

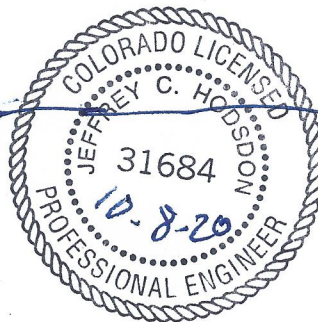


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The Estates at Rolling Hills Ranch Filing No. 2
Traffic Impact Study
PCD File No. PUDSP204 & SF2018
(LSC #204400)
October 8, 2020

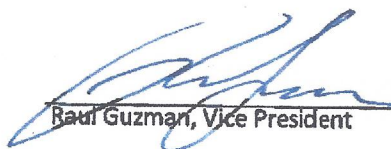
Traffic Engineer's Statement

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.
GTL, INC.


Raul Guzman, Vice President

October 8, 2020
Date

The Estates at Rolling Hills Ranch

Filing No. 2

Traffic Impact Analysis

Prepared for:
Tech Contractors
P.O. Box 80036
San Diego, CA 92138

Contact: Mr. Raul Guzman

OCTOBER 8, 2020

LSC Transportation Consultants, Inc.

Prepared by: Kirstin D. Ferrin, P.E. & Jeffrey C. Hodsdon, P.E.

LSC #204400



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October 8, 2020

Mr. Raul Guzman
Tech Contractors
P.O. Box 80036
San Diego, CA 92138

RE: The Estates at Rolling Hills
Ranch Filing No. 2
El Paso County, Colorado
Traffic Impact Analysis
LSC #204400

Dear Mr. Guzman:

In response to your request, LSC Transportation Consultants, Inc. has prepared this traffic impact analysis for the Estates at Rolling Hills Ranch Filing No. 2 in El Paso County, Colorado. As shown in Figure 1, the site is located north of Rex Road and west of Eastonville Road in El Paso County, Colorado. LSC completed a study for the recently approved Meridian Ranch Sketch Plan amendment. The supporting traffic report date is October 3, 2017.

REPORT CONTENTS

This report is being prepared as part of a submittal to El Paso County. It identifies the traffic impacts of the Estates at Rolling Hills Ranch Filing No. 2 residential development. The report contains the following:

- The traffic count data and street conditions;
- Short-term and 2040 baseline/background traffic volume estimates;
- The projected average weekday and peak-hour vehicle trips to be generated by the site;
- The assignment of the site's projected traffic volumes to the key area streets and intersections for the short and long term and the resulting total traffic volumes for the short and long term;
- The resulting traffic impacts, including level of service analysis at the Rex Road intersections;
- Recommendations for auxiliary turn lanes at access points and intersections on the proposed extension of Rex Road to Eastonville Road and the recommended street cross section and right-of-way;
- Queuing analysis at planned intersections on Rex Road;

- A traffic-signal warrant analysis at Meridian Road/Rex Road; and
- The recommended street classifications for the internal streets within the proposed development.

Previous Traffic Reports Completed in the Area

A list of other traffic studies in the study area completed within the past five years (that LSC is aware of) is attached for reference. This study accounts for the land use, trip generation, and roadway network included in these studies.

LAND USE AND ACCESS

Land Use

Figure 2 shows the proposed site plan for the Estates at Rolling Hills Ranch Filing No. 2. The site is planned to include a total of 98 lots for single-family homes. The Estates at Rolling Hills Ranch Filing No. 1, located just west of the site, is planned to include 16 lots for single-family homes. The area just east of the site is planned for future Estates at Rolling Hills Ranch filings. It was assumed that this area would be developed with about 151 additional lots for single-family homes. Rolling Hills Ranch at Meridian Ranch Filing Nos. 1, 2, and 3, located just south of the site, is planned to be developed with 725 lots for single-family homes.

Rex Road is planned to be constructed from its existing terminus to the intersection of Rex Road/Sunrise Ridge Drive, as part of The Estates at Rolling Hills Ranch Filing No. 1. As part of Filing No. 2, Rex Road will be constructed an additional 1,804 feet to the east to a proposed new full-movement intersection (Estate Ridge Drive). There is a planned full-movement access on the south side of this new section of Rex Road for the Rolling Hills Ranch at Meridian Ranch Filing Nos. 1, 2, and 3 located about 1,244 feet east of Sunrise Ridge Drive and 560 feet west of Estate Ridge Drive.

Conformance to the 2017 Sketch Plan Amendment

The currently-proposed land use, internal circulation, connectivity, and access for this project is generally comparable to the 2017 Sketch Plan Amendment and the associated LSC traffic report dated October 3, 2017. Additional detail has been provided for Rex Road intersections to assist with design, as one of the access points has been removed since the Sketch Plan Amendment. Also, this report includes current evaluation of the signal warrants at Meridian/Rex.

Pedestrian Routes to Schools

Figure 3 shows the potential pedestrian routes to the existing and planned schools within two miles of the site (Falcon High School, Meridian Ranch Elementary, and a future school site located just north of Falcon High School) are located south of Rex Road. As shown in Figure 3, a crosswalk should be provided on the east leg of the intersection of Estate Ridge Drive/Rex Road.

Sight Distance

Figure 4 shows a sight distance analysis at the future intersection to Rex Road and Estate Ridge Drive. Based on a design speed of 40 miles per hour (mph) on Rex Road and the criteria contained in Table 2-21 of the ECM, the required intersection sight distance is 445 feet. Based on the criteria contained in Table 2-17 of the ECM, the required stopping sight distance approaching this intersection is 305 feet. As shown in Figure 4, the required intersection sight distance can be met both to the east and to the west.

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

The major roadways in the site's vicinity 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.

- **Rex Road** extends east from Goodson Road to Pyramid Peak Drive within the Meridian Ranch development. The posted speed limit on Rex Road is 45 miles per hour (mph) between Meridian Road and Mount Gateway Drive and 35 mph east of Mount Gateway Drive. Rex Road will be extended east to Eastonville Road in the intermediate term, as shown on the 2016 MTCP 2040 Roadway Plan, and may ultimately be extended to US Highway 24 (US Hwy 24), as shown on the 2016 MTCP 2060 Corridor Preservation Plan. The extension of Rex Road east of Eastonville Road is in the planning process as part of the Grandview Reserve development, located southeast of the future intersection of Eastonville/Rex. It is anticipated that this roadway segment would be installed prior to 2040. Rex Road is classified as a 4-Lane Minor Arterial roadway by El Paso County. Rex Road was previously shown as a Collector roadway in older versions of the MTCP. A copy of the 2040 MTCP Roadway plan from the *El Paso County 2040 Major Transportation Corridors Plan* adopted October 4, 2011 has been attached.

Regarding the existing Urban Collector cross section in the vicinity of Pyramid Peak Drive, at the time of application and approval of Meridian Ranch Estates Filing 2, Rex Road was classified as a Collector on the MTCP. It is our understanding that as part of the final plat process for Estates Filing No. 2, the County and GTL Development agreed that the four-lane cross section, built with the initial section of Rex Road east of Meridian, did not need to be carried farther east. As such, an agreement was reached to construct a County-standard Urban Residential Collector cross section.

- **Meridian Road** extends north from South Blaney Road to County Line Road. The posted speed limit on Meridian Road in the vicinity of Rex Road is 55 mph. Meridian Road is shown as a four-lane Principal Arterial south of Rex Road, a four-lane Minor Arterial north of Rex Road,

and a two-lane Minor Arterial north of Murphy Road on the El Paso County *Major Transportation Corridors Plan (MTCP)*.

- **Eastonville Road** is shown as a two-lane Minor Arterial on the El Paso County *Major Transportation Corridors Plan (MTCP)*. Eastonville Road is a two-lane roadway extending northeast from Meridian Road past Hodgen Road. The posted speed limit on Eastonville Road north of Londonderry Road is 45 mph. The Eastonville Road cross section south of Stapleton Drive is consistent with a two-lane Urban Collector cross section. The section north of Stapleton Drive has been identified as a two-lane Rural Minor Arterial on the MTCP. However, the actual design has yet to be completed and the design could potentially identify a cross section different from the standard ECM Rural Minor Arterial cross section.

Existing Traffic Volumes

Figure 5 shows the existing traffic volumes at the intersection of Meridian Road/Rex Road. These volumes are based on manual intersection turning-movement counts conducted by LSC in March 2019. The count data sheets are attached for reference.

Existing Levels of Service

Level of service (LOS) is a quantitative measure of the level of 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 and signalized intersections. LOS F represents control delay of more than 50 seconds for unsignalized intersections and more than 80 seconds for signalized intersections. Table 1 shows the level of service delay ranges.

Table 1: Level of Service Delay Ranges

| Level of Service | Signalized Intersections | Unsignalized Intersections |
|--|---|--|
| | Average Control Delay (seconds per vehicle) | 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. | | |

Figure 5 presents the results of the existing intersection level of service analysis. The levels of service are based on the unsignalized method of analysis procedures from the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board. The level of service reports are attached. The intersection of Rex Road and Meridian Road is currently two-way, stop sign-controlled. The westbound left-turn movement at this intersection is currently operating at LOS F during the morning and afternoon peak hours.

BACKGROUND TRAFFIC

Background traffic is the traffic estimated to be on the study area streets without consideration of the proposed development. It includes through traffic and traffic generated by adjacent/nearby developments.

Figure 6 shows the projected background traffic volumes for the short term. These background traffic volumes have been based on the existing traffic volumes (from Figure 5) plus estimates of additional traffic due to buildout of residential filings within Meridian Ranch that are either approved or currently under review, including: Meridian Ranch Filing 9; Meridian Ranch Estates; the Estates at Rolling Hills Ranch Filing 1; and Rolling Hills Ranch at Meridian Ranch Filing No. 1, 2, and 3. The short-term background traffic volumes do not include traffic from the Estates at Rolling Hills Ranch Filing No. 2. The short-term background analysis assumes Rex Road has been extended east to the proposed full-movement intersection (Estate Ridge Drive).

Figure 7 shows the projected 20-year background traffic volumes for the year 2040. The 2040 background/baseline traffic volumes are based on the *Meridian Ranch Sketch Plan Amendment Traffic Impact Analysis* dated October 3, 2017 and assume buildout of the Meridian Ranch development and other known approved developments within the vicinity of the site, including Grandview Reserve, Waterbury, and The Trails. The 2040 background traffic volumes do not include traffic from the Estates at Rolling Hills Ranch Filing No. 2.

TRIP GENERATION

The site-generated vehicle trips were estimated using the nationally published trip-generation rates from *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE). Table 2 shows the trip-generation estimates by phase.

The Estates at Rolling Hills Ranch Filing No. 2 is expected to generate about 925 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 a.m. and 8:30 a.m., about 18 vehicles would enter and 54 vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:15 a.m. and 6:15 p.m., about 61 vehicles would enter and 36 vehicles would exit the site.

DIRECTIONAL DISTRIBUTION

The directional distribution of the site-generated traffic volumes on the area roadways is an important factor in determining the site's traffic impacts. Figure 8 shows the short-term and long-term external directional distribution estimates for the site-generated traffic volumes. The estimates have been based on the following factors: the recent traffic count data; the site's location with respect to the nearby employment, commercial, and activity centers and the balance of the Falcon and Colorado Springs metropolitan area; the site's proposed land use; the site's proposed access points; and the phasing of the existing and future roadway system serving the site. The short-term distribution assumes the existing area street network with Rex Road extended east to the proposed full-movement intersection (Estate Ridge Drive) only. The short-term distribution estimate also assumes buildout of the streets within Rolling Hills Ranch at Meridian Ranch Filing Nos. 1, 2, and 3 and Lambert Road completed between the south boundary of those filings and Stapleton Drive. The long-term distribution is based on the distribution estimate shown in the study for the most recent *Meridian Ranch Sketch Plan* amendment dated October 3, 2017 and takes into account the future extension of Stapleton west to Briargate Parkway and extension of Rex Road east to US Hwy 24.

SITE-GENERATED TRAFFIC

The site-generated traffic volumes were calculated by applying the directional distribution percentages (from Figure 8) to the trip-generation estimates from Table 2. Internal trips within the overall Meridian Ranch development have been assigned separately, based on the location of the neighborhood commercial parcel, schools, parks, and community centers. See appendix Table 2 for the percentage of the internal trips assigned to each approach. Figures 9 and 10 show the projected short-term and long-term site-generated traffic volumes, respectively.

TOTAL TRAFFIC

Figure 11 shows the projected short-term total traffic volumes. The short-term total traffic volumes are the sum of the short-term background traffic volumes (from Figure 6) plus the short-term site-generated traffic volumes from Figure 9.

Figure 12 shows the projected 2040 total traffic volumes. The 2040 total traffic volumes are the sum of the 2040 background traffic volumes (from Figure 7) plus the 2040 site-generated traffic volumes from Figure 10.

PROJECTED LEVELS OF SERVICE

The key area intersections and site access points have been analyzed to determine the projected future levels of service, based on the unsignalized method of analysis procedures from the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board and Synchro signalized intersection procedures. Figures 6, 7, 11, and 12 show the level of service analysis

results. The laneage and traffic control assumed in the analysis are depicted in the figures. The level of service reports are attached.

Meridian/Rex

The intersection of Meridian/Rex is currently two-way, stop sign-controlled. The westbound left-turn movement at this intersection is currently operating at a LOS F during the morning and afternoon peak hours. Table 3 shows the projected level of service if this intersection were converted to traffic signal control or reconstructed as a modern roundabout. Table 3 also shows the corresponding vehicular delay values for comparison.

As shown in Table 3, the intersection of Meridian/Rex is projected to operate at LOS D or better for all movements during the peak hours, based on the projected short-term and 2040 total traffic volumes, as either a traffic signal-controlled intersection or modern roundabout. By 2040, it was assumed that Meridian Road would be widened to provide two northbound and southbound through lanes.

Eastonville/Rex

Rex Road is planned to be extended east to the proposed full-movement intersection just east of Sunrise Ridge Drive, only in the short term. By 2040, it was assumed that Rex Road would be extended east to US Hwy 24. The intersection of Eastonville/Rex is projected to operate at LOS F for some of the minor movements, as a stop sign-controlled intersection, based on the projected 2040 total peak-hour traffic volumes. Table 4 shows the projected level of service, if this intersection were converted to traffic signal control or reconstructed as a modern roundabout. Table 4 also shows the corresponding vehicular delay values for comparison. As shown in Table 4, the intersection of Eastonville/Rex is projected to operate at LOS D or better for all movements during the peak hours, based on the projected short-term and 2040 total traffic volumes, as either a traffic signal-controlled intersection or modern roundabout.

Other Rex Road Intersections

The intersections of Pyramid Peak/Rex, Sunrise Ridge/Rex, the full-movement intersection for Rolling Hills Ranch at Meridian Ranch Filing Nos. 1, 2, and 3, and the full-movement intersection for the Estates at Rolling Hills Ranch Fil No. 2 (Estate Ridge Drive) are projected to operate at a LOS C or better for all movements as two-way, stop sign-controlled intersections, based on the projected short-term and 2040 total peak-hour traffic volumes.

QUEUING ANALYSIS

A queuing analysis was performed using Synchro/SimTraffic for Rex Road between the planned full-movement intersection for Rolling Hills Ranch at Meridian Ranch Filing Nos. 1, 2, and 3 on the south side of Rex Road about 1,244 feet east of Sunrise Ridge Drive and a currently-proposed intersection on the north side of Rex Road (Estate Ridge Drive) about 560 feet further east. The 2040 total morning and afternoon peak-hour traffic volumes were entered into the Synchro model. The simulation was run five times and the results were averaged. The queuing reports are attached.

The projected maximum westbound left-turn queue on Rex Road approaching the full-movement intersection for Rolling Hills Ranch at Meridian Ranch Filing Nos. 1, 2, and 3 is 34 feet during the morning peak hour and 57 feet during the afternoon peak hour. The projected maximum eastbound left-turn queue length on Rex Road approaching the currently proposed full-movement intersection (Estate Ridge Drive) is 28 feet during the morning peak hour and 31 feet during the afternoon peak hour. The projected queues could be accommodated within the proposed 560-foot spacing between these two intersections.

TRAFFIC SIGNAL WARRANT ANALYSIS

Rex/Meridian

The intersection of Rex Road and Meridian Road was analyzed to determine if a traffic-signal warrant, based on either vehicular volume or crash history, is either currently met or would be met in the short term.

Note: The County approved a contract with AECOM in July to prepare a traffic study for Meridian Road just north of the Rex Road/Meridian Road intersection. It is our understanding that the purpose of this study is primarily to address the vertical profile of Meridian road as it affects the intersection sight distance at the Meridian Road/Rex Road intersection. The services include project coordination, project management, traffic study update, concept update, and preliminary design. Optional/additional services may include final design, property acquisition and/or engineering support during the construction phase.

Warrant 1, Eight-Hour Vehicular Volume

The combination of major street approach volumes (includes the sum of northbound and southbound approach volumes) and minor street volumes (eastbound and westbound approaches analyzed separately) at the subject intersection were analyzed to determine if the combination currently exceeds or would exceed the threshold criteria for Eight-Hour Vehicular-Volume Traffic-Signal Warrants in the *2009 Manual on Uniform Traffic Control Devices* (MUTCD). Table 5 shows the warrant evaluation.

Five of the eight hours analyzed currently meet the thresholds for an Eight-Hour Vehicular-Volume Warrant based on Condition B – Interruption of Continuous Traffic. All eight hours analyzed are projected to meet the Condition A criteria with additional traffic due to buildout of the approved Meridian Ranch residential filings, Rolling Hills Ranch at Meridian Ranch Filing No. 1, The Estates at Rolling Hills Ranch Filing Nos. 1 and 2. **This warrant is anticipated to be met with the currently-proposed filing.**

Warrant 2, Four-Hour Vehicular Volume

The combination of major street approach volumes (includes the sum of northbound and southbound approach volumes) and minor street volumes (eastbound and westbound approaches analyzed separately) at the subject intersection were analyzed to determine if the combination currently exceeds or would exceed the threshold criteria for a Four-Hour Vehicular-Volume Traffic-Signal Warrant in the *2009 Manual on Uniform Traffic Control Devices* (MUTCD). Table 5 shows the warrant evaluation.

Five of the eight hours analyzed currently meet the thresholds for a Four-Hour Vehicular Volume Warrant. **This warrant is currently met.**

Warrant 3, Peak Hour

Per the MUTCD, “This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.” Based on this standard, a peak-hour traffic-signal warrant should not be applied to the intersection of Meridian/Rex.

Warrant 3, Pedestrian Volume

Per the MUTCD, “The Pedestrian Volume signal warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.” The lower-threshold pedestrian volume for a major street with a posted speed limit is 75 pedestrians per hour for a Four-Hour Volume Warrant and 93 pedestrians per hour for a Peak-Hour Pedestrian-Volume Warrant. The pedestrian volumes at the intersection of Meridian/Rex are anticipated to be below these thresholds.

Warrant 5, School Crossing

Per the MUTCD, “The School Crossing signal warrant is intended for application where the fact that schoolchildren cross the major street is the principal reason to consider installing a traffic control signal.” School children are not anticipated to cross Meridian Road at Rex Road.

Warrant 6, Coordinated Signal System

Per the MUTCD, “Progressive movement in a coordinated signal system sometimes necessitates installing traffic control signals at intersections where they would not otherwise be needed in order to maintain proper platooning of vehicles.” There are no existing traffic signals on Meridian Road north of Rex Road and it is our understanding that traffic signals on Meridian Road south of Rex Road are not currently coordinated.

Warrant 7 Analysis (Crash Experience)

The following is from the MUTCD:

Support:

01 The Crash Experience signal warrant conditions are intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal.

Standard:

02 The need for a traffic control signal shall be considered if an engineering study finds that all of the following criteria are met:

- A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and*
- B. Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and*
- C. For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 80 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.*

The Colorado State Patrol provided LSC with crash data for the intersection of Rex Road and Meridian Road from 2016 through 2018. There were five reported crashes at this intersection in 2018. Four of the crashes would clearly be considered susceptible to correction by a traffic-control signal. The fifth crash was a rear end crash involving two eastbound vehicles that could potentially also be susceptible to correction by a traffic-control signal. A sixth crash occurred two weeks outside of the 12-month window that would be susceptible to correction by a traffic-control signal. A copy of these data is attached for reference.

Based on analysis of the available data, item B above has likely been satisfied, as five crashes susceptible to correction by a traffic control signal were reported in a twelve-month period. Item C is also currently satisfied. Item A would likely be reviewed by AECOM as part of their

contracted work with El Paso County. Based on the analysis contained in this report, this would be the final remaining item before the warrant is satisfied.

Warrant 8, Roadway Network

Per the MUTCD, "Installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway network." This situation is not applicable to the intersection of Meridian/Rex.

Warrant 9, Intersection Near a Grade Crossing

There are no existing grade crossings in the vicinity of the intersection of Meridian/Rex.

Both an Eight-Hour and a Four-Hour Vehicular-Volume Traffic-Signal Warrant are projected to be met following buildout of the currently-proposed Estates at Rolling Hills Ranch Filing No. 2. The satisfaction of warrants does not indicate that a signal must be installed. The decision to require a signal to be installed at this location rests with the County. Following the acceptance of this finding, the applicant will begin the design plans for the traffic-control signal and obtain County approval. Therefore, once warrants are met in the field, the signal can be installed.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

- The Estates at Rolling Hills Ranch Filing No. 2 is expected to generate about 925 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, about 18 vehicles would enter and 54 vehicles would exit the site. During the afternoon peak hour, about 61 vehicles would enter and 36 vehicles would exit the site.

Signal Warrant Analysis

- Both an Eight-Hour and a Four-Hour Vehicular-Volume Traffic-Signal Warrant are projected to be met following buildout of the currently-proposed Estates at Rolling Hills Ranch Filing No. 2. The satisfaction of warrants does not indicate that a signal must be installed. The decision to require a signal to be installed at this location rests with the County. Following the acceptance of this finding, the applicant will begin the design plans for the traffic-control signal and obtain County approval. Therefore, once warrants are met in the field, the signal can be installed.

Required Improvements

- A list of all improvements in the vicinity of the site is presented in Table 6.
- Based on the projected 2040 total traffic volumes shown in Figure 12 and the criteria contained in the ECM, no auxiliary turns lanes are anticipated to be required on Rex Road approaching Sunrise Ridge Drive and Pyramid Peak Drive.
- Regarding the projected eastbound left-turn volume (25vph) at the Rex/Sunrise Ridge intersection in the short-term scenario: This short-term scenario assumes Rex Road only constructed to Estate Ridge Drive (1,804 feet to the east of this location). Rex will basically be a low-volume access road for this Filing and Rolling Hills Ranch Filing Nos. 1 and 2. This is an interim condition where traffic arrives from the west but not the east on Rex Road. Although in this interim scenario prior to the completion of Rex to Eastonville Road, the eastbound left-turn volume just meets the threshold in this interim condition. Once Rex is connected to Eastonville, the distribution of trips will shift and the turn volume is projected to be below the 25 vph threshold. As Rex Road terminates at Estate Ridge Drive and only serves as basically an access road for Estates at Rolling Hills Ranch Fil 1 and Rolling Hills Ranch Filing Nos 1 and 2, the short-term opposing volumes will be light with little impedance to eastbound left-turning traffic. Also note, even on State Highways, the CDOT criteria allows for a left-turn lane requirement to be waived when the opposing through volume is below 100 vehicles per hour (vph). The projected westbound through volume is 63 vph during the afternoon peak hour when the eastbound left-turn volume is projected to be 25 vph in this interim scenario.
- Based on the projected 2040 total traffic volumes shown in Figure 12 and the criteria contained in the ECM, an eastbound left-turn lane is required on Rex Road approaching Estate Ridge Drive. Based on the criteria contained in the ECM this lane should be 205 feet long, plus a 160-foot taper. However, the proposed spacing between Rolling Ranch Drive and Estate Ridge Drive will not accommodate full-length left-turn lanes approaching both intersections. Based on the results of the queueing analysis, LSC recommends this section of Rex Road be striped with a 190-foot westbound left-turn lane approaching Rolling Ranch Drive, a 185-foot eastbound left-turn lane approaching Estate Ridge Drive and a shared 90-foot reverse curve taper. A deviation request has been submitted for the recommended lane configuration.
- Based on the projected 2040 total traffic volumes shown in Figure 12 and the criteria contained in the ECM, a westbound right-turn deceleration lane is not anticipated to be required on Rex Road approaching Estate Ridge Drive.

Traffic Signal Design Plans – Rex & Meridian

- The applicant is working with Public Works Division and the County Engineer on necessary details regarding future plans for this intersection - primarily related to the future alignment, configuration, etc. of the west leg of the intersection. This information/direction is necessary prior to preparing the signal plans as these details directly affect the placement of signal poles and other design details. The applicant plans to prepare and submit traffic signal plans for review and approval once these details are worked out with Public Works Division. It is the

applicant's responsibility to contact the road impact fee advisory committee to determine if this is an eligible intersection improvement for reimbursement under the road impact fee.

Street Classifications

- Figure 13 shows the recommended internal street classifications based on the projected buildout traffic volumes for The Estates at Rolling Hills Ranch.

Pedestrian Access

- Figure 3 shows the recommended location of cross walks on Rex Road. In general, crosswalk bars should be used at marked, designated pedestrian-crossing locations.

Anticipated Deviation Requests

The following deviation requests have been made as part of this application:

- A deviation to construct Rex Road as a two-lane Minor Arterial versus a four-lane Minor Arterial and any design elements not meeting criteria for a Minor Arterial that are associated with the connection to the existing section of Rex Road just to the west (due to limited ROW).
- A deviation to allow the proposed 1,156-foot-long cul-de-sac, on Crescent Creek Drive – a Local Low Volume street – at a location northwest of the intersection of Rex Road and Estate Ridge Drive.
- A deviation to eliminate mid-block pedestrian crossings between the following streets: Rex Road, Crescent Creek Drive, Sunrise Ridge Drive, and Highland Crest Drive.
- A deviation to the required left-turn lane lengths on Rex Road approaching Rolling Ranch Drive and Estate Ridge Drive.
- Intersection spacing along an Urban Minor Arterial - Rex Road between Estate Ridge Drive and Rolling Ranch Drive.

