TRANSPORTATION CONSULTANTS, INC.

LSC TRANSPORTATION CONSULTANTS, INC.
2504 East Pikes Peak Avenue, Suite 304
Colorado Springs, CO 80909
(719) 633-2868
FAX (719) 633-5430
E-mail: lsc@lsctrans.com
Website: http://www.lsctrans.com



# Sterling Ranch East - Phase 1
# Rezoning & Preliminary Plan
# SP-22-004, P-22-012, P-22-013
# Traffic Impact Study

(LSC #S224510)

March 17, 2023 w/minor revision 4/3/2023)

**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.


**Developer's Statement**

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

V.P.

3/20/2023
Date

# Sterling Ranch East
# Rezoning & Preliminary Plan
# Traffic Impact Study

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

MARCH 15, 2023
(w/ minor revision 4/3/2023)

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

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## CONTENTS

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March 15, 2023 (w/ minor revision 4/3/2023)

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

RE: Sterling Ranch East -
Rezoning & Preliminary Plan
Traffic Impact Study
El Paso County, Colorado
SP-22-004, P-22-012, P-22-013
LSC #S224510

Dear Mr. Moreland:

LSC Transportation Consultants, Inc. has prepared this Traffic Impact Study for the proposed Sterling Ranch East (SRE) Rezones and Preliminary Plan. As shown in Figure 1, the site is located east of Vollmer Road near Lochwinnoch Lane between the future extensions of Marksheffel Road and Stapleton Drive 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;
- A summary of the proposed land use and access plan;
- 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;
- Existing traffic volume data;
- Estimates of projected short-term 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;

- A list of deviation requests
- Findings and recommendations for study area roadways and intersections, including number of lanes, auxiliary turn lanes, intersection traffic control, etc.; and
- The recommended street classifications

**RECENT TRAFFIC REPORTS**

LSC prepared a previous master traffic impact study (TIS) for the entire Sterling Ranch development dated June 5, 2008. **This master study was updated October 21, 2022, December 22, 2022, and February 10, 2023 (current version)**. Since 2008, LSC and SM Rocha, LLC have completed multiple studies for individual filings and phases within Sterling Ranch. Appendix Table 1 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 is currently studying the Briargate Stapleton Corridor as part of a Pikes Peak Rural Transportation Authority (PPRTA) study. A draft version of the Briargate-Stapleton Corridor Study by Wilson & Company was published December 9, 2021.

**STUDY AREA**

Figure 1 shows the location of the Sterling Ranch East Phase 1 Preliminary Plan Area 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 extension of Sterling Ranch Road.

**Land Use**

Figure 2 shows the proposed Sterling Ranch East Phase 1 Preliminary Plan. The trip-generation table (Table 2) also lists the land uses and quantities of dwelling units, estimated non-residential building square footage, etc. The site is planned to be developed with 761 lots for single-family homes. Two future tracts are also included in the Preliminary Plan. Tract M, located southwest of the future intersection of Briargate/Sterling Ranch, is planned to be developed with a K-8 school and Tract T, located on the south end of the Preliminary Plan area, is planned to be developed with an elementary school. This land use is consistent with the land use assumed in the October 21, 2022 (and December 22, 2022) Master TIS reports.

**Pedestrian Plan**

Figure 2 also shows the location of all planned trails and sidewalks in the vicinity of the site. There are no proposed regional trails within the boundary of this Preliminary Plan. Multiple community trails are included for circulation and recreational use through the Sterling Ranch Phase 1 Preliminary Plan, including a 15-foot combined trail and maintenance road along the east side of Sand Creek area. This is shown in Figure 2. A 5-foot trail along the south boundary

will provide connectivity from the eastern portion of Sterling Ranch to the Regional Trail on the west side of Sand Creek and the community parks, trails, and open space within Sterling Ranch.

A detached sidewalk will be provided along both sides of Sterling Ranch Road. The multi-use paved shoulder on Sterling Ranch Road will accommodate bicycles.

**Proposed Access Points**

Figure 3 shows the roadway connections that are planned to be constructed in the short term. As shown in Figure 3, in the short term Briargate Parkway is planned to be constructed to its final cross section between Vollmer Road and Sterling Ranch Road, Marksheffel Road is planned to be completed between Vollmer Road and Woodmen Road, and Sterling Ranch Road is planned to be constructed from Marksheffel Road to the northmost access point within the Sterling Ranch East Phase 1 Preliminary Plan area.

Figure 2 shows the access plan for the SRE Phase 1 Preliminary Plan. The access plan for this Preliminary plan is consistent with the access plan shown in the February 10, 2023 LSC Sketch Plan Master TIS.

**Briargate Access Points**

*The Briargate Parkway-Stapleton Road Corridor Study Appendix D: Access Control Plan* shows the access locations and intersection access restrictions along Briargate Parkway between Black Forest Road and Meridian Road. The currently proposed plan has several access points that are not included in the access control plan.

- The access control plan shows a right-in/right-out access point north and south of Briargate Parkway between Wheatland Drive and Sterling Ranch Road. The currently proposed Preliminary Plan shows two offset three-quarter movement (left-in/right-in/right-out only) access points. A deviation request is being submitted with this application for the north-side access. The south-side access is not part of these Sterling Ranch East applications. However, it has been shown in case the school district needs it for access and/or adequate school circulation. The access request would be reviewed at the time of development of the future school.
- The access control plan shows the intersection of Briargate Parkway/Sterling Ranch Road as a three-leg intersection. The currently proposed Preliminary Plan includes a north leg at this future full-movement signal-controlled intersection.

**School Site – Possible Access Points**

This TIS report shows potential/possible access points with the intent of addressing the school site traffic in general. However, no information or plans are available for the school site and a

separate site-specific TIS will be required to be approved prior to school site development. Figures in this report show estimates of possible school-traffic turning movements at intersection numbers 103, 307**,** and 8. These are intended to represent approximate volumes for one possible access scenario for purposes of loading the LSC estimate of school-site trips to the adjacent streets. Design details such **as** the actual access plan for the school, sight distance, levels of service, queuing, auxiliary turn lanes**,** and other design elements will likely be included in a site-specific study for the school site.

**For Reference: Other nearby Briargate access points (shown on the Sketch Plan)**

- The access control plan shows a right-in/right-out access to the south side of Briargate Parkway at Wheatland Drive between Vollmer Road and Sterling Ranch Road. The currently proposed Sketch Plan Amendment shows a three-quarter movement access for the south leg and a right-in/right-out access on the north leg. A deviation request for this access point has been submitted and approved.
- The currently proposed Sketch Plan Amendment shows a right-in/right-out access to the north side of Briargate Parkway about 1,230 feet east of Sterling Ranch Road that is not shown on the access control plan.
- The access control plan shows a right-in/right-out access to the south side of Briargate Parkway just west of Banning Lewis Parkway. The currently proposed Sketch Plan Amendment shows a right-in/right-out access to the north side of Briargate and a three-quarter movement access to the south side of Briargate at approximately the same location (1,085 feet west of Banning Lewis Parkway).
- The access control plan shows the intersection of Briargate/Banning Lewis as a three-leg intersection. The currently proposed Sketch Plan includes a north leg at this future full-movement signal-controlled intersection.

**Sight Distance Analysis**

Figures 4a through 4b show sight-distance analysis at the proposed intersections to Sterling Ranch Road. Based on a design speed of 40 miles per hour (mph) and the criteria contained in Table 2-21 of the *Engineering Criteria Manual* (*ECM*), the required intersection sight distance at the future intersections is 445 feet.

Figure 4c shows sight-distance analysis at the proposed three-quarter movement intersections to Briargate Parkway. Based on a design speed of 50 miles per hour (mph) and the criteria contained in Table 2-21 of the *Engineering Criteria Manual* (*ECM*), the required intersection sight distance at the future intersections is 555 feet.

As shown in these figures, that intersection sight distance can be met at all of the proposed site-access points.

## 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 SRE Phase 1 Rezone and Preliminary Plan area ("the site") as well as traffic to be generated in the short term by buildout of Homestead at Sterling Ranch, Branding Iron at Sterling Ranch, Sterling Ranch Filings 2-4, Copper Chase at Sterling Ranch, Homestead North at Sterling Ranch Filings 1-3, the Retreat at TimberRidge Filings 1-3, the planned FourSquare at Sterling Ranch East development, and the planned Villages at Sterling Ranch East development. Trips projected from these other short-term developments outside of the SRE Phase 1 Preliminary Plan/Rezone boundary are included as short-term "background traffic" in this report.

### Long-Term Scenario

The long-term scenario is essentially the same as the 2042 Long-Term scenario contained in the LSC February 10, 2023 Master TIS with additional detail added for this application – including the analysis of minor intersections and street segments that are part of the Preliminary Plan. The study area of this report is more focused than the Sketch Plan.

## EXISTING ROAD AND TRAFFIC CONDITIONS

The adjacent streets are shown in Figure 1 and are described below. Copies of the *2016 El Paso County Major Transportation Corridors Plan (MTCP), 2040 Roadway Plan, and 2016 MTCP 2060 Corridor Preservation Plan* with the site location identified on them have been attached to 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. The *2040 El Paso County Major Transportation Corridors Plan* (*MTCP*) and the prior Sterling Ranch master traffic study show Vollmer Road as a four-lane Urban Minor Arterial in the vicinity of the site. Note: The new *Connect COS* City of Colorado Springs transportation plan shows Vollmer as a Principal Arterial.

**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 intends to take ownership and maintenance of

Marksheffel Road when it is constructed from Vollmer to the east and south to where it will connect to the segment constructed north of Woodmen Road in the City.

The section of Marksheffel Road adjacent to Sterling Ranch is planned to be constructed on 107 feet of right-of-way to the City's required cross section(s) and criteria. The section of Marksheffel Road between Sterling Ranch Road and Vollmer Road will be constructed in the very short-term future and the section of Marksheffel Road southeast of Sterling Ranch Road (to connect to the segment recently constructed) will be completed in the short term and will open the connection to Woodmen Road. Marksheffel will be constructed as a four-lane roadway to the previously agreed upon cross section.

**Briargate Parkway** is a six-lane, 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 is planned to be constructed in the short term with this Preliminary Plan.

**Sterling Ranch Road** is a planned Non-Residential Collector shown extending through the Sterling Ranch development between Marksheffel Road and the north end of the Sketch Plan area (Arroya Road). The segment south of Briargate Parkway will be constructed in the short term with this Preliminary Plan.

**Tahiti Drive** is a gravel road which extends for about 750 feet north from Vollmer Road. The intersection of Vollmer/Tahiti is located just south of the future location of the intersection of Vollmer/Marksheffel. This intersection is planned to be closed with the construction of Marksheffel Road between Vollmer Road and Sterling Ranch Road. Access for the existing home using this access will be relocated north to Loch Fyne Lane.

**Existing Traffic Volumes**

Figures 5a and 5b show the existing average weekday and 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 and All Traffic Data Services. The date of each count is shown in Figure 5b. The average weekday traffic volumes shown in Figure 5a are estimates by LSC, based on the manual peak-hour traffic-count data. 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<br>Average Control Delay (seconds per vehicle) | Unsignalized Intersections<br>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 intersection of Burgess/Vollmer has been analyzed based on the unsignalized-intersection analysis procedures from the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board.

Burgess/Vollmer

The stop-sign-controlled intersection of Burgess/Vollmer is currently operating at LOS E for the eastbound approach and LOS F for the westbound approach during the afternoon peak hour.

**Safety and Accident Analysis**

The Colorado State Patrol (CSP) provided LSC with crash history data for Vollmer Road between Tahiti Drive and Burgess Road from September 2019 through September 2022. During the reported time period, there were twelve reported crashes. Of the twelve reports, ten were single-vehicle non-intersection-related crashes on Vollmer Road. One crash involved a southbound vehicle that turned right onto Poco Road and crashed into several cars parked on Poco Road partially in the lane. The only intersection-related crash occurred in June 2022. A vehicle heading northbound on Vollmer Road was slowing to turn left at Lochwinnoch Road and the vehicle behind them attempted to pass on the left side. The crash history data has been attached.

**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 SRE Phase 1 rezone/preliminary plan boundary area).

**Short-Term Scenario Baseline Conditions**

Please refer to the description of the short-term scenario above. Figures 6a and 6b show the projected volumes for the short-term baseline scenario.

Figure 6c shows the lane geometry, traffic control, and level of service at the key area intersections, based on the short-term scenario baseline volumes.

**Long-Term Scenario Baseline Conditions**

Figure 7a shows the projected 2042 baseline daily traffic volumes on key street segments at the key area intersections and Figure 7b shows the projected 2042 peak-hour baseline 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 2042 baseline traffic volumes are estimates by LSC, based on the traffic projections in the LSC February 10, 2023 Master TIS report. The 2042 baseline daily traffic volumes assume buildout of the land uses within the Sterling Ranch Master Plan that are not included in the Sterling Ranch East Phase 1 Preliminary Plan area.

Figure 7b shows the lane geometry, traffic control, and level of service at the key area intersections, based on the 2042 baseline volumes.

**TRIP GENERATION**

The site-generated vehicle trips were estimated using the nationally-published trip-generation rates from *Trip Generation, 11th Edition*, 2021 by the Institute of Transportation Engineers (ITE). Table 2 shows the trip-generation estimates.

The residential portion of the Sterling Ranch East Phase 1 Preliminary Plan is projected to generate about 7,176 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 139 vehicles would enter and 394 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 451 vehicles would enter and 265 vehicles would exit the site.

The future school sites within Sterling Ranch East Phase 1 Preliminary Plan are projected to generate about 3,774 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 660 vehicles would enter and 563 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 124 vehicles would enter and 143 vehicles would exit the site. As shown in the October 22, 2022, and subsequent Master TIS reports, about 60 percent of these trips are projected to be internal to the Sterling Ranch Sketch Plan area.

**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 Figures 8 and 9, respectively. 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. Figure 10 shows the long-term directional-distribution estimate for the school related traffic. The directional-distribution estimates are based, in part, on the estimates contained in the sketch plan TIS 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 Figures 8, 9, and 10) are applied to the new, external trip-generation estimates (from Table 2), the resulting site-generated traffic volumes can be determined. Figures 11a and 11b show the short-term residential site-generated traffic volumes. These volumes assume only the street network shown in Figure 3. Figures 12a and 12b show the long-term residential site-generated traffic volumes assuming buildout of the area roadway network. Figure 13a and 13b show the long-term school-related site-generated traffic volumes. These volumes include internal trips between the residential land uses within SRE Phase 1 Preliminary Plan and the two future school sites.

**TOTAL TRAFFIC**

**Short-Term Total Traffic**

Figure 14a shows the projected short-term total daily traffic volumes on key street segments and Figure 14b shows the projected short-term total peak-hour traffic volumes at the key study-area intersections. These volumes are the sum of the short-term baseline traffic volumes (from Figures 6a and 6b) and the short-term residential-related site-generated traffic volumes (from Figures 11a and 11b). The short-term analysis assumes only the street network shown in Figure 3 has been constructed and assumes the future school sites (Tracts T and M) within the SRE Phase 1 Preliminary Plan have not yet been developed.

Figure 14c 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.

**2042 Total Traffic**

Figure 15a shows the projected 2042 total daily traffic volumes on key street segments and Figure 15b shows the projected 2042 total peak-hour traffic volumes at the key study-area intersections. These volumes are the sum of the 2042 baseline traffic volumes (from Figures 7a and 7b), the long-term residential-related site-generated traffic volumes (from Figures 12a and12b) and the long-term school-related site-generated traffic volumes (from Figures 13a and 13b).

Figure 14c shows the level of service analysis results for the key area intersections based on the projected 2042 total volumes. The figure also shows the general intersection lane geometry and intersection traffic control used in the analysis.

**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 2042 baseline and 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 6c, 7c, 14c and 15c show the level of service analysis results. The level of service reports are attached.

**Intersection #1: Vollmer/Burgess**

The stop-sign-controlled intersection of Burgess/Vollmer is currently operating at LOS E for the eastbound approach and LOS F for the westbound approach during the afternoon peak hour. The intersection currently has one-lane approaches in all directions. Based on existing traffic volumes shown in Figure 5 and the criteria contained in the El Paso *County Engineering Criteria Manual* (*ECM*), multiple auxiliary turn lanes would be required to meet the *ECM* standard. LSC recommends this intersection be reconstructed as a modern one-lane roundabout. As a modern roundabout, it is projected to operate at LOS C or better for all approaches during the peak hours based on the projected short-term and 2042 total traffic volumes.

**Intersection #4: Vollmer/Briargate**

The section of Briargate Parkway between Vollmer Road and Sterling Ranch Road is planned to be constructed to its final cross section in the short term. The intersection of Briargate/ Vollmer

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

By 2042, 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 2042 total traffic volumes shown in Figure 15b and the lane geometry shown in Figure 15c.

**Intersection #5: Sterling Ranch/Briargate**

The section of Briargate Parkway between Vollmer Road and Sterling Ranch Road is planned to be constructed to its final cross section in the short term. The intersection of Briargate/Sterling Ranch could operate at a satisfactory level of service (LOS C or better) in the short term as a stop-sign-controlled intersection.

By 2042, 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 Sterling Ranch/Briargate is projected to operate at an overall LOS C during the peak hours as a signalized intersection, based on the projected 2042 total traffic volumes shown in Figure 15b and the lane geometry shown in Figure 15c.

**Intersection #8: Oak Park/Sterling Ranch**

The intersection of Oak Park Place/Sterling Ranch Road is projected to operate at LOS B or better for all movements as a stop-sign-controlled intersection, based on the projected short-term total traffic volumes shown in Figure 14b and the lane geometry shown in Figure 14c.
By 2042, it was assumed the future K-8 School planned for the parcel southwest of Briargate/Sterling Ranch would be constructed and that an **exit-only** access would be constructed aligning with the Oak Park/Sterling Ranch intersection. Based on the 2042 total traffic volumes shown in Figure 15b and the lane geometry shown in Figure 15c, the eastbound and westbound left-turn movements are projected to operate at LOS E during the morning peak hour and LOS C during the afternoon peak hour. Alternate traffic control may be needed to achieve a satisfactory level of service at this intersection. Further analysis of this intersection should be conducted when the number of students, site layout, and proposed access plan are determined.

**Intersection #12: Vollmer/Marksheffel**

Marksheffel Road is planned to be constructed between Vollmer Road and Sterling Ranch Road in the short-term future. The intersection of Marksheffel/Vollmer is initially planned to be stop-sign controlled. Based on the projected short-term total traffic volumes which assume

buildout of the residential portion of SRE Phase 1 Preliminary Plan, the westbound left-turn movement is projected to operate at LOS E during the morning peak hour and LOS F during the afternoon peak hour. If this intersection is converted to traffic-signal control prior to buildout, it is projected to operate at an overall LOS A during the peak hours.

By 2042, it was assumed that Marksheffel Road would be constructed west to Briargate Parkway and that the intersection of Vollmer/Marksheffel will be converted to traffic-signal control. The intersection of Vollmer/Marksheffel is projected to operate at an overall LOS C or better during the peak hours as a signalized intersection, based on the projected 2042 total traffic volumes shown in Figure 15b and the lane geometry shown in Figure 15c.

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

Marksheffel Road is planned to be constructed between Vollmer Road and Sterling Ranch Road in the short-term future. The intersection of Marksheffel/Sterling Ranch is initially planned to be stop-sign controlled. Based on the projected short-term total traffic volumes which assume buildout of the residential portion of SRE Phase 1 Preliminary Plan, the southbound left-turn movement is projected to operate at LOS F during both the morning and afternoon peak hours. If this intersection is converted to traffic-signal control prior to buildout, it is projected to operate at an overall LOS A during the peak hours.

The intersection of Sterling Ranch/Marksheffel is projected to operate at an overall LOS C or better during the peak hours as a signalized intersection, based on the projected 2042 total traffic volumes shown in Figure 15b and the lane geometry shown in Figure 15c.

**Sterling Ranch Road Site Access Points (Intersection #303-#308)**

The intersections of Lubbock Trail/Sterling Ranch Road (#303), Bellflower Drive/Sterling Ranch Road (#304), Lake Tahoe Drive/Sterling Ranch Road (#305), Newport Beach Place/Sterling Ranch Road (#306), the future school entrance/Sterling Ranch Road (#307), Idaho Falls Drive/Sterling Ranch Road (#308) and Vancouver Street/Sterling Ranch Road (#309) are projected to operate at a satisfactory level of service (LOS C or better) during the peak hours as stop-sign-controlled intersections, based on the projected short-term and 2042 total traffic volumes

**Briargate Parkway Site Access Points (Intersection #102-#103)**

The intersection of Boulder City Place/Briargate Parkway and the future K-8 school access to Briargate Parkway are projected to operate at LOS B or better for all movements as three-quarter movement (left-in/right-in/right-out only) stop-sign-controlled intersections, based on the projected short-term and 2042 total traffic volumes.

**SIGNAL WARRANT THRESHOLD ANALYSIS – AM AND PM PEAK HOURS**

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 only. In order for an Eight-Hour Vehicular Volume Traffic Signal Warrant to be satisfied, the volume threshold would need to be met for six additional hours of the day and in order for a Four-Hour Vehicular Volume Traffic Signal Warrant to be satisfied, the volume threshold would need to be met for two additional hours of the day. For example, the four-hour warrant would be satisfied with the volume thresholds met for one hour in the morning, two hours (instead of the one-hour peak) during the afternoon peak period, and an hour during the mid-afternoon.

This "cursory"/planning-level analysis has been provided at the Preliminary Plan level to identify intersections which may need to be signalized in the short-term future. Detailed analysis of all applicable signal warrants should be evaluated with Filing submitted. The satisfaction of warrants does not indicate that a signal must be installed. The decision to require a signal to be installed rests with the County.

Table 3 shows the results of the analysis for the intersection of Marksheffel/Vollmer and Table 4 shows the results of the analysis for the intersection of Marksheffel/Sterling Ranch. As shown in Tables 3 and 4, the projected short-term morning and afternoon peak-hour traffic volumes at both intersections are projected to meet the thresholds for both Four-Hour and Eight-Hour Vehicular Volume Traffic Signal Warrants. This analysis indicates that traffic signal warrant(s) may be met at both of these intersections prior to buildout of SRE Phase 1 Preliminary Plan. Detailed analysis should be provided with each future filing within the Preliminary Plan. Escrow towards these improvements may also need to be provided with each filing.

**ROADWAY FUNCTIONAL CLASSIFICATIONS AND LANEAGE**

Figure 16 shows the recommended functional classifications and number of through lanes for the streets in the study area.

**ARTERIAL CORRIDOR SIGNAL-PROGRESSION ANALYSIS**

No additional full-movement intersections to an arterial corridor with the potential to become signalized are shown on this preliminary plan. Therefore, an arterial signal-progression analysis has not been included.

**DEVIATION REQUEST**

A deviation request for the proposed three-quarter-movement access Boulder City Drive to Briargate Parkway has been prepared by JR Engineering and is included with this submittal.

**AREA MTCP 2040 ROADWAY IMPROVEMENT PROJECTS**

The *El Paso County 2016 Major Transportation Corridors Plan Update* identified the following 2040 roadway improvement projects within the study area:

- C13: Vollmer Road from Marksheffel Road to Stapleton Drive as a Rural 4-Lane Minor Arterial;
- N5: Stapleton Drive [Briargate Parkway] from Towner Road to Black Forest Road as a 4-Lane Urban Principal Arterial;
- N12: Marksheffel Road from Woodman Road to Research Parkway as a 4-Lane Urban Principal Arterial; and
- M11: Vollmer Road Bicycle & Primary Regional Trail from Marksheffel Road to Shoup Road.

**CONCLUSIONS AND RECOMMENDATIONS**

**Trip Generation**

- The residential portion of the Sterling Ranch East Phase 1 Preliminary Plan is projected to generate about 7,176 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 139 vehicles would enter and 394 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 451 vehicles would enter and 265 vehicles would exit the site.
- The future school sites within Sterling Ranch East Phase 1 Preliminary Plan are projected to generate about 3,774 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 660 vehicles would enter and 563 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 124 vehicles would enter and 143 vehicles would exit the site. As shown in the October 22, 2022, and subsequent Master TIS reports, about 60 percent of these trips are projected to be internal to the Sterling Ranch Sketch Plan area.

**Level of Service**

- The stop-sign-controlled intersection of Burgess/Vollmer is currently operating at LOS E for the eastbound approach and LOS F for the westbound approach during the afternoon peak hour. The intersection currently has one-lane approaches in all directions. Based on existing traffic volumes shown in Figure 5 and the criteria contained in the El Paso County *Engineering Criteria Manual* (*ECM*), multiple auxiliary turn lanes would be required to meet the *ECM* standard. LSC recommends this intersection be

reconstructed as a modern one-lane roundabout. As a modern roundabout, it is projected to operate at LOS C or better for all approaches during the peak hours based on the projected short-term and 2042 total traffic volumes.

- The intersections of Briargate/Vollmer 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 2042, 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 2042 total traffic volumes.
- Some of the movements at the intersections of Marksheffel/Vollmer and Marksheffel/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 2042 total traffic volumes.
- All of the site-access points to Sterling Ranch Road except the intersection of Sterling Ranch/Oak Park Place are projected to operate at a satisfactory level of service (LOS D or better) during the peak hours as stop-sign-controlled intersections, based on the projected short-term and 2042 total traffic volumes.
- The intersection of Oak Park Place/Sterling Ranch Road is projected to operate at LOS B or better for all movements as a stop-sign-controlled intersection, based on the projected short-term total traffic volumes shown in Figure 14b and the lane geometry shown in Figure 14c. By 2042, it was assumed the future K-8 School planned for the parcel southwest of Briargate/Sterling Ranch would be constructed and that an **exit-only** access would be constructed aligning with the Oak Park/Sterling Ranch intersection. Based on the 2042 total traffic volumes shown in Figure 15b and the lane geometry shown in Figure 15c, the eastbound and westbound left-turn movements are projected to operate at LOS E during the morning peak hour and LOS C during the afternoon peak hour. Alternate traffic control may be needed to achieve a satisfactory level of service at this intersection. Further analysis of this intersection should be conducted when number of students, site layout, and proposed access plan are determined.
- The intersection of Boulder City Place/Briargate Parkway and the future K-8 school access to Briargate Parkway are projected to operate at LOS B or better for all movements as three-quarter movement (left-in/right-in/right-out only) stop-sign-controlled intersections based on the projected short-term and 2042 total traffic volumes.

**Recommended Improvements**

- Table 5 shows detailed **intersection** improvements needed with SRE Phase 1 Preliminary Plan at the site-access points and the intersection of Briargate/Sterling Ranch. The recommended improvements are based on the short-term and 2042 total traffic

volumes shown in Figures 14b and 15b and the criteria contained in the El Paso County *Engineering Criteria Manual* (*ECM*).

- Table 6 shows a list of the **roadway segment** improvements in the vicinity of the site. Please see Figure 17 for a map of the key street segment locations. These recommendations are consistent with the LSC Sketch Plan TIS report.

**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 $2,527 per dwelling unit. The total building permit fee amount for the 761 lots within SRE Phase 1 Preliminary Plan would be $1,923,047. 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 and 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.

* * * * *

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 2-6
Figures 1-17
Appendix Table 1
2008 TIS TAZ Map
MTCP Maps
Traffic Count Reports
Level of Service Reports
Crash History

# Tables 2-6

TRANSPORTATION
CONSULTANTS, INC.

**Table 2**
**Sterling Ranch East Rezoning and Preliminary Plan**
**Trip Generation**

| Sketch Plan TAZ | Filing | Location | 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 Trip Generated Daily | AM Peak Hour In | AM Peak Hour Out | PM Peak Hour In | PM Peak Hour Out |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Residential Land Uses (Short-Term)** | | | | | | | | | | | | | | | | |
| 18 | 1 | North of Briargate Parkway | 210 | Single-Family Detached Housing | 42 | DU[2] | 9.43 | 0.18 | 0.52 | 0.59 | 0.35 | 396 | 8 | 22 | 25 | 15 |
| 22 & 26 | 1 | South of Briargate Parkway | 210 | Single-Family Detached Housing | 294 | DU | 9.43 | 0.18 | 0.52 | 0.59 | 0.35 | 2,772 | 54 | 152 | 174 | 102 |
| 17, 23, 24 & 38 | 2 | Southeast of Sterling Ranch Road | 210 | Single-Family Detached Housing | 187 | DU | 9.43 | 0.18 | 0.52 | 0.59 | 0.35 | 1,763 | 34 | 97 | 111 | 65 |
| 37 | 3 | North of Briargate Parkway | 210 | Single-Family Detached Housing | 238 | DU | 9.43 | 0.18 | 0.52 | 0.59 | 0.35 | 2,244 | 43 | 123 | 141 | 83 |
| | | | | **Residential Total** | **761** | **DU** | | | | | **Total Residential Land Uses** | **7,176** | **139** | **394** | **451** | **265** |
| **Non-Residential Land Uses (Future Phases)** | | | | | | | | | | | | | | | | |
| 102 | Future | Tract F | 520 | Elementary School | 600 | Students | 2.27 | 0.40 | 0.34 | 0.07 | 0.09 | 1,362 | 240 | 204 | 44 | 52 |
| 103 | | Tract M | 520 | Elementary School | 600 | Students | 2.27 | 0.40 | 0.34 | 0.07 | 0.09 | 1,362 | 240 | 204 | 44 | 52 |
| | | | 522 | Middle School/Junior High | 500 | Students | 2.10 | 0.36 | 0.31 | 0.07 | 0.08 | 1,050 | 181 | 154 | 36 | 39 |
| | | | | | | | | | | | **Total Non-Residential Land Uses** | **3,774** | **660** | **563** | **124** | **143** |
| | | | | | | | | | | | **Grand Total** | **10,950** | **799** | **957** | **575** | **407** |

Notes:

(1) Source: "Trip Generation, 11th Edition, 2021" by the Institute of Transportation Engineers (ITE)

(2) DU = Dwelling Unit

*Source: LSC Transportation Consultants, Inc.*

*Feb-23*

# Table 3
## Traffic Signal Warrant Analysis
**Marksheffel Road/Vollmer Road**

| Hour | Short-Term Background Traffic (2) Major (3) Marksheffel | Short-Term Background Traffic (2) Minor (4) Vollmer | SRE Filing 1 Generated Traffic Major Marksheffel | SRE Filing 1 Generated Traffic Minor Vollmer | Short-Term Total Traffic Major Marksheffel | Short-Term Total Traffic Minor Vollmer | Warrant Analysis (1) — Warrant 1: Eight Hour Vehicular Volume Evaluation — Warrant Thresholds — Condition A Major | Condition A Minor | Condition B Major | Condition B Minor | Warrant Threshold Met? — Short-Term Background — Condition A | Condition B | Short-Term Total — Condition A | Condition B | Warrant 2: Four Hour Vehicular Volume Evaluation — Background — Warrant Threshold Minor Minimum | Warrant Threshold Met? WB | Short-Term Total — Warrant Threshold Minor Minimum | Warrant Threshold Met? WB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Short-Term Total Traffic (5)** | | | | | | | | | | | | | | | | | | |
| 12-1 AM | 53 | 3 | 0 | 0 | 53 | 3 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 1-2 AM | 26 | 3 | 0 | 0 | 26 | 3 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 2-3 AM | 19 | 0 | 0 | 0 | 19 | 0 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 3-4 AM | 28 | 3 | 0 | 0 | 28 | 3 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 4-5 AM | 43 | 14 | 0 | 1 | 43 | 15 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 5-6 AM | 117 | 34 | 0 | 2 | 117 | 36 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 6-7 AM | 347 | 101 | 2 | 5 | 349 | 106 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 7-8 AM | 833 | 174 | 3 | 8 | 836 | 182 | 600 | 150 | 900 | 75 | Yes | No | Yes | No | 192 | No | 191 | No |
| 8-9 AM | 931 | 147 | 3 | 7 | 934 | 154 | 600 | 150 | 900 | 75 | No | Yes | Yes | Yes | 167 | No | 167 | No |
| 9-10 AM | 805 | 92 | 3 | 4 | 808 | 96 | 600 | 150 | 900 | 75 | No | No | No | No | 199 | No | 198 | No |
| 10-11 AM | 935 | 92 | 4 | 4 | 939 | 96 | 600 | 150 | 900 | 75 | No | Yes | No | Yes | 166 | No | 165 | No |
| 11-12 PM | 1055 | 87 | 5 | 4 | 1060 | 91 | 600 | 150 | 900 | 75 | No | Yes | No | Yes | 134 | No | 132 | No |
| 12-1 PM | 999 | 51 | 0 | 0 | 999 | 51 | 600 | 150 | 900 | 75 | No | No | No | No | 150 | No | 150 | No |
| 1-2 PM | 758 | 73 | 15 | 3 | 773 | 76 | 600 | 150 | 900 | 75 | No | No | No | No | 221 | No | 214 | No |
| 2-3 PM | 871 | 77 | 5 | 4 | 876 | 81 | 600 | 150 | 900 | 75 | No | No | No | No | 182 | No | 181 | No |
| 3-4 PM | 927 | 74 | 6 | 4 | 933 | 78 | 600 | 150 | 900 | 75 | No | No | No | Yes | 168 | No | 167 | No |
| 4-5 PM | 962 | 93 | 7 | 4 | 969 | 97 | 600 | 150 | 900 | 75 | No | Yes | No | Yes | 160 | No | 158 | No |
| 5-6 PM | 807 | 92 | 9 | 5 | 816 | 97 | 600 | 150 | 900 | 75 | No | No | No | No | 198 | No | 196 | No |
| 6-7 PM | 553 | 73 | 9 | 5 | 562 | 78 | 600 | 150 | 900 | 75 | No | No | No | No | 314 | No | 309 | No |
| 7-8 PM | 348 | 53 | 7 | 4 | 355 | 57 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 8-9 PM | 282 | 38 | 5 | 3 | 287 | 41 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 9-10 PM | 180 | 30 | 5 | 2 | 185 | 32 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 10-11 PM | 101 | 14 | 4 | 2 | 105 | 16 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| 11-12 AM | 55 | 9 | 2 | 1 | 57 | 10 | 600 | 150 | 900 | 75 | No | No | No | No | Low Volume | No | Low Volume | No |
| **Numbers of Hours the Warrant Thresholds Are Met** | | | | | | | | | | | 1 | 4 | 2 | 5 | | 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
(2) Source: *Sterling Ranch East Phase 1 Rezoning and Preliminary Plan Traffic Impact Study,* November 14, 2022
(3) The major street traffic includes all movements (left, through, and right)
(4) 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 November 2020 and vehicle time-of-day distribution data for single-family residential published by the Institute of Transportation Engineers

*Source: LSC Transportation Consultants, Inc.* *Nov-22*

# Table 4
## Traffic Signal Warrant Analysis
### Marksheffel Road/Sterling Ranch Road

| Hour | Short-Term Background Traffic[2] Major[3] Marksheffel | Short-Term Background Traffic[2] Minor[4] Sterling Ranch | SRE Filing 1 Generated Traffic Major Marksheffel | SRE Filing 1 Generated Traffic Minor Sterling Ranch | Short-Term Total Traffic Major Marksheffel | Short-Term Total Traffic Minor Sterling Ranch |
|---|---|---|---|---|---|---|
| **Short-Term Total Traffic[5]** | | | | | | |
| 12-1 AM | 47 | 7 | 3 | 52 | 50 | 59 |
| 1-2 AM | 20 | 7 | 3 | 21 | 23 | 28 |
| 2-3 AM | 19 | 0 | 0 | 21 | 19 | 21 |
| 3-4 AM | 21 | 7 | 3 | 21 | 24 | 28 |
| 4-5 AM | 31 | 26 | 13 | 31 | 44 | 57 |
| 5-6 AM | 64 | 65 | 33 | 52 | 97 | 117 |
| 6-7 AM | 193 | 192 | 98 | 166 | 291 | 358 |
| 7-8 AM | 414 | 332 | 170 | 332 | 584 | 664 |
| 8-9 AM | 469 | 280 | 143 | 384 | 612 | 664 |
| 9-10 AM | 406 | 176 | 90 | 332 | 496 | 508 |
| 10-11 AM | 503 | 176 | 90 | 436 | 593 | 612 |
| 11-12 PM | 616 | 166 | 85 | 560 | 701 | 726 |
| 12-1 PM | 928 | 114 | 176 | 358 | 1104 | 472 |
| 1-2 PM | 415 | 164 | 253 | 119 | 668 | 283 |
| 2-3 PM | 483 | 172 | 265 | 139 | 748 | 311 |
| 3-4 PM | 552 | 166 | 257 | 168 | 809 | 334 |
| 4-5 PM | 636 | 208 | 321 | 208 | 957 | 416 |
| 5-6 PM | 589 | 205 | 317 | 204 | 906 | 409 |
| 6-7 PM | 460 | 164 | 253 | 170 | 713 | 334 |
| 7-8 PM | 318 | 119 | 184 | 123 | 502 | 242 |
| 8-9 PM | 307 | 86 | 133 | 125 | 440 | 211 |
| 9-10 PM | 214 | 67 | 103 | 89 | 317 | 156 |
| 10-11 PM | 107 | 31 | 47 | 44 | 154 | 75 |
| 11-12 AM | 63 | 19 | 30 | 26 | 93 | 45 |

| Hour | Warrant Analysis[1] — Warrant 1: Eight Hour Vehicular Volume Evaluation — Warrant Thresholds — Condition A Major | Condition A Minor | Condition B Major | Condition B Minor | Warrant Threshold Met? — Short-Term Background — Condition A | Short-Term Background — Condition B | Short-Term Total — Condition A | Short-Term Total — Condition B |
|---|---|---|---|---|---|---|---|---|
| **Short-Term Total Traffic[5]** | | | | | | | | |
| 12-1 AM | 600 | 150 | 900 | 75 | No | No | No | No |
| 1-2 AM | 600 | 150 | 900 | 75 | No | No | No | No |
| 2-3 AM | 600 | 150 | 900 | 75 | No | No | No | No |
| 3-4 AM | 600 | 150 | 900 | 75 | No | No | No | No |
| 4-5 AM | 600 | 150 | 900 | 75 | No | No | No | No |
| 5-6 AM | 600 | 150 | 900 | 75 | No | No | No | No |
| 6-7 AM | 600 | 150 | 900 | 75 | No | No | No | No |
| 7-8 AM | 600 | 150 | 900 | 75 | No | No | No | No |
| 8-9 AM | 600 | 150 | 900 | 75 | No | No | Yes | No |
| 9-10 AM | 600 | 150 | 900 | 75 | No | No | No | No |
| 10-11 AM | 600 | 150 | 900 | 75 | No | No | No | No |
| 11-12 PM | 600 | 150 | 900 | 75 | Yes | No | Yes | No |
| 12-1 PM | 600 | 150 | 900 | 75 | No | Yes | Yes | Yes |
| 1-2 PM | 600 | 150 | 900 | 75 | No | No | Yes | No |
| 2-3 PM | 600 | 150 | 900 | 75 | No | No | Yes | No |
| 3-4 PM | 600 | 150 | 900 | 75 | No | No | Yes | No |
| 4-5 PM | 600 | 150 | 900 | 75 | Yes | No | Yes | Yes |
| 5-6 PM | 600 | 150 | 900 | 75 | No | No | Yes | Yes |
| 6-7 PM | 600 | 150 | 900 | 75 | No | No | Yes | No |
| 7-8 PM | 600 | 150 | 900 | 75 | No | No | No | No |
| 8-9 PM | 600 | 150 | 900 | 75 | No | No | No | No |
| 9-10 PM | 600 | 150 | 900 | 75 | No | No | No | No |
| 10-11 PM | 600 | 150 | 900 | 75 | No | No | No | No |
| 11-12 AM | 600 | 150 | 900 | 75 | No | No | No | No |
| **Numbers of Hours the Warrant Thresholds Are Met** | | | | | 2 | 1 | 9 | 3 |
| **Warrant Met?** | | | | | No | | Yes | |

| Hour | Warrant 2: Four Hour Vehicular Volume Evaluation — Background — Warrant Threshold Minor Minimum | Background — Warrant Threshold Met? WB | Short-Term Total — Warrant Threshold Minor Minimum | Short-Term Total — Warrant Threshold Met? WB |
|---|---|---|---|---|
| **Short-Term Total Traffic[5]** | | | | |
| 12-1 AM | Low Volume | No | Low Volume | No |
| 1-2 AM | Low Volume | No | Low Volume | No |
| 2-3 AM | Low Volume | No | Low Volume | No |
| 3-4 AM | Low Volume | No | Low Volume | No |
| 4-5 AM | Low Volume | No | Low Volume | No |
| 5-6 AM | Low Volume | No | Low Volume | No |
| 6-7 AM | Low Volume | No | Low Volume | No |
| 7-8 AM | 383 | No | 298 | Yes |
| 8-9 AM | 356 | No | 285 | Yes |
| 9-10 AM | 387 | No | 342 | Yes |
| 10-11 AM | 339 | No | 294 | Yes |
| 11-12 PM | 284 | No | 250 | Yes |
| 12-1 PM | 168 | No | 119 | Yes |
| 1-2 PM | 383 | No | 263 | Yes |
| 2-3 PM | 349 | No | 226 | Yes |
| 3-4 PM | 314 | No | 198 | Yes |
| 4-5 PM | 276 | No | 161 | Yes |
| 5-6 PM | 296 | No | 174 | Yes |
| 6-7 PM | 360 | No | 244 | Yes |
| 7-8 PM | Low Volume | No | 339 | No |
| 8-9 PM | Low Volume | No | 370 | No |
| 9-10 PM | Low Volume | No | Low Volume | No |
| 10-11 PM | Low Volume | No | Low Volume | No |
| 11-12 AM | Low Volume | No | Low Volume | No |
| **Numbers of Hours the Warrant Thresholds Are Met** | | 0 | | 12 |
| **Warrant Met?** | | No | | Yes |

Notes:

(1) Thresholds are based on 2 or more lanes on the major approach and 1 lane on the minor approach

(2) Source: *Sterling Ranch East Phase 1 Rezoning and Preliminary Plan Traffic Impact Study,* November 14, 2022

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

(4) 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 November 2020 and vehicle time-of-day distribution data for single-family residential published by the Institute of Transportation Engineers

*Source: LSC Transportation Consultants, Inc.* *Nov-22*

**Table 5**
**Sterling Ranch East Rezoning and Preliminary Plan**
**Intersection Improvements**

| Item # | Improvement | Trigger | Timing | Responsibility |
|---|---|---|---|---|
| | | **1) Burgess Road/Vollmer Road** | | |
| 1 | Reconstruct as a modern one-lane roundabout | When the LOS degrades below LOS F | Existing deficiency | This intersection may be eligible intersection under the fee impact program |
| | | **12) Marksheffel Road/Vollmer Road** | | |
| 2 | Signalization of the intersection | Once warrants are met. The decision on timing of traffic signal installation rests with El Paso County Public Works. | Anticipated by buildout of Sterling Ranch East Phase 1 Preliminary Plan | This intersection may be eligible intersection under the fee impact program |
| | | **13) Marksheffel Road/Sterling Ranch Road** | | |
| 3 | Signalization of the intersection | Once warrants are met. The decision on timing of traffic signal installation rests with The City of Colorado Springs. | Anticipated by buildout of Sterling Ranch East Phase 1 Preliminary Plan | SRMD#3 |
| | | **102) Briargate Parkway/Boulder City Drive** | | |
| 4 | Construct an eastbound left-turn lane on Briargate Parkway approaching Boulder City Drive. The lane should be 285' long plus a 200' taper. | eastbound left-turn volume > 10 vph | With Sterling Ranch East Phase 1 Preliminary Plan **or** Foursquare at Sterling Ranch | Sterling Ranch |
| 5 | Construct a westbound right-turn deceleration lane on Briargate Parkway approaching Boulder City Drive. The lane should be 235' long plus a 200' taper. | westbound right-turn volume > 25 vph | Long Term | Sterling Ranch |
| | | **103) Briargate Parkway/Future School 3/4 Movement Access** | | |
| 6 | Construct a westbound left-turn lane on Briargate Parkway approaching the school access. The lane should be 285' long plus a 200' taper. | westbound left-turn volume > 10 vph | Long Term With development of the K-8 School Parcel (Tract M) | Sterling Ranch |
| 7 | Construct an eastbound right-turn deceleration lane on Briargate Parkway approaching the school access. The lane should be 235' long plus a 200' taper. | eastbound right-turn volume > 25 vph | Long Term With development of the K-8 School Parcel (Tract M) | Sterling Ranch |
| | | **5) Briargate Parkway/Sterling Ranch Road** | | |
| 8 | 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 | With Sterling Ranch East Phase 1 Preliminary Plan **or** Foursquare at Sterling Ranch | Sterling Ranch |
| 9 | 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 | Long Term With development of the K-8 School Parcel (Tract M) | Sterling Ranch |
| 10 | 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 With development of the K-8 School Parcel (Tract M) | Sterling Ranch |
| 11 | 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 | Long Term | Sterling Ranch |
| 12 | 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 | Long Term | Sterling Ranch |
| 13 | 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 | With Sterling Ranch East Phase 1 Preliminary Plan | Sterling Ranch |
| | | **303) Sterling Ranch Road/Lubbock Trail** | | |
| 14 | Construct an northeastbound right-turn deceleration lane on Sterling Ranch Road approaching Lubbock Trail. The lane should be 155' long plus a 160' taper | northeastbound right-turn volume > 50 vph | Long Term With development of the Elementary School Parcel (Tract F) | Sterling Ranch |
| 15 | Construct a southwestbound left-turn lane on Sterling Ranch Road approaching Lubbock Trail. The lane should be 305' long plus a 200' taper. | southwestbound-turn volume > 25 vph | Long Term With development of the Elementary School Parcel (Tract F) | Sterling Ranch |
| | | **304) Sterling Ranch Road/Westmont Drive** | | |
| 16 | Construct an northeastbound left-turn deceleration lane on Sterling Ranch Road approaching Westmont Drive. The lane should be 205' long plus a 160' taper | northeastbound left-turn volume > 25 vph | With Sterling Ranch East Phase 1 Preliminary Plan | Sterling Ranch |
| 17 | Construct a southwestbound left-turn lane on Sterling Ranch Road approaching Westmont Drive. The lane should be 205' long plus a 200' taper. | southwestbound-turn volume > 25 vph | Long Term (Needed with construction of a northeastbound left-turn lane) | Sterling Ranch |
| | | **305) Sterling Ranch Road/Lake Tahoe Drive** | | |
| 18 | Construct an northeastbound left-turn deceleration lane on Sterling Ranch Road approaching Lake Tahoe Drive. The lane should be 225' long plus a 160' taper | northeastbound left-turn volume > 25 vph | With Sterling Ranch East Phase 1 Preliminary Plan | Sterling Ranch |
| 19 | Construct a southwestbound left-turn lane on Sterling Ranch Road approaching Lake Tahoe Drive. The lane should be 205' long plus a 200' taper. | southwestbound-turn volume > 25 vph | Not Required (Needed with construction of a northeastbound left-turn lane) | Sterling Ranch |
| 20 | Construct an northeastbound right-turn deceleration lane on Sterling Ranch Road approaching Lake Tahoe Drive. The lane should be 155' long plus a 160' taper | northeastbound right-turn volume > 50 vph | Long Term | Sterling Ranch |
| | | **306) Sterling Ranch Road/Newport Beach Drive** | | |
| 21 | Construct a northeastbound left-turn lane on Sterling Ranch Road approaching Newport Beach Drive. The lane should be 205' long plus a 200' taper. | northeastbound left-turn volume > 25 vph | With Sterling Ranch East Phase 1 Preliminary Plan | Sterling Ranch |
| | | **308) Sterling Ranch Road/Idaho Falls Drive** | | |
| 22 | Construct a northeastbound left-turn lane on Sterling Ranch Road approaching Idaho Falls Drive. The lane should be 240' long plus a 200' taper. | northeastbound left-turn volume > 25 vph | With Sterling Ranch East Phase 1 Preliminary Plan | Sterling Ranch |
| | | **309) Sterling Ranch Road/Vancouver Street** | | |
| 23 | Construct a northeastbound left-turn lane on Sterling Ranch Road approaching Vancouver Street. The lane should be 265' long plus a 200' taper. | northeastbound left-turn volume > 25 vph | With Sterling Ranch East Phase 1 Preliminary Plan | Sterling Ranch |

Notes:

*Source: LSC Transportation Consultants, Inc.* (March 2023)

**Table 6**

**(Page 1 of 2)**

**Sterling Ranch East Rezoning and Preliminary Plan**

**Roadway Segment Improvements**

| Segment ID[1] (See Figure 12 for map) | Improvement Description | Timing | Design ADT (vpd) | Projected 2042 ADT (vpd) | Responsibility |
|---|---|---|---|---|---|
| V1 northbound | Per the City of Colorado Springs, an outside paved shoulder will need to be added along the east side of Vollmer Road from Dry Needle Place up to the south end of segment V2 improvements. | With Sterling Ranch Filing No. 4 but potentially complete concurrently with the construction of the right-turn lane at Pioneer Landscape Center access for the Sterling Ranch Recycling Facility (PCD No. PPR2241) | 5,500 (Directional northbound) | 16,275 | Sterling Ranch |
| V1 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] | The need driven by anticipated traffic from each development impacting this section of Vollmer Road. | 20,000 | | Sterling Ranch, if necessary, prior to construction by others. |
| 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] | Short-Term Future (With Sterling Ranch Fil No. 2 Or Sterling Ranch Phase 2) | 20,000 (Note: Existing Capacity 8,000[3]) | 17,475 | 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 plus a 6' paved, striped outside shoulder in each direction. [2] | Short-Term Future (With Homestead North) | 11,000 (Note: Existing Capacity 8,000) | 17,380 | 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] | Long-Term Future | 20,000 | | Sterling Ranch with potential County assistance with ROW acquisition - 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] | **Short-Term Future-– May 2024**Updated 10/15/2022 - Sections V4, V5, V6 to be constructed by **May 2024** (prior note: With Homestead North Filing 1) | 20,000 | 16,445 | Sterling Ranch |
| V5 | Improve Vollmer Road from Briargate Parkway to Jane Kirkham Drive to a standard 4-Lane Urban Minor Arterial Cross Section. [2] | **Short-Term Future– May 2024** Updated 10/15/2022 - Sections V4, V5, V6 to be constructed by **May 2024** (prior note: prior note: With Homestead North Filing 1) | 20,000 | 11,690 | 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] | **Short-Term Future– May 2024** Updated 10/15/2022 - Sections V4, V5, V6 to be constructed by **May 2024** (prior note: prior note: With Homestead North Filing 2) | 20,000 | 11,425 | 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. | **Short-Term Future – May 2024** Updated 10/15/2022 - Sections V4, V5, V6 to be constructed by **May 2024** (prior note: With Homestead North Filing 3) | 20,000 | 10,030 | Sterling Ranch |
| V8 | Improve Vollmer Road from Poco Road to Shoup Road to a Rural 2-Lane Arterial Cross Section. [2] | Long-Term Future | 10,000 | 11,790 | El Paso County Project ID U-12 |

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

**Notes:**

(1) See Figure 10

(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. (February 10, 2023)*

**Table 6**

**(Page 2 of 2)**

**Sterling Ranch East Rezoning and Preliminary Plan**

**Roadway Segment Improvements**

| Segment ID[(1)] (See Figure 12 for map) | Improvement Description | Timing | Design ADT (vpd) | Projected 2042 ADT (vpd) | Responsibility |
|---|---|---|---|---|---|
| SR1 | Construct Sterling Ranch Road as an Urban Non-Residential Collector from Marksheffel Road to Dines Boulevard. | Short Term - with Sterling Ranch Fil No. 2 | 20,000 | 14,840 | Sterling Ranch |
| SR2 | Construct Sterling Ranch Road as an Urban Non-Residential Collector from Dines Boulevard to Briargate Parkway. | Short-Term | 20,000 | 10,275 | Sterling Ranch |
| SR3 | Construct Sterling Ranch Road as an Urban Collector from Briargate Parkway to Vancouver Street. | Short Term | 10,000 | 9,300 | Sterling Ranch |
| SR4 | Construct Sterling Ranch Road from Vancouver Street north to Arroya (or ultimate north terminus). | Long-Term Future | 10,000 | 4,260 | 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. | Updated 10/15/2022: to be completed **by the end of 2022** (prior note: With Sterling Ranch Fil No. 2 | 40,000 | 23,370 | 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.<br>**10/16/2022 NOTE: With the completion of M2 in 2023, the connection between Vollmer and Woodmen Road (via M3) will be completed.** | Short Term<br>Updated 10/15/2022: to be completed **in 2023** (prior note: With Sterling Ranch Phase 2) | 40,000 | 29,600 | 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).<br>**10/16/2022 NOTE: With the completion of M2 in 2023, the connection between Vollmer and Woodmen Road (via M3) will be completed.** | Updated 10/15/2022**: <u>Completed</u>** (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 south half section of Briargate Pkwy (4-Lane Principal Arterial) between Vollmer Road and Wheatland Drive **[now full section by 2023]**. | Short-Term Future<br>Updated 10/15/2022: **Full section** to be completed **in 2023** with Homestead at Sterling Ranch Filing No. 1 (prior note: With Homestead at Sterling Ranch Fil 2) | 20,000 | 24,745 | Sterling Ranch |
| | Construct the north half section of Briargate Pkwy (4-Lane Principal Arterial) between Vollmer Road and Wheatland Drive **[now full section by 2023]**. | Short-Term Future<br>Updated 10/15/2022: **Full section** to be completed **in 2023** with Homestead at Sterling Ranch Filing No. 1 (prior note: Long-Term Future) | 40,000 | | Sterling Ranch |
| B2 | Construct Briargate Pkwy **(full section)** as a 4-Lane Principal Arterial between Wheatland Dr and Sterling Ranch Road. | Short-Term Future<br>Updated 10/15/2022: **Full section** to be completed **in 2023 or Spring 2024** (prior note: Long-Term Future) | 40,000 | 26,375 | Sterling Ranch |
| B3 | Construct Briargate Pkwy as a 4-Lane Principal Arterial between Sterling Ranch Road and Banning Lewis Parkway. | Intermediate Term | 40,000 | 22.365 | Sterling Ranch |
| B4 | 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 | 17,945 | Others |
| B5 | Construct Briargate Pkwy as a 4-Lane Principal Arterial between Black Forest Road and Vollmer Road. | Long-Term Future | 40,000 | 24,340 | Others; PPRTA A List Project |
| 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 | Financial assurances for half-section, Sterling Ranch half-section or full-section w/ cost recovery |
| BL2 | Construct Banning Lewis Parkway as a 4-Lane Principal Arterial between Woodmen Road and the south Sterling Ranch boundary.<br>(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 | PPRTA A-List Project; City of Colorado Springs ConnectCOS Index No.476 |
| B1 | Widen Black Forest Road between Woodmen Road to just north of Research Road to two northbound and southbound through lanes. | Black Forest Widening Project | 40,000 | 28,420 | City of Colorado Springs |
| B2 | Widen Black Forest Road from just north of Research Road to Briargate Parkway. | Long-Term Future | 40,000 | 25,145 | Others/City of Colorado Springs |
| B3 | Widen Black Forest Rd from Briargate Pkwy to Old Ranch Rd as a 4-lane Principal Arterial with bike and pedestrian facilities. | Long-Term Future | 40,000 | 19,135 | PPRTA B List Project<br>ConnectCOS Index No. 479 |

