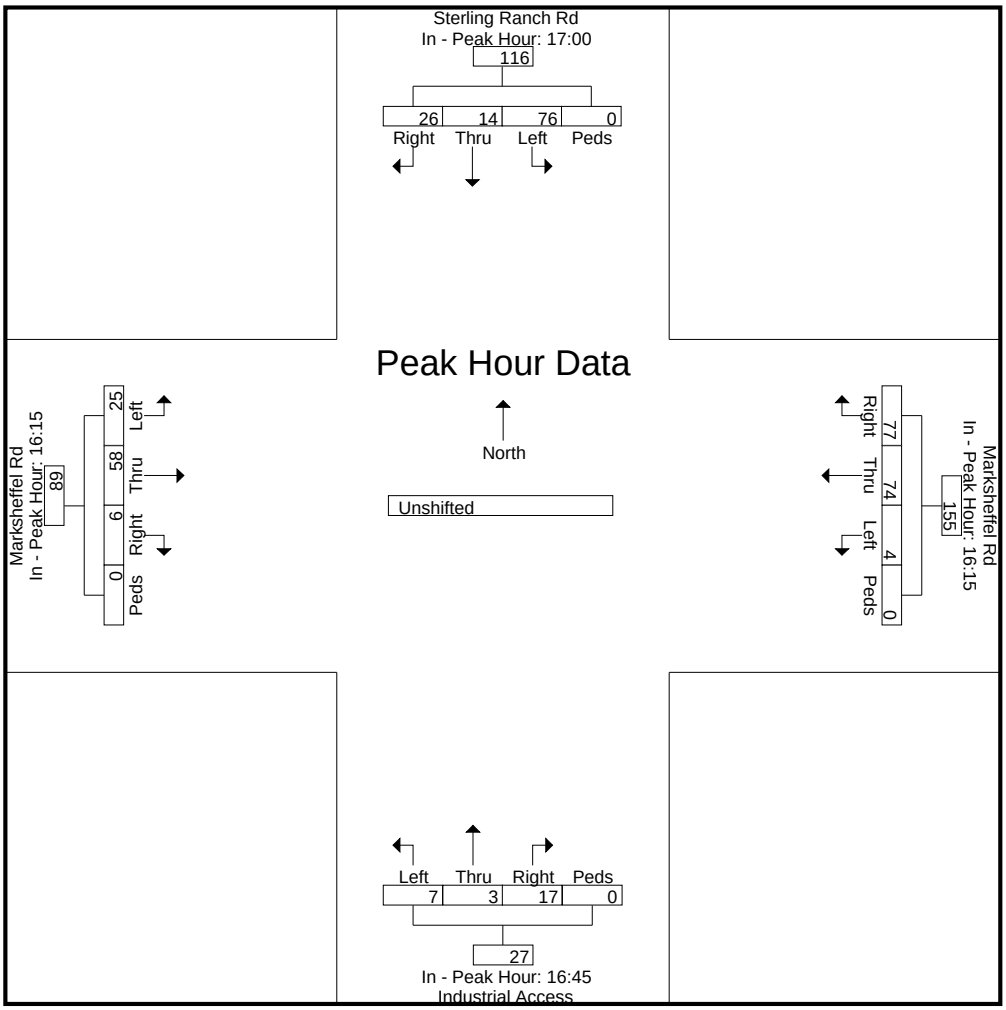


# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Sterling Rannch Rd - Marksheffel Rd PM
Site Code : S224580
Start Date : 3/6/2025
Page No : 3

| | Sterling Ranch Rd Southbound | | | | | Marksheffel Rd Westbound | | | | | Industrial Access Northbound | | | | | Marksheffel Rd Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Each Approach Begins at: | | | | | | | | | | | | | | | | | | | | | |
| | 17:00 | | | | | 16:15 | | | | | 16:45 | | | | | 16:15 | | | | | |
| +0 mins. | 3 | 2 | 17 | 0 | 22 | 18 | **23** | **2** | 0 | **43** | 2 | 1 | 2 | 0 | 5 | 2 | 17 | **10** | 0 | **29** |
| +15 mins. | 4 | **12** | 20 | 0 | **36** | 14 | 17 | 1 | 0 | 32 | 1 | **2** | 0 | 0 | 3 | 0 | **18** | 6 | 0 | 24 |
| +30 mins. | 8 | 0 | **25** | 0 | 33 | **25** | 15 | 0 | 0 | 40 | 1 | 0 | 2 | 0 | 3 | **4** | 7 | 2 | 0 | 13 |
| +45 mins. | **11** | 0 | 14 | 0 | 25 | 20 | 19 | 1 | 0 | 40 | **13** | 0 | **3** | 0 | **16** | 0 | 16 | 7 | 0 | 23 |
| Total Volume | 26 | 14 | 76 | 0 | 116 | 77 | 74 | 4 | 0 | 155 | 17 | 3 | 7 | 0 | 27 | 6 | 58 | 25 | 0 | 89 |
| % App. Total | 22.4 | 12.1 | 65.5 | 0 | | 49.7 | 47.7 | 2.6 | 0 | | 63 | 11.1 | 25.9 | 0 | | 6.7 | 65.2 | 28.1 | 0 | |
| PHF | .591 | .292 | .760 | .000 | .806 | .770 | .804 | .500 | .000 | .901 | .327 | .375 | .583 | .000 | .422 | .375 | .806 | .625 | .000 | .767 | |



# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Vollmer Rd - Briargate Pkwy AM
Site Code : S244580
Start Date : 3/6/2025
Page No : 1

**Groups Printed- Unshifted**

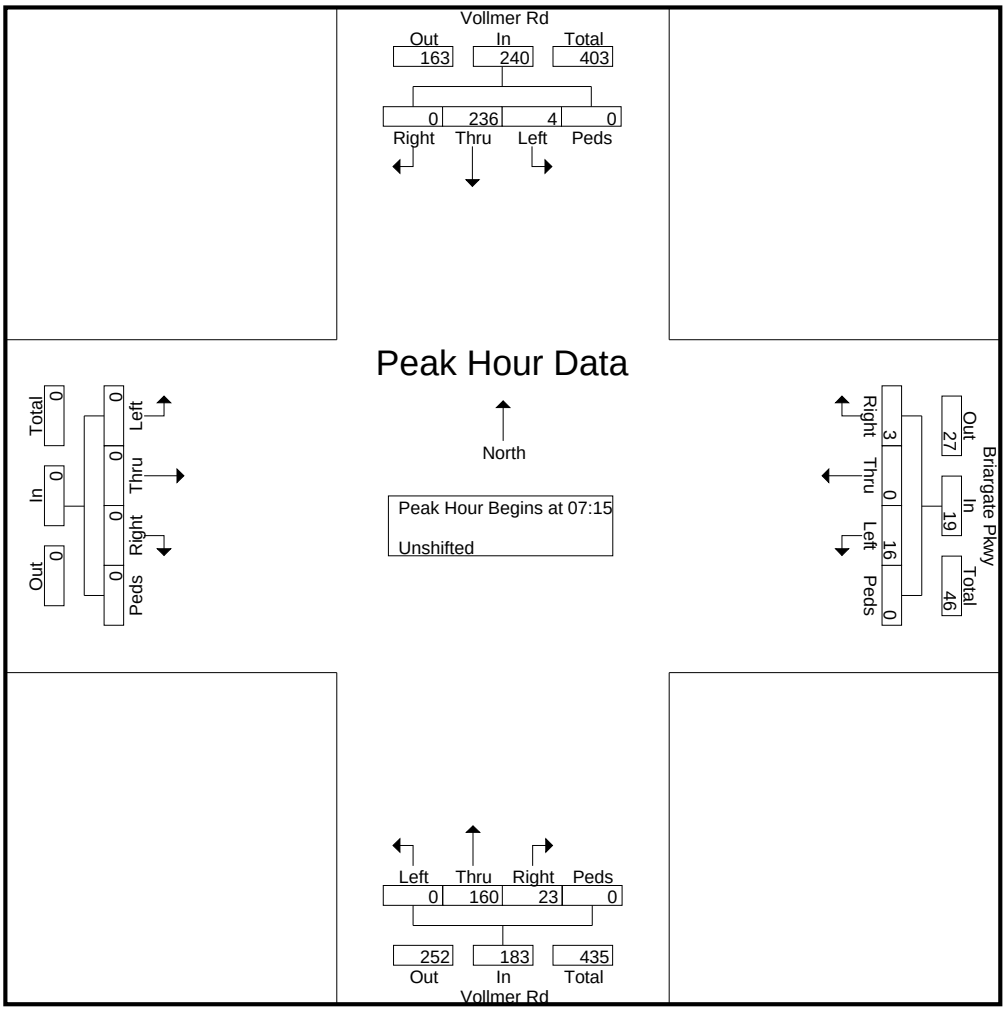
| | Vollmer Rd Southbound | | | | | Briargate Pkwy Westbound | | | | | Vollmer Rd Northbound | | | | | Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| 06:30 | 0 | 27 | 0 | 0 | 27 | 0 | 0 | 2 | 0 | 2 | 0 | 16 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 45 |
| 06:45 | 0 | 36 | 0 | 0 | 36 | 1 | 0 | 4 | 0 | 5 | 4 | 29 | 0 | 0 | 33 | 0 | 0 | 0 | 0 | 0 | 74 |
| Total | 0 | 63 | 0 | 0 | 63 | 1 | 0 | 6 | 0 | 7 | 4 | 45 | 0 | 0 | 49 | 0 | 0 | 0 | 0 | 0 | 119 |
| 07:00 | 0 | 43 | 0 | 0 | 43 | 1 | 0 | 3 | 0 | 4 | 6 | 25 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 78 |
| 07:15 | 0 | 72 | 2 | 0 | 74 | 0 | 0 | 3 | 0 | 3 | 3 | 24 | 0 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 104 |
| 07:30 | 0 | 57 | 0 | 0 | 57 | 2 | 0 | 6 | 0 | 8 | 3 | 39 | 0 | 0 | 42 | 0 | 0 | 0 | 0 | 0 | 107 |
| 07:45 | 0 | 58 | 1 | 0 | 59 | 0 | 0 | 5 | 0 | 5 | 11 | 48 | 0 | 0 | 59 | 0 | 0 | 0 | 0 | 0 | 123 |
| Total | 0 | 230 | 3 | 0 | 233 | 3 | 0 | 17 | 0 | 20 | 23 | 136 | 0 | 0 | 159 | 0 | 0 | 0 | 0 | 0 | 412 |
| 08:00 | 0 | 49 | 1 | 0 | 50 | 1 | 0 | 2 | 0 | 3 | 6 | 49 | 0 | 0 | 55 | 0 | 0 | 0 | 0 | 0 | 108 |
| 08:15 | 0 | 38 | 0 | 0 | 38 | 1 | 0 | 4 | 0 | 5 | 5 | 44 | 0 | 0 | 49 | 0 | 0 | 0 | 0 | 0 | 92 |
| Grand Total | 0 | 380 | 4 | 0 | 384 | 6 | 0 | 29 | 0 | 35 | 38 | 274 | 0 | 0 | 312 | 0 | 0 | 0 | 0 | 0 | 731 |
| Apprch % | 0 | 99 | 1 | 0 | | 17.1 | 0 | 82.9 | 0 | | 12.2 | 87.8 | 0 | 0 | | 0 | 0 | 0 | 0 | | |
| Total % | 0 | 52 | 0.5 | 0 | 52.5 | 0.8 | 0 | 4 | 0 | 4.8 | 5.2 | 37.5 | 0 | 0 | 42.7 | 0 | 0 | 0 | 0 | 0 | |

# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Vollmer Rd - Briargate Pkwy AM
Site Code : S244580
Start Date : 3/6/2025
Page No : 2

| | Vollmer Rd Southbound | | | | | Briargate Pkwy Westbound | | | | | Vollmer Rd Northbound | | | | | Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 06:30 to 08:15 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:15 | | | | | | | | | | | | | | | | | | | | | |
| 07:15 | 0 | **72** | **2** | 0 | **74** | 0 | 0 | 3 | 0 | 3 | 3 | 24 | 0 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 104 |
| 07:30 | 0 | 57 | 0 | 0 | 57 | **2** | 0 | **6** | 0 | **8** | 3 | 39 | 0 | 0 | 42 | 0 | 0 | 0 | 0 | 0 | 107 |
| 07:45 | 0 | 58 | 1 | 0 | 59 | 0 | 0 | 5 | 0 | 5 | **11** | 48 | 0 | 0 | **59** | 0 | 0 | 0 | 0 | 0 | **123** |
| 08:00 | 0 | 49 | 1 | 0 | 50 | 1 | 0 | 2 | 0 | 3 | 6 | **49** | 0 | 0 | 55 | 0 | 0 | 0 | 0 | 0 | 108 |
| Total Volume | 0 | 236 | 4 | 0 | 240 | 3 | 0 | 16 | 0 | 19 | 23 | 160 | 0 | 0 | 183 | 0 | 0 | 0 | 0 | 0 | 442 |
| % App. Total | 0 | 98.3 | 1.7 | 0 | | 15.8 | 0 | 84.2 | 0 | | 12.6 | 87.4 | 0 | 0 | | 0 | 0 | 0 | 0 | | |
| PHF | .000 | .819 | .500 | .000 | .811 | .375 | .000 | .667 | .000 | .594 | .523 | .816 | .000 | .000 | .775 | .000 | .000 | .000 | .000 | .000 | .898 |

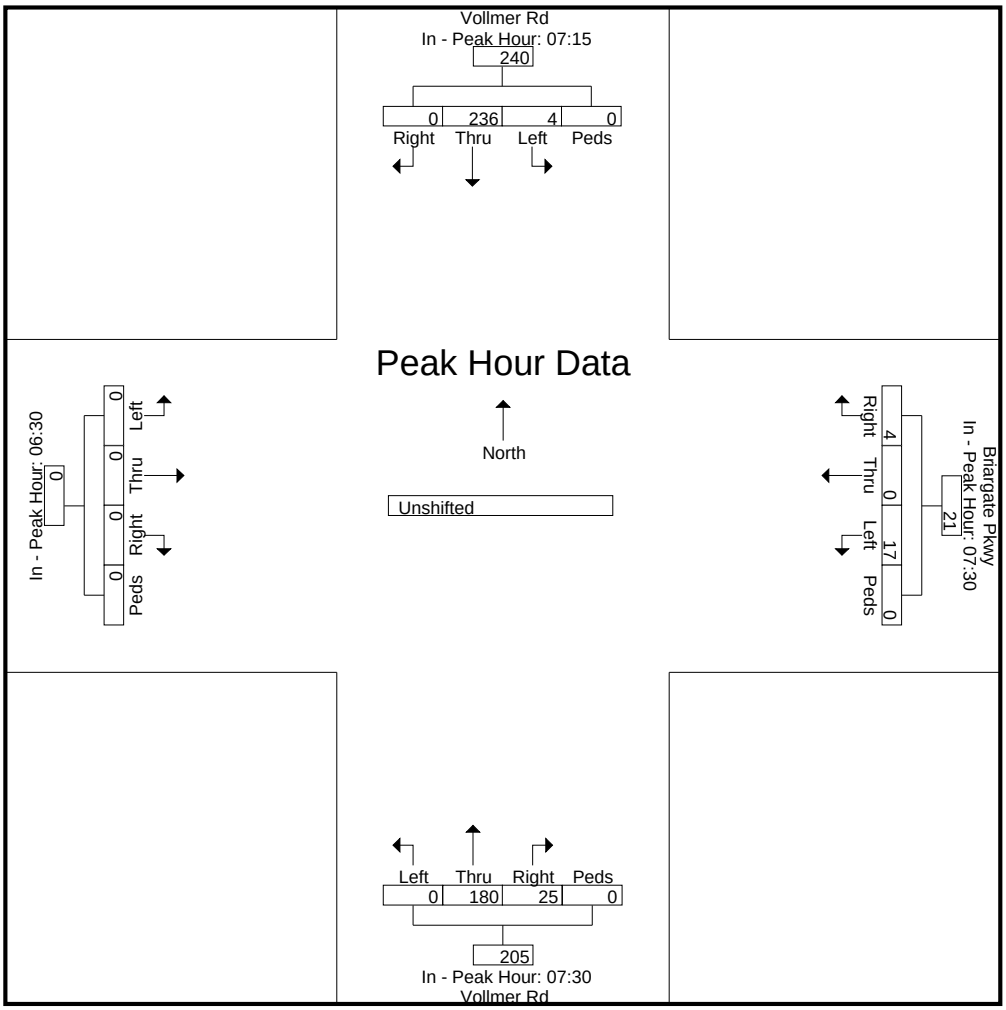


# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Vollmer Rd - Briargate Pkwy AM
Site Code : S244580
Start Date : 3/6/2025
Page No : 3

| | Vollmer Rd Southbound | | | | | Briargate Pkwy Westbound | | | | | Vollmer Rd Northbound | | | | | Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 06:30 to 08:15 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Each Approach Begins at: | | | | | | | | | | | | | | | | | | | | | |
| | 07:15 | | | | | 07:30 | | | | | 07:30 | | | | | 06:30 | | | | | |
| +0 mins. | 0 | **72** | **2** | 0 | **74** | **2** | 0 | **6** | 0 | **8** | 3 | 39 | 0 | 0 | 42 | 0 | 0 | 0 | 0 | 0 | |
| +15 mins. | 0 | 57 | 0 | 0 | 57 | 0 | 0 | 5 | 0 | 5 | **11** | 48 | 0 | 0 | **59** | 0 | 0 | 0 | 0 | 0 | |
| +30 mins. | 0 | 58 | 1 | 0 | 59 | 1 | 0 | 2 | 0 | 3 | 6 | **49** | 0 | 0 | 55 | 0 | 0 | 0 | 0 | 0 | |
| +45 mins. | 0 | 49 | 1 | 0 | 50 | 1 | 0 | 4 | 0 | 5 | 5 | 44 | 0 | 0 | 49 | 0 | 0 | 0 | 0 | 0 | |
| Total Volume | 0 | 236 | 4 | 0 | 240 | 4 | 0 | 17 | 0 | 21 | 25 | 180 | 0 | 0 | 205 | 0 | 0 | 0 | 0 | 0 | |
| % App. Total | 0 | 98.3 | 1.7 | 0 | | 19 | 0 | 81 | 0 | | 12.2 | 87.8 | 0 | 0 | | 0 | 0 | 0 | 0 | | |
| PHF | .000 | .819 | .500 | .000 | .811 | .500 | .000 | .708 | .000 | .656 | .568 | .918 | .000 | .000 | .869 | .000 | .000 | .000 | .000 | .000 | |



# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Vollmer Rd - Briargate Pkwy PM
Site Code : S244580
Start Date : 3/6/2025
Page No : 1

**Groups Printed- Unshifted**

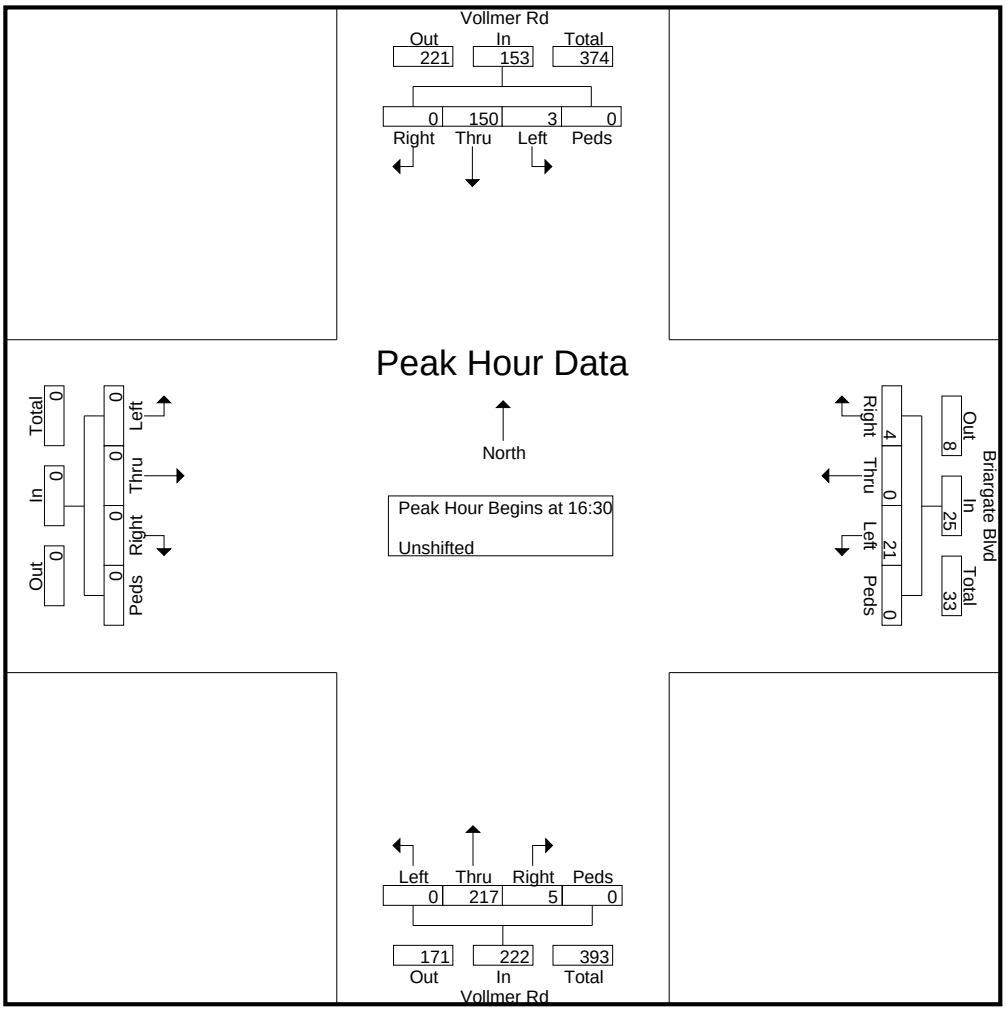
| | Vollmer Rd Southbound | | | | | Briargate Blvd Westbound | | | | | Vollmer Rd Northbound | | | | | Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| 16:00 | 0 | 27 | 2 | 0 | 29 | 0 | 0 | 5 | 0 | 5 | 0 | 35 | 0 | 0 | 35 | 0 | 0 | 0 | 0 | 0 | 69 |
| 16:15 | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 3 | 0 | 3 | 4 | 50 | 0 | 0 | 54 | 0 | 0 | 0 | 0 | 0 | 93 |
| 16:30 | 0 | 37 | 2 | 0 | 39 | 2 | 0 | 7 | 0 | 9 | 2 | 46 | 0 | 0 | 48 | 0 | 0 | 0 | 0 | 0 | 96 |
| 16:45 | 0 | 31 | 0 | 0 | 31 | 1 | 0 | 9 | 0 | 10 | 1 | 45 | 0 | 0 | 46 | 0 | 0 | 0 | 0 | 0 | 87 |
| Total | 0 | 131 | 4 | 0 | 135 | 3 | 0 | 24 | 0 | 27 | 7 | 176 | 0 | 0 | 183 | 0 | 0 | 0 | 0 | 0 | 345 |
| 17:00 | 0 | 39 | 1 | 0 | 40 | 1 | 0 | 4 | 0 | 5 | 0 | 58 | 0 | 0 | 58 | 0 | 0 | 0 | 0 | 0 | 103 |
| 17:15 | 0 | 43 | 0 | 0 | 43 | 0 | 0 | 1 | 0 | 1 | 2 | 68 | 0 | 0 | 70 | 0 | 0 | 0 | 0 | 0 | 114 |
| 17:30 | 0 | 30 | 2 | 0 | 32 | 0 | 0 | 2 | 0 | 2 | 3 | 58 | 0 | 0 | 61 | 0 | 0 | 0 | 0 | 0 | 95 |
| 17:45 | 0 | 26 | 1 | 0 | 27 | 0 | 0 | 5 | 0 | 5 | 5 | 36 | 0 | 0 | 41 | 0 | 0 | 0 | 0 | 0 | 73 |
| Total | 0 | 138 | 4 | 0 | 142 | 1 | 0 | 12 | 0 | 13 | 10 | 220 | 0 | 0 | 230 | 0 | 0 | 0 | 0 | 0 | 385 |
| Grand Total | 0 | 269 | 8 | 0 | 277 | 4 | 0 | 36 | 0 | 40 | 17 | 396 | 0 | 0 | 413 | 0 | 0 | 0 | 0 | 0 | 730 |
| Apprch % | 0 | 97.1 | 2.9 | 0 | | 10 | 0 | 90 | 0 | | 4.1 | 95.9 | 0 | 0 | | 0 | 0 | 0 | 0 | | |
| Total % | 0 | 36.8 | 1.1 | 0 | 37.9 | 0.5 | 0 | 4.9 | 0 | 5.5 | 2.3 | 54.2 | 0 | 0 | 56.6 | 0 | 0 | 0 | 0 | 0 | |

# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Vollmer Rd - Briargate Pkwy PM
Site Code : S244580
Start Date : 3/6/2025
Page No : 2

| | Vollmer Rd Southbound | | | | | Briargate Blvd Westbound | | | | | Vollmer Rd Northbound | | | | | Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 16:30 | | | | | | | | | | | | | | | | | | | | | |
| 16:30 | 0 | 37 | **2** | 0 | 39 | **2** | 0 | 7 | 0 | 9 | **2** | 46 | 0 | 0 | 48 | 0 | 0 | 0 | 0 | 0 | 96 |
| 16:45 | 0 | 31 | 0 | 0 | 31 | 1 | 0 | **9** | 0 | **10** | 1 | 45 | 0 | 0 | 46 | 0 | 0 | 0 | 0 | 0 | 87 |
| 17:00 | 0 | 39 | 1 | 0 | 40 | 1 | 0 | 4 | 0 | 5 | 0 | 58 | 0 | 0 | 58 | 0 | 0 | 0 | 0 | 0 | 103 |
| 17:15 | 0 | **43** | 0 | 0 | **43** | 0 | 0 | 1 | 0 | 1 | 2 | **68** | 0 | 0 | **70** | 0 | 0 | 0 | 0 | 0 | **114** |
| Total Volume | 0 | 150 | 3 | 0 | 153 | 4 | 0 | 21 | 0 | 25 | 5 | 217 | 0 | 0 | 222 | 0 | 0 | 0 | 0 | 0 | 400 |
| % App. Total | 0 | 98 | 2 | 0 | | 16 | 0 | 84 | 0 | | 2.3 | 97.7 | 0 | 0 | | 0 | 0 | 0 | 0 | | |
| PHF | .000 | .872 | .375 | .000 | .890 | .500 | .000 | .583 | .000 | .625 | .625 | .798 | .000 | .000 | .793 | .000 | .000 | .000 | .000 | .000 | .877 |

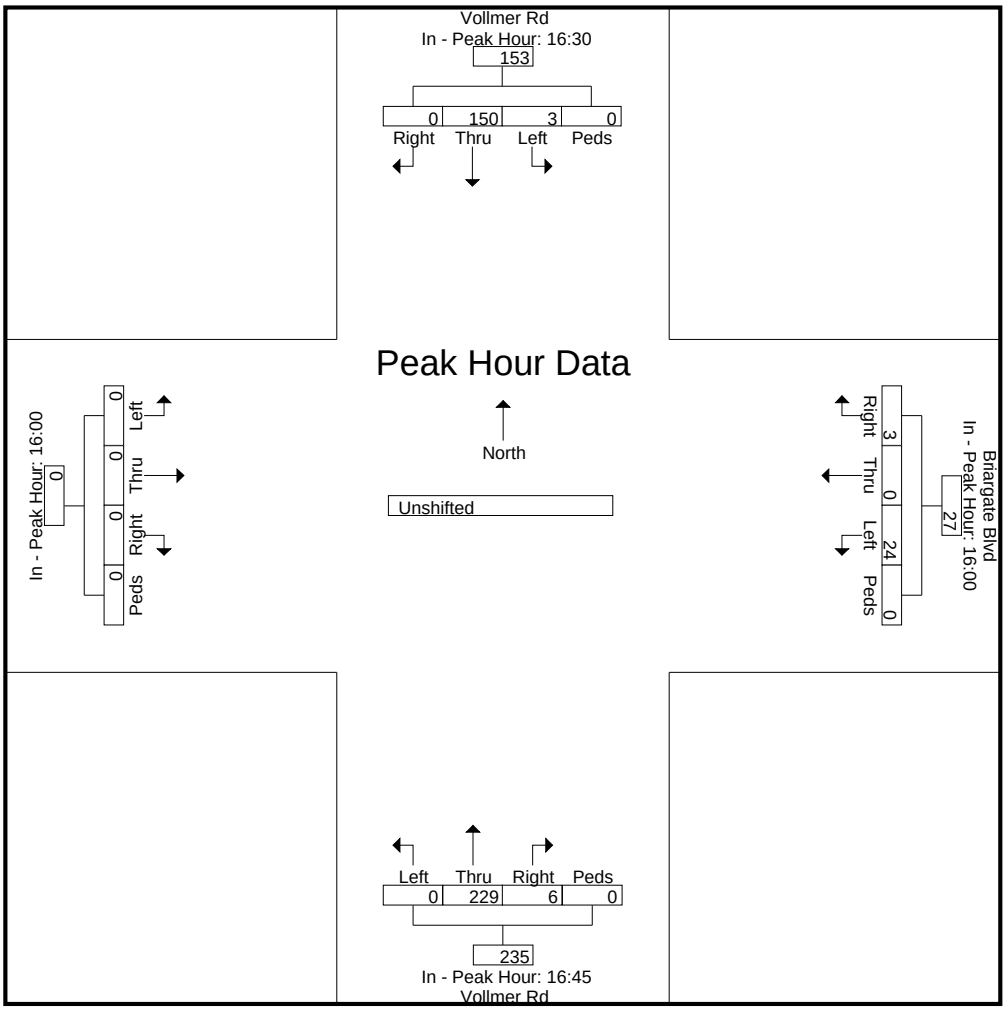


# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Vollmer Rd - Briargate Pkwy PM
Site Code : S244580
Start Date : 3/6/2025
Page No : 3

| | Vollmer Rd Southbound | | | | | Briargate Blvd Westbound | | | | | Vollmer Rd Northbound | | | | | Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Each Approach Begins at: | | | | | | | | | | | | | | | | | | | | | |
| | 16:30 | | | | | 16:00 | | | | | 16:45 | | | | | 16:00 | | | | | |
| +0 mins. | 0 | 37 | **2** | 0 | 39 | 0 | 0 | 5 | 0 | 5 | 1 | 45 | 0 | 0 | 46 | 0 | 0 | 0 | 0 | 0 | |
| +15 mins. | 0 | 31 | 0 | 0 | 31 | 0 | 0 | 3 | 0 | 3 | 0 | 58 | 0 | 0 | 58 | 0 | 0 | 0 | 0 | 0 | |
| +30 mins. | 0 | 39 | 1 | 0 | 40 | **2** | 0 | 7 | 0 | 9 | 2 | **68** | 0 | 0 | **70** | 0 | 0 | 0 | 0 | 0 | |
| +45 mins. | 0 | **43** | 0 | 0 | **43** | 1 | 0 | **9** | 0 | **10** | **3** | 58 | 0 | 0 | 61 | 0 | 0 | 0 | 0 | 0 | |
| Total Volume | 0 | 150 | 3 | 0 | 153 | 3 | 0 | 24 | 0 | 27 | 6 | 229 | 0 | 0 | 235 | 0 | 0 | 0 | 0 | 0 | |
| % App. Total | 0 | 98 | 2 | 0 | | 11.1 | 0 | 88.9 | 0 | | 2.6 | 97.4 | 0 | 0 | | 0 | 0 | 0 | 0 | | |
| PHF | .000 | .872 | .375 | .000 | .890 | .375 | .000 | .667 | .000 | .675 | .500 | .842 | .000 | .000 | .839 | .000 | .000 | .000 | .000 | .000 | |



# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Vollmer Rd - Marksheffel Rd AM
Site Code : S244580
Start Date : 3/6/2025
Page No : 1

**Groups Printed- Unshifted**

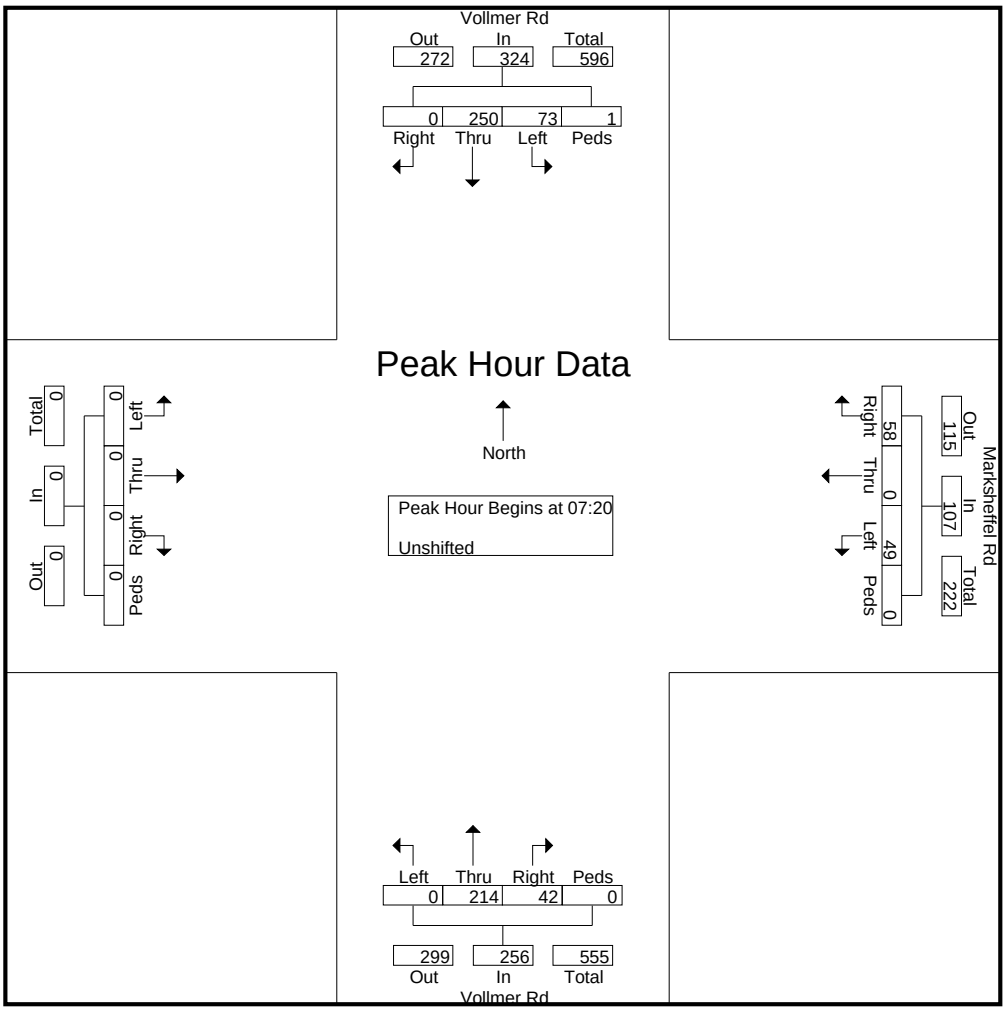
| | Vollmer Rd Southbound | | | | | Marksheffel Rd Westbound | | | | | Vollmer Rd Northbound | | | | | Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| 06:30 | 0 | 14 | 3 | 0 | 17 | 2 | 0 | 0 | 0 | 2 | 3 | 4 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 26 |
| 06:35 | 0 | 15 | 5 | 0 | 20 | 0 | 0 | 2 | 0 | 2 | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 32 |
| 06:40 | 0 | 6 | 3 | 0 | 9 | 1 | 0 | 3 | 0 | 4 | 3 | 8 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 24 |
| 06:45 | 0 | 7 | 7 | 0 | 14 | 4 | 0 | 1 | 0 | 5 | 4 | 12 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 35 |
| 06:50 | 0 | 14 | 4 | 0 | 18 | 5 | 0 | 3 | 0 | 8 | 2 | 3 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 31 |
| 06:55 | 0 | 12 | 2 | 0 | 14 | 5 | 0 | 2 | 0 | 7 | 4 | 10 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 35 |
| Total | 0 | 68 | 24 | 0 | 92 | 17 | 0 | 11 | 0 | 28 | 16 | 47 | 0 | 0 | 63 | 0 | 0 | 0 | 0 | 0 | 183 |
| 07:00 | 0 | 19 | 4 | 0 | 23 | 2 | 0 | 4 | 0 | 6 | 1 | 6 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 36 |
| 07:05 | 0 | 20 | 6 | 0 | 26 | 2 | 0 | 1 | 0 | 3 | 2 | 16 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 47 |
| 07:10 | 0 | 13 | 6 | 0 | 19 | 4 | 0 | 5 | 0 | 9 | 2 | 4 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 34 |
| 07:15 | 0 | 15 | 11 | 0 | 26 | 3 | 0 | 5 | 0 | 8 | 2 | 3 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 39 |
| 07:20 | 0 | 30 | 10 | 0 | 40 | 3 | 0 | 3 | 0 | 6 | 1 | 16 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 63 |
| 07:25 | 0 | 25 | 4 | 0 | 29 | 2 | 0 | 3 | 0 | 5 | 4 | 8 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 46 |
| 07:30 | 0 | 24 | 8 | 0 | 32 | 3 | 0 | 7 | 0 | 10 | 2 | 19 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 63 |
| 07:35 | 0 | 23 | 7 | 0 | 30 | 10 | 0 | 6 | 0 | 16 | 2 | 11 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 59 |
| 07:40 | 0 | 22 | 6 | 0 | 28 | 5 | 0 | 5 | 0 | 10 | 3 | 10 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 51 |
| 07:45 | 0 | 26 | 7 | 0 | 33 | 2 | 0 | 3 | 0 | 5 | 1 | 21 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 60 |
| 07:50 | 0 | 22 | 4 | 0 | 26 | 8 | 0 | 8 | 0 | 16 | 2 | 27 | 0 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 71 |
| 07:55 | 0 | 17 | 3 | 1 | 21 | 7 | 0 | 3 | 0 | 10 | 9 | 15 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 55 |
| Total | 0 | 256 | 76 | 1 | 333 | 51 | 0 | 53 | 0 | 104 | 31 | 156 | 0 | 0 | 187 | 0 | 0 | 0 | 0 | 0 | 624 |
| 08:00 | 0 | 18 | 10 | 0 | 28 | 6 | 0 | 1 | 0 | 7 | 10 | 27 | 0 | 0 | 37 | 0 | 0 | 0 | 0 | 0 | 72 |
| 08:05 | 0 | 19 | 8 | 0 | 27 | 3 | 0 | 5 | 0 | 8 | 3 | 17 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 55 |
| 08:10 | 0 | 10 | 3 | 0 | 13 | 5 | 0 | 3 | 0 | 8 | 4 | 21 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 46 |
| 08:15 | 0 | 14 | 3 | 0 | 17 | 4 | 0 | 2 | 0 | 6 | 1 | 22 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 46 |
| 08:20 | 0 | 17 | 6 | 0 | 23 | 5 | 0 | 1 | 0 | 6 | 1 | 22 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 52 |
| 08:25 | 0 | 10 | 3 | 0 | 13 | 2 | 0 | 2 | 0 | 4 | 3 | 15 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 35 |
| Grand Total | 0 | 412 | 133 | 1 | 546 | 93 | 0 | 78 | 0 | 171 | 69 | 327 | 0 | 0 | 396 | 0 | 0 | 0 | 0 | 0 | 1113 |
| Apprch % | 0 | 75.5 | 24.4 | 0.2 | | 54.4 | 0 | 45.6 | 0 | | 17.4 | 82.6 | 0 | 0 | | 0 | 0 | 0 | 0 | | |
| Total % | 0 | 37 | 11.9 | 0.1 | 49.1 | 8.4 | 0 | 7 | 0 | 15.4 | 6.2 | 29.4 | 0 | 0 | 35.6 | 0 | 0 | 0 | 0 | 0 | |

# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Vollmer Rd - Marksheffel Rd AM
Site Code : S244580
Start Date : 3/6/2025
Page No : 2

| | Vollmer Rd Southbound | | | | | Marksheffel Rd Westbound | | | | | Vollmer Rd Northbound | | | | | Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 06:30 to 08:25 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:20 | | | | | | | | | | | | | | | | | | | | | |
| 07:20 | 0 | **30** | **10** | 0 | **40** | 3 | 0 | 3 | 0 | 6 | 1 | 16 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 63 |
| 07:25 | 0 | 25 | 4 | 0 | 29 | 2 | 0 | 3 | 0 | 5 | 4 | 8 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 46 |
| 07:30 | 0 | 24 | 8 | 0 | 32 | 3 | 0 | 7 | 0 | 10 | 2 | 19 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 63 |
| 07:35 | 0 | 23 | 7 | 0 | 30 | **10** | 0 | 6 | 0 | **16** | 2 | 11 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 59 |
| 07:40 | 0 | 22 | 6 | 0 | 28 | 5 | 0 | 5 | 0 | 10 | 3 | 10 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 51 |
| 07:45 | 0 | 26 | 7 | 0 | 33 | 2 | 0 | 3 | 0 | 5 | 1 | 21 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 60 |
| 07:50 | 0 | 22 | 4 | 0 | 26 | 8 | 0 | **8** | 0 | 16 | 2 | **27** | 0 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 71 |
| 07:55 | 0 | 17 | 3 | **1** | 21 | 7 | 0 | 3 | 0 | 10 | 9 | 15 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 55 |
| 08:00 | 0 | 18 | 10 | 0 | 28 | 6 | 0 | 1 | 0 | 7 | **10** | 27 | 0 | 0 | **37** | 0 | 0 | 0 | 0 | 0 | **72** |
| 08:05 | 0 | 19 | 8 | 0 | 27 | 3 | 0 | 5 | 0 | 8 | 3 | 17 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 55 |
| 08:10 | 0 | 10 | 3 | 0 | 13 | 5 | 0 | 3 | 0 | 8 | 4 | 21 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 46 |
| 08:15 | 0 | 14 | 3 | 0 | 17 | 4 | 0 | 2 | 0 | 6 | 1 | 22 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 46 |
| Total Volume | 0 | 250 | 73 | 1 | 324 | 58 | 0 | 49 | 0 | 107 | 42 | 214 | 0 | 0 | 256 | 0 | 0 | 0 | 0 | 0 | 687 |
| % App. Total | 0 | 77.2 | 22.5 | 0.3 | | 54.2 | 0 | 45.8 | 0 | | 16.4 | 83.6 | 0 | 0 | | 0 | 0 | 0 | 0 | | |
| PHF | .000 | .694 | .608 | .083 | .675 | .483 | .000 | .510 | .000 | .557 | .350 | .660 | .000 | .000 | .577 | .000 | .000 | .000 | .000 | .000 | .795 |

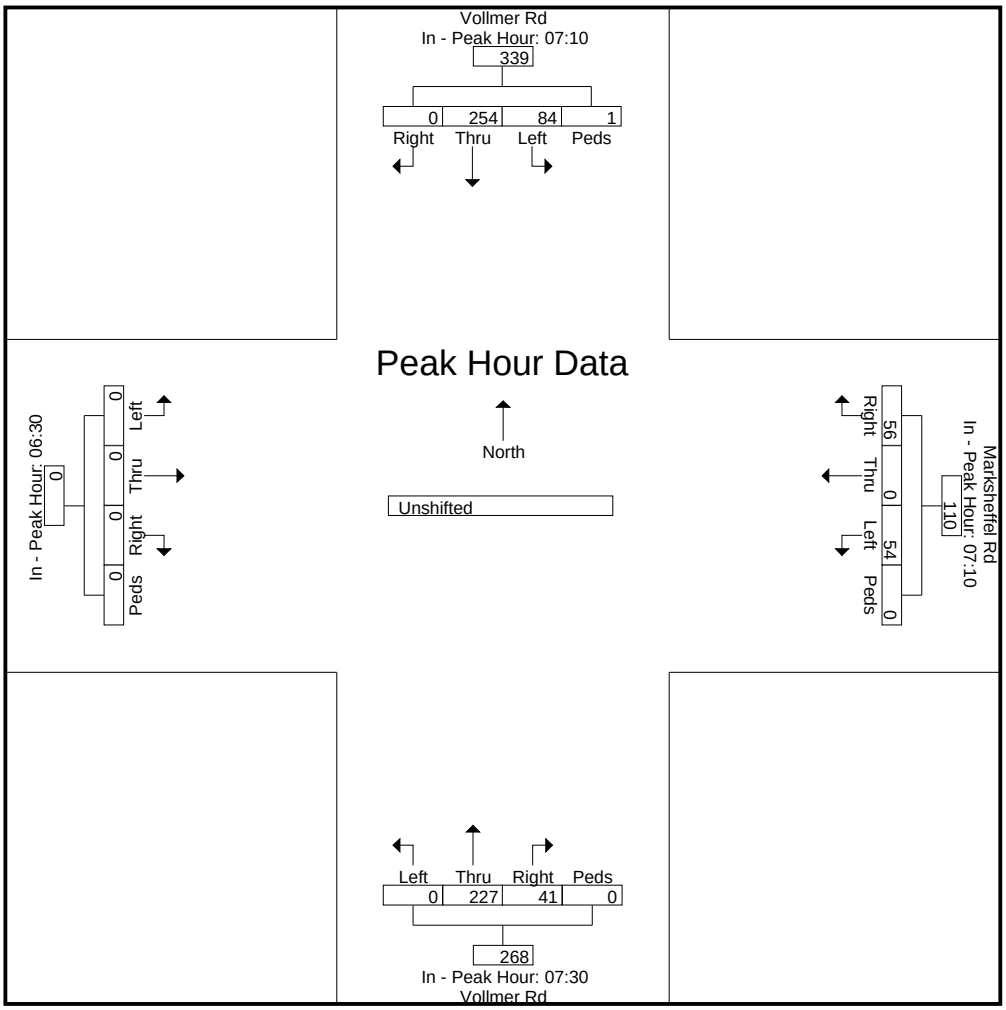


# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Vollmer Rd - Marksheffel Rd AM
Site Code : S244580
Start Date : 3/6/2025
Page No : 3

| | Vollmer Rd Southbound | | | | | Marksheffel Rd Westbound | | | | | Vollmer Rd Northbound | | | | | Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 06:30 to 08:25 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Each Approach Begins at: | | | | | | | | | | | | | | | | | | | | | |
| | 07:10 | | | | | 07:10 | | | | | 07:30 | | | | | 06:30 | | | | | |
| +0 mins. | 0 | 13 | 6 | 0 | 19 | 4 | 0 | 5 | 0 | 9 | 2 | 19 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | |
| +5 mins. | 0 | 15 | **11** | 0 | 26 | 3 | 0 | 5 | 0 | 8 | 2 | 11 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | |
| +10 mins. | 0 | **30** | 10 | 0 | **40** | 3 | 0 | 3 | 0 | 6 | 3 | 10 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | |
| +15 mins. | 0 | 25 | 4 | 0 | 29 | 2 | 0 | 3 | 0 | 5 | 1 | 21 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | |
| +20 mins. | 0 | 24 | 8 | 0 | 32 | 3 | 0 | 7 | 0 | 10 | 2 | **27** | 0 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | |
| +25 mins. | 0 | 23 | 7 | 0 | 30 | **10** | 0 | 6 | 0 | **16** | 9 | 15 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | |
| +30 mins. | 0 | 22 | 6 | 0 | 28 | 5 | 0 | 5 | 0 | 10 | **10** | 27 | 0 | 0 | **37** | 0 | 0 | 0 | 0 | 0 | |
| +35 mins. | 0 | 26 | 7 | 0 | 33 | 2 | 0 | 3 | 0 | 5 | 3 | 17 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | |
| +40 mins. | 0 | 22 | 4 | 0 | 26 | 8 | 0 | **8** | 0 | 16 | 4 | 21 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | |
| +45 mins. | 0 | 17 | 3 | **1** | 21 | 7 | 0 | 3 | 0 | 10 | 1 | 22 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | |
| +50 mins. | 0 | 18 | 10 | 0 | 28 | 6 | 0 | 1 | 0 | 7 | 1 | 22 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | |
| +55 mins. | 0 | 19 | 8 | 0 | 27 | 3 | 0 | 5 | 0 | 8 | 3 | 15 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | |
| Total Volume | 0 | 254 | 84 | 1 | 339 | 56 | 0 | 54 | 0 | 110 | 41 | 227 | 0 | 0 | 268 | 0 | 0 | 0 | 0 | 0 | |
| % App. Total | 0 | 74.9 | 24.8 | 0.3 | | 50.9 | 0 | 49.1 | 0 | | 15.3 | 84.7 | 0 | 0 | | 0 | 0 | 0 | 0 | | |
| PHF | .000 | .706 | .636 | .083 | .706 | .467 | .000 | .563 | .000 | .573 | .342 | .701 | .000 | .000 | .604 | .000 | .000 | .000 | .000 | .000 | |



**LSC Transportation Consultants, Inc.**
2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO  80909
719-633-2868

# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Vollmer Rd - Marksheffel Rd PM
Site Code : S224580
Start Date : 3/6/2025
Page No : 1