Transportation Improvement Fee Program

- Rolling Hills Ranch at Meridian Ranch will not be required to participate in the Countywide Transportation Improvement Fee Program, as Meridian Ranch is located within **the Woodmen Road Metropolitan District**. Woodmen Road district fees would apply. **Note:** Regarding a potential request for Fee Program credit for design and/or installation of the traffic signal at Rex Road/Meridian Road, it is the applicant's responsibility to 1) contact the road impact fee advisory committee to determine if this is an eligible intersection improvement for reimbursement under the road impact fee, 2) submit a request for Fee program credit (if applicable). Any credit, if approved, would be per Fee program provisions and is based on program unit costs, not actual costs incurred.

* * * * *

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

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

By: Jeffrey C. Hodsdon, P.E.
Principal

JCH:KDF:jas

Enclosures: Tables 2-6
 Appendix Tables 1-2
 Exhibit 1
 Figures 1-13
 MTCP Maps
 Traffic Count Reports
 Level of Service Reports
 Queuing Reports
 Crash History

Tables 2-6

Table 2
Trip Generation Estimate
The Estates at Rolling Hills Ranch Filing No. 2

| Land Use Code | Land Use Description | Trip Generation Units | Trip Generation Rates ⁽¹⁾ | | | | | | Total Trips Generated | | | |
|---|--------------------------------|-----------------------|--------------------------------------|-------------------|------|---------------------|------|-------------------------|-----------------------|-----|---------------------|-----|
| | | | Average Weekday Traffic | Morning Peak Hour | | Afternoon Peak Hour | | Average Weekday Traffic | Morning Peak Hour | | Afternoon Peak Hour | |
| | | | | In | Out | In | Out | | In | Out | In | Out |
| 210 | Single-Family Detached Housing | 98 DU ⁽²⁾ | 9.44 | 0.19 | 0.56 | 0.62 | 0.37 | 925 | 18 | 54 | 61 | 36 |
| Notes: (1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE) (2) DU = dwelling units | | | | | | | | | | | | |
| Source: LSC Transportation Consultants, Inc. | | | | | | | | | | | | |

Table 3
Level of Service Comparison
Rex Road/Meridian Road
The Estates at Rolling Hills Ranch Filing No. 2

| Scenario | | Short-Term Total Traffic Morning Peak Hour | | | | | | | | | Overall |
|----------------------------|-------|--|-----------|-----------|------|------------|-------|------|------------|------|---------|
| | | Eastbound | | Westbound | | Northbound | | | Southbound | | |
| | | Left/Thru/Right | Left/Thru | Right | Left | Thru | Right | Left | Thru/Right | | |
| Two-Way, Stop-Sign Control | Delay | 450.9 | 2564.1 | 11.3 | 9.5 | Free | Free | 8.4 | Free | --- | |
| | LOS | F | F | B | A | | | A | | | |
| Modern Roundabout | Delay | 8.9 | 17.2 | | | 9.3 | | 22.4 | | 15 | |
| | LOS | A | C | | | A | | C | | C | |
| Signal Control | Delay | 7.1 | 53.7 | 5.9 | 23.2 | 12.9 | 3.0 | 10.9 | 14.3 | 21.4 | |
| | LOS | A | D | A | C | B | A | B | B | C | |

| Scenario | | Short-Term Total Traffic Afternoon Peak Hour | | | | | | | | Overall | |
|----------------------------|-------|--|-----------|-----------|------|------------|-------|------|------------|---------|--|
| | | Eastbound | | Westbound | | Northbound | | | Southbound | | |
| | | Left/Thru/Right | Left/Thru | Right | Left | Thru | Right | Left | Thru/Right | | |
| Two-Way, Stop-Sign Control | Delay | 92.5 | 1241.5 | 10.5 | 8.1 | Free | Free | 9.2 | Free | --- | |
| | LOS | F | F | A | A | | | A | | | |
| Modern Roundabout | Delay | 9.3 | 7.2 | | 12.8 | | | 7.4 | | 10.3 | |
| | LOS | A | A | | B | | | A | | B | |
| Signal Control | Delay | 15.7 | 52.1 | 7.7 | 9.8 | 10.5 | 2.1 | 9.2 | 9.9 | 14.4 | |
| | LOS | B | D | A | A | B | A | A | A | B | |

| Scenario | | 2040 Total Traffic Morning Peak Hour | | | | | | | | | | | | | | |
|-------------------|-------|--------------------------------------|------|-------|-----------|------|-------|------------|------|-------|------------|------|-------|---------|---|------|
| | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | Overall | | |
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | | | |
| Modern Roundabout | Delay | 11.4 | | | 24.8 | | | 6.5 | | 6.6 | | 14.4 | | 13.5 | | 13.4 |
| | LOS | B | | | C | | | A | | A | | B | | B | | B |
| Signal Control | Delay | 22.5 | 23.7 | 5.5 | 47.8 | 25.9 | 5.8 | 28.7 | 9.2 | 2.6 | 9.8 | 9.8 | 2.2 | 17.6 | | |
| | LOS | C | C | A | D | C | A | C | A | A | A | A | A | A | B | |

| Scenario | | 2040 Total Traffic Afternoon Peak Hour | | | | | | | | | | | | | | |
|-------------------|-------|--|------|-------|-----------|------|-------|------------|------|-------|------------|------|-------|---------|---|------|
| | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | Overall | | |
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | | | |
| Modern Roundabout | Delay | 16.9 | | | 13.8 | | | 8.7 | | 8.7 | | 8.6 | | 8.2 | | 11.0 |
| | LOS | C | | | B | | | A | | A | | A | | A | | B |
| Signal Control | Delay | 23.4 | 27.2 | 5.8 | 46.5 | 27.3 | 6.2 | 10.0 | 7.8 | 1.8 | 9.7 | 7.8 | 2.0 | 12.6 | | |
| | LOS | C | C | A | D | C | A | C | A | A | A | A | A | A | B | |

Source: LSC Transportation Consultants, Inc.

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**Table 5
Level of Service Comparison
Rex Road/Eastonville Road
The Estates at Rolling Hills Ranch Filing No. 2**

| Scenario | | 2040 Total Traffic Morning Peak Hour | | | | | | | | | | | | |
|----------------------------|-------|--------------------------------------|---------|-------|-----------|---------|-------|------------|---------|-------|------------|---------|-------|---------|
| | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | Overall |
| | | Left | Through | Right | Left | Through | Right | Left | Through | Right | Left | Through | Right | |
| Two-Way, Stop-Sign Control | Delay | 25.3 | 54.1 | 10.9 | 3402.2 | 18.0 | 9.1 | 8.0 | Free | Free | 8.5 | Free | Free | --- |
| | LOS | D | F | B | F | C | A | A | | | A | | | |
| Modern Roundabout | Delay | 11.1 | | 11.8 | 19.2 | | | 5.0 | | 6.7 | 16.0 | | | 13.4 |
| | LOS | B | | B | C | | | A | | A | C | | | B |
| Signal Control | Delay | 7.0 | 21.1 | 6.3 | 52.6 | 11.4 | 1.6 | 18.9 | 17.3 | 6.1 | 15.1 | 19.5 | 5.1 | 25.1 |
| | LOS | A | C | A | D | B | A | B | B | A | B | B | A | C |

| Scenario | | 2040 Total Traffic Afternoon Peak Hour | | | | | | | | | | | | |
|----------------------------|-------|--|---------|-------|-----------|---------|-------|------------|---------|-------|------------|---------|-------|---------|
| | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | Overall |
| | | Left | Through | Right | Left | Through | Right | Left | Through | Right | Left | Through | Right | |
| Two-Way, Stop-Sign Control | Delay | 77.4 | 305.1 | 10.0 | >5000 | 31.8 | 9.1 | 8.2 | Free | Free | 9.7 | Free | Free | --- |
| | LOS | F | F | B | F | D | A | A | | | A | | | |
| Modern Roundabout | Delay | 8.4 | | 6.6 | 14.8 | | | 5.8 | | 11.1 | 14.7 | | | 11.5 |
| | LOS | A | | A | B | | | A | | B | B | | | B |
| Signal Control | Delay | 10.7 | 25.4 | 7.7 | 28.3 | 16.5 | 0.1 | 18.3 | 13.8 | 8.4 | 12.3 | 15.1 | 4.2 | 15.9 |
| | LOS | B | C | A | C | B | A | B | B | A | B | B | A | B |

Source: LSC Transportation Consultants, Inc.

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| |
|--|
| <p>Table 5</p> <p>The Estates at Rolling Hills Filing No. 2</p> <p>Traffic Signal Warrant Analysis of Rex Road/Meridian Road</p> |
|--|

| Hour | Traffic Volumes | | | | | | | | | | | | | | | Warrant 1, Eight Hour Vehicular Volume Evaluation ⁽⁵⁾ | | | | | | | | | | Warrant 2, Four Hour Vehicular Volume Evaluation ⁽⁵⁾ | | | | | Warrant 7, Crash Experience ⁽⁶⁾ | | | | | | | | | | | | | |
|----------|-------------------------|-------------------|-------------------|---|----|----|-------|-----|-----|----------------------------------|----|----|-------|-----|-----|--|-------|-------|-------|---|-----|-----|-----|-------------------|-----|---|------------------------|-----------------------|-------------------|---------------------------|--|-------------------------|-------------------------|------------------------|-------------------|-------------------------|-------------------------|---------------------|---------------------|-----|-----------------------|-----|-------------------|--|
| | Existing ⁽¹⁾ | | | Short-Term Background Traffic | | | | | | Short-Term Total Traffic | | | | | | Warrant Thresholds | | | | Warrant Threshold Met? | | | | | | Warrant Threshold Minor Minimum | Warrant Threshold Met? | | | Warrant Volume Thresholds | | | | Warrant Threshold Met? | | | | | | | | | | |
| | | | | Buildout of Meridian Ranch filings that are approved or currently under review ⁽⁷⁾ | | | | | | Existing + Approved/Under Review | | | | | | The Estates at Rolling Hills Ranch Fil No. 2 | | | | Existing + Approved/Under Review + Currently Proposed | | | | Condition A (70%) | | | Condition B (70%) | | Existing | | Short-Term Background | | Short-Term Total | | Condition A (56%) | | Condition B (56%) | | Existing | | Short-Term Background | | Short-Term Future | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Major ⁽²⁾ | EB ⁽³⁾ | WB ⁽⁴⁾ | Major | EB | WB | Major | EB | WB | Major | EB | WB | Major | EB | WB | Major | Minor | Major | Minor | A | B | A | B | A | B | Warrant Threshold Minor Minimum | Existing | Short-Term Background | Short-Term Future | Condition A (56%) Major | Condition A (56%) Minor | Condition B (56%) Major | Condition B (56%) Minor | Existing A | Existing B | Short-Term Background A | Short-Term Background B | Short-Term Future A | Short-Term Future B | | | | | |
| | 6:30 AM | 783 | 80 | 192 | 12 | 3 | 43 | 795 | 83 | 235 | 5 | 1 | 17 | 800 | 84 | 252 | 350 | 105 | 525 | 53 | Yes | Yes | Yes | Yes | Yes | Yes | 62 | Yes | Yes | Yes | 336 | 84 | 504 | 42 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | |
| 7:30 AM | 809 | 75 | 93 | 22 | 5 | 73 | 831 | 80 | 166 | 9 | 1 | 30 | 840 | 81 | 196 | 350 | 105 | 525 | 53 | No | Yes | Yes | Yes | Yes | Yes | 60 | Yes | Yes | Yes | 336 | 84 | 504 | 42 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | | |
| 11:30 AM | 472 | 82 | 75 | 42 | 9 | 33 | 514 | 91 | 108 | 18 | 2 | 14 | 532 | 93 | 122 | 350 | 105 | 525 | 53 | No | No | Yes | No | Yes | Yes | 135 | No | No | No | 336 | 84 | 504 | 42 | No | No | Yes | Yes | Yes | Yes | Yes | Yes | | | |
| 12:30 PM | 461 | 85 | 59 | 44 | 9 | 35 | 505 | 94 | 94 | 19 | 2 | 15 | 524 | 96 | 109 | 350 | 105 | 525 | 53 | No | No | No | No | Yes | No | 139 | No | No | No | 336 | 84 | 504 | 42 | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | | | |
| 1:45 PM | 471 | 71 | 51 | 55 | 11 | 40 | 526 | 82 | 91 | 24 | 2 | 18 | 550 | 84 | 109 | 350 | 105 | 525 | 53 | No | No | No | Yes | Yes | Yes | 135 | No | No | No | 336 | 84 | 504 | 42 | No | No | Yes | Yes | Yes | Yes | Yes | Yes | | | |
| 2:45 PM | 852 | 129 | 80 | 66 | 13 | 38 | 918 | 142 | 118 | 30 | 2 | 17 | 948 | 144 | 135 | 350 | 105 | 525 | 53 | Yes | Yes | Yes | Yes | Yes | Yes | 60 | Yes | Yes | Yes | 336 | 84 | 504 | 42 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | | |
| 4:00 PM | 693 | 159 | 61 | 82 | 16 | 48 | 775 | 175 | 109 | 36 | 3 | 21 | 811 | 178 | 130 | 350 | 105 | 525 | 53 | Yes | Yes | Yes | Yes | Yes | Yes | 71 | Yes | Yes | Yes | 336 | 84 | 504 | 42 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | | |
| 5:00 PM | 769 | 204 | 65 | 81 | 16 | 48 | 850 | 220 | 113 | 35 | 3 | 21 | 885 | 223 | 134 | 350 | 105 | 525 | 53 | Yes | Yes | Yes | Yes | Yes | Yes | 63 | Yes | Yes | Yes | 336 | 84 | 504 | 42 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | | |
| | | | | | | | | | | | | | | | | | | | | | 4 | 5 | 6 | 6 | 8 | 7 | | 5 | 5 | 5 | | 6 | 5 | 8 | 8 | 8 | 8 | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | No | No | No | No | Yes | No | | Yes | Yes | Yes | | No | Yes | Yes | Yes | No | No | Yes | Yes | Yes | Yes | | | |

Notes:

(1) Based on counts by LSC in March 2019.

(2) Meridian Road northbound and southbound left-turn, through, and right-turn volumes.

(3) Rex Road Eastbound left-turn, through, and right-turn volumes.

(4) Rex Road Westbound left-turn and through volumes only. Right-Turn volumes have been excluded as there is an existing exclusive lane for this turning movement

(5) Thresholds are based on 1 lane on the major approach and 1 lane on the minor approach with the 70% factor used as the major street speed exceeds 40 mph.

(6) Note: The traffic volume threshold evaluation is only one of several elements of Warrant No. 7. Please refer to the report narrative for details.

(7) The volumes shown include buildout of Meridian Ranch Estates Fil No. 3, Meridian Ranch Fil No. 9, The Estates at Rolling Hills Fil No. 1, and Rolling Hills at Meridian Ranch Fil No. 1

Source: LSC Transportation Consultants, Inc.

| Table 6 The Estates at Rolling Hills Ranch Filing No. 2 Roadway Improvements | | | |
|--|---|--|---|
| Item # | Improvement | Timing | Responsibility |
| Roadway Segment Improvements | | | |
| 1 | Eastonville Road - Rex Road to Latigo final grading and paving | TBD by EPC; PPRTA "A-List" Project | PPRTA ⁽¹⁾ |
| 2 | Eastonville Road - Roadway Design - Stapleton to Rex Road | As per EPC direction | Meridian Ranch |
| 3 | Eastonville Road - Roadway Upgrade - Stapleton to Rex Road | TBD by EPC; PPRTA "A-List" Project | PPRTA ⁽¹⁾ |
| 4 | Construct Rex Road as an Urban 2-Lane Minor Arterial from Sunrise Ridge Drive to the proposed east site access. | With this subdivision | Meridian Ranch |
| 5 | Construct Rex Road as an Urban 2-Lane Minor Arterial from the proposed east site access to Eastonville Road | With future Meridian Ranch subdivisions | Meridian Ranch |
| 6 | Rex Road from Eastonville Road to US 24 | With Grandview Reserve | Grandview Reserve |
| 7 | Meridian Road - Widen to provide two northbound and two southbound through lanes from just north of Indian Paint Trail to Murphy Road. | Shown on 2040 MTCP Roadway Plan | El Paso County |
| 8 | Construct Lambert Road as an Urban Residential Collector from current terminus to its planned terminus within the Rolling Hills Ranch at Meridian Ranch site | Rolling Hills Ranch at Meridian Ranch Filing No. 1 | Meridian Ranch |
| Rex/Meridian | | | |
| 9 | Rex/Meridian intersection traffic control (Traffic Signal) | The applicant plans to prepare and submit traffic signal plans for review and approval once intersection details and phasing are worked out with Public Works Division (please refer to report narrative). | Applicant ⁽²⁾ |
| 10 | Potentially improve the vertical roadway profile on Meridian Road north of the intersection if the such an improvement in the vertical roadway profile would improve the sight distance and as a result, the safety of the intersection. | Currently under study by El Paso County | El Paso County |
| 11 | Potentially Improve the west leg of this intersection to improve lane alignment, potentially reduce the skew, provide separate left and right-turn lanes, and potentially other improvements (potentially including restriping/reconfigure the east leg as needed). If determined as part of the study by EPC that safety and operations would be improved as a result. | Currently under study by El Paso County; | El Paso County |
| Rex/Eastonville | | | |
| 12 | Include a northbound left-turn lane on Eastonville Road at Rex Road into the design of the Eastonville Road PPRTA project. | TBD by EPC; PPRTA "A-List" Project | PPRTA |
| 13 | Include a southbound right turn lane on Eastonville Road at Rex Road into the design of the Eastonville Road PPRTA project. | TBD by EPC; PPRTA "A-List" Project | PPRTA |
| 14 | Construct 205' eastbound left-turn plus 160' taper on Rex Road approaching Eastonville Road | To be included in the design and construction (lane will be included in roadway cross section). | Meridian Ranch |
| 15 | Reserve ROW for 155' eastbound right-turn deceleration lane plus 160 foot taper on Rex Road approaching Eastonville Road | With development of projects adjacent to this section of Rex Road | ROW Preservation ONLY - with development projects |
| 16 | Convert from two-way, stop-sign control to alternate traffic control (traffic signal or modern one-lane roundabout) | Future (with the connection of Rex Road to Highway 24, future area development and increases in through traffic) | Likely El Paso County under the county fee program guidelines |
| Rex/Rolling Ranch Drive & Rex/Estate Ridge | | | |
| 17 | Construct a 190-foot westbound left-turn lane on Rex Road approaching Rolling Ranch Drive and a 185-foot eastbound left-turn lane on Rex Road approaching Estate Ridge Drive with a shared 90-foot reverse curve taper. | The Estates at Rolling Hills Ranch Filing No. 2 | Meridian Ranch |
| Notes: (1) The design of Eastonville Road is being performed by the Meridian Ranch developer. The projected will be constructed by El Paso County as PPRTA project. (2) It is the applicants responsibility to contact the road impact fee advisory committee to determine if this is an eligible intersection improvement for reimbursement under the road impact fee. | | | |
| Source: LSC Transportation Consultants, Inc. (October 8, 2020) | | | |

Appendix Tables 1-2

Appendix Table 1
Area Traffic Impact Studies by LSC
The Estates at Rolling Hills Ranch Filing No. 2

| Study | Date |
|--|-------------------|
| Meridian Ranch | |
| Meridian Ranch Sketch Plan TIA | April 11, 2011 |
| Meridian Ranch Filing 11 Updated TIA | November 26, 2013 |
| Stonebridge at Meridian Ranch Filing No. 1 Updated TIA | April 23, 2014 |
| Stonebridge at Meridian Ranch Transportation Memorandum | July 28, 2015 |
| Meridian Ranch Filing 8 Updated TIA | December 23, 2014 |
| Meridian Ranch Filing 9 Updated TIA | May 21, 2015 |
| Meridian Ranch Sketch Plan 2015 Amendment TIA | July 30, 2015 |
| The Vistas at Meridian Ranch TIA | March 24, 2016 |
| Meridian Ranch Estates Filing No. 2 Transportation Memorandum | August 27, 2015 |
| The Vistas at Meridian Ranch Updated Transportation Memorandum | June 20, 2017 |
| Londonderry Drive Pedestrian Operations and Safety Study | February 8, 2017 |
| Stonebridge Filing 3 at Meridian Ranch Updated TIA | March 20, 2017 |
| Meridian Ranch Sketch Plan 2017 Amendment TIA | October 3, 2017 |
| WindingWalk at Meridian Ranch and The Enclave at Stonebridge at Meridian Ranch Updated Traffic Impact Analysis | May 10, 2018 |
| Estates at Rolling Hills Ranch Filing No. 1 TIA | March 13, 2019 |
| Rolling Hills Ranch at Meridian Ranch Updated TIA | June 29, 2020 |
| Waterbury/4-Way Ranch | |
| Waterbury PUD Development Plan Updated TIA | January 10, 2013 |
| Waterbury Preliminary Plan No. 1 Updated TIA | June 5, 2013 |
| Waterbury Phase 2 Preliminary Plan | August 3, 2017 |
| Waterbury Phase 1 Filing Nos. 2 and 3 | October 16, 2017 |
| Grandview Reserve Master Traffic Impact Analysis | July 10, 2020 |
| <i>Source: LSC Transportation Consultants, Inc. (July 2020)</i> | |

Appendix Table 2
Trip Assignment
The Estates at Rolling Hills Ranch Fil No. 2

SHORT TERM ASSIGNMENT OF SITE-GENERATED TRAFFIC

| Trip Type | To/From the West on Rex Road | | To/From the East on Rex Road | | To/From the South on Sunset Ridge Drive | | To/From the South on Rolling Hills Ranch Access | | Total |
|----------------------------|---|------------|---|-----------|--|-----------|--|-----------|--------------|
| External to Meridian Ranch | 550 | 66% | 0 | 0% | 128 | 15% | 155 | 19% | 833 |
| Internal to Meridian Ranch | 48 | 53% | 0 | 0% | 33 | 36% | 10 | 11% | 91 |
| TOTAL | 598 | 65% | 0 | 0% | 161 | 0% | 165 | 0% | 924 |

LONG TERM ASSIGNMENT OF SITE-GENERATED TRAFFIC

| Trip Type | To/From the West on Rex Road | | To/From the East on Rex Road | | To/From the South on Sunset Ridge Drive | | To/From the South on Rolling Hills Ranch Access | | Total |
|----------------------------|---|------------|---|------------|--|-----------|--|-----------|--------------|
| External to Meridian Ranch | 531 | 65.5% | 280 | 34.5% | 0 | 0% | 0 | 0% | 811 |
| Internal to Meridian Ranch | 44 | 39% | 20 | 18% | 32 | 28% | 18 | 16% | 114 |
| TOTAL | 575 | 62% | 300 | 32% | 32 | 0% | 18 | 0% | 925 |

Notes:

(1) See attached traffic analysis zone map

Source: LSC Transportation Consultants, Inc.