**Part 2/2 of this table**

**Notes:**

(1) See Figure 10

(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. (February 10, 2023)*

# Figures 1-17

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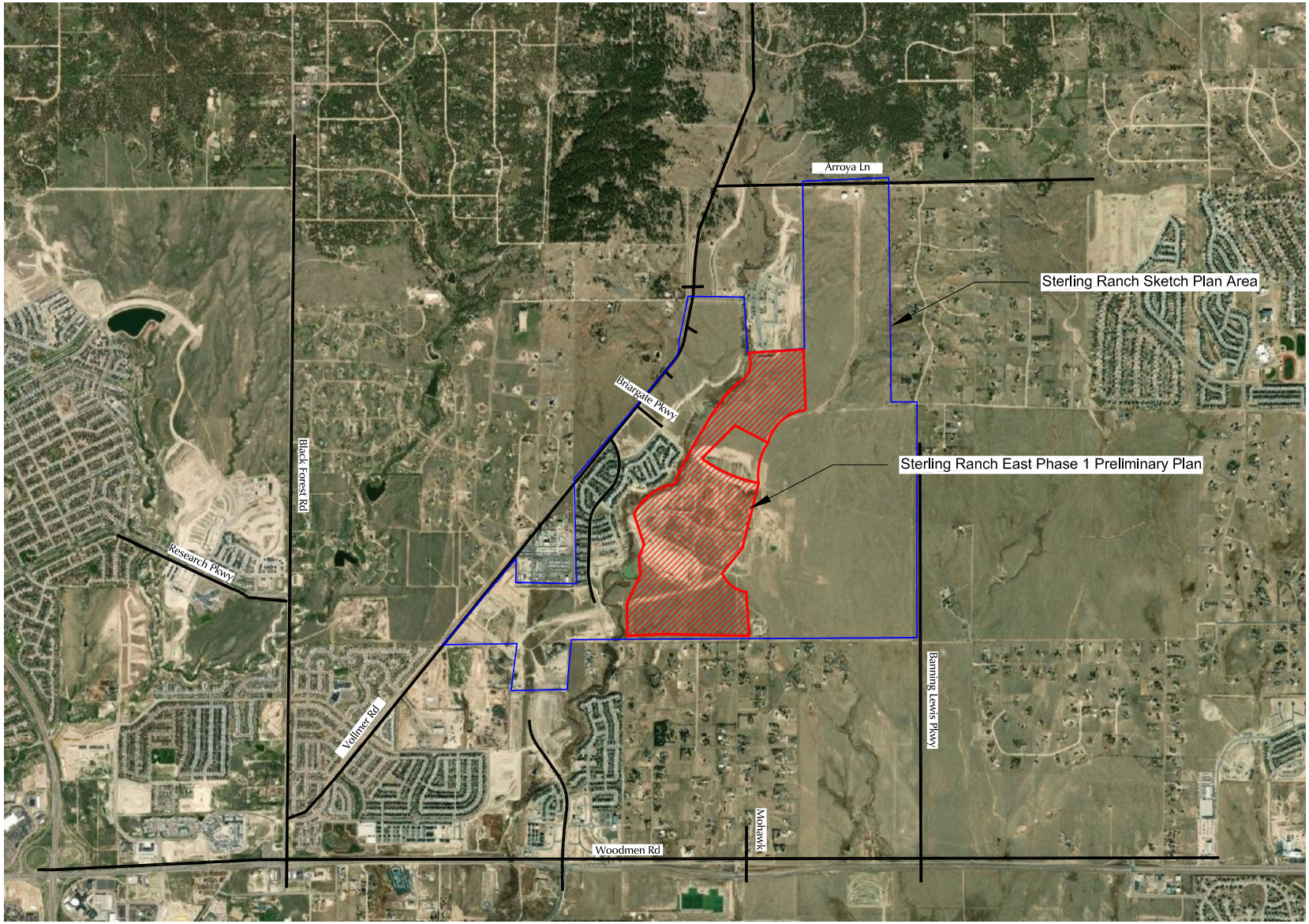


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Not to scale

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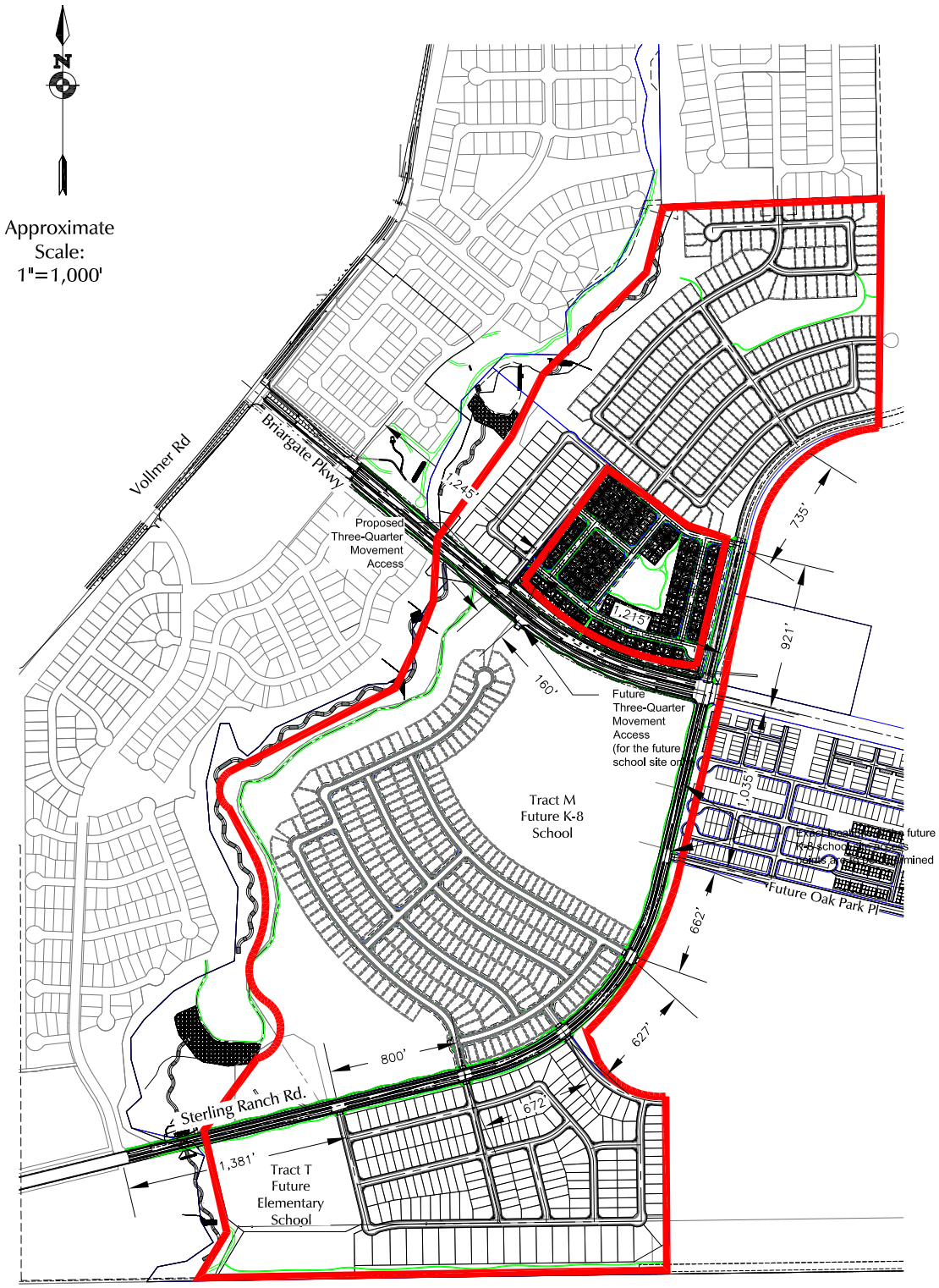
Figure 1

# Vicinity Map

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)




LEGEND:

Trail & Sidewalks

X,XXX' - Centerline Spacing of Intersections

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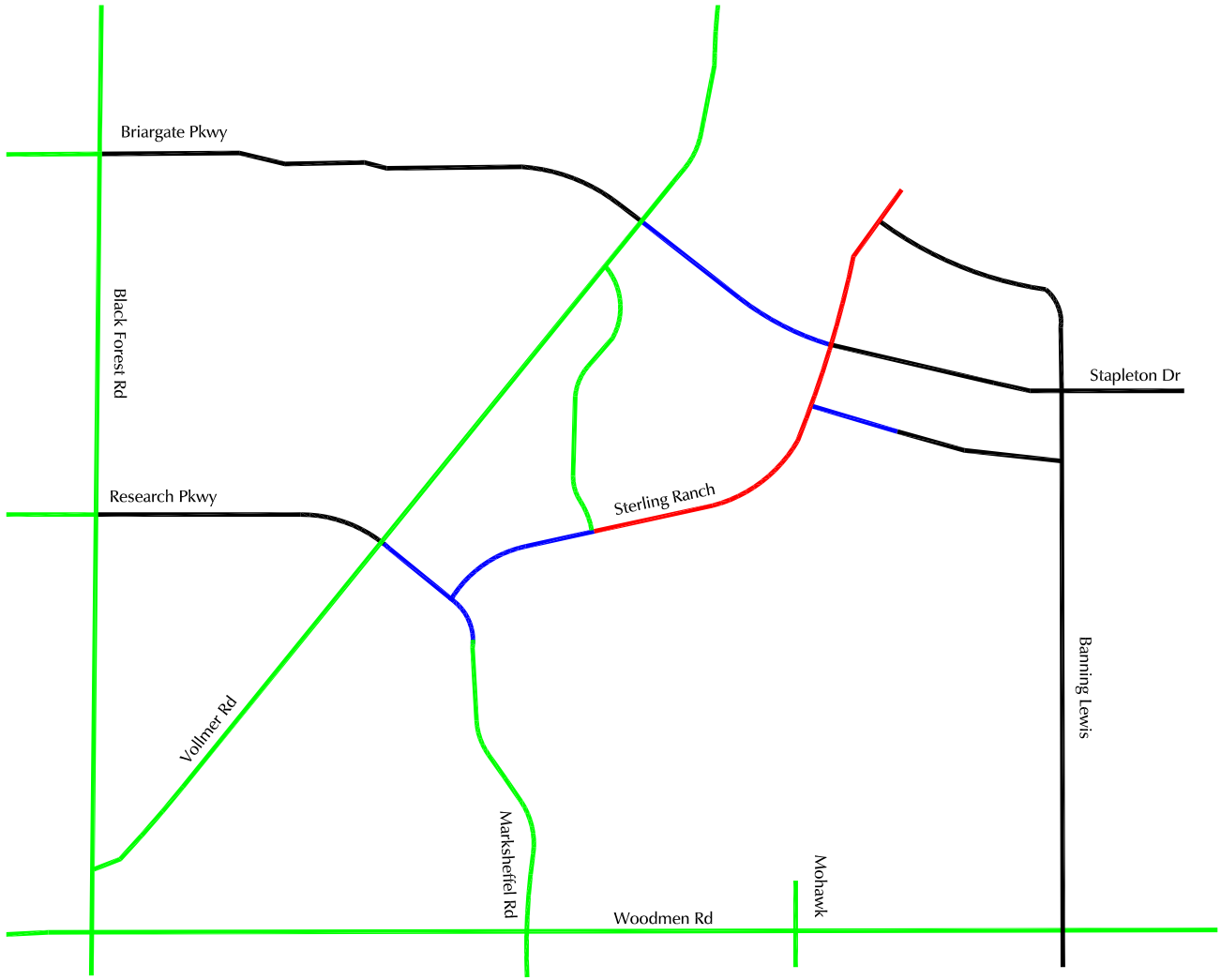
Figure 2

# Site Plan

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224510)




Roadway connection planned with Sterling Ranch East Preliminary Plan 1

Roadway connection planned to be completed by 2023

Existing Roadway

Future Roadway

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Figure 3

# Short-Term Roadway Connections

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)


Figure 4a

# Sight Distance Analysis - Sterling Ranch Road South of Briargate Parkway

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

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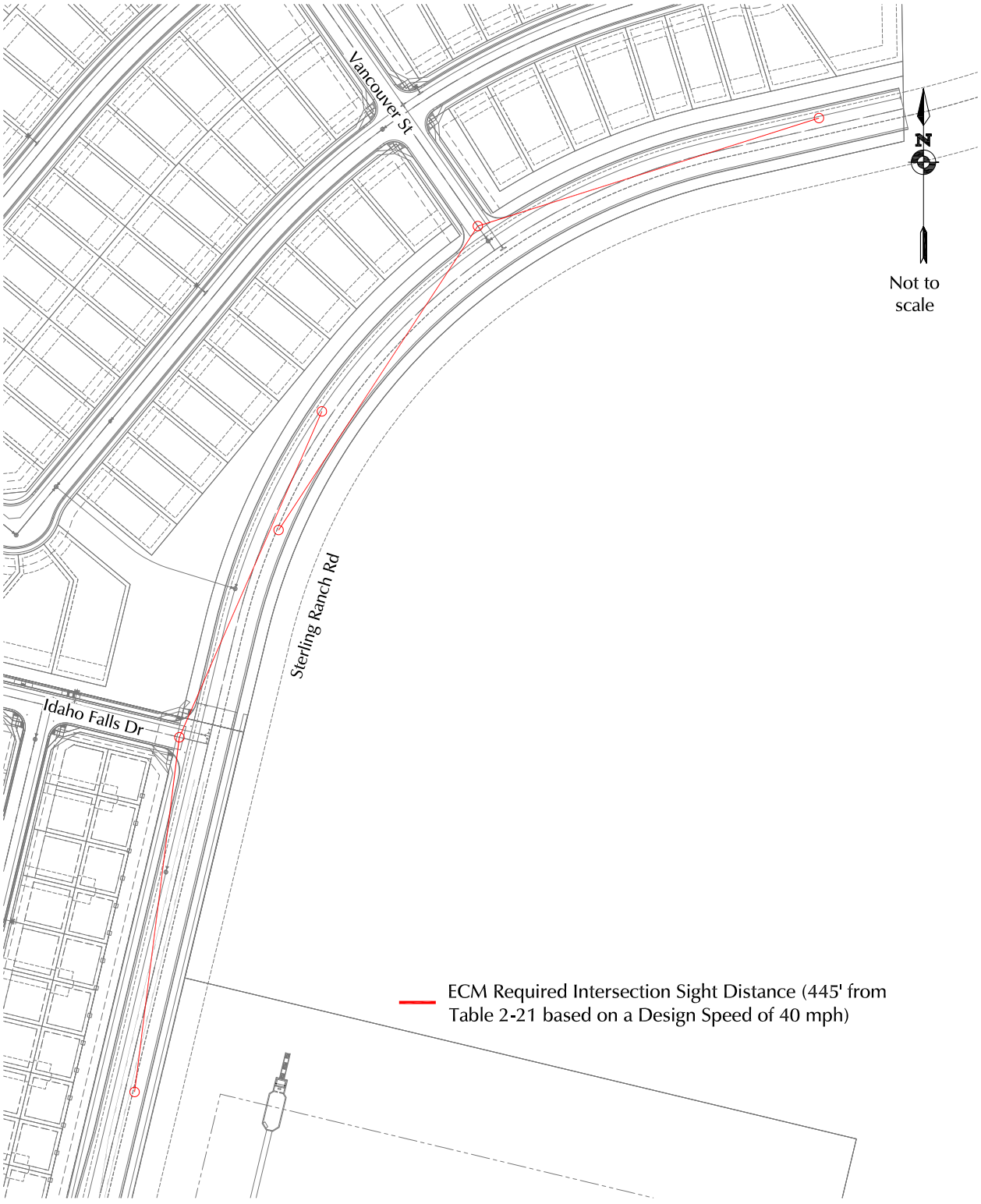


Figure 4b

# Sight Distance Analysis - Sterling Ranch Road North of Briargate Parkway

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

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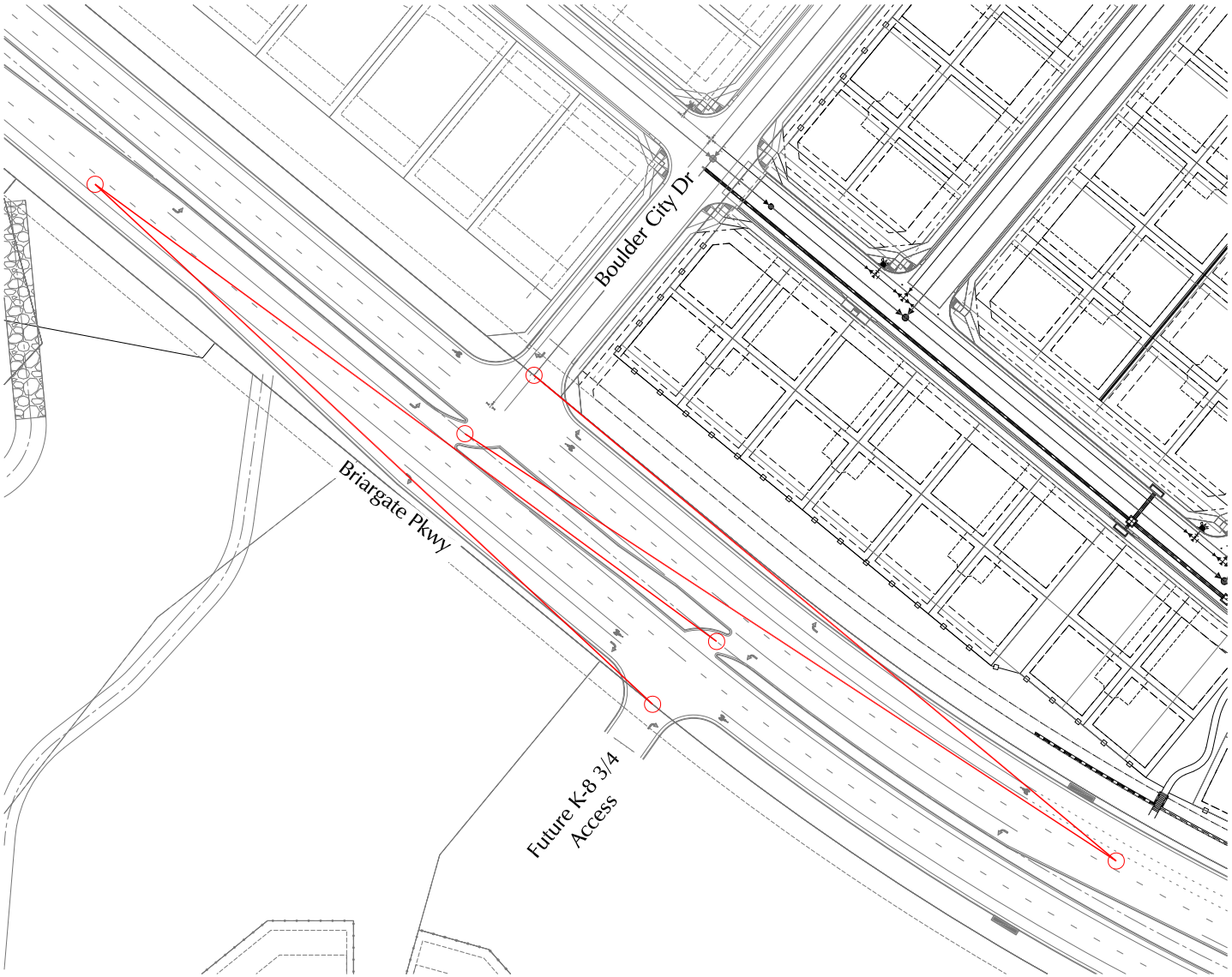


Not to scale

ECM Required Intersection Sight Distance (555' from Table 2-21 based on a Design Speed of 50 mph)

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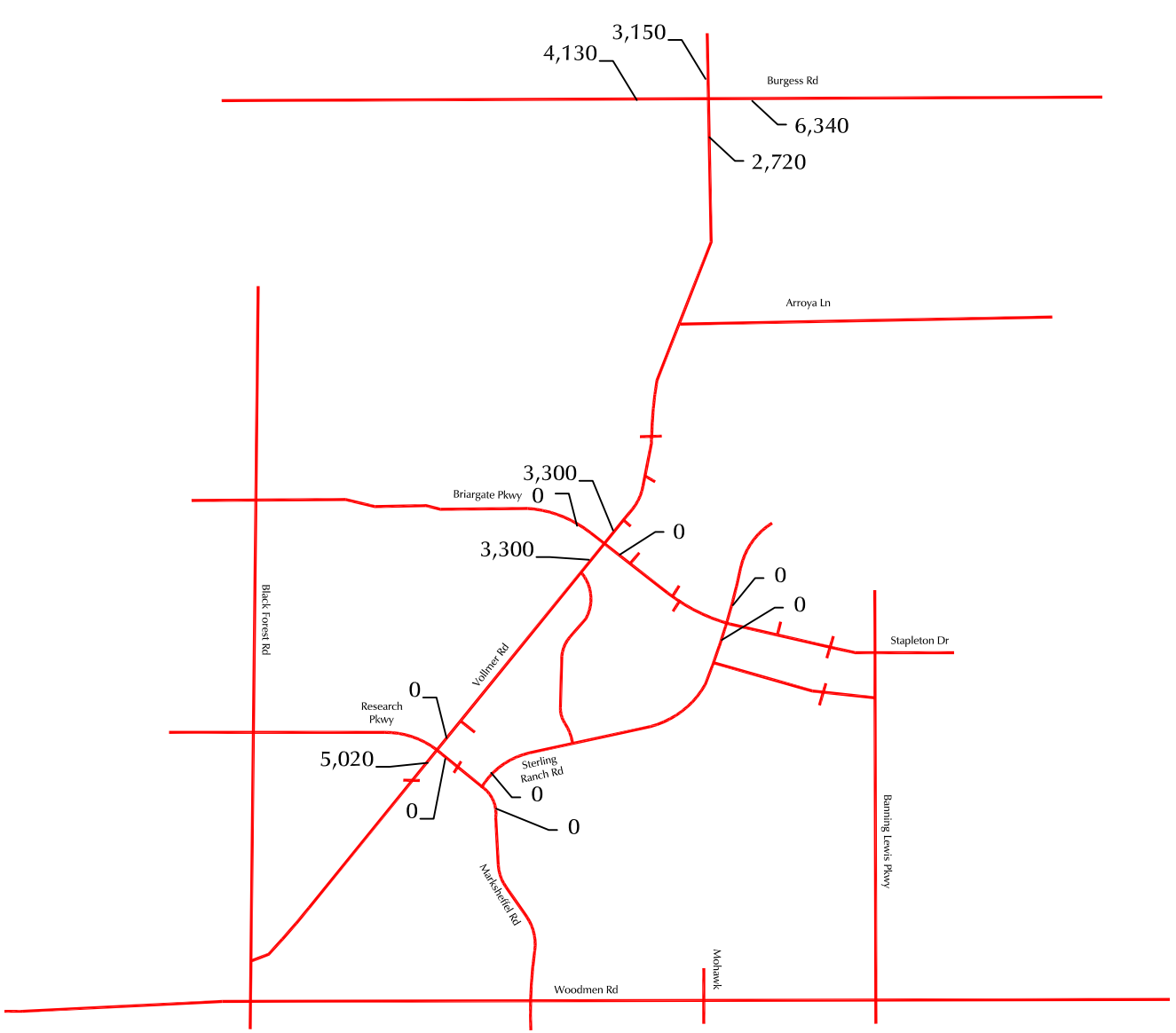
Figure 4c

# Sight Distance Analysis - Briargate Parkway

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)




Not to scale

LEGEND:

*XXX* = Average Weekday Traffic (vehicles per day)(AWT) Estimates by LSC

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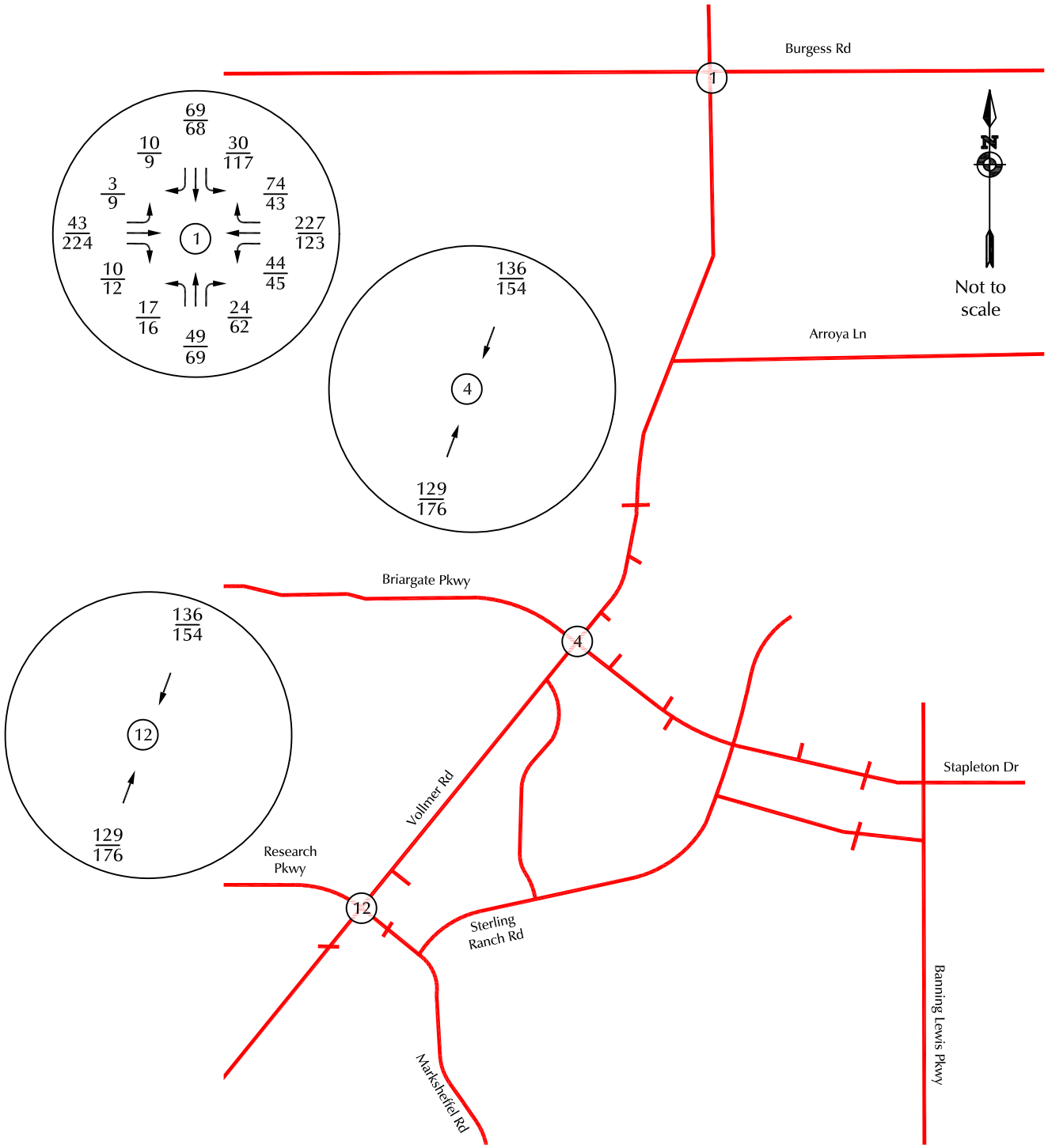
Figure 5a

# Existing Average Weekday Traffic

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)



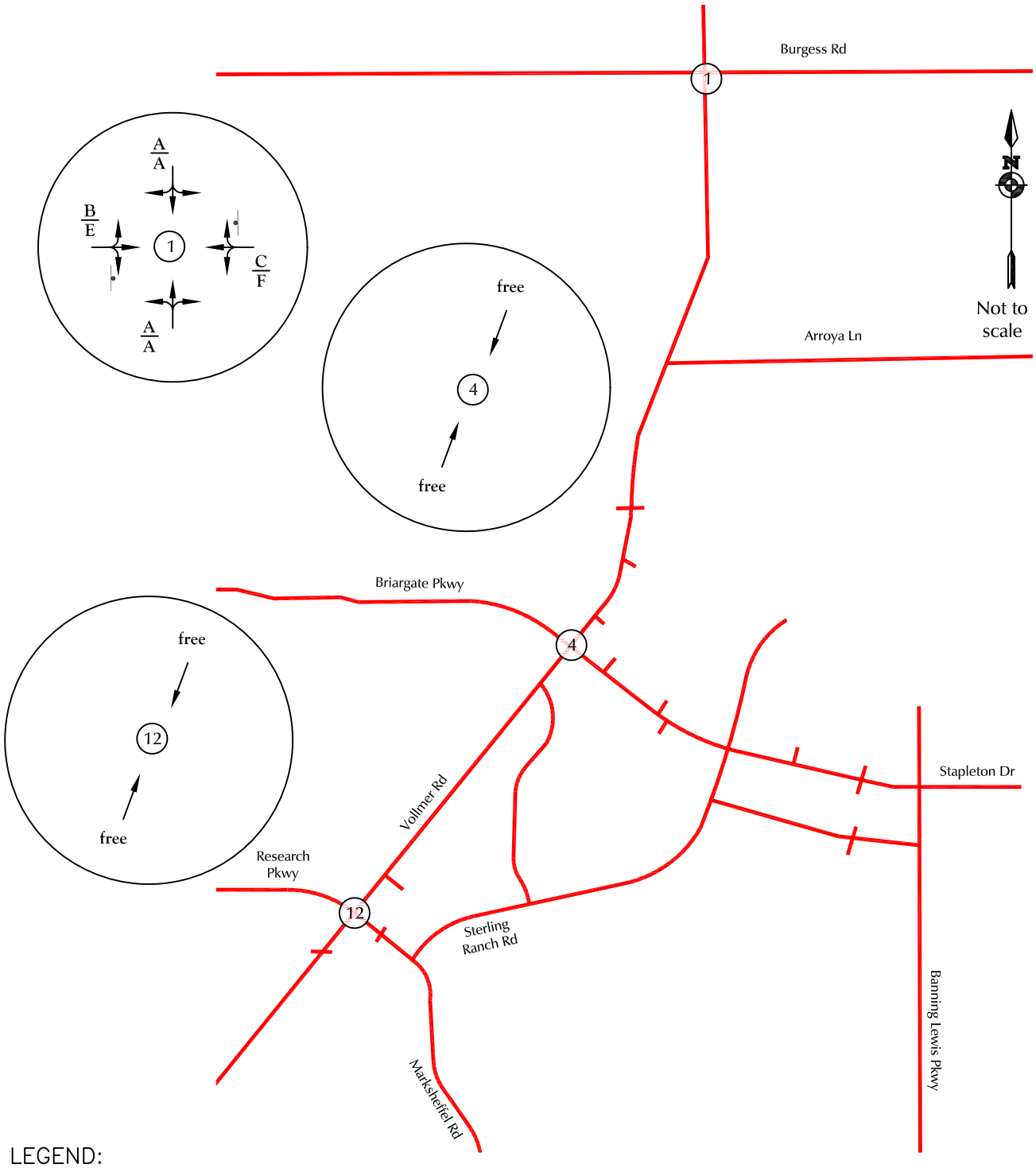

LEGEND: $\frac{XX}{XX} = \frac{\text{AM Peak-Hour Traffic (veh/hr)}}{\text{PM Peak-Hour Traffic (veh/hr)}}$

Figure 5b

# Existing Traffic

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

LSC TRANSPORTATION CONSULTANTS, INC.




LEGEND:

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

⊢ = Stop Sign

Figure 5c

# Existing Lane Geometry, Traffic Control, and Level of Service

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

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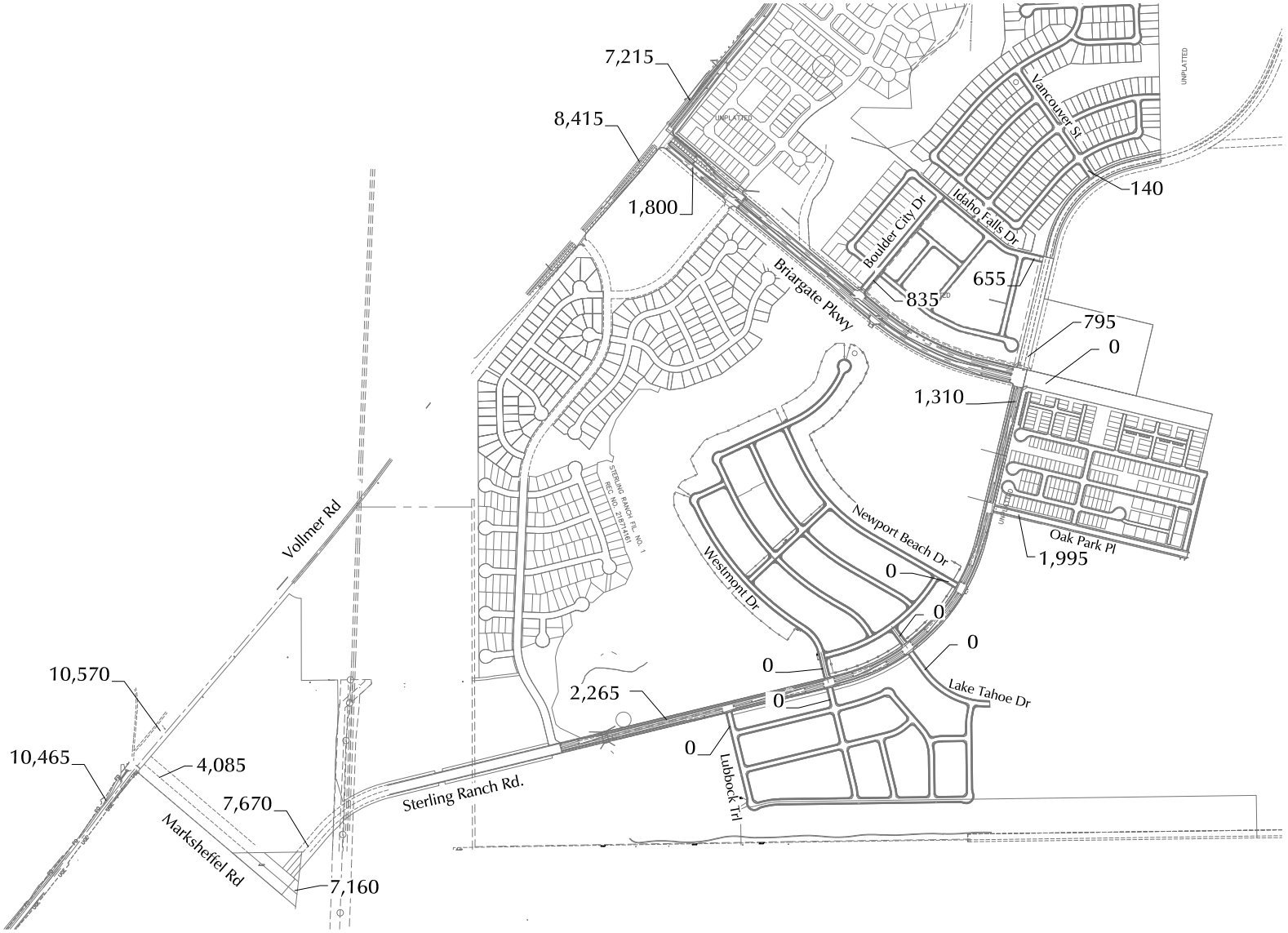


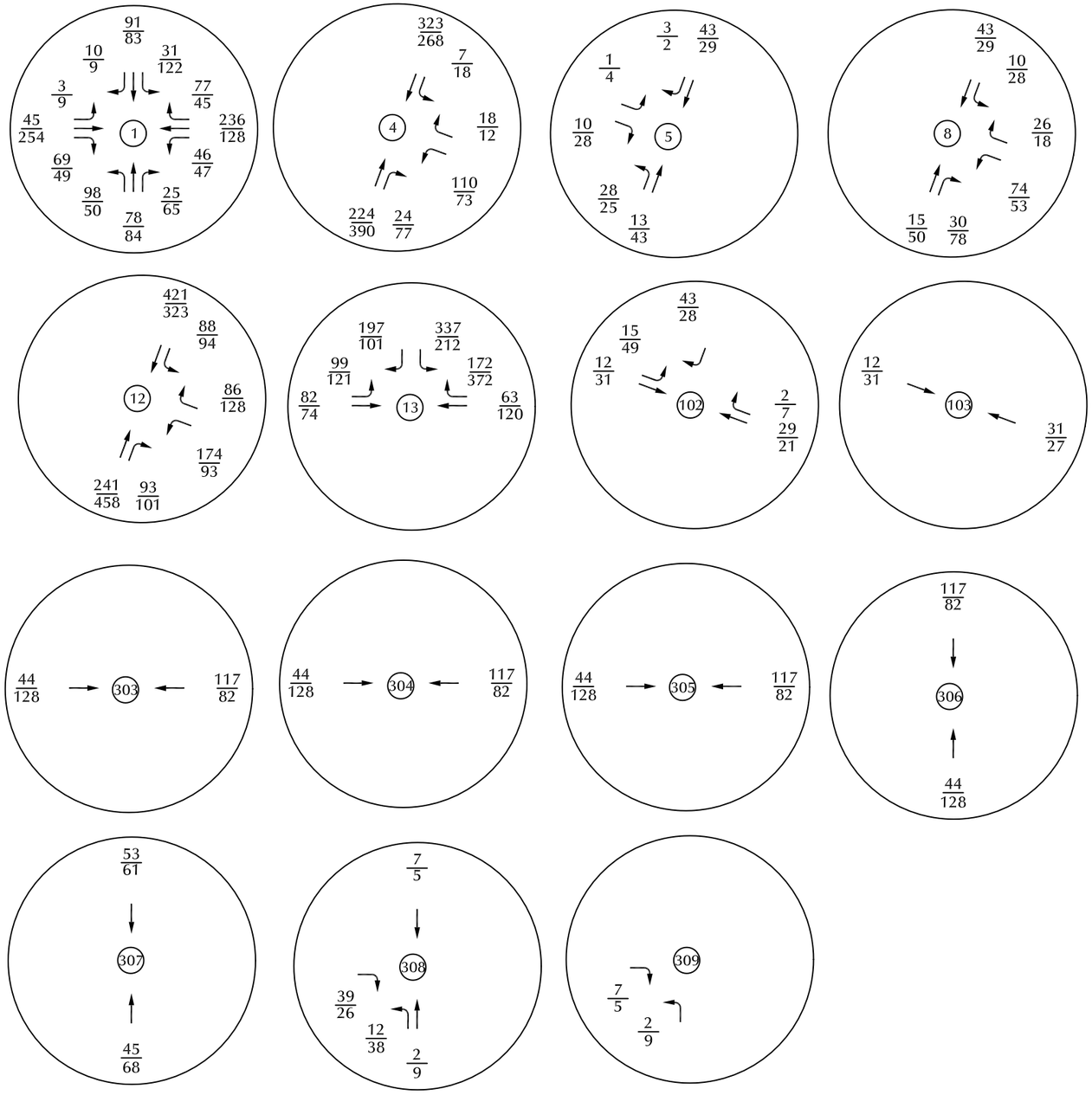

LEGEND: *XXX* = Average Weekday Traffic (vehicles per day)(AWT)

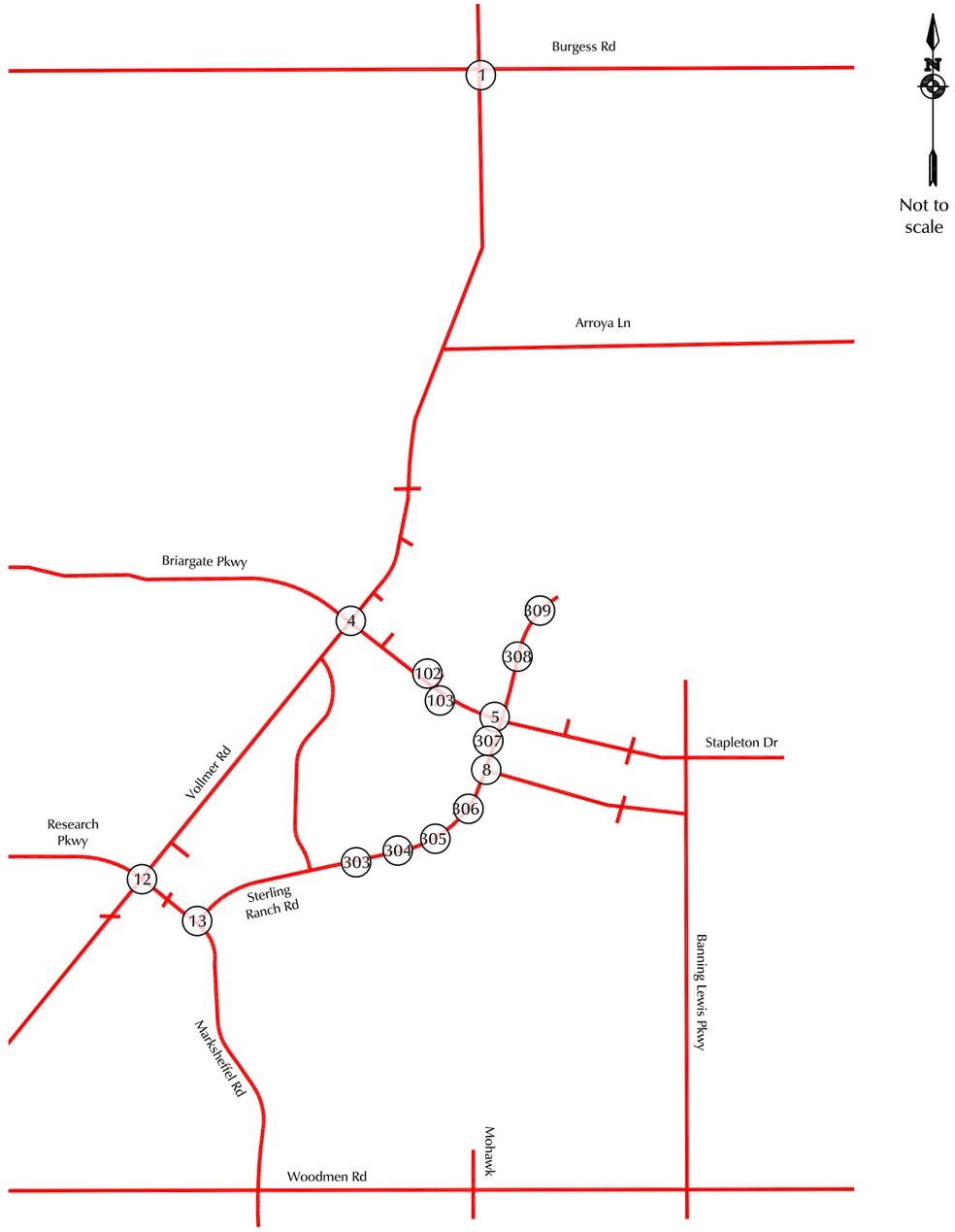
Figure 6a

# Short-Term Background Average Weekday Traffic

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

LSC TRANSPORTATION CONSULTANTS, INC.




LEGEND: $\frac{XX}{XX}$ = $\frac{\text{AM Peak-Hour Traffic (veh/hr)}}{\text{PM Peak-Hour Traffic (veh/hr)}}$

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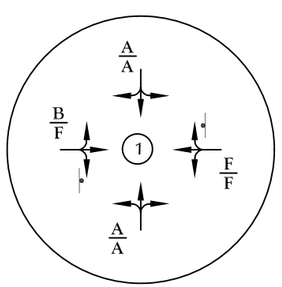
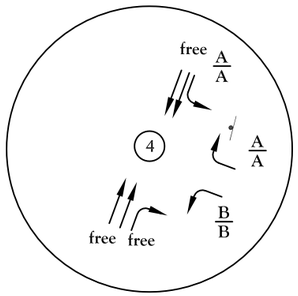
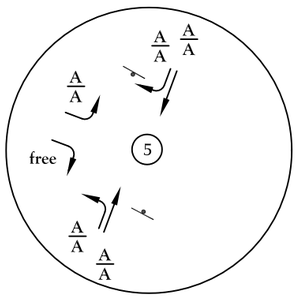
Figure 6b

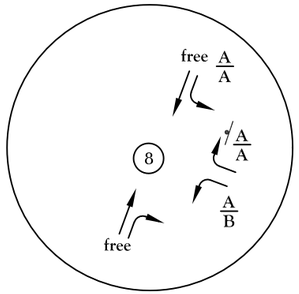
# Short-Term Background Traffic

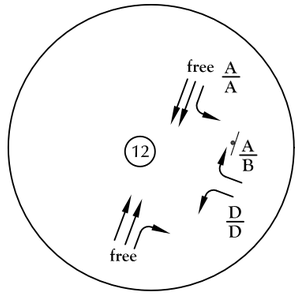
Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

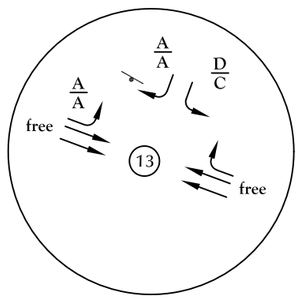


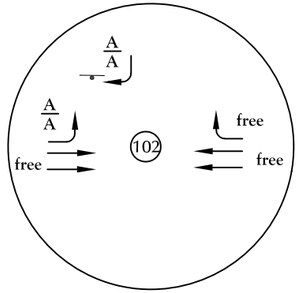



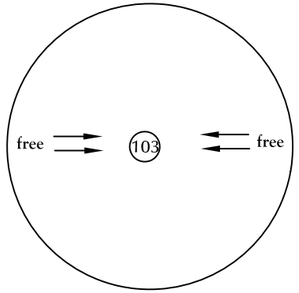



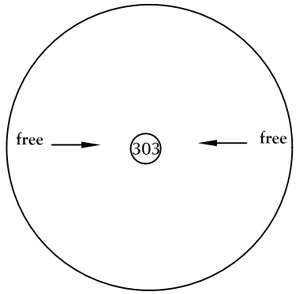



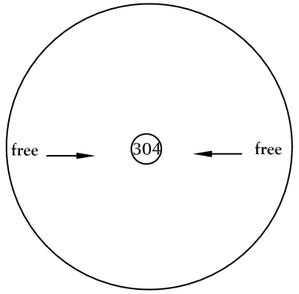



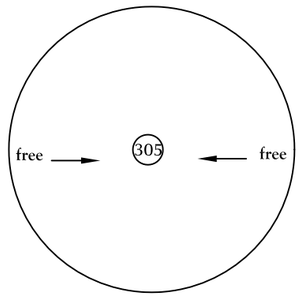



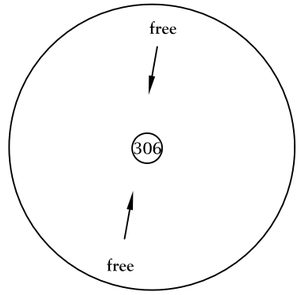



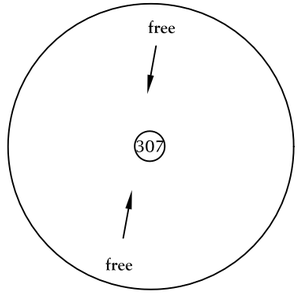



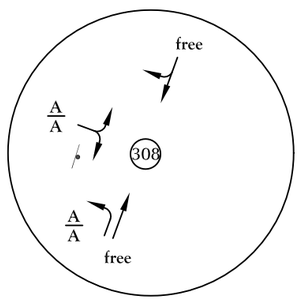



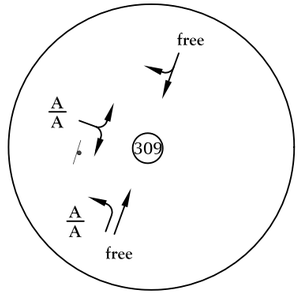



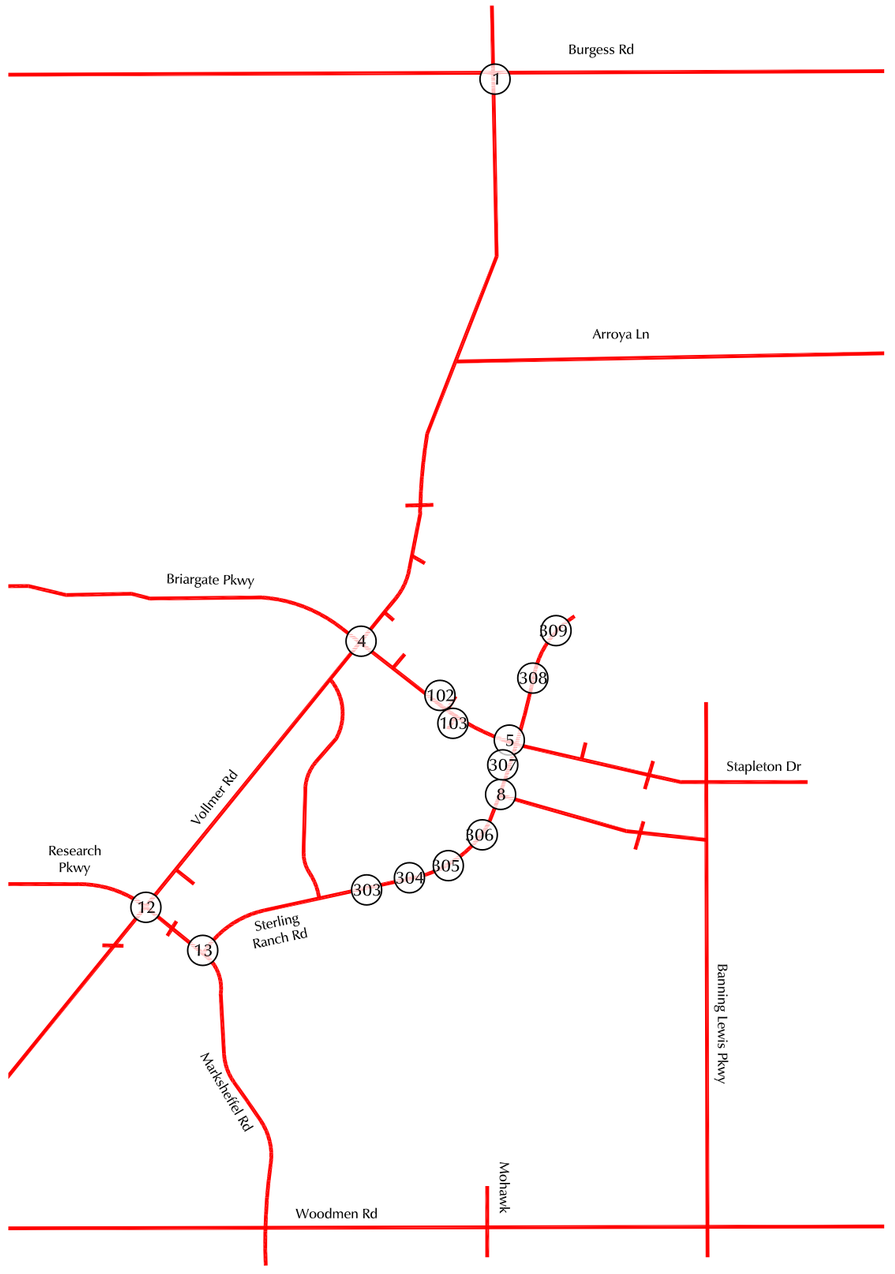




N

Not to scale

LEGEND:

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

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

= Stop Sign

= Traffic Signal

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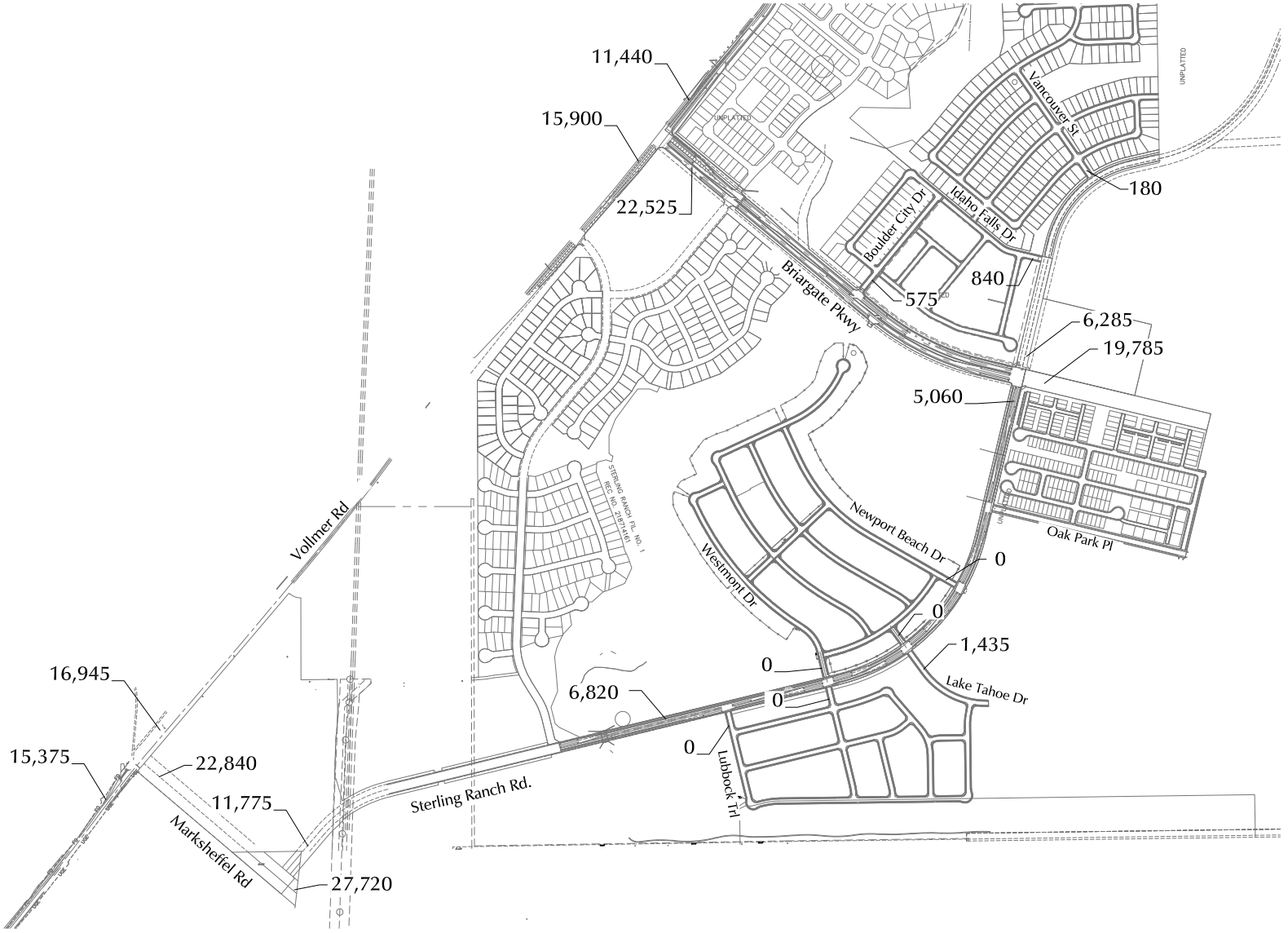
Figure 6c

# Short-Term Lane Geometry, Traffic Control, and Level of Service

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)



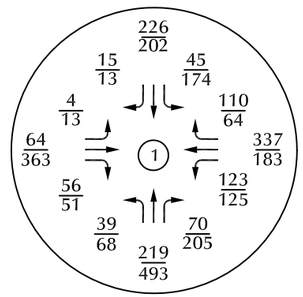

LEGEND: *XXX* = Average Weekday Traffic (vehicles per day)(AWT)

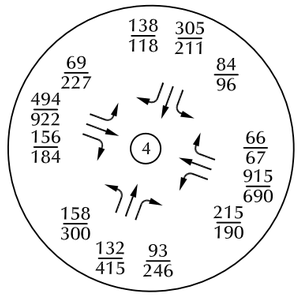
Figure 7a

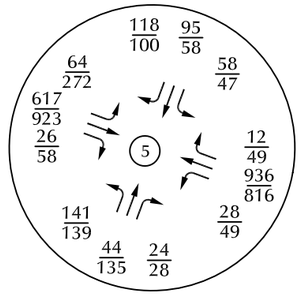
# 2042 Background Average Weekday Traffic

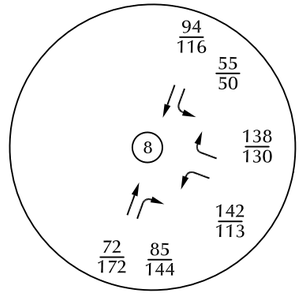
Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

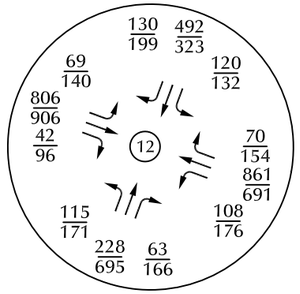
TRANSPORTATION CONSULTANTS, INC.