**Groups Printed- Unshifted**

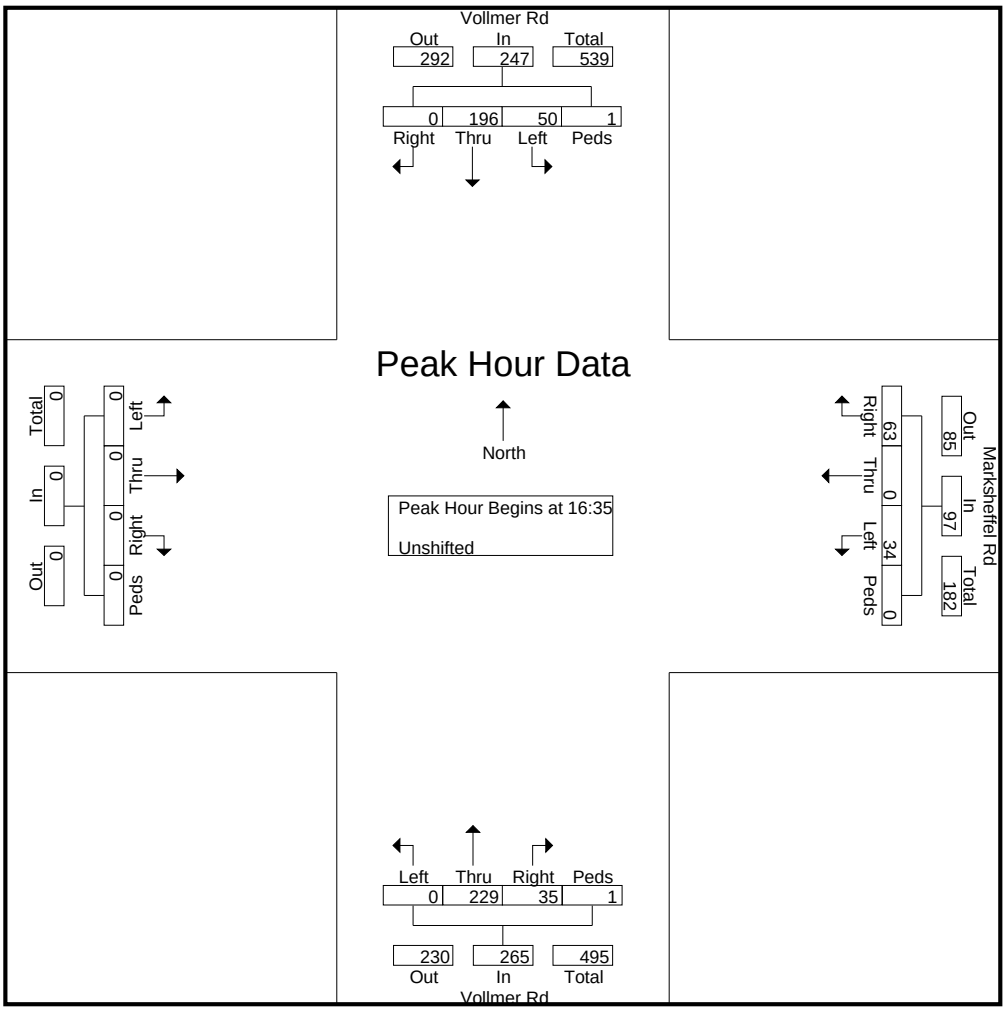
| | Vollmer Rd Southbound | | | | | Marksheffel Rd Westbound | | | | | Vollmer Rd Northbound | | | | | Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| 16:00 | 0 | 10 | 3 | 0 | 13 | 7 | 0 | 1 | 0 | 8 | 3 | 9 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 33 |
| 16:05 | 0 | 18 | 6 | 0 | 24 | 5 | 0 | 3 | 0 | 8 | 5 | 19 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 56 |
| 16:10 | 0 | 14 | 2 | 0 | 16 | 3 | 0 | 4 | 0 | 7 | 8 | 15 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 46 |
| 16:15 | 0 | 8 | 9 | 0 | 17 | 6 | 0 | 3 | 0 | 9 | 4 | 20 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 50 |
| 16:20 | 0 | 11 | 4 | 0 | 15 | 5 | 0 | 3 | 0 | 8 | 2 | 12 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 37 |
| 16:25 | 0 | 11 | 4 | 0 | 15 | 11 | 0 | 1 | 0 | 12 | 5 | 24 | 0 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 56 |
| 16:30 | 0 | 17 | 4 | 0 | 21 | 6 | 0 | 3 | 0 | 9 | 2 | 14 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 46 |
| 16:35 | 0 | 21 | 8 | 0 | 29 | 4 | 0 | 9 | 0 | 13 | 4 | 14 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 60 |
| 16:40 | 0 | 19 | 3 | 0 | 22 | 4 | 0 | 2 | 0 | 6 | 1 | 26 | 0 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 55 |
| 16:45 | 0 | 14 | 1 | 0 | 15 | 9 | 0 | 2 | 0 | 11 | 2 | 13 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 41 |
| 16:50 | 0 | 13 | 3 | 0 | 16 | 5 | 0 | 3 | 0 | 8 | 2 | 22 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 48 |
| 16:55 | 0 | 21 | 4 | 0 | 25 | 4 | 0 | 1 | 0 | 5 | 3 | 8 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 41 |
| Total | 0 | 177 | 51 | 0 | 228 | 69 | 0 | 35 | 0 | 104 | 41 | 196 | 0 | 0 | 237 | 0 | 0 | 0 | 0 | 0 | 569 |
| 17:00 | 0 | 15 | 5 | 0 | 20 | 4 | 0 | 3 | 0 | 7 | 4 | 25 | 0 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 56 |
| 17:05 | 0 | 11 | 8 | 1 | 20 | 8 | 0 | 0 | 0 | 8 | 4 | 16 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 48 |
| 17:10 | 0 | 17 | 4 | 0 | 21 | 6 | 0 | 1 | 0 | 7 | 2 | 20 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 50 |
| 17:15 | 0 | 13 | 7 | 0 | 20 | 5 | 0 | 2 | 0 | 7 | 5 | 15 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 47 |
| 17:20 | 0 | 17 | 2 | 0 | 19 | 4 | 0 | 3 | 0 | 7 | 3 | 28 | 0 | 1 | 32 | 0 | 0 | 0 | 0 | 0 | 58 |
| 17:25 | 0 | 22 | 3 | 0 | 25 | 4 | 0 | 2 | 0 | 6 | 5 | 21 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 57 |
| 17:30 | 0 | 13 | 2 | 0 | 15 | 6 | 0 | 6 | 0 | 12 | 0 | 21 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 48 |
| 17:35 | 0 | 10 | 7 | 0 | 17 | 8 | 0 | 5 | 0 | 13 | 5 | 21 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 56 |
| 17:40 | 0 | 13 | 2 | 0 | 15 | 4 | 0 | 1 | 0 | 5 | 2 | 20 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 42 |
| 17:45 | 0 | 11 | 5 | 0 | 16 | 5 | 0 | 3 | 0 | 8 | 5 | 22 | 0 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 51 |
| 17:50 | 0 | 16 | 3 | 0 | 19 | 5 | 0 | 7 | 0 | 12 | 2 | 14 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 47 |
| 17:55 | 0 | 13 | 2 | 0 | 15 | 1 | 0 | 2 | 0 | 3 | 3 | 18 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 39 |
| Total | 0 | 171 | 50 | 1 | 222 | 60 | 0 | 35 | 0 | 95 | 40 | 241 | 0 | 1 | 282 | 0 | 0 | 0 | 0 | 0 | 599 |
| Grand Total | 0 | 348 | 101 | 1 | 450 | 129 | 0 | 70 | 0 | 199 | 81 | 437 | 0 | 1 | 519 | 0 | 0 | 0 | 0 | 0 | 1168 |
| Apprch % | 0 | 77.3 | 22.4 | 0.2 | | 64.8 | 0 | 35.2 | 0 | | 15.6 | 84.2 | 0 | 0.2 | | 0 | 0 | 0 | 0 | | |
| Total % | 0 | 29.8 | 8.6 | 0.1 | 38.5 | 11 | 0 | 6 | 0 | 17 | 6.9 | 37.4 | 0 | 0.1 | 44.4 | 0 | 0 | 0 | 0 | 0 | |

# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Vollmer Rd - Marksheffel Rd PM
Site Code : S224580
Start Date : 3/6/2025
Page No : 2

| | Vollmer Rd Southbound | | | | | Marksheffel Rd Westbound | | | | | Vollmer Rd Northbound | | | | | Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 16:00 to 17:55 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 16:35 | | | | | | | | | | | | | | | | | | | | | |
| 16:35 | 0 | 21 | **8** | 0 | **29** | 4 | 0 | **9** | 0 | **13** | 4 | 14 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | **60** |
| 16:40 | 0 | 19 | 3 | 0 | 22 | 4 | 0 | 2 | 0 | 6 | 1 | 26 | 0 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 55 |
| 16:45 | 0 | 14 | 1 | 0 | 15 | **9** | 0 | 2 | 0 | 11 | 2 | 13 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 41 |
| 16:50 | 0 | 13 | 3 | 0 | 16 | 5 | 0 | 3 | 0 | 8 | 2 | 22 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 48 |
| 16:55 | 0 | 21 | 4 | 0 | 25 | 4 | 0 | 1 | 0 | 5 | 3 | 8 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 41 |
| 17:00 | 0 | 15 | 5 | 0 | 20 | 4 | 0 | 3 | 0 | 7 | 4 | 25 | 0 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 56 |
| 17:05 | 0 | 11 | 8 | **1** | 20 | 8 | 0 | 0 | 0 | 8 | 4 | 16 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 48 |
| 17:10 | 0 | 17 | 4 | 0 | 21 | 6 | 0 | 1 | 0 | 7 | 2 | 20 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 50 |
| 17:15 | 0 | 13 | 7 | 0 | 20 | 5 | 0 | 2 | 0 | 7 | **5** | 15 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 47 |
| 17:20 | 0 | 17 | 2 | 0 | 19 | 4 | 0 | 3 | 0 | 7 | 3 | **28** | 0 | **1** | **32** | 0 | 0 | 0 | 0 | 0 | 58 |
| 17:25 | 0 | **22** | 3 | 0 | 25 | 4 | 0 | 2 | 0 | 6 | 5 | 21 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 57 |
| 17:30 | 0 | 13 | 2 | 0 | 15 | 6 | 0 | 6 | 0 | 12 | 0 | 21 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 48 |
| Total Volume | 0 | 196 | 50 | 1 | 247 | 63 | 0 | 34 | 0 | 97 | 35 | 229 | 0 | 1 | 265 | 0 | 0 | 0 | 0 | 0 | 609 |
| % App. Total | 0 | 79.4 | 20.2 | 0.4 | | 64.9 | 0 | 35.1 | 0 | | 13.2 | 86.4 | 0 | 0.4 | | 0 | 0 | 0 | 0 | | |
| PHF | .000 | .742 | .521 | .083 | .710 | .583 | .000 | .315 | .000 | .622 | .583 | .682 | .000 | .083 | .690 | .000 | .000 | .000 | .000 | .000 | .846 |

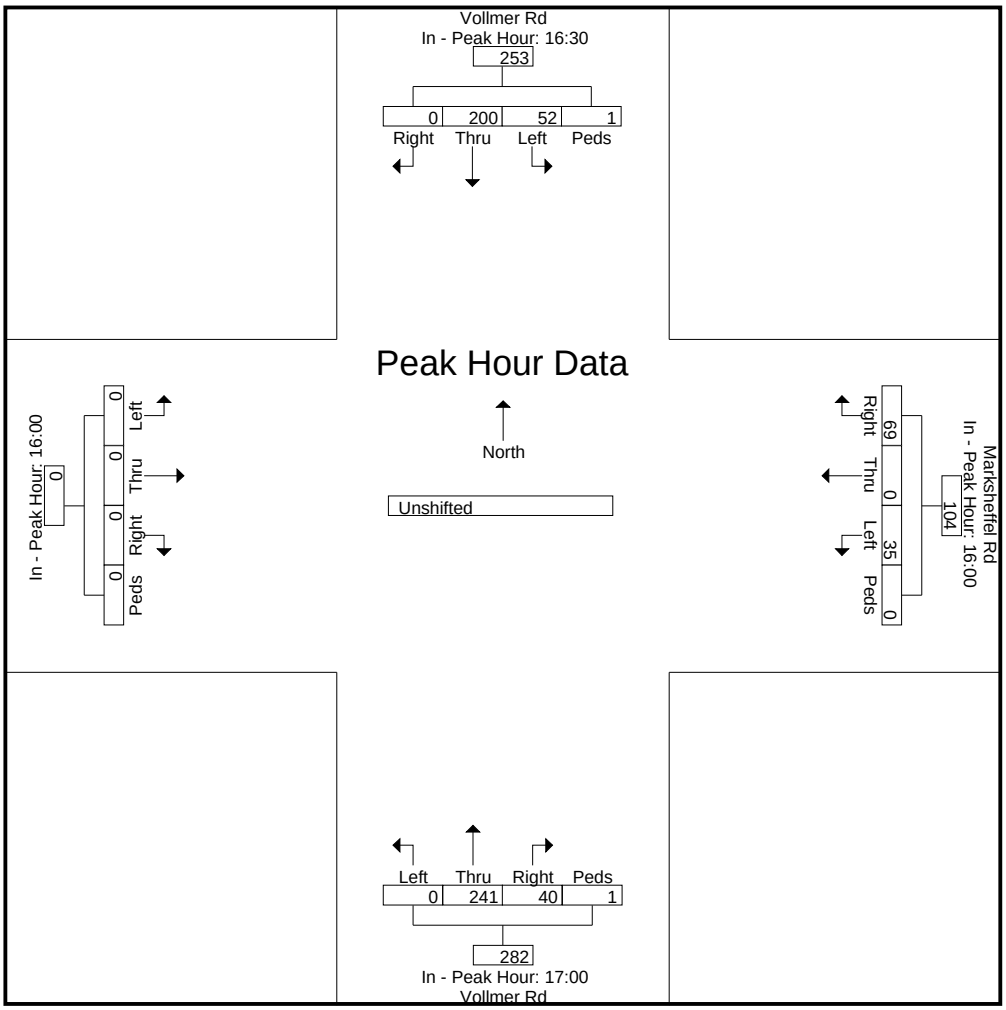


# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Vollmer Rd - Marksheffel Rd PM
Site Code : S224580
Start Date : 3/6/2025
Page No : 3

| | Vollmer Rd Southbound | | | | | Marksheffel Rd Westbound | | | | | Vollmer Rd Northbound | | | | | Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 16:00 to 17:55 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Each Approach Begins at: | | | | | | | | | | | | | | | | | | | | | |
| | 16:30 | | | | | 16:00 | | | | | 17:00 | | | | | 16:00 | | | | | |
| +0 mins. | 0 | 17 | 4 | 0 | 21 | 7 | 0 | 1 | 0 | 8 | 4 | 25 | 0 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | |
| +5 mins. | 0 | 21 | **8** | 0 | **29** | 5 | 0 | 3 | 0 | 8 | 4 | 16 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | |
| +10 mins. | 0 | 19 | 3 | 0 | 22 | 3 | 0 | 4 | 0 | 7 | 2 | 20 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | |
| +15 mins. | 0 | 14 | 1 | 0 | 15 | 6 | 0 | 3 | 0 | 9 | **5** | 15 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | |
| +20 mins. | 0 | 13 | 3 | 0 | 16 | 5 | 0 | 3 | 0 | 8 | 3 | **28** | 0 | **1** | **32** | 0 | 0 | 0 | 0 | 0 | |
| +25 mins. | 0 | 21 | 4 | 0 | 25 | **11** | 0 | 1 | 0 | 12 | 5 | 21 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | |
| +30 mins. | 0 | 15 | 5 | 0 | 20 | 6 | 0 | 3 | 0 | 9 | 0 | 21 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | |
| +35 mins. | 0 | 11 | 8 | **1** | 20 | 4 | 0 | **9** | 0 | **13** | 5 | 21 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | |
| +40 mins. | 0 | 17 | 4 | 0 | 21 | 4 | 0 | 2 | 0 | 6 | 2 | 20 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | |
| +45 mins. | 0 | 13 | 7 | 0 | 20 | 9 | 0 | 2 | 0 | 11 | 5 | 22 | 0 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | |
| +50 mins. | 0 | 17 | 2 | 0 | 19 | 5 | 0 | 3 | 0 | 8 | 2 | 14 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | |
| +55 mins. | 0 | **22** | 3 | 0 | 25 | 4 | 0 | 1 | 0 | 5 | 3 | 18 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | |
| Total Volume | 0 | 200 | 52 | 1 | 253 | 69 | 0 | 35 | 0 | 104 | 40 | 241 | 0 | 1 | 282 | 0 | 0 | 0 | 0 | 0 | |
| % App. Total | 0 | 79.1 | 20.6 | 0.4 | | 66.3 | 0 | 33.7 | 0 | | 14.2 | 85.5 | 0 | 0.4 | | 0 | 0 | 0 | 0 | | |
| PHF | .000 | .758 | .542 | .083 | .727 | .523 | .000 | .324 | .000 | .667 | .667 | .717 | .000 | .083 | .734 | .000 | .000 | .000 | .000 | .000 | |



**LSC Transportation Consultants, Inc.**
2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO  80909
719-633-2868

# Level of Service Reports

TRANSPORTATION
CONSULTANTS, INC.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.5 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 16 | 3 | 160 | 23 | 4 | 236 |
| Future Vol, veh/h | 16 | 3 | 160 | 23 | 4 | 236 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 485 | - | - | 235 | 385 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 90 | 90 | 90 | 90 | 90 | 90 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 18 | 3 | 178 | 26 | 4 | 262 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 317 | 89 | 0 | 0 | 204 | 0 |
| Stage 1 | 178 | - | - | - | - | - |
| Stage 2 | 139 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 651 | 951 | - | - | 1365 | - |
| Stage 1 | 835 | - | - | - | - | - |
| Stage 2 | 873 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 649 | 951 | - | - | 1365 | - |
| Mov Cap-2 Maneuver | 685 | - | - | - | - | - |
| Stage 1 | 835 | - | - | - | - | - |
| Stage 2 | 870 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 10.1 | 0 | 0.1 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 685 | 951 | 1365 | - |
| HCM Lane V/C Ratio | - | - | 0.026 | 0.004 | 0.003 | - |
| HCM Control Delay (s) | - | - | 10.4 | 8.8 | 7.6 | - |
| HCM Lane LOS | - | - | B | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0 | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.7 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 49 | 58 | 214 | 42 | 73 | 250 |
| Future Vol, veh/h | 49 | 58 | 214 | 42 | 73 | 250 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 300 | - | - | 155 | 300 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 81 | 81 | 71 | 71 | 87 | 87 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 60 | 72 | 301 | 59 | 84 | 287 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 613 | 151 | 0 | 0 | 360 | 0 |
| Stage 1 | 301 | - | - | - | - | - |
| Stage 2 | 312 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 424 | 868 | - | - | 1195 | - |
| Stage 1 | 725 | - | - | - | - | - |
| Stage 2 | 715 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 394 | 868 | - | - | 1195 | - |
| Mov Cap-2 Maneuver | 394 | - | - | - | - | - |
| Stage 1 | 725 | - | - | - | - | - |
| Stage 2 | 665 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 12.4 | 0 | 1.9 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 394 | 868 | 1195 | - |
| HCM Lane V/C Ratio | - | - | 0.154 | 0.082 | 0.07 | - |
| HCM Control Delay (s) | - | - | 15.8 | 9.5 | 8.2 | - |
| HCM Lane LOS | - | - | C | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.5 | 0.3 | 0.2 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 43 | 76 | 4 | 8 | 52 | 59 | 10 | 3 | 5 | 65 | 0 | 47 |
| Future Vol, veh/h | 43 | 76 | 4 | 8 | 52 | 59 | 10 | 3 | 5 | 65 | 0 | 47 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 300 | - | 200 | 250 | - | 205 | 0 | - | - | 155 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 83 | 83 | 83 | 76 | 76 | 76 | 78 | 78 | 78 | 90 | 90 | 90 |
| Heavy Vehicles, % | 2 | 2 | 70 | 70 | 2 | 2 | 88 | 2 | 88 | 2 | 2 | 2 |
| Mvmt Flow | 52 | 92 | 5 | 11 | 68 | 78 | 13 | 4 | 6 | 72 | 0 | 52 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 146 | 0 | 0 | 97 | 0 | 0 | 252 | 364 | 46 | 242 | 291 | 34 |
| Stage 1 | - | - | - | - | - | - | 196 | 196 | - | 90 | 90 | - |
| Stage 2 | - | - | - | - | - | - | 56 | 168 | - | 152 | 201 | - |
| Critical Hdwy | 4.14 | - | - | 5.5 | - | - | 9.26 | 6.54 | 8.66 | 7.54 | 6.54 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 8.26 | 5.54 | - | 6.54 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 8.26 | 5.54 | - | 6.54 | 5.54 | - |
| Follow-up Hdwy | 2.22 | - | - | 2.9 | - | - | 4.38 | 4.02 | 4.18 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 1434 | - | - | 1113 | - | - | 499 | 563 | 792 | 692 | 618 | 1032 |
| Stage 1 | - | - | - | - | - | - | 589 | 737 | - | 907 | 820 | - |
| Stage 2 | - | - | - | - | - | - | 748 | 758 | - | 835 | 734 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1434 | - | - | 1113 | - | - | 457 | 537 | 792 | 659 | 590 | 1032 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 457 | 537 | - | 659 | 590 | - |
| Stage 1 | - | - | - | - | - | - | 568 | 710 | - | 874 | 812 | - |
| Stage 2 | - | - | - | - | - | - | 703 | 750 | - | 794 | 708 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 2.7 | 0.6 | 11.9 | 10.1 |
| HCM LOS | | | B | B |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 457 | 672 | 1434 | - | - | 1113 | - | - | 659 | - | 1032 |
| HCM Lane V/C Ratio | 0.028 | 0.015 | 0.036 | - | - | 0.009 | - | - | 0.11 | - | 0.051 |
| HCM Control Delay (s) | 13.1 | 10.4 | 7.6 | - | - | 8.3 | - | - | 11.1 | 0 | 8.7 |
| HCM Lane LOS | B | B | A | - | - | A | - | - | B | A | A |
| HCM 95th %tile Q(veh) | 0.1 | 0 | 0.1 | - | - | 0 | - | - | 0.4 | - | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.8 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 21 | 4 | 217 | 5 | 3 | 150 |
| Future Vol, veh/h | 21 | 4 | 217 | 5 | 3 | 150 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 485 | - | - | 235 | 385 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 78 | 78 | 79 | 79 | 89 | 89 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 27 | 5 | 275 | 6 | 3 | 169 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 366 | 138 | 0 | 0 | 281 | 0 |
| Stage 1 | 275 | - | - | - | - | - |
| Stage 2 | 91 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 607 | 885 | - | - | 1278 | - |
| Stage 1 | 747 | - | - | - | - | - |
| Stage 2 | 922 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 606 | 885 | - | - | 1278 | - |
| Mov Cap-2 Maneuver | 642 | - | - | - | - | - |
| Stage 1 | 747 | - | - | - | - | - |
| Stage 2 | 920 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 10.6 | 0 | 0.2 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 642 | 885 | 1278 | - |
| HCM Lane V/C Ratio | - | - | 0.042 | 0.006 | 0.003 | - |
| HCM Control Delay (s) | - | - | 10.9 | 9.1 | 7.8 | - |
| HCM Lane LOS | - | - | B | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0 | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.4 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 34 | 63 | 229 | 35 | 50 | 196 |
| Future Vol, veh/h | 34 | 63 | 229 | 35 | 50 | 196 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 300 | - | - | 155 | 300 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 83 | 83 | 85 | 85 | 87 | 87 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 41 | 76 | 269 | 41 | 57 | 225 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 496 | 135 | 0 | 0 | 310 | 0 |
| Stage 1 | 269 | - | - | - | - | - |
| Stage 2 | 227 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 503 | 889 | - | - | 1247 | - |
| Stage 1 | 752 | - | - | - | - | - |
| Stage 2 | 789 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 480 | 889 | - | - | 1247 | - |
| Mov Cap-2 Maneuver | 480 | - | - | - | - | - |
| Stage 1 | 752 | - | - | - | - | - |
| Stage 2 | 753 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 10.7 | 0 | 1.6 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 480 | 889 | 1247 | - |
| HCM Lane V/C Ratio | - | - | 0.085 | 0.085 | 0.046 | - |
| HCM Control Delay (s) | - | - | 13.2 | 9.4 | 8 | - |
| HCM Lane LOS | - | - | B | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.3 | 0.3 | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.4 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 28 | 54 | 6 | 8 | 68 | 71 | 3 | 11 | 10 | 61 | 10 | 30 |
| Future Vol, veh/h | 28 | 54 | 6 | 8 | 68 | 71 | 3 | 11 | 10 | 61 | 10 | 30 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 300 | - | 200 | 250 | - | 205 | 0 | - | - | 155 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 76 | 76 | 76 | 85 | 85 | 85 | 78 | 78 | 78 | 83 | 83 | 83 |
| Heavy Vehicles, % | 2 | 2 | 70 | 70 | 2 | 2 | 88 | 2 | 88 | 2 | 2 | 2 |
| Mvmt Flow | 37 | 71 | 8 | 9 | 80 | 84 | 4 | 14 | 13 | 73 | 12 | 36 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 164 | 0 | 0 | 79 | 0 | 0 | 209 | 327 | 36 | 215 | 251 | 40 |
| Stage 1 | - | - | - | - | - | - | 145 | 145 | - | 98 | 98 | - |
| Stage 2 | - | - | - | - | - | - | 64 | 182 | - | 117 | 153 | - |
| Critical Hdwy | 4.14 | - | - | 5.5 | - | - | 9.26 | 6.54 | 8.66 | 7.54 | 6.54 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 8.26 | 5.54 | - | 6.54 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 8.26 | 5.54 | - | 6.54 | 5.54 | - |
| Follow-up Hdwy | 2.22 | - | - | 2.9 | - | - | 4.38 | 4.02 | 4.18 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 1412 | - | - | 1136 | - | - | 544 | 590 | 806 | 723 | 651 | 1022 |
| Stage 1 | - | - | - | - | - | - | 643 | 776 | - | 898 | 813 | - |
| Stage 2 | - | - | - | - | - | - | 738 | 748 | - | 875 | 770 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1412 | - | - | 1136 | - | - | 504 | 570 | 806 | 680 | 629 | 1022 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 504 | 570 | - | 680 | 629 | - |
| Stage 1 | - | - | - | - | - | - | 626 | 756 | - | 875 | 806 | - |
| Stage 2 | - | - | - | - | - | - | 696 | 742 | - | 823 | 750 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 2.4 | 0.4 | 10.9 | 10.2 |
| HCM LOS | | | B | B |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 504 | 662 | 1412 | - | - | 1136 | - | - | 680 | 629 | 1022 |
| HCM Lane V/C Ratio | 0.008 | 0.041 | 0.026 | - | - | 0.008 | - | - | 0.108 | 0.019 | 0.035 |
| HCM Control Delay (s) | 12.2 | 10.7 | 7.6 | - | - | 8.2 | - | - | 10.9 | 10.8 | 8.7 |
| HCM Lane LOS | B | B | A | - | - | A | - | - | B | B | A |
| HCM 95th %tile Q(veh) | 0 | 0.1 | 0.1 | - | - | 0 | - | - | 0.4 | 0.1 | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 150 | 56 | 217 | 72 | 22 | 325 |
| Future Vol, veh/h | 150 | 56 | 217 | 72 | 22 | 325 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 485 | - | - | 235 | 385 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 176 | 66 | 255 | 85 | 26 | 382 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 498 | 128 | 0 | 0 | 340 | 0 |
| Stage 1 | 255 | - | - | - | - | - |
| Stage 2 | 243 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 502 | 898 | - | - | 1216 | - |
| Stage 1 | 764 | - | - | - | - | - |
| Stage 2 | 775 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 491 | 898 | - | - | 1216 | - |
| Mov Cap-2 Maneuver | 572 | - | - | - | - | - |
| Stage 1 | 764 | - | - | - | - | - |
| Stage 2 | 759 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 12.8 | 0 | 0.5 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 572 | 898 | 1216 | - |
| HCM Lane V/C Ratio | - | - | 0.309 | 0.073 | 0.021 | - |
| HCM Control Delay (s) | - | - | 14.1 | 9.3 | 8 | - |
| HCM Lane LOS | - | - | B | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 1.3 | 0.2 | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 28 | 0 | 18 | 31 | 42 | 0 | 59 | 20 | 0 | 0 | 68 | 8 |
| Future Vol, veh/h | 28 | 0 | 18 | 31 | 42 | 0 | 59 | 20 | 0 | 0 | 68 | 8 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 535 | - | 200 | 200 | - | 200 | 410 | - | 155 | 235 | - | 155 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 33 | 0 | 21 | 36 | 49 | 0 | 69 | 24 | 0 | 0 | 80 | 9 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 49 | 0 | 0 | 21 | 0 | 0 | 203 | 187 | 0 | 199 | 208 | 25 |
| Stage 1 | - | - | - | - | - | - | 66 | 66 | - | 121 | 121 | - |
| Stage 2 | - | - | - | - | - | - | 137 | 121 | - | 78 | 87 | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 |
| 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 | 2.22 | - | - | 2.22 | - | - | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 1556 | - | - | 1593 | - | - | 737 | 706 | - | 742 | 688 | 1045 |
| Stage 1 | - | - | - | - | - | - | 937 | 839 | - | 870 | 795 | - |
| Stage 2 | - | - | - | - | - | - | 852 | 795 | - | 922 | 822 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1556 | - | - | 1593 | - | - | 641 | 675 | - | - | 658 | 1045 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 641 | 675 | - | - | 658 | - |
| Stage 1 | - | - | - | - | - | - | 917 | 821 | - | 852 | 777 | - |
| Stage 2 | - | - | - | - | - | - | 740 | 777 | - | 877 | 805 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 4.5 | 3.1 | 11.1 | 10.9 |
| HCM LOS | | | B | B |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | NBLn3 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 641 | 675 | - | 1556 | - | - | 1593 | - | - | - | 658 | 1045 |
| HCM Lane V/C Ratio | 0.108 | 0.035 | - | 0.021 | - | - | 0.023 | - | - | - | 0.122 | 0.009 |
| HCM Control Delay (s) | 11.3 | 10.5 | 0 | 7.4 | - | - | 7.3 | - | - | 0 | 11.2 | 8.5 |
| HCM Lane LOS | B | B | A | A | - | - | A | - | - | A | B | A |
| HCM 95th %tile Q(veh) | 0.4 | 0.1 | - | 0.1 | - | - | 0.1 | - | - | - | 0.4 | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 6.7 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 142 | 70 | 304 | 65 | 108 | 442 |
| Future Vol, veh/h | 142 | 70 | 304 | 65 | 108 | 442 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 300 | - | - | 155 | 300 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 167 | 82 | 358 | 76 | 127 | 520 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 872 | 179 | 0 | 0 | 434 | 0 |
| Stage 1 | 358 | - | - | - | - | - |
| Stage 2 | 514 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 290 | 833 | - | - | 1122 | - |
| Stage 1 | 678 | - | - | - | - | - |
| Stage 2 | 565 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 257 | 833 | - | - | 1122 | - |
| Mov Cap-2 Maneuver | 257 | - | - | - | - | - |
| Stage 1 | 678 | - | - | - | - | - |
| Stage 2 | 501 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 31.2 | 0 | 1.7 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 257 | 833 | 1122 | - |
| HCM Lane V/C Ratio | - | - | 0.65 | 0.099 | 0.113 | - |
| HCM Control Delay (s) | - | - | 41.7 | 9.8 | 8.6 | - |
| HCM Lane LOS | - | - | E | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 4.1 | 0.3 | 0.4 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 86.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 71 | 99 | 4 | 8 | 60 | 236 | 10 | 3 | 5 | 628 | 1 | 142 |
| Future Vol, veh/h | 71 | 99 | 4 | 8 | 60 | 236 | 10 | 3 | 5 | 628 | 1 | 142 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 300 | - | 200 | 250 | - | 205 | 0 | - | - | 155 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 70 | 70 | 2 | 2 | 88 | 2 | 88 | 2 | 2 | 2 |
| Mvmt Flow | 84 | 116 | 5 | 9 | 71 | 278 | 12 | 4 | 6 | 739 | 1 | 167 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 349 | 0 | 0 | 121 | 0 | 0 | 338 | 651 | 58 | 317 | 378 | 36 |
| Stage 1 | - | - | - | - | - | - | 284 | 284 | - | 89 | 89 | - |
| Stage 2 | - | - | - | - | - | - | 54 | 367 | - | 228 | 289 | - |
| Critical Hdwy | 4.14 | - | - | 5.5 | - | - | 9.26 | 6.54 | 8.66 | 7.54 | 6.54 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 8.26 | 5.54 | - | 6.54 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 8.26 | 5.54 | - | 6.54 | 5.54 | - |
| Follow-up Hdwy | 2.22 | - | - | 2.9 | - | - | 4.38 | 4.02 | 4.18 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 1207 | - | - | 1083 | - | - | 420 | 386 | 775 | ~ 612 | 552 | 1029 |
| Stage 1 | - | - | - | - | - | - | 507 | 675 | - | 908 | 820 | - |
| Stage 2 | - | - | - | - | - | - | 750 | 621 | - | 754 | 672 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1207 | - | - | 1083 | - | - | 331 | 356 | 775 | ~ 567 | 509 | 1029 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 331 | 356 | - | ~ 567 | 509 | - |
| Stage 1 | - | - | - | - | - | - | 472 | 628 | - | 844 | 813 | - |
| Stage 2 | - | - | - | - | - | - | 622 | 616 | - | ~ 692 | 625 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 3.3 | 0.2 | 14.3 | 141 |
| HCM LOS | | | B | F |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 331 | 538 | 1207 | - | - | 1083 | - | - | 567 | 509 | 1029 |
| HCM Lane V/C Ratio | 0.036 | 0.017 | 0.069 | - | - | 0.009 | - | - | 1.303 | 0.002 | 0.162 |
| HCM Control Delay (s) | 16.3 | 11.8 | 8.2 | - | - | 8.4 | - | - | 171 | 12.1 | 9.2 |
| HCM Lane LOS | C | B | A | - | - | A | - | - | F | B | A |
| HCM 95th %tile Q(veh) | 0.1 | 0.1 | 0.2 | - | - | 0 | - | - | 30.5 | 0 | 0.6 |