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Exhibit 1



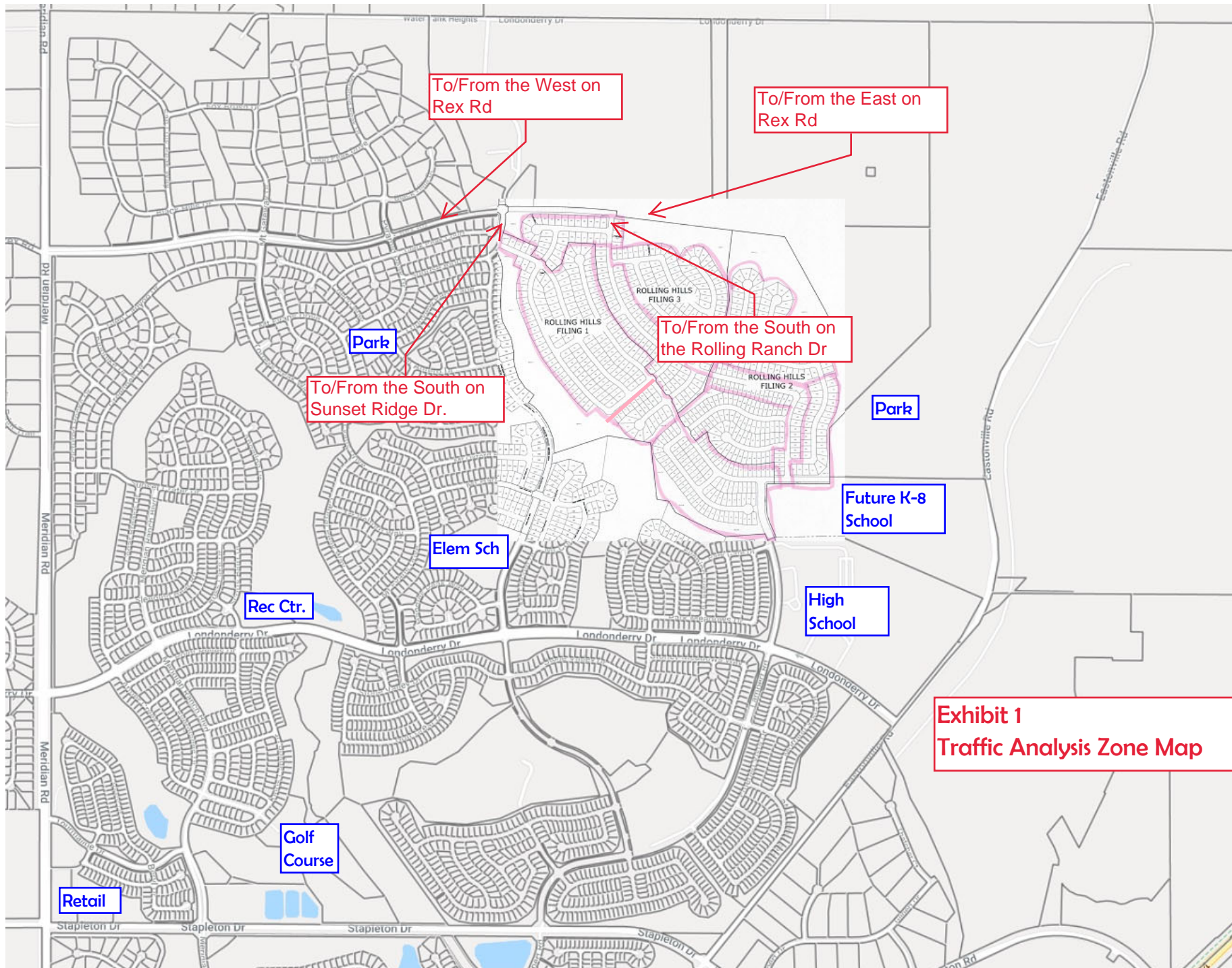


Exhibit 1
Traffic Analysis Zone Map

Figures 1-13



Approximate Scale
Scale: 1"= 2,000'

Figure 1
**Vicinity
Map**

The Estates at Rolling Hills Ranch Filing 2 (LSC #204400)



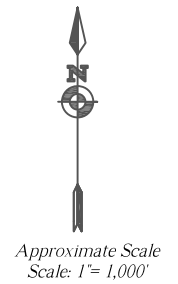
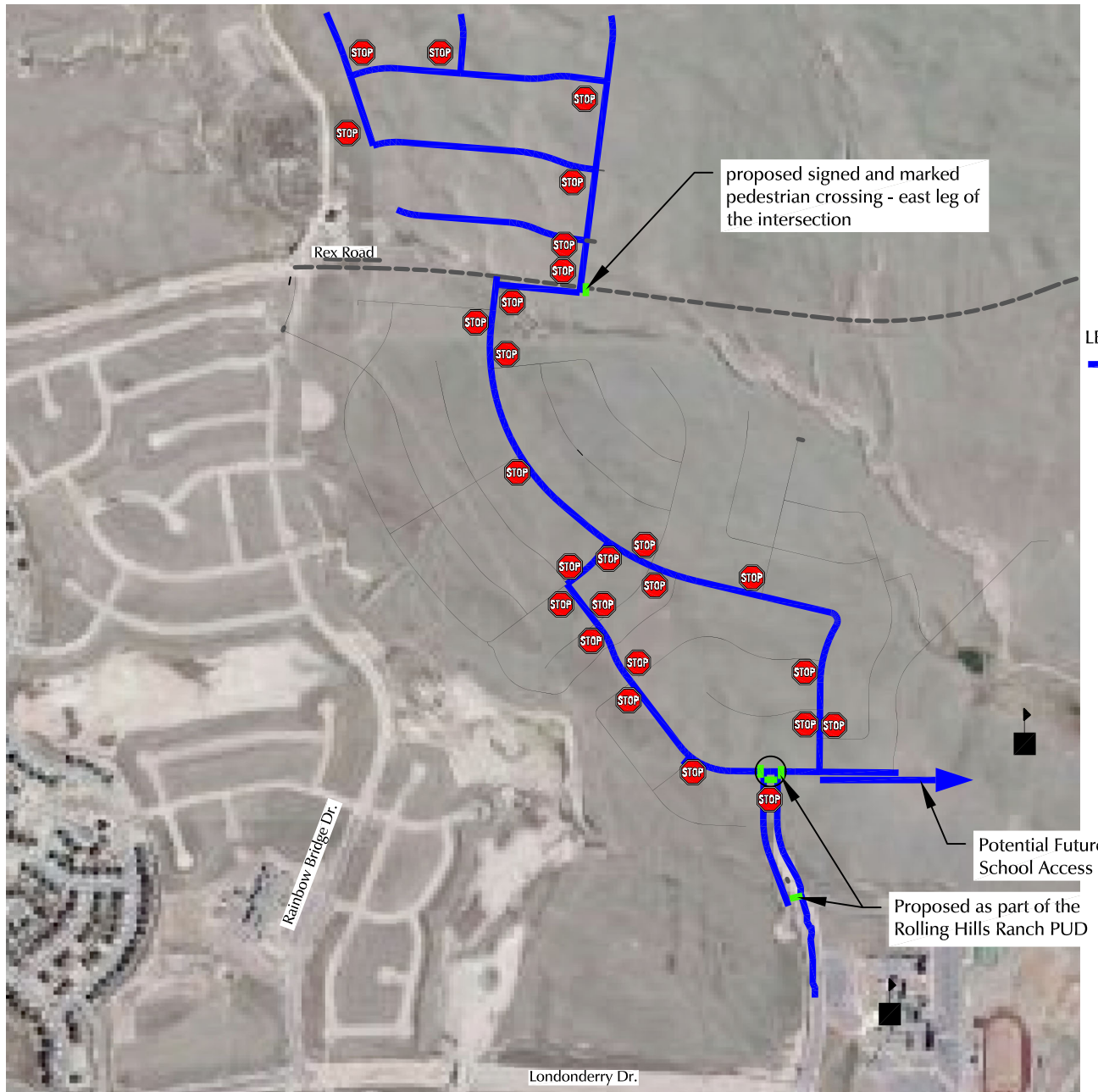


Figure 3
**School
Pedestrian Routes**

The Estates at Rolling Hills Ranch Filing 2 (LSC #204400)



Approximate Scale
Scale: 1"=150'

LEGEND:

- = ECM Required Intersection Sight Distance (445' based on a design speed of 50 mph from Table 2-21)
- = ECM Required Stopping Sight Distance (305' based on a design speed of 50 mph from Table 2-17)



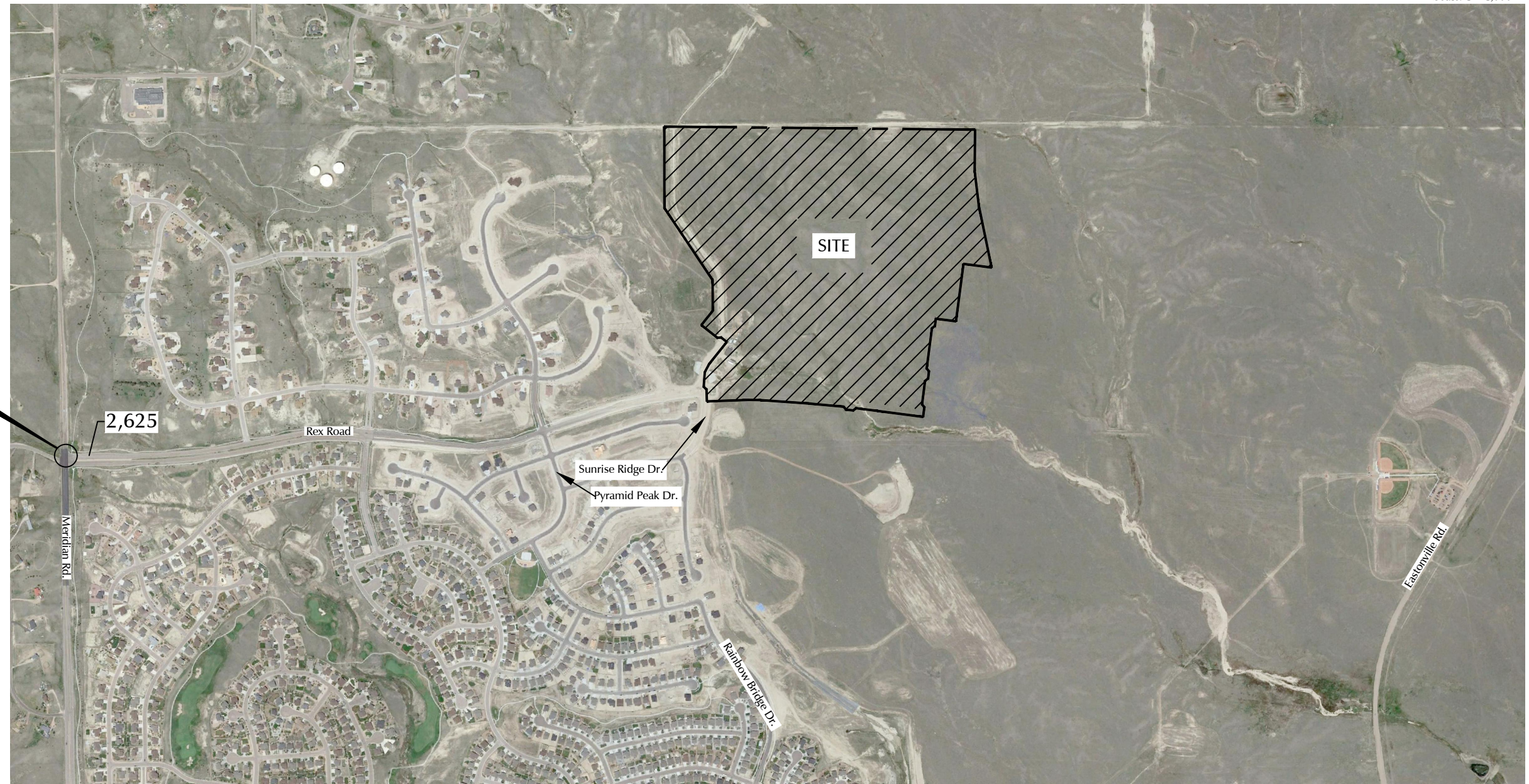
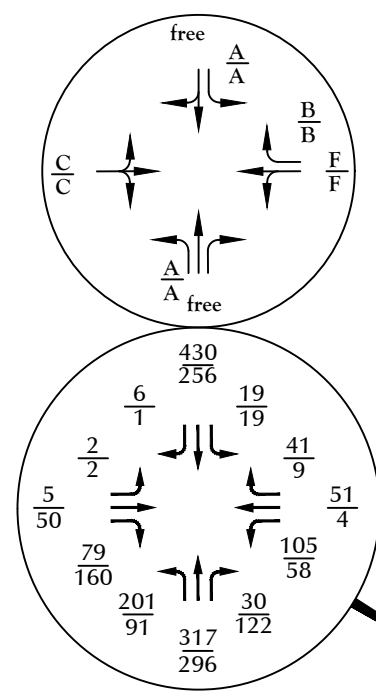
Figure 4

Sight Distances Analysis

The Estates at Rolling Hills Ranch Filing 2 (LSC #204400)



Approximate Scale
Scale: 1" = 1,000'

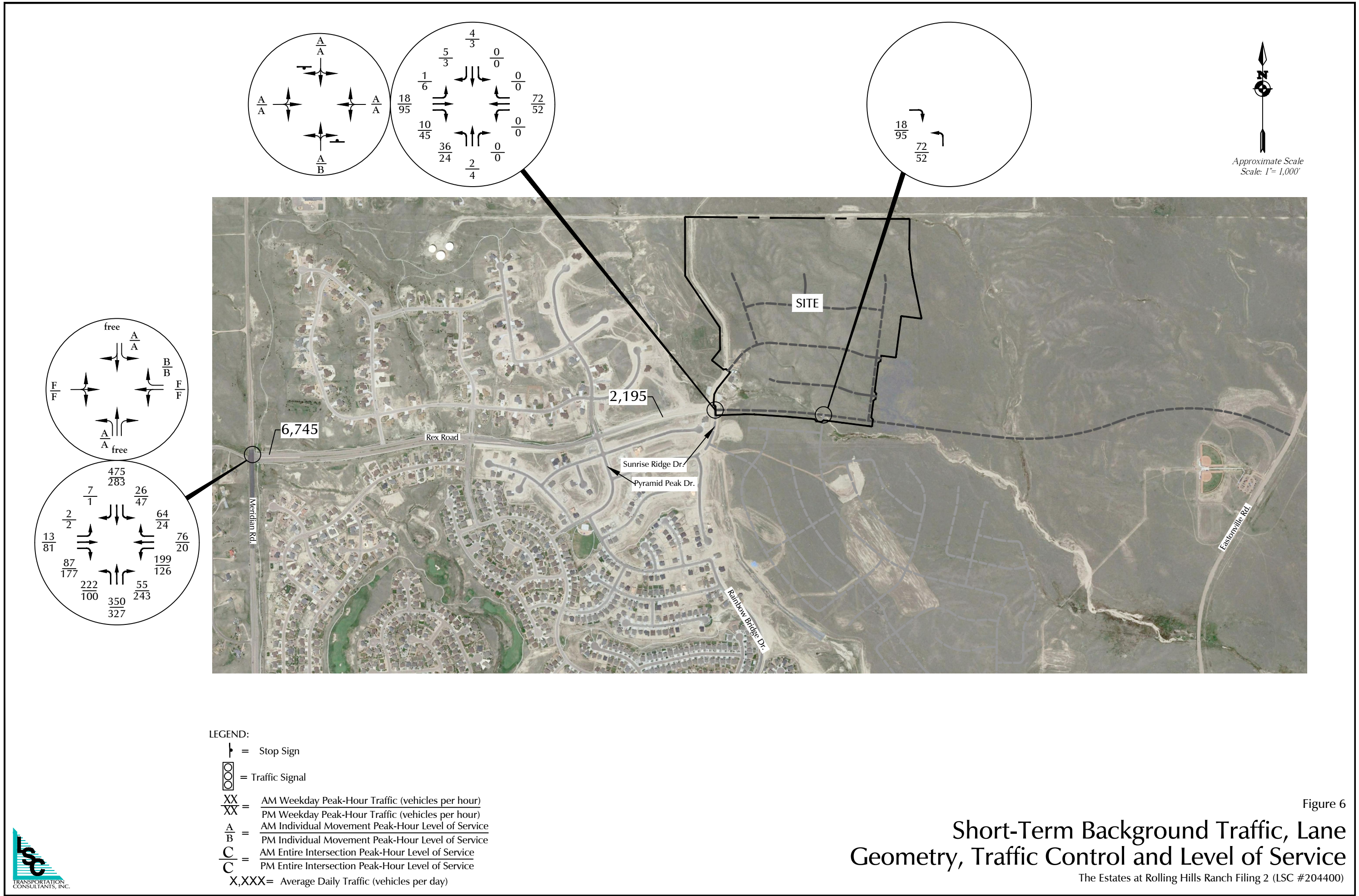


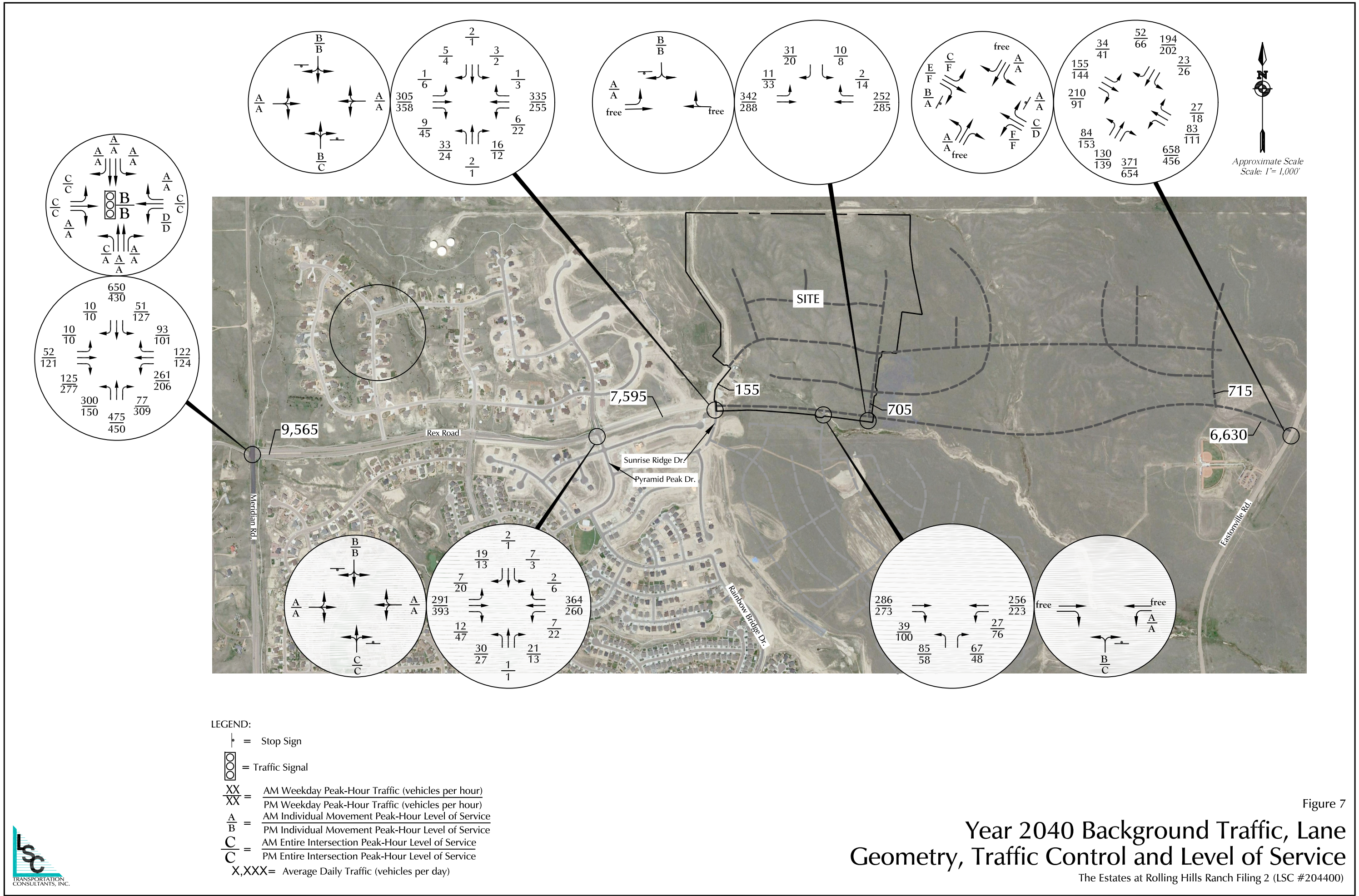
LEGEND:

- = Stop Sign
- $\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$ Base on counts by LSC March 2019
- $\frac{A}{B}$ = $\frac{\text{AM Individual Movement Peak-Hour Level of Service}}{\text{PM Individual Movement Peak-Hour Level of Service}}$
- X,XXX = Average Daily Traffic (vehicles per day)



Figure 5
**Existing Traffic, Lane Geometry,
Traffic Control, and Level of Service**
The Estates at Rolling Hills Ranch Filing 2 (LSC #204400)







Approximate Scale
Scale: 1" = 2,000'

Figure 8

Directional Distribution of External Site-Generated Traffic*

The Estates at Rolling Hills Ranch Filing 2 (LSC #204400)

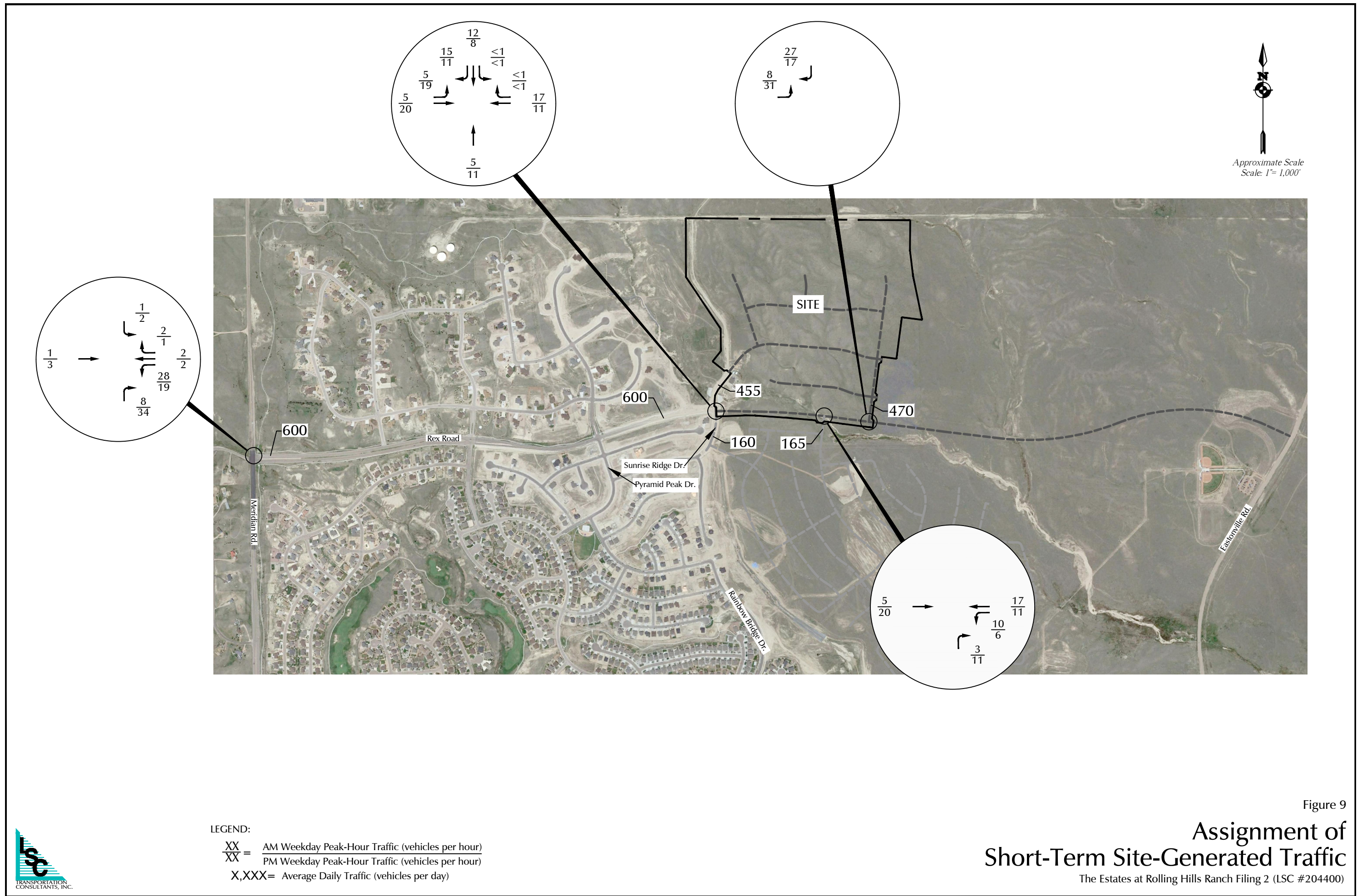


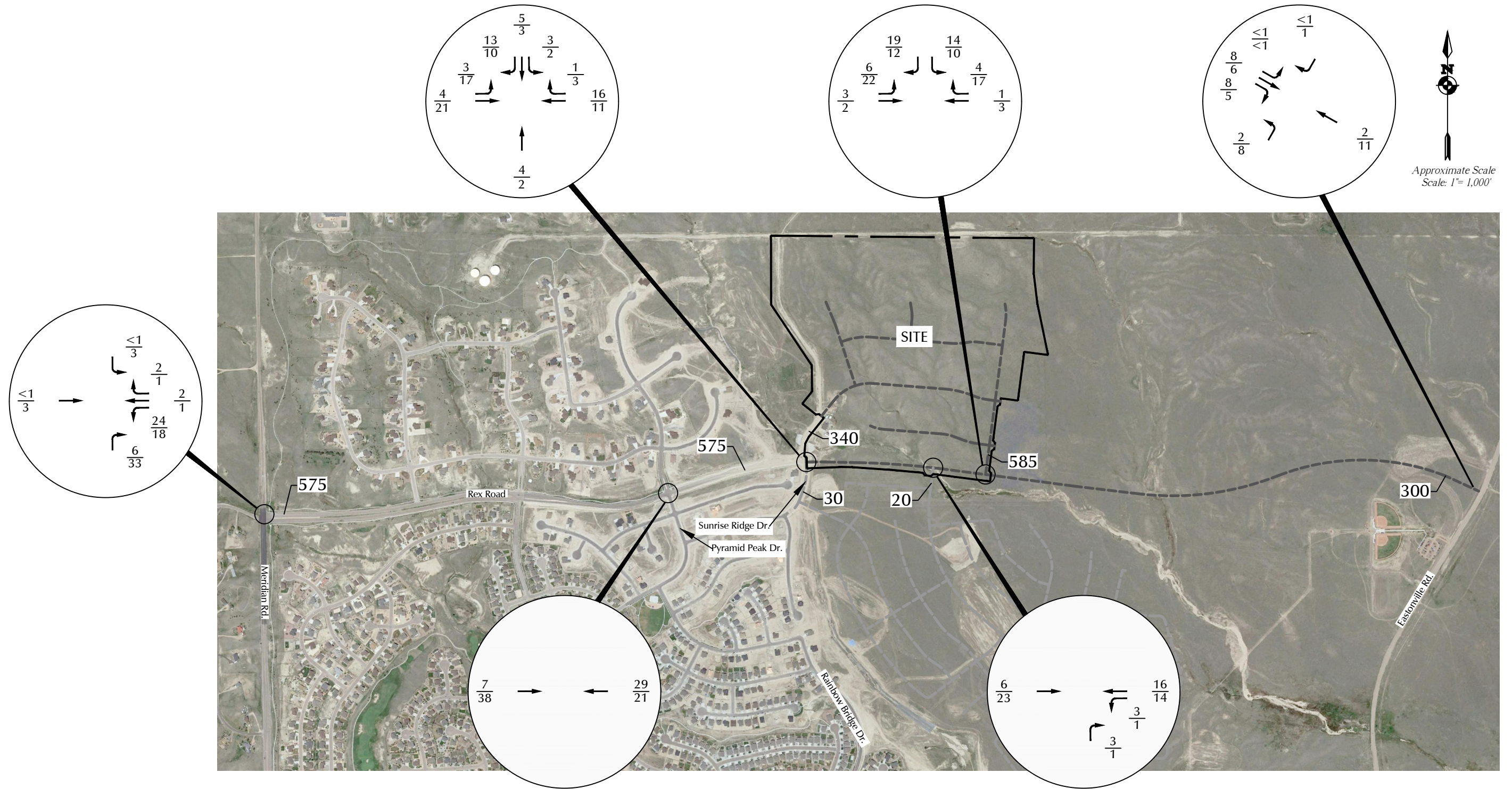
LEGEND:

XX%
XX%

= Short-Term Percent External Directional Distribution
2040 Percent External Directional Distribution

* Internal trips within the overall Meridian Ranch development have been assigned separately of neighborhood commercial based on the location of parks, schools, and commercial centers (see Appendix Table 2)





LEGEND:

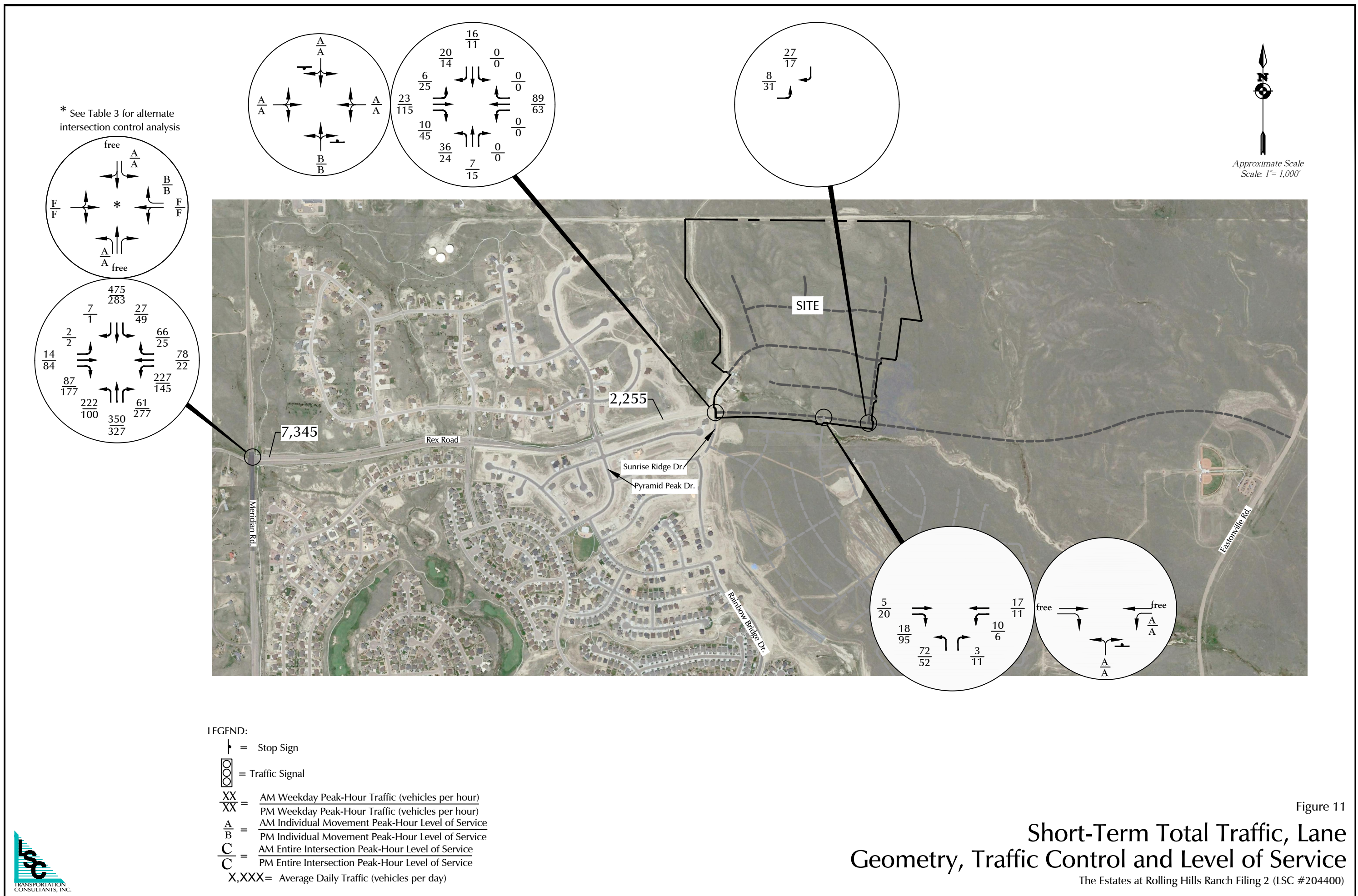
$\frac{XX}{XX}$ = AM Weekday Peak-Hour Traffic (vehicles per hour)
 $\frac{XX}{XX}$ = PM Weekday Peak-Hour Traffic (vehicles per hour)
 X,XXX = Average Daily Traffic (vehicles per day)



Figure 10

Assignment of 2040 Site-Generated Traffic

The Estates at Rolling Hills Ranch Filing 2 (LSC #204400)



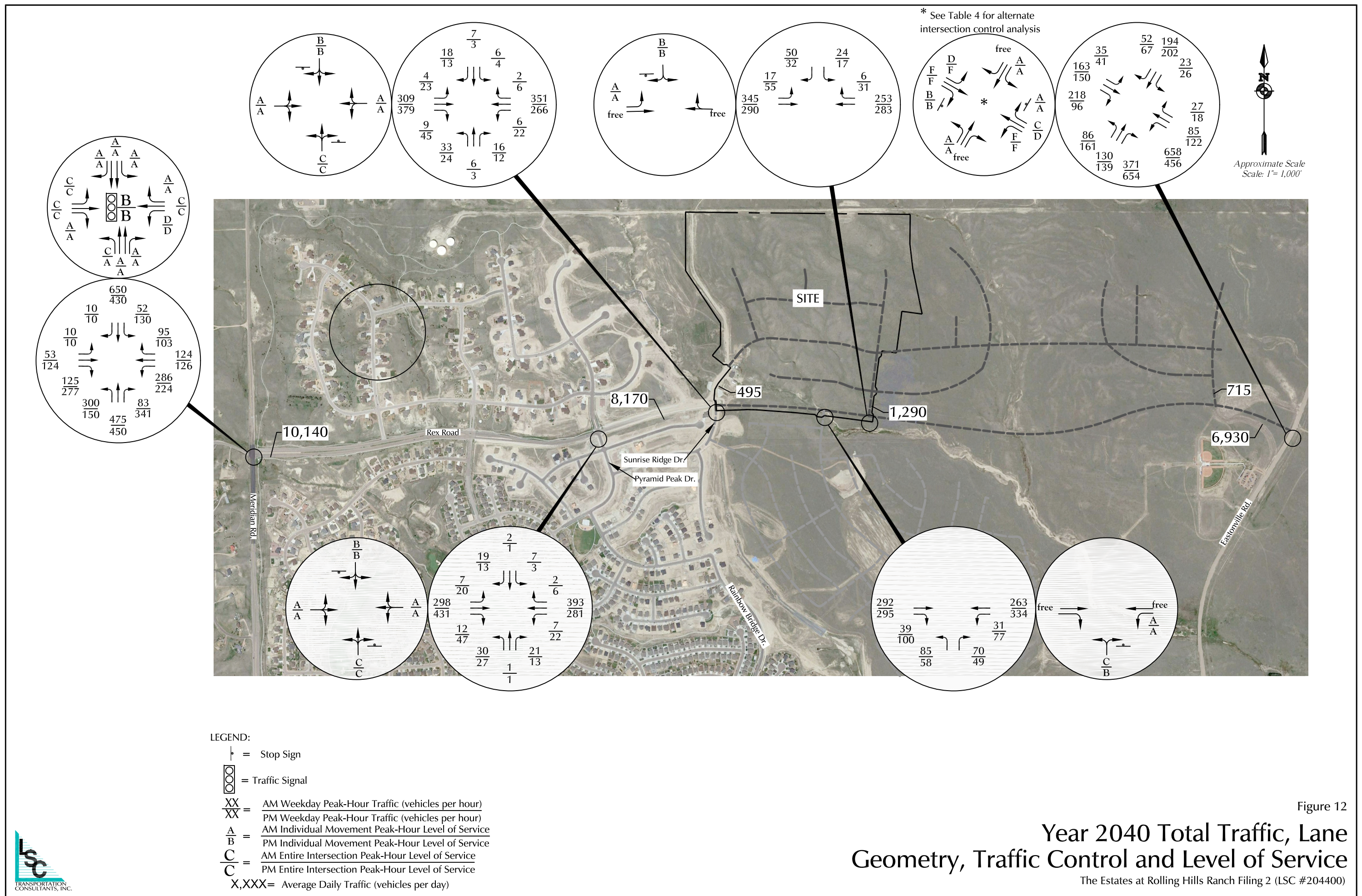


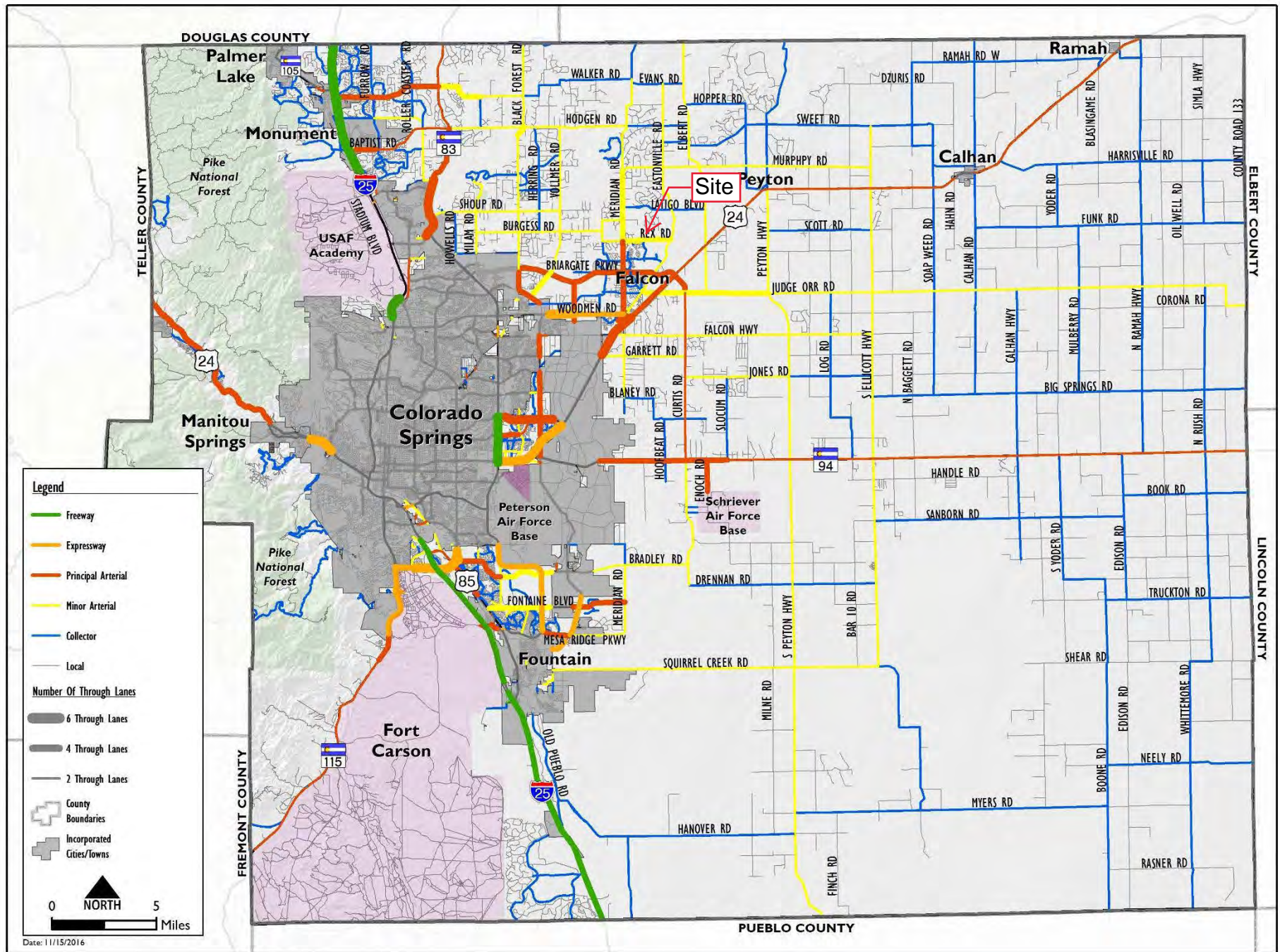
Figure 12

Year 2040 Total Traffic, Lane Geometry, Traffic Control and Level of Service

The Estates at Rolling Hills Ranch Filing 2 (LSC #204400)

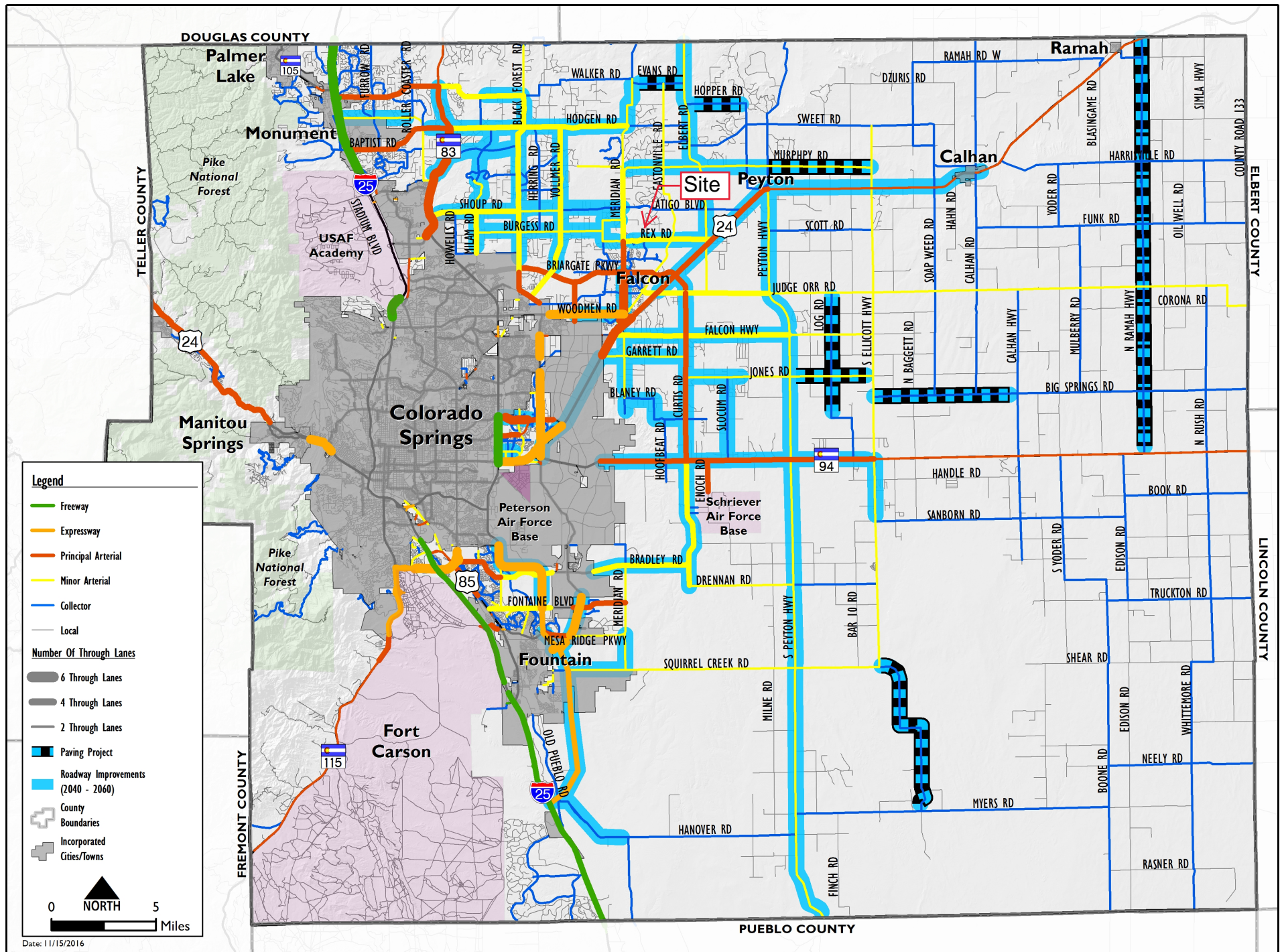


MTCP Maps



Map 14: 2040 Roadway Plan (Classification and Lanes)

Map 17: 2060 Corridor Preservation



Traffic Counts

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545 E Pikes Peak Ave, Suite 210

Colorado Springs, CO 80905

719-633-2868

File Name : Meridian Rd-Rex Rd AM

Site Code : 194180

Start Date : 3/5/2019

Page No : 1

Groups Printed- Unshifted

| | Meridian Rd Southbound | | | | Rex Rd Westbound | | | | Meridian Rd Northbound | | | | Rex Rd Eastbound | | | | Int. Total |
|-------------|---------------------------|------|-------|------|---------------------|------|-------|------|---------------------------|------|-------|------|---------------------|------|-------|------|------------|
| Start Time | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | |
| 06:30 | 1 | 66 | 0 | 0 | 28 | 14 | 1 | 0 | 23 | 41 | 6 | 0 | 0 | 1 | 18 | 0 | 199 |
| 06:45 | 2 | 73 | 1 | 0 | 28 | 16 | 3 | 0 | 50 | 33 | 9 | 0 | 0 | 1 | 18 | 0 | 234 |
| Total | 3 | 139 | 1 | 0 | 56 | 30 | 4 | 0 | 73 | 74 | 15 | 0 | 0 | 2 | 36 | 0 | 433 |
| 07:00 | 1 | 97 | 1 | 0 | 41 | 20 | 7 | 0 | 59 | 58 | 6 | 0 | 1 | 0 | 19 | 0 | 310 |
| 07:15 | 6 | 102 | 0 | 0 | 31 | 14 | 8 | 0 | 64 | 75 | 9 | 0 | 0 | 2 | 20 | 0 | 331 |
| 07:30 | 6 | 113 | 2 | 0 | 16 | 9 | 14 | 0 | 52 | 98 | 9 | 0 | 1 | 0 | 19 | 0 | 339 |
| 07:45 | 6 | 118 | 3 | 0 | 17 | 8 | 12 | 0 | 26 | 86 | 6 | 0 | 0 | 3 | 21 | 0 | 306 |
| Total | 19 | 430 | 6 | 0 | 105 | 51 | 41 | 0 | 201 | 317 | 30 | 0 | 2 | 5 | 79 | 0 | 1286 |
| 08:00 | 3 | 81 | 0 | 0 | 15 | 7 | 6 | 0 | 25 | 40 | 9 | 0 | 0 | 1 | 16 | 0 | 203 |
| 08:15 | 2 | 54 | 0 | 0 | 16 | 5 | 7 | 0 | 20 | 34 | 16 | 0 | 0 | 3 | 11 | 0 | 168 |
| Grand Total | 27 | 704 | 7 | 0 | 192 | 93 | 58 | 0 | 319 | 465 | 70 | 0 | 2 | 11 | 142 | 0 | 2090 |
| Apprch % | 3.7 | 95.4 | 0.9 | 0 | 56 | 27.1 | 16.9 | 0 | 37.4 | 54.4 | 8.2 | 0 | 1.3 | 7.1 | 91.6 | 0 | |
| Total % | 1.3 | 33.7 | 0.3 | 0 | 9.2 | 4.4 | 2.8 | 0 | 15.3 | 22.2 | 3.3 | 0 | 0.1 | 0.5 | 6.8 | 0 | |

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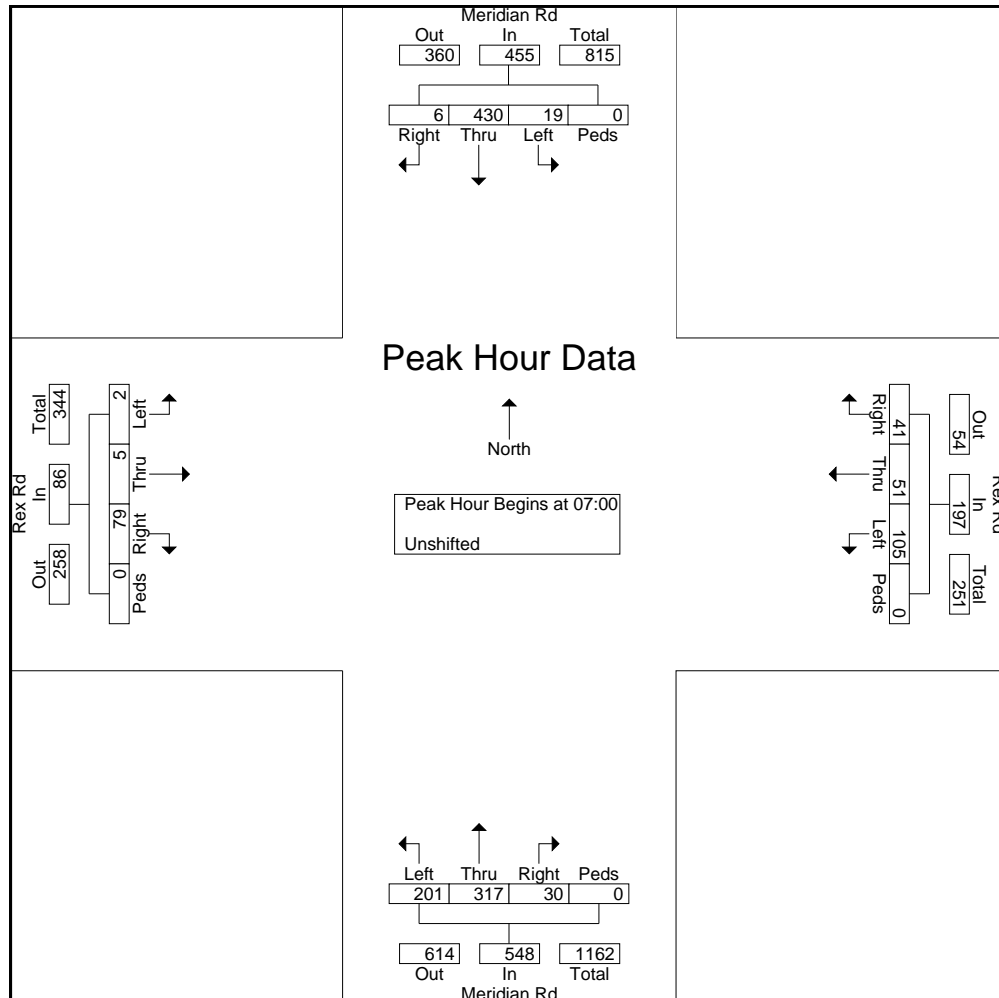
File Name : Meridian Rd-Rex Rd AM

Site Code : 194180

Start Date : 3/5/2019

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| | Meridian Rd Southbound | | | | | Rex Rd Westbound | | | | | Meridian Rd Northbound | | | | | Rex Rd Eastbound | | | | | |
|--|------------------------|------|-------|------|------------|------------------|------|-------|------|------------|------------------------|------|-------|------|------------|------------------|------|-------|------|------------|------------|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 06:30 to 08:15 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:00 | | | | | | | | | | | | | | | | | | | | | |
| 07:00 | 1 | 97 | 1 | 0 | 99 | 41 | 20 | 7 | 0 | 68 | 59 | 58 | 6 | 0 | 123 | 1 | 0 | 19 | 0 | 20 | 310 |
| 07:15 | 6 | 102 | 0 | 0 | 108 | 31 | 14 | 8 | 0 | 53 | 64 | 75 | 9 | 0 | 148 | 0 | 2 | 20 | 0 | 22 | 331 |
| 07:30 | 6 | 113 | 2 | 0 | 121 | 16 | 9 | 14 | 0 | 39 | 52 | 98 | 9 | 0 | 159 | 1 | 0 | 19 | 0 | 20 | 339 |
| 07:45 | 6 | 118 | 3 | 0 | 127 | 17 | 8 | 12 | 0 | 37 | 26 | 86 | 6 | 0 | 118 | 0 | 3 | 21 | 0 | 24 | 306 |
| Total Volume | 19 | 430 | 6 | 0 | 455 | 105 | 51 | 41 | 0 | 197 | 201 | 317 | 30 | 0 | 548 | 2 | 5 | 79 | 0 | 86 | 1286 |
| % App. Total | 4.2 | 94.5 | 1.3 | 0 | | 53.3 | 25.9 | 20.8 | 0 | | 36.7 | 57.8 | 5.5 | 0 | | 2.3 | 5.8 | 91.9 | 0 | | |
| PHF | .792 | .911 | .500 | .000 | .896 | .640 | .638 | .732 | .000 | .724 | .785 | .809 | .833 | .000 | .862 | .500 | .417 | .940 | .000 | .896 | .948 |