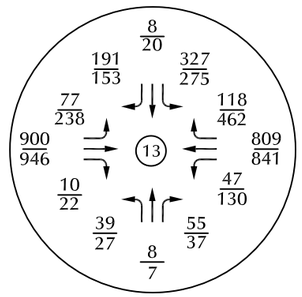


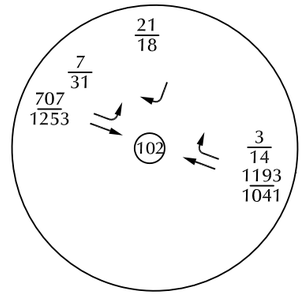



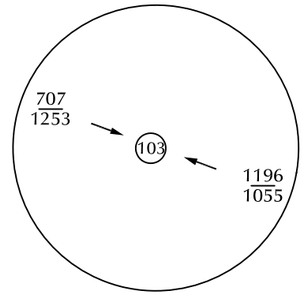



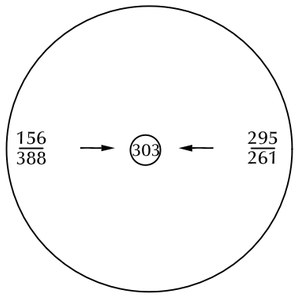



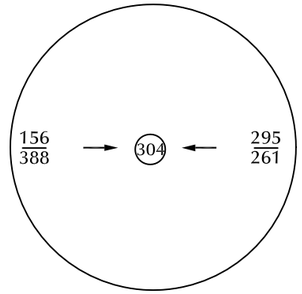



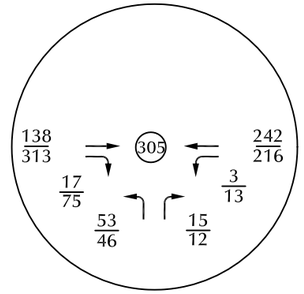



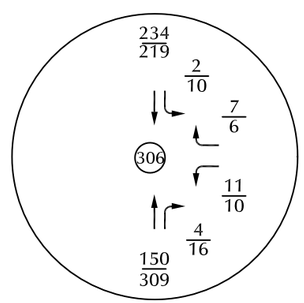



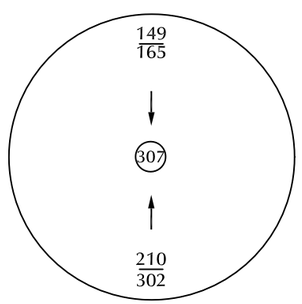



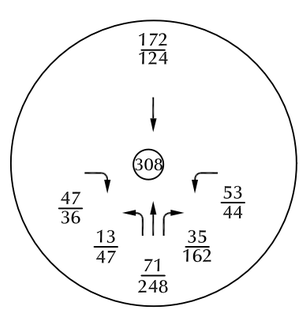



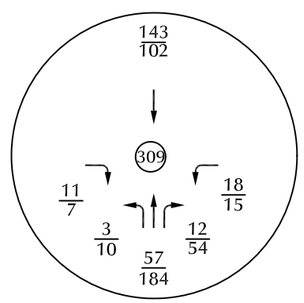



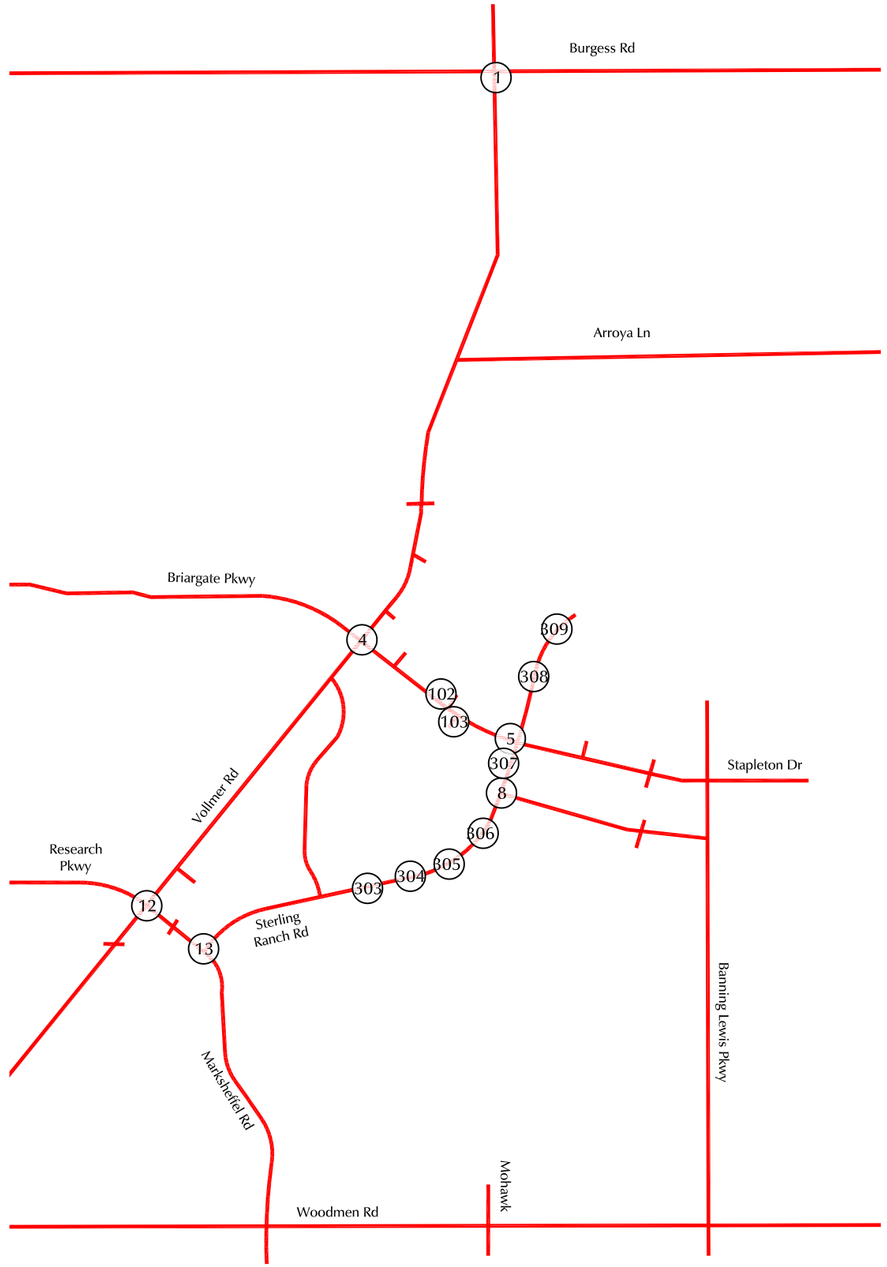




LEGEND: $\frac{XX}{XX}$ = $\frac{\text{AM Peak-Hour Traffic (veh/hr)}}{\text{PM Peak-Hour Traffic (veh/hr)}}$



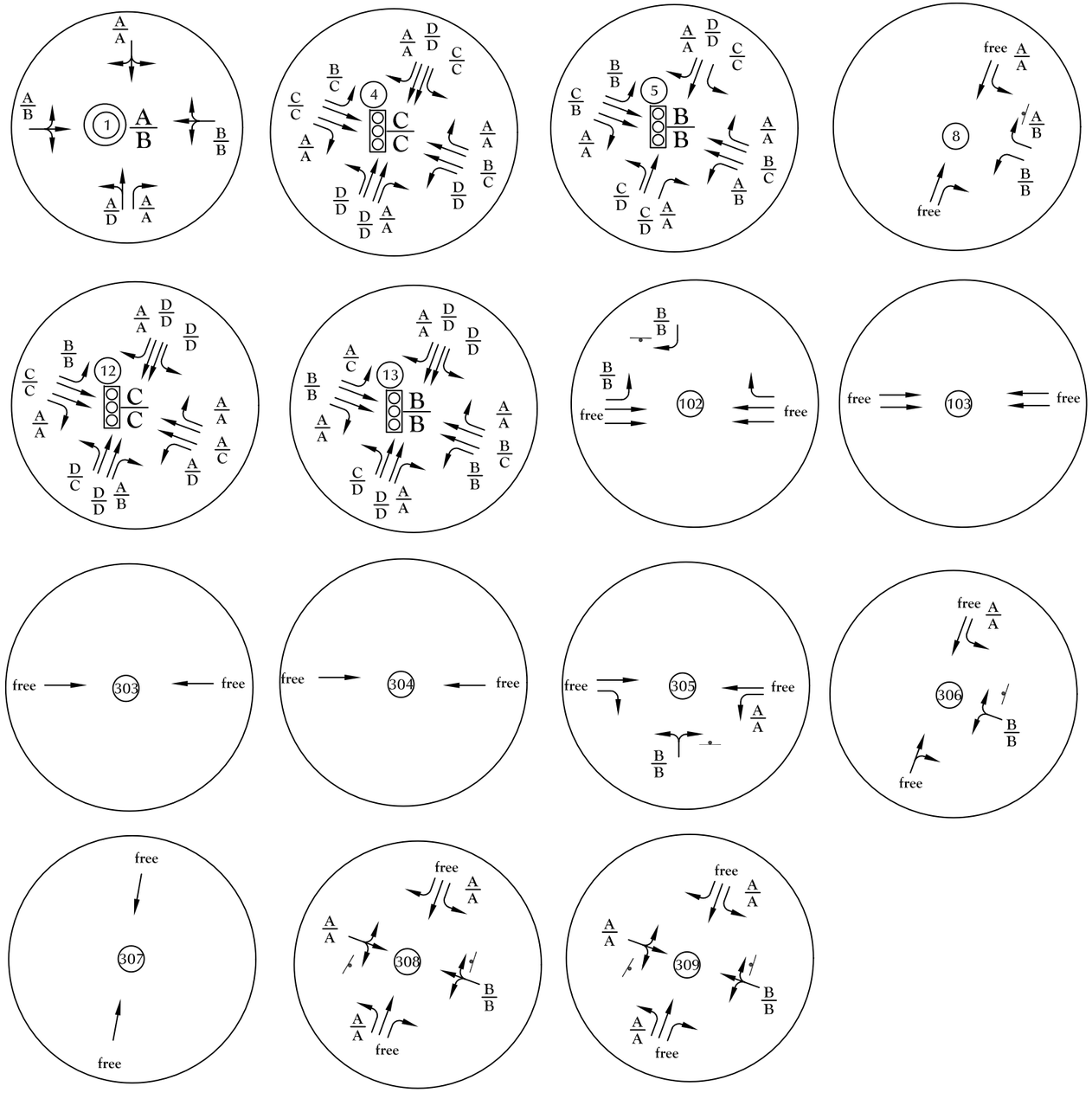


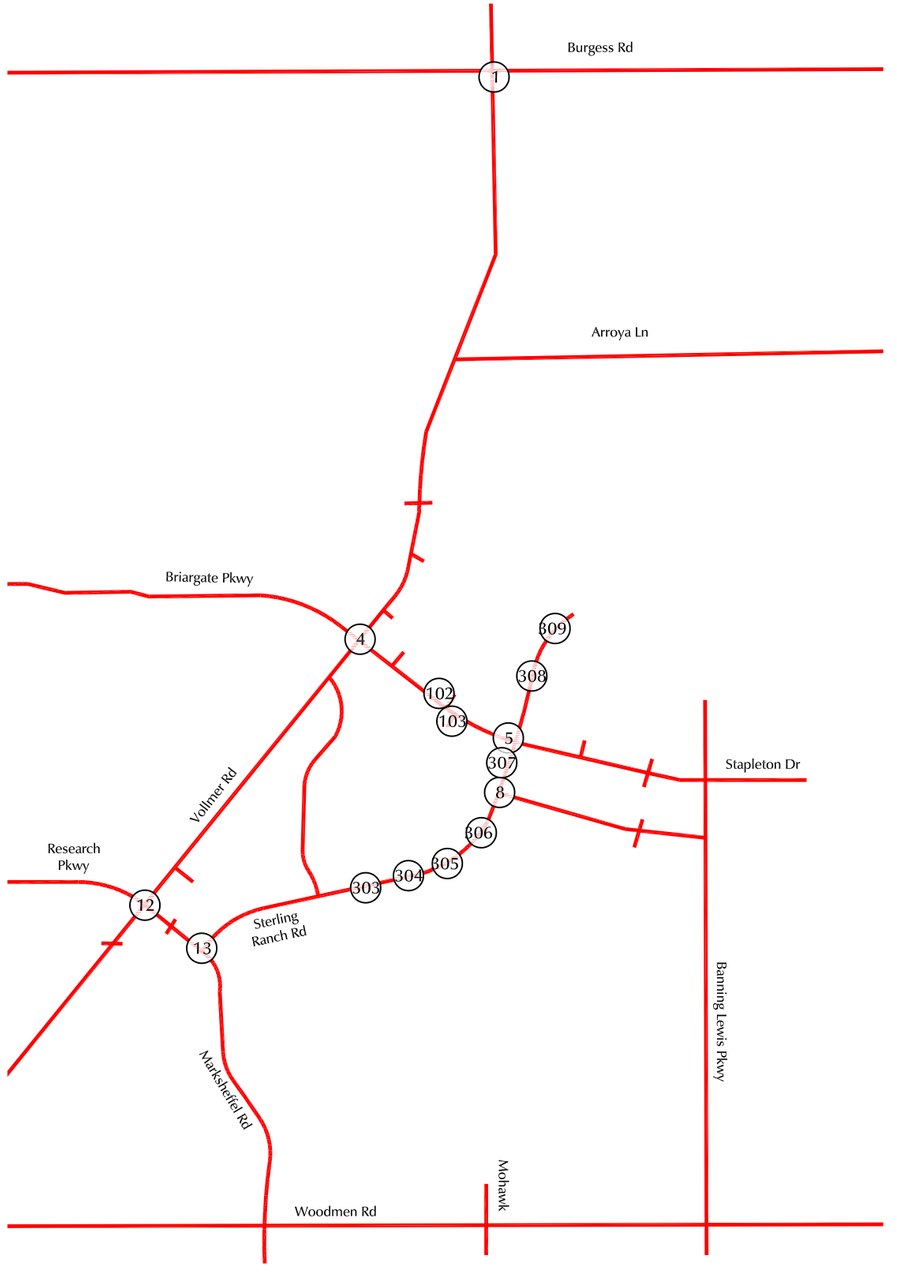
TRANSPORTATION CONSULTANTS, INC.

Figure 7b

# 2042 Background Traffic

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)




Not to scale

LEGEND:

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

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

= Stop Sign

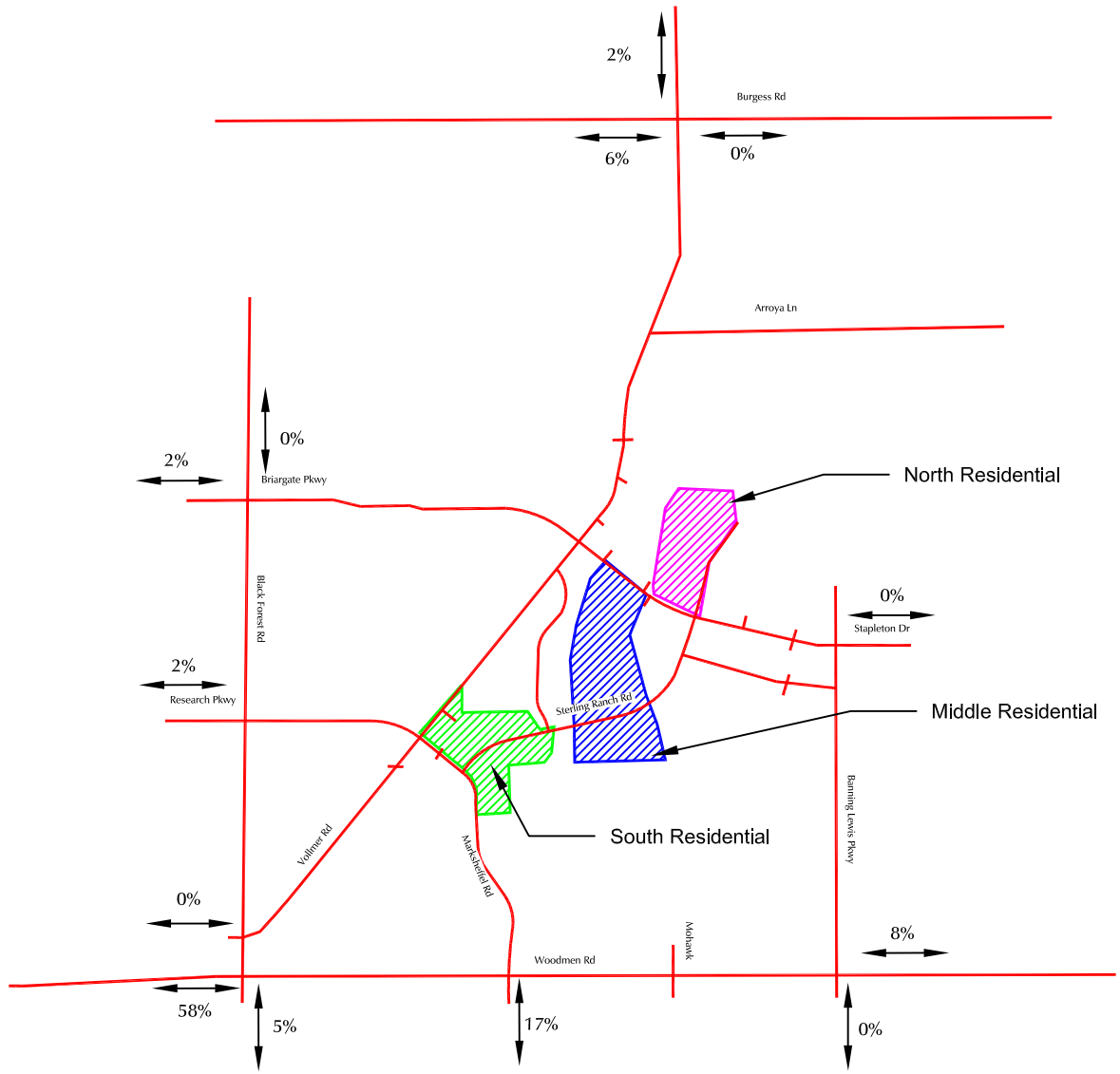
= Traffic Signal

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 7c

# 2042 Background Lane Geometry, Traffic Control, and Level of Service

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)




Not to scale

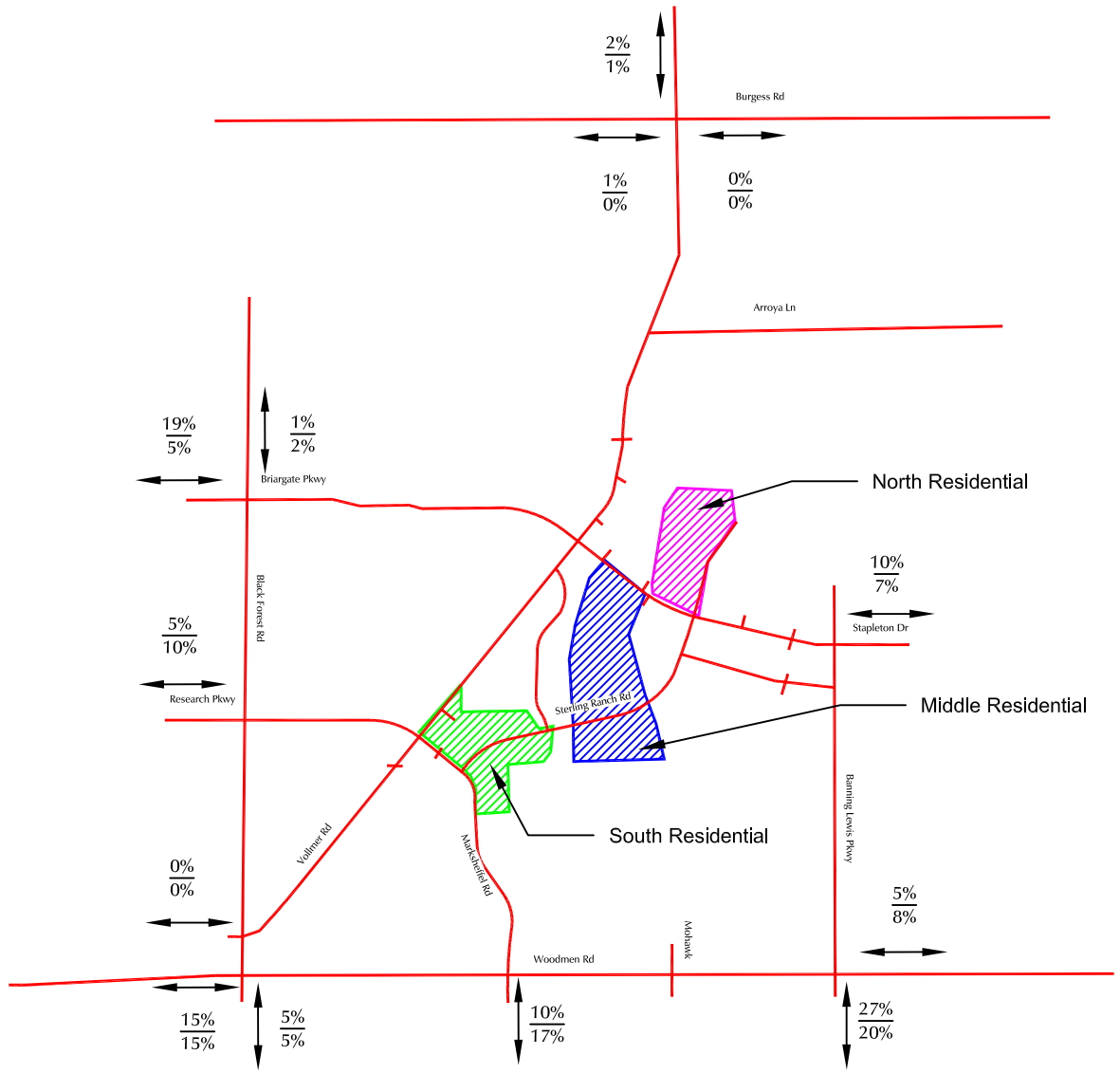
LEGEND: ⟷ XX% = Percent of Residential Trips

Figure 8

# Short-Term Directional Distribution of Residential-Generated Traffic

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

LSC TRANSPORTATION CONSULTANTS, INC.




Not to scale

LEGEND:

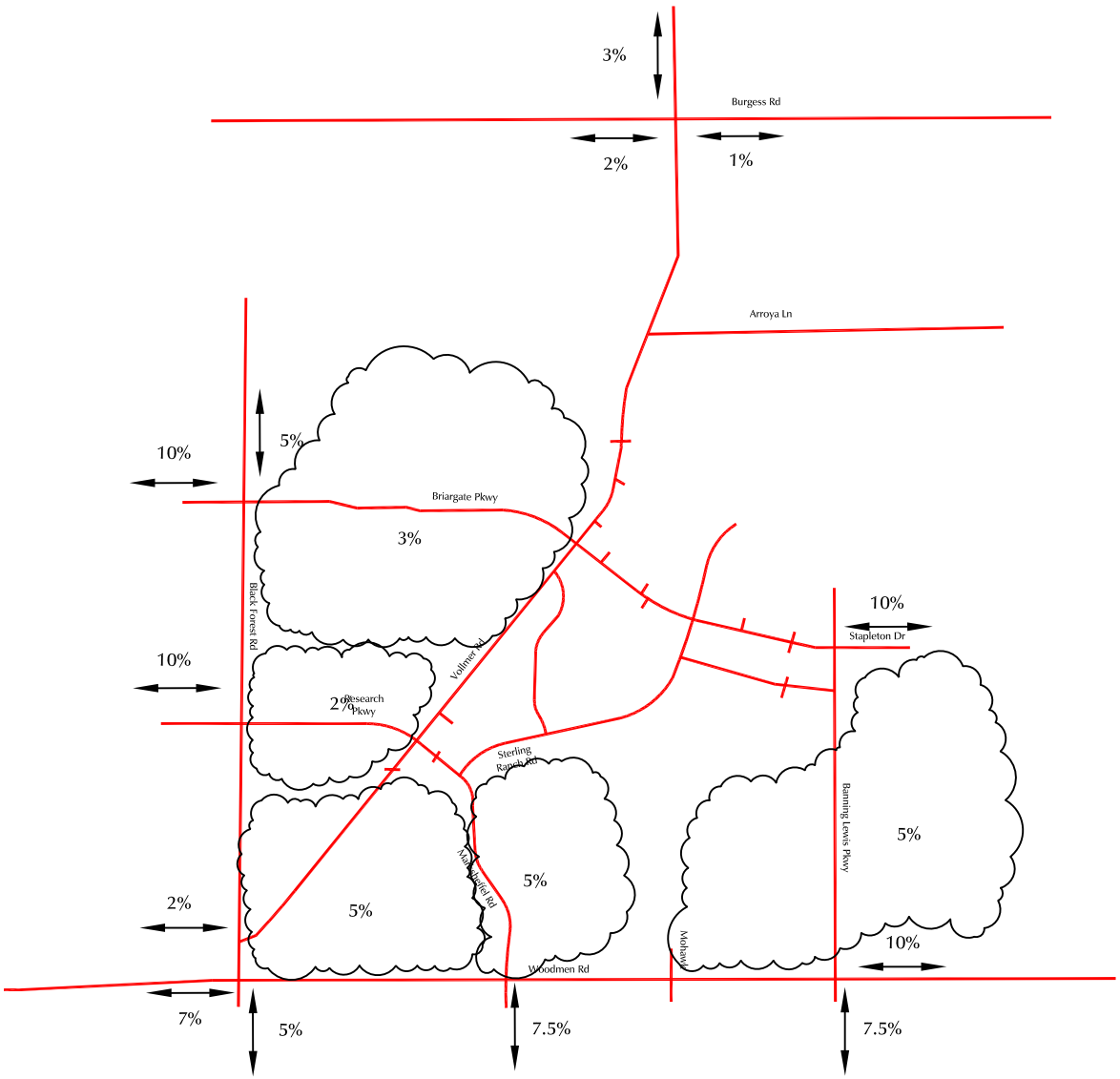
$\frac{XX\%}{XX\%}$ = $\frac{\text{Percent of North-Residential Trips}}{\text{Percent of Middle-Residential Trips}}$

Figure 9

# Buildout Long-Term Directional Distribution of Residential-Generated Traffic

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

LSC TRANSPORTATION CONSULTANTS, INC.




Not to scale

*External to Sterling Ranch

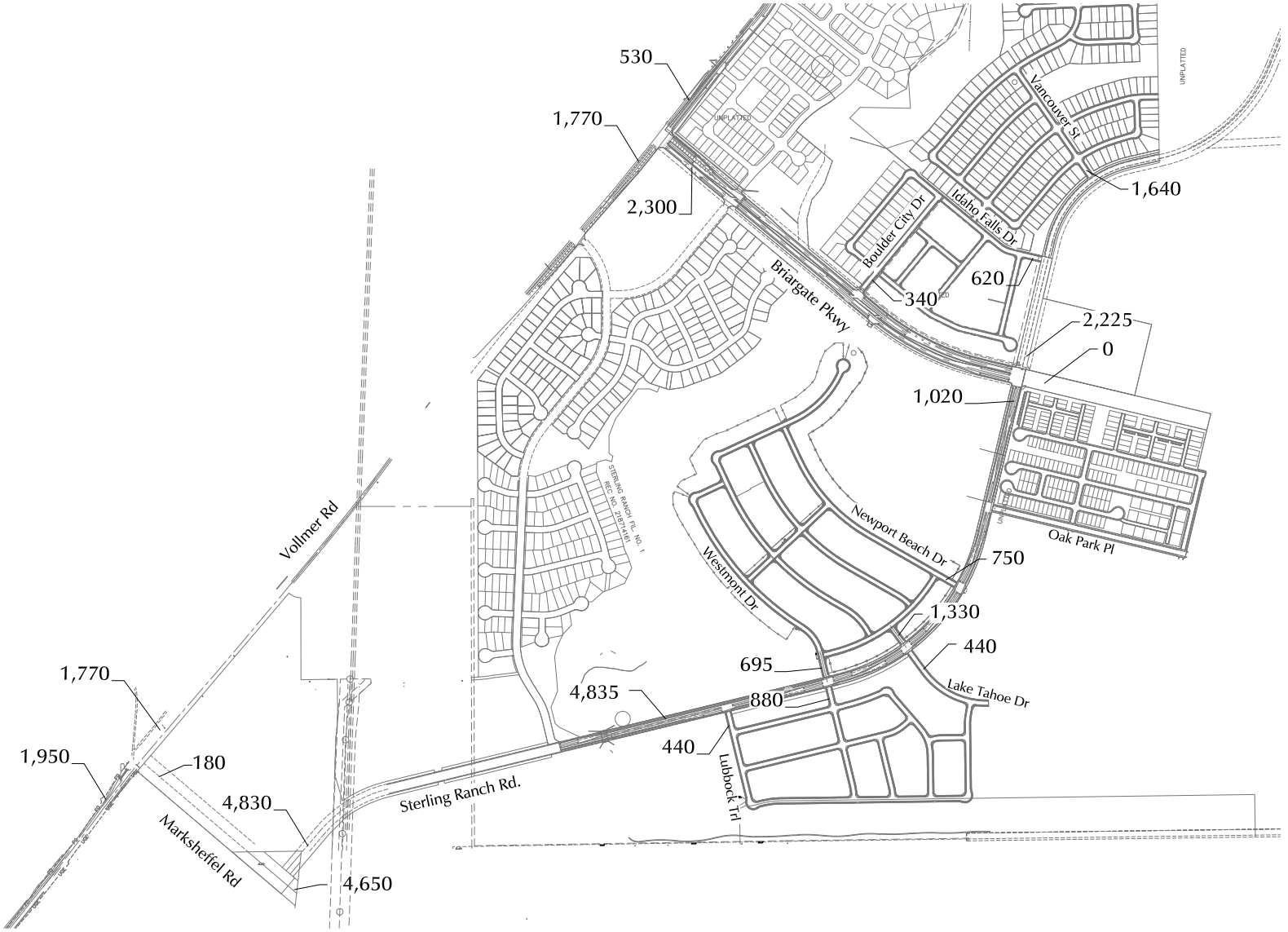
LEGEND: ⟷ XX% = Percent of Non-Residential Trips

Figure 10

# Buildout Long-Term Directional Distribution of School-Generated Traffic*

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

TRANSPORTATION CONSULTANTS, INC.



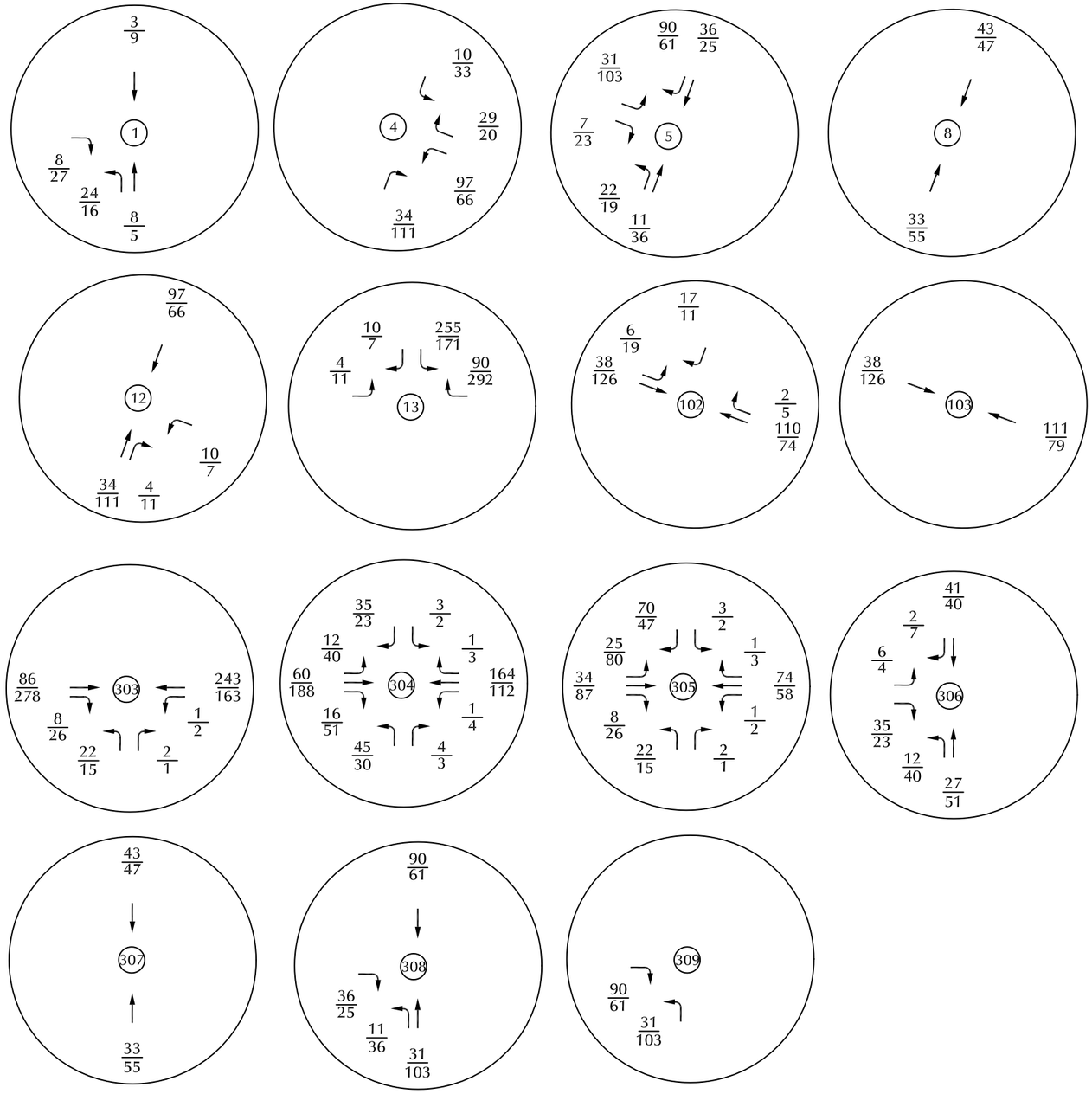

LEGEND: *XXX* = Average Weekday Traffic (vehicles per day)(AWT)

Figure 11a

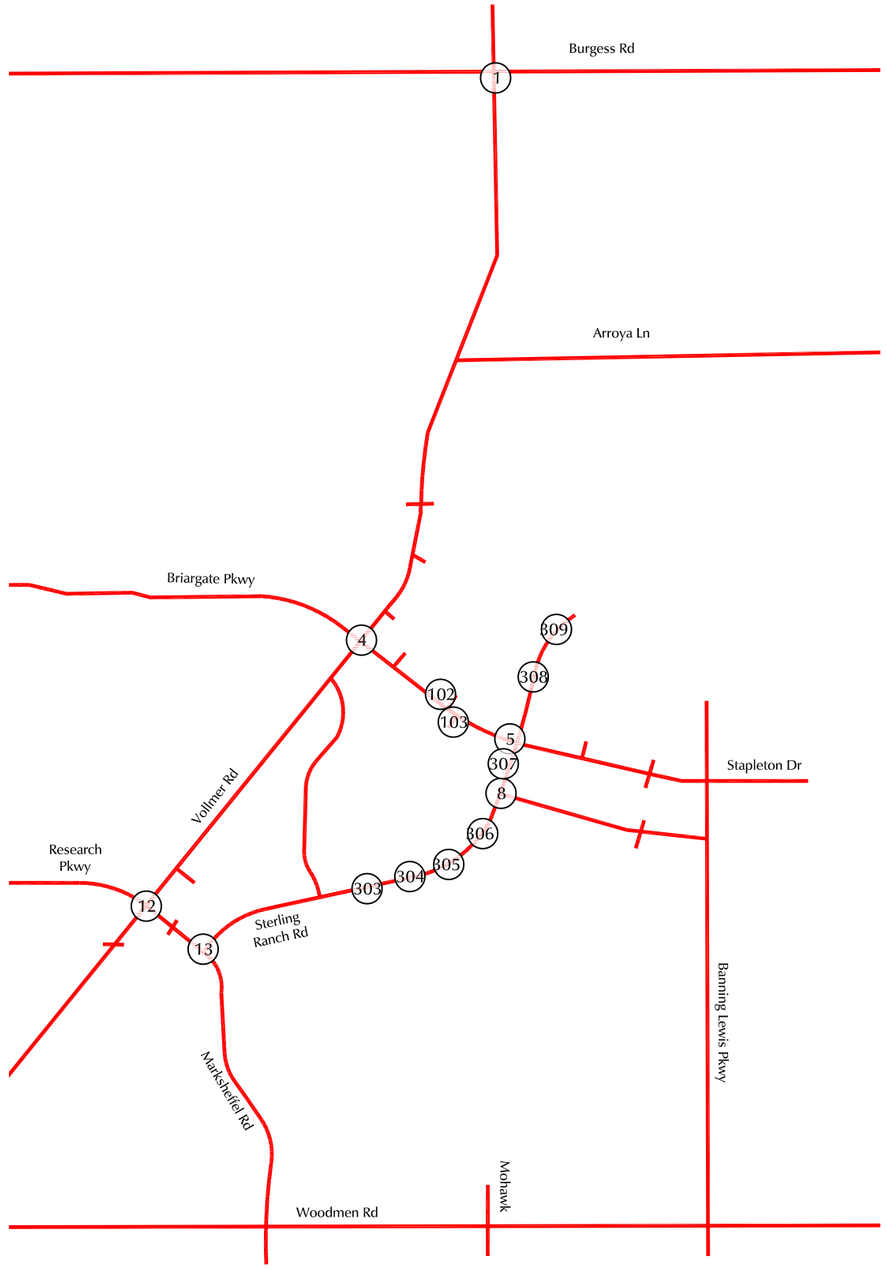
# Short-Term Site Generated Average Weekday Traffic

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

LSC TRANSPORTATION CONSULTANTS, INC.




LEGEND: $\frac{XX}{XX} = \frac{\text{AM Peak-Hour Traffic (veh/hr)}}{\text{PM Peak-Hour Traffic (veh/hr)}}$




N

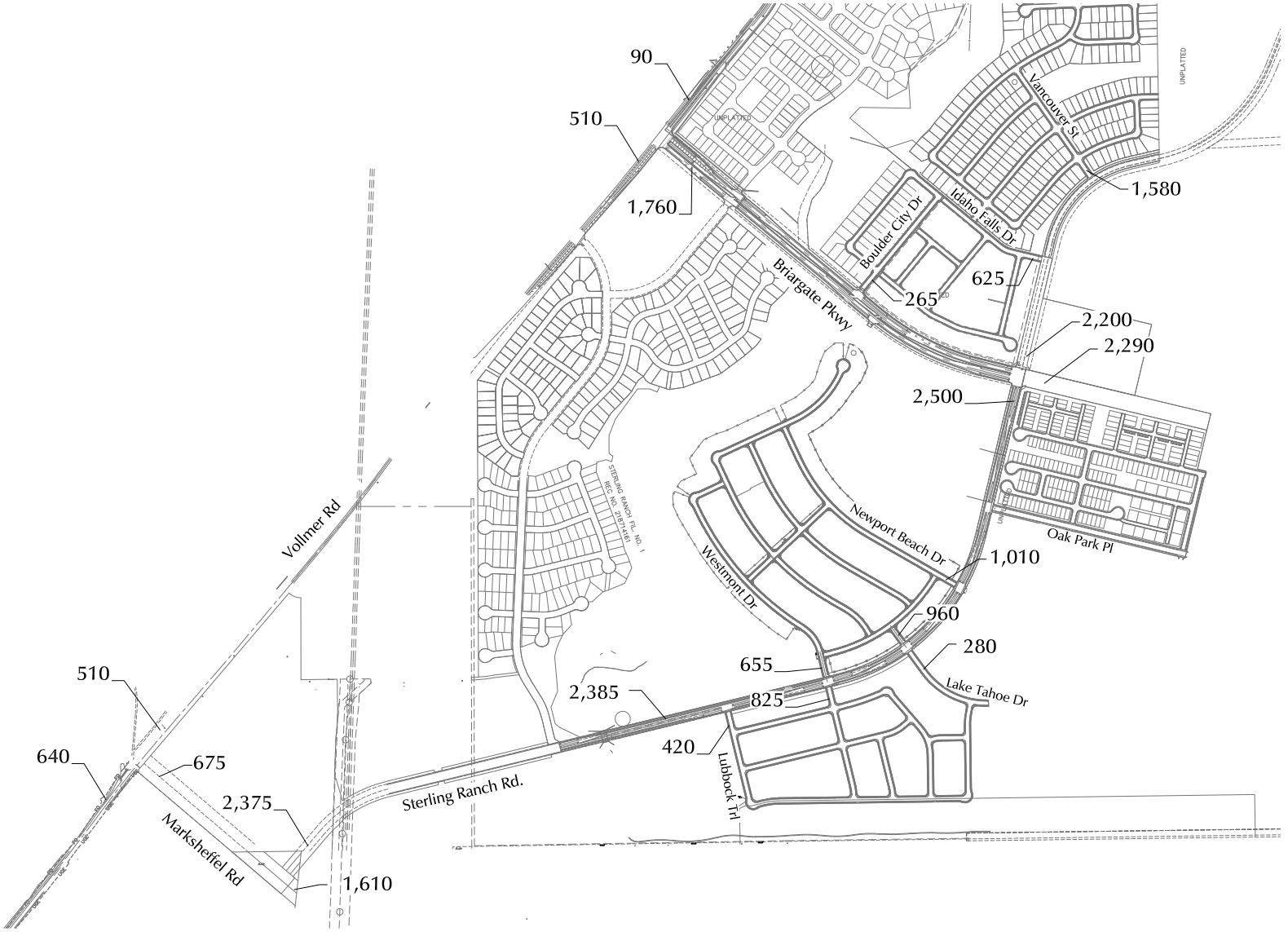
Not to scale

Figure 11b

# Short-Term Site-Generated Traffic

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

LSC TRANSPORTATION CONSULTANTS, INC.



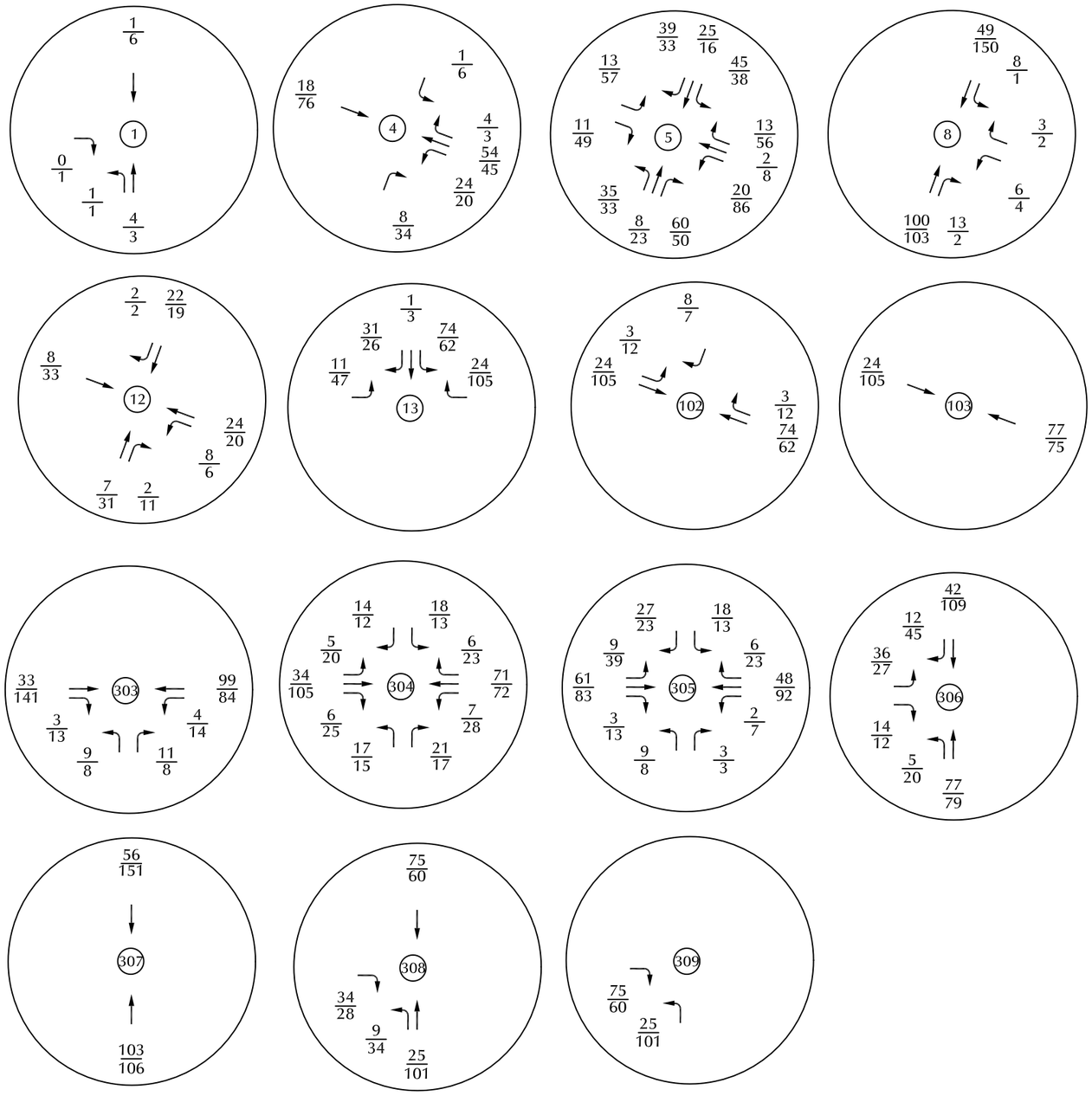

LEGEND: *XXX* = Average Weekday Traffic (vehicles per day)(AWT)

Figure 12a

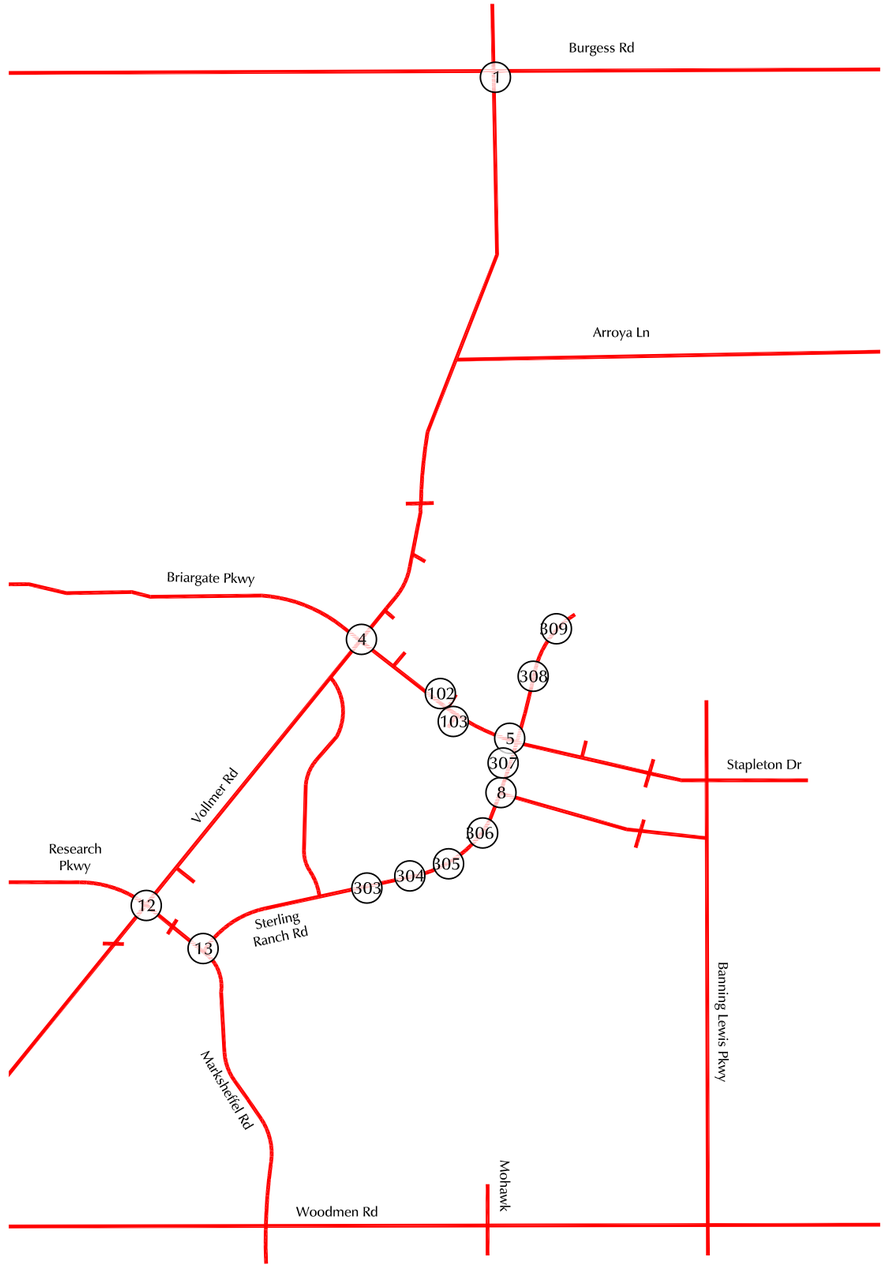
# Long-Term Residential-Generated Average Weekday Traffic

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

LSC TRANSPORTATION CONSULTANTS, INC.