**Notes**

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

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.3 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 3 | 1 | 5 | 5 | 0 |
| Future Vol, veh/h | 0 | 3 | 1 | 5 | 5 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 200 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 4 | 1 | 6 | 6 | 0 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 14 | 6 | 6 | 0 | - | 0 |
| Stage 1 | 6 | - | - | - | - | - |
| Stage 2 | 8 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 1005 | 1077 | 1615 | - | - | - |
| Stage 1 | 1017 | - | - | - | - | - |
| Stage 2 | 1015 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 1004 | 1077 | 1615 | - | - | - |
| Mov Cap-2 Maneuver | 1004 | - | - | - | - | - |
| Stage 1 | 1016 | - | - | - | - | - |
| Stage 2 | 1015 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.4 | 1.2 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1615 | - | 1077 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | 0.003 | - | - |
| HCM Control Delay (s) | 7.2 | - | 8.4 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.1 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 194 | 55 | 219 | 79 | 21 | 325 |
| Future Vol, veh/h | 194 | 55 | 219 | 79 | 21 | 325 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 485 | - | - | 235 | 385 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 228 | 65 | 258 | 93 | 25 | 382 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 499 | 129 | 0 | 0 | 351 | 0 |
| Stage 1 | 258 | - | - | - | - | - |
| Stage 2 | 241 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 501 | 897 | - | - | 1204 | - |
| Stage 1 | 761 | - | - | - | - | - |
| Stage 2 | 776 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 490 | 897 | - | - | 1204 | - |
| Mov Cap-2 Maneuver | 571 | - | - | - | - | - |
| Stage 1 | 761 | - | - | - | - | - |
| Stage 2 | 760 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 14.1 | 0 | 0.5 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 571 | 897 | 1204 | - |
| HCM Lane V/C Ratio | - | - | 0.4 | 0.072 | 0.021 | - |
| HCM Control Delay (s) | - | - | 15.4 | 9.3 | 8.1 | - |
| HCM Lane LOS | - | - | C | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 1.9 | 0.2 | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 8.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 35 | 0 | 18 | 0 | 0 | 0 | 59 | 23 | 0 | 0 | 72 | 94 |
| Future Vol, veh/h | 35 | 0 | 18 | 0 | 0 | 0 | 59 | 23 | 0 | 0 | 72 | 94 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 535 | - | 200 | 200 | - | 200 | 410 | - | 155 | 235 | - | 155 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 41 | 0 | 21 | 0 | 0 | 0 | 69 | 27 | 0 | 0 | 85 | 111 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1 | 0 | 0 | 21 | 0 | 0 | 125 | 83 | 0 | 97 | 104 | 1 |
| Stage 1 | - | - | - | - | - | - | 82 | 82 | - | 1 | 1 | - |
| Stage 2 | - | - | - | - | - | - | 43 | 1 | - | 96 | 103 | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 |
| 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 | 2.22 | - | - | 2.22 | - | - | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 1620 | - | - | 1593 | - | - | 836 | 806 | - | 875 | 785 | 1083 |
| Stage 1 | - | - | - | - | - | - | 917 | 826 | - | 1021 | 895 | - |
| Stage 2 | - | - | - | - | - | - | 966 | 895 | - | 900 | 809 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1620 | - | - | 1593 | - | - | 674 | 786 | - | - | 765 | 1083 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 674 | 786 | - | - | 765 | - |
| Stage 1 | - | - | - | - | - | - | 894 | 805 | - | 995 | 895 | - |
| Stage 2 | - | - | - | - | - | - | 785 | 895 | - | 848 | 789 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 4.8 | 0 | 10.6 | 9.4 |
| HCM LOS | | | B | A |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | NBLn3 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 674 | 786 | - | 1620 | - | - | 1593 | - | - | - | 765 | 1083 |
| HCM Lane V/C Ratio | 0.103 | 0.034 | - | 0.025 | - | - | - | - | - | - | 0.111 | 0.102 |
| HCM Control Delay (s) | 11 | 9.7 | 0 | 7.3 | - | - | 0 | - | - | 0 | 10.3 | 8.7 |
| HCM Lane LOS | B | A | A | A | - | - | A | - | - | A | B | A |
| HCM 95th %tile Q(veh) | 0.3 | 0.1 | - | 0.1 | - | - | 0 | - | - | - | 0.4 | 0.3 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.6 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 149 | 70 | 311 | 68 | 108 | 487 |
| Future Vol, veh/h | 149 | 70 | 311 | 68 | 108 | 487 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 300 | - | - | 155 | 300 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 175 | 82 | 366 | 80 | 127 | 573 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 907 | 183 | 0 | 0 | 446 | 0 |
| Stage 1 | 366 | - | - | - | - | - |
| Stage 2 | 541 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 275 | 828 | - | - | 1111 | - |
| Stage 1 | 672 | - | - | - | - | - |
| Stage 2 | 548 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 244 | 828 | - | - | 1111 | - |
| Mov Cap-2 Maneuver | 244 | - | - | - | - | - |
| Stage 1 | 672 | - | - | - | - | - |
| Stage 2 | 486 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 37.2 | 0 | 1.6 |
| HCM LOS | E | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 244 | 828 | 1111 | - |
| HCM Lane V/C Ratio | - | - | 0.718 | 0.099 | 0.114 | - |
| HCM Control Delay (s) | - | - | 50.1 | 9.8 | 8.7 | - |
| HCM Lane LOS | - | - | F | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 4.9 | 0.3 | 0.4 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 79.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 73 | 99 | 4 | 8 | 60 | 242 | 10 | 3 | 5 | 610 | 1 | 150 |
| Future Vol, veh/h | 73 | 99 | 4 | 8 | 60 | 242 | 10 | 3 | 5 | 610 | 1 | 150 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 300 | - | 200 | 250 | - | 205 | 0 | - | - | 155 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 88 | 88 | 2 | 2 | 78 | 2 | 78 | 2 | 2 | 2 |
| Mvmt Flow | 86 | 116 | 5 | 9 | 71 | 285 | 12 | 4 | 6 | 718 | 1 | 176 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 356 | 0 | 0 | 121 | 0 | 0 | 342 | 662 | 58 | 321 | 382 | 36 |
| Stage 1 | - | - | - | - | - | - | 288 | 288 | - | 89 | 89 | - |
| Stage 2 | - | - | - | - | - | - | 54 | 374 | - | 232 | 293 | - |
| Critical Hdwy | 4.14 | - | - | 5.86 | - | - | 9.06 | 6.54 | 8.46 | 7.54 | 6.54 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 8.06 | 5.54 | - | 6.54 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 8.06 | 5.54 | - | 6.54 | 5.54 | - |
| Follow-up Hdwy | 2.22 | - | - | 3.08 | - | - | 4.28 | 4.02 | 4.08 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 1199 | - | - | 1010 | - | - | 433 | 381 | 796 | ~ 608 | 550 | 1029 |
| Stage 1 | - | - | - | - | - | - | 521 | 672 | - | 908 | 820 | - |
| Stage 2 | - | - | - | - | - | - | 770 | 616 | - | 750 | 669 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1199 | - | - | 1010 | - | - | 336 | 351 | 796 | ~ 562 | 506 | 1029 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 336 | 351 | - | ~ 562 | 506 | - |
| Stage 1 | - | - | - | - | - | - | 483 | 624 | - | 843 | 813 | - |
| Stage 2 | - | - | - | - | - | - | 631 | 610 | - | ~ 687 | 621 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 3.4 | 0.2 | 14.2 | 130.6 |
| HCM LOS | | | B | F |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 336 | 540 | 1199 | - | - | 1010 | - | - | 562 | 506 | 1029 |
| HCM Lane V/C Ratio | 0.035 | 0.017 | 0.072 | - | - | 0.009 | - | - | 1.277 | 0.002 | 0.171 |
| HCM Control Delay (s) | 16.1 | 11.8 | 8.2 | - | - | 8.6 | - | - | 160.7 | 12.1 | 9.2 |
| HCM Lane LOS | C | B | A | - | - | A | - | - | F | B | A |
| HCM 95th %tile Q(veh) | 0.1 | 0.1 | 0.2 | - | - | 0 | - | - | 28.8 | 0 | 0.6 |

Notes

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

| Intersection | |
|---|---|
| Int Delay, s/veh | 8.3 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 123 | 45 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 123 | 45 | 0 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 200 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 145 | 53 | 0 | 0 | 0 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 107 | 1 | 1 | 0 | - | 0 |
| Stage 1 | 1 | - | - | - | - | - |
| Stage 2 | 106 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 891 | 1084 | 1622 | - | - | - |
| Stage 1 | 1022 | - | - | - | - | - |
| Stage 2 | 918 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 862 | 1084 | 1622 | - | - | - |
| Mov Cap-2 Maneuver | 862 | - | - | - | - | - |
| Stage 1 | 988 | - | - | - | - | - |
| Stage 2 | 918 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.8 | 7.3 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1622 | - | 1084 | - | - |
| HCM Lane V/C Ratio | 0.033 | - | 0.133 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.8 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.5 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.9 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 231 | 63 | 219 | 104 | 24 | 325 |
| Future Vol, veh/h | 231 | 63 | 219 | 104 | 24 | 325 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 485 | - | - | 235 | 385 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 272 | 74 | 258 | 122 | 28 | 382 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 505 | 129 | 0 | 0 | 380 | 0 |
| Stage 1 | 258 | - | - | - | - | - |
| Stage 2 | 247 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 496 | 897 | - | - | 1175 | - |
| Stage 1 | 761 | - | - | - | - | - |
| Stage 2 | 771 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 484 | 897 | - | - | 1175 | - |
| Mov Cap-2 Maneuver | 566 | - | - | - | - | - |
| Stage 1 | 761 | - | - | - | - | - |
| Stage 2 | 752 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 15.5 | 0 | 0.6 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 566 | 897 | 1175 | - |
| HCM Lane V/C Ratio | - | - | 0.48 | 0.083 | 0.024 | - |
| HCM Control Delay (s) | - | - | 17.1 | 9.4 | 8.1 | - |
| HCM Lane LOS | - | - | C | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 2.6 | 0.3 | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 9.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 62 | 0 | 18 | 30 | 41 | 0 | 59 | 32 | 0 | 0 | 98 | 97 |
| Future Vol, veh/h | 62 | 0 | 18 | 30 | 41 | 0 | 59 | 32 | 0 | 0 | 98 | 97 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 535 | - | 200 | 200 | - | 200 | 410 | - | 155 | 235 | - | 155 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 73 | 0 | 21 | 35 | 48 | 0 | 69 | 38 | 0 | 0 | 115 | 114 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 48 | 0 | 0 | 21 | 0 | 0 | 298 | 264 | 0 | 283 | 285 | 24 |
| Stage 1 | - | - | - | - | - | - | 146 | 146 | - | 118 | 118 | - |
| Stage 2 | - | - | - | - | - | - | 152 | 118 | - | 165 | 167 | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 |
| 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 | 2.22 | - | - | 2.22 | - | - | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 1557 | - | - | 1593 | - | - | 632 | 640 | - | 647 | 623 | 1047 |
| Stage 1 | - | - | - | - | - | - | 842 | 775 | - | 874 | 797 | - |
| Stage 2 | - | - | - | - | - | - | 835 | 797 | - | 821 | 759 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1557 | - | - | 1593 | - | - | 453 | 596 | - | - | 581 | 1047 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 453 | 596 | - | - | 581 | - |
| Stage 1 | - | - | - | - | - | - | 802 | 739 | - | 833 | 779 | - |
| Stage 2 | - | - | - | - | - | - | 620 | 779 | - | 743 | 723 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 5.8 | 3.1 | 13.3 | 10.8 |
| HCM LOS | | | B | B |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | NBLn3 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 453 | 596 | - | 1557 | - | - | 1593 | - | - | - | 581 | 1047 |
| HCM Lane V/C Ratio | 0.153 | 0.063 | - | 0.047 | - | - | 0.022 | - | - | - | 0.198 | 0.109 |
| HCM Control Delay (s) | 14.4 | 11.4 | 0 | 7.4 | - | - | 7.3 | - | - | 0 | 12.7 | 8.9 |
| HCM Lane LOS | B | B | A | A | - | - | A | - | - | A | B | A |
| HCM 95th %tile Q(veh) | 0.5 | 0.2 | - | 0.1 | - | - | 0.1 | - | - | - | 0.7 | 0.4 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 8.5 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 149 | 70 | 336 | 68 | 108 | 523 |
| Future Vol, veh/h | 149 | 70 | 336 | 68 | 108 | 523 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 300 | - | - | 155 | 300 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 175 | 82 | 395 | 80 | 127 | 615 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 957 | 198 | 0 | 0 | 475 | 0 |
| Stage 1 | 395 | - | - | - | - | - |
| Stage 2 | 562 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 256 | 810 | - | - | 1083 | - |
| Stage 1 | 650 | - | - | - | - | - |
| Stage 2 | 534 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 226 | 810 | - | - | 1083 | - |
| Mov Cap-2 Maneuver | 226 | - | - | - | - | - |
| Stage 1 | 650 | - | - | - | - | - |
| Stage 2 | 472 | - | - | - | - | - |

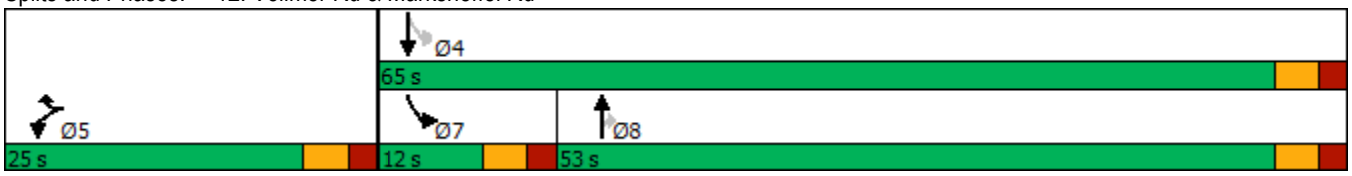
| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 44.3 | 0 | 1.5 |
| HCM LOS | E | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 226 | 810 | 1083 | - |
| HCM Lane V/C Ratio | - | - | 0.776 | 0.102 | 0.117 | - |
| HCM Control Delay (s) | - | - | 60.5 | 9.9 | 8.8 | - |
| HCM Lane LOS | - | - | F | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 5.5 | 0.3 | 0.4 | - |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 149 | 70 | 336 | 68 | 108 | 523 |
| Future Volume (vph) | 149 | 70 | 336 | 68 | 108 | 523 |
| Turn Type | Prot | Prot | NA | Perm | pm+pt | NA |
| Protected Phases | 5 | 5 | 8 | | 7 | 4 |
| Permitted Phases | | | | 8 | 4 | |
| Detector Phase | 5 | 5 | 8 | 8 | 7 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 10.0 | 10.0 | 23.0 | 23.0 | 10.0 | 23.0 |
| Total Split (s) | 25.0 | 25.0 | 53.0 | 53.0 | 12.0 | 65.0 |
| Total Split (%) | 27.8% | 27.8% | 58.9% | 58.9% | 13.3% | 72.2% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| All-Red Time (s) | 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 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Lead/Lag | | | Lag | Lag | Lead | |
| Lead-Lag Optimize? | | | Yes | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None |
| Act Effct Green (s) | 10.9 | 10.9 | 15.7 | 15.7 | 21.1 | 24.0 |
| Actuated g/C Ratio | 0.29 | 0.29 | 0.41 | 0.41 | 0.56 | 0.63 |
| v/c Ratio | 0.34 | 0.16 | 0.27 | 0.11 | 0.20 | 0.28 |
| Control Delay | 16.9 | 5.5 | 13.2 | 4.6 | 6.2 | 5.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 16.9 | 5.5 | 13.2 | 4.6 | 6.2 | 5.7 |
| LOS | B | A | B | A | A | A |
| Approach Delay | 13.3 | | 11.7 | | | 5.8 |
| Approach LOS | B | | B | | | A |

| Intersection Summary | |
|---|---|
| Cycle Length: 90 | |
| Actuated Cycle Length: 38 | |
| Natural Cycle: 45 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.34 | |
| Intersection Signal Delay: 9.0 | Intersection LOS: A |
| Intersection Capacity Utilization 36.0% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 12: Vollmer Rd & Marksheffel Rd



| Intersection | |
|---|---|
| Int Delay, s/veh | 107 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 73 | 99 | 4 | 8 | 60 | 251 | 10 | 3 | 5 | 667 | 1 | 150 |
| Future Vol, veh/h | 73 | 99 | 4 | 8 | 60 | 251 | 10 | 3 | 5 | 667 | 1 | 150 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 300 | - | 200 | 250 | - | 205 | 0 | - | - | 155 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 70 | 70 | 2 | 2 | 88 | 2 | 88 | 2 | 2 | 2 |
| Mvmt Flow | 86 | 116 | 5 | 9 | 71 | 295 | 12 | 4 | 6 | 785 | 1 | 176 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 366 | 0 | 0 | 121 | 0 | 0 | 342 | 672 | 58 | 321 | 382 | 36 |
| Stage 1 | - | - | - | - | - | - | 288 | 288 | - | 89 | 89 | - |
| Stage 2 | - | - | - | - | - | - | 54 | 384 | - | 232 | 293 | - |
| Critical Hdwy | 4.14 | - | - | 5.5 | - | - | 9.26 | 6.54 | 8.66 | 7.54 | 6.54 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 8.26 | 5.54 | - | 6.54 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 8.26 | 5.54 | - | 6.54 | 5.54 | - |
| Follow-up Hdwy | 2.22 | - | - | 2.9 | - | - | 4.38 | 4.02 | 4.18 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 1189 | - | - | 1083 | - | - | 417 | 376 | 775 | ~ 608 | 550 | 1029 |
| Stage 1 | - | - | - | - | - | - | 503 | 672 | - | 908 | 820 | - |
| Stage 2 | - | - | - | - | - | - | 750 | 610 | - | ~ 750 | 669 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1189 | - | - | 1083 | - | - | 324 | 346 | 775 | ~ 562 | 507 | 1029 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 324 | 346 | - | ~ 562 | 507 | - |
| Stage 1 | - | - | - | - | - | - | 467 | 624 | - | 843 | 813 | - |
| Stage 2 | - | - | - | - | - | - | 615 | 605 | - | ~ 687 | 621 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 3.4 | 0.2 | 14.5 | 172.9 |
| HCM LOS | | | B | F |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 324 | 529 | 1189 | - | - | 1083 | - | - | 562 | 507 | 1029 |
| HCM Lane V/C Ratio | 0.036 | 0.018 | 0.072 | - | - | 0.009 | - | - | 1.396 | 0.002 | 0.171 |
| HCM Control Delay (s) | 16.5 | 11.9 | 8.3 | - | - | 8.4 | - | - | 210 | 12.1 | 9.2 |
| HCM Lane LOS | C | B | A | - | - | A | - | - | F | B | A |
| HCM 95th %tile Q(veh) | 0.1 | 0.1 | 0.2 | - | - | 0 | - | - | 36 | 0 | 0.6 |