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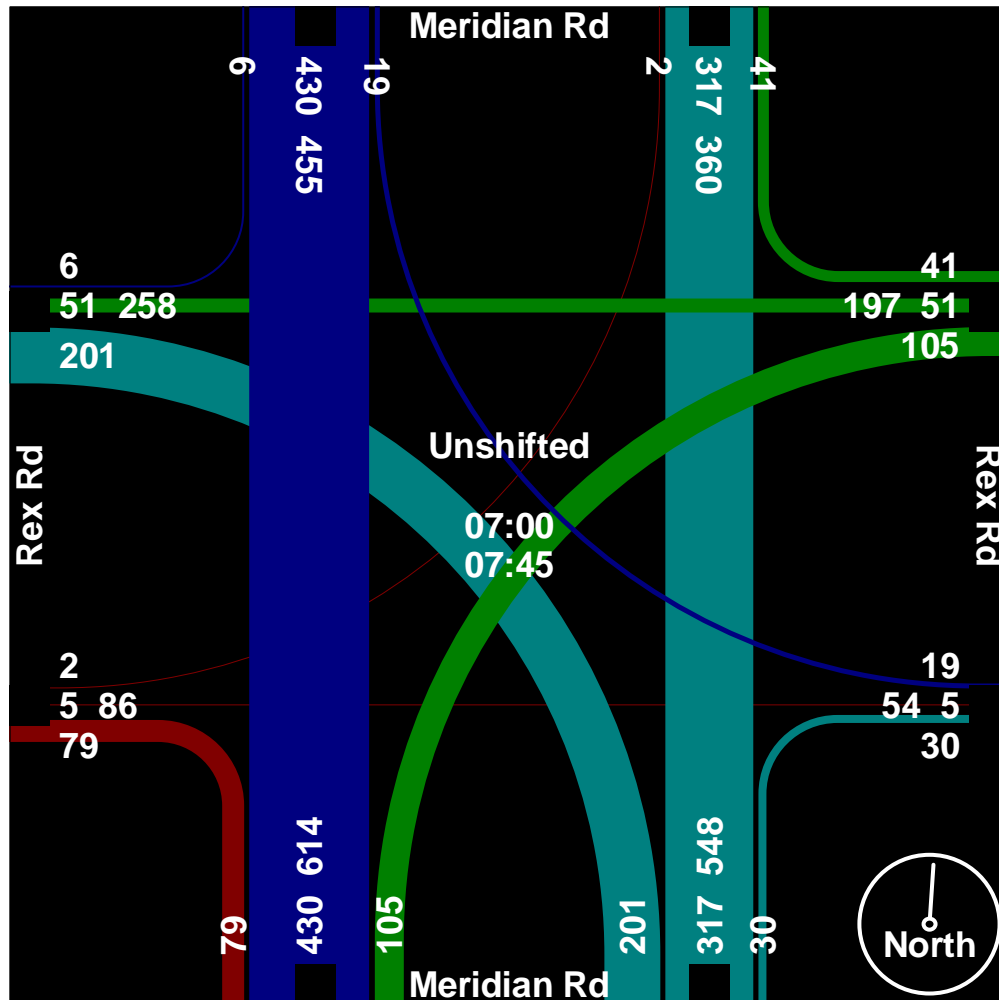
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File Name : Meridian Rd-Rex Rd AM

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File Name : Meridian Rd - Rex Rd Mid

Site Code : 00194180

Start Date : 3/12/2019

Page No : 1

Groups Printed- Unshifted

| | Meridian Rd Southbound | | | | Rex Rd Westbound | | | | Meridian Rd Northbound | | | | Rex Rd Eastbound | | | | Int. Total |
|-------------|---------------------------|------|-------|------|---------------------|------|-------|------|---------------------------|------|-------|------|---------------------|------|-------|------|------------|
| Start Time | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | |
| 13:45 | 2 | 39 | 0 | 0 | 9 | 1 | 0 | 0 | 12 | 39 | 9 | 0 | 0 | 7 | 11 | 0 | 129 |
| Total | 2 | 39 | 0 | 0 | 9 | 1 | 0 | 0 | 12 | 39 | 9 | 0 | 0 | 7 | 11 | 0 | 129 |
| 14:00 | 3 | 24 | 1 | 0 | 9 | 4 | 4 | 0 | 10 | 50 | 19 | 0 | 0 | 3 | 9 | 0 | 136 |
| 14:15 | 2 | 52 | 1 | 0 | 10 | 4 | 5 | 0 | 22 | 54 | 16 | 0 | 1 | 4 | 16 | 0 | 187 |
| 14:30 | 3 | 37 | 0 | 0 | 12 | 2 | 1 | 0 | 18 | 45 | 13 | 0 | 0 | 4 | 16 | 0 | 151 |
| 14:45 | 2 | 47 | 0 | 0 | 21 | 5 | 4 | 0 | 20 | 116 | 16 | 0 | 1 | 4 | 24 | 0 | 260 |
| Total | 10 | 160 | 2 | 0 | 52 | 15 | 14 | 0 | 70 | 265 | 64 | 0 | 2 | 15 | 65 | 0 | 734 |
| 15:00 | 0 | 56 | 1 | 0 | 14 | 7 | 10 | 1 | 19 | 74 | 28 | 0 | 0 | 4 | 28 | 0 | 242 |
| 15:15 | 3 | 84 | 1 | 0 | 11 | 6 | 12 | 0 | 19 | 101 | 16 | 0 | 0 | 6 | 29 | 0 | 288 |
| 15:30 | 14 | 103 | 1 | 0 | 13 | 3 | 6 | 1 | 22 | 88 | 21 | 0 | 0 | 4 | 29 | 0 | 305 |
| Grand Total | 29 | 442 | 5 | 0 | 99 | 32 | 42 | 2 | 142 | 567 | 138 | 0 | 2 | 36 | 162 | 0 | 1698 |
| Apprch % | 6.1 | 92.9 | 1.1 | 0 | 56.6 | 18.3 | 24 | 1.1 | 16.8 | 66.9 | 16.3 | 0 | 1 | 18 | 81 | 0 | |
| Total % | 1.7 | 26 | 0.3 | 0 | 5.8 | 1.9 | 2.5 | 0.1 | 8.4 | 33.4 | 8.1 | 0 | 0.1 | 2.1 | 9.5 | 0 | |

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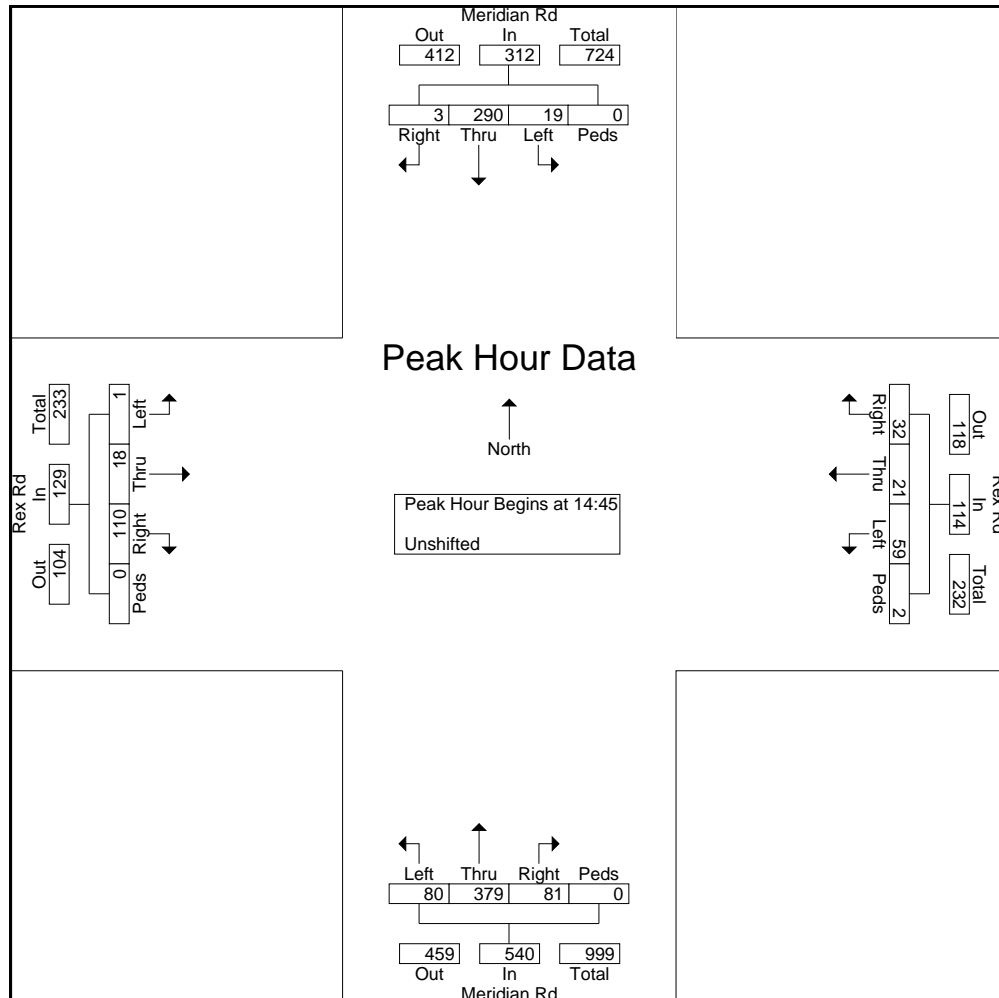
File Name : Meridian Rd - Rex Rd Mid

Site Code : 00194180

Start Date : 3/12/2019

Page No : 2

| | Meridian Rd Southbound | | | | | Rex Rd Westbound | | | | | Meridian Rd Northbound | | | | | Rex Rd Eastbound | | | | | |
|--|------------------------|------|-------|------|------------|------------------|------|-------|------|------------|------------------------|------|-------|------|------------|------------------|------|-------|------|------------|------------|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 13:45 to 15:30 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 14:45 | | | | | | | | | | | | | | | | | | | | | |
| 14:45 | 2 | 47 | 0 | 0 | 49 | 21 | 5 | 4 | 0 | 30 | 20 | 116 | 16 | 0 | 152 | 1 | 4 | 24 | 0 | 29 | 260 |
| 15:00 | 0 | 56 | 1 | 0 | 57 | 14 | 7 | 10 | 1 | 32 | 19 | 74 | 28 | 0 | 121 | 0 | 4 | 28 | 0 | 32 | 242 |
| 15:15 | 3 | 84 | 1 | 0 | 88 | 11 | 6 | 12 | 0 | 29 | 19 | 101 | 16 | 0 | 136 | 0 | 6 | 29 | 0 | 35 | 288 |
| 15:30 | 14 | 103 | 1 | 0 | 118 | 13 | 3 | 6 | 1 | 23 | 22 | 88 | 21 | 0 | 131 | 0 | 4 | 29 | 0 | 33 | 305 |
| Total Volume | 19 | 290 | 3 | 0 | 312 | 59 | 21 | 32 | 2 | 114 | 80 | 379 | 81 | 0 | 540 | 1 | 18 | 110 | 0 | 129 | 1095 |
| % App. Total | 6.1 | 92.9 | 1 | 0 | | 51.8 | 18.4 | 28.1 | 1.8 | | 14.8 | 70.2 | 15 | 0 | | 0.8 | 14 | 85.3 | 0 | | |
| PHF | .339 | .704 | .750 | .000 | .661 | .702 | .750 | .667 | .500 | .891 | .909 | .817 | .723 | .000 | .888 | .250 | .750 | .948 | .000 | .921 | .898 |



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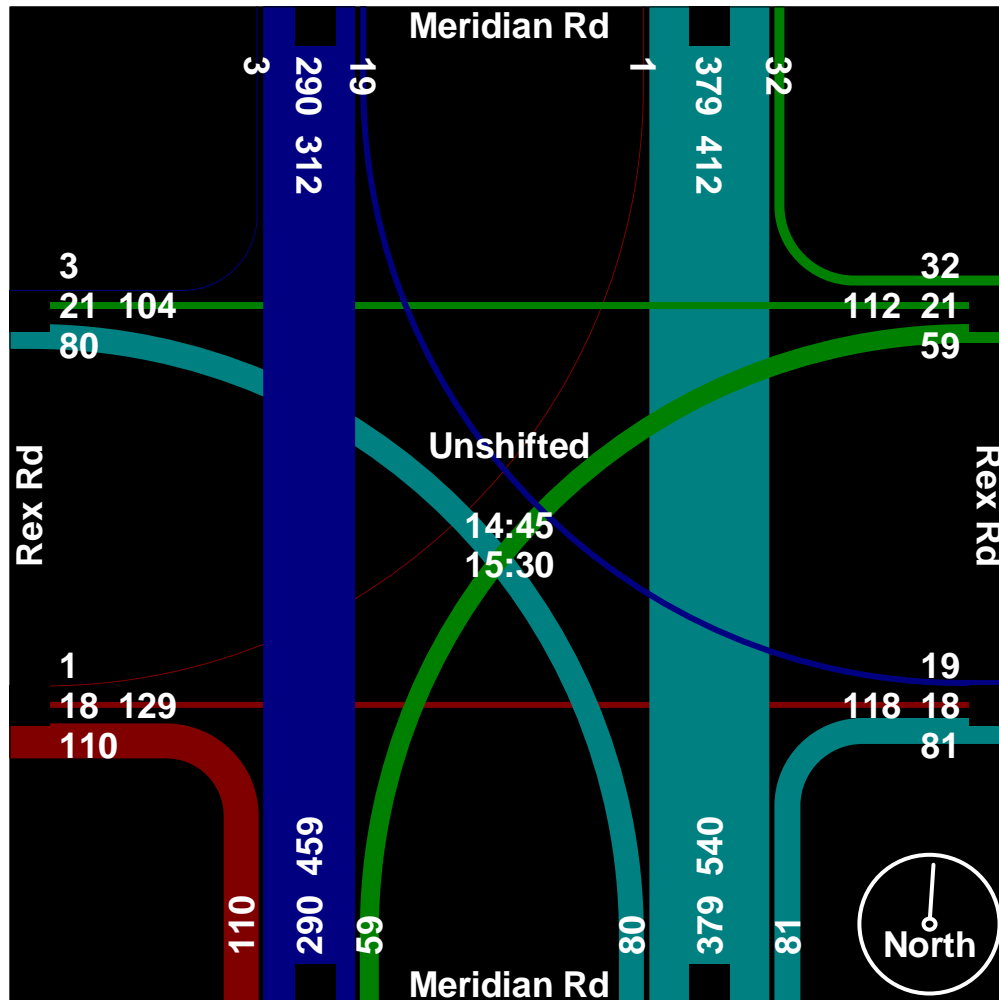
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File Name : Meridian Rd - Rex Rd Mid

Site Code : 00194180

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File Name : Meridian Rd - Rex Rd Noon

Site Code : 00194180

Start Date : 3/12/2019

Page No : 1

Groups Printed- Unshifted

| | Meridian Rd Southbound | | | | Rex Rd Westbound | | | | Meridian Rd Northbound | | | | Rex Rd Eastbound | | | | Int. Total |
|-------------|---------------------------|------|-------|------|---------------------|------|-------|------|---------------------------|------|-------|------|---------------------|------|-------|------|------------|
| Start Time | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | |
| 11:30 | 2 | 43 | 0 | 0 | 19 | 5 | 3 | 0 | 15 | 37 | 16 | 0 | 0 | 1 | 17 | 0 | 158 |
| 11:45 | 3 | 36 | 0 | 0 | 9 | 2 | 4 | 0 | 15 | 64 | 10 | 0 | 0 | 6 | 19 | 0 | 168 |
| Total | 5 | 79 | 0 | 0 | 28 | 7 | 7 | 0 | 30 | 101 | 26 | 0 | 0 | 7 | 36 | 0 | 326 |
| 12:00 | 6 | 53 | 0 | 0 | 20 | 3 | 3 | 0 | 11 | 34 | 16 | 0 | 0 | 2 | 16 | 0 | 164 |
| 12:15 | 2 | 44 | 0 | 0 | 14 | 3 | 5 | 0 | 14 | 40 | 11 | 0 | 0 | 0 | 21 | 0 | 154 |
| 12:30 | 2 | 42 | 0 | 0 | 17 | 0 | 2 | 0 | 12 | 45 | 6 | 0 | 0 | 1 | 25 | 0 | 152 |
| 12:45 | 4 | 60 | 0 | 0 | 13 | 1 | 0 | 0 | 16 | 43 | 12 | 0 | 0 | 2 | 14 | 0 | 165 |
| Total | 14 | 199 | 0 | 0 | 64 | 7 | 10 | 0 | 53 | 162 | 45 | 0 | 0 | 5 | 76 | 0 | 635 |
| 13:00 | 1 | 46 | 1 | 0 | 10 | 2 | 3 | 0 | 19 | 38 | 10 | 0 | 0 | 3 | 17 | 0 | 150 |
| 13:15 | 5 | 42 | 0 | 0 | 13 | 3 | 2 | 0 | 19 | 28 | 10 | 0 | 0 | 3 | 20 | 0 | 145 |
| Grand Total | 25 | 366 | 1 | 0 | 115 | 19 | 22 | 0 | 121 | 329 | 91 | 0 | 0 | 18 | 149 | 0 | 1256 |
| Apprch % | 6.4 | 93.4 | 0.3 | 0 | 73.7 | 12.2 | 14.1 | 0 | 22.4 | 60.8 | 16.8 | 0 | 0 | 10.8 | 89.2 | 0 | |
| Total % | 2 | 29.1 | 0.1 | 0 | 9.2 | 1.5 | 1.8 | 0 | 9.6 | 26.2 | 7.2 | 0 | 0 | 1.4 | 11.9 | 0 | |

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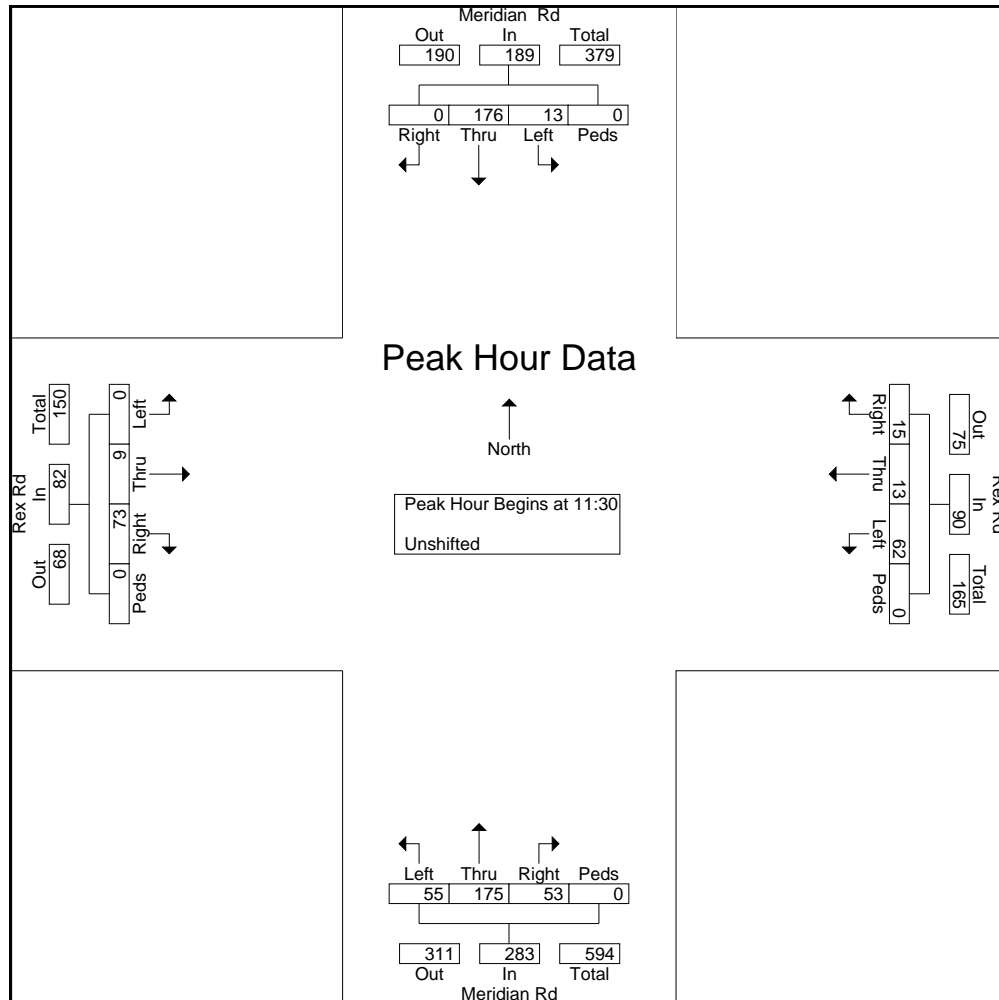
File Name : Meridian Rd - Rex Rd Noon

Site Code : 00194180

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| | Meridian Rd Southbound | | | | | Rex Rd Westbound | | | | | Meridian Rd Northbound | | | | | Rex Rd Eastbound | | | | | |
|--|------------------------|------|-------|------|------------|------------------|------|-------|------|------------|------------------------|------|-------|------|------------|------------------|------|-------|------|------------|------------|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 11:30 | | | | | | | | | | | | | | | | | | | | | |
| 11:30 | 2 | 43 | 0 | 0 | 45 | 19 | 5 | 3 | 0 | 27 | 15 | 37 | 16 | 0 | 68 | 0 | 1 | 17 | 0 | 18 | 158 |
| 11:45 | 3 | 36 | 0 | 0 | 39 | 9 | 2 | 4 | 0 | 15 | 15 | 64 | 10 | 0 | 89 | 0 | 6 | 19 | 0 | 25 | 168 |
| 12:00 | 6 | 53 | 0 | 0 | 59 | 20 | 3 | 3 | 0 | 26 | 11 | 34 | 16 | 0 | 61 | 0 | 2 | 16 | 0 | 18 | 164 |
| 12:15 | 2 | 44 | 0 | 0 | 46 | 14 | 3 | 5 | 0 | 22 | 14 | 40 | 11 | 0 | 65 | 0 | 0 | 21 | 0 | 21 | 154 |
| Total Volume | 13 | 176 | 0 | 0 | 189 | 62 | 13 | 15 | 0 | 90 | 55 | 175 | 53 | 0 | 283 | 0 | 9 | 73 | 0 | 82 | 644 |
| % App. Total | 6.9 | 93.1 | 0 | 0 | | 68.9 | 14.4 | 16.7 | 0 | | 19.4 | 61.8 | 18.7 | 0 | | 0 | 11 | 89 | 0 | | |
| PHF | .542 | .830 | .000 | .000 | .801 | .775 | .650 | .750 | .000 | .833 | .917 | .684 | .828 | .000 | .795 | .000 | .375 | .869 | .000 | .820 | .958 |



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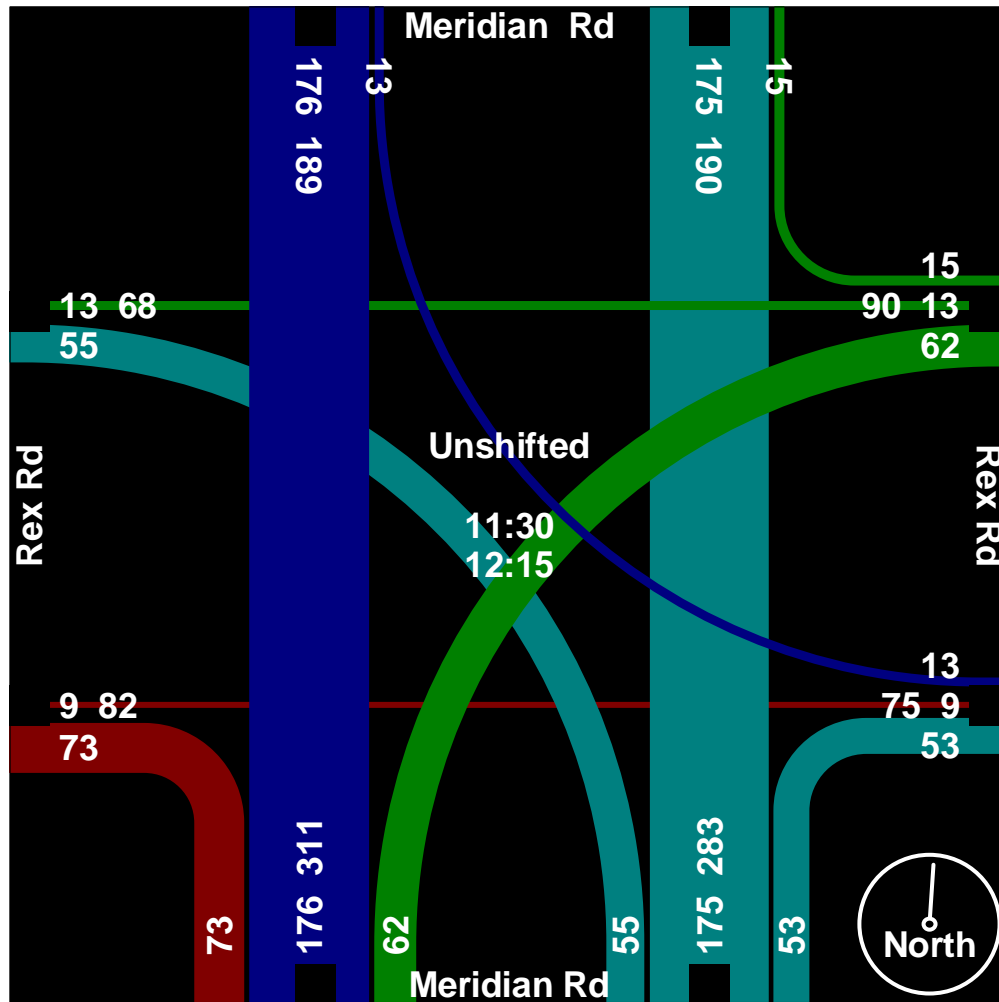
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Groups Printed- Unshifted

| | Meridian Rd Southbound | | | | Rex Rd Westbound | | | | Meridian Rd Northbound | | | | Rex Rd Eastbound | | | | Int. Total |
|-------------|---------------------------|------|-------|------|---------------------|------|-------|------|---------------------------|------|-------|------|---------------------|------|-------|------|------------|
| Start Time | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | |
| 16:00 | 3 | 59 | 0 | 0 | 14 | 2 | 2 | 0 | 15 | 61 | 17 | 0 | 2 | 5 | 17 | 0 | 197 |
| 16:15 | 4 | 43 | 2 | 0 | 13 | 4 | 7 | 0 | 19 | 83 | 30 | 0 | 0 | 10 | 29 | 0 | 244 |
| 16:30 | 3 | 43 | 0 | 0 | 15 | 0 | 0 | 0 | 23 | 78 | 26 | 0 | 1 | 7 | 43 | 0 | 239 |
| 16:45 | 7 | 57 | 0 | 0 | 13 | 0 | 2 | 0 | 23 | 63 | 34 | 0 | 1 | 14 | 30 | 0 | 244 |
| Total | 17 | 202 | 2 | 0 | 55 | 6 | 11 | 0 | 80 | 285 | 107 | 0 | 4 | 36 | 119 | 0 | 924 |
| 17:00 | 5 | 88 | 0 | 0 | 16 | 1 | 4 | 2 | 21 | 72 | 27 | 0 | 0 | 15 | 39 | 0 | 290 |
| 17:15 | 4 | 68 | 1 | 0 | 14 | 3 | 3 | 1 | 24 | 83 | 35 | 0 | 0 | 14 | 48 | 0 | 298 |
| 17:30 | 4 | 55 | 1 | 0 | 14 | 2 | 3 | 0 | 23 | 62 | 28 | 0 | 0 | 7 | 36 | 0 | 235 |
| 17:45 | 3 | 56 | 0 | 0 | 13 | 2 | 2 | 1 | 21 | 59 | 29 | 0 | 0 | 11 | 34 | 0 | 231 |
| Total | 16 | 267 | 2 | 0 | 57 | 8 | 12 | 4 | 89 | 276 | 119 | 0 | 0 | 47 | 157 | 0 | 1054 |
| Grand Total | 33 | 469 | 4 | 0 | 112 | 14 | 23 | 4 | 169 | 561 | 226 | 0 | 4 | 83 | 276 | 0 | 1978 |
| Apprch % | 6.5 | 92.7 | 0.8 | 0 | 73.2 | 9.2 | 15 | 2.6 | 17.7 | 58.7 | 23.6 | 0 | 1.1 | 22.9 | 76 | 0 | |
| Total % | 1.7 | 23.7 | 0.2 | 0 | 5.7 | 0.7 | 1.2 | 0.2 | 8.5 | 28.4 | 11.4 | 0 | 0.2 | 4.2 | 14 | 0 | |