LEGEND: $\frac{XX}{XX} = \frac{\text{AM Peak-Hour Traffic (veh/hr)}}{\text{PM Peak-Hour Traffic (veh/hr)}}$



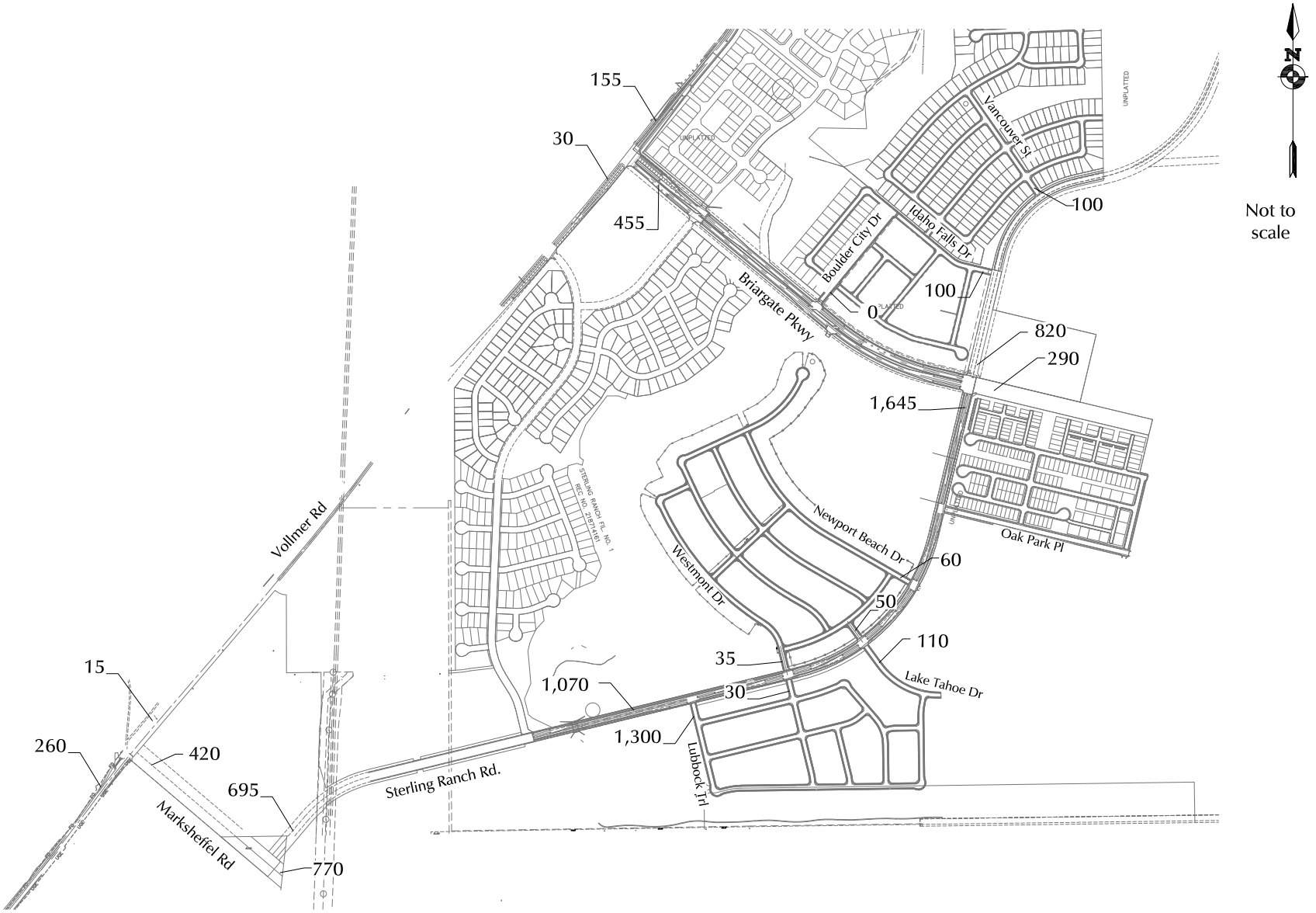

Not to scale

Figure 12b

# Long-Term Residential-Generated Traffic

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

LSC TRANSPORTATION CONSULTANTS, INC.



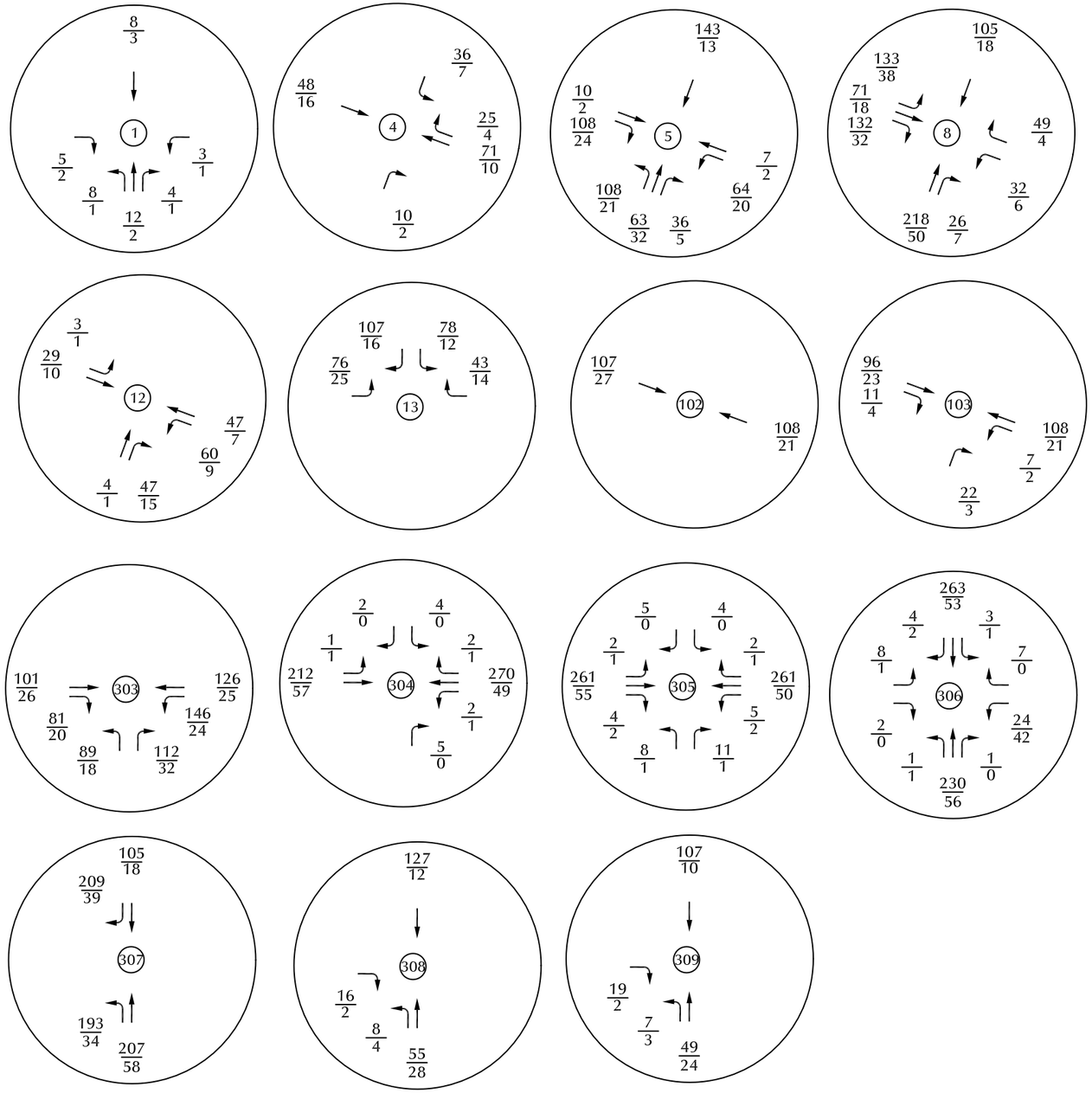

LEGEND: *XXX* = Average Weekday Traffic (vehicles per day)(AWT)

Figure 13a

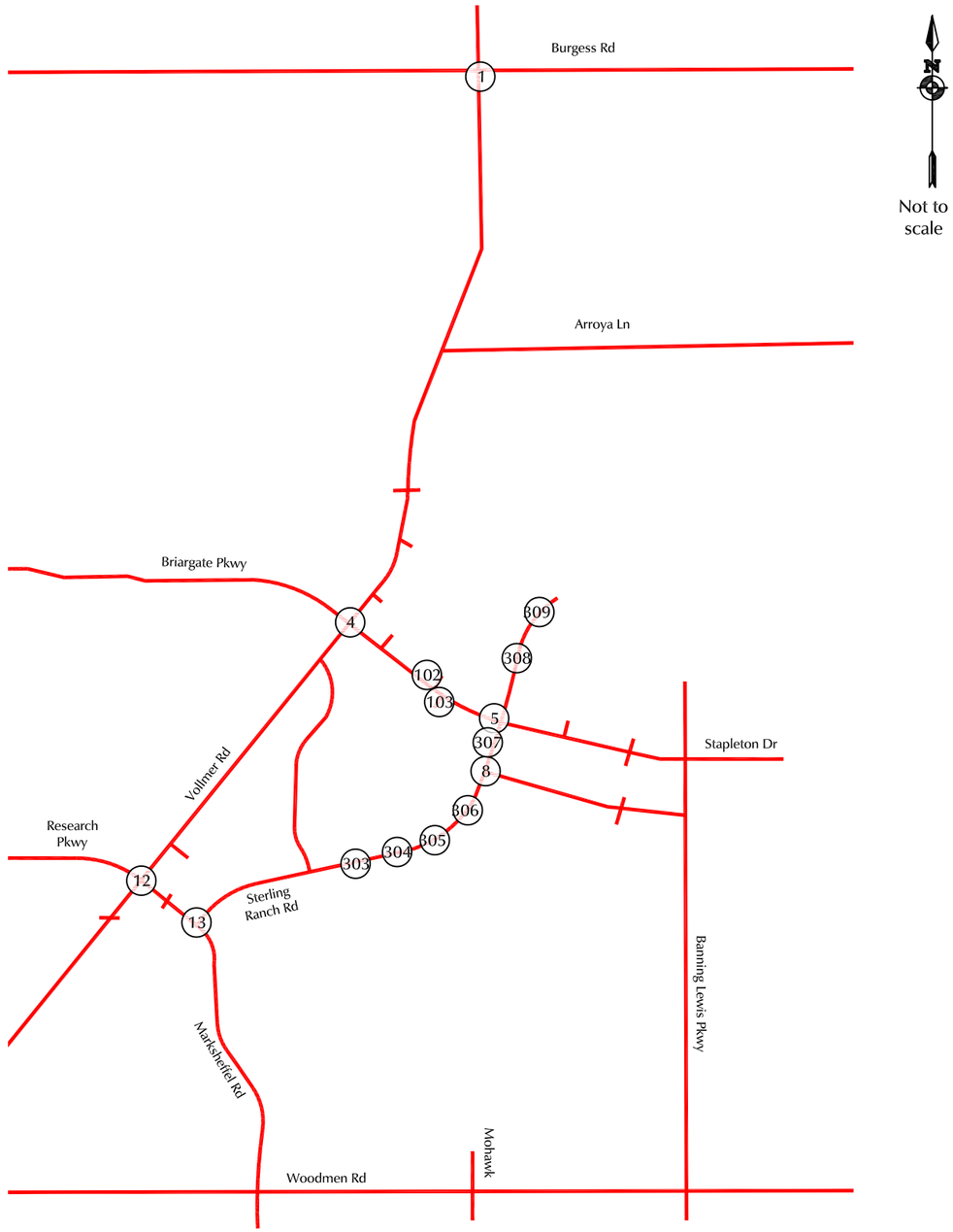
# Long-Term School-Generated Average Weekday Traffic

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

TRANSPORTATION CONSULTANTS, INC.




LEGEND: $\frac{XX}{XX} = \frac{\text{AM Peak-Hour Traffic (veh/hr)}}{\text{PM Peak-Hour Traffic (veh/hr)}}$



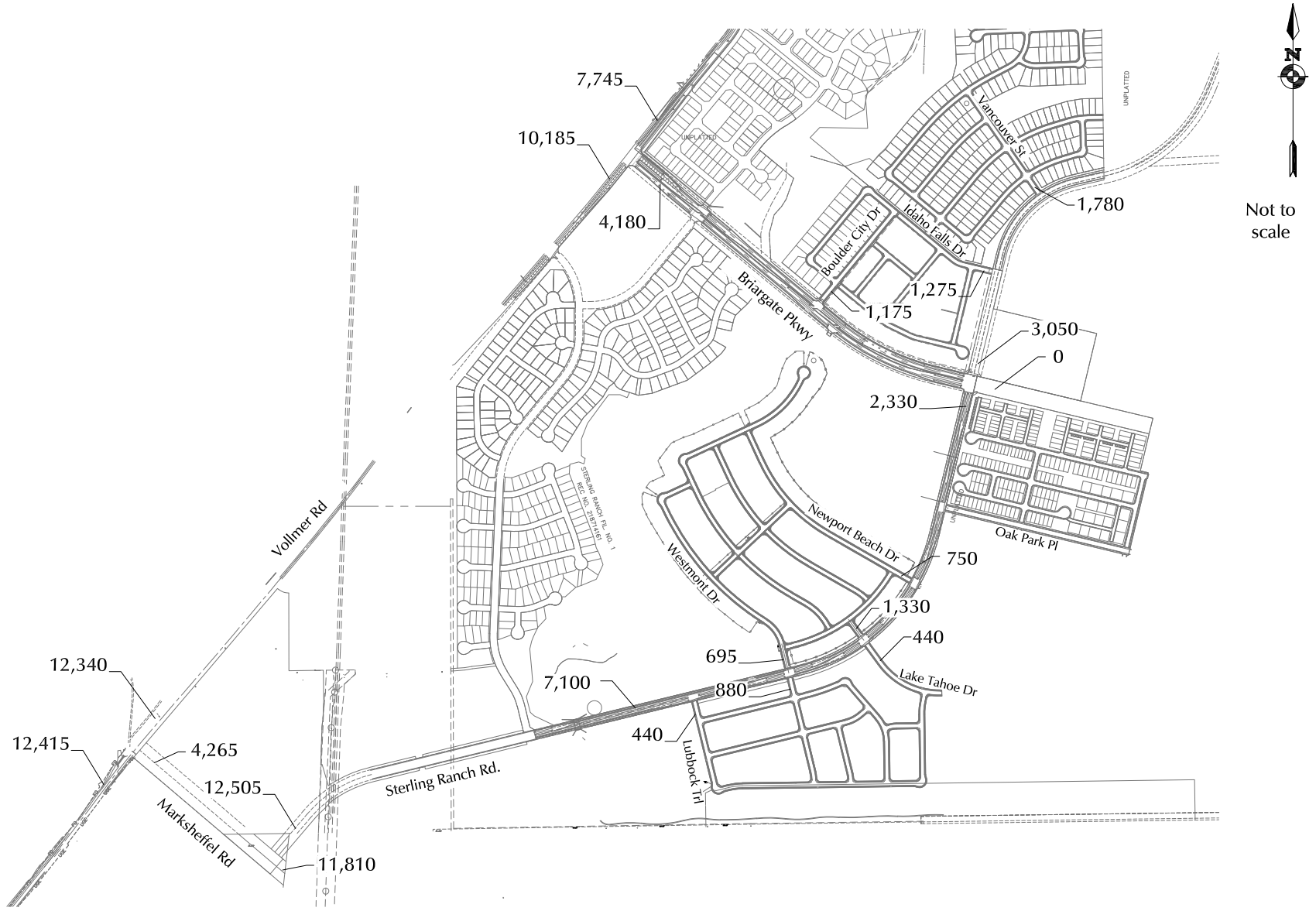

Not to scale

Figure 13b

# Long-Term School-Generated Traffic

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

LSC TRANSPORTATION CONSULTANTS, INC.



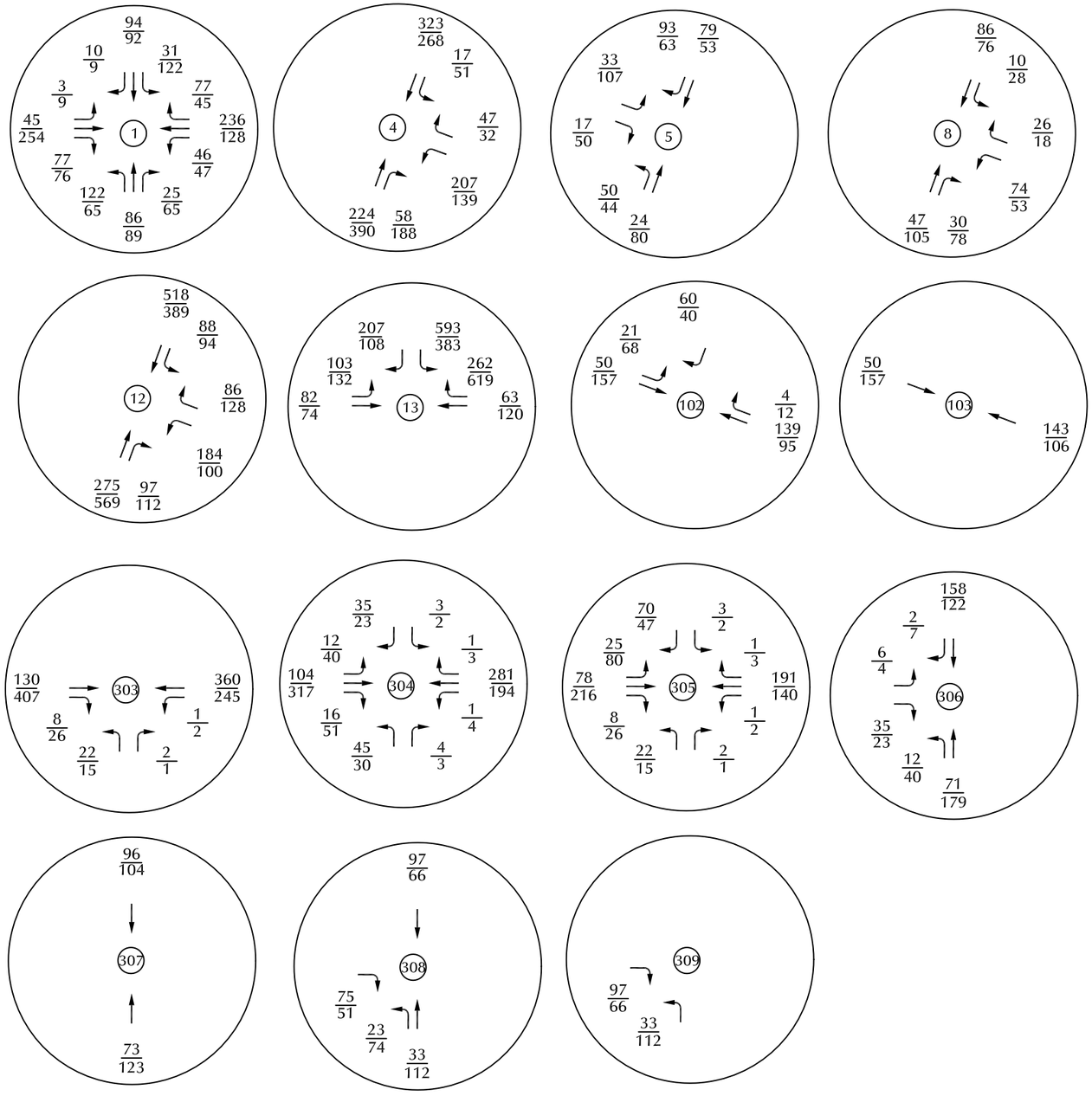

LEGEND: *XXX* = Average Weekday Traffic (vehicles per day)(AWT)

Figure 14a

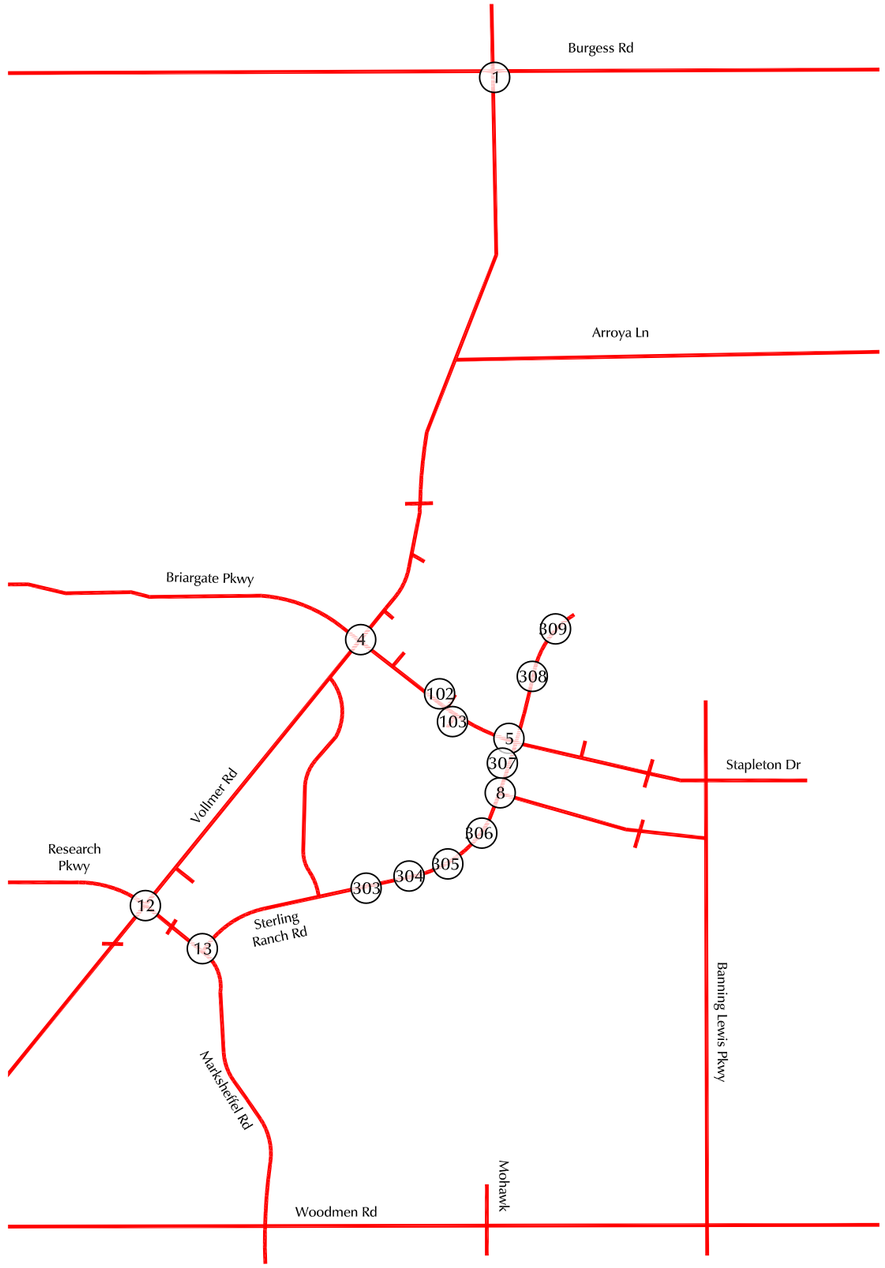
# Short-Term Total Average Weekday Traffic

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

LSC TRANSPORTATION CONSULTANTS, INC.




LEGEND: $\frac{XX}{XX} = \frac{\text{AM Peak-Hour Traffic (veh/hr)}}{\text{PM Peak-Hour Traffic (veh/hr)}}$



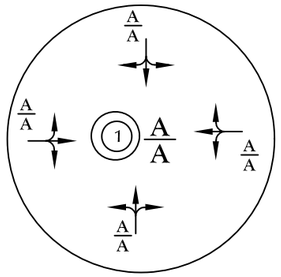

Not to scale

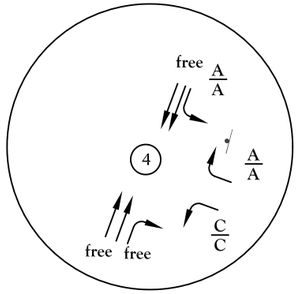
Figure 14b

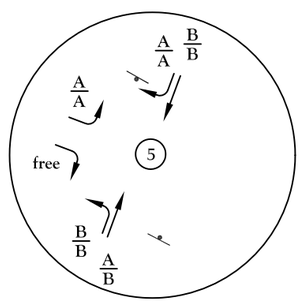
# Short-Term Total Traffic

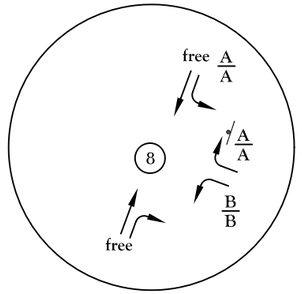
Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

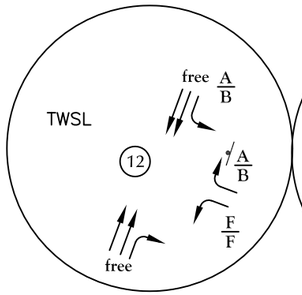
LSC TRANSPORTATION CONSULTANTS, INC.

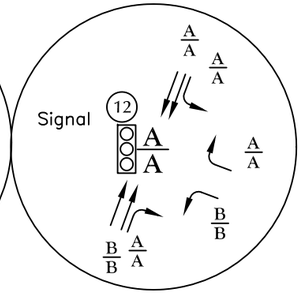


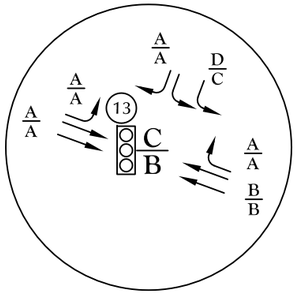



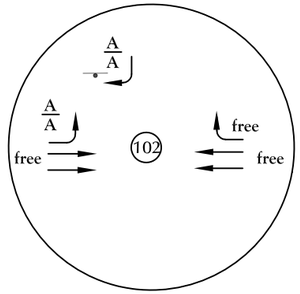



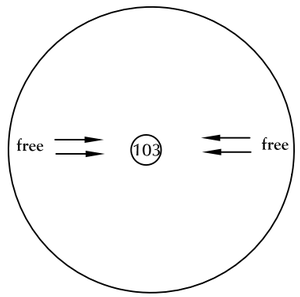



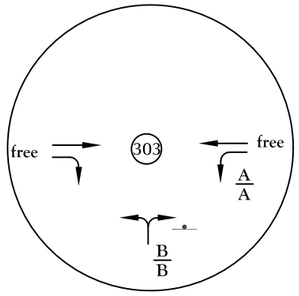



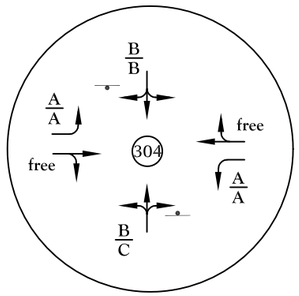



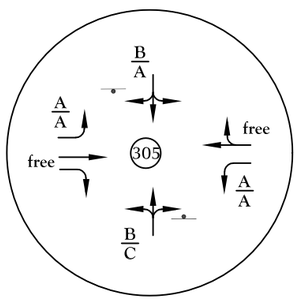



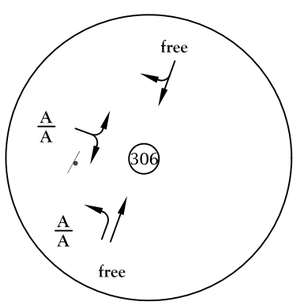



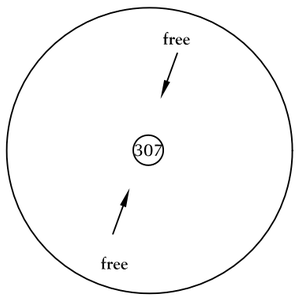



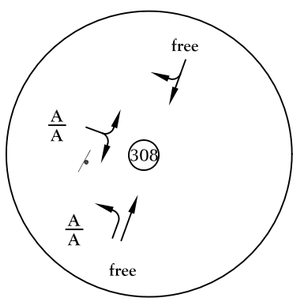



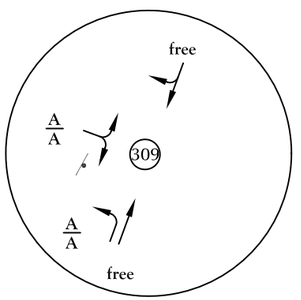



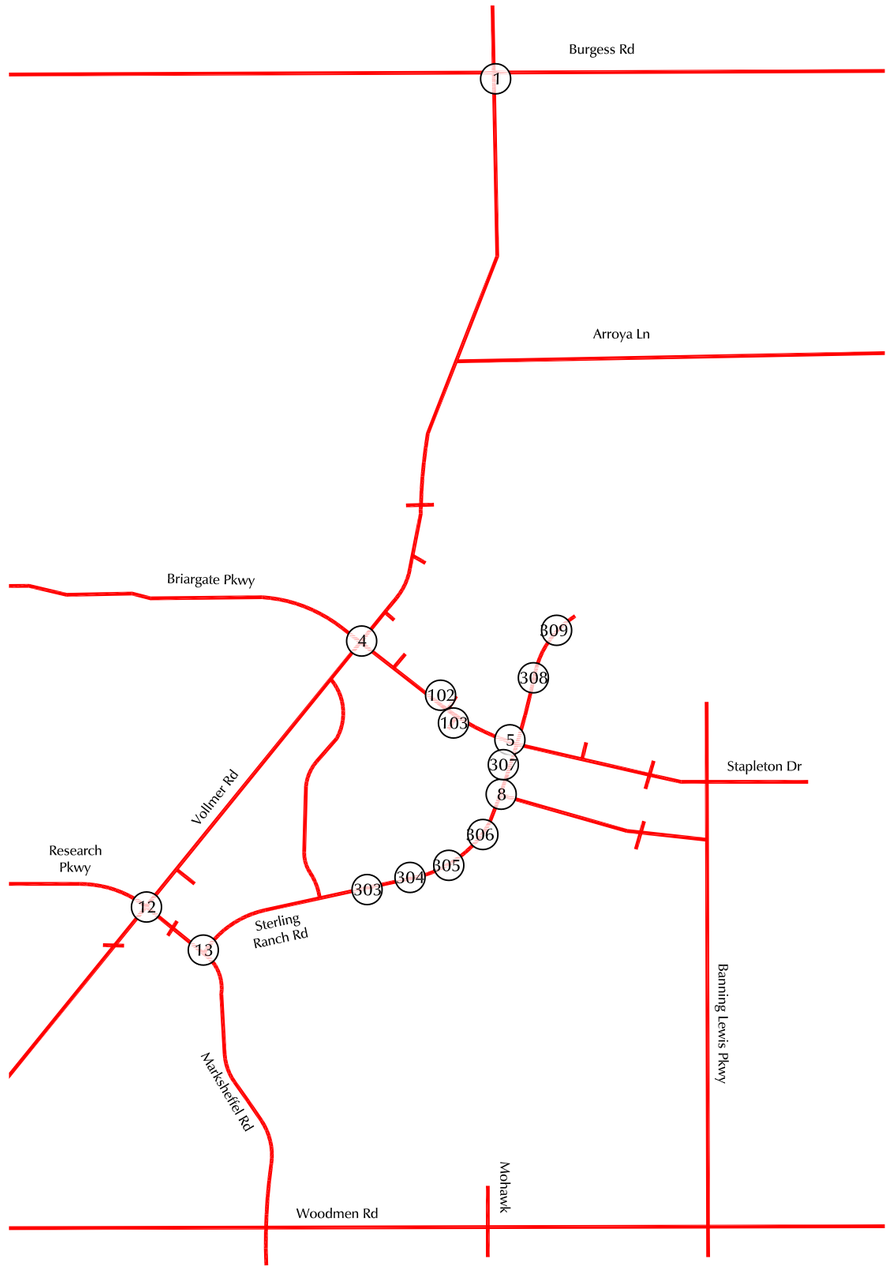





Not to scale

LEGEND:

$\frac{A}{B}$ = AM Individual Movement Peak–Hour Level of Service / PM Individual Movement Peak–Hour Level of Service

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

= Stop Sign

= Traffic Signal

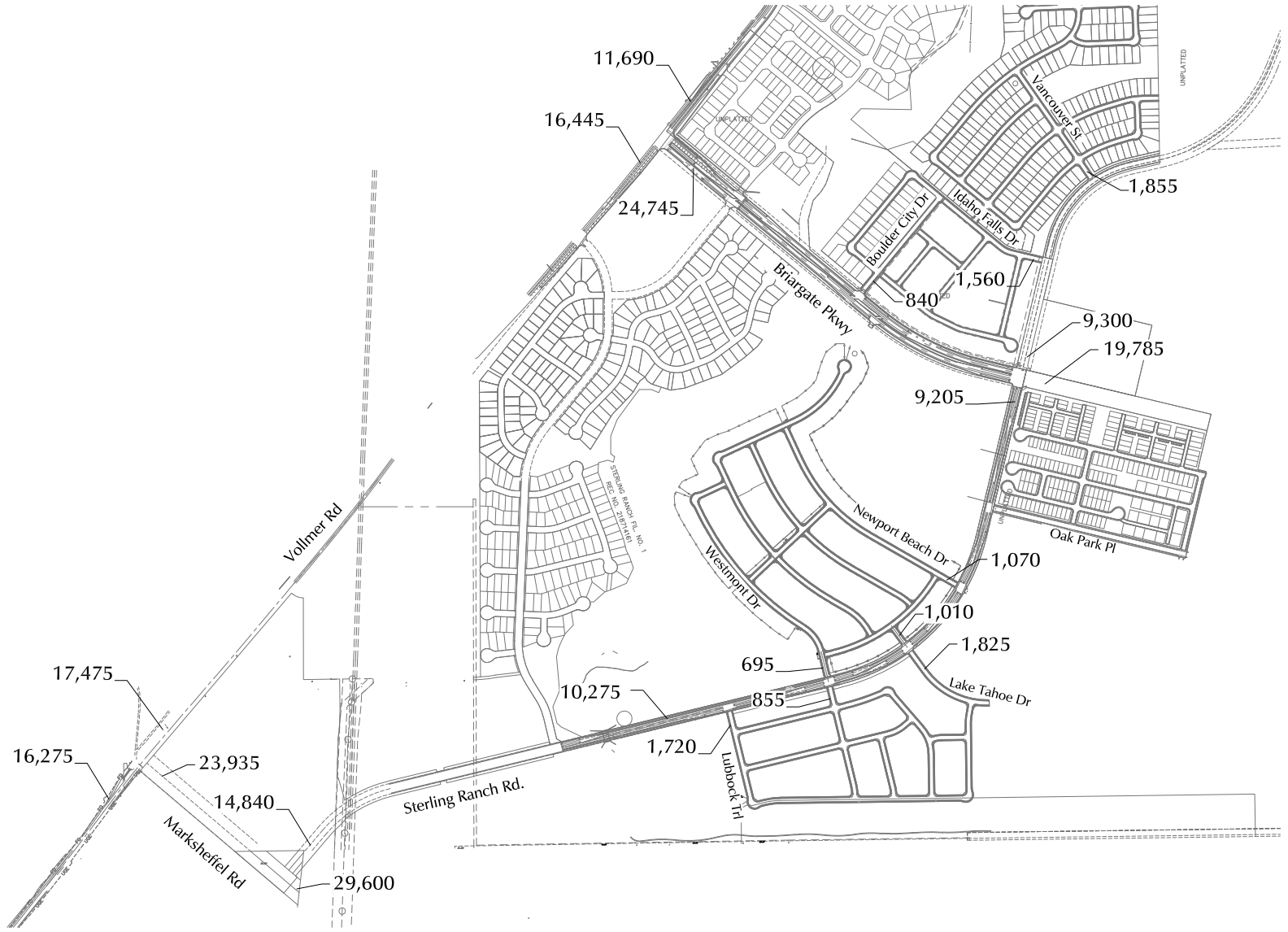
= Roundabout

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 14c

# Short-Term Total Lane Geometry, Traffic Control, and Level of Service

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)




LEGEND:

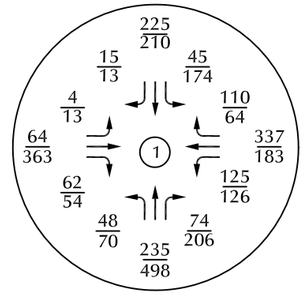
*XXX* = Average Weekday Traffic (vehicles per day)(AWT)

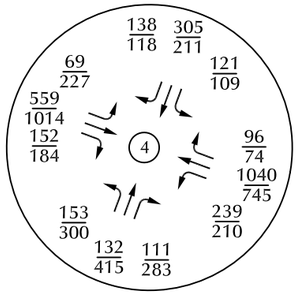
TRANSPORTATION CONSULTANTS, INC.

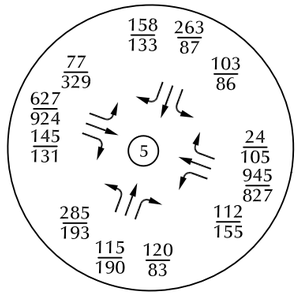
Figure 15a

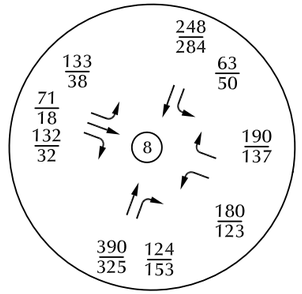
# 2042 Total Average Weekday Traffic

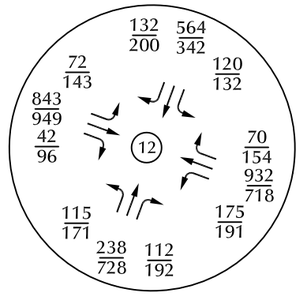
Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

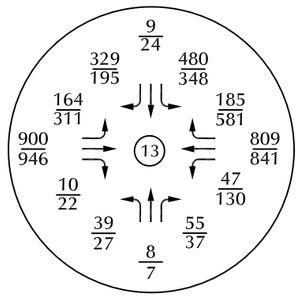


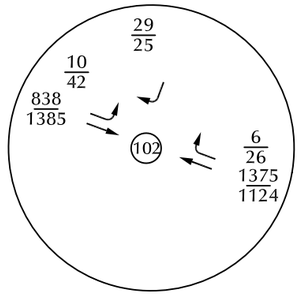



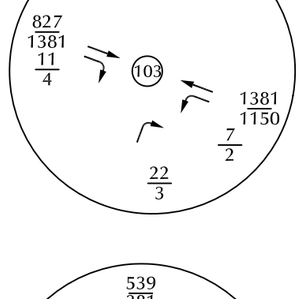



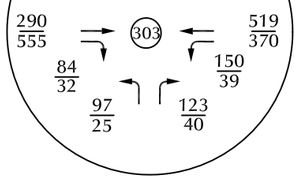



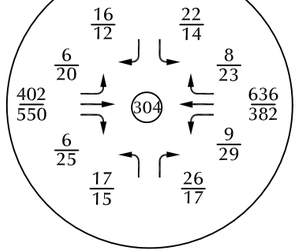



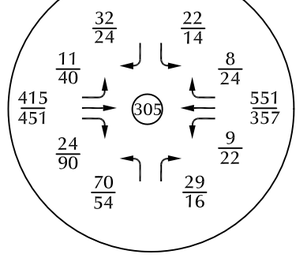



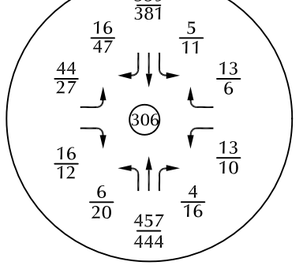



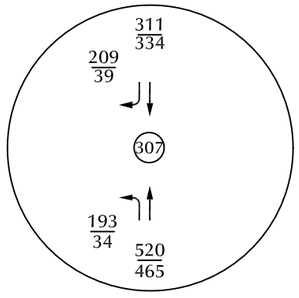



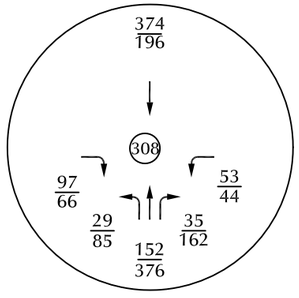



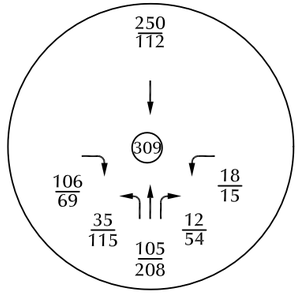



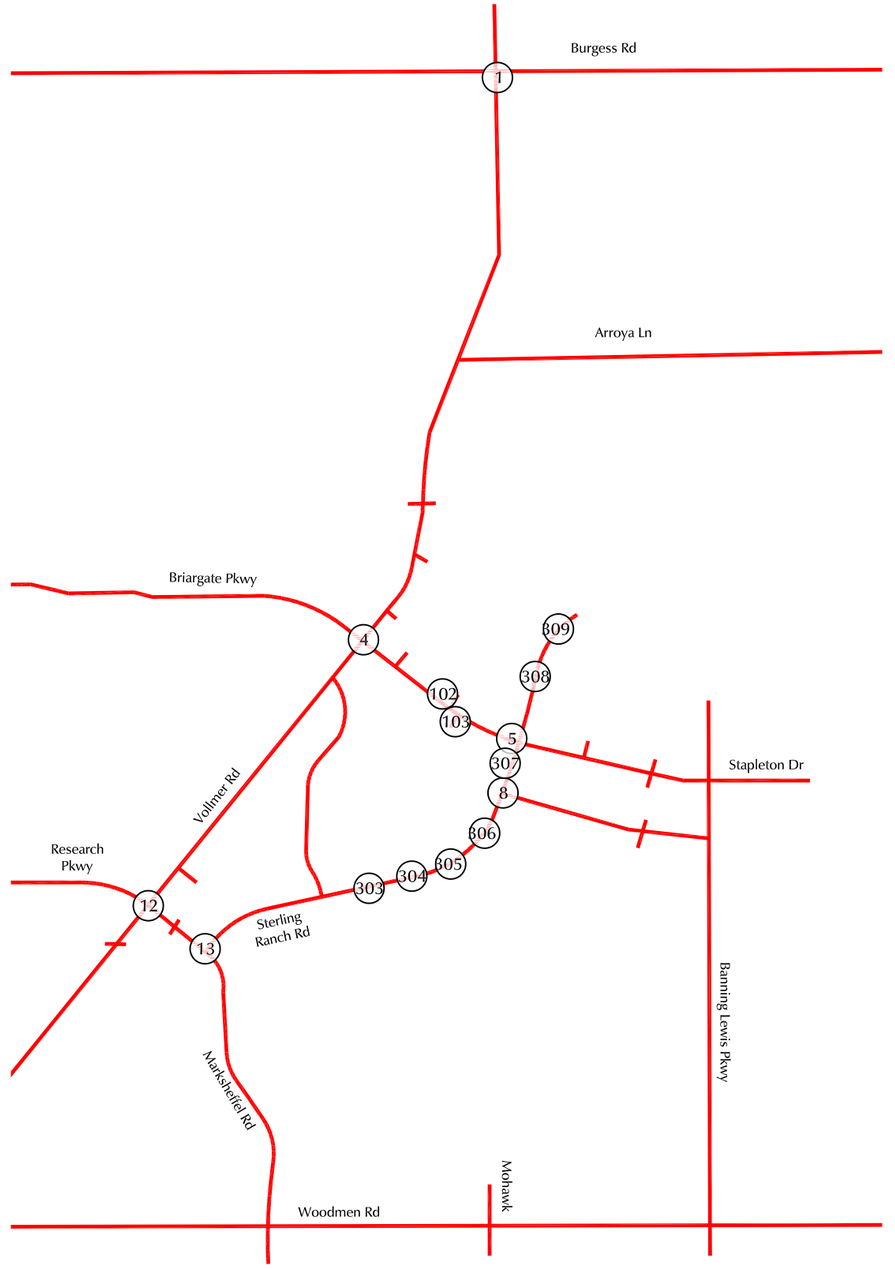





Not to scale

LEGEND: $\frac{XX}{XX} = \frac{\text{AM Peak-Hour Traffic (veh/hr)}}{\text{PM Peak-Hour Traffic (veh/hr)}}$

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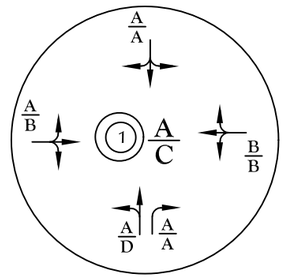
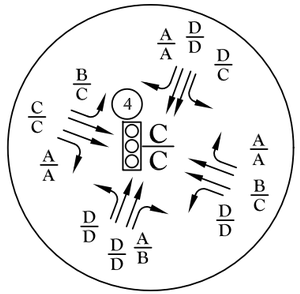
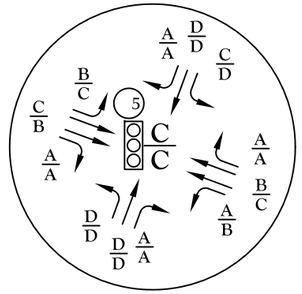
Figure 15b

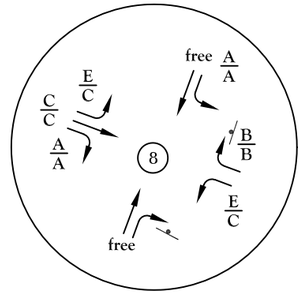
# 2042 Total Traffic

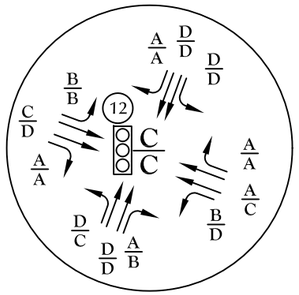
Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

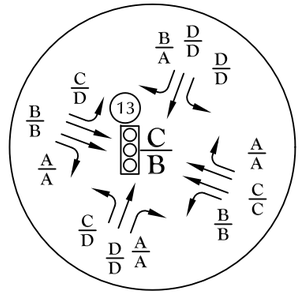


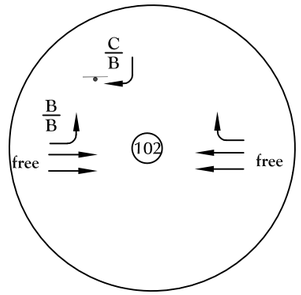



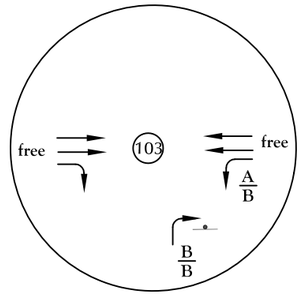



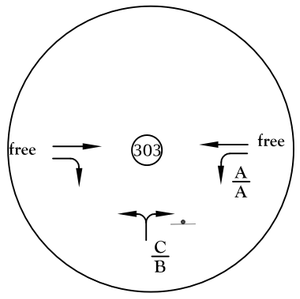



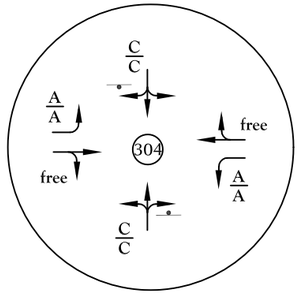



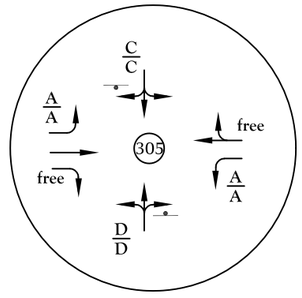



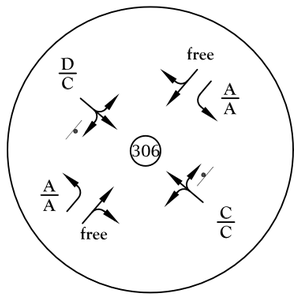



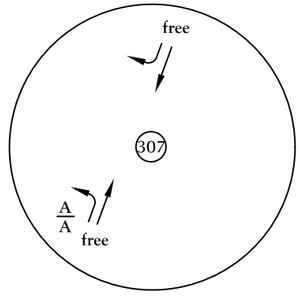



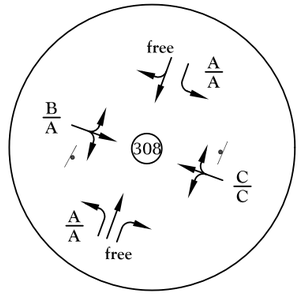



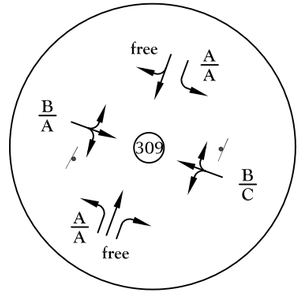



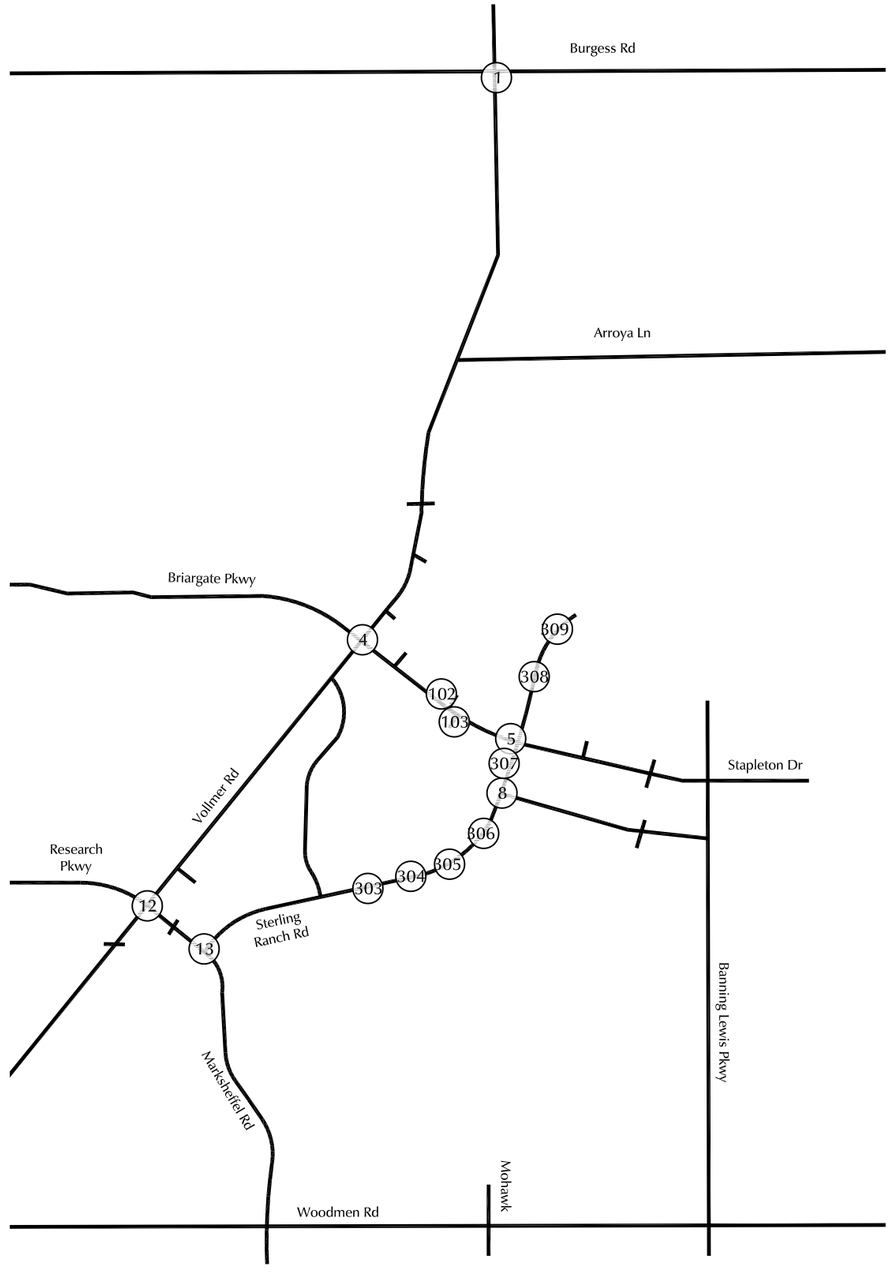




LEGEND:

$\frac{A}{B}$ = AM Individual Movement Peak–Hour Level of Service / PM Individual Movement Peak–Hour Level of Service

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

= Stop Sign

= Traffic Signal

= Roundabout

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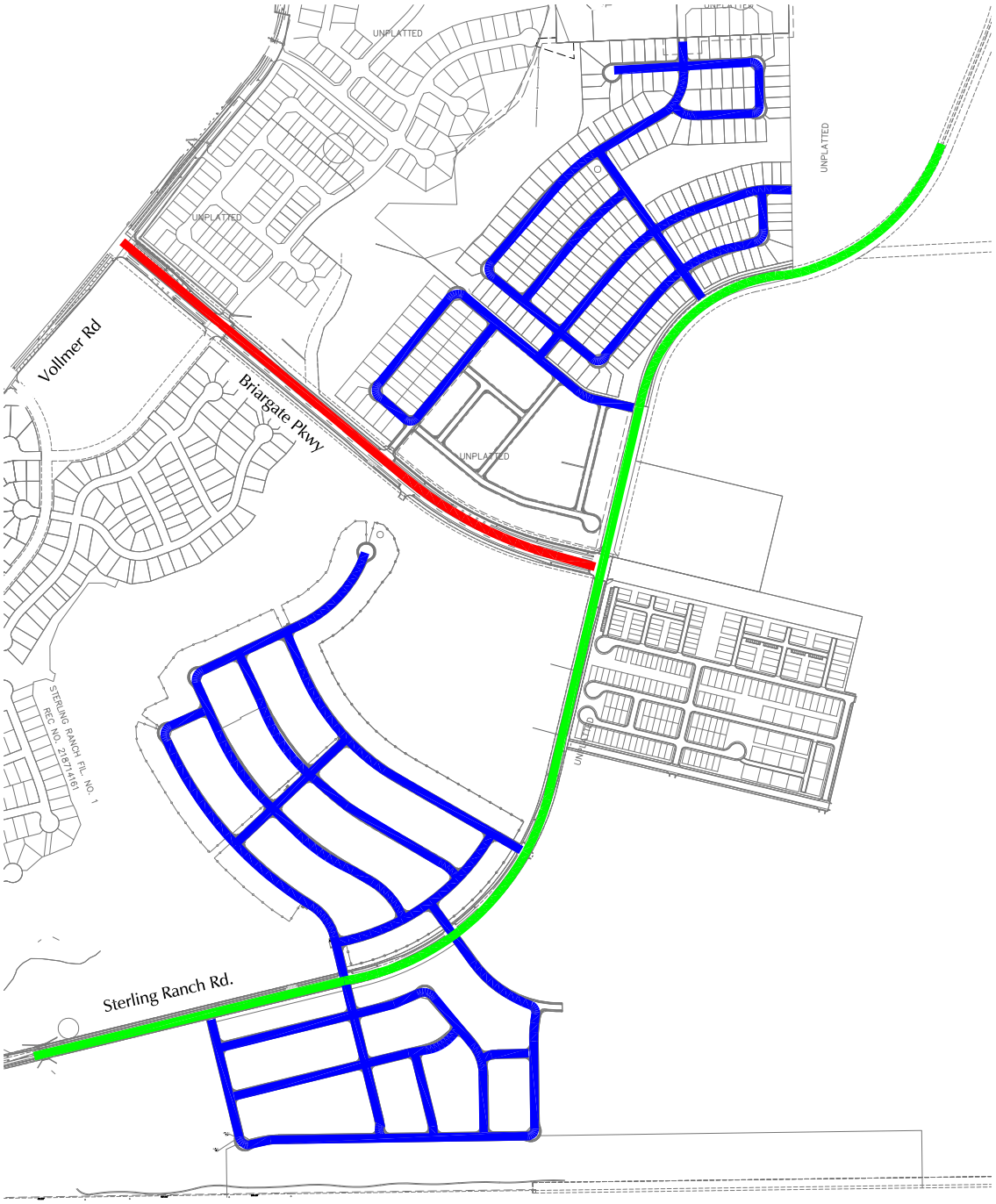
Figure 15c

# 2042 Total Lane Geometry, Traffic Control, and Level of Service

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)




N

Not to scale

LEGEND:

- 4-Lane Urban Principal Arterial
- Urban Non-Residential Collector
- Urban Local

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Figure 16

# Roadway Classifications

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

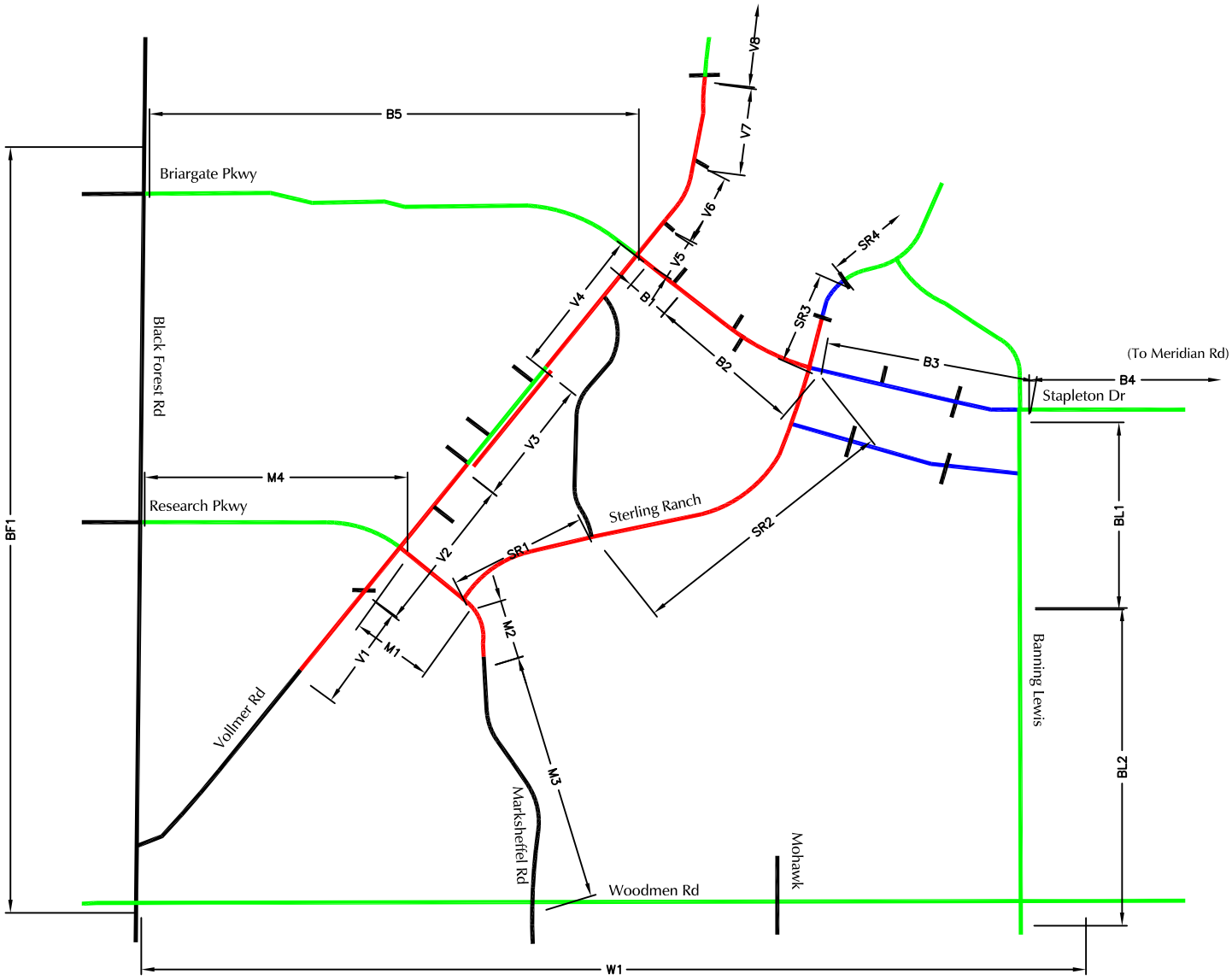


Figure 17

# Roadway Improvement Segments*

Sterling Ranch East Rezoning and Preliminary Plan (LSC# S224440)

LSC TRANSPORTATION CONSULTANTS, INC.