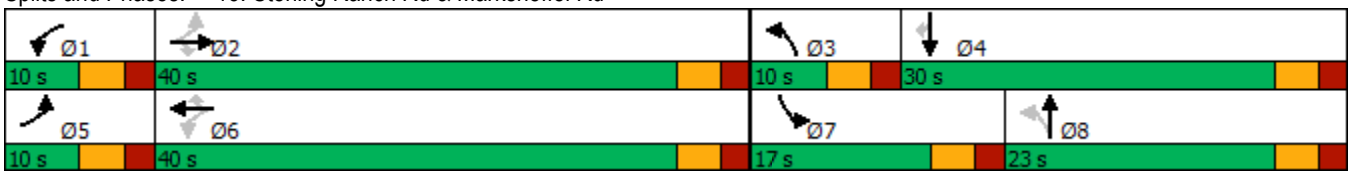
Notes

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

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 73 | 99 | 4 | 8 | 60 | 251 | 10 | 3 | 667 | 1 | 150 |
| Future Volume (vph) | 73 | 99 | 4 | 8 | 60 | 251 | 10 | 3 | 667 | 1 | 150 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 15.0 | 15.0 | 5.0 | 15.0 | 15.0 | 5.0 | 10.0 | 5.0 | 10.0 | 10.0 |
| Minimum Split (s) | 10.0 | 23.0 | 23.0 | 10.0 | 23.0 | 23.0 | 10.0 | 23.0 | 10.0 | 23.0 | 23.0 |
| Total Split (s) | 10.0 | 40.0 | 40.0 | 10.0 | 40.0 | 40.0 | 10.0 | 23.0 | 17.0 | 30.0 | 30.0 |
| Total Split (%) | 11.1% | 44.4% | 44.4% | 11.1% | 44.4% | 44.4% | 11.1% | 25.6% | 18.9% | 33.3% | 33.3% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 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) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | None | None | None |
| Act Effct Green (s) | 20.2 | 19.5 | 19.5 | 18.3 | 15.6 | 15.6 | 6.7 | 10.4 | 12.4 | 13.2 | 13.2 |
| Actuated g/C Ratio | 0.44 | 0.42 | 0.42 | 0.40 | 0.34 | 0.34 | 0.15 | 0.23 | 0.27 | 0.29 | 0.29 |
| v/c Ratio | 0.15 | 0.08 | 0.01 | 0.03 | 0.06 | 0.40 | 0.09 | 0.04 | 0.85 | 0.00 | 0.30 |
| Control Delay | 9.0 | 10.9 | 0.0 | 9.0 | 14.0 | 4.7 | 16.3 | 15.1 | 30.7 | 15.0 | 5.1 |
| 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 | 9.0 | 10.9 | 0.0 | 9.0 | 14.0 | 4.7 | 16.3 | 15.1 | 30.7 | 15.0 | 5.1 |
| LOS | A | B | A | A | B | A | B | B | C | B | A |
| Approach Delay | | 9.9 | | | 6.6 | | | 15.8 | | 26.0 | |
| Approach LOS | | A | | | A | | | B | | C | |

| Intersection Summary | |
|---|---|
| Cycle Length: 90 | |
| Actuated Cycle Length: 46 | |
| Natural Cycle: 80 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.85 | |
| Intersection Signal Delay: 19.1 | Intersection LOS: B |
| Intersection Capacity Utilization 46.5% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 13: Sterling Ranch Rd & Marksheffel Rd



| Intersection | |
|---|---|
| Int Delay, s/veh | 8.5 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | ↑↑ | ↑↑ | ↱ | | ↱ |
| Traffic Vol, veh/h | 0 | 0 | 0 | 0 | 0 | 71 |
| Future Vol, veh/h | 0 | 0 | 0 | 0 | 0 | 71 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | 0 | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 0 | 0 | 84 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 0 | - | 0 | - | 1 |
| 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 | - | - | - | 0 | 1083 |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | - | 1083 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 8.6 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | 1083 |
| HCM Lane V/C Ratio | - | - | - | 0.077 |
| HCM Control Delay (s) | - | - | - | 8.6 |
| HCM Lane LOS | - | - | - | A |
| HCM 95th %tile Q(veh) | - | - | - | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 123 | 24 | 0 | 0 | 45 | 6 | 31 | 0 | 5 | 0 |
| Future Vol, veh/h | 0 | 0 | 123 | 24 | 0 | 0 | 45 | 6 | 31 | 0 | 5 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 200 | - | 200 | 200 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 145 | 28 | 0 | 0 | 53 | 7 | 36 | 0 | 6 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 137 | 155 | 6 | 192 | 119 | 7 | 6 | 0 | 0 | 43 | 0 | 0 |
| Stage 1 | 6 | 6 | - | 113 | 113 | - | - | - | - | - | - | - |
| Stage 2 | 131 | 149 | - | 79 | 6 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 834 | 737 | 1077 | 768 | 771 | 1075 | 1615 | - | - | 1566 | - | - |
| Stage 1 | 1016 | 891 | - | 892 | 802 | - | - | - | - | - | - | - |
| Stage 2 | 873 | 774 | - | 930 | 891 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 813 | 713 | 1077 | 648 | 746 | 1075 | 1615 | - | - | 1566 | - | - |
| Mov Cap-2 Maneuver | 813 | 713 | - | 648 | 746 | - | - | - | - | - | - | - |
| Stage 1 | 982 | 891 | - | 863 | 776 | - | - | - | - | - | - | - |
| Stage 2 | 844 | 748 | - | 805 | 891 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.9 | 10.8 | 4 | 0 |
| HCM LOS | A | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1615 | - | - | 1077 | 648 | 1566 | - | - |
| HCM Lane V/C Ratio | 0.033 | - | - | 0.134 | 0.044 | - | - | - |
| HCM Control Delay (s) | 7.3 | - | - | 8.9 | 10.8 | 0 | - | - |
| HCM Lane LOS | A | - | - | A | B | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.5 | 0.1 | 0 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.5 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 5 | 0 | 0 | 6 | 0 | 0 |
| Future Vol, veh/h | 5 | 0 | 0 | 6 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 200 | - | 200 | 200 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 6 | 0 | 0 | 7 | 0 | 0 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1 | 0 | 0 | 0 | 7 | 0 |
| Stage 1 | 0 | - | - | - | - | - |
| Stage 2 | 1 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 1022 | - | - | - | 1614 | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | 1022 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 1022 | - | - | - | 1614 | - |
| Mov Cap-2 Maneuver | 1022 | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | 1022 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.5 | 0 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 1022 | - | 1614 | - |
| HCM Lane V/C Ratio | - | - | 0.006 | - | - | - |
| HCM Control Delay (s) | - | - | 8.5 | 0 | 0 | - |
| HCM Lane LOS | - | - | A | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 0 | - | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.9 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 168 | 44 | 346 | 257 | 69 | 225 |
| Future Vol, veh/h | 168 | 44 | 346 | 257 | 69 | 225 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 485 | - | - | 235 | 385 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 198 | 52 | 407 | 302 | 81 | 265 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 702 | 204 | 0 | 0 | 709 | 0 |
| Stage 1 | 407 | - | - | - | - | - |
| Stage 2 | 295 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 372 | 803 | - | - | 886 | - |
| Stage 1 | 641 | - | - | - | - | - |
| Stage 2 | 730 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 338 | 803 | - | - | 886 | - |
| Mov Cap-2 Maneuver | 452 | - | - | - | - | - |
| Stage 1 | 641 | - | - | - | - | - |
| Stage 2 | 664 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 17.1 | 0 | 2.2 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 452 | 803 | 886 | - |
| HCM Lane V/C Ratio | - | - | 0.437 | 0.064 | 0.092 | - |
| HCM Control Delay (s) | - | - | 19 | 9.8 | 9.5 | - |
| HCM Lane LOS | - | - | C | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 2.2 | 0.2 | 0.3 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 10.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 191 | 0 | 62 | 21 | 29 | 0 | 48 | 98 | 0 | 0 | 67 | 67 |
| Future Vol, veh/h | 191 | 0 | 62 | 21 | 29 | 0 | 48 | 98 | 0 | 0 | 67 | 67 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 535 | - | 200 | 200 | - | 200 | 410 | - | 155 | 235 | - | 155 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 225 | 0 | 73 | 25 | 34 | 0 | 56 | 115 | 0 | 0 | 79 | 79 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 34 | 0 | 0 | 73 | 0 | 0 | 557 | 534 | 0 | 592 | 607 | 17 |
| Stage 1 | - | - | - | - | - | - | 450 | 450 | - | 84 | 84 | - |
| Stage 2 | - | - | - | - | - | - | 107 | 84 | - | 508 | 523 | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 |
| 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 | 2.22 | - | - | 2.22 | - | - | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 1576 | - | - | 1525 | - | - | 413 | 451 | - | 390 | 409 | 1058 |
| Stage 1 | - | - | - | - | - | - | 558 | 570 | - | 915 | 824 | - |
| Stage 2 | - | - | - | - | - | - | 887 | 824 | - | 516 | 529 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1576 | - | - | 1525 | - | - | 278 | 380 | - | - | 345 | 1058 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 278 | 380 | - | - | 345 | - |
| Stage 1 | - | - | - | - | - | - | 478 | 488 | - | 784 | 811 | - |
| Stage 2 | - | - | - | - | - | - | 729 | 811 | - | 338 | 453 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 5.8 | 3.1 | 19.4 | 13.6 |
| HCM LOS | | | C | B |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | NBLn3 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 278 | 380 | - | 1576 | - | - | 1525 | - | - | - | 345 | 1058 |
| HCM Lane V/C Ratio | 0.203 | 0.303 | - | 0.143 | - | - | 0.016 | - | - | - | 0.228 | 0.075 |
| HCM Control Delay (s) | 21.2 | 18.5 | 0 | 7.7 | - | - | 7.4 | - | - | 0 | 18.5 | 8.7 |
| HCM Lane LOS | C | C | A | A | - | - | A | - | - | A | C | A |
| HCM 95th %tile Q(veh) | 0.7 | 1.3 | - | 0.5 | - | - | 0 | - | - | - | 0.9 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.5 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 101 | 96 | 596 | 122 | 75 | 382 |
| Future Vol, veh/h | 101 | 96 | 596 | 122 | 75 | 382 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 300 | - | - | 155 | 300 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 119 | 113 | 701 | 144 | 88 | 449 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1102 | 351 | 0 | 0 | 845 | 0 |
| Stage 1 | 701 | - | - | - | - | - |
| Stage 2 | 401 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 206 | 645 | - | - | 787 | - |
| Stage 1 | 453 | - | - | - | - | - |
| Stage 2 | 645 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 183 | 645 | - | - | 787 | - |
| Mov Cap-2 Maneuver | 183 | - | - | - | - | - |
| Stage 1 | 453 | - | - | - | - | - |
| Stage 2 | 573 | - | - | - | - | - |

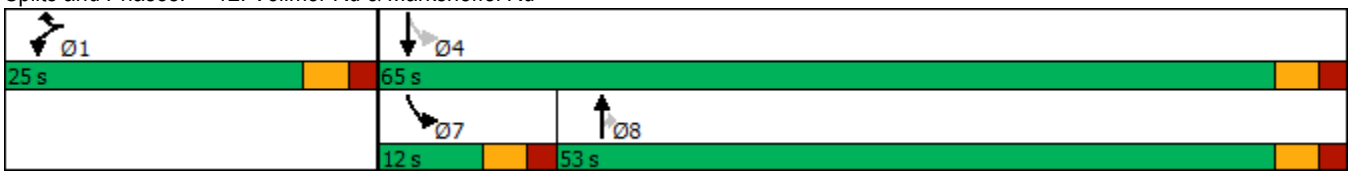
| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 34.1 | 0 | 1.7 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 183 | 645 | 787 | - |
| HCM Lane V/C Ratio | - | - | 0.649 | 0.175 | 0.112 | - |
| HCM Control Delay (s) | - | - | 55.2 | 11.8 | 10.2 | - |
| HCM Lane LOS | - | - | F | B | B | - |
| HCM 95th %tile Q(veh) | - | - | 3.8 | 0.6 | 0.4 | - |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 101 | 96 | 596 | 122 | 75 | 382 |
| Future Volume (vph) | 101 | 96 | 596 | 122 | 75 | 382 |
| Turn Type | Prot | Prot | NA | Perm | pm+pt | NA |
| Protected Phases | 1 | 1 | 8 | | 7 | 4 |
| Permitted Phases | | | | 8 | 4 | |
| Detector Phase | 1 | 1 | 8 | 8 | 7 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 10.0 | 10.0 | 23.0 | 23.0 | 10.0 | 23.0 |
| Total Split (s) | 25.0 | 25.0 | 53.0 | 53.0 | 12.0 | 65.0 |
| Total Split (%) | 27.8% | 27.8% | 58.9% | 58.9% | 13.3% | 72.2% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| All-Red Time (s) | 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 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Lead/Lag | | | Lag | Lag | Lead | |
| Lead-Lag Optimize? | | | Yes | Yes | Yes | |
| Recall Mode | None | None | Max | Max | Max | None |
| Act Effct Green (s) | 10.7 | 10.7 | 48.1 | 48.1 | 60.1 | 60.1 |
| Actuated g/C Ratio | 0.13 | 0.13 | 0.60 | 0.60 | 0.74 | 0.74 |
| v/c Ratio | 0.51 | 0.37 | 0.33 | 0.14 | 0.16 | 0.17 |
| Control Delay | 40.3 | 10.3 | 9.2 | 2.0 | 4.0 | 3.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 40.3 | 10.3 | 9.2 | 2.0 | 4.0 | 3.5 |
| LOS | D | B | A | A | A | A |
| Approach Delay | 25.7 | | 7.9 | | | 3.6 |
| Approach LOS | C | | A | | | A |

| Intersection Summary | |
|---|---|
| Cycle Length: 90 | |
| Actuated Cycle Length: 80.8 | |
| Natural Cycle: 45 | |
| Control Type: Semi Act-Uncoord | |
| Maximum v/c Ratio: 0.51 | |
| Intersection Signal Delay: 9.0 | Intersection LOS: A |
| Intersection Capacity Utilization 38.7% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 12: Vollmer Rd & Marksheffel Rd



| Intersection | |
|---|---|
| Int Delay, s/veh | 77.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 122 | 69 | 6 | 8 | 94 | 711 | 3 | 11 | 10 | 464 | 10 | 100 |
| Future Vol, veh/h | 122 | 69 | 6 | 8 | 94 | 711 | 3 | 11 | 10 | 464 | 10 | 100 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 300 | - | 200 | 250 | - | 205 | 0 | - | - | 155 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 88 | 88 | 2 | 2 | 78 | 2 | 78 | 2 | 2 | 2 |
| Mvmt Flow | 144 | 81 | 7 | 9 | 111 | 836 | 4 | 13 | 12 | 546 | 12 | 118 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 947 | 0 | 0 | 88 | 0 | 0 | 449 | 1334 | 41 | 464 | 505 | 56 |
| Stage 1 | - | - | - | - | - | - | 369 | 369 | - | 129 | 129 | - |
| Stage 2 | - | - | - | - | - | - | 80 | 965 | - | 335 | 376 | - |
| Critical Hdwy | 4.14 | - | - | 5.86 | - | - | 9.06 | 6.54 | 8.46 | 7.54 | 6.54 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 8.06 | 5.54 | - | 6.54 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 8.06 | 5.54 | - | 6.54 | 5.54 | - |
| Follow-up Hdwy | 2.22 | - | - | 3.08 | - | - | 4.28 | 4.02 | 4.08 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 721 | - | - | 1051 | - | - | 351 | 153 | 820 | ~ 481 | 468 | 999 |
| Stage 1 | - | - | - | - | - | - | 455 | 619 | - | 861 | 788 | - |
| Stage 2 | - | - | - | - | - | - | 737 | 331 | - | 653 | 615 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 721 | - | - | 1051 | - | - | 254 | 121 | 820 | ~ 367 | 371 | 999 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 254 | 121 | - | ~ 367 | 371 | - |
| Stage 1 | - | - | - | - | - | - | 364 | 495 | - | 689 | 781 | - |
| Stage 2 | - | - | - | - | - | - | 635 | 328 | - | ~ 502 | 492 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 7 | 0.1 | 24.4 | 212.7 |
| HCM LOS | | | C | F |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 254 | 204 | 721 | - | - | 1051 | - | - | 367 | 371 | 999 |
| HCM Lane V/C Ratio | 0.014 | 0.121 | 0.199 | - | - | 0.009 | - | - | 1.487 | 0.032 | 0.118 |
| HCM Control Delay (s) | 19.4 | 25.1 | 11.2 | - | - | 8.5 | - | - | 260.8 | 15 | 9.1 |
| HCM Lane LOS | C | D | B | - | - | A | - | - | F | C | A |
| HCM 95th %tile Q(veh) | 0 | 0.4 | 0.7 | - | - | 0 | - | - | 29.3 | 0.1 | 0.4 |

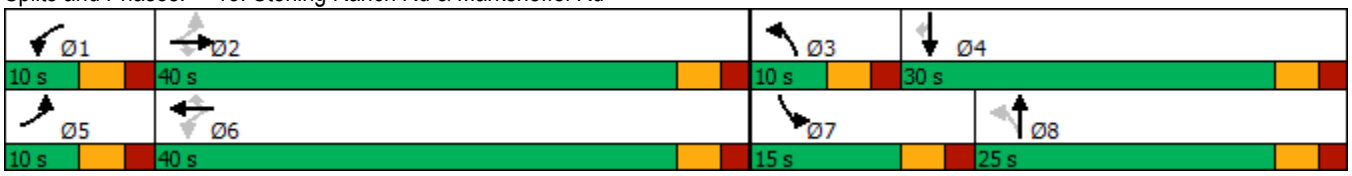
**Notes**

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

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 122 | 69 | 6 | 8 | 94 | 711 | 3 | 11 | 464 | 10 | 100 |
| Future Volume (vph) | 122 | 69 | 6 | 8 | 94 | 711 | 3 | 11 | 464 | 10 | 100 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 15.0 | 15.0 | 5.0 | 15.0 | 15.0 | 5.0 | 10.0 | 5.0 | 10.0 | 10.0 |
| Minimum Split (s) | 10.0 | 23.0 | 23.0 | 10.0 | 23.0 | 23.0 | 10.0 | 23.0 | 10.0 | 23.0 | 23.0 |
| Total Split (s) | 10.0 | 40.0 | 40.0 | 10.0 | 40.0 | 40.0 | 10.0 | 25.0 | 15.0 | 30.0 | 30.0 |
| Total Split (%) | 11.1% | 44.4% | 44.4% | 11.1% | 44.4% | 44.4% | 11.1% | 27.8% | 16.7% | 33.3% | 33.3% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 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) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | None | None | None |
| Act Effct Green (s) | 25.8 | 25.1 | 25.1 | 22.5 | 18.6 | 18.6 | 6.6 | 10.7 | 10.7 | 11.3 | 11.3 |
| Actuated g/C Ratio | 0.52 | 0.51 | 0.51 | 0.45 | 0.37 | 0.37 | 0.13 | 0.22 | 0.22 | 0.23 | 0.23 |
| v/c Ratio | 0.22 | 0.05 | 0.01 | 0.03 | 0.08 | 0.75 | 0.03 | 0.09 | 0.74 | 0.03 | 0.25 |
| Control Delay | 7.5 | 8.2 | 0.0 | 6.8 | 11.7 | 6.3 | 19.0 | 17.6 | 30.4 | 20.2 | 5.0 |
| 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 | 7.5 | 8.2 | 0.0 | 6.8 | 11.7 | 6.3 | 19.0 | 17.6 | 30.4 | 20.2 | 5.0 |
| LOS | A | A | A | A | B | A | B | B | C | C | A |
| Approach Delay | | 7.5 | | | 6.9 | | | 17.8 | | 25.8 | |
| Approach LOS | | A | | | A | | | B | | C | |

| Intersection Summary | |
|---|---|
| Cycle Length: 90 | |
| Actuated Cycle Length: 49.7 | |
| Natural Cycle: 80 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.75 | |
| Intersection Signal Delay: 13.9 | Intersection LOS: B |
| Intersection Capacity Utilization 71.6% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 13: Sterling Ranch Rd & Marksheffel Rd



| Intersection | |
|---|---|
| Int Delay, s/veh | 8.3 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | ↑↑ | ↑↑ | ↱ | | ↱ |
| Traffic Vol, veh/h | 0 | 0 | 0 | 0 | 0 | 50 |
| Future Vol, veh/h | 0 | 0 | 0 | 0 | 0 | 50 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | 0 | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 0 | 0 | 59 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 0 | - | 0 | - | 1 |
| 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 | - | - | - | 0 | 1083 |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | - | 1083 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 8.5 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | 1083 |
| HCM Lane V/C Ratio | - | - | - | 0.054 |
| HCM Control Delay (s) | - | - | - | 8.5 |
| HCM Lane LOS | - | - | - | A |
| HCM 95th %tile Q(veh) | - | - | - | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 85 | 17 | 0 | 0 | 138 | 17 | 97 | 0 | 4 | 0 |
| Future Vol, veh/h | 0 | 0 | 85 | 17 | 0 | 0 | 138 | 17 | 97 | 0 | 4 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 200 | - | 200 | 200 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 100 | 20 | 0 | 0 | 162 | 20 | 114 | 0 | 5 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 406 | 463 | 5 | 399 | 349 | 20 | 5 | 0 | 0 | 134 | 0 | 0 |
| Stage 1 | 5 | 5 | - | 344 | 344 | - | - | - | - | - | - | - |
| Stage 2 | 401 | 458 | - | 55 | 5 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 555 | 496 | 1078 | 561 | 575 | 1058 | 1616 | - | - | 1451 | - | - |
| Stage 1 | 1017 | 892 | - | 671 | 637 | - | - | - | - | - | - | - |
| Stage 2 | 626 | 567 | - | 957 | 892 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 512 | 446 | 1078 | 470 | 518 | 1058 | 1616 | - | - | 1451 | - | - |
| Mov Cap-2 Maneuver | 512 | 446 | - | 470 | 518 | - | - | - | - | - | - | - |
| Stage 1 | 915 | 892 | - | 604 | 573 | - | - | - | - | - | - | - |
| Stage 2 | 563 | 510 | - | 868 | 892 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.7 | 13 | 4.1 | 0 |
| HCM LOS | A | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1616 | - | - | 1078 | 470 | 1451 | - | - |
| HCM Lane V/C Ratio | 0.1 | - | - | 0.093 | 0.043 | - | - | - |
| HCM Control Delay (s) | 7.5 | - | - | 8.7 | 13 | 0 | - | - |
| HCM Lane LOS | A | - | - | A | B | A | - | - |
| HCM 95th %tile Q(veh) | 0.3 | - | - | 0.3 | 0.1 | 0 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.5 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 4 | 0 | 0 | 17 | 0 | 0 |
| Future Vol, veh/h | 4 | 0 | 0 | 17 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 200 | - | 200 | 200 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 0 | 0 | 20 | 0 | 0 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1 | 0 | 0 | 0 | 20 | 0 |
| Stage 1 | 0 | - | - | - | - | - |
| Stage 2 | 1 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 1022 | - | - | - | 1596 | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | 1022 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 1022 | - | - | - | 1596 | - |
| Mov Cap-2 Maneuver | 1022 | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | 1022 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.5 | 0 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 1022 | - | 1596 | - |
| HCM Lane V/C Ratio | - | - | 0.005 | - | - | - |
| HCM Control Delay (s) | - | - | 8.5 | 0 | 0 | - |
| HCM Lane LOS | - | - | A | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 0 | - | 0 | - |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 68 | 529 | 153 | 239 | 1020 | 80 | 153 | 130 | 100 | 108 | 310 | 139 |
| Future Volume (vph) | 68 | 529 | 153 | 239 | 1020 | 80 | 153 | 130 | 100 | 108 | 310 | 139 |
| Turn Type | pm+pt | NA | Perm | Prot | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 10.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Total Split (s) | 12.0 | 57.0 | 57.0 | 20.0 | 65.0 | 65.0 | 17.0 | 28.0 | 28.0 | 15.0 | 26.0 | 26.0 |
| Total Split (%) | 10.0% | 47.5% | 47.5% | 16.7% | 54.2% | 54.2% | 14.2% | 23.3% | 23.3% | 12.5% | 21.7% | 21.7% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 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 | 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 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Max | Max | None | Max | Max | None | None | None | None | None | None |
| Act Effct Green (s) | 58.7 | 52.1 | 52.1 | 15.0 | 62.7 | 62.7 | 29.2 | 17.9 | 17.9 | 25.3 | 16.0 | 16.0 |
| Actuated g/C Ratio | 0.51 | 0.46 | 0.46 | 0.13 | 0.55 | 0.55 | 0.26 | 0.16 | 0.16 | 0.22 | 0.14 | 0.14 |
| v/c Ratio | 0.25 | 0.34 | 0.20 | 0.56 | 0.55 | 0.09 | 0.60 | 0.24 | 0.28 | 0.36 | 0.66 | 0.41 |
| Control Delay | 12.2 | 21.3 | 3.7 | 52.7 | 19.5 | 1.7 | 42.1 | 43.1 | 3.5 | 34.7 | 53.4 | 9.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 12.2 | 21.3 | 3.7 | 52.7 | 19.5 | 1.7 | 42.1 | 43.1 | 3.5 | 34.7 | 53.4 | 9.6 |
| LOS | B | C | A | D | B | A | D | D | A | C | D | A |
| Approach Delay | | 16.8 | | | 24.4 | | | 32.3 | | | 38.8 | |
| Approach LOS | | B | | | C | | | C | | | D | |