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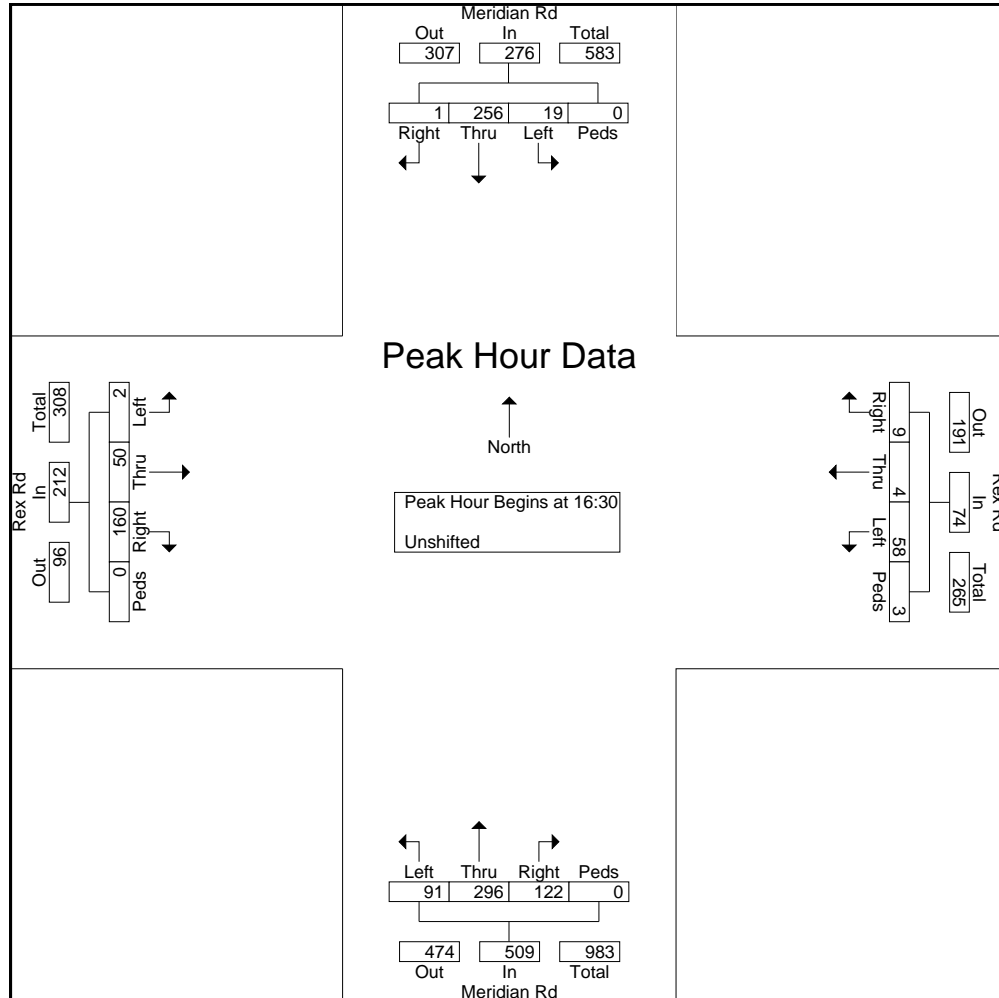
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| | Meridian Rd Southbound | | | | | Rex Rd Westbound | | | | | Meridian Rd Northbound | | | | | Rex Rd Eastbound | | | | | |
|--|------------------------|------|-------|------|------------|------------------|------|-------|------|------------|------------------------|------|-------|------|------------|------------------|------|-------|------|------------|------------|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 16:30 | | | | | | | | | | | | | | | | | | | | | |
| 16:30 | 3 | 43 | 0 | 0 | 46 | 15 | 0 | 0 | 0 | 15 | 23 | 78 | 26 | 0 | 127 | 1 | 7 | 43 | 0 | 51 | 239 |
| 16:45 | 7 | 57 | 0 | 0 | 64 | 13 | 0 | 2 | 0 | 15 | 23 | 63 | 34 | 0 | 120 | 1 | 14 | 30 | 0 | 45 | 244 |
| 17:00 | 5 | 88 | 0 | 0 | 93 | 16 | 1 | 4 | 2 | 23 | 21 | 72 | 27 | 0 | 120 | 0 | 15 | 39 | 0 | 54 | 290 |
| 17:15 | 4 | 68 | 1 | 0 | 73 | 14 | 3 | 3 | 1 | 21 | 24 | 83 | 35 | 0 | 142 | 0 | 14 | 48 | 0 | 62 | 298 |
| Total Volume | 19 | 256 | 1 | 0 | 276 | 58 | 4 | 9 | 3 | 74 | 91 | 296 | 122 | 0 | 509 | 2 | 50 | 160 | 0 | 212 | 1071 |
| % App. Total | 6.9 | 92.8 | 0.4 | 0 | | 78.4 | 5.4 | 12.2 | 4.1 | | 17.9 | 58.2 | 24 | 0 | | 0.9 | 23.6 | 75.5 | 0 | | |
| PHF | .679 | .727 | .250 | .000 | .742 | .906 | .333 | .563 | .375 | .804 | .948 | .892 | .871 | .000 | .896 | .500 | .833 | .833 | .000 | .855 | .898 |



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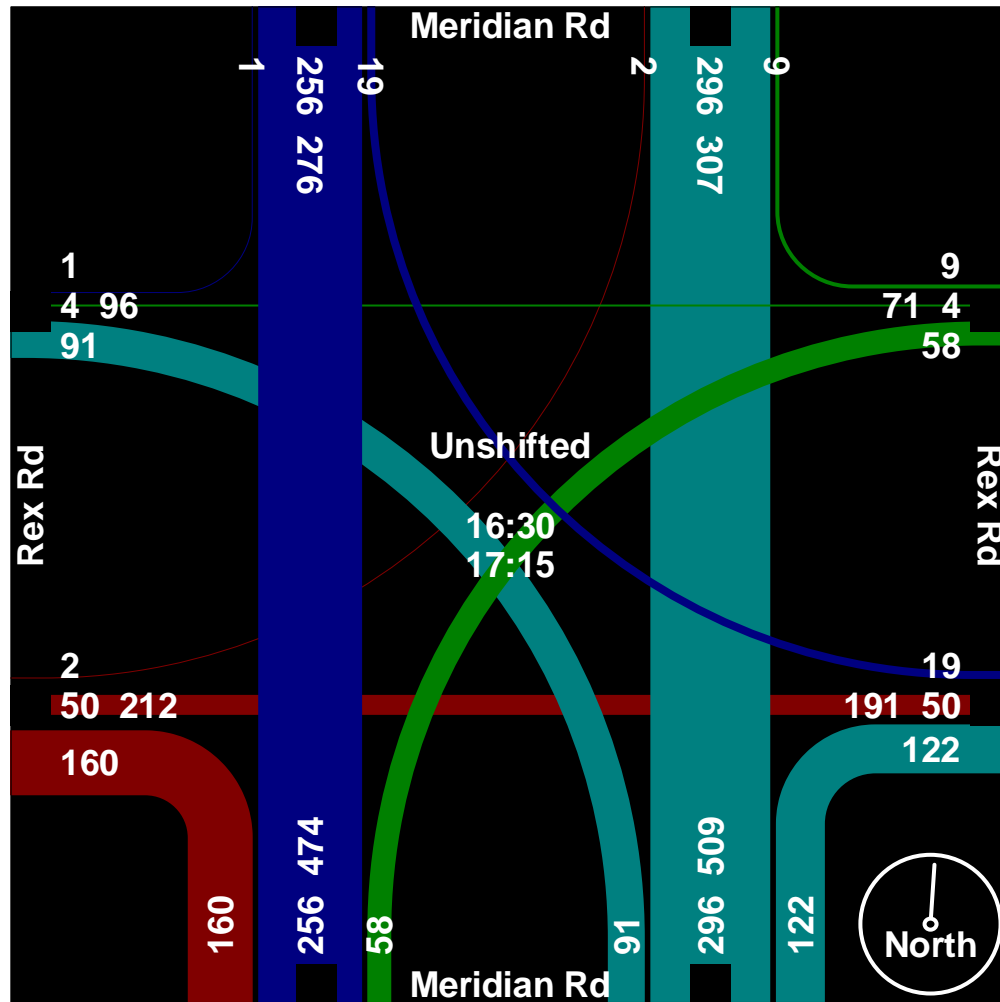
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Levels of Service

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 73.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↔ | | | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | |
| Traffic Vol, veh/h | 2 | 5 | 79 | 105 | 51 | 41 | 201 | 317 | 30 | 19 | 430 | 6 |
| Future Vol, veh/h | 2 | 5 | 79 | 105 | 51 | 41 | 201 | 317 | 30 | 19 | 430 | 6 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | 0 | 390 | - | 390 | 465 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 78 | 78 | 78 | 86 | 86 | 86 | 87 | 87 | 87 | 94 | 94 | 94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 6 | 101 | 122 | 59 | 48 | 231 | 364 | 34 | 20 | 457 | 6 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1397 | 1360 | 460 | 1380 | 1329 | 364 | 463 | 0 | 0 | 398 | 0 | 0 |
| Stage 1 | 500 | 500 | - | 826 | 826 | - | - | - | - | - | - | - |
| Stage 2 | 897 | 860 | - | 554 | 503 | - | - | - | - | - | - | - |
| 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 | 118 | 148 | 601 | ~ 122 | 155 | 681 | 1098 | - | - | 1161 | - | - |
| Stage 1 | 553 | 543 | - | 366 | 387 | - | - | - | - | - | - | - |
| Stage 2 | 334 | 373 | - | 517 | 541 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 57 | 115 | 601 | ~ 81 | 120 | 681 | 1098 | - | - | 1161 | - | - |
| Mov Cap-2 Maneuver | 57 | 115 | - | ~ 81 | 120 | - | - | - | - | - | - | - |
| Stage 1 | 437 | 534 | - | 289 | 306 | - | - | - | - | - | - | - |
| Stage 2 | 198 | 295 | - | 417 | 532 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|----------------------|----|--------|-----|-----|
| HCM Control Delay, s | 17 | \$ 446 | 3.4 | 0.3 |
| HCM LOS | C | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1WBLn2 | SBL | SBT | SBR |
|-----------------------|------|-----|-----|-----------------------|-----|-----|-----|
| Capacity (veh/h) | 1098 | - | - | 409 91 681 1161 | - | - | - |
| HCM Lane V/C Ratio | 0.21 | - | - | 0.27 1.993 0.07 0.017 | - | - | - |
| HCM Control Delay (s) | 9.2 | - | - | 17\$ 560.4 10.7 8.2 | - | - | - |
| HCM Lane LOS | A | - | - | C F B A | - | - | - |
| HCM 95th %tile Q(veh) | 0.8 | - | - | 1.1 15.6 0.2 0.1 | - | - | - |

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

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 8.5 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | ↕ | ↕ | ↕ | ↕ | ↕ | ↕ | |
| Traffic Vol, veh/h | 2 | 50 | 160 | 58 | 4 | 9 | 91 | 296 | 122 | 19 | 256 | 11 |
| Future Vol, veh/h | 2 | 50 | 160 | 58 | 4 | 9 | 91 | 296 | 122 | 19 | 256 | 11 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | 0 | 390 | - | 390 | 465 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 85 | 85 | 85 | 89 | 89 | 89 | 90 | 90 | 90 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 59 | 188 | 65 | 4 | 10 | 101 | 329 | 136 | 20 | 269 | 12 |





| Major/Minor | Minor2 | | Minor1 | | Major1 | | | Major2 | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|-------|--------|---|-------|---|---|
| Conflicting Flow All | 921 | 982 | 275 | 970 | 852 | 329 | 281 | 0 | 0 | 465 | 0 | 0 |
| Stage 1 | 315 | 315 | - | 531 | 531 | - | - | - | - | - | - | - |
| Stage 2 | 606 | 667 | - | 439 | 321 | - | - | - | - | - | - | - |
| 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 | 251 | 249 | 764 | 233 | 297 | 712 | 1282 | - | - | 1096 | - | - |
| Stage 1 | 696 | 656 | - | 532 | 526 | - | - | - | - | - | - | - |
| Stage 2 | 484 | 457 | - | 597 | 652 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 226 | 225 | 764 | 130 | 268 | 712 | 1282 | - | - | 1096 | - | - |
| Mov Cap-2 Maneuver | 226 | 225 | - | 130 | 268 | - | - | - | - | - | - | - |
| Stage 1 | 641 | 644 | - | 490 | 484 | - | - | - | - | - | - | - |
| Stage 2 | 435 | 421 | - | 401 | 640 | - | - | - | - | - | - | - |










| Approach | EB | | WB | | NB | | SB | |
|----------------------|------|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 20.3 | | 51.8 | | 1.4 | | 0.6 | |
| HCM LOS | C | | F | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|------------------|-------|-----|-----|
| Capacity (veh/h) | 1282 | - | - | 481 134 712 | 1096 | - | - |
| HCM Lane V/C Ratio | 0.079 | - | - | 0.519 0.52 0.014 | 0.018 | - | - |
| HCM Control Delay (s) | 8 | - | - | 20.3 57.8 10.1 | 8.3 | - | - |
| HCM Lane LOS | A | - | - | C F B | A | - | - |
| HCM 95th %tile Q(veh) | 0.3 | - | - | 2.9 2.5 0 | 0.1 | - | - |

HCM 6th TWSC
24: Sunset Ridge Dr & Rex Road

Short-Term Background Traffic
AM Peak Hour

| 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 | 1 | 18 | 10 | 0 | 72 | 0 | 36 | 2 | 0 | 0 | 4 | 5 |
| Future Vol, veh/h | 1 | 18 | 10 | 0 | 72 | 0 | 36 | 2 | 0 | 0 | 4 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | 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 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 21 | 12 | 0 | 85 | 0 | 42 | 2 | 0 | 0 | 5 | 6 |
| | | | | | | | | | | | | |
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
| Conflicting Flow All | 85 | 0 | 0 | 33 | 0 | 0 | 120 | 114 | 27 | 115 | 120 | 85 |
| Stage 1 | - | - | - | - | - | - | 29 | 29 | - | 85 | 85 | - |
| Stage 2 | - | - | - | - | - | - | 91 | 85 | - | 30 | 35 | - |
| 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 | 1512 | - | - | 1579 | - | - | 855 | 776 | 1048 | 862 | 770 | 974 |
| Stage 1 | - | - | - | - | - | - | 988 | 871 | - | 923 | 824 | - |
| Stage 2 | - | - | - | - | - | - | 916 | 824 | - | 987 | 866 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1512 | - | - | 1579 | - | - | 846 | 775 | 1048 | 859 | 769 | 974 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 846 | 775 | - | 859 | 769 | - |
| Stage 1 | - | - | - | - | - | - | 987 | 870 | - | 922 | 824 | - |
| Stage 2 | - | - | - | - | - | - | 905 | 824 | - | 983 | 865 | - |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Approach | EB | | | WB | | | NB | | | SB | | |
| HCM Control Delay, s | 0.3 | | | 0 | | | 9.5 | | | 9.2 | | |
| HCM LOS | | | | | | | A | | | A | | |
| | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | | | | |
| Capacity (veh/h) | 842 | 1512 | - | - | 1579 | - | - | 871 | | | | |
| HCM Lane V/C Ratio | 0.053 | 0.001 | - | - | - | - | - | 0.012 | | | | |
| HCM Control Delay (s) | 9.5 | 7.4 | 0 | - | 0 | - | - | 9.2 | | | | |
| HCM Lane LOS | A | A | A | - | A | - | - | A | | | | |
| HCM 95th %tile Q(veh) | 0.2 | 0 | - | - | 0 | - | - | 0 | | | | |

| Intersection | | | | | | | | | | | | |
|----------------------------|--------|---|-----------|----------------------------|---|---|---|---|---|---|---|---|
| Int Delay, s/veh | 392.5 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  |  |  |  |  |  |  |  |
| Traffic Vol, veh/h | 2 | 13 | 87 | 199 | 76 | 64 | 222 | 350 | 55 | 26 | 475 | 7 |
| Future Vol, veh/h | 2 | 13 | 87 | 199 | 76 | 64 | 222 | 350 | 55 | 26 | 475 | 7 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | 0 | 390 | - | 390 | 465 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 78 | 78 | 78 | 87 | 87 | 87 | 86 | 86 | 86 | 94 | 94 | 94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 17 | 112 | 229 | 87 | 74 | 258 | 407 | 64 | 28 | 505 | 7 |
| | | | | | | | | | | | | |
| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
| Conflicting Flow All | 1601 | 1552 | 509 | 1552 | 1491 | 407 | 512 | 0 | 0 | 471 | 0 | 0 |
| Stage 1 | 565 | 565 | - | 923 | 923 | - | - | - | - | - | - | - |
| Stage 2 | 1036 | 987 | - | 629 | 568 | - | - | - | - | - | - | - |
| 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 | 85 | 113 | 564 | ~ 92 | 124 | 644 | 1053 | - | - | 1091 | - | - |
| Stage 1 | 510 | 508 | - | 323 | 349 | - | - | - | - | - | - | - |
| Stage 2 | 280 | 325 | - | 470 | 506 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 9 | 83 | 564 | ~ 50 | 91 | 644 | 1053 | - | - | 1091 | - | - |
| Mov Cap-2 Maneuver | 9 | 83 | - | ~ 50 | 91 | - | - | - | - | - | - | - |
| Stage 1 | 385 | 495 | - | 244 | 263 | - | - | - | - | - | - | - |
| Stage 2 | 125 | 245 | - | 355 | 493 | - | - | - | - | - | - | - |
| | | | | | | | | | | | | |
| Approach | EB | | WB | | NB | | SB | | | | | |
| HCM Control Delay, s | 57 | | \$ 1777.1 | | 3.4 | | 0.4 | | | | | |
| HCM LOS | F | | F | | | | | | | | | |
| | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR | | | |
| Capacity (veh/h) | 1053 | - | - | 191 | 57 | 644 | 1091 | - | - | | | |
| HCM Lane V/C Ratio | 0.245 | - | - | 0.685 | 5.545 | 0.114 | 0.025 | - | - | | | |
| HCM Control Delay (s) | 9.5 | - | - | 57 | \$ 2188 | 11.3 | 8.4 | - | - | | | |
| HCM Lane LOS | A | - | - | F | F | B | A | - | - | | | |
| HCM 95th %tile Q(veh) | 1 | - | - | 4.2 | 35.7 | 0.4 | 0.1 | - | - | | | |
| Notes | | | | | | | | | | | | |
| ~: Volume exceeds capacity | | \$: Delay exceeds 300s | | +: Computation Not Defined | | | | *: All major volume in platoon | | | | |

HCM 6th TWSC
24: Sunset Ridge Dr & Rex Road

Short-Term Background Traffic
PM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|--------|-------|------|--------|------|------|--------|-------|-------|--------|-------|-------|
| Int Delay, s/veh | 1.7 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 6 | 95 | 45 | 0 | 52 | 0 | 24 | 4 | 0 | 0 | 3 | 3 |
| Future Vol, veh/h | 6 | 95 | 45 | 0 | 52 | 0 | 24 | 4 | 0 | 0 | 3 | 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| 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 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 7 | 112 | 53 | 0 | 61 | 0 | 28 | 5 | 0 | 0 | 4 | 4 |
| | | | | | | | | | | | | |
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
| Conflicting Flow All | 61 | 0 | 0 | 165 | 0 | 0 | 218 | 214 | 139 | 216 | 240 | 61 |
| Stage 1 | - | - | - | - | - | - | 153 | 153 | - | 61 | 61 | - |
| Stage 2 | - | - | - | - | - | - | 65 | 61 | - | 155 | 179 | - |
| 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 | 1542 | - | - | 1413 | - | - | 738 | 684 | 909 | 740 | 661 | 1004 |
| Stage 1 | - | - | - | - | - | - | 849 | 771 | - | 950 | 844 | - |
| Stage 2 | - | - | - | - | - | - | 946 | 844 | - | 847 | 751 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1542 | - | - | 1413 | - | - | 730 | 681 | 909 | 733 | 658 | 1004 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 730 | 681 | - | 733 | 658 | - |
| Stage 1 | - | - | - | - | - | - | 845 | 767 | - | 945 | 844 | - |
| Stage 2 | - | - | - | - | - | - | 939 | 844 | - | 838 | 747 | - |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Approach | EB | | | WB | | | NB | | | SB | | |
| HCM Control Delay, s | 0.3 | | | 0 | | | 10.2 | | | 9.6 | | |
| HCM LOS | | | | | | | B | | | A | | |
| | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | | | | |
| Capacity (veh/h) | 723 | 1542 | - | - | 1413 | - | - | 795 | | | | |
| HCM Lane V/C Ratio | 0.046 | 0.005 | - | - | - | - | - | 0.009 | | | | |
| HCM Control Delay (s) | 10.2 | 7.3 | 0 | - | 0 | - | - | 9.6 | | | | |
| HCM Lane LOS | B | A | A | - | A | - | - | A | | | | |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0 | - | - | 0 | | | | |

| Intersection | | | | | | | | | | | | |
|--------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 104.3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↔ | | | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | |
| Traffic Vol, veh/h | 2 | 81 | 177 | 126 | 20 | 24 | 100 | 327 | 243 | 47 | 283 | 1 |
| Future Vol, veh/h | 2 | 81 | 177 | 126 | 20 | 24 | 100 | 327 | 243 | 47 | 283 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | 0 | 390 | - | 390 | 465 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 85 | 85 | 85 | 89 | 89 | 89 | 90 | 90 | 90 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 95 | 208 | 142 | 22 | 27 | 111 | 363 | 270 | 49 | 298 | 1 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1142 | 1252 | 299 | 1133 | 982 | 363 | 299 | 0 | 0 | 633 | 0 | 0 |
| Stage 1 | 397 | 397 | - | 585 | 585 | - | - | - | - | - | - | - |
| Stage 2 | 745 | 855 | - | 548 | 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 | 177 | 172 | 741 | 180 | 249 | 682 | 1262 | - | - | 950 | - | - |
| Stage 1 | 629 | 603 | - | 497 | 498 | - | - | - | - | - | - | - |
| Stage 2 | 406 | 375 | - | 521 | 603 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 141 | 149 | 741 | ~ 57 | 215 | 682 | 1262 | - | - | 950 | - | - |
| Mov Cap-2 Maneuver | 141 | 149 | - | ~ 57 | 215 | - | - | - | - | - | - | - |
| Stage 1 | 574 | 572 | - | 453 | 454 | - | - | - | - | - | - | - |
| Stage 2 | 338 | 342 | - | 296 | 572 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|----------------------|------|----------|-----|-----|
| HCM Control Delay, s | 71.8 | \$ 746.2 | 1.2 | 1.3 |
| HCM LOS | F | F | | |









| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|------------------------|-----|-----|-----|
| Capacity (veh/h) | 1262 | - | - | 326 63 682 950 | - | - | - |
| HCM Lane V/C Ratio | 0.088 | - | - | 0.938 2.604 0.04 0.052 | - | - | - |
| HCM Control Delay (s) | 8.1 | - | - | 71.8\$ 867.1 10.5 9 | - | - | - |
| HCM Lane LOS | A | - | - | F F B A | - | - | - |
| HCM 95th %tile Q(veh) | 0.3 | - | - | 9.5 16.4 0.1 0.2 | - | - | - |