# Appendix Table 1

TRANSPORTATION
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This memorandum was based on the *Sterling Ranch East Rezoning and Preliminary Plan TIS* dated February 10, 2023. The latest version of this report can be found at https://epcdevplanreview.com/Public/ProjectDetails/184079. If you need a copy of the February 10, 2023 version of the report, please contact LSC Transportation Consultants, Inc.

**Appendix Table 1**
**Area Traffic Impact Studies**
**Sterling Ranch East Filing Nos. 1 & 2**

| 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 | 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 |
| Copper Chase at Sterling Ranch Transportation Memorandum | PUDSP222 | LSC Transportation Consultants, Inc | December 14, 2021 |
| 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 |
| Foursquare at Sterling Ranch East Preliminary Plan/Traffic Generation Analysis | PUDSP227 | LSC Transportation Consultants, Inc | November 22, 2022 |
| The Villages at Sterling Ranch East Preliminary Plan/Traffic Generation Analysis | PUDSP226 | LSC Transportation Consultants, Inc | December 9, 2022 |
| Sterling Ranch Sketch Plan Amendment Master Traffic Impact Study | SKP224 | LSC Transportation Consultants, Inc | February 10, 2023 |
| Sterling Ranch East - Phase 1 Rezoning & Preliminary Plan Traffic Impact Study | SP-22-004, P-22-012, P-22-013 | LSC Transportation Consultants, Inc | February 10, 2023 |
| | | | |
| **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 | | LSC Transportation Consultants, Inc | July 1, 2022 |
| | | | |
| **Other Area Reports** | | | |
| Wolf Ranch School Site Traffic Impact Study | OAR1720 | Matrix Design Group, Inc. | 5-May-17 |
| 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 | January, 2023 |
| Traffic Impact Study for Rhetoric Site | P2216 | SM Rocha, LLC | June, 2022 |
| Briargate-Stapleton Corridor Study (DRAFT) | briargate-stapleton.com | Wilson & Company | December 9, 2021 |

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.* *Feb-23*

# 2008 TIS TAZ Map

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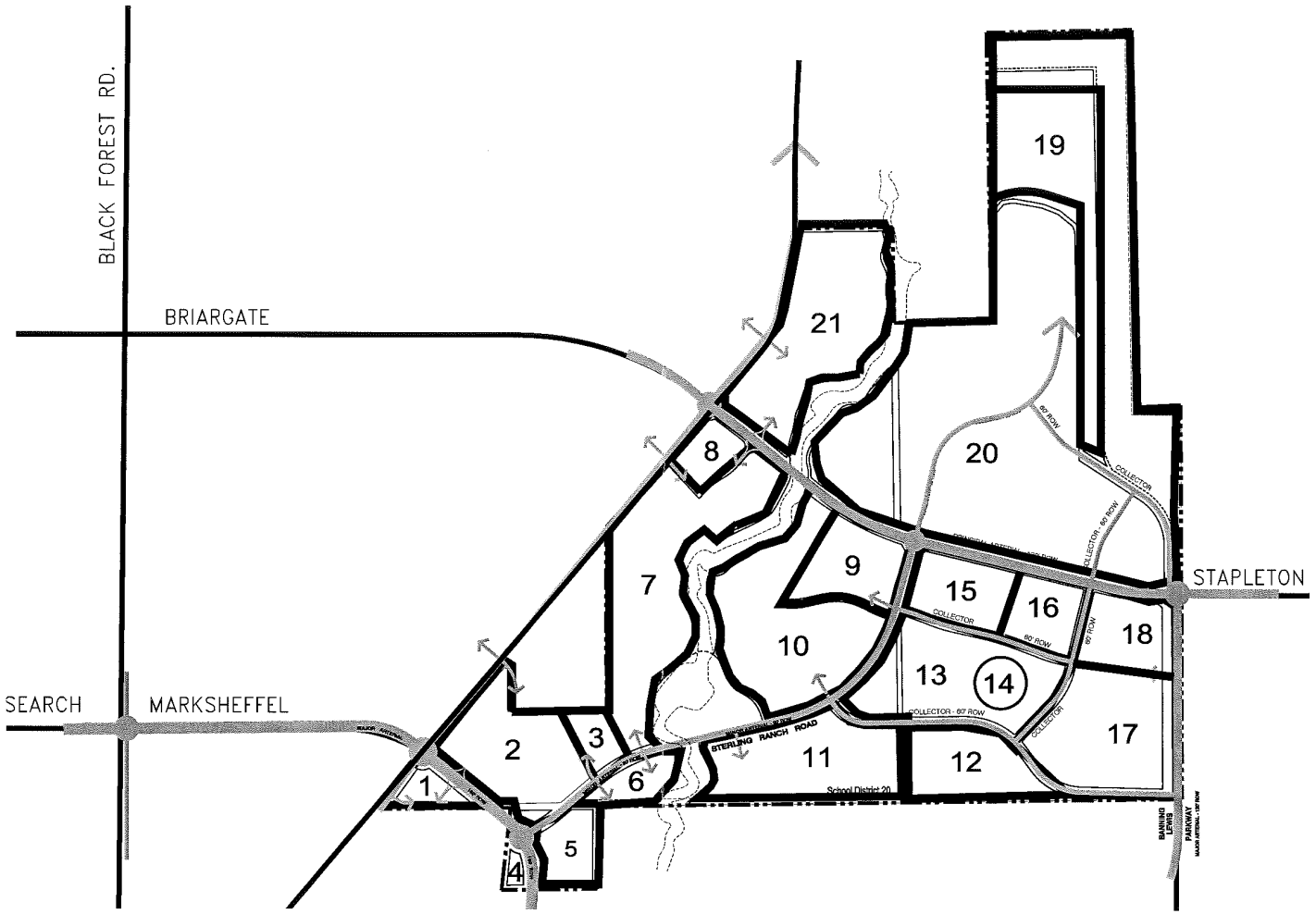



Not to Scale

TRANSPORTATION CONSULTANTS, INC.

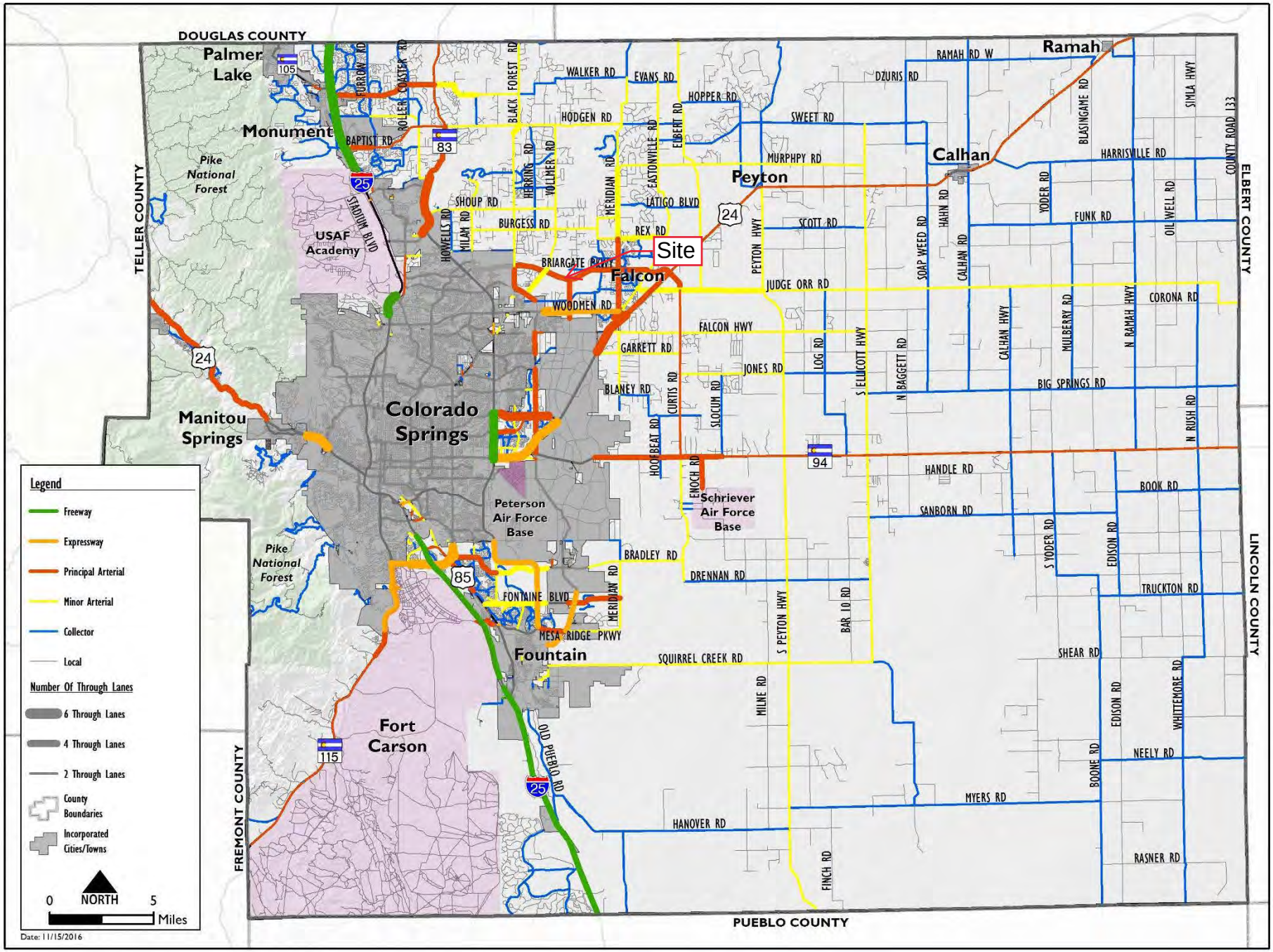
## Traffic Analysis Zones

Sterling Ranch

Figure 3
LSC # 074230

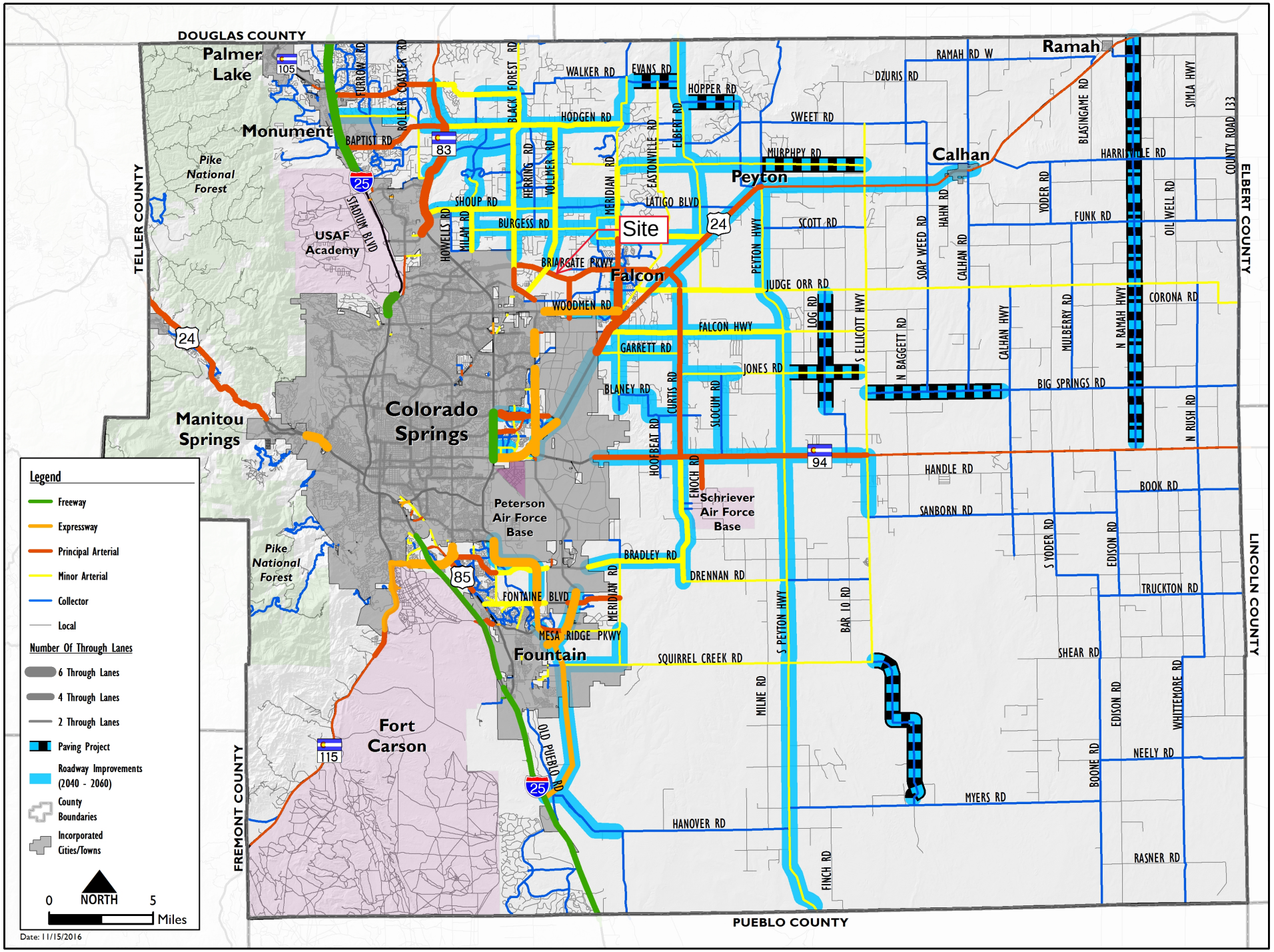
# MTCP Maps

TRANSPORTATION
CONSULTANTS, INC.




**Map 14: 2040 Roadway Plan (Classification and Lanes)**

# Map 17: 2060 Corridor Preservation



# Traffic Counts

TRANSPORTATION
CONSULTANTS, INC.

# LSC Transportation Consultants, Inc.

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

File Name : Vollmer Rd - Burgess Rd AM
Site Code : S224440
Start Date : 7/28/2022
Page No : 1

**Groups Printed- Unshifted**

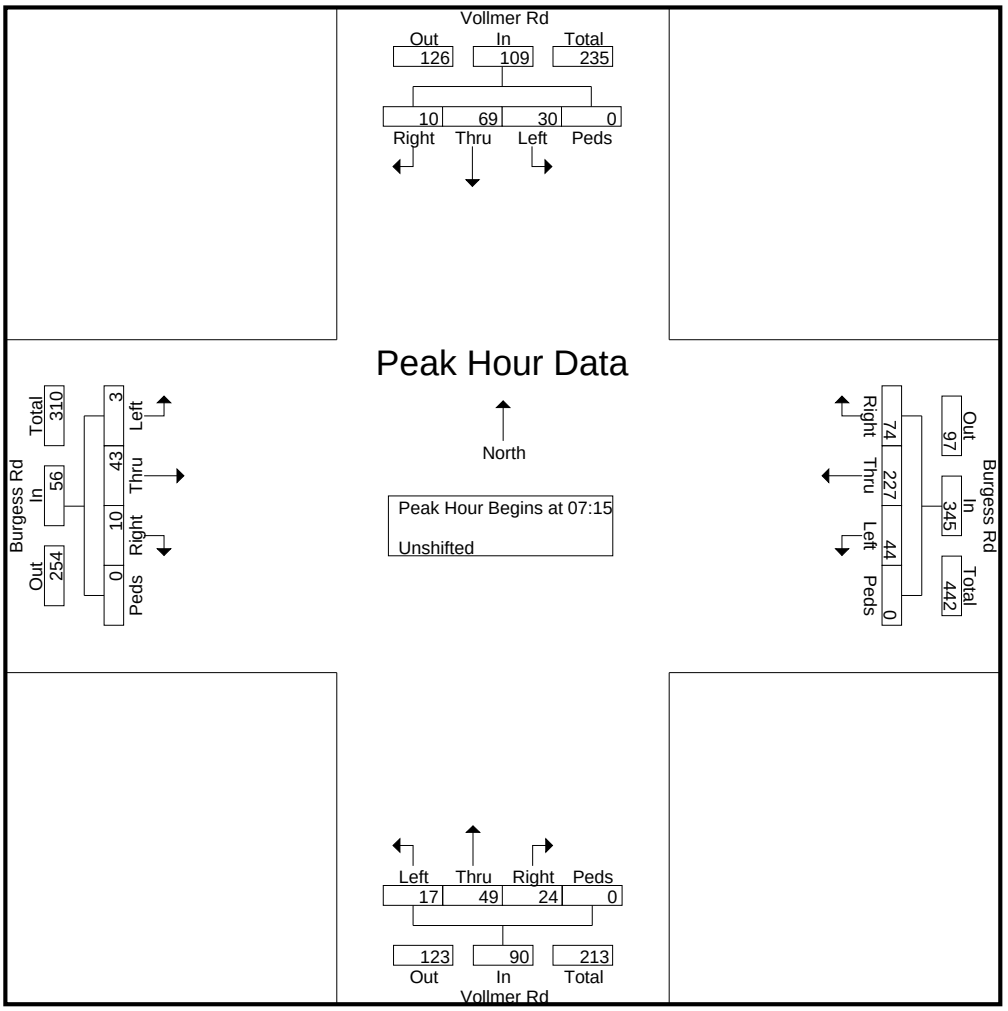
| | Vollmer Rd Southbound | | | | | Burgess Rd Westbound | | | | | Vollmer Rd Northbound | | | | | Burgess Rd Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| 06:30 | 0 | 15 | 5 | 0 | 20 | 19 | 47 | 10 | 0 | 76 | 4 | 5 | 1 | 0 | 10 | 0 | 6 | 0 | 0 | 6 | 112 |
| 06:45 | 1 | 15 | 4 | 0 | 20 | 17 | 35 | 13 | 0 | 65 | 5 | 5 | 1 | 0 | 11 | 3 | 6 | 1 | 0 | 10 | 106 |
| Total | 1 | 30 | 9 | 0 | 40 | 36 | 82 | 23 | 0 | 141 | 9 | 10 | 2 | 0 | 21 | 3 | 12 | 1 | 0 | 16 | 218 |
| 07:00 | 2 | 20 | 9 | 0 | 31 | 15 | 51 | 14 | 0 | 80 | 6 | 9 | 1 | 0 | 16 | 2 | 10 | 0 | 0 | 12 | 139 |
| 07:15 | 2 | 14 | 8 | 0 | 24 | 21 | 57 | 12 | 0 | 90 | 4 | 11 | 5 | 0 | 20 | 1 | 8 | 0 | 0 | 9 | 143 |
| 07:30 | 2 | 17 | 7 | 0 | 26 | 19 | 58 | 12 | 0 | 89 | 4 | 19 | 5 | 0 | 28 | 3 | 13 | 1 | 0 | 17 | 160 |
| 07:45 | 3 | 16 | 10 | 0 | 29 | 17 | 51 | 8 | 0 | 76 | 9 | 11 | 3 | 0 | 23 | 0 | 8 | 2 | 0 | 10 | 138 |
| Total | 9 | 67 | 34 | 0 | 110 | 72 | 217 | 46 | 0 | 335 | 23 | 50 | 14 | 0 | 87 | 6 | 39 | 3 | 0 | 48 | 580 |
| 08:00 | 3 | 22 | 5 | 0 | 30 | 17 | 61 | 12 | 0 | 90 | 7 | 8 | 4 | 0 | 19 | 6 | 14 | 0 | 0 | 20 | 159 |
| 08:15 | 2 | 16 | 6 | 0 | 24 | 7 | 36 | 15 | 0 | 58 | 13 | 16 | 3 | 0 | 32 | 3 | 9 | 1 | 0 | 13 | 127 |
| Grand Total | 15 | 135 | 54 | 0 | 204 | 132 | 396 | 96 | 0 | 624 | 52 | 84 | 23 | 0 | 159 | 18 | 74 | 5 | 0 | 97 | 1084 |
| Apprch % | 7.4 | 66.2 | 26.5 | 0 | | 21.2 | 63.5 | 15.4 | 0 | | 32.7 | 52.8 | 14.5 | 0 | | 18.6 | 76.3 | 5.2 | 0 | | |
| Total % | 1.4 | 12.5 | 5 | 0 | 18.8 | 12.2 | 36.5 | 8.9 | 0 | 57.6 | 4.8 | 7.7 | 2.1 | 0 | 14.7 | 1.7 | 6.8 | 0.5 | 0 | 8.9 | |

# LSC Transportation Consultants, Inc.

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

File Name : Vollmer Rd - Burgess Rd AM
Site Code : S224440
Start Date : 7/28/2022
Page No : 2

| | Vollmer Rd Southbound | | | | | Burgess Rd Westbound | | | | | Vollmer Rd Northbound | | | | | Burgess 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 6:30:00 AM to 8:15:00 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 7:15:00 AM | | | | | | | | | | | | | | | | | | | | | |
| 7:15:00 AM | 2 | 14 | 8 | 0 | 24 | **21** | 57 | **12** | 0 | **90** | 4 | 11 | **5** | 0 | 20 | 1 | 8 | 0 | 0 | 9 | 143 |
| 7:30:00 AM | 2 | 17 | 7 | 0 | 26 | 19 | 58 | 12 | 0 | 89 | 4 | **19** | 5 | 0 | **28** | 3 | 13 | 1 | 0 | 17 | **160** |
| 7:45:00 AM | **3** | 16 | **10** | 0 | 29 | 17 | 51 | 8 | 0 | 76 | **9** | 11 | 3 | 0 | 23 | 0 | 8 | **2** | 0 | 10 | 138 |
| 8:00:00 AM | 3 | **22** | 5 | 0 | **30** | 17 | **61** | 12 | 0 | 90 | 7 | 8 | 4 | 0 | 19 | **6** | **14** | 0 | 0 | **20** | 159 |
| Total Volume | 10 | 69 | 30 | 0 | 109 | 74 | 227 | 44 | 0 | 345 | 24 | 49 | 17 | 0 | 90 | 10 | 43 | 3 | 0 | 56 | 600 |
| % App. Total | 9.2 | 63.3 | 27.5 | 0 | | 21.4 | 65.8 | 12.8 | 0 | | 26.7 | 54.4 | 18.9 | 0 | | 17.9 | 76.8 | 5.4 | 0 | | |
| PHF | .833 | .784 | .750 | .000 | .908 | .881 | .930 | .917 | .000 | .958 | .667 | .645 | .850 | .000 | .804 | .417 | .768 | .375 | .000 | .700 | .938 |



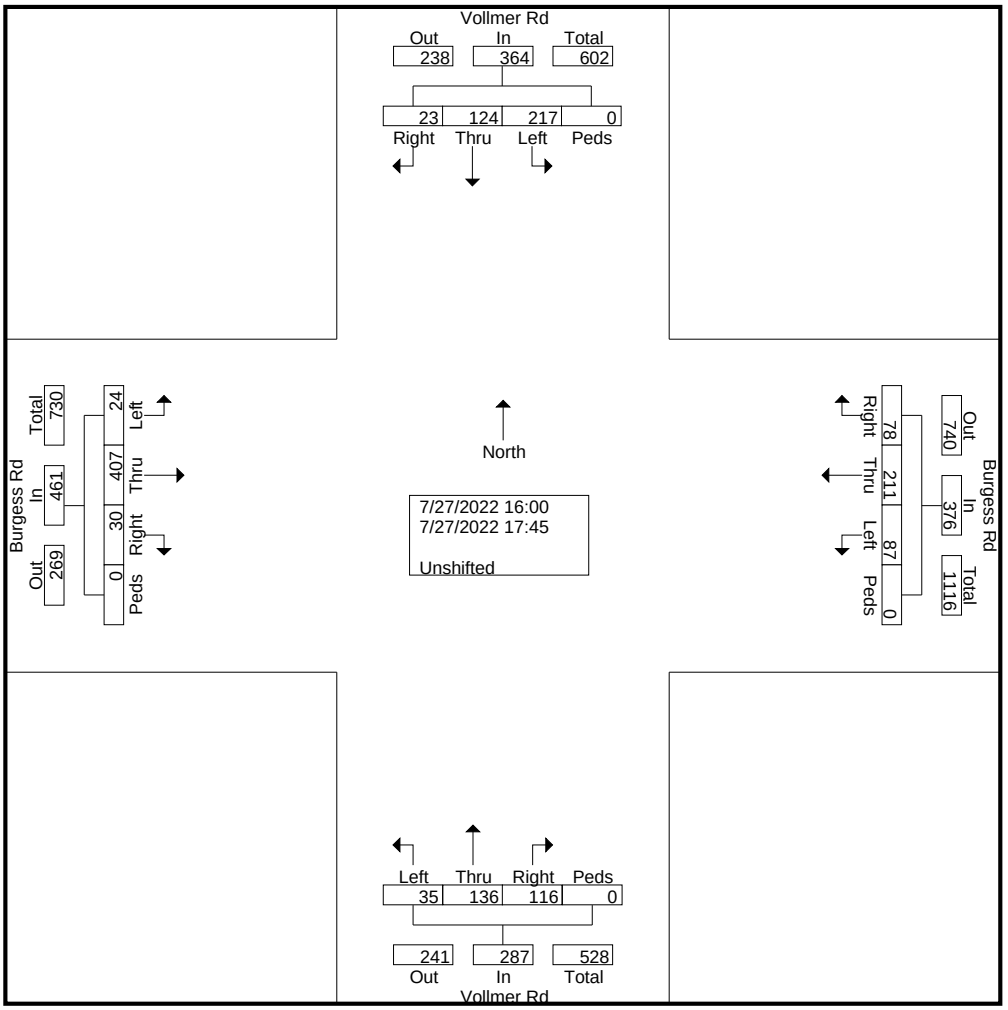
# LSC Transportation Consultants, Inc.

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

File Name : Vollmer Rd - Burgess Rd PM
Site Code : S224440
Start Date : 7/27/2022
Page No : 1

**Groups Printed- Unshifted**

| | Vollmer Rd Southbound | | | | | Burgess Rd Westbound | | | | | Vollmer Rd Northbound | | | | | Burgess 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 | 2 | 19 | 22 | 0 | 43 | 7 | 21 | 7 | 0 | 35 | 9 | 17 | 6 | 0 | 32 | 3 | 37 | 3 | 0 | 43 | 153 |
| 16:15 | 5 | 13 | 29 | 0 | 47 | 6 | 23 | 11 | 0 | 40 | 18 | 11 | 8 | 0 | 37 | 4 | 37 | 5 | 0 | 46 | 170 |
| 16:30 | 2 | 19 | 31 | 0 | 52 | 10 | 30 | 9 | 0 | 49 | 12 | 19 | 4 | 0 | 35 | 5 | 46 | 3 | 0 | 54 | 190 |
| 16:45 | 1 | 8 | 20 | 0 | 29 | 8 | 33 | 17 | 0 | 58 | 16 | 14 | 5 | 0 | 35 | 1 | 65 | 0 | 0 | 66 | 188 |
| Total | 10 | 59 | 102 | 0 | 171 | 31 | 107 | 44 | 0 | 182 | 55 | 61 | 23 | 0 | 139 | 13 | 185 | 11 | 0 | 209 | 701 |
| 17:00 | 5 | 16 | 28 | 0 | 49 | 14 | 29 | 9 | 0 | 52 | 16 | 18 | 3 | 0 | 37 | 1 | 56 | 3 | 0 | 60 | 198 |
| 17:15 | 1 | 25 | 38 | 0 | 64 | 11 | 31 | 10 | 0 | 52 | 18 | 18 | 4 | 0 | 40 | 5 | 77 | 3 | 0 | 85 | 241 |
| 17:30 | 1 | 10 | 30 | 0 | 41 | 11 | 21 | 19 | 0 | 51 | 13 | 23 | 4 | 0 | 40 | 5 | 46 | 1 | 0 | 52 | 184 |
| 17:45 | 6 | 14 | 19 | 0 | 39 | 11 | 23 | 5 | 0 | 39 | 14 | 16 | 1 | 0 | 31 | 6 | 43 | 6 | 0 | 55 | 164 |
| Total | 13 | 65 | 115 | 0 | 193 | 47 | 104 | 43 | 0 | 194 | 61 | 75 | 12 | 0 | 148 | 17 | 222 | 13 | 0 | 252 | 787 |
| Grand Total | 23 | 124 | 217 | 0 | 364 | 78 | 211 | 87 | 0 | 376 | 116 | 136 | 35 | 0 | 287 | 30 | 407 | 24 | 0 | 461 | 1488 |
| Apprch % | 6.3 | 34.1 | 59.6 | 0 | | 20.7 | 56.1 | 23.1 | 0 | | 40.4 | 47.4 | 12.2 | 0 | | 6.5 | 88.3 | 5.2 | 0 | | |
| Total % | 1.5 | 8.3 | 14.6 | 0 | 24.5 | 5.2 | 14.2 | 5.8 | 0 | 25.3 | 7.8 | 9.1 | 2.4 | 0 | 19.3 | 2 | 27.4 | 1.6 | 0 | 31 | |

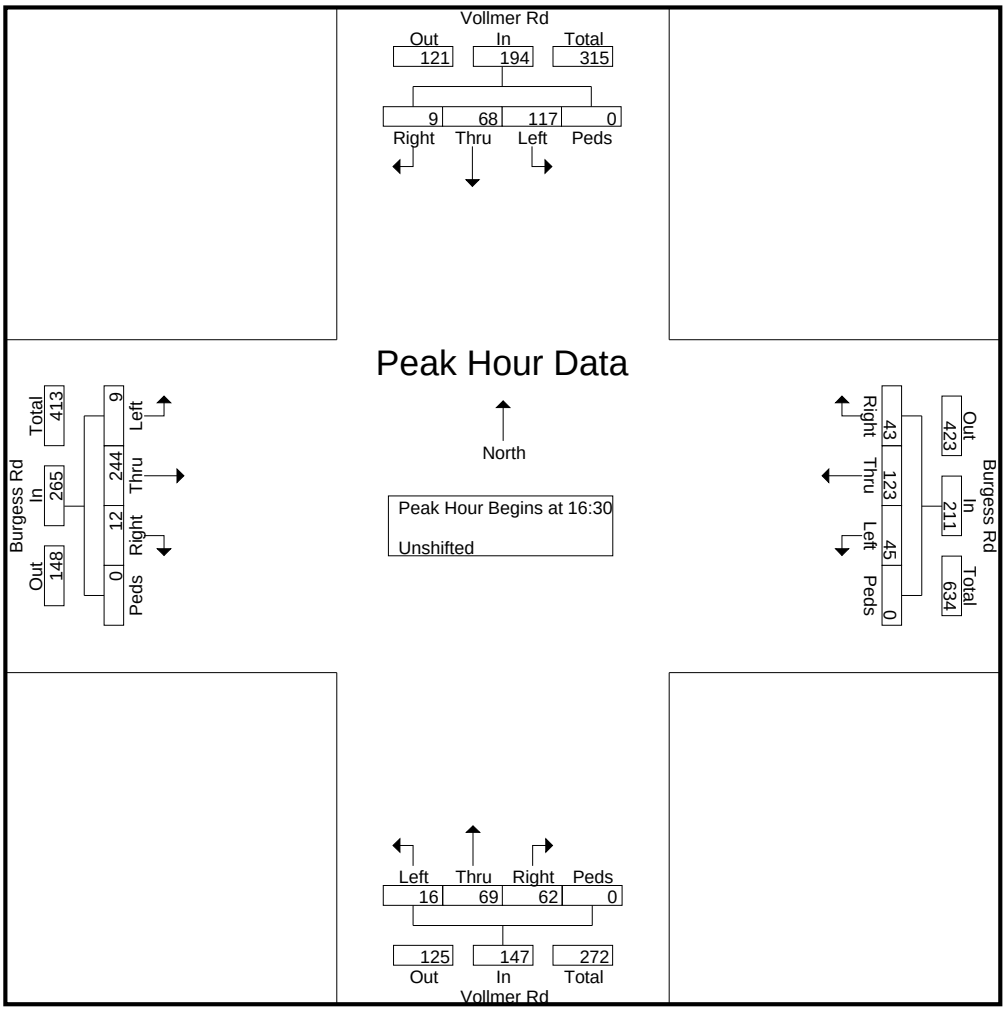


# LSC Transportation Consultants, Inc.

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


File Name : Vollmer Rd - Burgess Rd PM
Site Code : S224440
Start Date : 7/27/2022
Page No : 2

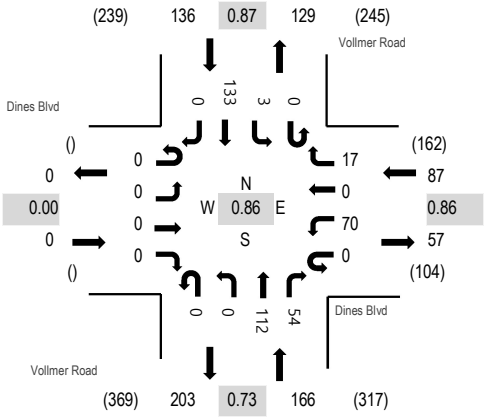
| | Vollmer Rd Southbound | | | | | Burgess Rd Westbound | | | | | Vollmer Rd Northbound | | | | | Burgess Rd Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 4:30:00 PM | | | | | | | | | | | | | | | | | | | | | |
| 4:30:00 PM | 2 | 19 | 31 | 0 | 52 | 10 | 30 | 9 | 0 | 49 | 12 | **19** | 4 | 0 | 35 | **5** | 46 | **3** | 0 | 54 | 190 |
| 4:45:00 PM | 1 | 8 | 20 | 0 | 29 | 8 | **33** | **17** | 0 | **58** | 16 | 14 | **5** | 0 | 35 | 1 | 65 | 0 | 0 | 66 | 188 |
| 5:00:00 PM | **5** | 16 | 28 | 0 | 49 | **14** | 29 | 9 | 0 | 52 | 16 | 18 | 3 | 0 | 37 | 1 | 56 | 3 | 0 | 60 | 198 |
| 5:15:00 PM | 1 | **25** | **38** | 0 | **64** | 11 | 31 | 10 | 0 | 52 | **18** | 18 | 4 | 0 | **40** | 5 | **77** | 3 | 0 | **85** | **241** |
| Total Volume | 9 | 68 | 117 | 0 | 194 | 43 | 123 | 45 | 0 | 211 | 62 | 69 | 16 | 0 | 147 | 12 | 244 | 9 | 0 | 265 | 817 |
| % App. Total | 4.6 | 35.1 | 60.3 | 0 | | 20.4 | 58.3 | 21.3 | 0 | | 42.2 | 46.9 | 10.9 | 0 | | 4.5 | 92.1 | 3.4 | 0 | | |
| PHF | .450 | .680 | .770 | .000 | .758 | .768 | .932 | .662 | .000 | .909 | .861 | .908 | .800 | .000 | .919 | .600 | .792 | .750 | .000 | .779 | .848 |



ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

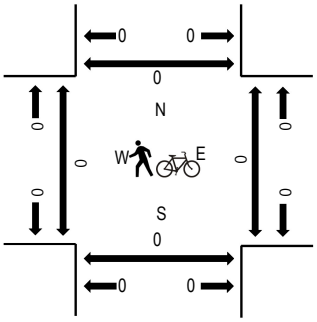
**Location:** 5 Vollmer Road & Dines Blvd AM
**Date:** Thursday, March 24, 2022
**Peak Hour:** 07:15 AM - 08:15 AM
**Peak 15-Minutes:** 07:45 AM - 08:00 AM

## Peak Hour - All Vehicles




Note: Total study counts contained in parentheses.

## Peak Hour - Pedestrians/Bicycles on Crosswalk



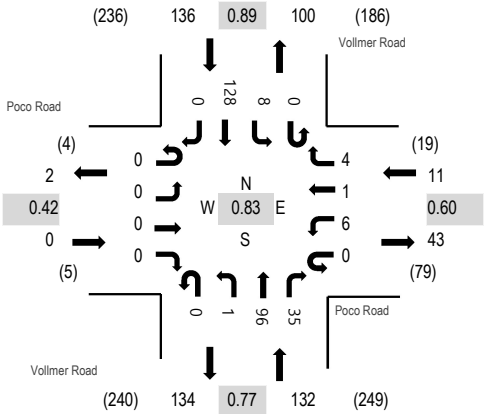

## Traffic Counts

| Interval Start Time | Dines Blvd Eastbound | | | | Dines Blvd Westbound | | | | Vollmer Road Northbound | | | | Vollmer Road Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 1 | 0 | 0 | 25 | 14 | 0 | 2 | 16 | 0 | 69 | 370 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 3 | 0 | 0 | 22 | 13 | 0 | 1 | 29 | 0 | 83 | 389 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 5 | 0 | 0 | 27 | 13 | 0 | 0 | 39 | 0 | 105 | 381 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 6 | 0 | 0 | 38 | 21 | 0 | 1 | 36 | 0 | 113 | 375 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 3 | 0 | 0 | 25 | 7 | 0 | 1 | 29 | 0 | 88 | 348 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 2 | 0 | 0 | 23 | 8 | 0 | 0 | 24 | 0 | 75 | | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 1 | 1 | 0 | 28 | 13 | 1 | 2 | 30 | 0 | 99 | | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 4 | 0 | 0 | 31 | 8 | 0 | 0 | 28 | 0 | 86 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 0 | 0 | 0 | 0 | 137 | 0 | 25 | 1 | 0 | 219 | 97 | 1 | 7 | 231 | 0 | 718 | | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 70 | 0 | 17 | 0 | 0 | 112 | 54 | 0 | 3 | 133 | 0 | 389 | | 0 | 0 | 0 | 0 |

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

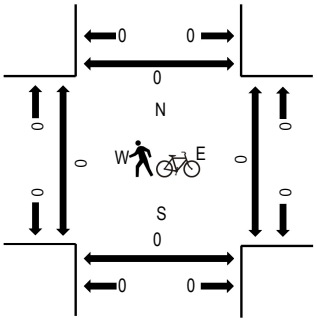
**Location:** 6 Vollmer Road & Poco Road AM
**Date:** Thursday, March 24, 2022
**Peak Hour:** 07:15 AM - 08:15 AM
**Peak 15-Minutes:** 07:45 AM - 08:00 AM

## Peak Hour - All Vehicles




Note: Total study counts contained in parentheses.

## Peak Hour - Pedestrians/Bicycles on Crosswalk



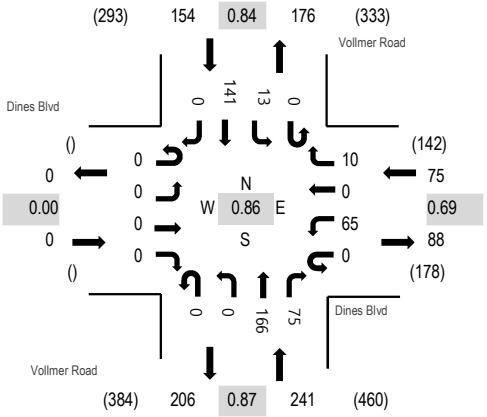

## Traffic Counts

| Interval Start Time | Poco Road Eastbound | | | | Poco Road Westbound | | | | Vollmer Road Northbound | | | | Vollmer Road Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 15 | 0 | 1 | 20 | 0 | 46 | 264 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 18 | 8 | 0 | 2 | 27 | 0 | 58 | 279 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 26 | 8 | 0 | 2 | 36 | 0 | 76 | 273 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 34 | 9 | 0 | 4 | 33 | 0 | 84 | 265 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 18 | 10 | 0 | 0 | 32 | 0 | 61 | 245 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 24 | 3 | 0 | 0 | 23 | 0 | 52 | | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 2 | 0 | 3 | 0 | 2 | 0 | 1 | 24 | 6 | 0 | 1 | 29 | 0 | 68 | | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 23 | 10 | 0 | 0 | 26 | 0 | 64 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 2 | 0 | 3 | 0 | 11 | 1 | 7 | 0 | 3 | 177 | 69 | 0 | 10 | 226 | 0 | 509 | | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 6 | 1 | 4 | 0 | 1 | 96 | 35 | 0 | 8 | 128 | 0 | 279 | | 0 | 0 | 0 | 0 |

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

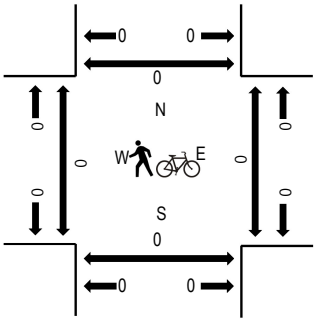
**Location:** 5 Vollmer Road & Dines Blvd PM
**Date:** Thursday, March 24, 2022
**Peak Hour:** 04:00 PM - 05:00 PM
**Peak 15-Minutes:** 04:00 PM - 04:15 PM

## Peak Hour - All Vehicles




Note: Total study counts contained in parentheses.

## Peak Hour - Pedestrians/Bicycles on Crosswalk



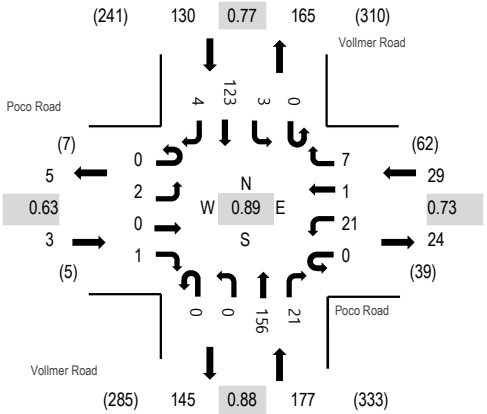

## Traffic Counts

| Interval Start Time | Dines Blvd Eastbound | | | | Dines Blvd Westbound | | | | Vollmer Road Northbound | | | | Vollmer Road Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 3 | 0 | 0 | 46 | 18 | 0 | 2 | 44 | 0 | 137 | 470 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 5 | 0 | 0 | 36 | 25 | 0 | 5 | 37 | 0 | 121 | 441 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 2 | 0 | 0 | 35 | 11 | 0 | 3 | 30 | 0 | 93 | 436 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 49 | 21 | 0 | 3 | 30 | 0 | 119 | 452 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 5 | 0 | 0 | 42 | 18 | 0 | 2 | 27 | 0 | 108 | 425 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 3 | 0 | 0 | 39 | 17 | 0 | 4 | 36 | 0 | 116 | | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 1 | 0 | 0 | 36 | 21 | 0 | 8 | 31 | 0 | 109 | | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 1 | 0 | 0 | 30 | 16 | 0 | 4 | 27 | 0 | 92 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 0 | 0 | 0 | 0 | 122 | 0 | 20 | 0 | 0 | 313 | 147 | 0 | 31 | 262 | 0 | 895 | | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 65 | 0 | 10 | 0 | 0 | 166 | 75 | 0 | 13 | 141 | 0 | 470 | | 0 | 0 | 0 | 0 |

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

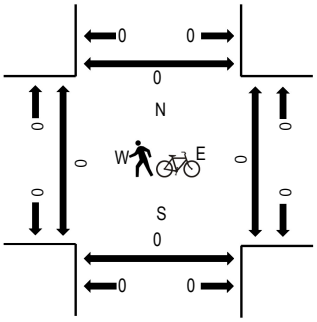
**Location:** 6 Vollmer Road & Poco Road PM
**Date:** Thursday, March 24, 2022
**Peak Hour:** 04:00 PM - 05:00 PM
**Peak 15-Minutes:** 04:15 PM - 04:30 PM

## Peak Hour - All Vehicles




Note: Total study counts contained in parentheses.

## Peak Hour - Pedestrians/Bicycles on Crosswalk




## Traffic Counts

| Interval Start Time | Poco Road Eastbound | | | | Poco Road Westbound | | | | Vollmer Road Northbound | | | | Vollmer Road Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 8 | 1 | 4 | 0 | 0 | 41 | 4 | 0 | 1 | 29 | 2 | 90 | 339 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 1 | 0 | 0 | 0 | 4 | 0 | 2 | 0 | 0 | 40 | 6 | 0 | 1 | 39 | 2 | 95 | 325 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 32 | 3 | 0 | 1 | 28 | 0 | 66 | 313 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 1 | 0 | 1 | 0 | 7 | 0 | 1 | 0 | 0 | 43 | 8 | 0 | 0 | 27 | 0 | 88 | 321 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 2 | 0 | 6 | 0 | 1 | 0 | 0 | 44 | 3 | 0 | 0 | 20 | 0 | 76 | 302 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 37 | 4 | 0 | 0 | 29 | 1 | 83 | | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 2 | 0 | 0 | 33 | 3 | 0 | 1 | 29 | 0 | 74 | | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 1 | 0 | 1 | 27 | 4 | 0 | 0 | 31 | 0 | 69 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 2 | 0 | 3 | 0 | 50 | 1 | 11 | 0 | 1 | 297 | 35 | 0 | 4 | 232 | 5 | 641 | | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 2 | 0 | 1 | 0 | 21 | 1 | 7 | 0 | 0 | 156 | 21 | 0 | 3 | 123 | 4 | 339 | | 0 | 0 | 0 | 0 |

# Levels of Service

TRANSPORTATION
CONSULTANTS, INC.