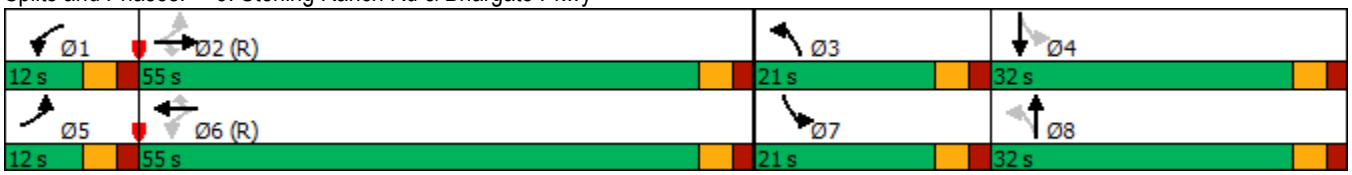
| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 114.4 | |
| Natural Cycle: 60 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.66 | |
| Intersection Signal Delay: 26.2 | Intersection LOS: C |
| Intersection Capacity Utilization 66.1% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 4: Vollmer Rd & Briargate Pkwy

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 54 | 605 | 135 | 124 | 912 | 17 | 241 | 116 | 123 | 82 | 132 | 187 |
| Future Volume (vph) | 54 | 605 | 135 | 124 | 912 | 17 | 241 | 116 | 123 | 82 | 132 | 187 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Free | pm+pt | NA | Free |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | Free | 4 | | Free |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 20.0 | | 5.0 | 20.0 | |
| Minimum Split (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 25.0 | | 10.0 | 25.0 | |
| Total Split (s) | 12.0 | 55.0 | 55.0 | 12.0 | 55.0 | 55.0 | 21.0 | 32.0 | | 21.0 | 32.0 | |
| Total Split (%) | 10.0% | 45.8% | 45.8% | 10.0% | 45.8% | 45.8% | 17.5% | 26.7% | | 17.5% | 26.7% | |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | Max | | None | Max | |
| Act Effct Green (s) | 56.6 | 50.0 | 50.0 | 58.1 | 52.5 | 52.5 | 47.8 | 36.1 | 120.0 | 37.2 | 28.1 | 120.0 |
| Actuated g/C Ratio | 0.47 | 0.42 | 0.42 | 0.48 | 0.44 | 0.44 | 0.40 | 0.30 | 1.00 | 0.31 | 0.23 | 1.00 |
| v/c Ratio | 0.25 | 0.43 | 0.19 | 0.38 | 0.62 | 0.02 | 0.52 | 0.22 | 0.08 | 0.20 | 0.32 | 0.12 |
| Control Delay | 17.3 | 26.1 | 4.1 | 18.8 | 28.9 | 0.1 | 29.8 | 34.7 | 0.1 | 24.6 | 41.0 | 0.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.3 | 26.1 | 4.1 | 18.8 | 28.9 | 0.1 | 29.8 | 34.7 | 0.1 | 24.6 | 41.0 | 0.2 |
| LOS | B | C | A | B | C | A | C | C | A | C | D | A |
| Approach Delay | | 21.7 | | | 27.3 | | | 23.4 | | | 18.6 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 63 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green | |
| Natural Cycle: 70 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.62 | |
| Intersection Signal Delay: 23.7 | Intersection LOS: C |
| Intersection Capacity Utilization 76.1% | ICU Level of Service D |
| Analysis Period (min) 15 | |

Splits and Phases: 5: Sterling Ranch Rd & Briargate Pkwy



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 68 | 832 | 42 | 162 | 899 | 63 | 108 | 245 | 104 | 121 | 576 | 135 |
| Future Volume (vph) | 68 | 832 | 42 | 162 | 899 | 63 | 108 | 245 | 104 | 121 | 576 | 135 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 10.0 | 10.0 | 5.0 | 10.0 | 10.0 |
| Minimum Split (s) | 10.0 | 23.0 | 23.0 | 10.0 | 23.0 | 23.0 | 10.0 | 23.0 | 23.0 | 10.0 | 23.0 | 23.0 |
| Total Split (s) | 12.0 | 60.0 | 60.0 | 12.0 | 60.0 | 60.0 | 13.0 | 35.0 | 35.0 | 13.0 | 35.0 | 35.0 |
| Total Split (%) | 10.0% | 50.0% | 50.0% | 10.0% | 50.0% | 50.0% | 10.8% | 29.2% | 29.2% | 10.8% | 29.2% | 29.2% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 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 | 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 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | Max | Max | None | Max | Max |
| Act Effct Green (s) | 61.7 | 55.0 | 55.0 | 63.0 | 57.4 | 57.4 | 37.9 | 30.1 | 30.1 | 38.1 | 30.2 | 30.2 |
| Actuated g/C Ratio | 0.51 | 0.46 | 0.46 | 0.52 | 0.48 | 0.48 | 0.32 | 0.25 | 0.25 | 0.32 | 0.25 | 0.25 |
| v/c Ratio | 0.26 | 0.54 | 0.06 | 0.59 | 0.56 | 0.08 | 0.52 | 0.29 | 0.23 | 0.34 | 0.68 | 0.29 |
| Control Delay | 14.9 | 25.0 | 0.1 | 23.9 | 15.3 | 0.3 | 35.9 | 37.5 | 7.8 | 29.9 | 45.2 | 9.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 14.9 | 25.0 | 0.1 | 23.9 | 15.3 | 0.3 | 35.9 | 37.5 | 7.8 | 29.9 | 45.2 | 9.5 |
| LOS | B | C | A | C | B | A | D | D | A | C | D | A |
| Approach Delay | | 23.1 | | | 15.7 | | | 30.4 | | | 37.2 | |
| Approach LOS | | C | | | B | | | C | | | D | |

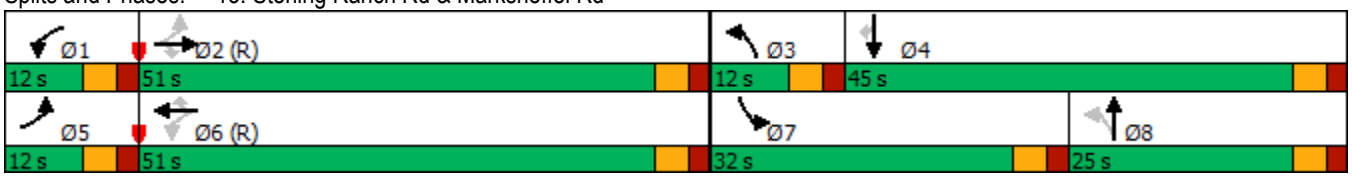
| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green | |
| Natural Cycle: 70 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.68 | |
| Intersection Signal Delay: 25.1 | Intersection LOS: C |
| Intersection Capacity Utilization 70.5% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 12: Vollmer Rd & Marksheffel Rd

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 142 | 884 | 12 | 53 | 807 | 172 | 7 | 2 | 494 | 10 | 309 |
| Future Volume (vph) | 142 | 884 | 12 | 53 | 807 | 172 | 7 | 2 | 494 | 10 | 309 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 15.0 | 15.0 | 5.0 | 15.0 | 15.0 | 5.0 | 10.0 | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 10.0 | 20.0 | 20.0 | 10.0 | 20.0 | 20.0 | 10.0 | 15.0 | 25.0 | 20.0 | 20.0 |
| Total Split (s) | 12.0 | 51.0 | 51.0 | 12.0 | 51.0 | 51.0 | 12.0 | 25.0 | 32.0 | 45.0 | 45.0 |
| Total Split (%) | 10.0% | 42.5% | 42.5% | 10.0% | 42.5% | 42.5% | 10.0% | 20.8% | 26.7% | 37.5% | 37.5% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 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) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None |
| Act Effct Green (s) | 81.7 | 73.9 | 73.9 | 76.3 | 69.5 | 69.5 | 8.0 | 10.0 | 23.4 | 24.1 | 24.1 |
| Actuated g/C Ratio | 0.68 | 0.62 | 0.62 | 0.64 | 0.58 | 0.58 | 0.07 | 0.08 | 0.20 | 0.20 | 0.20 |
| v/c Ratio | 0.35 | 0.43 | 0.01 | 0.15 | 0.41 | 0.18 | 0.06 | 0.06 | 0.78 | 0.03 | 0.59 |
| Control Delay | 13.2 | 11.9 | 0.0 | 8.8 | 16.6 | 3.2 | 41.1 | 33.0 | 54.4 | 36.3 | 11.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 13.2 | 11.9 | 0.0 | 8.8 | 16.6 | 3.2 | 41.1 | 33.0 | 54.4 | 36.3 | 11.2 |
| LOS | B | B | A | A | B | A | D | C | D | D | B |
| Approach Delay | | 12.0 | | | 14.0 | | | 36.6 | | 37.7 | |
| Approach LOS | | B | | | B | | | D | | D | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green | |
| Natural Cycle: 75 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.78 | |
| Intersection Signal Delay: 20.0 | Intersection LOS: C |
| Intersection Capacity Utilization 63.4% | ICU Level of Service B |
| Analysis Period (min) 15 | |

Splits and Phases: 13: Sterling Ranch Rd & Marksheffel Rd



| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | ↑↑ | ↑↑ | ↱ | | ↱ |
| Traffic Vol, veh/h | 0 | 809 | 1015 | 4 | 0 | 38 |
| Future Vol, veh/h | 0 | 809 | 1015 | 4 | 0 | 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 | - | - | - | 200 | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 852 | 1068 | 4 | 0 | 40 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 0 | - | 0 | - | 534 |
| 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 | - | - | - | 0 | 491 |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | - | 491 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 13 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | 491 |
| HCM Lane V/C Ratio | - | - | - | 0.081 |
| HCM Control Delay (s) | - | - | - | 13 |
| HCM Lane LOS | - | - | - | B |
| HCM 95th %tile Q(veh) | - | - | - | 0.3 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.3 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 126 | 47 | 122 | 204 | 0 |
| Future Vol, veh/h | 0 | 126 | 47 | 122 | 204 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 200 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 133 | 49 | 128 | 215 | 0 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 441 | 215 | 215 | 0 | - | 0 |
| Stage 1 | 215 | - | - | - | - | - |
| Stage 2 | 226 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 574 | 825 | 1355 | - | - | - |
| Stage 1 | 821 | - | - | - | - | - |
| Stage 2 | 812 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 553 | 825 | 1355 | - | - | - |
| Mov Cap-2 Maneuver | 553 | - | - | - | - | - |
| Stage 1 | 791 | - | - | - | - | - |
| Stage 2 | 812 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 10.2 | 2.2 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1355 | - | 825 | - | - |
| HCM Lane V/C Ratio | 0.037 | - | 0.161 | - | - |
| HCM Control Delay (s) | 7.8 | - | 10.2 | - | - |
| HCM Lane LOS | A | - | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.6 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 8 | 7 | 61 | 2 | 35 | 3 | 72 | 46 | 134 | 136 | 0 |
| Future Vol, veh/h | 0 | 8 | 7 | 61 | 2 | 35 | 3 | 72 | 46 | 134 | 136 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 0 | - | - | 0 | - | - | 0 | - | 200 | 200 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 8 | 7 | 64 | 2 | 37 | 3 | 76 | 48 | 141 | 143 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 551 | 555 | 143 | 515 | 507 | 76 | 143 | 0 | 0 | 124 | 0 | 0 |
| Stage 1 | 425 | 425 | - | 82 | 82 | - | - | - | - | - | - | - |
| Stage 2 | 126 | 130 | - | 433 | 425 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 445 | 440 | 905 | 470 | 468 | 985 | 1440 | - | - | 1463 | - | - |
| Stage 1 | 607 | 586 | - | 926 | 827 | - | - | - | - | - | - | - |
| Stage 2 | 878 | 789 | - | 601 | 586 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 395 | 397 | 905 | 424 | 422 | 985 | 1440 | - | - | 1463 | - | - |
| Mov Cap-2 Maneuver | 395 | 397 | - | 424 | 422 | - | - | - | - | - | - | - |
| Stage 1 | 606 | 530 | - | 924 | 825 | - | - | - | - | - | - | - |
| Stage 2 | 841 | 787 | - | 530 | 530 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 11.9 | 12.8 | 0.2 | 3.8 |
| HCM LOS | B | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1440 | - | - | - | 538 | 424 | 919 | 1463 | - | - |
| HCM Lane V/C Ratio | 0.002 | - | - | - | 0.029 | 0.151 | 0.042 | 0.096 | - | - |
| HCM Control Delay (s) | 7.5 | - | - | 0 | 11.9 | 15 | 9.1 | 7.7 | - | - |
| HCM Lane LOS | A | - | - | A | B | C | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 | 0.5 | 0.1 | 0.3 | - | - |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 227 | 973 | 176 | 193 | 723 | 66 | 291 | 414 | 265 | 93 | 211 | 118 |
| Future Volume (vph) | 227 | 973 | 176 | 193 | 723 | 66 | 291 | 414 | 265 | 93 | 211 | 118 |
| Turn Type | pm+pt | NA | Perm | Prot | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 8.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 10.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 13.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Total Split (s) | 12.0 | 53.0 | 53.0 | 20.0 | 61.0 | 61.0 | 22.0 | 28.0 | 28.0 | 19.0 | 25.0 | 25.0 |
| Total Split (%) | 10.0% | 44.2% | 44.2% | 16.7% | 50.8% | 50.8% | 18.3% | 23.3% | 23.3% | 15.8% | 20.8% | 20.8% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 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 | 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 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Max | Max | None | Max | Max | None | None | None | None | None | None |
| Act Effct Green (s) | 55.1 | 48.1 | 48.1 | 15.0 | 56.1 | 56.1 | 34.9 | 20.2 | 20.2 | 23.9 | 13.8 | 13.8 |
| Actuated g/C Ratio | 0.49 | 0.42 | 0.42 | 0.13 | 0.49 | 0.49 | 0.31 | 0.18 | 0.18 | 0.21 | 0.12 | 0.12 |
| v/c Ratio | 0.64 | 0.66 | 0.24 | 0.45 | 0.43 | 0.08 | 0.82 | 0.67 | 0.55 | 0.38 | 0.52 | 0.38 |
| Control Delay | 23.8 | 29.5 | 4.1 | 49.8 | 20.0 | 1.1 | 51.3 | 49.6 | 9.2 | 33.0 | 50.9 | 6.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.8 | 29.5 | 4.1 | 49.8 | 20.0 | 1.1 | 51.3 | 49.6 | 9.2 | 33.0 | 50.9 | 6.7 |
| LOS | C | C | A | D | C | A | D | D | A | C | D | A |
| Approach Delay | | 25.2 | | | 24.6 | | | 38.9 | | | 34.6 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 113.4 | |
| Natural Cycle: 75 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.82 | |
| Intersection Signal Delay: 29.7 | Intersection LOS: C |
| Intersection Capacity Utilization 78.0% | ICU Level of Service D |
| Analysis Period (min) 15 | |

Splits and Phases: 4: Vollmer Rd & Briargate Pkwy

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 271 | 902 | 134 | 144 | 813 | 79 | 146 | 117 | 84 | 60 | 70 | 134 |
| Future Volume (vph) | 271 | 902 | 134 | 144 | 813 | 79 | 146 | 117 | 84 | 60 | 70 | 134 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Free | pm+pt | NA | Free |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | Free | 4 | | Free |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 20.0 | | 5.0 | 20.0 | |
| Minimum Split (s) | 10.0 | 23.0 | 23.0 | 10.0 | 23.0 | 23.0 | 10.0 | 25.0 | | 10.0 | 25.0 | |
| Total Split (s) | 22.0 | 68.0 | 68.0 | 12.0 | 58.0 | 58.0 | 15.0 | 30.0 | | 10.0 | 25.0 | |
| Total Split (%) | 18.3% | 56.7% | 56.7% | 10.0% | 48.3% | 48.3% | 12.5% | 25.0% | | 8.3% | 20.8% | |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | | None | None | |
| Act Effct Green (s) | 77.4 | 66.1 | 66.1 | 66.3 | 59.4 | 59.4 | 32.0 | 24.0 | 120.0 | 21.0 | 20.0 | 120.0 |
| Actuated g/C Ratio | 0.64 | 0.55 | 0.55 | 0.55 | 0.50 | 0.50 | 0.27 | 0.20 | 1.00 | 0.18 | 0.17 | 1.00 |
| v/c Ratio | 0.68 | 0.49 | 0.15 | 0.45 | 0.49 | 0.10 | 0.45 | 0.33 | 0.06 | 0.26 | 0.24 | 0.09 |
| Control Delay | 18.1 | 18.3 | 2.7 | 14.6 | 22.7 | 0.2 | 38.8 | 43.5 | 0.1 | 35.8 | 45.8 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 18.1 | 18.3 | 2.7 | 14.6 | 22.7 | 0.2 | 38.8 | 43.5 | 0.1 | 35.8 | 45.8 | 0.1 |
| LOS | B | B | A | B | C | A | D | D | A | D | D | A |
| Approach Delay | | 16.7 | | | 19.9 | | | 31.0 | | | 20.4 | |
| Approach LOS | | B | | | B | | | C | | | C | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green | |
| Natural Cycle: 75 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.68 | |
| Intersection Signal Delay: 19.8 | Intersection LOS: B |
| Intersection Capacity Utilization 66.7% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 5: Sterling Ranch Rd & Briargate Pkwy

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 138 | 914 | 89 | 187 | 701 | 149 | 169 | 774 | 176 | 126 | 387 | 196 |
| Future Volume (vph) | 138 | 914 | 89 | 187 | 701 | 149 | 169 | 774 | 176 | 126 | 387 | 196 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 |
| Minimum Split (s) | 10.0 | 23.0 | 23.0 | 10.0 | 23.0 | 23.0 | 10.0 | 25.0 | 25.0 | 10.0 | 25.0 | 25.0 |
| Total Split (s) | 20.0 | 50.0 | 50.0 | 20.0 | 50.0 | 50.0 | 15.0 | 37.0 | 37.0 | 13.0 | 35.0 | 35.0 |
| Total Split (%) | 16.7% | 41.7% | 41.7% | 16.7% | 41.7% | 41.7% | 12.5% | 30.8% | 30.8% | 10.8% | 29.2% | 29.2% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 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 | 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 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | Max | Max | None | Max | Max |
| Act Effct Green (s) | 58.2 | 47.7 | 47.7 | 61.8 | 49.5 | 49.5 | 41.8 | 32.0 | 32.0 | 38.2 | 30.2 | 30.2 |
| Actuated g/C Ratio | 0.48 | 0.40 | 0.40 | 0.52 | 0.41 | 0.41 | 0.35 | 0.27 | 0.27 | 0.32 | 0.25 | 0.25 |
| v/c Ratio | 0.41 | 0.68 | 0.14 | 0.67 | 0.51 | 0.21 | 0.54 | 0.86 | 0.36 | 0.74 | 0.46 | 0.37 |
| Control Delay | 17.7 | 33.4 | 3.8 | 45.9 | 20.7 | 4.4 | 33.3 | 52.7 | 14.4 | 52.0 | 40.1 | 6.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.7 | 33.4 | 3.8 | 45.9 | 20.7 | 4.4 | 33.3 | 52.7 | 14.4 | 52.0 | 40.1 | 6.9 |
| LOS | B | C | A | D | C | A | C | D | B | D | D | A |
| Approach Delay | | 29.2 | | | 22.9 | | | 43.8 | | | 33.0 | |
| Approach LOS | | C | | | C | | | D | | | C | |

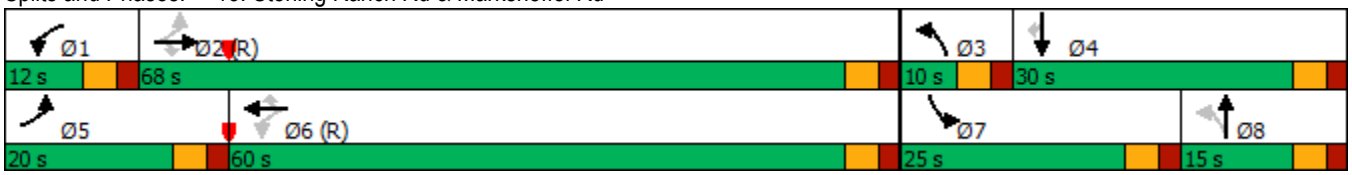
| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green | |
| Natural Cycle: 70 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.86 | |
| Intersection Signal Delay: 32.3 | Intersection LOS: C |
| Intersection Capacity Utilization 80.7% | ICU Level of Service D |
| Analysis Period (min) 15 | |

Splits and Phases: 12: Vollmer Rd & Marksheffel Rd

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 297 | 940 | 6 | 62 | 838 | 551 | 18 | 4 | 335 | 17 | 181 |
| Future Volume (vph) | 297 | 940 | 6 | 62 | 838 | 551 | 18 | 4 | 335 | 17 | 181 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 15.0 | 15.0 | 5.0 | 15.0 | 15.0 | 5.0 | 10.0 | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 10.0 | 20.0 | 20.0 | 10.0 | 20.0 | 20.0 | 10.0 | 15.0 | 25.0 | 20.0 | 20.0 |
| Total Split (s) | 20.0 | 68.0 | 68.0 | 12.0 | 60.0 | 60.0 | 10.0 | 15.0 | 25.0 | 30.0 | 30.0 |
| Total Split (%) | 16.7% | 56.7% | 56.7% | 10.0% | 50.0% | 50.0% | 8.3% | 12.5% | 20.8% | 25.0% | 25.0% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 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) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None |
| Act Effct Green (s) | 81.0 | 71.6 | 71.6 | 69.4 | 62.8 | 62.8 | 11.0 | 10.0 | 20.0 | 25.0 | 25.0 |
| Actuated g/C Ratio | 0.68 | 0.60 | 0.60 | 0.58 | 0.52 | 0.52 | 0.09 | 0.08 | 0.17 | 0.21 | 0.21 |
| v/c Ratio | 0.74 | 0.47 | 0.01 | 0.19 | 0.48 | 0.52 | 0.13 | 0.18 | 0.62 | 0.05 | 0.40 |
| Control Delay | 38.7 | 10.2 | 0.0 | 10.2 | 20.8 | 3.5 | 35.7 | 24.2 | 51.7 | 37.5 | 8.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 38.7 | 10.2 | 0.0 | 10.2 | 20.8 | 3.5 | 35.7 | 24.2 | 51.7 | 37.5 | 8.2 |
| LOS | D | B | A | B | C | A | D | C | D | D | A |
| Approach Delay | | 17.0 | | | 13.8 | | | 28.8 | | 36.5 | |
| Approach LOS | | B | | | B | | | C | | D | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green | |
| Natural Cycle: 90 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.74 | |
| Intersection Signal Delay: 18.9 | Intersection LOS: B |
| Intersection Capacity Utilization 71.4% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 13: Sterling Ranch Rd & Marksheffel Rd



| Intersection | |
|---|---|
| Int Delay, s/veh | 0.1 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | ↑↑ | ↑↑ | ↱ | | ↱ |
| Traffic Vol, veh/h | 0 | 1047 | 1014 | 16 | 0 | 22 |
| Future Vol, veh/h | 0 | 1047 | 1014 | 16 | 0 | 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 | - | - | - | 200 | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1102 | 1067 | 17 | 0 | 23 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 0 | - | 0 | - | 534 |
| 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 | - | - | - | 0 | 491 |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | - | 491 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 12.7 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | 491 |
| HCM Lane V/C Ratio | - | - | - | 0.047 |
| HCM Control Delay (s) | - | - | - | 12.7 |
| HCM Lane LOS | - | - | - | B |
| HCM 95th %tile Q(veh) | - | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 87 | 140 | 281 | 133 | 0 |
| Future Vol, veh/h | 0 | 87 | 140 | 281 | 133 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 200 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 92 | 147 | 296 | 140 | 0 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 730 | 140 | 140 | 0 | - | 0 |
| Stage 1 | 140 | - | - | - | - | - |
| Stage 2 | 590 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 389 | 908 | 1443 | - | - | - |
| Stage 1 | 887 | - | - | - | - | - |
| Stage 2 | 554 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 349 | 908 | 1443 | - | - | - |
| Mov Cap-2 Maneuver | 349 | - | - | - | - | - |
| Stage 1 | 797 | - | - | - | - | - |
| Stage 2 | 554 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 9.4 | 2.6 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1443 | - | 908 | - | - |
| HCM Lane V/C Ratio | 0.102 | - | 0.101 | - | - |
| HCM Control Delay (s) | 7.8 | - | 9.4 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.3 | - | 0.3 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 5 | 5 | 34 | 9 | 161 | 9 | 145 | 127 | 97 | 94 | 0 |
| Future Vol, veh/h | 0 | 5 | 5 | 34 | 9 | 161 | 9 | 145 | 127 | 97 | 94 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 0 | - | - | 0 | - | - | 0 | - | 200 | 200 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 5 | 5 | 36 | 9 | 169 | 9 | 153 | 134 | 102 | 99 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 630 | 608 | 99 | 479 | 474 | 153 | 99 | 0 | 0 | 287 | 0 | 0 |
| Stage 1 | 303 | 303 | - | 171 | 171 | - | - | - | - | - | - | - |
| Stage 2 | 327 | 305 | - | 308 | 303 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 394 | 410 | 957 | 497 | 489 | 893 | 1494 | - | - | 1275 | - | - |
| Stage 1 | 706 | 664 | - | 831 | 757 | - | - | - | - | - | - | - |
| Stage 2 | 686 | 662 | - | 702 | 664 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 294 | 375 | 957 | 457 | 447 | 893 | 1494 | - | - | 1275 | - | - |
| Mov Cap-2 Maneuver | 294 | 375 | - | 457 | 447 | - | - | - | - | - | - | - |
| Stage 1 | 702 | 611 | - | 826 | 752 | - | - | - | - | - | - | - |
| Stage 2 | 546 | 658 | - | 637 | 611 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 11.8 | 10.9 | 0.2 | 4.1 |
| HCM LOS | B | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1494 | - | - | - | 539 | 457 | 848 | 1275 | - | - |
| HCM Lane V/C Ratio | 0.006 | - | - | - | 0.02 | 0.078 | 0.211 | 0.08 | - | - |
| HCM Control Delay (s) | 7.4 | - | - | 0 | 11.8 | 13.5 | 10.4 | 8.1 | - | - |
| HCM Lane LOS | A | - | - | A | B | B | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 | 0.3 | 0.8 | 0.3 | - | - |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 68 | 533 | 153 | 251 | 1038 | 82 | 153 | 130 | 103 | 108 | 310 | 139 |
| Future Volume (vph) | 68 | 533 | 153 | 251 | 1038 | 82 | 153 | 130 | 103 | 108 | 310 | 139 |
| Turn Type | pm+pt | NA | Perm | Prot | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 10.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Total Split (s) | 12.0 | 57.0 | 57.0 | 20.0 | 65.0 | 65.0 | 17.0 | 28.0 | 28.0 | 15.0 | 26.0 | 26.0 |
| Total Split (%) | 10.0% | 47.5% | 47.5% | 16.7% | 54.2% | 54.2% | 14.2% | 23.3% | 23.3% | 12.5% | 21.7% | 21.7% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 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 | 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 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Max | Max | None | Max | Max | None | None | None | None | None | None |
| Act Effct Green (s) | 58.7 | 52.1 | 52.1 | 15.0 | 62.7 | 62.7 | 29.2 | 17.9 | 17.9 | 25.3 | 16.0 | 16.0 |
| Actuated g/C Ratio | 0.51 | 0.46 | 0.46 | 0.13 | 0.55 | 0.55 | 0.26 | 0.16 | 0.16 | 0.22 | 0.14 | 0.14 |
| v/c Ratio | 0.26 | 0.34 | 0.20 | 0.59 | 0.56 | 0.09 | 0.60 | 0.24 | 0.28 | 0.36 | 0.66 | 0.41 |
| Control Delay | 12.3 | 21.4 | 3.7 | 53.4 | 19.7 | 1.9 | 42.1 | 43.1 | 3.8 | 34.7 | 53.4 | 9.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 12.3 | 21.4 | 3.7 | 53.4 | 19.7 | 1.9 | 42.1 | 43.1 | 3.8 | 34.7 | 53.4 | 9.6 |
| LOS | B | C | A | D | B | A | D | D | A | C | D | A |
| Approach Delay | | 16.9 | | | 24.8 | | | 32.1 | | | 38.8 | |
| Approach LOS | | B | | | C | | | C | | | D | |