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

HCM 6th TWSC
24: Sunset Ridge Dr & Rex Road

Short-Term Total Traffic
AM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|--------|-------|------|--------|------|------|--------|-------|-------|--------|-------|-------|
| Int Delay, s/veh | 4 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 6 | 23 | 10 | 0 | 89 | 0 | 36 | 7 | 0 | 0 | 16 | 20 |
| Future Vol, veh/h | 6 | 23 | 10 | 0 | 89 | 0 | 36 | 7 | 0 | 0 | 16 | 20 |
| 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| 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 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 7 | 27 | 12 | 0 | 105 | 0 | 42 | 8 | 0 | 0 | 19 | 24 |
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
| Conflicting Flow All | 105 | 0 | 0 | 39 | 0 | 0 | 174 | 152 | 33 | 156 | 158 | 105 |
| Stage 1 | - | - | - | - | - | - | 47 | 47 | - | 105 | 105 | - |
| Stage 2 | - | - | - | - | - | - | 127 | 105 | - | 51 | 53 | - |
| 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 | 1486 | - | - | 1571 | - | - | 789 | 740 | 1041 | 810 | 734 | 949 |
| Stage 1 | - | - | - | - | - | - | 967 | 856 | - | 901 | 808 | - |
| Stage 2 | - | - | - | - | - | - | 877 | 808 | - | 962 | 851 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1486 | - | - | 1571 | - | - | 751 | 736 | 1041 | 800 | 730 | 949 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 751 | 736 | - | 800 | 730 | - |
| Stage 1 | - | - | - | - | - | - | 962 | 852 | - | 896 | 808 | - |
| Stage 2 | - | - | - | - | - | - | 835 | 808 | - | 948 | 847 | - |
| Approach | EB | | | WB | | | NB | | | SB | | |
| HCM Control Delay, s | 1.1 | | | 0 | | | 10.2 | | | 9.5 | | |
| HCM LOS | | | | | | | B | | | A | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | | | | |
| Capacity (veh/h) | 749 | 1486 | - | - | 1571 | - | - | 837 | | | | |
| HCM Lane V/C Ratio | 0.068 | 0.005 | - | - | - | - | - | 0.051 | | | | |
| HCM Control Delay (s) | 10.2 | 7.4 | 0 | - | 0 | - | - | 9.5 | | | | |
| HCM Lane LOS | B | A | A | - | A | - | - | A | | | | |
| HCM 95th %tile Q(veh) | 0.2 | 0 | - | - | 0 | - | - | 0.2 | | | | |

| Intersection | | | | | | | | | | | | |
|----------------------------|--------|---|--------|----------------------------|---|---|---|---|---|---|---|------|
| Int Delay, s/veh | 523.9 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  |  |  |  |  |  |  | |
| Traffic Vol, veh/h | 2 | 14 | 87 | 227 | 78 | 66 | 222 | 350 | 61 | 27 | 475 | 7 |
| Future Vol, veh/h | 2 | 14 | 87 | 227 | 78 | 66 | 222 | 350 | 61 | 27 | 475 | 7 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | 0 | 390 | - | 390 | 465 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 78 | 78 | 78 | 87 | 87 | 87 | 86 | 86 | 86 | 94 | 94 | 94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 18 | 112 | 261 | 90 | 76 | 258 | 407 | 71 | 29 | 505 | 7 |
| | | | | | | | | | | | | |
| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
| Conflicting Flow All | 1609 | 1561 | 509 | 1555 | 1493 | 407 | 512 | 0 | 0 | 478 | 0 | 0 |
| Stage 1 | 567 | 567 | - | 923 | 923 | - | - | - | - | - | - | - |
| Stage 2 | 1042 | 994 | - | 632 | 570 | - | - | - | - | - | - | - |
| 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 | 84 | 112 | 564 | ~ 92 | 123 | 644 | 1053 | - | - | 1084 | - | - |
| Stage 1 | 508 | 507 | - | 323 | 349 | - | - | - | - | - | - | - |
| Stage 2 | 277 | 323 | - | 468 | 505 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | ~ 2 | 82 | 564 | ~ 49 | 90 | 644 | 1053 | - | - | 1084 | - | - |
| Mov Cap-2 Maneuver | ~ 2 | 82 | - | ~ 49 | 90 | - | - | - | - | - | - | - |
| Stage 1 | 384 | 493 | - | ~ 244 | 263 | - | - | - | - | - | - | - |
| Stage 2 | 122 | 244 | - | 352 | 491 | - | - | - | - | - | - | - |
| | | | | | | | | | | | | |
| Approach | EB | | WB | | NB | | SB | | | | | |
| HCM Control Delay, s\$ | 450.9 | | 2110 | | 3.3 | | 0.4 | | | | | |
| HCM LOS | F | | F | | | | | | | | | |
| | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR | | | |
| Capacity (veh/h) | 1053 | - | - | 78 | 55 | 644 | 1084 | - | - | | | |
| HCM Lane V/C Ratio | 0.245 | - | - | 1.693 | 6.374 | 0.118 | 0.026 | - | - | | | |
| HCM Control Delay (s) | 9.5 | - | - | \$ 450.9 | \$ 2564.1 | 11.3 | 8.4 | - | - | | | |
| HCM Lane LOS | A | - | - | F | F | B | A | - | - | | | |
| HCM 95th %tile Q(veh) | 1 | - | - | 11.2 | 40.2 | 0.4 | 0.1 | - | - | | | |
| Notes | | | | | | | | | | | | |
| ~: Volume exceeds capacity | | \$: Delay exceeds 300s | | +: Computation Not Defined | | | | *: All major volume in platoon | | | | |



















HCM 6th Roundabout
101: Meridian Rd & Rex Rd

Short-Term Total Traffic
AM Peak Hour

| 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 | 133 | 427 | 736 | 541 |
| Demand Flow Rate, veh/h | 135 | 436 | 750 | 552 |
| Vehicles Circulating, veh/h | 811 | 681 | 51 | 621 |
| Vehicles Exiting, veh/h | 362 | 120 | 895 | 496 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 8.9 | 17.2 | 9.3 | 22.4 |
| Approach LOS | A | C | A | C |
| 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 | 135 | 436 | 750 | 552 |
| Cap Entry Lane, veh/h | 603 | 689 | 1310 | 732 |
| Entry HV Adj Factor | 0.983 | 0.980 | 0.981 | 0.980 |
| Flow Entry, veh/h | 133 | 427 | 736 | 541 |
| Cap Entry, veh/h | 593 | 675 | 1285 | 718 |
| V/C Ratio | 0.224 | 0.633 | 0.573 | 0.754 |
| Control Delay, s/veh | 8.9 | 17.2 | 9.3 | 22.4 |
| LOS | A | C | A | C |
| 95th %tile Queue, veh | 1 | 5 | 4 | 7 |

Timings
101: Meridian Rd & Rex Rd

Short-Term Total Traffic
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
| Lane Configurations | |  | |  |  |  |  |  |  |  |
| Traffic Volume (vph) | 2 | 14 | 227 | 78 | 66 | 222 | 350 | 61 | 27 | 475 |
| Future Volume (vph) | 2 | 14 | 227 | 78 | 66 | 222 | 350 | 61 | 27 | 475 |
| Turn Type | Perm | NA | Perm | NA | Perm | Perm | NA | Perm | Perm | NA |
| Protected Phases | | 4 | | 8 | | | 2 | | | 6 |
| Permitted Phases | 4 | | 8 | | 8 | 2 | | 2 | 6 | |
| Detector Phase | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 |
| Switch Phase | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 |
| Total Split (s) | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 59.0 | 59.0 | 59.0 | 59.0 | 59.0 |
| Total Split (%) | 41.0% | 41.0% | 41.0% | 41.0% | 41.0% | 59.0% | 59.0% | 59.0% | 59.0% | 59.0% |
| 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 |
| Total Lost Time (s) | | 5.0 | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Lead/Lag | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | |
| Recall Mode | None | None | None | None | None | Max | Max | Max | Max | Max |
| Act Effect Green (s) | | 29.1 | | 29.1 | 29.1 | 54.3 | 54.3 | 54.3 | 54.3 | 54.3 |
| Actuated g/C Ratio | | 0.31 | | 0.31 | 0.31 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 |
| v/c Ratio | | 0.23 | | 0.88 | 0.14 | 0.62 | 0.38 | 0.07 | 0.06 | 0.47 |
| Control Delay | | 7.1 | | 53.7 | 5.9 | 23.2 | 12.9 | 3.0 | 10.9 | 14.3 |
| Queue Delay | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | | 7.1 | | 53.7 | 5.9 | 23.2 | 12.9 | 3.0 | 10.9 | 14.3 |
| LOS | | A | | D | A | C | B | A | B | B |
| Approach Delay | | 7.1 | | 45.2 | | | 15.6 | | | 14.1 |
| Approach LOS | | A | | D | | | B | | | B |

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 93.4

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 21.4

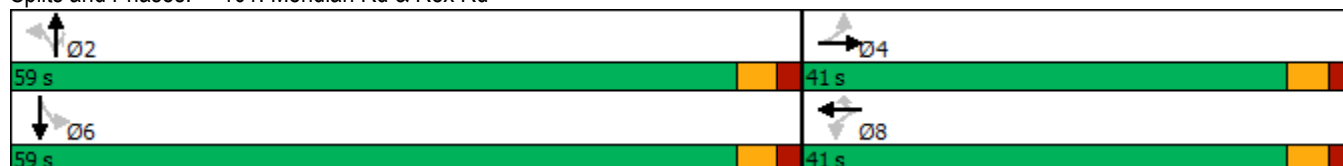
Intersection LOS: C

Intersection Capacity Utilization 73.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 101: Meridian Rd & Rex Rd



HCM 6th TWSC
208: Rolling Ranch Hills Access & Rex Road

Short-Term Total Traffic
AM Peak Hour

Intersection

Int Delay, s/veh 6.1

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| Traffic Vol, veh/h | 5 | 18 | 10 | 17 | 72 | 3 |
| Future Vol, veh/h | 5 | 18 | 10 | 17 | 72 | 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 | - | 200 | 250 | - | 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 | 6 | 21 | 12 | 20 | 85 | 4 |

| Major/Minor | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0 | 0 | 27 |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Critical Hdwy | - | - | 4.12 |
| Critical Hdwy Stg 1 | - | - | - |
| Critical Hdwy Stg 2 | - | - | - |
| Follow-up Hdwy | - | - | 2.218 |
| Pot Cap-1 Maneuver | - | - | 1587 |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Platoon blocked, % | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1587 |
| Mov Cap-2 Maneuver | - | - | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |

| Approach | EB | WB | NB |
|----------------------|----|-----|-----|
| HCM Control Delay, s | 0 | 2.7 | 9.2 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h) | 955 | - | - | 1587 | - |
| HCM Lane V/C Ratio | 0.092 | - | - | 0.007 | - |
| HCM Control Delay (s) | 9.2 | - | - | 7.3 | - |
| HCM Lane LOS | A | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.3 | - | - | 0 | - |

HCM 6th TWSC
24: Sunset Ridge Dr & Rex Road

Short-Term Total Traffic
PM Peak Hour

| 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 | 25 | 115 | 45 | 0 | 63 | 0 | 24 | 15 | 0 | 0 | 11 | 14 |
| Future Vol, veh/h | 25 | 115 | 45 | 0 | 63 | 0 | 24 | 15 | 0 | 0 | 11 | 14 |
| 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| 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 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 29 | 135 | 53 | 0 | 74 | 0 | 28 | 18 | 0 | 0 | 13 | 16 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 74 | 0 | 0 | 188 | 0 | 0 | 309 | 294 | 162 | 303 | 320 | 74 |
| Stage 1 | - | - | - | - | - | - | 220 | 220 | - | 74 | 74 | - |
| Stage 2 | - | - | - | - | - | - | 89 | 74 | - | 229 | 246 | - |
| 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 | 1526 | - | - | 1386 | - | - | 643 | 617 | 883 | 649 | 597 | 988 |
| Stage 1 | - | - | - | - | - | - | 782 | 721 | - | 935 | 833 | - |
| Stage 2 | - | - | - | - | - | - | 918 | 833 | - | 774 | 703 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1526 | - | - | 1386 | - | - | 611 | 604 | 883 | 624 | 584 | 988 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 611 | 604 | - | 624 | 584 | - |
| Stage 1 | - | - | - | - | - | - | 766 | 706 | - | 915 | 833 | - |
| Stage 2 | - | - | - | - | - | - | 889 | 833 | - | 739 | 688 | - |

| Approach | EB | WB | NB | SB |
|----------------------|----|----|------|-----|
| HCM Control Delay, s | 1 | 0 | 11.4 | 9.9 |
| HCM LOS | | | B | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|------|-----|-----|-------|
| Capacity (veh/h) | 608 | 1526 | - | - | 1386 | - | - | 757 |
| HCM Lane V/C Ratio | 0.075 | 0.019 | - | - | - | - | - | 0.039 |
| HCM Control Delay (s) | 11.4 | 7.4 | 0 | - | 0 | - | - | 9.9 |
| HCM Lane LOS | B | A | A | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.2 | 0.1 | - | - | 0 | - | - | 0.1 |

| Intersection | | | | | | | | | | | | |
|--------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 158.8 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | ↕ | ↕ | ↕ | ↕ | ↕ | ↕ | |
| Traffic Vol, veh/h | 2 | 84 | 177 | 145 | 22 | 25 | 100 | 327 | 277 | 49 | 283 | 1 |
| Future Vol, veh/h | 2 | 84 | 177 | 145 | 22 | 25 | 100 | 327 | 277 | 49 | 283 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | 0 | 390 | - | 390 | 465 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 85 | 85 | 85 | 89 | 89 | 89 | 90 | 90 | 90 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 99 | 208 | 163 | 25 | 28 | 111 | 363 | 308 | 52 | 298 | 1 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1169 | 1296 | 299 | 1141 | 988 | 363 | 299 | 0 | 0 | 671 | 0 | 0 |
| Stage 1 | 403 | 403 | - | 585 | 585 | - | - | - | - | - | - | - |
| Stage 2 | 766 | 893 | - | 556 | 403 | - | - | - | - | - | - | - |
| 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 | 170 | 162 | 741 | 178 | 247 | 682 | 1262 | - | - | 919 | - | - |
| Stage 1 | 624 | 600 | - | 497 | 498 | - | - | - | - | - | - | - |
| Stage 2 | 395 | 360 | - | 515 | 600 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 133 | 139 | 741 | ~ 49 | 212 | 682 | 1262 | - | - | 919 | - | - |
| Mov Cap-2 Maneuver | 133 | 139 | - | ~ 49 | 212 | - | - | - | - | - | - | - |
| Stage 1 | 569 | 566 | - | 453 | 454 | - | - | - | - | - | - | - |
| Stage 2 | 327 | 328 | - | 288 | 566 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|----------------------|------|-----------|-----|-----|
| HCM Control Delay, s | 92.5 | \$ 1081.2 | 1.2 | 1.3 |
| HCM LOS | F | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------------------------|-----|-----|-----|
| Capacity (veh/h) | 1262 | - | - | 306 55 682 919 | - | - | - |
| HCM Lane V/C Ratio | 0.088 | - | - | 1.011 3.412 0.041 0.056 | - | - | - |
| HCM Control Delay (s) | 8.1 | - | - | 92.5 1241.5 10.5 9.2 | - | - | - |
| HCM Lane LOS | A | - | - | F F B A | - | - | - |
| HCM 95th %tile Q(veh) | 0.3 | - | - | 11 20.1 0.1 0.2 | - | - | - |

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




















HCM 6th Roundabout
101: Meridian Rd & Rex Rd

Short-Term Total Traffic
PM Peak Hour

| Intersection | | | | |
|-----------------------------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 10.3 | | | |
| 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 | 309 | 216 | 782 | 351 |
| Demand Flow Rate, veh/h | 315 | 221 | 797 | 358 |
| Vehicles Circulating, veh/h | 523 | 485 | 156 | 304 |
| Vehicles Exiting, veh/h | 139 | 468 | 682 | 401 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 9.3 | 7.2 | 12.8 | 7.4 |
| Approach LOS | A | A | B | 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 | 315 | 221 | 797 | 358 |
| Cap Entry Lane, veh/h | 809 | 841 | 1177 | 1012 |
| Entry HV Adj Factor | 0.981 | 0.980 | 0.981 | 0.981 |
| Flow Entry, veh/h | 309 | 216 | 782 | 351 |
| Cap Entry, veh/h | 794 | 824 | 1154 | 992 |
| V/C Ratio | 0.389 | 0.263 | 0.677 | 0.354 |
| Control Delay, s/veh | 9.3 | 7.2 | 12.8 | 7.4 |
| LOS | A | A | B | A |
| 95th %tile Queue, veh | 2 | 1 | 6 | 2 |

Timings
101: Meridian Rd & Rex Rd

Short-Term Total Traffic
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | |
| Lane Configurations | |  | |  |  |  |  |  |  |  | |
| Traffic Volume (vph) | 2 | 84 | 145 | 22 | 25 | 100 | 327 | 277 | 49 | 283 | |
| Future Volume (vph) | 2 | 84 | 145 | 22 | 25 | 100 | 327 | 277 | 49 | 283 | |
| Turn Type | Perm | NA | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | | 4 | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 8 | | 8 | 2 | | 2 | 6 | | |
| Detector Phase | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | |
| Total Split (s) | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | |
| Total Split (%) | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | |
| 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 | |
| Total Lost Time (s) | | 5.0 | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Lead/Lag | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | |
| Recall Mode | None | None | None | None | None | Max | Max | Max | Max | Max | |
| Act Effect Green (s) | | 22.9 | | 22.9 | 22.9 | 45.1 | 45.1 | 45.1 | 45.1 | 45.1 | |
| Actuated g/C Ratio | | 0.29 | | 0.29 | 0.29 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 | |
| v/c Ratio | | 0.52 | | 0.81 | 0.06 | 0.18 | 0.34 | 0.29 | 0.10 | 0.28 | |
| Control Delay | | 15.7 | | 52.1 | 7.7 | 9.8 | 10.5 | 2.1 | 9.2 | 9.9 | |
| Queue Delay | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | | 15.7 | | 52.1 | 7.7 | 9.8 | 10.5 | 2.1 | 9.2 | 9.9 | |
| LOS | | B | | D | A | A | B | A | A | A | |
| Approach Delay | | 15.7 | | 46.4 | | | 7.1 | | | 9.8 | |
| Approach LOS | | B | | D | | | A | | | A | |

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 78.1

Natural Cycle: 50

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 14.4

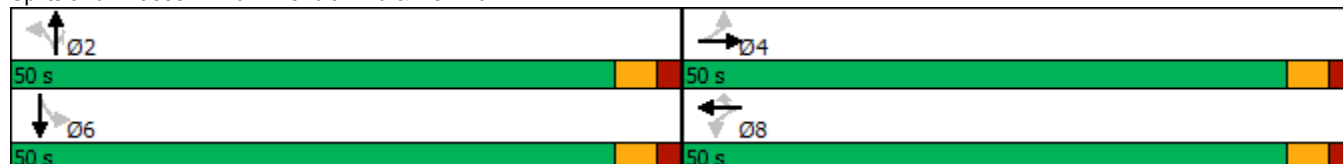
Intersection LOS: B

Intersection Capacity Utilization 70.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 101: Meridian Rd & Rex Rd



HCM 6th TWSC
208: Rolling Ranch Hills Access & Rex Road

Short-Term Total Traffic
PM Peak Hour

Intersection

Int Delay, s/veh 3.1

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| Traffic Vol, veh/h | 20 | 95 | 6 | 11 | 52 | 11 |
| Future Vol, veh/h | 20 | 95 | 6 | 11 | 52 | 11 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 200 | 250 | - | 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 | 24 | 112 | 7 | 13 | 61 | 13 |













| Major/Minor | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0 | 0 | 136 |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Critical Hdwy | - | - | 4.12 |
| Critical Hdwy Stg 1 | - | - | - |
| Critical Hdwy Stg 2 | - | - | - |
| Follow-up Hdwy | - | - | 2.218 |
| Pot Cap-1 Maneuver | - | - | 1448 |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Platoon blocked, % | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1448 |
| Mov Cap-2 Maneuver | - | - | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |

| Approach | EB | WB | NB |
|----------------------|----|-----|----|
| HCM Control Delay, s | 0 | 2.6 | 9 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h) | 969 | - | - | 1448 | - |
| HCM Lane V/C Ratio | 0.076 | - | - | 0.005 | - |
| HCM Control Delay (s) | 9 | - | - | 7.5 | - |
| HCM Lane LOS | A | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0 | - |

























Volume
101: Meridian Rd & Rex Road

2040 Background Traffic
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Traffic Volume (vph) | 10 | 52 | 125 | 261 | 122 | 93 | 300 | 475 | 77 | 51 | 650 | 10 |
| Future Volume (vph) | 10 | 52 | 125 | 261 | 122 | 93 | 300 | 475 | 77 | 51 | 650 | 10 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 3% | 1% | 1% | 3% | 1% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Adj. Flow (vph) | 11 | 55 | 132 | 275 | 128 | 98 | 316 | 500 | 81 | 54 | 684 | 11 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 11 | 55 | 132 | 275 | 128 | 98 | 316 | 500 | 81 | 54 | 684 | 11 |
| Intersection Summary | | | | | | | | | | | | |

Timings
101: Meridian Rd & Rex Road

2040 Background Traffic
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph) | 10 | 52 | 125 | 261 | 122 | 93 | 300 | 475 | 77 | 51 | 650 | 10 |
| Future Volume (vph) | 10 | 52 | 125 | 261 | 122 | 93 | 300 | 475 | 77 | 51 | 650 | 10 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 |
| Total Split (s) | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 |
| Total Split (%) | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 60.0% | 60.0% | 60.0% | 60.0% | 60.0% | 60.0% |
| 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 Optimize? | | | | | | | | | | | | |
| Recall Mode | None | None | None | None | None | None | Max | Max | Max | Max | Max | Max |
| Act Effect Green (s) | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 55.4 | 55.4 | 55.4 | 55.4 | 55.4 | 55.4 |
| Actuated g/C Ratio | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 |
| v/c Ratio | 0.03 | 0.11 | 0.26 | 0.78 | 0.26 | 0.20 | 0.73 | 0.23 | 0.08 | 0.10 | 0.31 | 0.01 |
| Control Delay | 22.8 | 24.2 | 5.7 | 46.0 | 26.4 | 6.1 | 26.3 | 8.6 | 2.6 | 9.2 | 9.2 | 2.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 22.8 | 24.2 | 5.7 | 46.0 | 26.4 | 6.1 | 26.3 | 8.6 | 2.6 | 9.2 | 9.2 | 2.2 |
| LOS | C | C | A | D | C | A | C | A | A | A | A | A |
| Approach Delay | | 11.8 | | | 33.2 | | | 14.3 | | | 9.1 | |
| Approach LOS | | B | | | C | | | B | | | A | |

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 88.4

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 16.4

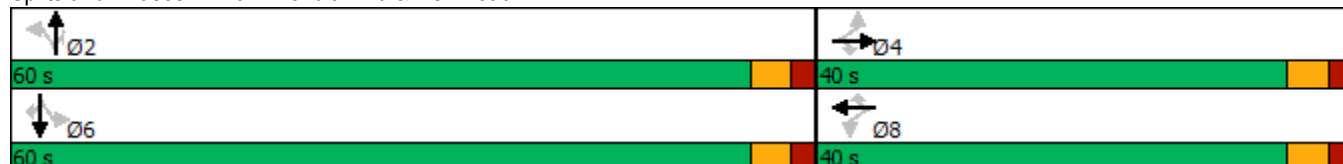
Intersection LOS: B





Intersection Capacity Utilization 68.2%

ICU Level of Service C

Analysis Period (min) 15





Splits and Phases: 101: Meridian Rd & Rex Road


















| 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 | 7 | 291 | 12 | 7 | 364 | 2 | 30 | 1 | 21 | 7 | 2 | 19 |
| Future Vol, veh/h | 7 | 291 | 12 | 7 | 364 | 2 | 30 | 1 | 21 | 7 | 2 | 19 |
| 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| 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 | 7 | 306 | 13 | 7 | 383 | 2 | 32 | 1 | 22 | 7 | 2 | 20 |
| | | | | | | | | | | | | |
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
| Conflicting Flow All | 385 | 0 | 0 | 319 | 0 | 0 | 736 | 726 | 313 | 736 | 731 | 384 |
| Stage 1 | - | - | - | - | - | - | 327 | 327 | - | 398 | 398 | - |
| Stage 2 | - | - | - | - | - | - | 409 | 399 | - | 338 | 333 | - |
| 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 | 1173 | - | - | 1241 | - | - | 335 | 351 | 727 | 335 | 349 | 664 |
| Stage 1 | - | - | - | - | - | - | 686 | 648 | - | 628 | 603 | - |
| Stage 2 | - | - | - | - | - | - | 619 | 602 | - | 676 | 644 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1173 | - | - | 1241 | - | - | 320 | 346 | 727 | 321 | 344 | 664 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 320 | 346 | - | 321 | 344 | - |
| Stage 1 | - | - | - | - | - | - | 681 | 643 | - | 624 | 599 | - |
| Stage 2 | - | - | - | - | - | - | 594 | 598 | - | 650 | 639 | - |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Approach | EB | | | WB | | | NB | | | SB | | |
| HCM Control Delay, s | 0.2 | | | 0.1 | | | 15 | | | 12.7 | | |
| HCM LOS | | | | | | | C | | | B | | |
| | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | | | | |
| Capacity (veh/h) | 414 | 1173 | - | - | 1241 | - | - | 498 | | | | |
| HCM Lane V/C Ratio | 0.132 | 0.006 | - | - | 0.006 | - | - | 0.059 | | | | |
| HCM Control Delay (s) | 15 | 8.1 | 0 | - | 7.9 | 0 | - | 12.7 | | | | |
| HCM Lane LOS | C | A | A | - | A | A | - | B | | | | |
| HCM 95th %tile Q(veh) | 0.5 | 0 | - | - | 0 | - | - | 0.2 | | | | |