# Levels of Service

***NOTE**: Regarding Yellow and All-Red Clearance Interval Splits shown in these LOS Reports: The all-red clearance intervals are typical of this region and are acceptable for this planning level analysis. These may not reflect the splits used at the design or operational level for implementation in the field. Regarding Yellow Clearance splits shown in these reports, please note, higher-speed approaches will likely require longer yellow times per MUTCD and EPC standards, and the splits shown herein are not intended to reflect the splits that should be used at the design or operational level for implementation in the field. However, the splits shown are acceptable for this planning level analysis, as even if the splits herein were calculated and the analysis were run with 4.0, 4.5, 5.5 sec of yellow etc., the LOS would not be significanly different from those reported here.*

TRANSPORTATION
CONSULTANTS, INC.

| Intersection | |
|---|---|
| Int Delay, s/veh | 12.4 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 3 | 43 | 10 | 44 | 227 | 74 | 17 | 49 | 24 | 30 | 69 | 10 |
| Future Vol, veh/h | 3 | 43 | 10 | 44 | 227 | 74 | 17 | 49 | 24 | 30 | 69 | 10 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | Free | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 78 | 78 | 78 | 87 | 87 | 87 | 80 | 80 | 80 | 83 | 83 | 83 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 55 | 13 | 51 | 261 | 85 | 21 | 61 | 30 | 36 | 83 | 12 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 437 | 264 | 89 | 298 | 270 | 61 | 95 | 0 | - | 61 | 0 | 0 |
| Stage 1 | 161 | 161 | - | 103 | 103 | - | - | - | - | - | - | - |
| Stage 2 | 276 | 103 | - | 195 | 167 | - | - | - | - | - | - | - |
| 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 | 530 | 641 | 969 | 654 | 636 | 1004 | 1499 | - | 0 | 1542 | - | - |
| Stage 1 | 841 | 765 | - | 903 | 810 | - | - | - | 0 | - | - | - |
| Stage 2 | 730 | 810 | - | 807 | 760 | - | - | - | 0 | - | - | - |
| Platoon blocked, % | | | | | | | | - | | | - | - |
| Mov Cap-1 Maneuver | 314 | 615 | 969 | 583 | 611 | 1004 | 1499 | - | - | 1542 | - | - |
| Mov Cap-2 Maneuver | 314 | 615 | - | 583 | 611 | - | - | - | - | - | - | - |
| Stage 1 | 828 | 746 | - | 889 | 798 | - | - | - | - | - | - | - |
| Stage 2 | 443 | 798 | - | 719 | 741 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 11.5 | 18.2 | 1.9 | 2 |
| HCM LOS | B | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1499 | - | 624 | 663 | 1542 | - | - |
| HCM Lane V/C Ratio | 0.014 | - | 0.115 | 0.598 | 0.023 | - | - |
| HCM Control Delay (s) | 7.4 | 0 | 11.5 | 18.2 | 7.4 | 0 | - |
| HCM Lane LOS | A | A | B | C | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.4 | 4 | 0.1 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 31.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 9 | 244 | 12 | 45 | 123 | 43 | 16 | 69 | 62 | 117 | 68 | 9 |
| Future Vol, veh/h | 9 | 244 | 12 | 45 | 123 | 43 | 16 | 69 | 62 | 117 | 68 | 9 |
| 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 | - | - | Free | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 78 | 78 | 78 | 87 | 87 | 87 | 92 | 92 | 92 | 76 | 76 | 76 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 12 | 313 | 15 | 52 | 141 | 49 | 17 | 75 | 67 | 154 | 89 | 12 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 607 | 512 | 95 | 676 | 518 | 75 | 101 | 0 | - | 75 | 0 | 0 |
| Stage 1 | 403 | 403 | - | 109 | 109 | - | - | - | - | - | - | - |
| Stage 2 | 204 | 109 | - | 567 | 409 | - | - | - | - | - | - | - |
| 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 | 408 | 465 | 962 | 367 | 462 | 986 | 1491 | - | 0 | 1524 | - | - |
| Stage 1 | 624 | 600 | - | 896 | 805 | - | - | - | 0 | - | - | - |
| Stage 2 | 798 | 805 | - | 508 | 596 | - | - | - | 0 | - | - | - |
| Platoon blocked, % | | | | | | | | - | | | - | - |
| Mov Cap-1 Maneuver | 259 | 410 | 962 | 125 | 407 | 986 | 1491 | - | - | 1524 | - | - |
| Mov Cap-2 Maneuver | 259 | 410 | - | 125 | 407 | - | - | - | - | - | - | - |
| Stage 1 | 617 | 536 | - | 885 | 795 | - | - | - | - | - | - | - |
| Stage 2 | 616 | 795 | - | 186 | 532 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 43.2 | 53.3 | 1.4 | 4.6 |
| HCM LOS | E | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1491 | - | 413 | 299 | 1524 | - | - |
| HCM Lane V/C Ratio | 0.012 | - | 0.823 | 0.811 | 0.101 | - | - |
| HCM Control Delay (s) | 7.4 | 0 | 43.2 | 53.3 | 7.6 | 0 | - |
| HCM Lane LOS | A | A | E | F | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | 7.6 | 6.6 | 0.3 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 30.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 3 | 45 | 69 | 46 | 236 | 77 | 98 | 78 | 25 | 31 | 91 | 10 |
| Future Vol, veh/h | 3 | 45 | 69 | 46 | 236 | 77 | 98 | 78 | 25 | 31 | 91 | 10 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| 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 | 4 | 53 | 81 | 54 | 278 | 91 | 115 | 92 | 29 | 36 | 107 | 12 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 706 | 536 | 113 | 589 | 528 | 107 | 119 | 0 | 0 | 121 | 0 | 0 |
| Stage 1 | 185 | 185 | - | 337 | 337 | - | - | - | - | - | - | - |
| Stage 2 | 521 | 351 | - | 252 | 191 | - | - | - | - | - | - | - |
| 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 | 351 | 451 | 940 | 420 | 456 | 947 | 1469 | - | - | 1467 | - | - |
| Stage 1 | 817 | 747 | - | 677 | 641 | - | - | - | - | - | - | - |
| Stage 2 | 539 | 632 | - | 752 | 742 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 133 | 402 | 940 | 317 | 407 | 947 | 1469 | - | - | 1467 | - | - |
| Mov Cap-2 Maneuver | 133 | 402 | - | 317 | 407 | - | - | - | - | - | - | - |
| Stage 1 | 748 | 728 | - | 620 | 587 | - | - | - | - | - | - | - |
| Stage 2 | 235 | 579 | - | 621 | 723 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 13.5 | 61.5 | 3.7 | 1.8 |
| HCM LOS | B | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1469 | - | - | 563 | 445 | 1467 | - | - |
| HCM Lane V/C Ratio | 0.078 | - | - | 0.244 | 0.949 | 0.025 | - | - |
| HCM Control Delay (s) | 7.7 | 0 | - | 13.5 | 61.5 | 7.5 | 0 | - |
| HCM Lane LOS | A | A | - | B | F | A | A | - |
| HCM 95th %tile Q(veh) | 0.3 | - | - | 1 | 11.2 | 0.1 | - | - |

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

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 110 | 18 | 224 | 24 | 7 | 323 |
| Future Vol, veh/h | 110 | 18 | 224 | 24 | 7 | 323 |
| 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 | 129 | 21 | 264 | 28 | 8 | 380 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 470 | 132 | 0 | 0 | 292 | 0 |
| Stage 1 | 264 | - | - | - | - | - |
| Stage 2 | 206 | - | - | - | - | - |
| 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 | 522 | 893 | - | - | 1267 | - |
| Stage 1 | 756 | - | - | - | - | - |
| Stage 2 | 808 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 519 | 893 | - | - | 1267 | - |
| Mov Cap-2 Maneuver | 592 | - | - | - | - | - |
| Stage 1 | 756 | - | - | - | - | - |
| Stage 2 | 803 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 12.3 | 0 | 0.2 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 592 | 893 | 1267 | - |
| HCM Lane V/C Ratio | - | - | 0.219 | 0.024 | 0.006 | - |
| HCM Control Delay (s) | - | - | 12.8 | 9.1 | 7.9 | - |
| HCM Lane LOS | - | - | B | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.8 | 0.1 | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 8.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 0 | 10 | 0 | 0 | 0 | 28 | 13 | 0 | 0 | 43 | 3 |
| Future Vol, veh/h | 1 | 0 | 10 | 0 | 0 | 0 | 28 | 13 | 0 | 0 | 43 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 535 | - | 0 | 310 | - | 0 | 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 | 1 | 0 | 12 | 0 | 0 | 0 | 33 | 15 | 0 | 0 | 51 | 4 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1 | 0 | 0 | 12 | 0 | 0 | 28 | 3 | 0 | 11 | 15 | 1 |
| Stage 1 | - | - | - | - | - | - | 2 | 2 | - | 1 | 1 | - |
| Stage 2 | - | - | - | - | - | - | 26 | 1 | - | 10 | 14 | - |
| 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 | - | - | 1605 | - | - | 978 | 892 | - | 1005 | 879 | 1083 |
| Stage 1 | - | - | - | - | - | - | 1020 | 894 | - | 1021 | 895 | - |
| Stage 2 | - | - | - | - | - | - | 988 | 895 | - | 1009 | 883 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1620 | - | - | 1605 | - | - | 931 | 891 | - | - | 878 | 1083 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 931 | 891 | - | - | 878 | - |
| Stage 1 | - | - | - | - | - | - | 1019 | 893 | - | 1020 | 895 | - |
| Stage 2 | - | - | - | - | - | - | 929 | 895 | - | 991 | 882 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.7 | 0 | 9 | 9.3 |
| HCM LOS | | | A | A |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | NBLn3 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 931 | 891 | - | 1620 | - | - | 1605 | - | - | - | 878 | 1083 |
| HCM Lane V/C Ratio | 0.035 | 0.017 | - | 0.001 | - | - | - | - | - | - | 0.058 | 0.003 |
| HCM Control Delay (s) | 9 | 9.1 | 0 | 7.2 | - | - | 0 | - | - | 0 | 9.4 | 8.3 |
| HCM Lane LOS | A | A | A | A | - | - | A | - | - | A | A | A |
| HCM 95th %tile Q(veh) | 0.1 | 0.1 | - | 0 | - | - | 0 | - | - | - | 0.2 | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.1 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 74 | 26 | 15 | 30 | 10 | 43 |
| Future Vol, veh/h | 74 | 26 | 15 | 30 | 10 | 43 |
| 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 | 0 | - | 205 | 205 | - |
| 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 | 87 | 31 | 18 | 35 | 12 | 51 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 93 | 18 | 0 | 0 | 53 | 0 |
| Stage 1 | 18 | - | - | - | - | - |
| Stage 2 | 75 | - | - | - | - | - |
| 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 | 907 | 1061 | - | - | 1553 | - |
| Stage 1 | 1005 | - | - | - | - | - |
| Stage 2 | 948 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 900 | 1061 | - | - | 1553 | - |
| Mov Cap-2 Maneuver | 848 | - | - | - | - | - |
| Stage 1 | 1005 | - | - | - | - | - |
| Stage 2 | 940 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 9.4 | 0 | 1.4 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 848 | 1061 | 1553 | - |
| HCM Lane V/C Ratio | - | - | 0.103 | 0.029 | 0.008 | - |
| HCM Control Delay (s) | - | - | 9.7 | 8.5 | 7.3 | - |
| HCM Lane LOS | - | - | A | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.3 | 0.1 | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 6.8 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 174 | 86 | 241 | 93 | 88 | 421 |
| Future Vol, veh/h | 174 | 86 | 241 | 93 | 88 | 421 |
| 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 | 205 | 101 | 284 | 109 | 104 | 495 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 740 | 142 | 0 | 0 | 393 | 0 |
| Stage 1 | 284 | - | - | - | - | - |
| Stage 2 | 456 | - | - | - | - | - |
| 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 | 352 | 880 | - | - | 1162 | - |
| Stage 1 | 739 | - | - | - | - | - |
| Stage 2 | 605 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 320 | 880 | - | - | 1162 | - |
| Mov Cap-2 Maneuver | 320 | - | - | - | - | - |
| Stage 1 | 739 | - | - | - | - | - |
| Stage 2 | 551 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 26.1 | 0 | 1.5 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 320 | 880 | 1162 | - |
| HCM Lane V/C Ratio | - | - | 0.64 | 0.115 | 0.089 | - |
| HCM Control Delay (s) | - | - | 34.2 | 9.6 | 8.4 | - |
| HCM Lane LOS | - | - | D | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 4.1 | 0.4 | 0.3 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 11.8 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 99 | 82 | 63 | 172 | 337 | 197 |
| Future Vol, veh/h | 99 | 82 | 63 | 172 | 337 | 197 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 300 | - | - | 205 | 155 | 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 | 116 | 96 | 74 | 202 | 396 | 232 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 276 | 0 | - | 0 | 354 | 37 |
| Stage 1 | - | - | - | - | 74 | - |
| Stage 2 | - | - | - | - | 280 | - |
| Critical Hdwy | 4.14 | - | - | - | 6.84 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.84 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.84 | - |
| Follow-up Hdwy | 2.22 | - | - | - | 3.52 | 3.32 |
| Pot Cap-1 Maneuver | 1284 | - | - | - | 618 | 1027 |
| Stage 1 | - | - | - | - | 940 | - |
| Stage 2 | - | - | - | - | 742 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1284 | - | - | - | 562 | 1027 |
| Mov Cap-2 Maneuver | - | - | - | - | 562 | - |
| Stage 1 | - | - | - | - | 855 | - |
| Stage 2 | - | - | - | - | 742 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 4.4 | 0 | 19.5 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1284 | - | - | - | 562 | 1027 |
| HCM Lane V/C Ratio | 0.091 | - | - | - | 0.705 | 0.226 |
| HCM Control Delay (s) | 8.1 | - | - | - | 25.3 | 9.5 |
| HCM Lane LOS | A | - | - | - | D | A |
| HCM 95th %tile Q(veh) | 0.3 | - | - | - | 5.6 | 0.9 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.8 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 15 | 12 | 29 | 2 | 0 | 43 |
| Future Vol, veh/h | 15 | 12 | 29 | 2 | 0 | 43 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 285 | - | - | 235 | - | 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 | 18 | 14 | 34 | 2 | 0 | 51 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 36 | 0 | - | 0 | - | 17 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | 4.14 | - | - | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | 2.22 | - | - | - | - | 3.32 |
| Pot Cap-1 Maneuver | 1573 | - | - | - | 0 | 1058 |
| Stage 1 | - | - | - | - | 0 | - |
| Stage 2 | - | - | - | - | 0 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1573 | - | - | - | - | 1058 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 4.1 | 0 | 8.6 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1573 | - | - | - | 1058 |
| HCM Lane V/C Ratio | 0.011 | - | - | - | 0.048 |
| HCM Control Delay (s) | 7.3 | - | - | - | 8.6 |
| HCM Lane LOS | A | - | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 39 | 12 | 2 | 7 | 0 |
| Future Vol, veh/h | 0 | 39 | 12 | 2 | 7 | 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 | 46 | 14 | 2 | 8 | 0 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 38 | 8 | 8 | 0 | - | 0 |
| Stage 1 | 8 | - | - | - | - | - |
| Stage 2 | 30 | - | - | - | - | - |
| 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 | 974 | 1074 | 1612 | - | - | - |
| Stage 1 | 1015 | - | - | - | - | - |
| Stage 2 | 993 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 965 | 1074 | 1612 | - | - | - |
| Mov Cap-2 Maneuver | 965 | - | - | - | - | - |
| Stage 1 | 1006 | - | - | - | - | - |
| Stage 2 | 993 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.5 | 6.2 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1612 | - | 1074 | - | - |
| HCM Lane V/C Ratio | 0.009 | - | 0.043 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.5 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.1 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.3 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 7 | 2 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 7 | 2 | 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 | 8 | 2 | 0 | 0 | 0 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 5 | 1 | 1 | 0 | - | 0 |
| Stage 1 | 1 | - | - | - | - | - |
| Stage 2 | 4 | - | - | - | - | - |
| 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 | 1017 | 1084 | 1622 | - | - | - |
| Stage 1 | 1022 | - | - | - | - | - |
| Stage 2 | 1019 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 1016 | 1084 | 1622 | - | - | - |
| Mov Cap-2 Maneuver | 1016 | - | - | - | - | - |
| Stage 1 | 1021 | - | - | - | - | - |
| Stage 2 | 1019 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.3 | 7.2 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1622 | - | 1084 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | 0.008 | - | - |
| HCM Control Delay (s) | 7.2 | - | 8.3 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 152 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ⇕ | | | ⇕ | | | ⇕ | | | ⇕ | |
| Traffic Vol, veh/h | 9 | 254 | 49 | 47 | 128 | 45 | 50 | 84 | 65 | 122 | 83 | 9 |
| Future Vol, veh/h | 9 | 254 | 49 | 47 | 128 | 45 | 50 | 84 | 65 | 122 | 83 | 9 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 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 | 11 | 299 | 58 | 55 | 151 | 53 | 59 | 99 | 76 | 144 | 98 | 11 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 749 | 685 | 104 | 825 | 652 | 137 | 109 | 0 | 0 | 175 | 0 | 0 |
| Stage 1 | 392 | 392 | - | 255 | 255 | - | - | - | - | - | - | - |
| Stage 2 | 357 | 293 | - | 570 | 397 | - | - | - | - | - | - | - |
| 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 | 328 | 371 | 951 | 292 | 387 | 911 | 1481 | - | - | 1401 | - | - |
| Stage 1 | 633 | 606 | - | 749 | 696 | - | - | - | - | - | - | - |
| Stage 2 | 661 | 670 | - | 506 | 603 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 177 | 316 | 951 | ~ 39 | 329 | 911 | 1481 | - | - | 1401 | - | - |
| Mov Cap-2 Maneuver | 177 | 316 | - | ~ 39 | 329 | - | - | - | - | - | - | - |
| Stage 1 | 605 | 540 | - | 715 | 665 | - | - | - | - | - | - | - |
| Stage 2 | 460 | 640 | - | 189 | 537 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 103 | $ 500.8 | 1.9 | 4.5 |
| HCM LOS | F | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1481 | - | - | 344 | 134 | 1401 | - | - |
| HCM Lane V/C Ratio | 0.04 | - | - | 1.067 | 1.932 | 0.102 | - | - |
| HCM Control Delay (s) | 7.5 | 0 | - | 103 | $ 500.8 | 7.9 | 0 | - |
| HCM Lane LOS | A | A | - | F | F | A | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 13.3 | 20.4 | 0.3 | - | - |

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

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

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 73 | 12 | 390 | 77 | 18 | 268 |
| Future Vol, veh/h | 73 | 12 | 390 | 77 | 18 | 268 |
| 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 | 86 | 14 | 459 | 91 | 21 | 315 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 659 | 230 | 0 | 0 | 550 | 0 |
| Stage 1 | 459 | - | - | - | - | - |
| Stage 2 | 200 | - | - | - | - | - |
| 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 | 397 | 772 | - | - | 1016 | - |
| Stage 1 | 603 | - | - | - | - | - |
| Stage 2 | 814 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 389 | 772 | - | - | 1016 | - |
| Mov Cap-2 Maneuver | 483 | - | - | - | - | - |
| Stage 1 | 603 | - | - | - | - | - |
| Stage 2 | 797 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 13.5 | 0 | 0.5 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 483 | 772 | 1016 | - |
| HCM Lane V/C Ratio | - | - | 0.178 | 0.018 | 0.021 | - |
| HCM Control Delay (s) | - | - | 14.1 | 9.8 | 8.6 | - |
| HCM Lane LOS | - | - | B | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.6 | 0.1 | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 0 | 28 | 0 | 0 | 0 | 25 | 43 | 0 | 0 | 29 | 2 |
| Future Vol, veh/h | 4 | 0 | 28 | 0 | 0 | 0 | 25 | 43 | 0 | 0 | 29 | 2 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 535 | - | 0 | 310 | - | 0 | 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 | 5 | 0 | 33 | 0 | 0 | 0 | 29 | 51 | 0 | 0 | 34 | 2 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1 | 0 | 0 | 33 | 0 | 0 | 28 | 11 | 0 | 37 | 44 | 1 |
| Stage 1 | - | - | - | - | - | - | 10 | 10 | - | 1 | 1 | - |
| Stage 2 | - | - | - | - | - | - | 18 | 1 | - | 36 | 43 | - |
| 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 | - | - | 1577 | - | - | 978 | 883 | - | 964 | 847 | 1083 |
| Stage 1 | - | - | - | - | - | - | 1009 | 887 | - | 1021 | 895 | - |
| Stage 2 | - | - | - | - | - | - | 999 | 895 | - | 975 | 858 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1620 | - | - | 1577 | - | - | 944 | 880 | - | - | 844 | 1083 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 944 | 880 | - | - | 844 | - |
| Stage 1 | - | - | - | - | - | - | 1006 | 884 | - | 1018 | 895 | - |
| Stage 2 | - | - | - | - | - | - | 959 | 895 | - | 916 | 855 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.9 | 0 | 9.2 | 9.3 |
| HCM LOS | | | A | A |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | NBLn3 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 944 | 880 | - | 1620 | - | - | 1577 | - | - | - | 844 | 1083 |
| HCM Lane V/C Ratio | 0.031 | 0.057 | - | 0.003 | - | - | - | - | - | - | 0.04 | 0.002 |
| HCM Control Delay (s) | 8.9 | 9.3 | 0 | 7.2 | - | - | 0 | - | - | 0 | 9.4 | 8.3 |
| HCM Lane LOS | A | A | A | A | - | - | A | - | - | A | A | A |
| HCM 95th %tile Q(veh) | 0.1 | 0.2 | - | 0 | - | - | 0 | - | - | - | 0.1 | 0 |

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

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 53 | 18 | 50 | 78 | 28 | 29 |
| Future Vol, veh/h | 53 | 18 | 50 | 78 | 28 | 29 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 0 | - | 205 | 205 | - |
| 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 | 62 | 21 | 59 | 92 | 33 | 34 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 159 | 59 | 0 | 0 | 151 | 0 |
| Stage 1 | 59 | - | - | - | - | - |
| Stage 2 | 100 | - | - | - | - | - |
| 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 | 832 | 1007 | - | - | 1430 | - |
| Stage 1 | 964 | - | - | - | - | - |
| Stage 2 | 924 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 813 | 1007 | - | - | 1430 | - |
| Mov Cap-2 Maneuver | 794 | - | - | - | - | - |
| Stage 1 | 964 | - | - | - | - | - |
| Stage 2 | 903 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 9.6 | 0 | 3.7 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 794 | 1007 | 1430 | - |
| HCM Lane V/C Ratio | - | - | 0.079 | 0.021 | 0.023 | - |
| HCM Control Delay (s) | - | - | 9.9 | 8.7 | 7.6 | - |
| HCM Lane LOS | - | - | A | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.3 | 0.1 | 0.1 | - |

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

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 93 | 128 | 458 | 101 | 94 | 323 |
| Future Vol, veh/h | 93 | 128 | 458 | 101 | 94 | 323 |
| 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 | 109 | 151 | 539 | 119 | 111 | 380 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 951 | 270 | 0 | 0 | 658 | 0 |
| Stage 1 | 539 | - | - | - | - | - |
| Stage 2 | 412 | - | - | - | - | - |
| 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 | 258 | 728 | - | - | 926 | - |
| Stage 1 | 549 | - | - | - | - | - |
| Stage 2 | 637 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 227 | 728 | - | - | 926 | - |
| Mov Cap-2 Maneuver | 227 | - | - | - | - | - |
| Stage 1 | 549 | - | - | - | - | - |
| Stage 2 | 561 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 21.1 | 0 | 2.1 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 227 | 728 | 926 | - |
| HCM Lane V/C Ratio | - | - | 0.482 | 0.207 | 0.119 | - |
| HCM Control Delay (s) | - | - | 34.8 | 11.2 | 9.4 | - |
| HCM Lane LOS | - | - | D | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 2.4 | 0.8 | 0.4 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.1 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 121 | 74 | 120 | 327 | 212 | 101 |
| Future Vol, veh/h | 121 | 74 | 120 | 327 | 212 | 101 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 300 | - | - | 205 | 155 | 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 | 142 | 87 | 141 | 385 | 249 | 119 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 526 | 0 | - | 0 | 469 | 71 |
| Stage 1 | - | - | - | - | 141 | - |
| Stage 2 | - | - | - | - | 328 | - |
| Critical Hdwy | 4.14 | - | - | - | 6.84 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.84 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.84 | - |
| Follow-up Hdwy | 2.22 | - | - | - | 3.52 | 3.32 |
| Pot Cap-1 Maneuver | 1037 | - | - | - | 523 | 977 |
| Stage 1 | - | - | - | - | 871 | - |
| Stage 2 | - | - | - | - | 702 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1037 | - | - | - | 451 | 977 |
| Mov Cap-2 Maneuver | - | - | - | - | 451 | - |
| Stage 1 | - | - | - | - | 752 | - |
| Stage 2 | - | - | - | - | 702 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 5.6 | 0 | 18.1 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1037 | - | - | - | 451 | 977 |
| HCM Lane V/C Ratio | 0.137 | - | - | - | 0.553 | 0.122 |
| HCM Control Delay (s) | 9 | - | - | - | 22.4 | 9.2 |
| HCM Lane LOS | A | - | - | - | C | A |
| HCM 95th %tile Q(veh) | 0.5 | - | - | - | 3.3 | 0.4 |

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

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 49 | 31 | 21 | 7 | 0 | 29 |
| Future Vol, veh/h | 49 | 31 | 21 | 7 | 0 | 29 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 285 | - | - | 235 | - | 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 | 58 | 36 | 25 | 8 | 0 | 34 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 33 | 0 | - | 0 | - | 13 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | 4.14 | - | - | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | 2.22 | - | - | - | - | 3.32 |
| Pot Cap-1 Maneuver | 1577 | - | - | - | 0 | 1064 |
| Stage 1 | - | - | - | - | 0 | - |
| Stage 2 | - | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | - | |
| Mov Cap-1 Maneuver | 1577 | - | - | - | - | 1064 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 4.5 | 0 | 8.5 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1577 | - | - | - | 1064 |
| HCM Lane V/C Ratio | 0.037 | - | - | - | 0.032 |
| HCM Control Delay (s) | 7.4 | - | - | - | 8.5 |
| HCM Lane LOS | A | - | - | - | A |
| HCM 95th %tile Q(veh) | 0.1 | - | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 6.4 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 26 | 38 | 9 | 5 | 0 |
| Future Vol, veh/h | 0 | 26 | 38 | 9 | 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 | 31 | 45 | 11 | 6 | 0 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 107 | 6 | 6 | 0 | - | 0 |
| Stage 1 | 6 | - | - | - | - | - |
| Stage 2 | 101 | - | - | - | - | - |
| 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 | 1077 | 1615 | - | - | - |
| Stage 1 | 1017 | - | - | - | - | - |
| Stage 2 | 923 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 866 | 1077 | 1615 | - | - | - |
| Mov Cap-2 Maneuver | 866 | - | - | - | - | - |
| Stage 1 | 989 | - | - | - | - | - |
| Stage 2 | 923 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.4 | 5.9 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1615 | - | 1077 | - | - |
| HCM Lane V/C Ratio | 0.028 | - | 0.028 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.4 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.1 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.1 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 5 | 9 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 5 | 9 | 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 | 6 | 11 | 0 | 0 | 0 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 23 | 1 | 1 | 0 | - | 0 |
| Stage 1 | 1 | - | - | - | - | - |
| Stage 2 | 22 | - | - | - | - | - |
| 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 | 993 | 1084 | 1622 | - | - | - |
| Stage 1 | 1022 | - | - | - | - | - |
| Stage 2 | 1001 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 986 | 1084 | 1622 | - | - | - |
| Mov Cap-2 Maneuver | 986 | - | - | - | - | - |
| Stage 1 | 1015 | - | - | - | - | - |
| Stage 2 | 1001 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.3 | 7.2 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1622 | - | 1084 | - | - |
| HCM Lane V/C Ratio | 0.007 | - | 0.005 | - | - |
| HCM Control Delay (s) | 7.2 | - | 8.3 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 6.3 |
| Intersection LOS | A |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 148 | 423 | 274 | 159 |
| Demand Flow Rate, veh/h | 151 | 432 | 280 | 162 |
| Vehicles Circulating, veh/h | 205 | 254 | 95 | 486 |
| Vehicles Exiting, veh/h | 443 | 121 | 261 | 200 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.5 | 7.8 | 4.9 | 6.4 |
| Approach LOS | A | A | A | A |

| Lane | Left | Left | Left | Left |
|---|---|---|---|---|
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 151 | 432 | 280 | 162 |
| Cap Entry Lane, veh/h | 1120 | 1065 | 1252 | 841 |
| Entry HV Adj Factor | 0.980 | 0.980 | 0.979 | 0.980 |
| Flow Entry, veh/h | 148 | 423 | 274 | 159 |
| Cap Entry, veh/h | 1097 | 1044 | 1225 | 824 |
| V/C Ratio | 0.135 | 0.406 | 0.224 | 0.193 |
| Control Delay, s/veh | 4.5 | 7.8 | 4.9 | 6.4 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 0 | 2 | 1 | 1 |

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

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 207 | 47 | 224 | 58 | 17 | 323 |
| Future Vol, veh/h | 207 | 47 | 224 | 58 | 17 | 323 |
| 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 | 244 | 55 | 264 | 68 | 20 | 380 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 494 | 132 | 0 | 0 | 332 | 0 |
| Stage 1 | 264 | - | - | - | - | - |
| Stage 2 | 230 | - | - | - | - | - |
| 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 | 504 | 893 | - | - | 1224 | - |
| Stage 1 | 756 | - | - | - | - | - |
| Stage 2 | 786 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 496 | 893 | - | - | 1224 | - |
| Mov Cap-2 Maneuver | 575 | - | - | - | - | - |
| Stage 1 | 756 | - | - | - | - | - |
| Stage 2 | 773 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 14.6 | 0 | 0.4 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 575 | 893 | 1224 | - |
| HCM Lane V/C Ratio | - | - | 0.424 | 0.062 | 0.016 | - |
| HCM Control Delay (s) | - | - | 15.8 | 9.3 | 8 | - |
| HCM Lane LOS | - | - | C | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 2.1 | 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 | 33 | 0 | 17 | 0 | 0 | 0 | 50 | 24 | 0 | 0 | 79 | 93 |
| Future Vol, veh/h | 33 | 0 | 17 | 0 | 0 | 0 | 50 | 24 | 0 | 0 | 79 | 93 |
| 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 | - | 0 | 310 | - | 0 | 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 | 39 | 0 | 20 | 0 | 0 | 0 | 59 | 28 | 0 | 0 | 93 | 109 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1 | 0 | 0 | 20 | 0 | 0 | 125 | 79 | 0 | 93 | 99 | 1 |
| Stage 1 | - | - | - | - | - | - | 78 | 78 | - | 1 | 1 | - |
| Stage 2 | - | - | - | - | - | - | 47 | 1 | - | 92 | 98 | - |
| 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 | - | - | 1595 | - | - | 836 | 811 | - | 881 | 790 | 1083 |
| Stage 1 | - | - | - | - | - | - | 922 | 829 | - | 1021 | 895 | - |
| Stage 2 | - | - | - | - | - | - | 961 | 895 | - | 905 | 813 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1620 | - | - | 1595 | - | - | 670 | 792 | - | - | 771 | 1083 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 670 | 792 | - | - | 771 | - |
| Stage 1 | - | - | - | - | - | - | 900 | 809 | - | 996 | 895 | - |
| Stage 2 | - | - | - | - | - | - | 774 | 895 | - | 852 | 793 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 4.8 | 0 | 10.5 | 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) | 670 | 792 | - | 1620 | - | - | 1595 | - | - | - | 771 | 1083 |
| HCM Lane V/C Ratio | 0.088 | 0.036 | - | 0.024 | - | - | - | - | - | - | 0.121 | 0.101 |
| HCM Control Delay (s) | 10.9 | 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 | 3.8 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 74 | 26 | 47 | 30 | 10 | 86 |
| Future Vol, veh/h | 74 | 26 | 47 | 30 | 10 | 86 |
| 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 | 0 | - | 205 | 205 | - |
| 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 | 87 | 31 | 55 | 35 | 12 | 101 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 180 | 55 | 0 | 0 | 90 | 0 |
| Stage 1 | 55 | - | - | - | - | - |
| Stage 2 | 125 | - | - | - | - | - |
| 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 | 810 | 1012 | - | - | 1505 | - |
| Stage 1 | 968 | - | - | - | - | - |
| Stage 2 | 901 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 804 | 1012 | - | - | 1505 | - |
| Mov Cap-2 Maneuver | 787 | - | - | - | - | - |
| Stage 1 | 968 | - | - | - | - | - |
| Stage 2 | 894 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 9.7 | 0 | 0.8 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 787 | 1012 | 1505 | - |
| HCM Lane V/C Ratio | - | - | 0.111 | 0.03 | 0.008 | - |
| HCM Control Delay (s) | - | - | 10.1 | 8.7 | 7.4 | - |
| HCM Lane LOS | - | - | B | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.4 | 0.1 | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 9 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 184 | 86 | 275 | 97 | 88 | 518 |
| Future Vol, veh/h | 184 | 86 | 275 | 97 | 88 | 518 |
| 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 | 216 | 101 | 324 | 114 | 104 | 609 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 837 | 162 | 0 | 0 | 438 | 0 |
| Stage 1 | 324 | - | - | - | - | - |
| Stage 2 | 513 | - | - | - | - | - |
| 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 | 305 | 854 | - | - | 1118 | - |
| Stage 1 | 705 | - | - | - | - | - |
| Stage 2 | 566 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 277 | 854 | - | - | 1118 | - |
| Mov Cap-2 Maneuver | 277 | - | - | - | - | - |
| Stage 1 | 705 | - | - | - | - | - |
| Stage 2 | 513 | - | - | - | - | - |

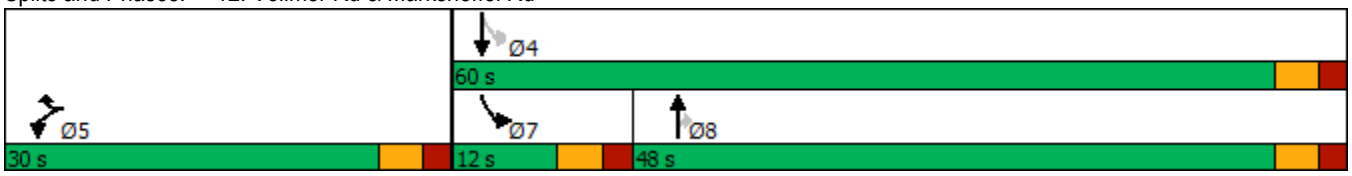
| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 38.8 | 0 | 1.2 |
| HCM LOS | E | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 277 | 854 | 1118 | - |
| HCM Lane V/C Ratio | - | - | 0.781 | 0.118 | 0.093 | - |
| HCM Control Delay (s) | - | - | 52.4 | 9.8 | 8.5 | - |
| HCM Lane LOS | - | - | F | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 6 | 0.4 | 0.3 | - |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 184 | 86 | 275 | 97 | 88 | 518 |
| Future Volume (vph) | 184 | 86 | 275 | 97 | 88 | 518 |
| 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 | 10.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 10.0 | 10.0 | 23.0 | 23.0 | 10.0 | 23.0 |
| Total Split (s) | 30.0 | 30.0 | 48.0 | 48.0 | 12.0 | 60.0 |
| Total Split (%) | 33.3% | 33.3% | 53.3% | 53.3% | 13.3% | 66.7% |
| 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) | 11.4 | 11.4 | 15.5 | 15.5 | 21.3 | 23.8 |
| Actuated g/C Ratio | 0.29 | 0.29 | 0.40 | 0.40 | 0.55 | 0.61 |
| v/c Ratio | 0.42 | 0.19 | 0.23 | 0.16 | 0.17 | 0.28 |
| Control Delay | 16.8 | 4.9 | 13.7 | 4.6 | 6.5 | 6.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 16.8 | 4.9 | 13.7 | 4.6 | 6.5 | 6.3 |
| LOS | B | A | B | A | A | A |
| Approach Delay | 13.0 | | 11.4 | | | 6.3 |
| Approach LOS | B | | B | | | A |

| Intersection Summary | |
|---|---|
| Cycle Length: 90 | |
| Actuated Cycle Length: 38.7 | |
| Natural Cycle: 45 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.42 | |
| Intersection Signal Delay: 9.3 | Intersection LOS: A |
| Intersection Capacity Utilization 35.9% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 12: Vollmer Rd & Marksheffel Rd



| Intersection | |
|---|---|
| Int Delay, s/veh | 75.4 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 103 | 82 | 63 | 262 | 593 | 207 |
| Future Vol, veh/h | 103 | 82 | 63 | 262 | 593 | 207 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 300 | - | - | 205 | 155 | 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 | 121 | 96 | 74 | 308 | 698 | 244 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 382 | 0 | - | 0 | 364 | 37 |
| Stage 1 | - | - | - | - | 74 | - |
| Stage 2 | - | - | - | - | 290 | - |
| Critical Hdwy | 4.14 | - | - | - | 6.84 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.84 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.84 | - |
| Follow-up Hdwy | 2.22 | - | - | - | 3.52 | 3.32 |
| Pot Cap-1 Maneuver | 1173 | - | - | - | ~ 609 | 1027 |
| Stage 1 | - | - | - | - | 940 | - |
| Stage 2 | - | - | - | - | 734 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1173 | - | - | - | ~ 546 | 1027 |
| Mov Cap-2 Maneuver | - | - | - | - | ~ 546 | - |
| Stage 1 | - | - | - | - | 843 | - |
| Stage 2 | - | - | - | - | 734 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 4.7 | 0 | 122.4 |
| HCM LOS | | | F |

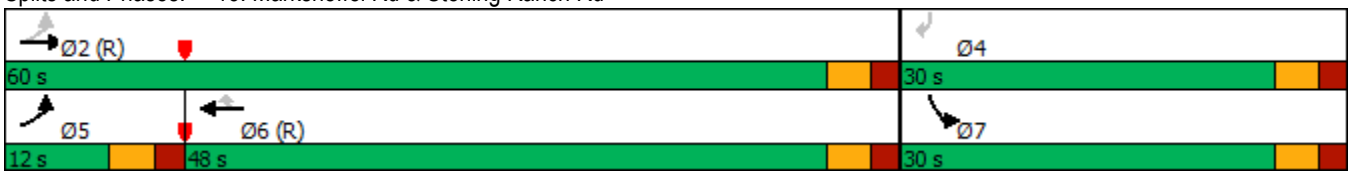
| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1173 | - | - | - | 546 | 1027 |
| HCM Lane V/C Ratio | 0.103 | - | - | - | 1.278 | 0.237 |
| HCM Control Delay (s) | 8.4 | - | - | - | 161.8 | 9.6 |
| HCM Lane LOS | A | - | - | - | F | A |
| HCM 95th %tile Q(veh) | 0.3 | - | - | - | 28.2 | 0.9 |

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

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 103 | 82 | 63 | 262 | 593 | 207 |
| Future Volume (vph) | 103 | 82 | 63 | 262 | 593 | 207 |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 7 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 7 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 15.0 | 15.0 | 15.0 | 20.0 | 10.0 |
| Minimum Split (s) | 10.0 | 20.0 | 20.0 | 20.0 | 25.0 | 20.0 |
| Total Split (s) | 12.0 | 60.0 | 48.0 | 48.0 | 30.0 | 30.0 |
| Total Split (%) | 13.3% | 66.7% | 53.3% | 53.3% | 33.3% | 33.3% |
| 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 | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Max | C-Max | C-Max | None | None |
| Act Effct Green (s) | 57.1 | 57.1 | 45.1 | 45.1 | 22.9 | 22.9 |
| Actuated g/C Ratio | 0.63 | 0.63 | 0.50 | 0.50 | 0.25 | 0.25 |
| v/c Ratio | 0.15 | 0.04 | 0.04 | 0.33 | 0.80 | 0.42 |
| Control Delay | 7.4 | 6.7 | 12.3 | 2.7 | 39.0 | 5.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 7.4 | 6.7 | 12.3 | 2.7 | 39.0 | 5.9 |
| LOS | A | A | B | A | D | A |
| Approach Delay | | 7.1 | 4.5 | | 30.5 | |
| Approach LOS | | A | A | | C | |

| Intersection Summary | |
|---|---|
| Cycle Length: 90 | |
| Actuated Cycle Length: 90 | |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green | |
| Natural Cycle: 55 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.80 | |
| Intersection Signal Delay: 20.7 | Intersection LOS: C |
| Intersection Capacity Utilization 37.8% | ICU Level of Service A |
| Analysis Period (min) 15 | |

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



| Intersection | |
|---|---|
| Int Delay, s/veh | 2.5 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 21 | 50 | 139 | 4 | 0 | 60 |
| Future Vol, veh/h | 21 | 50 | 139 | 4 | 0 | 60 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 285 | - | - | 235 | - | 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 | 25 | 59 | 164 | 5 | 0 | 71 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 169 | 0 | - | 0 | - | 82 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | 4.14 | - | - | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | 2.22 | - | - | - | - | 3.32 |
| Pot Cap-1 Maneuver | 1406 | - | - | - | 0 | 961 |
| Stage 1 | - | - | - | - | 0 | - |
| Stage 2 | - | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | - | |
| Mov Cap-1 Maneuver | 1406 | - | - | - | - | 961 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 2.2 | 0 | 9 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1406 | - | - | - | 961 |
| HCM Lane V/C Ratio | 0.018 | - | - | - | 0.073 |
| HCM Control Delay (s) | 7.6 | - | - | - | 9 |
| HCM Lane LOS | A | - | - | - | A |
| HCM 95th %tile Q(veh) | 0.1 | - | - | - | 0.2 |

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

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 130 | 8 | 1 | 360 | 22 | 2 |
| Future Vol, veh/h | 130 | 8 | 1 | 360 | 22 | 2 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 155 | 205 | - | 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 | 153 | 9 | 1 | 424 | 26 | 2 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 162 | 0 | 579 | 153 |
| Stage 1 | - | - | - | - | 153 | - |
| Stage 2 | - | - | - | - | 426 | - |
| Critical Hdwy | - | - | 4.12 | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | - | - | 1417 | - | 477 | 893 |
| Stage 1 | - | - | - | - | 875 | - |
| Stage 2 | - | - | - | - | 659 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1417 | - | 477 | 893 |
| Mov Cap-2 Maneuver | - | - | - | - | 549 | - |
| Stage 1 | - | - | - | - | 875 | - |
| Stage 2 | - | - | - | - | 658 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 11.7 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 567 | - | - | 1417 | - |
| HCM Lane V/C Ratio | 0.05 | - | - | 0.001 | - |
| HCM Control Delay (s) | 11.7 | - | - | 7.5 | - |
| HCM Lane LOS | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0 | - |

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 12 | 104 | 16 | 1 | 281 | 1 | 45 | 0 | 4 | 3 | 0 | 35 |
| Future Vol, veh/h | 12 | 104 | 16 | 1 | 281 | 1 | 45 | 0 | 4 | 3 | 0 | 35 |
| 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 | 205 | - | - | 205 | - | - | - | - | - | - | - | - |
| 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 | 14 | 122 | 19 | 1 | 331 | 1 | 53 | 0 | 5 | 4 | 0 | 41 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 332 | 0 | 0 | 141 | 0 | 0 | 514 | 494 | 132 | 496 | 503 | 332 |
| Stage 1 | - | - | - | - | - | - | 160 | 160 | - | 334 | 334 | - |
| Stage 2 | - | - | - | - | - | - | 354 | 334 | - | 162 | 169 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1227 | - | - | 1442 | - | - | 471 | 476 | 917 | 484 | 471 | 710 |
| Stage 1 | - | - | - | - | - | - | 842 | 766 | - | 680 | 643 | - |
| Stage 2 | - | - | - | - | - | - | 663 | 643 | - | 840 | 759 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1227 | - | - | 1442 | - | - | 439 | 470 | 917 | 477 | 465 | 710 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 439 | 470 | - | 477 | 465 | - |
| Stage 1 | - | - | - | - | - | - | 833 | 758 | - | 673 | 642 | - |
| Stage 2 | - | - | - | - | - | - | 624 | 642 | - | 826 | 751 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.7 | 0 | 14 | 10.6 |
| HCM LOS | | | B | B |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 459 | 1227 | - | - | 1442 | - | - | 684 |
| HCM Lane V/C Ratio | 0.126 | 0.012 | - | - | 0.001 | - | - | 0.065 |
| HCM Control Delay (s) | 14 | 8 | - | - | 7.5 | - | - | 10.6 |
| HCM Lane LOS | B | A | - | - | A | - | - | B |
| HCM 95th %tile Q(veh) | 0.4 | 0 | - | - | 0 | - | - | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 25 | 78 | 8 | 1 | 191 | 1 | 22 | 0 | 2 | 3 | 0 | 70 |
| Future Vol, veh/h | 25 | 78 | 8 | 1 | 191 | 1 | 22 | 0 | 2 | 3 | 0 | 70 |
| 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 | 305 | - | 255 | 305 | - | - | - | - | - | - | - | - |
| 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 | 29 | 92 | 9 | 1 | 225 | 1 | 26 | 0 | 2 | 4 | 0 | 82 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 226 | 0 | 0 | 101 | 0 | 0 | 419 | 378 | 92 | 384 | 387 | 226 |
| Stage 1 | - | - | - | - | - | - | 150 | 150 | - | 228 | 228 | - |
| Stage 2 | - | - | - | - | - | - | 269 | 228 | - | 156 | 159 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1342 | - | - | 1491 | - | - | 544 | 554 | 965 | 574 | 547 | 813 |
| Stage 1 | - | - | - | - | - | - | 853 | 773 | - | 775 | 715 | - |
| Stage 2 | - | - | - | - | - | - | 737 | 715 | - | 846 | 766 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1342 | - | - | 1491 | - | - | 480 | 541 | 965 | 563 | 534 | 813 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 480 | 541 | - | 563 | 534 | - |
| Stage 1 | - | - | - | - | - | - | 834 | 756 | - | 758 | 714 | - |
| Stage 2 | - | - | - | - | - | - | 662 | 714 | - | 826 | 749 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 1.7 | 0 | 12.6 | 10.1 |
| HCM LOS | | | B | B |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 501 | 1342 | - | - | 1491 | - | - | 798 |
| HCM Lane V/C Ratio | 0.056 | 0.022 | - | - | 0.001 | - | - | 0.108 |
| HCM Control Delay (s) | 12.6 | 7.7 | - | - | 7.4 | - | - | 10.1 |
| HCM Lane LOS | B | A | - | - | A | - | - | B |
| HCM 95th %tile Q(veh) | 0.2 | 0.1 | - | - | 0 | - | - | 0.4 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.7 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 6 | 35 | 12 | 71 | 158 | 2 |
| Future Vol, veh/h | 6 | 35 | 12 | 71 | 158 | 2 |
| 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 | - | 205 | - | - | - |
| 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 | 7 | 41 | 14 | 84 | 186 | 2 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 299 | 187 | 188 | 0 | - | 0 |
| Stage 1 | 187 | - | - | - | - | - |
| Stage 2 | 112 | - | - | - | - | - |
| 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 | 692 | 855 | 1386 | - | - | - |
| Stage 1 | 845 | - | - | - | - | - |
| Stage 2 | 913 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 685 | 855 | 1386 | - | - | - |
| Mov Cap-2 Maneuver | 709 | - | - | - | - | - |
| Stage 1 | 837 | - | - | - | - | - |
| Stage 2 | 913 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 9.6 | 1.1 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1386 | - | 830 | - | - |
| HCM Lane V/C Ratio | 0.01 | - | 0.058 | - | - |
| HCM Control Delay (s) | 7.6 | - | 9.6 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.2 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.8 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 75 | 23 | 33 | 97 | 0 |
| Future Vol, veh/h | 0 | 75 | 23 | 33 | 97 | 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 | 88 | 27 | 39 | 114 | 0 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 207 | 114 | 114 | 0 | - | 0 |
| Stage 1 | 114 | - | - | - | - | - |
| Stage 2 | 93 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 781 | 939 | 1475 | - | - | - |
| Stage 1 | 911 | - | - | - | - | - |
| Stage 2 | 931 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 767 | 939 | 1475 | - | - | - |
| Mov Cap-2 Maneuver | 767 | - | - | - | - | - |
| Stage 1 | 895 | - | - | - | - | - |
| Stage 2 | 931 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 9.2 | 3.1 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1475 | - | 939 | - | - |
| HCM Lane V/C Ratio | 0.018 | - | 0.094 | - | - |
| HCM Control Delay (s) | 7.5 | - | 9.2 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.3 | - | - |

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

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 97 | 33 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 97 | 33 | 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 | 114 | 39 | 0 | 0 | 0 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 79 | 1 | 1 | 0 | - | 0 |
| Stage 1 | 1 | - | - | - | - | - |
| Stage 2 | 78 | - | - | - | - | - |
| 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 | 924 | 1084 | 1622 | - | - | - |
| Stage 1 | 1022 | - | - | - | - | - |
| Stage 2 | 945 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 902 | 1084 | 1622 | - | - | - |
| Mov Cap-2 Maneuver | 902 | - | - | - | - | - |
| Stage 1 | 997 | - | - | - | - | - |
| Stage 2 | 945 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.7 | 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 | 0.024 | - | 0.105 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.7 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.4 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.0 |
| Intersection LOS | A |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 399 | 259 | 257 | 263 |
| Demand Flow Rate, veh/h | 407 | 264 | 263 | 268 |
| Vehicles Circulating, veh/h | 313 | 196 | 463 | 288 |
| Vehicles Exiting, veh/h | 243 | 530 | 257 | 172 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 8.2 | 5.4 | 7.7 | 6.1 |
| Approach LOS | A | A | A | A |

| Lane | Left | Left | Left | Left |
|---|---|---|---|---|
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 407 | 264 | 263 | 268 |
| Cap Entry Lane, veh/h | 1003 | 1130 | 861 | 1029 |
| Entry HV Adj Factor | 0.980 | 0.981 | 0.977 | 0.981 |
| Flow Entry, veh/h | 399 | 259 | 257 | 263 |
| Cap Entry, veh/h | 983 | 1108 | 841 | 1009 |
| V/C Ratio | 0.406 | 0.234 | 0.306 | 0.261 |
| Control Delay, s/veh | 8.2 | 5.4 | 7.7 | 6.1 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 2 | 1 | 1 | 1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.1 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 139 | 32 | 390 | 188 | 51 | 268 |
| Future Vol, veh/h | 139 | 32 | 390 | 188 | 51 | 268 |
| 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 | 164 | 38 | 459 | 221 | 60 | 315 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 737 | 230 | 0 | 0 | 680 | 0 |
| Stage 1 | 459 | - | - | - | - | - |
| Stage 2 | 278 | - | - | - | - | - |
| 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 | 354 | 772 | - | - | 908 | - |
| Stage 1 | 603 | - | - | - | - | - |
| Stage 2 | 744 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 331 | 772 | - | - | 908 | - |
| Mov Cap-2 Maneuver | 444 | - | - | - | - | - |
| Stage 1 | 603 | - | - | - | - | - |
| Stage 2 | 695 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 16.3 | 0 | 1.5 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 444 | 772 | 908 | - |
| HCM Lane V/C Ratio | - | - | 0.368 | 0.049 | 0.066 | - |
| HCM Control Delay (s) | - | - | 17.8 | 9.9 | 9.2 | - |
| HCM Lane LOS | - | - | C | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 1.7 | 0.2 | 0.2 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 8.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 107 | 0 | 50 | 0 | 0 | 0 | 44 | 80 | 0 | 0 | 53 | 63 |
| Future Vol, veh/h | 107 | 0 | 50 | 0 | 0 | 0 | 44 | 80 | 0 | 0 | 53 | 63 |
| 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 | - | 0 | 310 | - | 0 | 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 | 126 | 0 | 59 | 0 | 0 | 0 | 52 | 94 | 0 | 0 | 62 | 74 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1 | 0 | 0 | 59 | 0 | 0 | 284 | 253 | 0 | 300 | 312 | 1 |
| Stage 1 | - | - | - | - | - | - | 252 | 252 | - | 1 | 1 | - |
| Stage 2 | - | - | - | - | - | - | 32 | 1 | - | 299 | 311 | - |
| 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 | - | - | 1543 | - | - | 646 | 649 | - | 630 | 602 | 1083 |
| Stage 1 | - | - | - | - | - | - | 730 | 697 | - | 1021 | 895 | - |
| Stage 2 | - | - | - | - | - | - | 980 | 895 | - | 685 | 657 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1620 | - | - | 1543 | - | - | 518 | 598 | - | - | 555 | 1083 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 518 | 598 | - | - | 555 | - |
| Stage 1 | - | - | - | - | - | - | 673 | 643 | - | 941 | 895 | - |
| Stage 2 | - | - | - | - | - | - | 849 | 895 | - | 539 | 606 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 5 | 0 | 12.3 | 10.3 |
| HCM LOS | | | B | B |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | NBLn3 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 518 | 598 | - | 1620 | - | - | 1543 | - | - | - | 555 | 1083 |
| HCM Lane V/C Ratio | 0.1 | 0.157 | - | 0.078 | - | - | - | - | - | - | 0.112 | 0.068 |
| HCM Control Delay (s) | 12.7 | 12.1 | 0 | 7.4 | - | - | 0 | - | - | 0 | 12.3 | 8.6 |
| HCM Lane LOS | B | B | A | A | - | - | A | - | - | A | B | A |
| HCM 95th %tile Q(veh) | 0.3 | 0.6 | - | 0.3 | - | - | 0 | - | - | - | 0.4 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.6 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 53 | 18 | 105 | 78 | 28 | 76 |
| Future Vol, veh/h | 53 | 18 | 105 | 78 | 28 | 76 |
| 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 | 0 | - | 205 | 205 | - |
| 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 | 62 | 21 | 124 | 92 | 33 | 89 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 279 | 124 | 0 | 0 | 216 | 0 |
| Stage 1 | 124 | - | - | - | - | - |
| Stage 2 | 155 | - | - | - | - | - |
| 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 | 711 | 927 | - | - | 1354 | - |
| Stage 1 | 902 | - | - | - | - | - |
| Stage 2 | 873 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 694 | 927 | - | - | 1354 | - |
| Mov Cap-2 Maneuver | 715 | - | - | - | - | - |
| Stage 1 | 902 | - | - | - | - | - |
| Stage 2 | 852 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 10.1 | 0 | 2.1 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 715 | 927 | 1354 | - |
| HCM Lane V/C Ratio | - | - | 0.087 | 0.023 | 0.024 | - |
| HCM Control Delay (s) | - | - | 10.5 | 9 | 7.7 | - |
| HCM Lane LOS | - | - | B | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.3 | 0.1 | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 6.2 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 100 | 128 | 569 | 112 | 94 | 389 |
| Future Vol, veh/h | 100 | 128 | 569 | 112 | 94 | 389 |
| 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 | 118 | 151 | 669 | 132 | 111 | 458 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1120 | 335 | 0 | 0 | 801 | 0 |
| Stage 1 | 669 | - | - | - | - | - |
| Stage 2 | 451 | - | - | - | - | - |
| 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 | 200 | 661 | - | - | 818 | - |
| Stage 1 | 471 | - | - | - | - | - |
| Stage 2 | 609 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 173 | 661 | - | - | 818 | - |
| Mov Cap-2 Maneuver | 173 | - | - | - | - | - |
| Stage 1 | 471 | - | - | - | - | - |
| Stage 2 | 526 | - | - | - | - | - |

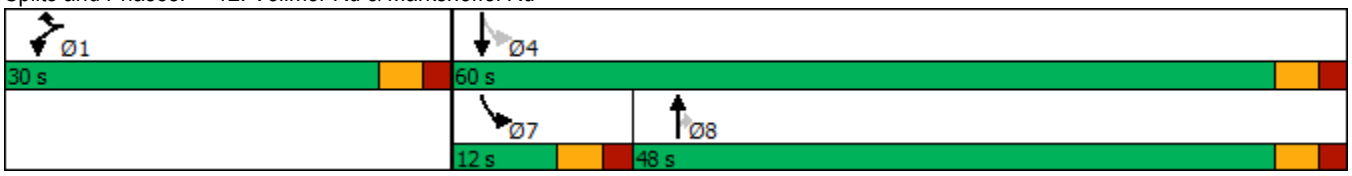
| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 33.6 | 0 | 2 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 173 | 661 | 818 | - |
| HCM Lane V/C Ratio | - | - | 0.68 | 0.228 | 0.135 | - |
| HCM Control Delay (s) | - | - | 61.3 | 12 | 10.1 | - |
| HCM Lane LOS | - | - | F | B | B | - |
| HCM 95th %tile Q(veh) | - | - | 4 | 0.9 | 0.5 | - |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 100 | 128 | 569 | 112 | 94 | 389 |
| Future Volume (vph) | 100 | 128 | 569 | 112 | 94 | 389 |
| 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 | 10.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 10.0 | 10.0 | 23.0 | 23.0 | 10.0 | 23.0 |
| Total Split (s) | 30.0 | 30.0 | 48.0 | 48.0 | 12.0 | 60.0 |
| Total Split (%) | 33.3% | 33.3% | 53.3% | 53.3% | 13.3% | 66.7% |
| 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) | 9.8 | 9.8 | 20.4 | 20.4 | 25.9 | 28.7 |
| Actuated g/C Ratio | 0.23 | 0.23 | 0.48 | 0.48 | 0.61 | 0.68 |
| v/c Ratio | 0.29 | 0.31 | 0.39 | 0.16 | 0.20 | 0.19 |
| Control Delay | 20.0 | 6.3 | 12.2 | 3.3 | 5.2 | 4.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 20.0 | 6.3 | 12.2 | 3.3 | 5.2 | 4.4 |
| LOS | B | A | B | A | A | A |
| Approach Delay | 12.3 | | 10.8 | | | 4.6 |
| Approach LOS | B | | B | | | A |

| Intersection Summary | |
|---|---|
| Cycle Length: 90 | |
| Actuated Cycle Length: 42.2 | |
| Natural Cycle: 45 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.39 | |
| Intersection Signal Delay: 8.9 | Intersection LOS: A |
| Intersection Capacity Utilization 39.0% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 12: Vollmer Rd & Marksheffel Rd



| Intersection | |
|---|---|
| Int Delay, s/veh | 31.7 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 132 | 74 | 120 | 619 | 383 | 108 |
| Future Vol, veh/h | 132 | 74 | 120 | 619 | 383 | 108 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 300 | - | - | 205 | 155 | 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 | 155 | 87 | 141 | 728 | 451 | 127 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 869 | 0 | - | 0 | 495 | 71 |
| Stage 1 | - | - | - | - | 141 | - |
| Stage 2 | - | - | - | - | 354 | - |
| Critical Hdwy | 4.14 | - | - | - | 6.84 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.84 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.84 | - |
| Follow-up Hdwy | 2.22 | - | - | - | 3.52 | 3.32 |
| Pot Cap-1 Maneuver | 771 | - | - | - | 504 | 977 |
| Stage 1 | - | - | - | - | 871 | - |
| Stage 2 | - | - | - | - | 681 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 771 | - | - | - | ~ 403 | 977 |
| Mov Cap-2 Maneuver | - | - | - | - | ~ 403 | - |
| Stage 1 | - | - | - | - | 696 | - |
| Stage 2 | - | - | - | - | 681 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 6.9 | 0 | 89.9 |
| HCM LOS | | | F |