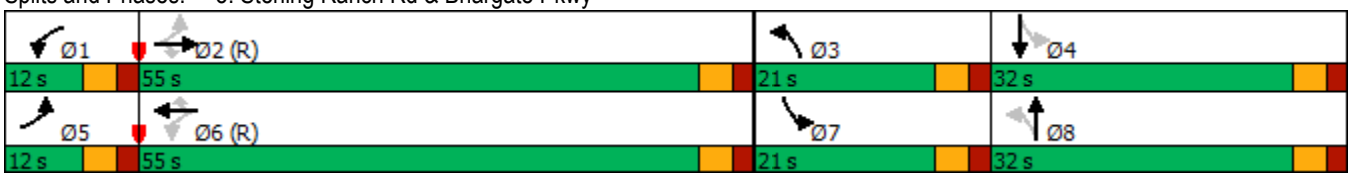
| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 114.4 | |
| Natural Cycle: 60 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.66 | |
| Intersection Signal Delay: 26.4 | Intersection LOS: C |
| Intersection Capacity Utilization 66.6% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 4: Vollmer Rd & Briargate Pkwy

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 62 | 605 | 135 | 140 | 937 | 18 | 241 | 138 | 123 | 87 | 146 | 194 |
| Future Volume (vph) | 62 | 605 | 135 | 140 | 937 | 18 | 241 | 138 | 123 | 87 | 146 | 194 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Free | pm+pt | NA | Free |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | Free | 4 | | Free |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 20.0 | | 5.0 | 20.0 | |
| Minimum Split (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 25.0 | | 10.0 | 25.0 | |
| Total Split (s) | 12.0 | 55.0 | 55.0 | 12.0 | 55.0 | 55.0 | 21.0 | 32.0 | | 21.0 | 32.0 | |
| Total Split (%) | 10.0% | 45.8% | 45.8% | 10.0% | 45.8% | 45.8% | 17.5% | 26.7% | | 17.5% | 26.7% | |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | Max | | None | Max | |
| Act Effct Green (s) | 56.7 | 50.0 | 50.0 | 58.0 | 52.4 | 52.4 | 47.7 | 33.5 | 120.0 | 37.5 | 28.1 | 120.0 |
| Actuated g/C Ratio | 0.47 | 0.42 | 0.42 | 0.48 | 0.44 | 0.44 | 0.40 | 0.28 | 1.00 | 0.31 | 0.23 | 1.00 |
| v/c Ratio | 0.29 | 0.43 | 0.19 | 0.42 | 0.64 | 0.03 | 0.54 | 0.28 | 0.08 | 0.21 | 0.35 | 0.13 |
| Control Delay | 18.0 | 26.1 | 4.1 | 19.7 | 29.4 | 0.1 | 30.2 | 36.3 | 0.1 | 24.7 | 41.7 | 0.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 18.0 | 26.1 | 4.1 | 19.7 | 29.4 | 0.1 | 30.2 | 36.3 | 0.1 | 24.7 | 41.7 | 0.2 |
| LOS | B | C | A | B | C | A | C | D | A | C | D | A |
| Approach Delay | | 21.7 | | | 27.7 | | | 24.6 | | | 19.4 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 63 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green | |
| Natural Cycle: 70 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.64 | |
| Intersection Signal Delay: 24.2 | Intersection LOS: C |
| Intersection Capacity Utilization 76.8% | ICU Level of Service D |
| Analysis Period (min) 15 | |

Splits and Phases: 5: Sterling Ranch Rd & Briargate Pkwy



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 68 | 833 | 42 | 162 | 904 | 63 | 108 | 249 | 104 | 121 | 588 | 135 |
| Future Volume (vph) | 68 | 833 | 42 | 162 | 904 | 63 | 108 | 249 | 104 | 121 | 588 | 135 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 10.0 | 10.0 | 5.0 | 10.0 | 10.0 |
| Minimum Split (s) | 10.0 | 23.0 | 23.0 | 10.0 | 23.0 | 23.0 | 10.0 | 23.0 | 23.0 | 10.0 | 23.0 | 23.0 |
| Total Split (s) | 12.0 | 60.0 | 60.0 | 12.0 | 60.0 | 60.0 | 13.0 | 35.0 | 35.0 | 13.0 | 35.0 | 35.0 |
| Total Split (%) | 10.0% | 50.0% | 50.0% | 10.0% | 50.0% | 50.0% | 10.8% | 29.2% | 29.2% | 10.8% | 29.2% | 29.2% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 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 | 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 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | Max | Max | None | Max | Max |
| Act Effct Green (s) | 61.7 | 55.0 | 55.0 | 63.0 | 57.4 | 57.4 | 37.9 | 30.1 | 30.1 | 38.1 | 30.2 | 30.2 |
| Actuated g/C Ratio | 0.51 | 0.46 | 0.46 | 0.52 | 0.48 | 0.48 | 0.32 | 0.25 | 0.25 | 0.32 | 0.25 | 0.25 |
| v/c Ratio | 0.27 | 0.54 | 0.06 | 0.59 | 0.56 | 0.08 | 0.53 | 0.30 | 0.23 | 0.34 | 0.70 | 0.29 |
| Control Delay | 14.9 | 25.0 | 0.1 | 23.9 | 15.3 | 0.3 | 36.4 | 37.5 | 7.8 | 30.0 | 45.7 | 10.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 14.9 | 25.0 | 0.1 | 23.9 | 15.3 | 0.3 | 36.4 | 37.5 | 7.8 | 30.0 | 45.7 | 10.0 |
| LOS | B | C | A | C | B | A | D | D | A | C | D | A |
| Approach Delay | | 23.1 | | | 15.7 | | | 30.6 | | | 37.7 | |
| Approach LOS | | C | | | B | | | C | | | D | |

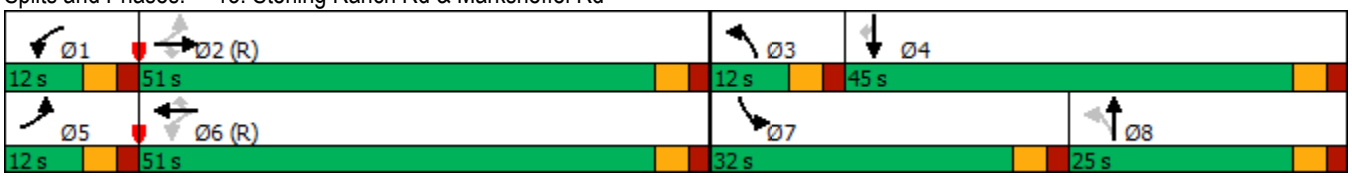
| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green | |
| Natural Cycle: 70 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.70 | |
| Intersection Signal Delay: 25.3 | Intersection LOS: C |
| Intersection Capacity Utilization 70.9% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 12: Vollmer Rd & Marksheffel Rd

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 143 | 884 | 12 | 53 | 807 | 173 | 7 | 2 | 511 | 10 | 314 |
| Future Volume (vph) | 143 | 884 | 12 | 53 | 807 | 173 | 7 | 2 | 511 | 10 | 314 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 15.0 | 15.0 | 5.0 | 15.0 | 15.0 | 5.0 | 10.0 | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 10.0 | 20.0 | 20.0 | 10.0 | 20.0 | 20.0 | 10.0 | 15.0 | 25.0 | 20.0 | 20.0 |
| Total Split (s) | 12.0 | 51.0 | 51.0 | 12.0 | 51.0 | 51.0 | 12.0 | 25.0 | 32.0 | 45.0 | 45.0 |
| Total Split (%) | 10.0% | 42.5% | 42.5% | 10.0% | 42.5% | 42.5% | 10.0% | 20.8% | 26.7% | 37.5% | 37.5% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 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) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None |
| Act Effct Green (s) | 81.4 | 73.5 | 73.5 | 75.9 | 69.0 | 69.0 | 8.0 | 10.0 | 23.7 | 24.4 | 24.4 |
| Actuated g/C Ratio | 0.68 | 0.61 | 0.61 | 0.63 | 0.58 | 0.58 | 0.07 | 0.08 | 0.20 | 0.20 | 0.20 |
| v/c Ratio | 0.36 | 0.43 | 0.01 | 0.15 | 0.42 | 0.18 | 0.06 | 0.06 | 0.79 | 0.03 | 0.60 |
| Control Delay | 13.7 | 12.1 | 0.0 | 9.0 | 16.9 | 3.2 | 41.1 | 33.0 | 54.9 | 36.0 | 11.6 |
| 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 | 13.7 | 12.1 | 0.0 | 9.0 | 16.9 | 3.2 | 41.1 | 33.0 | 54.9 | 36.0 | 11.6 |
| LOS | B | B | A | A | B | A | D | C | D | D | B |
| Approach Delay | | 12.1 | | | 14.2 | | | 36.6 | | 38.3 | |
| Approach LOS | | B | | | B | | | D | | D | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green | |
| Natural Cycle: 75 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.79 | |
| Intersection Signal Delay: 20.5 | Intersection LOS: C |
| Intersection Capacity Utilization 64.0% | ICU Level of Service B |
| Analysis Period (min) 15 | |

Splits and Phases: 13: Sterling Ranch Rd & Marksheffel Rd



| Intersection | |
|---|---|
| Int Delay, s/veh | 0.6 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | ↑↑ | ↑↑ | ↱ | | ↱ |
| Traffic Vol, veh/h | 0 | 815 | 1016 | 8 | 0 | 80 |
| Future Vol, veh/h | 0 | 815 | 1016 | 8 | 0 | 80 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | 200 | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 858 | 1069 | 8 | 0 | 84 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 0 | - | 0 | - | 535 |
| 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 | - | - | - | 0 | 490 |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | - | 490 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 13.9 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | 490 |
| HCM Lane V/C Ratio | - | - | - | 0.172 |
| HCM Control Delay (s) | - | - | - | 13.9 |
| HCM Lane LOS | - | - | - | B |
| HCM 95th %tile Q(veh) | - | - | - | 0.6 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 126 | 22 | 0 | 1 | 47 | 126 | 26 | 0 | 208 | 0 |
| Future Vol, veh/h | 0 | 0 | 126 | 22 | 0 | 1 | 47 | 126 | 26 | 0 | 208 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 200 | - | 200 | 200 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 133 | 23 | 0 | 1 | 49 | 133 | 27 | 0 | 219 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 464 | 477 | 219 | 517 | 450 | 133 | 219 | 0 | 0 | 160 | 0 | 0 |
| Stage 1 | 219 | 219 | - | 231 | 231 | - | - | - | - | - | - | - |
| Stage 2 | 245 | 258 | - | 286 | 219 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 508 | 487 | 821 | 469 | 504 | 916 | 1350 | - | - | 1419 | - | - |
| Stage 1 | 783 | 722 | - | 772 | 713 | - | - | - | - | - | - | - |
| Stage 2 | 759 | 694 | - | 721 | 722 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 493 | 469 | 821 | 382 | 486 | 916 | 1350 | - | - | 1419 | - | - |
| Mov Cap-2 Maneuver | 493 | 469 | - | 382 | 486 | - | - | - | - | - | - | - |
| Stage 1 | 755 | 722 | - | 744 | 687 | - | - | - | - | - | - | - |
| Stage 2 | 731 | 669 | - | 605 | 722 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 10.2 | 14.8 | 1.8 | 0 |
| HCM LOS | B | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1350 | - | - | 821 | 392 | 1419 | - | - |
| HCM Lane V/C Ratio | 0.037 | - | - | 0.162 | 0.062 | - | - | - |
| HCM Control Delay (s) | 7.8 | - | - | 10.2 | 14.8 | 0 | - | - |
| HCM Lane LOS | A | - | - | B | B | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.6 | 0.2 | 0 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 8 | 7 | 64 | 2 | 36 | 3 | 73 | 51 | 135 | 137 | 0 |
| Future Vol, veh/h | 0 | 8 | 7 | 64 | 2 | 36 | 3 | 73 | 51 | 135 | 137 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 0 | - | - | 0 | - | - | 0 | - | 200 | 200 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 8 | 7 | 67 | 2 | 38 | 3 | 77 | 54 | 142 | 144 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 558 | 565 | 144 | 519 | 511 | 77 | 144 | 0 | 0 | 131 | 0 | 0 |
| Stage 1 | 428 | 428 | - | 83 | 83 | - | - | - | - | - | - | - |
| Stage 2 | 130 | 137 | - | 436 | 428 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 440 | 434 | 903 | 467 | 466 | 984 | 1438 | - | - | 1454 | - | - |
| Stage 1 | 605 | 585 | - | 925 | 826 | - | - | - | - | - | - | - |
| Stage 2 | 874 | 783 | - | 599 | 585 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 389 | 391 | 903 | 421 | 419 | 984 | 1438 | - | - | 1454 | - | - |
| Mov Cap-2 Maneuver | 389 | 391 | - | 421 | 419 | - | - | - | - | - | - | - |
| Stage 1 | 604 | 528 | - | 923 | 824 | - | - | - | - | - | - | - |
| Stage 2 | 836 | 781 | - | 528 | 528 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 12 | 12.9 | 0.2 | 3.8 |
| HCM LOS | B | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1438 | - | - | - | 532 | 421 | 919 | 1454 | - | - |
| HCM Lane V/C Ratio | 0.002 | - | - | - | 0.03 | 0.16 | 0.044 | 0.098 | - | - |
| HCM Control Delay (s) | 7.5 | - | - | 0 | 12 | 15.2 | 9.1 | 7.7 | - | - |
| HCM Lane LOS | A | - | - | A | B | C | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 | 0.6 | 0.1 | 0.3 | - | - |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 227 | 995 | 176 | 202 | 735 | 67 | 291 | 414 | 288 | 94 | 211 | 118 |
| Future Volume (vph) | 227 | 995 | 176 | 202 | 735 | 67 | 291 | 414 | 288 | 94 | 211 | 118 |
| Turn Type | pm+pt | NA | Perm | Prot | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 8.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 10.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 13.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Total Split (s) | 12.0 | 53.0 | 53.0 | 20.0 | 61.0 | 61.0 | 22.0 | 28.0 | 28.0 | 19.0 | 25.0 | 25.0 |
| Total Split (%) | 10.0% | 44.2% | 44.2% | 16.7% | 50.8% | 50.8% | 18.3% | 23.3% | 23.3% | 15.8% | 20.8% | 20.8% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 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 | 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 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Max | Max | None | Max | Max | None | None | None | None | None | None |
| Act Effct Green (s) | 55.1 | 48.1 | 48.1 | 15.0 | 56.1 | 56.1 | 35.2 | 20.3 | 20.3 | 24.2 | 14.0 | 14.0 |
| Actuated g/C Ratio | 0.48 | 0.42 | 0.42 | 0.13 | 0.49 | 0.49 | 0.31 | 0.18 | 0.18 | 0.21 | 0.12 | 0.12 |
| v/c Ratio | 0.65 | 0.68 | 0.24 | 0.47 | 0.44 | 0.08 | 0.81 | 0.67 | 0.59 | 0.38 | 0.51 | 0.37 |
| Control Delay | 24.6 | 30.0 | 4.4 | 50.4 | 20.3 | 1.2 | 50.9 | 49.5 | 11.2 | 32.9 | 50.6 | 6.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 24.6 | 30.0 | 4.4 | 50.4 | 20.3 | 1.2 | 50.9 | 49.5 | 11.2 | 32.9 | 50.6 | 6.6 |
| LOS | C | C | A | D | C | A | D | D | B | C | D | A |
| Approach Delay | | 25.8 | | | 25.1 | | | 38.7 | | | 34.4 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 113.7 | |
| Natural Cycle: 80 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.81 | |
| Intersection Signal Delay: 29.9 | Intersection LOS: C |
| Intersection Capacity Utilization 78.6% | ICU Level of Service D |
| Analysis Period (min) 15 | |

Splits and Phases: 4: Vollmer Rd & Briargate Pkwy

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 318 | 902 | 134 | 155 | 831 | 86 | 146 | 136 | 84 | 65 | 78 | 138 |
| Future Volume (vph) | 318 | 902 | 134 | 155 | 831 | 86 | 146 | 136 | 84 | 65 | 78 | 138 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Free | pm+pt | NA | Free |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | Free | 4 | | Free |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 20.0 | | 5.0 | 20.0 | |
| Minimum Split (s) | 10.0 | 23.0 | 23.0 | 10.0 | 23.0 | 23.0 | 10.0 | 25.0 | | 10.0 | 25.0 | |
| Total Split (s) | 22.0 | 68.0 | 68.0 | 12.0 | 58.0 | 58.0 | 15.0 | 30.0 | | 10.0 | 25.0 | |
| Total Split (%) | 18.3% | 56.7% | 56.7% | 10.0% | 48.3% | 48.3% | 12.5% | 25.0% | | 8.3% | 20.8% | |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | | None | None | |
| Act Effct Green (s) | 77.7 | 66.1 | 66.1 | 64.8 | 57.9 | 57.9 | 32.0 | 24.0 | 120.0 | 21.0 | 20.0 | 120.0 |
| Actuated g/C Ratio | 0.65 | 0.55 | 0.55 | 0.54 | 0.48 | 0.48 | 0.27 | 0.20 | 1.00 | 0.18 | 0.17 | 1.00 |
| v/c Ratio | 0.78 | 0.49 | 0.15 | 0.49 | 0.51 | 0.11 | 0.45 | 0.38 | 0.06 | 0.28 | 0.26 | 0.09 |
| Control Delay | 25.3 | 18.4 | 2.7 | 15.7 | 24.0 | 0.4 | 38.8 | 44.6 | 0.1 | 36.6 | 46.2 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 25.3 | 18.4 | 2.7 | 15.7 | 24.0 | 0.4 | 38.8 | 44.6 | 0.1 | 36.6 | 46.2 | 0.1 |
| LOS | C | B | A | B | C | A | D | D | A | D | D | A |
| Approach Delay | | 18.4 | | | 20.9 | | | 32.1 | | | 21.3 | |
| Approach LOS | | B | | | C | | | C | | | C | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green | |
| Natural Cycle: 80 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.78 | |
| Intersection Signal Delay: 21.2 | Intersection LOS: C |
| Intersection Capacity Utilization 82.0% | ICU Level of Service E |
| Analysis Period (min) 15 | |

Splits and Phases: 5: Sterling Ranch Rd & Briargate Pkwy

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 138 | 919 | 89 | 187 | 704 | 149 | 169 | 796 | 176 | 126 | 396 | 196 |
| Future Volume (vph) | 138 | 919 | 89 | 187 | 704 | 149 | 169 | 796 | 176 | 126 | 396 | 196 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 |
| Minimum Split (s) | 10.0 | 23.0 | 23.0 | 10.0 | 23.0 | 23.0 | 10.0 | 25.0 | 25.0 | 10.0 | 25.0 | 25.0 |
| Total Split (s) | 20.0 | 50.0 | 50.0 | 20.0 | 50.0 | 50.0 | 15.0 | 37.0 | 37.0 | 13.0 | 35.0 | 35.0 |
| Total Split (%) | 16.7% | 41.7% | 41.7% | 16.7% | 41.7% | 41.7% | 12.5% | 30.8% | 30.8% | 10.8% | 29.2% | 29.2% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 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 | 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 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | Max | Max | None | Max | Max |
| Act Effct Green (s) | 58.1 | 47.7 | 47.7 | 61.9 | 49.5 | 49.5 | 41.8 | 32.0 | 32.0 | 38.2 | 30.2 | 30.2 |
| Actuated g/C Ratio | 0.48 | 0.40 | 0.40 | 0.52 | 0.41 | 0.41 | 0.35 | 0.27 | 0.27 | 0.32 | 0.25 | 0.25 |
| v/c Ratio | 0.41 | 0.69 | 0.14 | 0.67 | 0.51 | 0.21 | 0.55 | 0.89 | 0.36 | 0.74 | 0.47 | 0.37 |
| Control Delay | 17.7 | 33.5 | 3.8 | 46.3 | 20.7 | 4.4 | 33.7 | 54.9 | 14.8 | 52.0 | 40.3 | 6.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.7 | 33.5 | 3.8 | 46.3 | 20.7 | 4.4 | 33.7 | 54.9 | 14.8 | 52.0 | 40.3 | 6.9 |
| LOS | B | C | A | D | C | A | C | D | B | D | D | A |
| Approach Delay | | 29.3 | | | 23.0 | | | 45.6 | | | 33.2 | |
| Approach LOS | | C | | | C | | | D | | | C | |

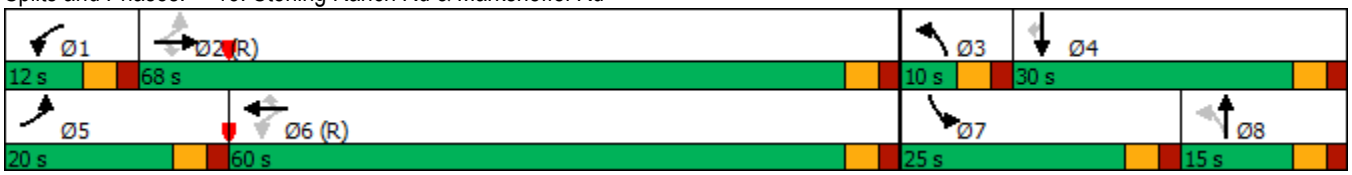
| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green | |
| Natural Cycle: 70 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.89 | |
| Intersection Signal Delay: 33.0 | Intersection LOS: C |
| Intersection Capacity Utilization 81.4% | ICU Level of Service D |
| Analysis Period (min) 15 | |