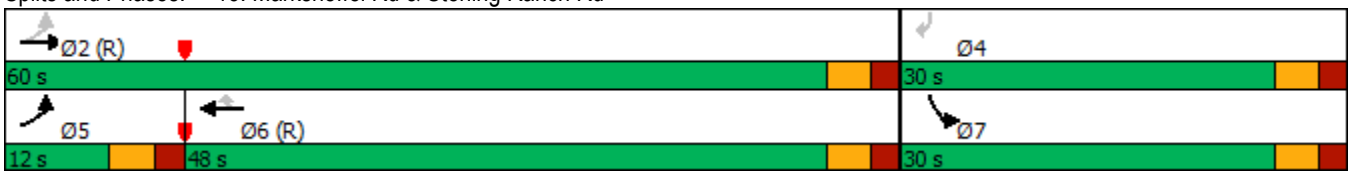
| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 771 | - | - | - | 403 | 977 |
| HCM Lane V/C Ratio | 0.201 | - | - | - | 1.118 | 0.13 |
| HCM Control Delay (s) | 10.8 | - | - | - | 112.6 | 9.2 |
| HCM Lane LOS | B | - | - | - | F | A |
| HCM 95th %tile Q(veh) | 0.7 | - | - | - | 16.3 | 0.4 |

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

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 132 | 74 | 120 | 619 | 383 | 108 |
| Future Volume (vph) | 132 | 74 | 120 | 619 | 383 | 108 |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 7 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 7 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 15.0 | 15.0 | 15.0 | 20.0 | 10.0 |
| Minimum Split (s) | 10.0 | 20.0 | 20.0 | 20.0 | 25.0 | 20.0 |
| Total Split (s) | 12.0 | 60.0 | 48.0 | 48.0 | 30.0 | 30.0 |
| Total Split (%) | 13.3% | 66.7% | 53.3% | 53.3% | 33.3% | 33.3% |
| 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 | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Max | C-Max | C-Max | None | None |
| Act Effct Green (s) | 59.7 | 59.7 | 46.3 | 46.3 | 20.3 | 20.3 |
| Actuated g/C Ratio | 0.66 | 0.66 | 0.51 | 0.51 | 0.23 | 0.23 |
| v/c Ratio | 0.19 | 0.04 | 0.08 | 0.62 | 0.58 | 0.28 |
| Control Delay | 6.3 | 5.4 | 11.7 | 3.8 | 34.5 | 7.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 6.3 | 5.4 | 11.7 | 3.8 | 34.5 | 7.1 |
| LOS | A | A | B | A | C | A |
| Approach Delay | | 6.0 | 5.1 | | 28.5 | |
| Approach LOS | | A | A | | C | |

| Intersection Summary | |
|---|---|
| Cycle Length: 90 | |
| Actuated Cycle Length: 90 | |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green | |
| Natural Cycle: 60 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.62 | |
| Intersection Signal Delay: 13.2 | Intersection LOS: B |
| Intersection Capacity Utilization 54.0% | ICU Level of Service A |
| Analysis Period (min) 15 | |

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



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

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 68 | 157 | 95 | 12 | 0 | 40 |
| Future Vol, veh/h | 68 | 157 | 95 | 12 | 0 | 40 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 285 | - | - | 235 | - | 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 | 80 | 185 | 112 | 14 | 0 | 47 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 126 | 0 | - | 0 | - | 56 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | 4.14 | - | - | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | 2.22 | - | - | - | - | 3.32 |
| Pot Cap-1 Maneuver | 1458 | - | - | - | 0 | 999 |
| Stage 1 | - | - | - | - | 0 | - |
| Stage 2 | - | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | - | |
| Mov Cap-1 Maneuver | 1458 | - | - | - | - | 999 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 2.3 | 0 | 8.8 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1458 | - | - | - | 999 |
| HCM Lane V/C Ratio | 0.055 | - | - | - | 0.047 |
| HCM Control Delay (s) | 7.6 | - | - | - | 8.8 |
| HCM Lane LOS | A | - | - | - | A |
| HCM 95th %tile Q(veh) | 0.2 | - | - | - | 0.1 |

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

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 407 | 26 | 2 | 245 | 15 | 1 |
| Future Vol, veh/h | 407 | 26 | 2 | 245 | 15 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 155 | 205 | - | 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 | 479 | 31 | 2 | 288 | 18 | 1 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 510 | 0 | 771 | 479 |
| Stage 1 | - | - | - | - | 479 | - |
| Stage 2 | - | - | - | - | 292 | - |
| Critical Hdwy | - | - | 4.12 | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | - | - | 1055 | - | 368 | 587 |
| Stage 1 | - | - | - | - | 623 | - |
| Stage 2 | - | - | - | - | 758 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1055 | - | 367 | 587 |
| Mov Cap-2 Maneuver | - | - | - | - | 476 | - |
| Stage 1 | - | - | - | - | 623 | - |
| Stage 2 | - | - | - | - | 756 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.1 | 12.8 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 482 | - | - | 1055 | - |
| HCM Lane V/C Ratio | 0.039 | - | - | 0.002 | - |
| HCM Control Delay (s) | 12.8 | - | - | 8.4 | - |
| HCM Lane LOS | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 40 | 317 | 51 | 4 | 194 | 3 | 30 | 0 | 3 | 2 | 0 | 23 |
| Future Vol, veh/h | 40 | 317 | 51 | 4 | 194 | 3 | 30 | 0 | 3 | 2 | 0 | 23 |
| 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 | 205 | - | - | 205 | - | - | - | - | - | - | - | - |
| 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 | 47 | 373 | 60 | 5 | 228 | 4 | 35 | 0 | 4 | 2 | 0 | 27 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 232 | 0 | 0 | 433 | 0 | 0 | 751 | 739 | 403 | 739 | 767 | 230 |
| Stage 1 | - | - | - | - | - | - | 497 | 497 | - | 240 | 240 | - |
| Stage 2 | - | - | - | - | - | - | 254 | 242 | - | 499 | 527 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1336 | - | - | 1127 | - | - | 327 | 345 | 647 | 333 | 332 | 809 |
| Stage 1 | - | - | - | - | - | - | 555 | 545 | - | 763 | 707 | - |
| Stage 2 | - | - | - | - | - | - | 750 | 705 | - | 554 | 528 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1336 | - | - | 1127 | - | - | 306 | 332 | 647 | 321 | 319 | 809 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 306 | 332 | - | 321 | 319 | - |
| Stage 1 | - | - | - | - | - | - | 536 | 526 | - | 736 | 704 | - |
| Stage 2 | - | - | - | - | - | - | 722 | 702 | - | 532 | 510 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.8 | 0.2 | 17.8 | 10.2 |
| HCM LOS | | | C | B |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 321 | 1336 | - | - | 1127 | - | - | 721 |
| HCM Lane V/C Ratio | 0.121 | 0.035 | - | - | 0.004 | - | - | 0.041 |
| HCM Control Delay (s) | 17.8 | 7.8 | - | - | 8.2 | - | - | 10.2 |
| HCM Lane LOS | C | A | - | - | A | - | - | B |
| HCM 95th %tile Q(veh) | 0.4 | 0.1 | - | - | 0 | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 80 | 216 | 26 | 2 | 140 | 3 | 15 | 0 | 1 | 2 | 0 | 47 |
| Future Vol, veh/h | 80 | 216 | 26 | 2 | 140 | 3 | 15 | 0 | 1 | 2 | 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 | 305 | - | 255 | 305 | - | - | - | - | - | - | - | - |
| 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 | 94 | 254 | 31 | 2 | 165 | 4 | 18 | 0 | 1 | 2 | 0 | 55 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 169 | 0 | 0 | 285 | 0 | 0 | 641 | 615 | 254 | 629 | 644 | 167 |
| Stage 1 | - | - | - | - | - | - | 442 | 442 | - | 171 | 171 | - |
| Stage 2 | - | - | - | - | - | - | 199 | 173 | - | 458 | 473 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1409 | - | - | 1277 | - | - | 388 | 407 | 785 | 395 | 391 | 877 |
| Stage 1 | - | - | - | - | - | - | 594 | 576 | - | 831 | 757 | - |
| Stage 2 | - | - | - | - | - | - | 803 | 756 | - | 583 | 558 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1409 | - | - | 1277 | - | - | 345 | 379 | 785 | 374 | 364 | 877 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 345 | 379 | - | 374 | 364 | - |
| Stage 1 | - | - | - | - | - | - | 554 | 537 | - | 775 | 755 | - |
| Stage 2 | - | - | - | - | - | - | 751 | 754 | - | 543 | 521 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 1.9 | 0.1 | 15.6 | 9.7 |
| HCM LOS | | | C | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 358 | 1409 | - | - | 1277 | - | - | 831 |
| HCM Lane V/C Ratio | 0.053 | 0.067 | - | - | 0.002 | - | - | 0.069 |
| HCM Control Delay (s) | 15.6 | 7.7 | - | - | 7.8 | - | - | 9.7 |
| HCM Lane LOS | C | A | - | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.2 | 0.2 | - | - | 0 | - | - | 0.2 |

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

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 4 | 23 | 40 | 179 | 122 | 7 |
| Future Vol, veh/h | 4 | 23 | 40 | 179 | 122 | 7 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 205 | - | - | - |
| 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 | 27 | 47 | 211 | 144 | 8 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 453 | 148 | 152 | 0 | - | 0 |
| Stage 1 | 148 | - | - | - | - | - |
| Stage 2 | 305 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 565 | 899 | 1429 | - | - | - |
| Stage 1 | 880 | - | - | - | - | - |
| Stage 2 | 748 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 546 | 899 | 1429 | - | - | - |
| Mov Cap-2 Maneuver | 609 | - | - | - | - | - |
| Stage 1 | 851 | - | - | - | - | - |
| Stage 2 | 748 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 9.5 | 1.4 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1429 | - | 840 | - | - |
| HCM Lane V/C Ratio | 0.033 | - | 0.038 | - | - |
| HCM Control Delay (s) | 7.6 | - | 9.5 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.1 | - | - |

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

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 51 | 74 | 112 | 66 | 0 |
| Future Vol, veh/h | 0 | 51 | 74 | 112 | 66 | 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 | 60 | 87 | 132 | 78 | 0 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 384 | 78 | 78 | 0 | - | 0 |
| Stage 1 | 78 | - | - | - | - | - |
| Stage 2 | 306 | - | - | - | - | - |
| 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 | 619 | 983 | 1520 | - | - | - |
| Stage 1 | 945 | - | - | - | - | - |
| Stage 2 | 747 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 584 | 983 | 1520 | - | - | - |
| Mov Cap-2 Maneuver | 584 | - | - | - | - | - |
| Stage 1 | 891 | - | - | - | - | - |
| Stage 2 | 747 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.9 | 3 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1520 | - | 983 | - | - |
| HCM Lane V/C Ratio | 0.057 | - | 0.061 | - | - |
| HCM Control Delay (s) | 7.5 | - | 8.9 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.2 | - | 0.2 | - | - |

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

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 66 | 112 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 66 | 112 | 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 | 78 | 132 | 0 | 0 | 0 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 265 | 1 | 1 | 0 | - | 0 |
| Stage 1 | 1 | - | - | - | - | - |
| Stage 2 | 264 | - | - | - | - | - |
| 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 | 724 | 1084 | 1622 | - | - | - |
| Stage 1 | 1022 | - | - | - | - | - |
| Stage 2 | 780 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 665 | 1084 | 1622 | - | - | - |
| Mov Cap-2 Maneuver | 665 | - | - | - | - | - |
| Stage 1 | 939 | - | - | - | - | - |
| Stage 2 | 780 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.6 | 7.4 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1622 | - | 1084 | - | - |
| HCM Lane V/C Ratio | 0.081 | - | 0.072 | - | - |
| HCM Control Delay (s) | 7.4 | - | 8.6 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.3 | - | 0.2 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 8.6 |
| Intersection LOS | A |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 130 | 600 | 346 | 301 |
| Demand Flow Rate, veh/h | 132 | 612 | 353 | 307 |
| Vehicles Circulating, veh/h | 423 | 282 | 120 | 536 |
| Vehicles Exiting, veh/h | 420 | 116 | 435 | 358 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 5.5 | 11.5 | 4.0 | 9.4 |
| Approach LOS | A | B | A | A |

| Lane | Left | Left | Left | Bypass | Left |
|---|---|---|---|---|---|
| Designated Moves | LTR | LTR | LT | R | LTR |
| Assumed Moves | LTR | LTR | LT | R | LTR |
| RT Channelized | | | | Free | |
| Lane Util | 1.000 | 1.000 | 1.000 | | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 75 | 4.976 |
| Entry Flow, veh/h | 132 | 612 | 278 | 1938 | 307 |
| Cap Entry Lane, veh/h | 896 | 1035 | 1221 | 0.980 | 799 |
| Entry HV Adj Factor | 0.982 | 0.980 | 0.980 | 74 | 0.981 |
| Flow Entry, veh/h | 130 | 600 | 272 | 1900 | 301 |
| Cap Entry, veh/h | 880 | 1015 | 1196 | 0.039 | 784 |
| V/C Ratio | 0.147 | 0.591 | 0.228 | 0.0 | 0.384 |
| Control Delay, s/veh | 5.5 | 11.5 | 5.0 | A | 9.4 |
| LOS | A | B | A | 0 | A |
| 95th %tile Queue, veh | 1 | 4 | 1 | | 2 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 69 | 494 | 56 | 215 | 915 | 66 | 158 | 132 | 93 | 84 | 305 | 138 |
| Future Volume (vph) | 69 | 494 | 56 | 215 | 915 | 66 | 158 | 132 | 93 | 84 | 305 | 138 |
| 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 | 30.3 | 20.8 | 20.8 | 24.8 | 15.9 | 15.9 |
| Actuated g/C Ratio | 0.51 | 0.46 | 0.46 | 0.13 | 0.55 | 0.55 | 0.26 | 0.18 | 0.18 | 0.22 | 0.14 | 0.14 |
| v/c Ratio | 0.23 | 0.31 | 0.07 | 0.50 | 0.50 | 0.08 | 0.61 | 0.21 | 0.24 | 0.28 | 0.65 | 0.41 |
| Control Delay | 11.7 | 21.0 | 0.2 | 51.3 | 18.4 | 1.0 | 42.7 | 41.9 | 2.4 | 33.3 | 53.3 | 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 | 11.7 | 21.0 | 0.2 | 51.3 | 18.4 | 1.0 | 42.7 | 41.9 | 2.4 | 33.3 | 53.3 | 9.5 |
| LOS | B | C | A | D | B | A | D | D | A | C | D | A |
| Approach Delay | | 18.0 | | | 23.4 | | | 32.5 | | | 38.6 | |
| Approach LOS | | B | | | C | | | C | | | D | |

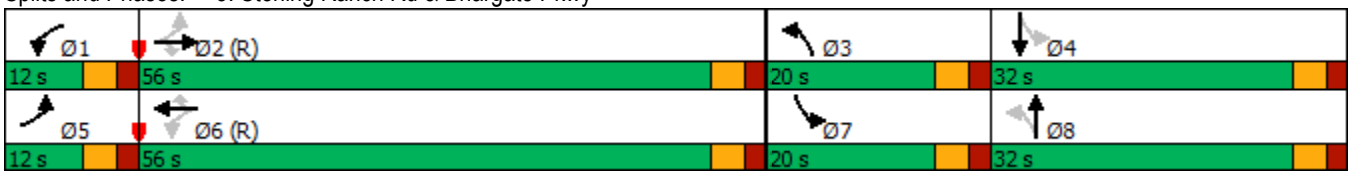
| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 114.4 | |
| Natural Cycle: 60 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.65 | |
| Intersection Signal Delay: 26.4 | Intersection LOS: C |
| Intersection Capacity Utilization 63.3% | ICU Level of Service B |
| 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) | 64 | 617 | 26 | 28 | 936 | 12 | 141 | 44 | 24 | 58 | 95 | 118 |
| Future Volume (vph) | 64 | 617 | 26 | 28 | 936 | 12 | 141 | 44 | 24 | 58 | 95 | 118 |
| 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 | 56.0 | 56.0 | 12.0 | 56.0 | 56.0 | 20.0 | 32.0 | | 20.0 | 32.0 | |
| Total Split (%) | 10.0% | 46.7% | 46.7% | 10.0% | 46.7% | 46.7% | 16.7% | 26.7% | | 16.7% | 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) | 60.1 | 55.9 | 55.9 | 58.7 | 53.4 | 53.4 | 46.3 | 36.0 | 120.0 | 38.2 | 30.1 | 120.0 |
| Actuated g/C Ratio | 0.50 | 0.47 | 0.47 | 0.49 | 0.44 | 0.44 | 0.39 | 0.30 | 1.00 | 0.32 | 0.25 | 1.00 |
| v/c Ratio | 0.29 | 0.39 | 0.03 | 0.08 | 0.63 | 0.02 | 0.30 | 0.08 | 0.02 | 0.13 | 0.21 | 0.08 |
| Control Delay | 17.6 | 22.7 | 0.1 | 4.4 | 16.3 | 0.0 | 26.2 | 33.2 | 0.0 | 24.3 | 38.1 | 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 | 17.6 | 22.7 | 0.1 | 4.4 | 16.3 | 0.0 | 26.2 | 33.2 | 0.0 | 24.3 | 38.1 | 0.1 |
| LOS | B | C | A | A | B | A | C | C | A | C | D | A |
| Approach Delay | | 21.4 | | | 15.8 | | | 24.7 | | | 18.6 | |
| Approach LOS | | C | | | B | | | 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: 0.63 | |
| Intersection Signal Delay: 18.8 | Intersection LOS: B |
| Intersection Capacity Utilization 59.2% | ICU Level of Service B |
| Analysis Period (min) 15 | |

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



| Intersection | |
|---|---|
| Int Delay, s/veh | 5.7 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 142 | 138 | 72 | 85 | 55 | 94 |
| Future Vol, veh/h | 142 | 138 | 72 | 85 | 55 | 94 |
| 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 | 0 | - | 205 | 205 | - |
| 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 | 149 | 145 | 76 | 89 | 58 | 99 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 291 | 76 | 0 | 0 | 165 | 0 |
| Stage 1 | 76 | - | - | - | - | - |
| Stage 2 | 215 | - | - | - | - | - |
| 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 | 700 | 985 | - | - | 1413 | - |
| Stage 1 | 947 | - | - | - | - | - |
| Stage 2 | 821 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 671 | 985 | - | - | 1413 | - |
| Mov Cap-2 Maneuver | 687 | - | - | - | - | - |
| Stage 1 | 947 | - | - | - | - | - |
| Stage 2 | 787 | - | - | - | - | - |

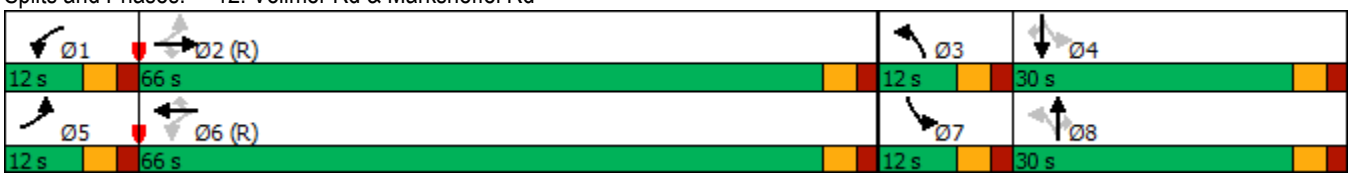
| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 10.5 | 0 | 2.8 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 687 | 985 | 1413 | - |
| HCM Lane V/C Ratio | - | - | 0.218 | 0.147 | 0.041 | - |
| HCM Control Delay (s) | - | - | 11.7 | 9.3 | 7.7 | - |
| HCM Lane LOS | - | - | B | A | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.8 | 0.5 | 0.1 | - |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 69 | 806 | 42 | 108 | 861 | 70 | 115 | 228 | 63 | 120 | 492 | 130 |
| Future Volume (vph) | 69 | 806 | 42 | 108 | 861 | 70 | 115 | 228 | 63 | 120 | 492 | 130 |
| 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 | 66.0 | 66.0 | 12.0 | 66.0 | 66.0 | 12.0 | 30.0 | 30.0 | 12.0 | 30.0 | 30.0 |
| Total Split (%) | 10.0% | 55.0% | 55.0% | 10.0% | 55.0% | 55.0% | 10.0% | 25.0% | 25.0% | 10.0% | 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 | 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) | 67.8 | 61.1 | 61.1 | 69.0 | 63.4 | 63.4 | 32.0 | 25.0 | 25.0 | 32.0 | 25.0 | 25.0 |
| Actuated g/C Ratio | 0.56 | 0.51 | 0.51 | 0.58 | 0.53 | 0.53 | 0.27 | 0.21 | 0.21 | 0.27 | 0.21 | 0.21 |
| v/c Ratio | 0.22 | 0.47 | 0.05 | 0.33 | 0.48 | 0.08 | 0.62 | 0.33 | 0.16 | 0.40 | 0.70 | 0.31 |
| Control Delay | 11.4 | 20.1 | 0.1 | 7.9 | 8.5 | 0.2 | 46.7 | 41.8 | 2.4 | 36.0 | 50.0 | 8.5 |
| 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 | 11.4 | 20.1 | 0.1 | 7.9 | 8.5 | 0.2 | 46.7 | 41.8 | 2.4 | 36.0 | 50.0 | 8.5 |
| LOS | B | C | A | A | A | A | D | D | A | D | D | A |
| Approach Delay | | 18.5 | | | 7.8 | | | 37.1 | | | 40.5 | |
| Approach LOS | | B | | | A | | | 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: 70 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.70 | |
| Intersection Signal Delay: 22.6 | Intersection LOS: C |
| Intersection Capacity Utilization 64.9% | ICU Level of Service C |
| Analysis Period (min) 15 | |

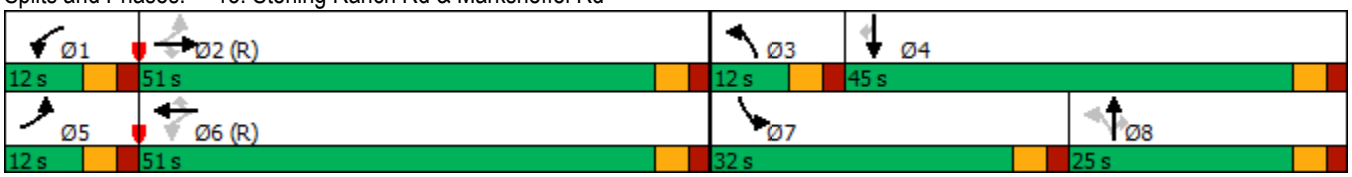
Splits and Phases: 12: Vollmer Rd & Marksheffel Rd



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 77 | 900 | 10 | 47 | 809 | 118 | 39 | 8 | 55 | 327 | 8 | 191 |
| Future Volume (vph) | 77 | 900 | 10 | 47 | 809 | 118 | 39 | 8 | 55 | 327 | 8 | 191 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | 8 | | | 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 | 5.0 | 15.0 | 15.0 | 5.0 | 10.0 | 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 | 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 | 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% | 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 | 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 | None | None | None | None | None |
| Act Effct Green (s) | 74.4 | 68.0 | 68.0 | 72.8 | 67.2 | 67.2 | 14.6 | 10.0 | 10.0 | 20.4 | 22.8 | 22.8 |
| Actuated g/C Ratio | 0.62 | 0.57 | 0.57 | 0.61 | 0.56 | 0.56 | 0.12 | 0.08 | 0.08 | 0.17 | 0.19 | 0.19 |
| v/c Ratio | 0.21 | 0.47 | 0.01 | 0.14 | 0.43 | 0.13 | 0.21 | 0.05 | 0.21 | 0.59 | 0.02 | 0.43 |
| Control Delay | 9.0 | 13.7 | 0.0 | 10.2 | 17.9 | 1.5 | 34.7 | 51.6 | 1.8 | 50.6 | 39.0 | 8.6 |
| 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 | 9.0 | 13.7 | 0.0 | 10.2 | 17.9 | 1.5 | 34.7 | 51.6 | 1.8 | 50.6 | 39.0 | 8.6 |
| LOS | A | B | A | B | B | A | C | D | A | D | D | A |
| Approach Delay | | 13.1 | | | 15.6 | | | 18.1 | | | 35.2 | |
| Approach LOS | | B | | | B | | | B | | | 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: 0.59 | |
| Intersection Signal Delay: 18.7 | Intersection LOS: B |
| Intersection Capacity Utilization 57.5% | ICU Level of Service B |
| Analysis Period (min) 15 | |

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



| Intersection | |
|---|---|
| Int Delay, s/veh | 0.2 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 7 | 707 | 1193 | 3 | 0 | 21 |
| Future Vol, veh/h | 7 | 707 | 1193 | 3 | 0 | 21 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 285 | - | - | 235 | - | 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 | 7 | 744 | 1256 | 3 | 0 | 22 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1259 | 0 | - | 0 | - | 628 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | 4.14 | - | - | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | 2.22 | - | - | - | - | 3.32 |
| Pot Cap-1 Maneuver | 548 | - | - | - | 0 | 426 |
| Stage 1 | - | - | - | - | 0 | - |
| Stage 2 | - | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | - | |
| Mov Cap-1 Maneuver | 548 | - | - | - | - | 426 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0.1 | 0 | 13.9 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 548 | - | - | - | 426 |
| HCM Lane V/C Ratio | 0.013 | - | - | - | 0.052 |
| HCM Control Delay (s) | 11.7 | - | - | - | 13.9 |
| HCM Lane LOS | B | - | - | - | B |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.6 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 138 | 17 | 3 | 242 | 53 | 15 |
| Future Vol, veh/h | 138 | 17 | 3 | 242 | 53 | 15 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 255 | 305 | - | 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 | 145 | 18 | 3 | 255 | 56 | 16 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 163 | 0 | 406 | 145 |
| Stage 1 | - | - | - | - | 145 | - |
| Stage 2 | - | - | - | - | 261 | - |
| Critical Hdwy | - | - | 4.12 | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | - | - | 1416 | - | 601 | 902 |
| Stage 1 | - | - | - | - | 882 | - |
| Stage 2 | - | - | - | - | 783 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1416 | - | 600 | 902 |
| Mov Cap-2 Maneuver | - | - | - | - | 648 | - |
| Stage 1 | - | - | - | - | 882 | - |
| Stage 2 | - | - | - | - | 781 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.1 | 10.8 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 691 | - | - | 1416 | - |
| HCM Lane V/C Ratio | 0.104 | - | - | 0.002 | - |
| HCM Control Delay (s) | 10.8 | - | - | 7.5 | - |
| HCM Lane LOS | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.3 | - | - | 0 | - |

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

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 11 | 7 | 150 | 4 | 2 | 234 |
| Future Vol, veh/h | 11 | 7 | 150 | 4 | 2 | 234 |
| 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 | - | - | - | 205 | - |
| 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 | 12 | 7 | 158 | 4 | 2 | 246 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 410 | 160 | 0 | 0 | 162 | 0 |
| Stage 1 | 160 | - | - | - | - | - |
| Stage 2 | 250 | - | - | - | - | - |
| 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 | 598 | 885 | - | - | 1417 | - |
| Stage 1 | 869 | - | - | - | - | - |
| Stage 2 | 792 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 597 | 885 | - | - | 1417 | - |
| Mov Cap-2 Maneuver | 648 | - | - | - | - | - |
| Stage 1 | 869 | - | - | - | - | - |
| Stage 2 | 791 | - | - | - | - | - |

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

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 723 | 1417 | - |
| HCM Lane V/C Ratio | - | - | 0.026 | 0.001 | - |
| HCM Control Delay (s) | - | - | 10.1 | 7.5 | - |
| HCM Lane LOS | - | - | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 47 | 53 | 0 | 0 | 13 | 72 | 35 | 0 | 172 | 0 |
| Future Vol, veh/h | 0 | 0 | 47 | 53 | 0 | 0 | 13 | 72 | 35 | 0 | 172 | 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 | 49 | 56 | 0 | 0 | 14 | 76 | 37 | 0 | 181 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 304 | 322 | 181 | 310 | 285 | 76 | 181 | 0 | 0 | 113 | 0 | 0 |
| Stage 1 | 181 | 181 | - | 104 | 104 | - | - | - | - | - | - | - |
| Stage 2 | 123 | 141 | - | 206 | 181 | - | - | - | - | - | - | - |
| 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 | 648 | 595 | 862 | 642 | 624 | 985 | 1394 | - | - | 1476 | - | - |
| Stage 1 | 821 | 750 | - | 902 | 809 | - | - | - | - | - | - | - |
| Stage 2 | 881 | 780 | - | 796 | 750 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 643 | 589 | 862 | 600 | 618 | 985 | 1394 | - | - | 1476 | - | - |
| Mov Cap-2 Maneuver | 643 | 589 | - | 600 | 618 | - | - | - | - | - | - | - |
| Stage 1 | 813 | 750 | - | 893 | 801 | - | - | - | - | - | - | - |
| Stage 2 | 872 | 772 | - | 750 | 750 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 9.4 | 11.6 | 0.8 | 0 |
| HCM LOS | A | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1394 | - | - | 862 | 600 | 1476 | - | - |
| HCM Lane V/C Ratio | 0.01 | - | - | 0.057 | 0.093 | - | - | - |
| HCM Control Delay (s) | 7.6 | - | - | 9.4 | 11.6 | 0 | - | - |
| HCM Lane LOS | A | - | - | A | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.2 | 0.3 | 0 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 11 | 18 | 0 | 0 | 3 | 57 | 12 | 0 | 143 | 0 |
| Future Vol, veh/h | 0 | 0 | 11 | 18 | 0 | 0 | 3 | 57 | 12 | 0 | 143 | 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 | 12 | 19 | 0 | 0 | 3 | 60 | 13 | 0 | 151 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 224 | 230 | 151 | 223 | 217 | 60 | 151 | 0 | 0 | 73 | 0 | 0 |
| Stage 1 | 151 | 151 | - | 66 | 66 | - | - | - | - | - | - | - |
| Stage 2 | 73 | 79 | - | 157 | 151 | - | - | - | - | - | - | - |
| 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 | 732 | 670 | 895 | 733 | 681 | 1005 | 1430 | - | - | 1527 | - | - |
| Stage 1 | 851 | 772 | - | 945 | 840 | - | - | - | - | - | - | - |
| Stage 2 | 937 | 829 | - | 845 | 772 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 731 | 669 | 895 | 722 | 680 | 1005 | 1430 | - | - | 1527 | - | - |
| Mov Cap-2 Maneuver | 731 | 669 | - | 722 | 680 | - | - | - | - | - | - | - |
| Stage 1 | 849 | 772 | - | 943 | 838 | - | - | - | - | - | - | - |
| Stage 2 | 935 | 827 | - | 834 | 772 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 9.1 | 10.1 | 0.3 | 0 |
| HCM LOS | A | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1430 | - | - | 895 | 722 | 1527 | - | - |
| HCM Lane V/C Ratio | 0.002 | - | - | 0.013 | 0.026 | - | - | - |
| HCM Control Delay (s) | 7.5 | - | - | 9.1 | 10.1 | 0 | - | - |
| HCM Lane LOS | A | - | - | A | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0.1 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 14.6 |
| Intersection LOS | B |

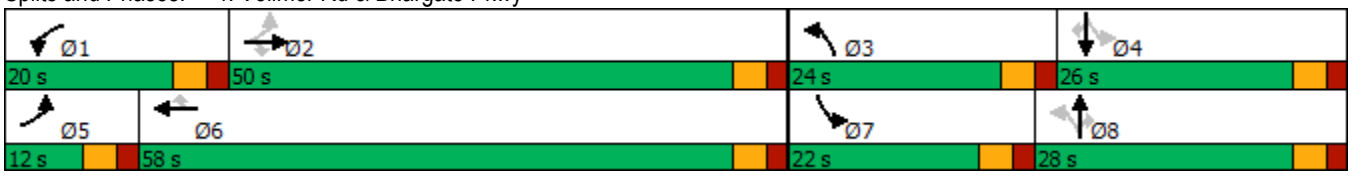
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 450 | 392 | 807 | 410 |
| Demand Flow Rate, veh/h | 459 | 400 | 822 | 418 |
| Vehicles Circulating, veh/h | 539 | 616 | 591 | 405 |
| Vehicles Exiting, veh/h | 284 | 577 | 407 | 611 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 13.6 | 13.5 | 18.3 | 9.7 |
| Approach LOS | B | B | C | A |

| Lane | Left | Left | Left | Bypass | Left |
|---|---|---|---|---|---|
| Designated Moves | LTR | LTR | LT | R | LTR |
| Assumed Moves | LTR | LTR | LT | R | LTR |
| RT Channelized | | | | Free | |
| Lane Util | 1.000 | 1.000 | 1.000 | | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 220 | 4.976 |
| Entry Flow, veh/h | 459 | 400 | 602 | 1938 | 418 |
| Cap Entry Lane, veh/h | 796 | 736 | 755 | 0.980 | 913 |
| Entry HV Adj Factor | 0.981 | 0.980 | 0.981 | 216 | 0.980 |
| Flow Entry, veh/h | 450 | 392 | 591 | 1900 | 410 |
| Cap Entry, veh/h | 781 | 722 | 741 | 0.114 | 895 |
| V/C Ratio | 0.576 | 0.543 | 0.797 | 0.0 | 0.458 |
| Control Delay, s/veh | 13.6 | 13.5 | 25.1 | A | 9.7 |
| LOS | B | B | D | 0 | A |
| 95th %tile Queue, veh | 4 | 3 | 8 | | 2 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 227 | 922 | 184 | 190 | 690 | 67 | 300 | 415 | 246 | 96 | 211 | 118 |
| Future Volume (vph) | 227 | 922 | 184 | 190 | 690 | 67 | 300 | 415 | 246 | 96 | 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 | 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 | 50.0 | 50.0 | 20.0 | 58.0 | 58.0 | 24.0 | 28.0 | 28.0 | 22.0 | 26.0 | 26.0 |
| Total Split (%) | 10.0% | 41.7% | 41.7% | 16.7% | 48.3% | 48.3% | 20.0% | 23.3% | 23.3% | 18.3% | 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) | 52.1 | 45.1 | 45.1 | 15.0 | 53.1 | 53.1 | 35.8 | 20.7 | 20.7 | 22.7 | 12.7 | 12.7 |
| Actuated g/C Ratio | 0.47 | 0.41 | 0.41 | 0.14 | 0.48 | 0.48 | 0.32 | 0.19 | 0.19 | 0.20 | 0.11 | 0.11 |
| v/c Ratio | 0.63 | 0.65 | 0.26 | 0.43 | 0.43 | 0.09 | 0.79 | 0.64 | 0.51 | 0.38 | 0.55 | 0.39 |
| Control Delay | 23.7 | 29.9 | 4.2 | 48.1 | 20.5 | 1.3 | 46.4 | 46.7 | 8.8 | 31.6 | 51.6 | 7.1 |
| 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 | 23.7 | 29.9 | 4.2 | 48.1 | 20.5 | 1.3 | 46.4 | 46.7 | 8.8 | 31.6 | 51.6 | 7.1 |
| LOS | C | C | A | D | C | A | D | D | A | C | D | A |
| Approach Delay | | 25.2 | | | 24.7 | | | 36.8 | | | 34.7 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 110.9 | |
| Natural Cycle: 75 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.79 | |
| Intersection Signal Delay: 29.2 | Intersection LOS: C |
| Intersection Capacity Utilization 77.1% | 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) | 272 | 923 | 58 | 49 | 816 | 49 | 139 | 135 | 28 | 47 | 58 | 100 |
| Future Volume (vph) | 272 | 923 | 58 | 49 | 816 | 49 | 139 | 135 | 28 | 47 | 58 | 100 |
| 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) | 78.0 | 68.6 | 68.6 | 65.9 | 59.4 | 59.4 | 32.0 | 24.0 | 120.0 | 21.0 | 20.0 | 120.0 |
| Actuated g/C Ratio | 0.65 | 0.57 | 0.57 | 0.55 | 0.50 | 0.50 | 0.27 | 0.20 | 1.00 | 0.18 | 0.17 | 1.00 |
| v/c Ratio | 0.68 | 0.48 | 0.06 | 0.16 | 0.49 | 0.06 | 0.42 | 0.38 | 0.02 | 0.21 | 0.20 | 0.07 |
| Control Delay | 18.1 | 17.7 | 0.4 | 10.5 | 23.4 | 2.0 | 38.1 | 44.6 | 0.0 | 33.7 | 45.0 | 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 | 17.7 | 0.4 | 10.5 | 23.4 | 2.0 | 38.1 | 44.6 | 0.0 | 33.7 | 45.0 | 0.1 |
| LOS | B | B | A | B | C | A | D | D | A | C | D | A |
| Approach Delay | | 17.0 | | | 21.5 | | | 37.5 | | | 20.5 | |
| Approach LOS | | B | | | 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: 75 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.68 | |
| Intersection Signal Delay: 21.1 | Intersection LOS: C |
| Intersection Capacity Utilization 78.7% | ICU Level of Service D |
| Analysis Period (min) 15 | |

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

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.2 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 113 | 130 | 172 | 144 | 50 | 116 |
| Future Vol, veh/h | 113 | 130 | 172 | 144 | 50 | 116 |
| 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 | 0 | - | 205 | 205 | - |
| 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 | 119 | 137 | 181 | 152 | 53 | 122 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 409 | 181 | 0 | 0 | 333 | 0 |
| Stage 1 | 181 | - | - | - | - | - |
| Stage 2 | 228 | - | - | - | - | - |
| 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 | 599 | 862 | - | - | 1226 | - |
| Stage 1 | 850 | - | - | - | - | - |
| Stage 2 | 810 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 573 | 862 | - | - | 1226 | - |
| Mov Cap-2 Maneuver | 630 | - | - | - | - | - |
| Stage 1 | 850 | - | - | - | - | - |
| Stage 2 | 775 | - | - | - | - | - |

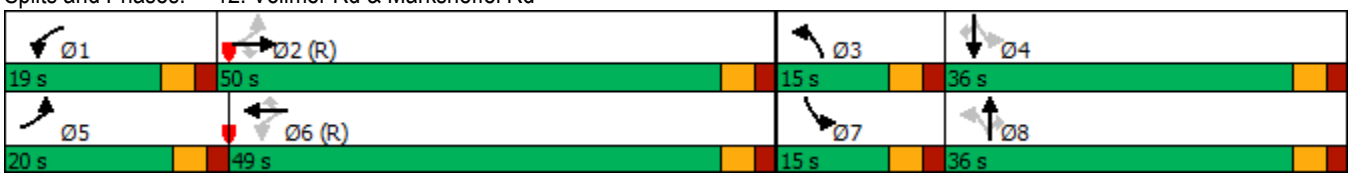
| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 10.9 | 0 | 2.4 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 630 | 862 | 1226 | - |
| HCM Lane V/C Ratio | - | - | 0.189 | 0.159 | 0.043 | - |
| HCM Control Delay (s) | - | - | 12 | 10 | 8.1 | - |
| HCM Lane LOS | - | - | B | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.7 | 0.6 | 0.1 | - |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 140 | 906 | 96 | 176 | 691 | 154 | 171 | 695 | 166 | 132 | 323 | 199 |
| Future Volume (vph) | 140 | 906 | 96 | 176 | 691 | 154 | 171 | 695 | 166 | 132 | 323 | 199 |
| 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) | 20.0 | 50.0 | 50.0 | 19.0 | 49.0 | 49.0 | 15.0 | 36.0 | 36.0 | 15.0 | 36.0 | 36.0 |
| Total Split (%) | 16.7% | 41.7% | 41.7% | 15.8% | 40.8% | 40.8% | 12.5% | 30.0% | 30.0% | 12.5% | 30.0% | 30.0% |
| 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 | 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) | 57.9 | 47.3 | 47.3 | 60.1 | 48.4 | 48.4 | 41.2 | 31.4 | 31.4 | 40.8 | 31.2 | 31.2 |
| Actuated g/C Ratio | 0.48 | 0.39 | 0.39 | 0.50 | 0.40 | 0.40 | 0.34 | 0.26 | 0.26 | 0.34 | 0.26 | 0.26 |
| v/c Ratio | 0.42 | 0.68 | 0.15 | 0.65 | 0.51 | 0.22 | 0.49 | 0.79 | 0.34 | 0.66 | 0.37 | 0.37 |
| Control Delay | 18.3 | 33.6 | 4.5 | 44.6 | 21.9 | 5.0 | 31.0 | 48.6 | 12.6 | 40.5 | 37.8 | 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 | 18.3 | 33.6 | 4.5 | 44.6 | 21.9 | 5.0 | 31.0 | 48.6 | 12.6 | 40.5 | 37.8 | 6.7 |
| LOS | B | C | A | D | C | A | C | D | B | D | D | A |
| Approach Delay | | 29.3 | | | 23.2 | | | 39.9 | | | 28.9 | |
| 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: 0.79 | |
| Intersection Signal Delay: 30.5 | Intersection LOS: C |
| Intersection Capacity Utilization 78.0% | ICU Level of Service D |
| Analysis Period (min) 15 | |

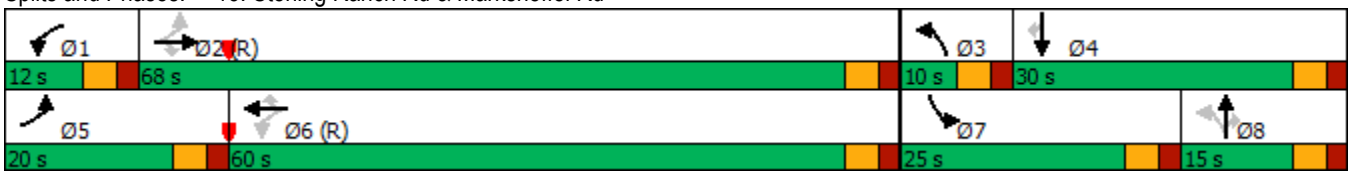
Splits and Phases: 12: Vollmer Rd & Marksheffel Rd



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 238 | 946 | 22 | 130 | 841 | 462 | 27 | 7 | 37 | 275 | 20 | 153 |
| Future Volume (vph) | 238 | 946 | 22 | 130 | 841 | 462 | 27 | 7 | 37 | 275 | 20 | 153 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | 8 | | | 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 | 5.0 | 15.0 | 15.0 | 5.0 | 10.0 | 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 | 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 | 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% | 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 | 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 | None | None | None | None | None |
| Act Effct Green (s) | 79.7 | 69.1 | 69.1 | 71.0 | 64.0 | 64.0 | 11.0 | 10.0 | 10.0 | 20.0 | 23.0 | 23.0 |
| Actuated g/C Ratio | 0.66 | 0.58 | 0.58 | 0.59 | 0.53 | 0.53 | 0.09 | 0.08 | 0.08 | 0.17 | 0.19 | 0.19 |
| v/c Ratio | 0.61 | 0.49 | 0.02 | 0.41 | 0.47 | 0.45 | 0.20 | 0.05 | 0.12 | 0.51 | 0.06 | 0.37 |
| Control Delay | 28.7 | 10.1 | 0.0 | 12.7 | 20.1 | 3.2 | 37.7 | 51.4 | 0.8 | 49.0 | 39.0 | 8.6 |
| 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 | 28.7 | 10.1 | 0.0 | 12.7 | 20.1 | 3.2 | 37.7 | 51.4 | 0.8 | 49.0 | 39.0 | 8.6 |
| LOS | C | B | A | B | C | A | D | D | A | D | D | A |
| Approach Delay | | 13.6 | | | 14.0 | | | 19.6 | | | 34.7 | |
| Approach LOS | | B | | | B | | | B | | | 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: 0.61 | |
| Intersection Signal Delay: 16.9 | Intersection LOS: B |
| 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 | 31 | 1253 | 1041 | 14 | 0 | 18 |
| Future Vol, veh/h | 31 | 1253 | 1041 | 14 | 0 | 18 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 285 | - | - | 235 | - | 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 | 33 | 1319 | 1096 | 15 | 0 | 19 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1111 | 0 | - | 0 | - | 548 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | 4.14 | - | - | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | 2.22 | - | - | - | - | 3.32 |
| Pot Cap-1 Maneuver | 624 | - | - | - | 0 | 480 |
| Stage 1 | - | - | - | - | 0 | - |
| Stage 2 | - | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | - | |
| Mov Cap-1 Maneuver | 624 | - | - | - | - | 480 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0.3 | 0 | 12.8 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 624 | - | - | - | 480 |
| HCM Lane V/C Ratio | 0.052 | - | - | - | 0.039 |
| HCM Control Delay (s) | 11.1 | - | - | - | 12.8 |
| HCM Lane LOS | B | - | - | - | B |
| HCM 95th %tile Q(veh) | 0.2 | - | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.2 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 313 | 75 | 13 | 216 | 46 | 12 |
| Future Vol, veh/h | 313 | 75 | 13 | 216 | 46 | 12 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 255 | 305 | - | 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 | 329 | 79 | 14 | 227 | 48 | 13 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 408 | 0 | 584 | 329 |
| Stage 1 | - | - | - | - | 329 | - |
| Stage 2 | - | - | - | - | 255 | - |
| Critical Hdwy | - | - | 4.12 | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | - | - | 1151 | - | 474 | 712 |
| Stage 1 | - | - | - | - | 729 | - |
| Stage 2 | - | - | - | - | 788 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1151 | - | 468 | 712 |
| Mov Cap-2 Maneuver | - | - | - | - | 557 | - |
| Stage 1 | - | - | - | - | 729 | - |
| Stage 2 | - | - | - | - | 779 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.5 | 11.9 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 583 | - | - | 1151 | - |
| HCM Lane V/C Ratio | 0.105 | - | - | 0.012 | - |
| HCM Control Delay (s) | 11.9 | - | - | 8.2 | - |
| HCM Lane LOS | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.3 | - | - | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.4 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 10 | 6 | 309 | 16 | 10 | 219 |
| Future Vol, veh/h | 10 | 6 | 309 | 16 | 10 | 219 |
| 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 | - | - | - | 205 | - |
| 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 | 11 | 6 | 325 | 17 | 11 | 231 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 587 | 334 | 0 | 0 | 342 | 0 |
| Stage 1 | 334 | - | - | - | - | - |
| Stage 2 | 253 | - | - | - | - | - |
| 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 | 472 | 708 | - | - | 1217 | - |
| Stage 1 | 725 | - | - | - | - | - |
| Stage 2 | 789 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 468 | 708 | - | - | 1217 | - |
| Mov Cap-2 Maneuver | 556 | - | - | - | - | - |
| Stage 1 | 725 | - | - | - | - | - |
| Stage 2 | 782 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 11.1 | 0 | 0.3 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 605 | 1217 | - |
| HCM Lane V/C Ratio | - | - | 0.028 | 0.009 | - |
| HCM Control Delay (s) | - | - | 11.1 | 8 | - |
| HCM Lane LOS | - | - | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 36 | 44 | 0 | 0 | 47 | 248 | 162 | 0 | 125 | 0 |
| Future Vol, veh/h | 0 | 0 | 36 | 44 | 0 | 0 | 47 | 248 | 162 | 0 | 125 | 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 | 38 | 46 | 0 | 0 | 49 | 261 | 171 | 0 | 132 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 577 | 662 | 132 | 510 | 491 | 261 | 132 | 0 | 0 | 432 | 0 | 0 |
| Stage 1 | 132 | 132 | - | 359 | 359 | - | - | - | - | - | - | - |
| Stage 2 | 445 | 530 | - | 151 | 132 | - | - | - | - | - | - | - |
| 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 | 428 | 382 | 917 | 474 | 478 | 778 | 1453 | - | - | 1128 | - | - |
| Stage 1 | 871 | 787 | - | 659 | 627 | - | - | - | - | - | - | - |
| Stage 2 | 592 | 527 | - | 851 | 787 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 417 | 369 | 917 | 443 | 462 | 778 | 1453 | - | - | 1128 | - | - |
| Mov Cap-2 Maneuver | 417 | 369 | - | 443 | 462 | - | - | - | - | - | - | - |
| Stage 1 | 841 | 787 | - | 637 | 606 | - | - | - | - | - | - | - |
| Stage 2 | 572 | 509 | - | 816 | 787 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 9.1 | 14.1 | 0.8 | 0 |
| HCM LOS | A | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1453 | - | - | 917 | 443 | 1128 | - | - |
| HCM Lane V/C Ratio | 0.034 | - | - | 0.041 | 0.105 | - | - | - |
| HCM Control Delay (s) | 7.6 | - | - | 9.1 | 14.1 | 0 | - | - |
| HCM Lane LOS | A | - | - | A | B | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.1 | 0.3 | 0 | - | - |

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 7 | 15 | 0 | 0 | 10 | 184 | 54 | 0 | 102 | 0 |
| Future Vol, veh/h | 0 | 0 | 7 | 15 | 0 | 0 | 10 | 184 | 54 | 0 | 102 | 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 | 7 | 16 | 0 | 0 | 11 | 194 | 57 | 0 | 107 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 352 | 380 | 107 | 327 | 323 | 194 | 107 | 0 | 0 | 251 | 0 | 0 |
| Stage 1 | 107 | 107 | - | 216 | 216 | - | - | - | - | - | - | - |
| Stage 2 | 245 | 273 | - | 111 | 107 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 603 | 552 | 947 | 626 | 595 | 847 | 1484 | - | - | 1314 | - | - |
| Stage 1 | 898 | 807 | - | 786 | 724 | - | - | - | - | - | - | - |
| Stage 2 | 759 | 684 | - | 894 | 807 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 599 | 548 | 947 | 618 | 591 | 847 | 1484 | - | - | 1314 | - | - |
| Mov Cap-2 Maneuver | 599 | 548 | - | 618 | 591 | - | - | - | - | - | - | - |
| Stage 1 | 892 | 807 | - | 780 | 719 | - | - | - | - | - | - | - |
| Stage 2 | 753 | 679 | - | 887 | 807 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.8 | 11 | 0.3 | 0 |
| HCM LOS | A | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1484 | - | - | 947 | 618 | 1314 | - | - |
| HCM Lane V/C Ratio | 0.007 | - | - | 0.008 | 0.026 | - | - | - |
| HCM Control Delay (s) | 7.4 | - | - | 8.8 | 11 | 0 | - | - |
| HCM Lane LOS | A | - | - | A | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0.1 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 8.9 |
| Intersection LOS | A |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 136 | 604 | 376 | 310 |
| Demand Flow Rate, veh/h | 138 | 616 | 384 | 316 |
| Vehicles Circulating, veh/h | 436 | 308 | 120 | 550 |
| Vehicles Exiting, veh/h | 430 | 116 | 454 | 374 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 5.7 | 12.3 | 4.2 | 9.8 |
| Approach LOS | A | B | A | A |

| Lane | Left | Left | Left | Bypass | Left |
|---|---|---|---|---|---|
| Designated Moves | LTR | LTR | LT | R | LTR |
| Assumed Moves | LTR | LTR | LT | R | LTR |
| RT Channelized | | | | Free | |
| Lane Util | 1.000 | 1.000 | 1.000 | | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 80 | 4.976 |
| Entry Flow, veh/h | 138 | 616 | 304 | 1938 | 316 |
| Cap Entry Lane, veh/h | 885 | 1008 | 1221 | 0.980 | 787 |
| Entry HV Adj Factor | 0.983 | 0.980 | 0.980 | 78 | 0.981 |
| Flow Entry, veh/h | 136 | 604 | 298 | 1900 | 310 |
| Cap Entry, veh/h | 870 | 988 | 1197 | 0.041 | 773 |
| V/C Ratio | 0.156 | 0.611 | 0.249 | 0.0 | 0.401 |
| Control Delay, s/veh | 5.7 | 12.3 | 5.2 | A | 9.8 |
| LOS | A | B | A | 0 | A |
| 95th %tile Queue, veh | 1 | 4 | 1 | | 2 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 69 | 559 | 152 | 239 | 1040 | 96 | 158 | 132 | 111 | 121 | 305 | 138 |
| Future Volume (vph) | 69 | 559 | 152 | 239 | 1040 | 96 | 158 | 132 | 111 | 121 | 305 | 138 |
| 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 | 29.1 | 17.7 | 17.7 | 25.4 | 15.9 | 15.9 |
| Actuated g/C Ratio | 0.51 | 0.46 | 0.46 | 0.13 | 0.55 | 0.55 | 0.25 | 0.15 | 0.15 | 0.22 | 0.14 | 0.14 |
| v/c Ratio | 0.26 | 0.35 | 0.20 | 0.56 | 0.56 | 0.11 | 0.61 | 0.25 | 0.31 | 0.40 | 0.65 | 0.41 |
| Control Delay | 12.3 | 21.6 | 3.7 | 52.7 | 19.7 | 2.8 | 42.6 | 43.3 | 4.8 | 35.7 | 53.3 | 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 | 12.3 | 21.6 | 3.7 | 52.7 | 19.7 | 2.8 | 42.6 | 43.3 | 4.8 | 35.7 | 53.3 | 9.5 |
| LOS | B | C | A | D | B | A | D | D | A | D | D | A |
| Approach Delay | | 17.2 | | | 24.2 | | | 32.3 | | | 38.8 | |
| Approach LOS | | B | | | C | | | C | | | D | |