Splits and Phases: 12: Vollmer Rd & Marksheffel Rd

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 303 | 940 | 6 | 62 | 838 | 562 | 18 | 4 | 346 | 18 | 184 |
| Future Volume (vph) | 303 | 940 | 6 | 62 | 838 | 562 | 18 | 4 | 346 | 18 | 184 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 15.0 | 15.0 | 5.0 | 15.0 | 15.0 | 5.0 | 10.0 | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 10.0 | 20.0 | 20.0 | 10.0 | 20.0 | 20.0 | 10.0 | 15.0 | 25.0 | 20.0 | 20.0 |
| Total Split (s) | 20.0 | 68.0 | 68.0 | 12.0 | 60.0 | 60.0 | 10.0 | 15.0 | 25.0 | 30.0 | 30.0 |
| Total Split (%) | 16.7% | 56.7% | 56.7% | 10.0% | 50.0% | 50.0% | 8.3% | 12.5% | 20.8% | 25.0% | 25.0% |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| 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) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None |
| Act Effct Green (s) | 81.0 | 71.6 | 71.6 | 69.3 | 62.7 | 62.7 | 11.0 | 10.0 | 20.0 | 25.0 | 25.0 |
| Actuated g/C Ratio | 0.68 | 0.60 | 0.60 | 0.58 | 0.52 | 0.52 | 0.09 | 0.08 | 0.17 | 0.21 | 0.21 |
| v/c Ratio | 0.75 | 0.47 | 0.01 | 0.19 | 0.48 | 0.53 | 0.13 | 0.18 | 0.64 | 0.05 | 0.40 |
| Control Delay | 39.6 | 10.3 | 0.0 | 10.2 | 20.8 | 3.5 | 35.7 | 24.2 | 52.3 | 37.5 | 8.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 39.6 | 10.3 | 0.0 | 10.2 | 20.8 | 3.5 | 35.7 | 24.2 | 52.3 | 37.5 | 8.2 |
| LOS | D | B | A | B | C | A | D | C | D | D | A |
| Approach Delay | | 17.3 | | | 13.7 | | | 28.8 | | 37.0 | |
| Approach LOS | | B | | | B | | | C | | D | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green | |
| Natural Cycle: 90 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.75 | |
| Intersection Signal Delay: 19.2 | Intersection LOS: B |
| Intersection Capacity Utilization 72.4% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 13: Sterling Ranch Rd & Marksheffel Rd



| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | ↑↑ | ↑↑ | ↱ | | ↱ |
| Traffic Vol, veh/h | 0 | 1051 | 1021 | 40 | 0 | 51 |
| Future Vol, veh/h | 0 | 1051 | 1021 | 40 | 0 | 51 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | 200 | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1106 | 1075 | 42 | 0 | 54 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 0 | - | 0 | - | 538 |
| 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 | - | - | - | 0 | 488 |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | - | 488 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 13.3 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | 488 |
| HCM Lane V/C Ratio | - | - | - | 0.11 |
| HCM Control Delay (s) | - | - | - | 13.3 |
| HCM Lane LOS | - | - | - | B |
| HCM 95th %tile Q(veh) | - | - | - | 0.4 |

| 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 | 0 | 0 | 87 | 15 | 0 | 0 | 140 | 291 | 63 | 1 | 135 | 0 |
| Future Vol, veh/h | 0 | 0 | 87 | 15 | 0 | 0 | 140 | 291 | 63 | 1 | 135 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 200 | - | 200 | 200 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 92 | 16 | 0 | 0 | 147 | 306 | 66 | 1 | 142 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 777 | 810 | 142 | 790 | 744 | 306 | 142 | 0 | 0 | 372 | 0 | 0 |
| Stage 1 | 144 | 144 | - | 600 | 600 | - | - | - | - | - | - | - |
| Stage 2 | 633 | 666 | - | 190 | 144 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 314 | 314 | 906 | 308 | 343 | 734 | 1441 | - | - | 1186 | - | - |
| Stage 1 | 859 | 778 | - | 488 | 490 | - | - | - | - | - | - | - |
| Stage 2 | 468 | 457 | - | 812 | 778 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 289 | 282 | 906 | 255 | 308 | 734 | 1441 | - | - | 1186 | - | - |
| Mov Cap-2 Maneuver | 289 | 282 | - | 255 | 308 | - | - | - | - | - | - | - |
| Stage 1 | 771 | 777 | - | 438 | 440 | - | - | - | - | - | - | - |
| Stage 2 | 420 | 410 | - | 729 | 777 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 9.4 | 20 | 2.2 | 0.1 |
| HCM LOS | A | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1441 | - | - | 906 | 255 | 1186 | - | - |
| HCM Lane V/C Ratio | 0.102 | - | - | 0.101 | 0.062 | 0.001 | - | - |
| HCM Control Delay (s) | 7.8 | - | - | 9.4 | 20 | 8 | - | - |
| HCM Lane LOS | A | - | - | A | C | A | - | - |
| HCM 95th %tile Q(veh) | 0.3 | - | - | 0.3 | 0.2 | 0 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 5 | 5 | 36 | 9 | 161 | 9 | 146 | 137 | 98 | 94 | 0 |
| Future Vol, veh/h | 0 | 5 | 5 | 36 | 9 | 161 | 9 | 146 | 137 | 98 | 94 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 0 | - | - | 0 | - | - | 0 | - | 200 | 200 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 5 | 5 | 38 | 9 | 169 | 9 | 154 | 144 | 103 | 99 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 638 | 621 | 99 | 482 | 477 | 154 | 99 | 0 | 0 | 298 | 0 | 0 |
| Stage 1 | 305 | 305 | - | 172 | 172 | - | - | - | - | - | - | - |
| Stage 2 | 333 | 316 | - | 310 | 305 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 389 | 403 | 957 | 495 | 487 | 892 | 1494 | - | - | 1263 | - | - |
| Stage 1 | 705 | 662 | - | 830 | 756 | - | - | - | - | - | - | - |
| Stage 2 | 681 | 655 | - | 700 | 662 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 289 | 368 | 957 | 454 | 444 | 892 | 1494 | - | - | 1263 | - | - |
| Mov Cap-2 Maneuver | 289 | 368 | - | 454 | 444 | - | - | - | - | - | - | - |
| Stage 1 | 701 | 608 | - | 825 | 751 | - | - | - | - | - | - | - |
| Stage 2 | 541 | 651 | - | 634 | 608 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 11.9 | 11 | 0.2 | 4.1 |
| HCM LOS | B | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1494 | - | - | - | 532 | 454 | 847 | 1263 | - | - |
| HCM Lane V/C Ratio | 0.006 | - | - | - | 0.02 | 0.083 | 0.211 | 0.082 | - | - |
| HCM Control Delay (s) | 7.4 | - | - | 0 | 11.9 | 13.7 | 10.4 | 8.1 | - | - |
| HCM Lane LOS | A | - | - | A | B | B | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 | 0.3 | 0.8 | 0.3 | - | - |

# Appendix Table 1

TRANSPORTATION
CONSULTANTS, INC.

**Appendix Table 1: Area Traffic Impact Studies**

| Study | PCD File No[1] | Consultant | Date |
|---|---|---|---|
| **Sterling Ranch Reports** | | | |
| Sterling Ranch Updated Traffic Impact Analysis | SKP07007 | LSC Transportation Consultants, Inc | June 5, 2008 |
| Sterling Ranch Phase 1 Traffic Impact Study | P151 | LSC Transportation Consultants, Inc | March 16, 2015 |
| Sterling Ranch Phases 1-3 Transportation Memorandum | SP1415 | LSC Transportation Consultants, Inc | October 2, 2017 |
| Branding Iron at Sterling Ranch Filing No. 1 and Homestead at Sterling Ranch Filing No. 1 Transportation Memorandum | SF1724 SF1725 | LSC Transportation Consultants, Inc | December 19, 2017 |
| Sterling Ranch Filing No. 2 Transportation Memorandum | SF1820 | LSC Transportation Consultants, Inc | April 3, 2018 |
| Sterling Ranch Phase 2 Preliminary Plan Traffic Impact Study | SP203 | LSC Transportation Consultants, Inc | December 20, 2018 |
| Homestead at Sterling Ranch Filing No. 2 Transportation Memorandum | SF194 | LSC Transportation Consultants, Inc | March 3, 2020 |
| Branding Iron at Sterling Ranch Filing No. 2 Transportation Memorandum | SF1918 | LSC Transportation Consultants, Inc | May 6, 2020 |
| Sterling Ranch Filing No. 2 and Phase 2 Traffic Impact Study | SF2015 SP191 | LSC Transportation Consultants, Inc | June 23, 2021 |
| Sterling Ranch Filing No. 3 Transportation Memorandum | SF2132 | LSC Transportation Consultants, Inc | April 19, 2022 |
| Homestead North Phase 1 Updated Transportation Memorandum | SP208 | LSC Transportation Consultants, Inc | January 11, 2022 |
| Homestead North Filing No. 1 Traffic Technical Memorandum | SF2213 | LSC Transportation Consultants, Inc | February 2, 2022 |
| Homestead North Filing No. 2 Traffic Technical Memorandum | SF2218 | LSC Transportation Consultants, Inc | April 15, 2022 |
| Homestead North Filing 3 Traffic Impact Study | SF2229 | LSC Transportation Consultants, Inc | June 17, 2022 |
| The Villages at Sterling Ranch East Preliminary Plan/Traffic Generation Analysis | PUDSP226 | SM Rocha, LLC | July 1, 2022 |
| Sterling Ranch Sketch Plan Amendment Master Traffic Impact Study | SKP224 | LSC Transportation Consultants, Inc | March 17, 2023 |
| Sterling Ranch East - Rezoning & Preliminary Plan Traffic Impact Study | SP-22-004, P-22-012, P-22-013 | LSC Transportation Consultants, Inc | March 17, 2023[2] |
| **Foursquare at Sterling Ranch East Transportation Memorandum** | PUDSP226 SF2239 | **LSC Transportation Consultants, Inc** | **April 20, 2023** |
| Sterling Ranch East Filing Nos 1 & 2 Traffic Technical Memorandum | SF2235 SF2237 | LSC Transportation Consultants, Inc | February 10, 2023 |
| Sterling Ranch Filing No. 4 Transportation Memorandum | SF2230 | LSC Transportation Consultants, Inc | February 21, 2023 |
| Copper Chase at Sterling Ranch Traffic Impact Study | PUDSP222 | LSC Transportation Consultants, Inc | April 28, 2023 |
| Sterling Ranch Filing No. 5 Traffic Impact Study | PUDSP-23-002 | LSC Transportation Consultants, Inc | November 15, 2023 |
| Sterling Ranch East - Filing 5 Rezone & Preliminary Plan Traffic Impact Study | P237 & SP235 | LSC Transportation Consultants, Inc | January 15, 2024 |
| Sterling Ranch Sketch Plan 2023 Amendment & Rezone Traffic Technical Memorandum | SKP235, P239, P2311 | LSC Transportation Consultants, Inc | January 17, 2024 |
| Sterling Ranch Sketch Plan Amendment #4 & Sterling Ranch East Filing No. 7 Rezone Master Traffic Impact Addendum/Technical | SKP241 & P2415 | LSC Transportation Consultants, Inc | November 18, 2024 |
| Sterling Ranch East Filing No. 3 Traffic Impact Study | SF2428 | LSC Transportation Consultants, Inc | January 7, 2025 |
| Sterling Ranch East - Filing 6 Rezone & Preliminary Plan Traffic Impact Study | P2414 & SP244 | LSC Transportation Consultants, Inc | March 20, 2025 |
| Villages at Sterling Ranch East Traffic Impact Study | SF2439 | LSC Transportation Consultants, Inc | April 24, 2025 |
| Sterling Ranch East Filing No. 8 Traffic Impact Study | PUDSP256 | LSC Transportation Consultants, Inc | October 28, 2025 |
| Sterling Ranch East Filing No. 4Traffic Impact Study | SF2615 | LSC Transportation Consultants, Inc | June 25, 2026 |
| **Retreat at TimberRidge Reports** | | | |
| The Retreat at TimberRidge Traffic Impact Analysis | PUD173 | LSC Transportation Consultants, Inc | January 25, 2018 |
| The Retreat at TimberRidge Preliminary Plan Traffic Technical Memorandum | SP182 | LSC Transportation Consultants, Inc | June 29, 2018 |
| The Retreat at TimberRidge Filing No. 1 Traffic Technical Memorandum | SF199 | LSC Transportation Consultants, Inc | April 3, 2020 |
| The Retreat at TimberRidge Filing No. 2 Updated Traffic Technical Memorandum | SF2121 | LSC Transportation Consultants, Inc | October 4, 2021 |
| The Retreat at TimberRidge Filing No. 3 Traffic Technical Memorandum | SF2241 | LSC Transportation Consultants, Inc | November 15, 2023 |
| The Retreat at TimberRidge Filing No. 4 Traffic Technical Memorandum | SF1827 | LSC Transportation Consultants, Inc | February 21, 2024 |
| | | | |
| **Other Area Reports** | | | |
| Wolf Ranch School Site Traffic Impact Study | OAR1720 | Matrix Design Group, Inc. | May 5, 2017 |
| The Ranch Sketch Plan Traffic Impact Analysis | SKP186 | LSC Transportation Consultants, Inc | July 9, 2019 |
| Lodge III Traffic Impact Study | OAR | LSC Transportation Consultants, Inc | December 13, 2019 |
| Continental 613 Traffic Impact Study | OAR2177 | LSC Transportation Consultants, Inc | July 16, 2021 |
| Solace at Black Forest Traffic Impact and Access Analysis | OAR2134 | LSC Transportation Consultants, Inc | August 13, 2021 |
| Traffic Impact Study Addendum for Percheron | OAR2173 | SM Rocha, LLC | October, 2021 |
| Woodmen East Commercial Center Traffic Impact Analysis | OAR2191 | LSC Transportation Consultants, Inc | December 8, 2021 |
| Traffic Impact Study for Jaynes Property | SKP225 | SM Rocha, LLC | May, 2022 |
| Briargate-Stapleton Corridor Study | briargate-stapleton.com | Wilson & Company | December 7, 2023 |
| Sterling Recycling Facility Transportation Memorandum | PPR2341 | LSC Transportation Consultants, Inc | August 24, 2023 |

Notes:

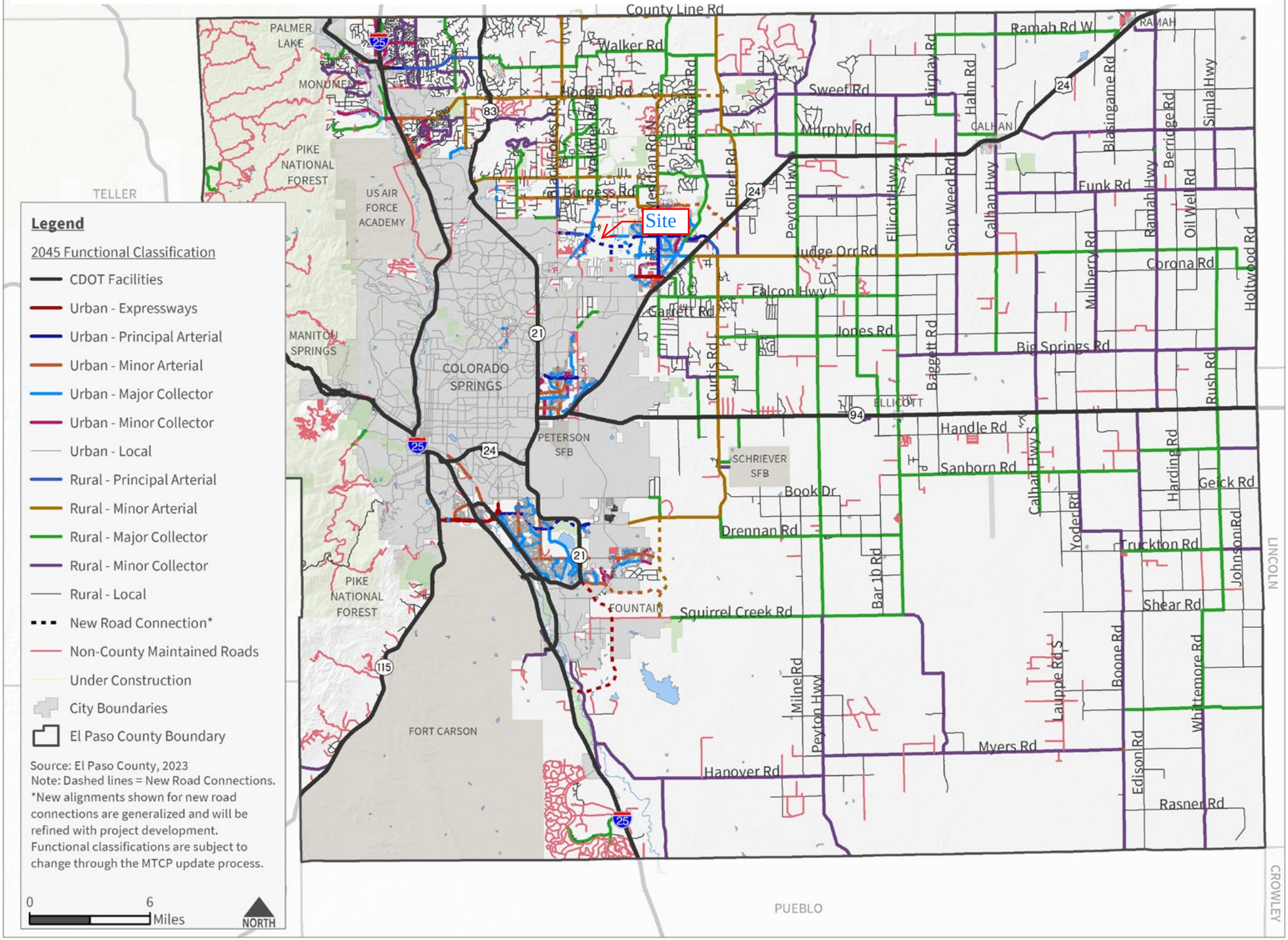
(1) Follow the links listed below to obtain the most recent version of each listed study. To obtain a copy of the version of each study used in preparing this report please contact LSC Transportation Consultants, Inc.

*Source: LSC Transportation Consultants, Inc.* *Aug-26*

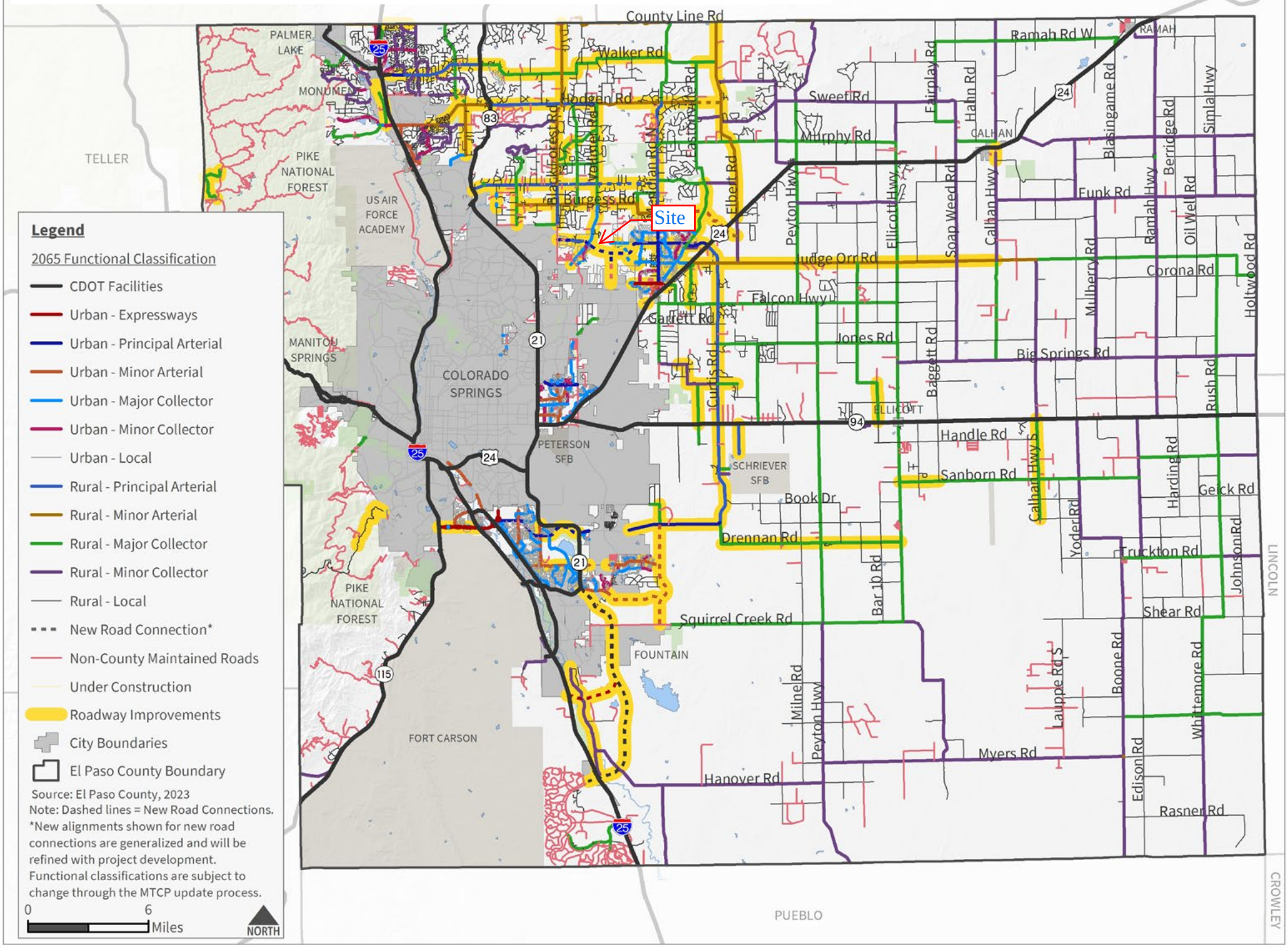
# MTCP Maps

TRANSPORTATION
CONSULTANTS, INC.

# Figure 22. 2045 Roadway Functional Classifications



# Figure 39. 2065 Corridor Preservation Plan



# Crash History

TRANSPORTATION
CONSULTANTS, INC.

| CUID | System Code | Crash Date | Crash Time | Location 1 | Location 2 | Location | Road Description | First HE | Second HE | MHE | Crash Type | Approach Turn | Overtaking | Number Killed | Number Injured | Total Vehicles | Road Contour Curves | Road Contour Grade | Road Condition | Lighting Conditions | Weather Condition | Lane Position | TU-1 Direction | TU-1 Movement | TU-1 Type | TU-1 Speed Limit | TU-1 Estimated Speed | TU-1 Speed | TU-1 Driver Action | TU-1 Human Contributing Factor | Record Status | Processing Status | Last Updated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Briargate Parkway/Vollmer Road** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **July 1 - Dec 31, 2023** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NONE REPORTED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **FY 2024** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1253336 | County Road | 12/1/2024 | 04:00:00 | VOLLMER RD | BRIARGATE PKWY | Center median/ Island | At Intersection | Curb | Sign | Curb | Curb | Not Applicable | | 0 | 0 | 1 | Curve Right | Level | Dry W/Visible Icy Road Treatment | Dark – Unlighted | Clear | N01 | Northeast | Making Right Turn | SUV | 45 | 50 | 25 | Careless Driving | Aggressive Driving | Coded | Completed | Dec 31 2024 1:59AM |
| **FY 2025** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NONE REPORTED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Jan 1 - Jun 30, 2026** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NONE REPORTED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| CUID | System Code | Crash Date | Crash Time | Location 1 | Location 2 | Location | Road Description | First HE | Second HE | Third HE | Fourth HE | MHE | Crash Type | Approach Overtaking Turn | Number Killed | Number Injured | Injury 01 | Total Vehicles | Road Contour Curves | Road Contour Grade | Road Condition | Lighting Conditions | Weather Condition | Lane Position | TU-1 Direction | TU-1 Movement | TU-1 Type | TU-1 Speed Limit | TU-1 Estimated Speed | TU-1 Driver Action | TU-1 Human Contributing Factor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Marksheffel Road/Vollmer Road** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **July 1 - Dec 31, 2023** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NONE REPORTED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **FY 2024** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NONE REPORTED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **FY 2025** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2593823 | County Road | 9/9/2025 | 11:05:00 | VOLLMER RD | MARKSHEFFEL RD | Ran off left side | Non-Intersection | Curb | Sign | Barricade | Fence | Curb | Curb | Not Applicable | 0 | 1 | 1 | 1 | Straight | Level | Dry | Daylight | Clear | SLS | Southwest | Going Straight | Passenger Car/ Passenger Van | 35 | 50 | Careless Driving | Asleep or Fatigued |
| **Jan 1 - Jun 30, 2026** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NONE REPORTED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| CUID | System Co | Rd_Numbe | Rd_Sectio | City_Stree | Crash Date |
|---|---|---|---|---|---|

**Marksheffel Road/Sterling Ranch Road**

**July 1 - Dec 31, 2023**

NONE REPORTED

**FY 2024**

NONE REPORTED

**FY 2025**

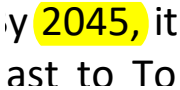
NONE REPORTED

**Jan 1 - Jun 30, 2026**

NONE REPORTED

# V2_Traffic Impact Study.pdf Markup Summary

## CDurham (6)

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Briargate is built west thru Prairie Ridge already and plans to Black Forest Road are in design. Extension will be done well before 2045. Does this change the scenario for the future signal?

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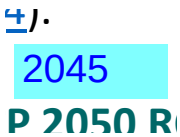


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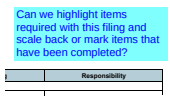


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Can we highlight items required with this filing and scale back or mark items that have been completed?

Kirstin Ferrin (2)

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