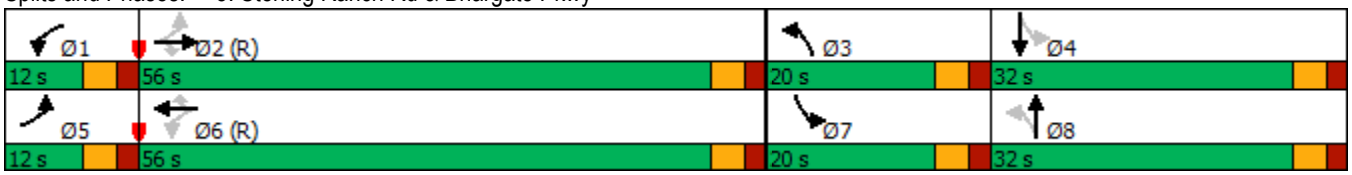
| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 114.4 | |
| Natural Cycle: 60 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.65 | |
| Intersection Signal Delay: 26.2 | Intersection LOS: C |
| Intersection Capacity Utilization 66.8% | ICU Level 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) | 77 | 627 | 145 | 112 | 945 | 24 | 285 | 115 | 120 | 103 | 263 | 158 |
| Future Volume (vph) | 77 | 627 | 145 | 112 | 945 | 24 | 285 | 115 | 120 | 103 | 263 | 158 |
| 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 | 56.0 | 56.0 | 12.0 | 56.0 | 56.0 | 20.0 | 32.0 | | 20.0 | 32.0 | |
| Total Split (%) | 10.0% | 46.7% | 46.7% | 10.0% | 46.7% | 46.7% | 16.7% | 26.7% | | 16.7% | 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) | 57.8 | 51.0 | 51.0 | 59.0 | 53.4 | 53.4 | 45.9 | 31.7 | 120.0 | 37.3 | 27.0 | 120.0 |
| Actuated g/C Ratio | 0.48 | 0.42 | 0.42 | 0.49 | 0.44 | 0.44 | 0.38 | 0.26 | 1.00 | 0.31 | 0.22 | 1.00 |
| v/c Ratio | 0.35 | 0.44 | 0.20 | 0.34 | 0.63 | 0.03 | 0.85 | 0.25 | 0.08 | 0.25 | 0.66 | 0.10 |
| Control Delay | 18.6 | 25.5 | 4.0 | 9.6 | 18.6 | 0.8 | 50.5 | 37.3 | 0.1 | 25.7 | 51.0 | 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 | 18.6 | 25.5 | 4.0 | 9.6 | 18.6 | 0.8 | 50.5 | 37.3 | 0.1 | 25.7 | 51.0 | 0.1 |
| LOS | B | C | A | A | B | A | D | D | A | C | D | A |
| Approach Delay | | 21.2 | | | 17.3 | | | 36.0 | | | 30.7 | |
| Approach LOS | | C | | | B | | | D | | | C | |

| 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: 0.85 | |
| Intersection Signal Delay: 24.0 | Intersection LOS: C |
| Intersection Capacity Utilization 79.5% | ICU Level of Service D |
| Analysis Period (min) 15 | |

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



| Intersection | |
|---|---|
| Int Delay, s/veh | 11.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 133 | 71 | 132 | 180 | 0 | 190 | 0 | 390 | 124 | 63 | 248 | 0 |
| Future Vol, veh/h | 133 | 71 | 132 | 180 | 0 | 190 | 0 | 390 | 124 | 63 | 248 | 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 | - | 0 | - | - | 205 | 205 | - | - |
| 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 | 140 | 75 | 139 | 189 | 0 | 200 | 0 | 411 | 131 | 66 | 261 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 970 | 935 | 261 | 911 | - | 411 | - | 0 | 0 | 542 | 0 | 0 |
| Stage 1 | 393 | 393 | - | 411 | - | - | - | - | - | - | - | - |
| Stage 2 | 577 | 542 | - | 500 | - | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | - | 6.22 | - | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | - | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | - | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | - | 3.318 | - | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 229 | 258 | 894 | 255 | 0 | 641 | 0 | - | - | 1027 | - | 0 |
| Stage 1 | 694 | 632 | - | 618 | 0 | - | 0 | - | - | - | - | 0 |
| Stage 2 | 502 | 520 | - | 592 | 0 | - | 0 | - | - | - | - | 0 |
| Platoon blocked, % | 1 | 1 | 1 | 1 | | | | - | - | | - | |
| Mov Cap-1 Maneuver | 150 | 241 | 894 | ~ 171 | - | 641 | - | - | - | 1027 | - | - |
| Mov Cap-2 Maneuver | 232 | 341 | - | 298 | - | - | - | - | - | - | - | - |
| Stage 1 | 694 | 592 | - | 618 | - | - | - | - | - | - | - | - |
| Stage 2 | 345 | 520 | - | 409 | - | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 24.2 | 24.2 | 0 | 1.8 |
| HCM LOS | C | C | | |

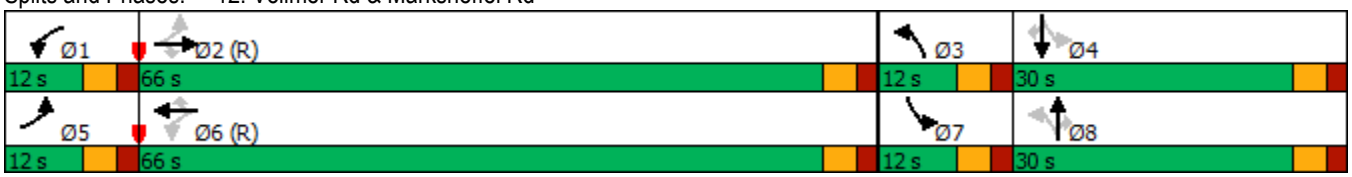
| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | EBLn2 | EBLn3 | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 232 | 341 | 894 | 298 | 641 | 1027 | - |
| HCM Lane V/C Ratio | - | - | 0.603 | 0.219 | 0.155 | 0.636 | 0.312 | 0.065 | - |
| HCM Control Delay (s) | - | - | 41.6 | 18.5 | 9.8 | 36 | 13.1 | 8.7 | - |
| HCM Lane LOS | - | - | E | C | A | E | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 3.5 | 0.8 | 0.5 | 4 | 1.3 | 0.2 | - |

| 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 | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 72 | 843 | 42 | 175 | 932 | 70 | 115 | 238 | 112 | 120 | 514 | 132 |
| Future Volume (vph) | 72 | 843 | 42 | 175 | 932 | 70 | 115 | 238 | 112 | 120 | 514 | 132 |
| 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 | 66.0 | 66.0 | 12.0 | 66.0 | 66.0 | 12.0 | 30.0 | 30.0 | 12.0 | 30.0 | 30.0 |
| Total Split (%) | 10.0% | 55.0% | 55.0% | 10.0% | 55.0% | 55.0% | 10.0% | 25.0% | 25.0% | 10.0% | 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 | 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) | 67.7 | 61.0 | 61.0 | 69.0 | 63.4 | 63.4 | 32.0 | 25.0 | 25.0 | 32.0 | 25.0 | 25.0 |
| Actuated g/C Ratio | 0.56 | 0.51 | 0.51 | 0.58 | 0.53 | 0.53 | 0.27 | 0.21 | 0.21 | 0.27 | 0.21 | 0.21 |
| v/c Ratio | 0.25 | 0.49 | 0.05 | 0.56 | 0.52 | 0.08 | 0.64 | 0.34 | 0.28 | 0.41 | 0.73 | 0.32 |
| Control Delay | 11.9 | 20.5 | 0.1 | 18.0 | 9.9 | 0.2 | 48.9 | 42.0 | 8.8 | 36.2 | 51.2 | 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 | 11.9 | 20.5 | 0.1 | 18.0 | 9.9 | 0.2 | 48.9 | 42.0 | 8.8 | 36.2 | 51.2 | 9.6 |
| LOS | B | C | A | B | A | A | D | D | A | D | D | A |
| Approach Delay | | 19.0 | | | 10.6 | | | 35.7 | | | 41.7 | |
| 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: 70 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.73 | |
| Intersection Signal Delay: 23.5 | Intersection LOS: C |
| Intersection Capacity Utilization 70.2% | ICU Level of Service C |
| Analysis Period (min) 15 | |

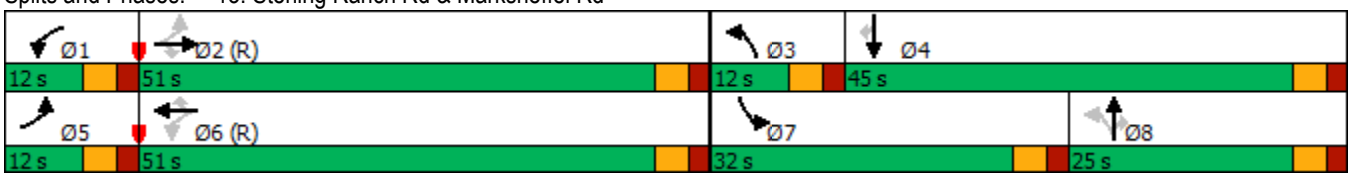
Splits and Phases: 12: Vollmer Rd & Marksheffel Rd



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 164 | 900 | 10 | 47 | 809 | 185 | 39 | 8 | 55 | 480 | 9 | 329 |
| Future Volume (vph) | 164 | 900 | 10 | 47 | 809 | 185 | 39 | 8 | 55 | 480 | 9 | 329 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | 8 | | | 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 | 5.0 | 15.0 | 15.0 | 5.0 | 10.0 | 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 | 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 | 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% | 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 | 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 | None | None | None | None | None |
| Act Effct Green (s) | 74.5 | 65.1 | 65.1 | 65.7 | 58.8 | 58.8 | 14.6 | 10.0 | 10.0 | 23.1 | 25.5 | 25.5 |
| Actuated g/C Ratio | 0.62 | 0.54 | 0.54 | 0.55 | 0.49 | 0.49 | 0.12 | 0.08 | 0.08 | 0.19 | 0.21 | 0.21 |
| v/c Ratio | 0.45 | 0.49 | 0.01 | 0.15 | 0.49 | 0.22 | 0.21 | 0.05 | 0.21 | 0.77 | 0.02 | 0.63 |
| Control Delay | 21.9 | 15.6 | 0.0 | 12.3 | 23.6 | 3.7 | 32.6 | 51.6 | 1.8 | 54.0 | 35.2 | 15.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 21.9 | 15.6 | 0.0 | 12.3 | 23.6 | 3.7 | 32.6 | 51.6 | 1.8 | 54.0 | 35.2 | 15.7 |
| LOS | C | B | A | B | C | A | C | D | A | D | D | B |
| Approach Delay | | 16.4 | | | 19.5 | | | 17.3 | | | 38.4 | |
| Approach LOS | | B | | | B | | | B | | | 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: 0.77 | |
| Intersection Signal Delay: 23.4 | Intersection LOS: C |
| Intersection Capacity Utilization 64.3% | 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 | 10 | 838 | 1375 | 6 | 0 | 29 |
| Future Vol, veh/h | 10 | 838 | 1375 | 6 | 0 | 29 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 285 | - | - | 235 | - | 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 | 11 | 882 | 1447 | 6 | 0 | 31 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1453 | 0 | - | 0 | - | 724 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | 4.14 | - | - | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | 2.22 | - | - | - | - | 3.32 |
| Pot Cap-1 Maneuver | 462 | - | - | - | 0 | 368 |
| Stage 1 | - | - | - | - | 0 | - |
| Stage 2 | - | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | - | |
| Mov Cap-1 Maneuver | 462 | - | - | - | - | 368 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0.2 | 0 | 15.7 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 462 | - | - | - | 368 |
| HCM Lane V/C Ratio | 0.023 | - | - | - | 0.083 |
| HCM Control Delay (s) | 13 | - | - | - | 15.7 |
| HCM Lane LOS | B | - | - | - | C |
| HCM 95th %tile Q(veh) | 0.1 | - | - | - | 0.3 |

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

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 827 | 11 | 7 | 1381 | 0 | 22 |
| Future Vol, veh/h | 827 | 11 | 7 | 1381 | 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 | - | 235 | 285 | - | - | 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 | 871 | 12 | 7 | 1454 | 0 | 23 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 883 | 0 | - | 436 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | 4.14 | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | 2.22 | - | - | 3.32 |
| Pot Cap-1 Maneuver | - | - | 762 | - | 0 | 568 |
| Stage 1 | - | - | - | - | 0 | - |
| Stage 2 | - | - | - | - | 0 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 762 | - | - | 568 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 11.6 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 568 | - | - | 762 | - |
| HCM Lane V/C Ratio | 0.041 | - | - | 0.01 | - |
| HCM Control Delay (s) | 11.6 | - | - | 9.8 | - |
| HCM Lane LOS | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0 | - |

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

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 290 | 84 | 150 | 519 | 97 | 123 |
| Future Vol, veh/h | 290 | 84 | 150 | 519 | 97 | 123 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 155 | 205 | - | 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 | 305 | 88 | 158 | 546 | 102 | 129 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 393 | 0 | 1167 | 305 |
| Stage 1 | - | - | - | - | 305 | - |
| Stage 2 | - | - | - | - | 862 | - |
| Critical Hdwy | - | - | 4.12 | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | - | - | 1166 | - | 214 | 735 |
| Stage 1 | - | - | - | - | 748 | - |
| Stage 2 | - | - | - | - | 414 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1166 | - | 185 | 735 |
| Mov Cap-2 Maneuver | - | - | - | - | 290 | - |
| Stage 1 | - | - | - | - | 748 | - |
| Stage 2 | - | - | - | - | 358 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 1.9 | 22.1 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 438 | - | - | 1166 | - |
| HCM Lane V/C Ratio | 0.529 | - | - | 0.135 | - |
| HCM Control Delay (s) | 22.1 | - | - | 8.6 | - |
| HCM Lane LOS | C | - | - | A | - |
| HCM 95th %tile Q(veh) | 3 | - | - | 0.5 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 6 | 402 | 6 | 9 | 636 | 8 | 17 | 0 | 26 | 22 | 0 | 16 |
| Future Vol, veh/h | 6 | 402 | 6 | 9 | 636 | 8 | 17 | 0 | 26 | 22 | 0 | 16 |
| 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 | 205 | - | - | 205 | - | - | - | - | - | - | - | - |
| 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 | 6 | 423 | 6 | 9 | 669 | 8 | 18 | 0 | 27 | 23 | 0 | 17 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 677 | 0 | 0 | 429 | 0 | 0 | 1138 | 1133 | 426 | 1143 | 1132 | 673 |
| Stage 1 | - | - | - | - | - | - | 438 | 438 | - | 691 | 691 | - |
| Stage 2 | - | - | - | - | - | - | 700 | 695 | - | 452 | 441 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 915 | - | - | 1130 | - | - | 179 | 203 | 628 | 177 | 203 | 455 |
| Stage 1 | - | - | - | - | - | - | 597 | 579 | - | 435 | 446 | - |
| Stage 2 | - | - | - | - | - | - | 430 | 444 | - | 587 | 577 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 915 | - | - | 1130 | - | - | 170 | 200 | 628 | 167 | 200 | 455 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 170 | 200 | - | 167 | 200 | - |
| Stage 1 | - | - | - | - | - | - | 593 | 575 | - | 432 | 442 | - |
| Stage 2 | - | - | - | - | - | - | 411 | 440 | - | 558 | 573 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.1 | 0.1 | 18.9 | 24.1 |
| HCM LOS | | | C | C |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 304 | 915 | - | - | 1130 | - | - | 228 |
| HCM Lane V/C Ratio | 0.149 | 0.007 | - | - | 0.008 | - | - | 0.175 |
| HCM Control Delay (s) | 18.9 | 9 | - | - | 8.2 | - | - | 24.1 |
| HCM Lane LOS | C | A | - | - | A | - | - | C |
| HCM 95th %tile Q(veh) | 0.5 | 0 | - | - | 0 | - | - | 0.6 |

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 11 | 415 | 24 | 9 | 551 | 8 | 70 | 0 | 29 | 22 | 0 | 32 |
| Future Vol, veh/h | 11 | 415 | 24 | 9 | 551 | 8 | 70 | 0 | 29 | 22 | 0 | 32 |
| 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 | 305 | - | 255 | 305 | - | - | - | - | - | - | - | - |
| 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 | 12 | 437 | 25 | 9 | 580 | 8 | 74 | 0 | 31 | 23 | 0 | 34 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 588 | 0 | 0 | 462 | 0 | 0 | 1080 | 1067 | 437 | 1091 | 1088 | 584 |
| Stage 1 | - | - | - | - | - | - | 461 | 461 | - | 602 | 602 | - |
| Stage 2 | - | - | - | - | - | - | 619 | 606 | - | 489 | 486 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 987 | - | - | 1099 | - | - | 196 | 222 | 620 | 192 | 216 | 512 |
| Stage 1 | - | - | - | - | - | - | 581 | 565 | - | 486 | 489 | - |
| Stage 2 | - | - | - | - | - | - | 476 | 487 | - | 561 | 551 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 987 | - | - | 1099 | - | - | 180 | 218 | 620 | 180 | 212 | 512 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 180 | 218 | - | 180 | 212 | - |
| Stage 1 | - | - | - | - | - | - | 574 | 558 | - | 480 | 485 | - |
| Stage 2 | - | - | - | - | - | - | 441 | 483 | - | 527 | 544 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.2 | 0.1 | 33.6 | 20.3 |
| HCM LOS | | | D | C |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 227 | 987 | - | - | 1099 | - | - | 292 |
| HCM Lane V/C Ratio | 0.459 | 0.012 | - | - | 0.009 | - | - | 0.195 |
| HCM Control Delay (s) | 33.6 | 8.7 | - | - | 8.3 | - | - | 20.3 |
| HCM Lane LOS | D | A | - | - | A | - | - | C |
| HCM 95th %tile Q(veh) | 2.2 | 0 | - | - | 0 | - | - | 0.7 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | ↰ | ↱ | | ↰ | ↱ | |
| Traffic Vol, veh/h | 44 | 0 | 16 | 13 | 0 | 13 | 6 | 457 | 4 | 5 | 539 | 16 |
| Future Vol, veh/h | 44 | 0 | 16 | 13 | 0 | 13 | 6 | 457 | 4 | 5 | 539 | 16 |
| 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 | - | - | - | - | - | - | 205 | - | - | 205 | - | - |
| 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 | 46 | 0 | 17 | 14 | 0 | 14 | 6 | 481 | 4 | 5 | 567 | 17 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1088 | 1083 | 576 | 1089 | 1089 | 483 | 584 | 0 | 0 | 485 | 0 | 0 |
| Stage 1 | 586 | 586 | - | 495 | 495 | - | - | - | - | - | - | - |
| Stage 2 | 502 | 497 | - | 594 | 594 | - | - | - | - | - | - | - |
| 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 | 193 | 217 | 517 | 193 | 215 | 584 | 991 | - | - | 1078 | - | - |
| Stage 1 | 496 | 497 | - | 556 | 546 | - | - | - | - | - | - | - |
| Stage 2 | 552 | 545 | - | 491 | 493 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 187 | 215 | 517 | 185 | 213 | 584 | 991 | - | - | 1078 | - | - |
| Mov Cap-2 Maneuver | 187 | 215 | - | 185 | 213 | - | - | - | - | - | - | - |
| Stage 1 | 493 | 495 | - | 553 | 543 | - | - | - | - | - | - | - |
| Stage 2 | 536 | 542 | - | 473 | 491 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 27.1 | 19.2 | 0.1 | 0.1 |
| HCM LOS | D | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 991 | - | - | 225 | 281 | 1078 | - | - |
| HCM Lane V/C Ratio | 0.006 | - | - | 0.281 | 0.097 | 0.005 | - | - |
| HCM Control Delay (s) | 8.7 | - | - | 27.1 | 19.2 | 8.4 | - | - |
| HCM Lane LOS | A | - | - | D | C | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 1.1 | 0.3 | 0 | - | - |

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

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 193 | 520 | 311 | 209 |
| Future Vol, veh/h | 0 | 0 | 193 | 520 | 311 | 209 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | 150 | - | - | 150 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 203 | 547 | 327 | 220 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 327 | 547 | 0 | - | 0 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 0 | *847 | 1002 | - | - | - |
| Stage 1 | 0 | - | - | - | - | - |
| Stage 2 | 0 | - | - | - | - | - |
| Platoon blocked, % | | 1 | 1 | - | - | - |
| Mov Cap-1 Maneuver | - | *847 | 1002 | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

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

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1002 | - | - | - | - |
| HCM Lane V/C Ratio | 0.203 | - | - | - | - |
| HCM Control Delay (s) | 9.5 | - | 0 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.8 | - | - | - | - |

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

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 97 | 53 | 0 | 0 | 29 | 152 | 35 | 0 | 374 | 0 |
| Future Vol, veh/h | 0 | 0 | 97 | 53 | 0 | 0 | 29 | 152 | 35 | 0 | 374 | 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 | 102 | 56 | 0 | 0 | 31 | 160 | 37 | 0 | 394 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 635 | 653 | 394 | 667 | 616 | 160 | 394 | 0 | 0 | 197 | 0 | 0 |
| Stage 1 | 394 | 394 | - | 222 | 222 | - | - | - | - | - | - | - |
| Stage 2 | 241 | 259 | - | 445 | 394 | - | - | - | - | - | - | - |
| 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 | 391 | 387 | 655 | 372 | 406 | 885 | 1165 | - | - | 1376 | - | - |
| Stage 1 | 631 | 605 | - | 780 | 720 | - | - | - | - | - | - | - |
| Stage 2 | 762 | 694 | - | 592 | 605 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 383 | 377 | 655 | 308 | 395 | 885 | 1165 | - | - | 1376 | - | - |
| Mov Cap-2 Maneuver | 383 | 377 | - | 308 | 395 | - | - | - | - | - | - | - |
| Stage 1 | 614 | 605 | - | 759 | 701 | - | - | - | - | - | - | - |
| Stage 2 | 742 | 675 | - | 500 | 605 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 11.5 | 19.3 | 1.1 | 0 |
| HCM LOS | B | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1165 | - | - | 655 | 308 | 1376 | - | - |
| HCM Lane V/C Ratio | 0.026 | - | - | 0.156 | 0.181 | - | - | - |
| HCM Control Delay (s) | 8.2 | - | - | 11.5 | 19.3 | 0 | - | - |
| HCM Lane LOS | A | - | - | B | C | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.6 | 0.7 | 0 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 106 | 18 | 0 | 0 | 35 | 105 | 12 | 0 | 250 | 0 |
| Future Vol, veh/h | 0 | 0 | 106 | 18 | 0 | 0 | 35 | 105 | 12 | 0 | 250 | 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 | 112 | 19 | 0 | 0 | 37 | 111 | 13 | 0 | 263 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 455 | 461 | 263 | 504 | 448 | 111 | 263 | 0 | 0 | 124 | 0 | 0 |
| Stage 1 | 263 | 263 | - | 185 | 185 | - | - | - | - | - | - | - |
| Stage 2 | 192 | 198 | - | 319 | 263 | - | - | - | - | - | - | - |
| 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 | 515 | 497 | 776 | 478 | 506 | 942 | 1301 | - | - | 1463 | - | - |
| Stage 1 | 742 | 691 | - | 817 | 747 | - | - | - | - | - | - | - |
| Stage 2 | 810 | 737 | - | 693 | 691 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 504 | 483 | 776 | 401 | 492 | 942 | 1301 | - | - | 1463 | - | - |
| Mov Cap-2 Maneuver | 504 | 483 | - | 401 | 492 | - | - | - | - | - | - | - |
| Stage 1 | 721 | 691 | - | 794 | 726 | - | - | - | - | - | - | - |
| Stage 2 | 787 | 716 | - | 593 | 691 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 10.4 | 14.4 | 1.8 | 0 |
| HCM LOS | B | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1301 | - | - | 776 | 401 | 1463 | - | - |
| HCM Lane V/C Ratio | 0.028 | - | - | 0.144 | 0.047 | - | - | - |
| HCM Control Delay (s) | 7.8 | - | - | 10.4 | 14.4 | 0 | - | - |
| HCM Lane LOS | A | - | - | B | B | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.5 | 0.1 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 15.0 |
| Intersection LOS | C |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 453 | 393 | 815 | 418 |
| Demand Flow Rate, veh/h | 462 | 401 | 830 | 426 |
| Vehicles Circulating, veh/h | 548 | 623 | 591 | 408 |
| Vehicles Exiting, veh/h | 286 | 577 | 419 | 616 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 13.9 | 13.7 | 19.0 | 9.9 |
| Approach LOS | B | B | C | A |

| Lane | Left | Left | Left | Bypass | Left |
|---|---|---|---|---|---|
| Designated Moves | LTR | LTR | LT | R | LTR |
| Assumed Moves | LTR | LTR | LT | R | LTR |
| RT Channelized | | | | Free | |
| Lane Util | 1.000 | 1.000 | 1.000 | | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 221 | 4.976 |
| Entry Flow, veh/h | 462 | 401 | 609 | 1938 | 426 |
| Cap Entry Lane, veh/h | 789 | 731 | 755 | 0.980 | 910 |
| Entry HV Adj Factor | 0.981 | 0.980 | 0.981 | 217 | 0.980 |
| Flow Entry, veh/h | 453 | 393 | 598 | 1900 | 418 |
| Cap Entry, veh/h | 774 | 717 | 741 | 0.114 | 892 |
| V/C Ratio | 0.586 | 0.549 | 0.806 | 0.0 | 0.468 |
| Control Delay, s/veh | 13.9 | 13.7 | 25.8 | A | 9.9 |
| LOS | B | B | D | 0 | A |
| 95th %tile Queue, veh | 4 | 3 | 8 | | 3 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 227 | 1014 | 184 | 210 | 745 | 74 | 300 | 415 | 283 | 109 | 211 | 118 |
| Future Volume (vph) | 227 | 1014 | 184 | 210 | 745 | 74 | 300 | 415 | 283 | 109 | 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 | 35.6 | 20.3 | 20.3 | 25.3 | 14.5 | 14.5 |
| Actuated g/C Ratio | 0.48 | 0.42 | 0.42 | 0.13 | 0.49 | 0.49 | 0.31 | 0.18 | 0.18 | 0.22 | 0.13 | 0.13 |
| v/c Ratio | 0.66 | 0.70 | 0.25 | 0.49 | 0.45 | 0.09 | 0.83 | 0.67 | 0.59 | 0.43 | 0.50 | 0.37 |
| Control Delay | 25.6 | 30.8 | 4.7 | 51.1 | 20.7 | 1.6 | 52.7 | 50.0 | 12.3 | 33.9 | 50.1 | 6.5 |
| 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 | 25.6 | 30.8 | 4.7 | 51.1 | 20.7 | 1.6 | 52.7 | 50.0 | 12.3 | 33.9 | 50.1 | 6.5 |
| LOS | C | C | A | D | C | A | D | D | B | C | D | A |
| Approach Delay | | 26.5 | | | 25.5 | | | 40.0 | | | 34.3 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 114.3 | |
| Natural Cycle: 80 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.83 | |
| Intersection Signal Delay: 30.6 | Intersection LOS: C |
| Intersection Capacity Utilization 79.6% | 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) | 329 | 924 | 131 | 155 | 827 | 105 | 193 | 190 | 83 | 86 | 87 | 133 |
| Future Volume (vph) | 329 | 924 | 131 | 155 | 827 | 105 | 193 | 190 | 83 | 86 | 87 | 133 |
| 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) | 75.0 | 63.0 | 63.0 | 61.2 | 54.2 | 54.2 | 35.0 | 25.0 | 120.0 | 25.0 | 20.0 | 120.0 |
| Actuated g/C Ratio | 0.62 | 0.52 | 0.52 | 0.51 | 0.45 | 0.45 | 0.29 | 0.21 | 1.00 | 0.21 | 0.17 | 1.00 |
| v/c Ratio | 0.83 | 0.52 | 0.15 | 0.53 | 0.55 | 0.14 | 0.57 | 0.52 | 0.05 | 0.36 | 0.30 | 0.09 |
| Control Delay | 30.8 | 20.0 | 2.8 | 18.9 | 25.8 | 5.4 | 41.3 | 47.6 | 0.1 | 38.3 | 46.8 | 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 | 30.8 | 20.0 | 2.8 | 18.9 | 25.8 | 5.4 | 41.3 | 47.6 | 0.1 | 38.3 | 46.8 | 0.1 |
| LOS | C | B | A | B | C | A | D | D | A | D | D | A |
| Approach Delay | | 20.9 | | | 22.8 | | | 36.6 | | | 24.2 | |
| 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: 80 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.83 | |
| Intersection Signal Delay: 24.1 | Intersection LOS: C |
| Intersection Capacity Utilization 85.1% | ICU Level of Service E |
| Analysis Period (min) 15 | |

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

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 38 | 18 | 32 | 123 | 0 | 137 | 0 | 325 | 153 | 50 | 284 | 0 |
| Future Vol, veh/h | 38 | 18 | 32 | 123 | 0 | 137 | 0 | 325 | 153 | 50 | 284 | 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 | - | 0 | - | - | 205 | 205 | - | - |
| 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 | 40 | 19 | 34 | 129 | 0 | 144 | 0 | 342 | 161 | 53 | 299 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 900 | 908 | 299 | 774 | - | 342 | - | 0 | 0 | 503 | 0 | 0 |
| Stage 1 | 405 | 405 | - | 342 | - | - | - | - | - | - | - | - |
| Stage 2 | 495 | 503 | - | 432 | - | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | - | 6.22 | - | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | - | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | - | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | - | 3.318 | - | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 262 | 269 | 865 | 333 | 0 | 701 | 0 | - | - | 1061 | - | 0 |
| Stage 1 | 695 | 628 | - | 673 | 0 | - | 0 | - | - | - | - | 0 |
| Stage 2 | 556 | 541 | - | 667 | 0 | - | 0 | - | - | - | - | 0 |
| Platoon blocked, % | 1 | 1 | 1 | 1 | | | | - | - | | - | |
| Mov Cap-1 Maneuver | 200 | 255 | 865 | 295 | - | 701 | - | - | - | 1061 | - | - |
| Mov Cap-2 Maneuver | 307 | 359 | - | 421 | - | - | - | - | - | - | - | - |
| Stage 1 | 695 | 597 | - | 673 | - | - | - | - | - | - | - | - |
| Stage 2 | 442 | 541 | - | 590 | - | - | - | - | - | - | - | - |

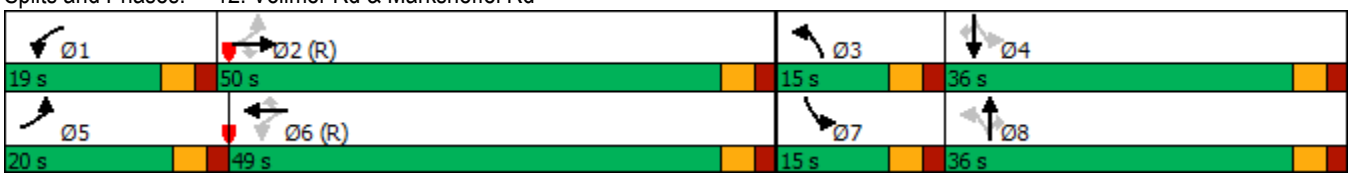
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 14.6 | 14.2 | 0 | 1.3 |
| HCM LOS | B | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | EBLn2 | EBLn3 | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 307 | 359 | 865 | 421 | 701 | 1061 | - |
| HCM Lane V/C Ratio | - | - | 0.13 | 0.053 | 0.039 | 0.308 | 0.206 | 0.05 | - |
| HCM Control Delay (s) | - | - | 18.5 | 15.6 | 9.3 | 17.3 | 11.5 | 8.6 | - |
| HCM Lane LOS | - | - | C | C | A | C | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.4 | 0.2 | 0.1 | 1.3 | 0.8 | 0.2 | - |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 143 | 949 | 96 | 191 | 718 | 154 | 171 | 728 | 192 | 132 | 342 | 200 |
| Future Volume (vph) | 143 | 949 | 96 | 191 | 718 | 154 | 171 | 728 | 192 | 132 | 342 | 200 |
| 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) | 20.0 | 50.0 | 50.0 | 19.0 | 49.0 | 49.0 | 15.0 | 36.0 | 36.0 | 15.0 | 36.0 | 36.0 |
| Total Split (%) | 16.7% | 41.7% | 41.7% | 15.8% | 40.8% | 40.8% | 12.5% | 30.0% | 30.0% | 12.5% | 30.0% | 30.0% |
| 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 | 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) | 57.5 | 46.7 | 46.7 | 60.5 | 48.2 | 48.2 | 41.2 | 31.4 | 31.4 | 40.8 | 31.2 | 31.2 |
| Actuated g/C Ratio | 0.48 | 0.39 | 0.39 | 0.50 | 0.40 | 0.40 | 0.34 | 0.26 | 0.26 | 0.34 | 0.26 | 0.26 |
| v/c Ratio | 0.44 | 0.73 | 0.15 | 0.73 | 0.53 | 0.23 | 0.50 | 0.83 | 0.39 | 0.68 | 0.39 | 0.37 |
| Control Delay | 18.8 | 35.3 | 4.5 | 53.1 | 22.5 | 5.5 | 31.4 | 50.7 | 13.7 | 43.5 | 38.2 | 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 | 18.8 | 35.3 | 4.5 | 53.1 | 22.5 | 5.5 | 31.4 | 50.7 | 13.7 | 43.5 | 38.2 | 6.7 |
| LOS | B | D | A | D | C | A | C | D | B | D | D | A |
| Approach Delay | | 30.8 | | | 25.6 | | | 41.2 | | | 29.9 | |
| 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: 0.83 | |
| Intersection Signal Delay: 32.1 | Intersection LOS: C |
| Intersection Capacity Utilization 80.9% | 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 | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 311 | 946 | 22 | 130 | 841 | 581 | 27 | 7 | 37 | 348 | 24 | 195 |
| Future Volume (vph) | 311 | 946 | 22 | 130 | 841 | 581 | 27 | 7 | 37 | 348 | 24 | 195 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | 8 | | | 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 | 5.0 | 15.0 | 15.0 | 5.0 | 10.0 | 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 | 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 | 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% | 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 | 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 | None | None | None | None | None |
| Act Effct Green (s) | 80.7 | 69.1 | 69.1 | 69.5 | 62.6 | 62.6 | 11.0 | 10.0 | 10.0 | 20.0 | 23.0 | 23.0 |
| Actuated g/C Ratio | 0.67 | 0.58 | 0.58 | 0.58 | 0.52 | 0.52 | 0.09 | 0.08 | 0.08 | 0.17 | 0.19 | 0.19 |
| v/c Ratio | 0.76 | 0.49 | 0.02 | 0.41 | 0.48 | 0.55 | 0.20 | 0.05 | 0.12 | 0.64 | 0.07 | 0.44 |
| Control Delay | 40.4 | 10.5 | 0.0 | 12.9 | 20.9 | 3.6 | 37.8 | 51.4 | 0.8 | 52.4 | 39.2 | 8.5 |
| 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 | 40.4 | 10.5 | 0.0 | 12.9 | 20.9 | 3.6 | 37.8 | 51.4 | 0.8 | 52.4 | 39.2 | 8.5 |
| LOS | D | B | A | B | C | A | D | D | A | D | D | A |
| Approach Delay | | 17.6 | | | 13.8 | | | 19.6 | | | 36.8 | |
| Approach LOS | | B | | | B | | | B | | | 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: 0.76 | |
| Intersection Signal Delay: 19.1 | Intersection LOS: B |
| Intersection Capacity Utilization 74.0% | ICU Level of Service D |
| 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 | 42 | 1385 | 1124 | 26 | 0 | 25 |
| Future Vol, veh/h | 42 | 1385 | 1124 | 26 | 0 | 25 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 285 | - | - | 235 | - | 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 | 44 | 1458 | 1183 | 27 | 0 | 26 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1210 | 0 | - | 0 | - | 592 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | 4.14 | - | - | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | 2.22 | - | - | - | - | 3.32 |
| Pot Cap-1 Maneuver | 572 | - | - | - | 0 | 449 |
| Stage 1 | - | - | - | - | 0 | - |
| Stage 2 | - | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | - | |
| Mov Cap-1 Maneuver | 572 | - | - | - | - | 449 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0.3 | 0 | 13.5 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 572 | - | - | - | 449 |
| HCM Lane V/C Ratio | 0.077 | - | - | - | 0.059 |
| HCM Control Delay (s) | 11.8 | - | - | - | 13.5 |
| HCM Lane LOS | B | - | - | - | B |
| HCM 95th %tile Q(veh) | 0.2 | - | - | - | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 1381 | 4 | 2 | 1150 | 0 | 3 |
| Future Vol, veh/h | 1381 | 4 | 2 | 1150 | 0 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 235 | 285 | - | - | 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 | 1454 | 4 | 2 | 1211 | 0 | 3 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 1458 | 0 | - | 727 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | 4.14 | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | 2.22 | - | - | 3.32 |
| Pot Cap-1 Maneuver | - | - | 460 | - | 0 | 366 |
| Stage 1 | - | - | - | - | 0 | - |
| Stage 2 | - | - | - | - | 0 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 460 | - | - | 366 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 14.9 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 366 | - | - | 460 | - |
| HCM Lane V/C Ratio | 0.009 | - | - | 0.005 | - |
| HCM Control Delay (s) | 14.9 | - | - | 12.9 | - |
| HCM Lane LOS | B | - | - | B | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.2 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 555 | 32 | 39 | 370 | 25 | 40 |
| Future Vol, veh/h | 555 | 32 | 39 | 370 | 25 | 40 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 155 | 205 | - | 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 | 584 | 34 | 41 | 389 | 26 | 42 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 618 | 0 | 1055 | 584 |
| Stage 1 | - | - | - | - | 584 | - |
| Stage 2 | - | - | - | - | 471 | - |
| Critical Hdwy | - | - | 4.12 | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | - | - | 962 | - | 250 | 512 |
| Stage 1 | - | - | - | - | 557 | - |
| Stage 2 | - | - | - | - | 628 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 962 | - | 239 | 512 |
| Mov Cap-2 Maneuver | - | - | - | - | 373 | - |
| Stage 1 | - | - | - | - | 557 | - |
| Stage 2 | - | - | - | - | 601 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.8 | 14.5 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 448 | - | - | 962 | - |
| HCM Lane V/C Ratio | 0.153 | - | - | 0.043 | - |
| HCM Control Delay (s) | 14.5 | - | - | 8.9 | - |
| HCM Lane LOS | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.5 | - | - | 0.1 | - |

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 20 | 550 | 25 | 29 | 382 | 23 | 15 | 0 | 17 | 14 | 0 | 12 |
| Future Vol, veh/h | 20 | 550 | 25 | 29 | 382 | 23 | 15 | 0 | 17 | 14 | 0 | 12 |
| 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 | 205 | - | - | 205 | - | - | - | - | - | - | - | - |
| 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 | 21 | 579 | 26 | 31 | 402 | 24 | 16 | 0 | 18 | 15 | 0 | 13 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 426 | 0 | 0 | 605 | 0 | 0 | 1117 | 1122 | 592 | 1119 | 1123 | 414 |
| Stage 1 | - | - | - | - | - | - | 634 | 634 | - | 476 | 476 | - |
| Stage 2 | - | - | - | - | - | - | 483 | 488 | - | 643 | 647 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1133 | - | - | 973 | - | - | 185 | 206 | 506 | 184 | 206 | 638 |
| Stage 1 | - | - | - | - | - | - | 467 | 473 | - | 570 | 557 | - |
| Stage 2 | - | - | - | - | - | - | 565 | 550 | - | 462 | 467 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1133 | - | - | 973 | - | - | 174 | 196 | 506 | 171 | 196 | 638 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 174 | 196 | - | 171 | 196 | - |
| Stage 1 | - | - | - | - | - | - | 458 | 464 | - | 559 | 539 | - |
| Stage 2 | - | - | - | - | - | - | 536 | 532 | - | 437 | 458 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.3 | 0.6 | 20.4 | 20.6 |
| HCM LOS | | | C | C |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 267 | 1133 | - | - | 973 | - | - | 258 |
| HCM Lane V/C Ratio | 0.126 | 0.019 | - | - | 0.031 | - | - | 0.106 |
| HCM Control Delay (s) | 20.4 | 8.2 | - | - | 8.8 | - | - | 20.6 |
| HCM Lane LOS | C | A | - | - | A | - | - | C |
| HCM 95th %tile Q(veh) | 0.4 | 0.1 | - | - | 0.1 | - | - | 0.4 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 40 | 451 | 90 | 22 | 357 | 24 | 54 | 0 | 16 | 14 | 0 | 24 |
| Future Vol, veh/h | 40 | 451 | 90 | 22 | 357 | 24 | 54 | 0 | 16 | 14 | 0 | 24 |
| 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 | 305 | - | 255 | 305 | - | - | - | - | - | - | - | - |
| 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 | 42 | 475 | 95 | 23 | 376 | 25 | 57 | 0 | 17 | 15 | 0 | 25 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 401 | 0 | 0 | 570 | 0 | 0 | 1006 | 1006 | 475 | 1050 | 1089 | 389 |
| Stage 1 | - | - | - | - | - | - | 559 | 559 | - | 435 | 435 | - |
| Stage 2 | - | - | - | - | - | - | 447 | 447 | - | 615 | 654 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1158 | - | - | 1002 | - | - | 220 | 241 | 590 | 205 | 215 | 659 |
| Stage 1 | - | - | - | - | - | - | 513 | 511 | - | 600 | 580 | - |
| Stage 2 | - | - | - | - | - | - | 591 | 573 | - | 479 | 463 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1158 | - | - | 1002 | - | - | 202 | 227 | 590 | 190 | 203 | 659 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 202 | 227 | - | 190 | 203 | - |
| Stage 1 | - | - | - | - | - | - | 495 | 493 | - | 578 | 567 | - |
| Stage 2 | - | - | - | - | - | - | 555 | 560 | - | 448 | 446 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.6 | 0.5 | 26.8 | 16.8 |
| HCM LOS | | | D | C |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 238 | 1158 | - | - | 1002 | - | - | 345 |
| HCM Lane V/C Ratio | 0.31 | 0.036 | - | - | 0.023 | - | - | 0.116 |
| HCM Control Delay (s) | 26.8 | 8.2 | - | - | 8.7 | - | - | 16.8 |
| HCM Lane LOS | D | A | - | - | A | - | - | C |
| HCM 95th %tile Q(veh) | 1.3 | 0.1 | - | - | 0.1 | - | - | 0.4 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↔ | | | ↔ | | ↰ | ↱ | | ↰ | ↱ | |
| Traffic Vol, veh/h | 27 | 0 | 12 | 10 | 0 | 6 | 20 | 444 | 16 | 11 | 381 | 47 |
| Future Vol, veh/h | 27 | 0 | 12 | 10 | 0 | 6 | 20 | 444 | 16 | 11 | 381 | 47 |
| 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 | - | - | - | - | - | - | 205 | - | - | 205 | - | - |
| 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 | 28 | 0 | 13 | 11 | 0 | 6 | 21 | 467 | 17 | 12 | 401 | 49 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 971 | 976 | 426 | 974 | 992 | 476 | 450 | 0 | 0 | 484 | 0 | 0 |
| Stage 1 | 450 | 450 | - | 518 | 518 | - | - | - | - | - | - | - |
| Stage 2 | 521 | 526 | - | 456 | 474 | - | - | - | - | - | - | - |
| 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 | 232 | 251 | 628 | 231 | 246 | 589 | 1110 | - | - | 1079 | - | - |
| Stage 1 | 589 | 572 | - | 541 | 533 | - | - | - | - | - | - | - |
| Stage 2 | 539 | 529 | - | 584 | 558 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 224 | 243 | 628 | 221 | 239 | 589 | 1110 | - | - | 1079 | - | - |
| Mov Cap-2 Maneuver | 224 | 243 | - | 221 | 239 | - | - | - | - | - | - | - |
| Stage 1 | 578 | 566 | - | 531 | 523 | - | - | - | - | - | - | - |
| Stage 2 | 523 | 519 | - | 566 | 552 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 20.1 | 18.2 | 0.3 | 0.2 |
| HCM LOS | C | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1110 | - | - | 279 | 289 | 1079 | - | - |
| HCM Lane V/C Ratio | 0.019 | - | - | 0.147 | 0.058 | 0.011 | - | - |
| HCM Control Delay (s) | 8.3 | - | - | 20.1 | 18.2 | 8.4 | - | - |
| HCM Lane LOS | A | - | - | C | C | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.5 | 0.2 | 0 | - | - |

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

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 34 | 465 | 334 | 39 |
| Future Vol, veh/h | 0 | 0 | 34 | 465 | 334 | 39 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | 150 | - | - | 150 |
| 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 | 0 | 36 | 489 | 352 | 41 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 352 | 393 | 0 | - | 0 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 0 | 692 | 1166 | - | - | - |
| Stage 1 | 0 | - | - | - | - | - |
| Stage 2 | 0 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | - | 692 | 1166 | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.6 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1166 | - | - | - | - |
| HCM Lane V/C Ratio | 0.031 | - | - | - | - |
| HCM Control Delay (s) | 8.2 | - | 0 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 66 | 44 | 0 | 0 | 85 | 376 | 162 | 0 | 196 | 0 |
| Future Vol, veh/h | 0 | 0 | 66 | 44 | 0 | 0 | 85 | 376 | 162 | 0 | 196 | 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 | 69 | 46 | 0 | 0 | 89 | 396 | 171 | 0 | 206 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 866 | 951 | 206 | 815 | 780 | 396 | 206 | 0 | 0 | 567 | 0 | 0 |
| Stage 1 | 206 | 206 | - | 574 | 574 | - | - | - | - | - | - | - |
| Stage 2 | 660 | 745 | - | 241 | 206 | - | - | - | - | - | - | - |
| 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 | 274 | 260 | 835 | 296 | 327 | 653 | 1365 | - | - | 1005 | - | - |
| Stage 1 | 796 | 731 | - | 504 | 503 | - | - | - | - | - | - | - |
| Stage 2 | 452 | 421 | - | 762 | 731 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 260 | 243 | 835 | 258 | 306 | 653 | 1365 | - | - | 1005 | - | - |
| Mov Cap-2 Maneuver | 260 | 243 | - | 258 | 306 | - | - | - | - | - | - | - |
| Stage 1 | 744 | 731 | - | 471 | 470 | - | - | - | - | - | - | - |
| Stage 2 | 423 | 394 | - | 699 | 731 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 9.7 | 22 | 1.1 | 0 |
| HCM LOS | A | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1365 | - | - | 835 | 258 | 1005 | - | - |
| HCM Lane V/C Ratio | 0.066 | - | - | 0.083 | 0.18 | - | - | - |
| HCM Control Delay (s) | 7.8 | - | - | 9.7 | 22 | 0 | - | - |
| HCM Lane LOS | A | - | - | A | C | A | - | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0.3 | 0.6 | 0 | - | - |

| 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 | 69 | 15 | 0 | 0 | 115 | 208 | 54 | 0 | 112 | 0 |
| Future Vol, veh/h | 0 | 0 | 69 | 15 | 0 | 0 | 115 | 208 | 54 | 0 | 112 | 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 | 73 | 16 | 0 | 0 | 121 | 219 | 57 | 0 | 118 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 608 | 636 | 118 | 616 | 579 | 219 | 118 | 0 | 0 | 276 | 0 | 0 |
| Stage 1 | 118 | 118 | - | 461 | 461 | - | - | - | - | - | - | - |
| Stage 2 | 490 | 518 | - | 155 | 118 | - | - | - | - | - | - | - |
| 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 | 408 | 395 | 934 | 403 | 426 | 821 | 1470 | - | - | 1287 | - | - |
| Stage 1 | 887 | 798 | - | 581 | 565 | - | - | - | - | - | - | - |
| Stage 2 | 560 | 533 | - | 847 | 798 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 382 | 363 | 934 | 348 | 391 | 821 | 1470 | - | - | 1287 | - | - |
| Mov Cap-2 Maneuver | 382 | 363 | - | 348 | 391 | - | - | - | - | - | - | - |
| Stage 1 | 814 | 798 | - | 533 | 519 | - | - | - | - | - | - | - |
| Stage 2 | 514 | 489 | - | 781 | 798 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 9.2 | 15.8 | 2.3 | 0 |
| HCM LOS | A | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1470 | - | - | 934 | 348 | 1287 | - | - |
| HCM Lane V/C Ratio | 0.082 | - | - | 0.078 | 0.045 | - | - | - |
| HCM Control Delay (s) | 7.7 | - | - | 9.2 | 15.8 | 0 | - | - |
| HCM Lane LOS | A | - | - | A | C | A | - | - |
| HCM 95th %tile Q(veh) | 0.3 | - | - | 0.3 | 0.1 | 0 | - | - |

# Crash History

TRANSPORTATION
CONSULTANTS, INC.

| AccidentDate | TotalVehicles | ReferencePointName | ReferencePointAtName | AccidentNarrative |
|---|---|---|---|---|
| 2019-09-29 | 1 | VOLLMER RD | GLIDER LP | Vehicle # 1 was traveling northbound Vollmer Road .8 miles north of Glider Loop. Vehicle # 1's right side tires dropped off the right side of the roadway as it entered a sharp left curve. Vehicle #1 lost control on the roadway for approximately 131' before it traveled approximately 100' off the right side of the roadway. Vehicle # 1 collided its rear with a barbed-wire fence. Vehicle # 1 was moved prior to investigation. |
| 2019-10-01 | 1 | VOLLMER RD | S POCO RD | Vehicle #1 was northbound on Vollmer Road in a left hand curve. Vehicle #1 ran off the right side of the road for 107.3'. Vehicle over corrected, reentered the roadway, spinning counter clockwise. Vehicle #1 was out of control for 98.5'. Vehicle #1 ran off the left side of the road for 99.8', rolling 1 1/2 times. Vehicle #1 came to rest on its top facing west. |
| 2019-11-14 | 1 | VOLLMER RD | GLIDER PL | Vehicle 1 was southbound on Vollmer Road south of Burgess Road. Vehicle 1 was travelling in excessive speed, when it failed to negotiate a right hand bend in the roadway. Vehicle left heavy left side tire skids marks for 115.8 feet in the northbound lane, afterwhich it traveled for 59.4 across the southbound lane. Vehicle 1 ran off the right side of the road for 130.9 feet where it began to overturn, airborne for 20.7 feet, colliding with the ground, traveled another 25.9 feet and rolled another 52.2 feet where it came to final rest facing east on its right side 23.9 feet from the west road edge. |
| 2020-04-23 | 1 | VOLLMER RD | WILDFLOWER RD | Vehicle #1 was traveling south on Vollmer Rd approaching Wildflower Rd. Vehicle #1 failed to navigate the slight left curve in the roadway at which point it ran off the right side of the road. Vehicle #1 crashed through the fence on the right side of the road, traveled southwest into the yard of 8455 Wildflower Rd, rolled, crashed into a well, and came to rest on its wheels facing south. |
| 2020-05-26 | 1 | VOLLMER | WILD FLOWER | Vehicle #1 was southbound on Vollmer. Driver of vehicle #1 lost control and went off the right side of the road and overturned. Vehicle #1 was moved prior to investigation. |
| 2020-07-25 | 1 | VOLLMER RD | POCO RD | Vehicle 1 was traveling in an easterly direction on Vollmer Road approaching a left curve. Vehicle 1 drove on the wrong side of the road to avoid a deceased raccoon in the middle of its lane. Vehicle 1 returned to its lane while navigating the curve. Vehicle 1's right tires dropped off the right edge of the road. Driver 1 pulled the wheel to the left causing Vehicle 1 to spin out of control. Driver 1 overcorrected to the right and the vehicle rolled 3/4 times off the right side of the road. Vehicle 1 came to final rest on top of a fence facing south on its right side. |
| 2021-03-24 | 1 | VOLLMER RD | POCO RD | Vehicle #1 was southbound on Vollmer Road just south of Poco Road. Vehicle #1 lost control on the icy covered roadway and slid off of the west edge of the roadway for approximately 50 feet while rotating 1/4 times clockwise. Vehicle #1 then collided with a barbed wire fence approximately 15 feet west of the road edge and overturned 1/4 times onto it's left. Vehicle #1 came to final rest on its left side, approximately 15 feet west of the road edge facing west. |
| 2021-09-13 | 3 | VOLLMER RD | POCO RD | Vehicle #1 was traveling southbound on Vollmer Road. Vehicle #2 was parked on Poco Road, facing east, just west of the intersection of Vollmer Rd. and Poco Rd. Vehicle #2 was partially in the lane and partially on what would be a shoulder, as the entire road is dirt. Vehicle #3 was parked likewise, behind vehicle #2. Vehicle #1 made a right hand turn, to travel westbound on Poco Rd. The left front of vehicle #1 crashed into the left front of vehicle #2. Vehicle #2, being on dirt, slid backwards into the front of vehicle #3. Both vehicles #2 and #3 were unoccupied. Vehicle #1 pulled through and pulled over further down Poco Road to a safe location. |
| 2021-11-11 | 1 | VOLLMER RD | POCO RD | Vehicle #1 was travelling northbound on Vollmer Rd approaching Poco Rd. Vehicle #1 failed to negotiate a curve to the left and travelled off the right side of the road. Vehicle #1 overcorrected to the left, travelled across both lanes of traffic, and drove off the left side of the road. Vehicle #1 rotated counter-clockwise and hit a trip point in the soft dirt. Vehicle #1 rolled 1 and 3/4 times, coming to rest on its left side facing southwest approximately 30 feet off the road. The driver of the vehicle was ejected out of the passenger window during the rollover and came to rest in the field approximately 50 feet northwest of the vehicle. |
| 2022-04-07 | 1 | VOLLMER RD | WILDFLOWER RD | Vehicle 1 was traveling southbound on Vollmer Rd approaching the intersection of Wildflower Rd. Vehicle 1 failed to negotiate a curve and drove off the right side of the roadway at the intersection of Wildflower Rd. Vehicle 1 drove approximately 19 feet off of the right side of the roadway impacting an embankment and came to final rest 85 feet south of Wildflower Rd on the southwest side of the intersection facing south. |
| 2022-06-19 | 2 | VOLLMER RD | LOCHWINNOCH LN | VEHICLE 1 WAS NORTHBOUND ON VOLLMER ROAD. VEHICLE 2 WAS NORTHBOUND ON VOLLMER ROAD, IN FRONT OF VEHICLE 1. VEHICLE 2 BEGAN TO SLOW TO MAKE A LEFT TURN ONTO LOCHWINNOCH ROAD. VEHICLE 1 ATTEMPTED TO PASS VEHICLE 2 ON THE LEFT SIDE IN A MARKED NO PASSING ZONE. VEHICLE 2 BEGAN TO MAKE THE LEFT TURN WHERE VEHICLE 2 WAS STRUCK IN THE FRONT DRIVERS SIDE, BY THE FRONT PASSENGER SIDE OF VEHICLE 1. THE COLLISION OCCURRED WITHIN THE SOUTHBOUND LANE OF VOLLMER ROAD. VEHICLE 1 THEN ROTATED 1/2 TIME CLOCKWISE ACROSS THE NORTHBOUND LANE. VEHICLE 1 THEN DROVE OFF THE NORTHBOUND SIDE OF THE ROAD AND OVERTURNED 1/2 TIME, COMING TO FINAL REST ON ITS ROOF FACING SOUTH. VEHICLE 2 CAME TO A CONTROLLED FINAL REST ON LOCHWINNOCH LN. |
| 2022-07-03 | 1 | VOLLMER RD | POCO RD | Motorcycle was traveling on Vollmer Rd headed northbound. Motorcycle traveled off the right side of the road. Motorcycle lost control and rolled multiple times, the rider was ejected. Motorcycle came to rest on the left side. Rider came to rest on his back. |