HCM 6th TWSC
24: Sunset Ridge Dr & Rex Road

2040 Background Traffic
AM Peak Hour

| 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 | 1 | 305 | 9 | 6 | 335 | 1 | 33 | 2 | 16 | 3 | 2 | 5 |
| Future Vol, veh/h | 1 | 305 | 9 | 6 | 335 | 1 | 33 | 2 | 16 | 3 | 2 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| 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, % | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 1 |
| Mvmt Flow | 1 | 321 | 9 | 6 | 353 | 1 | 35 | 2 | 17 | 3 | 2 | 5 |
| | | | | | | | | | | | | |
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
| Conflicting Flow All | 354 | 0 | 0 | 330 | 0 | 0 | 697 | 694 | 326 | 703 | 698 | 354 |
| Stage 1 | - | - | - | - | - | - | 328 | 328 | - | 366 | 366 | - |
| Stage 2 | - | - | - | - | - | - | 369 | 366 | - | 337 | 332 | - |
| Critical Hdwy | 4.11 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.11 | 6.52 | 6.21 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.11 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.11 | 5.52 | - |
| Follow-up Hdwy | 2.209 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.509 | 4.018 | 3.309 |
| Pot Cap-1 Maneuver | 1210 | - | - | 1229 | - | - | 356 | 366 | 715 | 354 | 364 | 692 |
| Stage 1 | - | - | - | - | - | - | 685 | 647 | - | 655 | 623 | - |
| Stage 2 | - | - | - | - | - | - | 651 | 623 | - | 679 | 644 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1210 | - | - | 1229 | - | - | 350 | 363 | 715 | 342 | 361 | 692 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 350 | 363 | - | 342 | 361 | - |
| Stage 1 | - | - | - | - | - | - | 684 | 646 | - | 654 | 619 | - |
| Stage 2 | - | - | - | - | - | - | 640 | 619 | - | 660 | 643 | - |
| | | | | | | | | | | | | |
| Approach | EB | | | WB | | | NB | | | SB | | |
| HCM Control Delay, s | 0 | | | 0.1 | | | 14.9 | | | 12.9 | | |
| HCM LOS | | | | | | | B | | | B | | |
| | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | | | | |
| Capacity (veh/h) | 417 | 1210 | - | - | 1229 | - | - | 464 | | | | |
| HCM Lane V/C Ratio | 0.129 | 0.001 | - | - | 0.005 | - | - | 0.023 | | | | |
| HCM Control Delay (s) | 14.9 | 8 | 0 | - | 7.9 | 0 | - | 12.9 | | | | |
| HCM Lane LOS | B | A | A | - | A | A | - | B | | | | |
| HCM 95th %tile Q(veh) | 0.4 | 0 | - | - | 0 | - | - | 0.1 | | | | |

| Intersection | | | | | | |
|--------------------------|---|---|---|------|---|-------|
| Int Delay, s/veh | 0.8 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations |  |  |  | |  | |
| Traffic Vol, veh/h | 11 | 342 | 252 | 2 | 10 | 31 |
| Future Vol, veh/h | 11 | 342 | 252 | 2 | 10 | 31 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 200 | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 12 | 360 | 265 | 2 | 11 | 33 |
| Major/Minor | Major1 | Major2 | Minor2 | | | |
| Conflicting Flow All | 267 | 0 | - | 0 | 650 | 266 |
| Stage 1 | - | - | - | - | 266 | - |
| Stage 2 | - | - | - | - | 384 | - |
| 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 | 1297 | - | - | - | 434 | 773 |
| Stage 1 | - | - | - | - | 779 | - |
| Stage 2 | - | - | - | - | 688 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1297 | - | - | - | 430 | 773 |
| Mov Cap-2 Maneuver | - | - | - | - | 430 | - |
| Stage 1 | - | - | - | - | 772 | - |
| Stage 2 | - | - | - | - | 688 | - |
| Approach | EB | WB | | SB | | |
| HCM Control Delay, s | 0.2 | 0 | | 11 | | |
| HCM LOS | | | | B | | |
| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | |
| Capacity (veh/h) | 1297 | - | - | - | 647 | |
| HCM Lane V/C Ratio | 0.009 | - | - | - | 0.067 | |
| HCM Control Delay (s) | 7.8 | - | - | - | 11 | |
| HCM Lane LOS | A | - | - | - | B | |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.2 | |







| Intersection | | | | | | | | | | | | |
|--------------------------|---|---|---|---|---|------|---|---|---|---|---|---|
| Int Delay, s/veh | 967.9 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |  |  |  |  |  |  |
| Traffic Vol, veh/h | 34 | 155 | 210 | 658 | 83 | 27 | 84 | 130 | 371 | 23 | 194 | 52 |
| Future Vol, veh/h | 34 | 155 | 210 | 658 | 83 | 27 | 84 | 130 | 371 | 23 | 194 | 52 |
| 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 | 300 | - | 150 | 150 | - | - | 250 | - | 250 | 250 | - | 250 |
| 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, % | 1 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 1 |
| Mvmt Flow | 36 | 163 | 221 | 693 | 87 | 28 | 88 | 137 | 391 | 24 | 204 | 55 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 818 | 956 | 204 | 785 | 620 | 137 | 259 | 0 | 0 | 528 | 0 | 0 |
| Stage 1 | 252 | 252 | - | 313 | 313 | - | - | - | - | - | - | - |
| Stage 2 | 566 | 704 | - | 472 | 307 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.11 | 6.52 | 6.21 | 7.12 | 6.52 | 6.22 | 4.11 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.11 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.11 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.509 | 4.018 | 3.309 | 3.518 | 4.018 | 3.318 | 2.209 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 296 | 258 | 839 | ~ 310 | 404 | 911 | 1311 | - | - | 1039 | - | - |
| Stage 1 | 754 | 698 | - | 698 | 657 | - | - | - | - | - | - | - |
| Stage 2 | 511 | 440 | - | ~ 573 | 661 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 219 | 235 | 839 | ~ 94 | 368 | 911 | 1311 | - | - | 1039 | - | - |
| Mov Cap-2 Maneuver | 219 | 235 | - | ~ 94 | 368 | - | - | - | - | - | - | - |
| Stage 1 | 703 | 682 | - | ~ 651 | 613 | - | - | - | - | - | - | - |
| Stage 2 | 396 | 411 | - | ~ 314 | 646 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|----------------------|------|-----------|-----|-----|
| HCM Control Delay, s | 26.9 | \$ 2532.1 | 1.1 | 0.7 |
| HCM LOS | D | F | | |













| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | EBLn3 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|--------|-------|-------|-----|-----|
| Capacity (veh/h) | 1311 | - | - | 219 | 235 | 839 | 94 | 431 | 1039 | - | - |
| HCM Lane V/C Ratio | 0.067 | - | - | 0.163 | 0.694 | 0.263 | 7.368 | 0.269 | 0.023 | - | - |
| HCM Control Delay (s) | 7.9 | - | - | 24.6 | 49.1 | 10.5 | 2952.7 | 16.4 | 8.5 | - | - |
| HCM Lane LOS | A | - | - | C | E | B | F | C | A | - | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0.6 | 4.5 | 1.1 | 78.2 | 1.1 | 0.1 | - | - |

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

| Intersection | | | | | | |
|--------------------------|---|---|---|---|---|---|
| Int Delay, s/veh | 3.2 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h | 286 | 39 | 27 | 256 | 85 | 67 |
| Future Vol, veh/h | 286 | 39 | 27 | 256 | 85 | 67 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 200 | 250 | - | 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 | 301 | 41 | 28 | 269 | 89 | 71 |
| | | | | | | |
| Major/Minor | Major1 | | Major2 | | Minor1 | |
| Conflicting Flow All | 0 | 0 | 342 | 0 | 626 | 301 |
| Stage 1 | - | - | - | - | 301 | - |
| Stage 2 | - | - | - | - | 325 | - |
| 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 | - | - | 1217 | - | 448 | 739 |
| Stage 1 | - | - | - | - | 751 | - |
| Stage 2 | - | - | - | - | 732 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1217 | - | 438 | 739 |
| Mov Cap-2 Maneuver | - | - | - | - | 438 | - |
| Stage 1 | - | - | - | - | 751 | - |
| Stage 2 | - | - | - | - | 715 | - |
| | | | | | | |
| | | | | | | |
| Approach | EB | | WB | | NB | |
| HCM Control Delay, s | 0 | | 0.8 | | 14.6 | |
| HCM LOS | B | | | | | |
| | | | | | | |
| | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT | |
| Capacity (veh/h) | 534 | - | - | 1217 | - | |
| HCM Lane V/C Ratio | 0.3 | - | - | 0.023 | - | |
| HCM Control Delay (s) | 14.6 | - | - | 8 | - | |
| HCM Lane LOS | B | - | - | A | - | |
| HCM 95th %tile Q(veh) | 1.2 | - | - | 0.1 | - | |

























Volume
101: Meridian Rd & Rex Road

2040 Background Traffic
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Traffic Volume (vph) | 10 | 121 | 277 | 206 | 124 | 101 | 150 | 450 | 309 | 127 | 430 | 10 |
| Future Volume (vph) | 10 | 121 | 277 | 206 | 124 | 101 | 150 | 450 | 309 | 127 | 430 | 10 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 3% | 1% | 1% | 3% | 1% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Adj. Flow (vph) | 11 | 127 | 292 | 217 | 131 | 106 | 158 | 474 | 325 | 134 | 453 | 11 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 11 | 127 | 292 | 217 | 131 | 106 | 158 | 474 | 325 | 134 | 453 | 11 |
| Intersection Summary | | | | | | | | | | | | |

Timings
101: Meridian Rd & Rex Road

2040 Background Traffic
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph) | 10 | 121 | 277 | 206 | 124 | 101 | 150 | 450 | 309 | 127 | 430 | 10 |
| Future Volume (vph) | 10 | 121 | 277 | 206 | 124 | 101 | 150 | 450 | 309 | 127 | 430 | 10 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 |
| Total Split (s) | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 |
| Total Split (%) | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 60.0% | 60.0% | 60.0% | 60.0% | 60.0% | 60.0% |
| 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 Optimize? | | | | | | | | | | | | |
| Recall Mode | None | None | None | None | None | None | Max | Max | Max | Max | Max | Max |
| Act Effect Green (s) | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 55.3 | 55.3 | 55.3 | 55.3 | 55.3 | 55.3 |
| Actuated g/C Ratio | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 |
| v/c Ratio | 0.04 | 0.29 | 0.49 | 0.74 | 0.30 | 0.24 | 0.26 | 0.21 | 0.28 | 0.23 | 0.20 | 0.01 |
| Control Delay | 24.0 | 27.9 | 6.2 | 45.6 | 28.1 | 6.6 | 9.1 | 7.1 | 1.7 | 8.8 | 7.1 | 1.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 24.0 | 27.9 | 6.2 | 45.6 | 28.1 | 6.6 | 9.1 | 7.1 | 1.7 | 8.8 | 7.1 | 1.8 |
| LOS | C | C | A | D | C | A | A | A | A | A | A | A |
| Approach Delay | | 13.1 | | | 31.4 | | | 5.6 | | | 7.4 | |
| Approach LOS | | B | | | C | | | A | | | A | |

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 85

Natural Cycle: 45

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 12.2

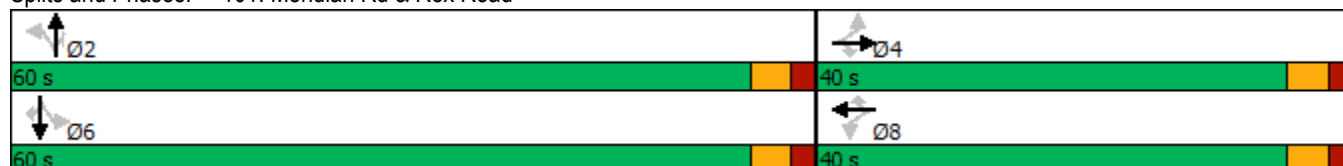
Intersection LOS: B





Intersection Capacity Utilization 54.6%





ICU Level of Service A





Analysis Period (min) 15













Splits and Phases: 101: Meridian Rd & Rex Road



| 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 | 393 | 47 | 22 | 260 | 6 | 27 | 1 | 13 | 3 | 1 | 13 |
| Future Vol, veh/h | 20 | 393 | 47 | 22 | 260 | 6 | 27 | 1 | 13 | 3 | 1 | 13 |
| 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| 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 | 414 | 49 | 23 | 274 | 6 | 28 | 1 | 14 | 3 | 1 | 14 |
| | | | | | | | | | | | | |
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
| Conflicting Flow All | 280 | 0 | 0 | 463 | 0 | 0 | 812 | 807 | 439 | 811 | 828 | 277 |
| Stage 1 | - | - | - | - | - | - | 481 | 481 | - | 323 | 323 | - |
| Stage 2 | - | - | - | - | - | - | 331 | 326 | - | 488 | 505 | - |
| 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 | 1283 | - | - | 1098 | - | - | 298 | 315 | 618 | 298 | 306 | 762 |
| Stage 1 | - | - | - | - | - | - | 566 | 554 | - | 689 | 650 | - |
| Stage 2 | - | - | - | - | - | - | 682 | 648 | - | 561 | 540 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1283 | - | - | 1098 | - | - | 282 | 301 | 618 | 280 | 292 | 762 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 282 | 301 | - | 280 | 292 | - |
| Stage 1 | - | - | - | - | - | - | 554 | 542 | - | 674 | 634 | - |
| Stage 2 | - | - | - | - | - | - | 652 | 632 | - | 535 | 528 | - |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Approach | EB | | | WB | | | NB | | | SB | | |
| HCM Control Delay, s | 0.3 | | | 0.6 | | | 17.1 | | | 11.8 | | |
| HCM LOS | | | | | | | C | | | B | | |
| | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | | | | |
| Capacity (veh/h) | 341 | 1283 | - | - | 1098 | - | - | 545 | | | | |
| HCM Lane V/C Ratio | 0.127 | 0.016 | - | - | 0.021 | - | - | 0.033 | | | | |
| HCM Control Delay (s) | 17.1 | 7.9 | 0 | - | 8.3 | 0 | - | 11.8 | | | | |
| HCM Lane LOS | C | A | A | - | A | A | - | B | | | | |
| HCM 95th %tile Q(veh) | 0.4 | 0.1 | - | - | 0.1 | - | - | 0.1 | | | | |

| 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 | 6 | 358 | 45 | 22 | 255 | 3 | 24 | 1 | 12 | 2 | 1 | 4 |
| Future Vol, veh/h | 6 | 358 | 45 | 22 | 255 | 3 | 24 | 1 | 12 | 2 | 1 | 4 |
| 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| 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, % | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 1 |
| Mvmt Flow | 6 | 377 | 47 | 23 | 268 | 3 | 25 | 1 | 13 | 2 | 1 | 4 |
| | | | | | | | | | | | | |
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
| Conflicting Flow All | 271 | 0 | 0 | 424 | 0 | 0 | 731 | 730 | 401 | 736 | 752 | 270 |
| Stage 1 | - | - | - | - | - | - | 413 | 413 | - | 316 | 316 | - |
| Stage 2 | - | - | - | - | - | - | 318 | 317 | - | 420 | 436 | - |
| Critical Hdwy | 4.11 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.11 | 6.52 | 6.21 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.11 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.11 | 5.52 | - |
| Follow-up Hdwy | 2.209 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.509 | 4.018 | 3.309 |
| Pot Cap-1 Maneuver | 1298 | - | - | 1135 | - | - | 337 | 349 | 649 | 336 | 339 | 771 |
| Stage 1 | - | - | - | - | - | - | 616 | 594 | - | 697 | 655 | - |
| Stage 2 | - | - | - | - | - | - | 693 | 654 | - | 613 | 580 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1298 | - | - | 1135 | - | - | 327 | 339 | 649 | 321 | 329 | 771 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 327 | 339 | - | 321 | 329 | - |
| Stage 1 | - | - | - | - | - | - | 612 | 590 | - | 693 | 639 | - |
| Stage 2 | - | - | - | - | - | - | 672 | 638 | - | 596 | 577 | - |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Approach | EB | | | WB | | | NB | | | SB | | |
| HCM Control Delay, s | 0.1 | | | 0.6 | | | 15.3 | | | 12.6 | | |
| HCM LOS | | | | | | | C | | | B | | |
| | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | | | | |
| Capacity (veh/h) | 390 | 1298 | - | - | 1135 | - | - | 484 | | | | |
| HCM Lane V/C Ratio | 0.1 | 0.005 | - | - | 0.02 | - | - | 0.015 | | | | |
| HCM Control Delay (s) | 15.3 | 7.8 | 0 | - | 8.2 | 0 | - | 12.6 | | | | |
| HCM Lane LOS | C | A | A | - | A | A | - | B | | | | |
| HCM 95th %tile Q(veh) | 0.3 | 0 | - | - | 0.1 | - | - | 0 | | | | |

| Intersection | | | | | | |
|--------------------------|---|---|---|------|---|-------|
| Int Delay, s/veh | 0.9 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations |  |  |  | |  | |
| Traffic Vol, veh/h | 33 | 288 | 285 | 14 | 8 | 20 |
| Future Vol, veh/h | 33 | 288 | 285 | 14 | 8 | 20 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 200 | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 35 | 303 | 300 | 15 | 8 | 21 |
| Major/Minor | Major1 | Major2 | Minor2 | | | |
| Conflicting Flow All | 315 | 0 | - | 0 | 681 | 308 |
| Stage 1 | - | - | - | - | 308 | - |
| Stage 2 | - | - | - | - | 373 | - |
| 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 | 1245 | - | - | - | 416 | 732 |
| Stage 1 | - | - | - | - | 745 | - |
| Stage 2 | - | - | - | - | 696 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1245 | - | - | - | 404 | 732 |
| Mov Cap-2 Maneuver | - | - | - | - | 404 | - |
| Stage 1 | - | - | - | - | 724 | - |
| Stage 2 | - | - | - | - | 696 | - |
| Approach | EB | WB | | SB | | |
| HCM Control Delay, s | 0.8 | 0 | | 11.4 | | |
| HCM LOS | | | | B | | |
| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | |
| Capacity (veh/h) | 1245 | - | - | - | 594 | |
| HCM Lane V/C Ratio | 0.028 | - | - | - | 0.05 | |
| HCM Control Delay (s) | 8 | - | - | - | 11.4 | |
| HCM Lane LOS | A | - | - | - | B | |
| HCM 95th %tile Q(veh) | 0.1 | - | - | - | 0.2 | |

| Intersection | | | | | | | | | | | | |
|--------------------------|---|---|---|---|---|---|---|---|--|---|---|---|
| Int Delay, s/veh | 20.3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Vol, veh/h | 41 | 144 | 91 | 456 | 111 | 18 | 153 | 139 | 654 | 26 | 202 | 66 |
| Future Vol, veh/h | 41 | 144 | 91 | 456 | 111 | 18 | 153 | 139 | 654 | 26 | 202 | 66 |
| 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 | 300 | - | 150 | 150 | - | - | 250 | - | 250 | 250 | - | 250 |
| 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, % | 1 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 1 |
| Mvmt Flow | 43 | 152 | 96 | 480 | 117 | 19 | 161 | 146 | 688 | 27 | 213 | 69 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1147 | 1423 | 213 | 894 | 804 | 146 | 282 | 0 | 0 | 834 | 0 | 0 |
| Stage 1 | 267 | 267 | - | 468 | 468 | - | - | - | - | - | - | - |
| Stage 2 | 880 | 1156 | - | 426 | 336 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.11 | 6.52 | 6.21 | 7.12 | 6.52 | 6.22 | 4.11 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.11 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.11 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.509 | 4.018 | 3.309 | 3.518 | 4.018 | 3.318 | 2.209 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 177 | ~ 136 | 830 | ~ 262 | 316 | 901 | 1286 | - | - | 799 | - | - |
| Stage 1 | 741 | 688 | - | 575 | 561 | - | - | - | - | - | - | - |
| Stage 2 | 343 | 271 | - | 606 | 642 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 102 | ~ 115 | 830 | - | 267 | 901 | 1286 | - | - | 799 | - | - |
| Mov Cap-2 Maneuver | 102 | ~ 115 | - | - | 267 | - | - | - | - | - | - | - |
| Stage 1 | 648 | 665 | - | 503 | 491 | - | - | - | - | - | - | - |
| Stage 2 | 224 | 237 | - | ~ 400 | 620 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|----------------------|-------|----|-----|-----|
| HCM Control Delay, s | 149.4 | | 1.3 | 0.9 |
| HCM LOS | F | - | | |













| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | EBLn3 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1286 | - | - | 102 | 115 | 830 | - | 296 | 799 | - | - |
| HCM Lane V/C Ratio | 0.125 | - | - | 0.423 | 1.318 | 0.115 | - | 0.459 | 0.034 | - | - |
| HCM Control Delay (s) | 8.2 | - | - | 64 | 261.8 | 9.9 | - | 27.1 | 9.7 | - | - |
| HCM Lane LOS | A | - | - | F | F | A | - | D | A | - | - |
| HCM 95th %tile Q(veh) | 0.4 | - | - | 1.8 | 10.2 | 0.4 | - | 2.3 | 0.1 | - | - |

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

| Intersection | | | | | | |
|--------------------------|--------|------|--------|-------|--------|-------|
| Int Delay, s/veh | 2.8 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑ | ↗ | ↖ | ↑ | ↘ | |
| Traffic Vol, veh/h | 273 | 100 | 76 | 223 | 58 | 48 |
| Future Vol, veh/h | 273 | 100 | 76 | 223 | 58 | 48 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 200 | 250 | - | 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 | 287 | 105 | 80 | 235 | 61 | 51 |
| | | | | | | |
| Major/Minor | Major1 | | Major2 | | Minor1 | |
| Conflicting Flow All | 0 | 0 | 392 | 0 | 682 | 287 |
| Stage 1 | - | - | - | - | 287 | - |
| Stage 2 | - | - | - | - | 395 | - |
| 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 | - | - | 1167 | - | 415 | 752 |
| Stage 1 | - | - | - | - | 762 | - |
| Stage 2 | - | - | - | - | 681 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1167 | - | 386 | 752 |
| Mov Cap-2 Maneuver | - | - | - | - | 386 | - |
| Stage 1 | - | - | - | - | 762 | - |
| Stage 2 | - | - | - | - | 634 | - |
| | | | | | | |
| | | | | | | |
| Approach | EB | | WB | | NB | |
| HCM Control Delay, s | 0 | | 2.1 | | 14.4 | |
| HCM LOS | | | | | B | |
| | | | | | | |
| | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT | |
| Capacity (veh/h) | 495 | - | - | 1167 | - | |
| HCM Lane V/C Ratio | 0.225 | - | - | 0.069 | - | |
| HCM Control Delay (s) | 14.4 | - | - | 8.3 | - | |
| HCM Lane LOS | B | - | - | A | - | |
| HCM 95th %tile Q(veh) | 0.9 | - | - | 0.2 | - | |

























Volume
101: Meridian Rd & Rex Road

2040 Total Traffic
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Traffic Volume (vph) | 10 | 53 | 125 | 286 | 124 | 95 | 300 | 475 | 83 | 52 | 650 | 10 |
| Future Volume (vph) | 10 | 53 | 125 | 286 | 124 | 95 | 300 | 475 | 83 | 52 | 650 | 10 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 3% | 1% | 1% | 3% | 1% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Adj. Flow (vph) | 11 | 56 | 132 | 301 | 131 | 100 | 316 | 500 | 87 | 55 | 684 | 11 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 11 | 56 | 132 | 301 | 131 | 100 | 316 | 500 | 87 | 55 | 684 | 11 |
| Intersection Summary | | | | | | | | | | | | |

Timings
101: Meridian Rd & Rex Road

2040 Total Traffic
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph) | 10 | 53 | 125 | 286 | 124 | 95 | 300 | 475 | 83 | 52 | 650 | 10 |
| Future Volume (vph) | 10 | 53 | 125 | 286 | 124 | 95 | 300 | 475 | 83 | 52 | 650 | 10 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 |
| Total Split (s) | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 |
| Total Split (%) | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 60.0% | 60.0% | 60.0% | 60.0% | 60.0% | 60.0% |
| 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 Optimize? | | | | | | | | | | | | |
| Recall Mode | None | None | None | None | None | None | Max | Max | Max | Max | Max | Max |
| Act Effect Green (s) | 24.7 | 24.7 | 24.7 | 24.7 | 24.7 | 24.7 | 55.3 | 55.3 | 55.3 | 55.3 | 55.3 | 55.3 |
| Actuated g/C Ratio | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 |
| v/c Ratio | 0.03 | 0.11 | 0.25 | 0.81 | 0.25 | 0.20 | 0.75 | 0.23 | 0.09 | 0.10 | 0.32 | 0.01 |
| Control Delay | 22.5 | 23.7 | 5.5 | 47.8 | 25.9 | 5.8 | 28.7 | 9.2 | 2.6 | 9.8 | 9.8 | 2.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 22.5 | 23.7 | 5.5 | 47.8 | 25.9 | 5.8 | 28.7 | 9.2 | 2.6 | 9.8 | 9.8 | 2.2 |
| LOS | C | C | A | D | C | A | C | A | A | A | A | A |
| Approach Delay | | 11.5 | | | 34.5 | | | 15.4 | | | 9.7 | |
| Approach LOS | | B | | | C | | | B | | | A | |

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 90.1

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 17.6

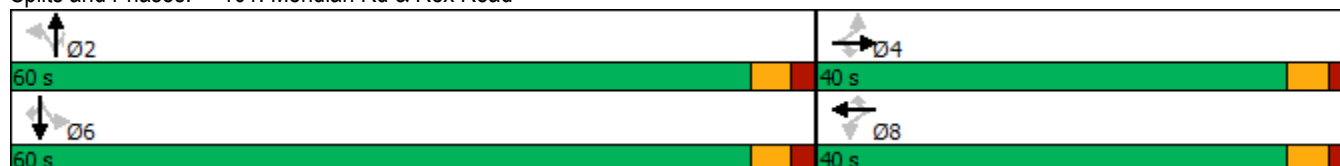
Intersection LOS: B

Intersection Capacity Utilization 69.6%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 101: Meridian Rd & Rex Road







HCM 6th Roundabout
101: Meridian Rd & Rex Road

2040 Total Traffic
AM Peak Hour

| Intersection | | | | | | |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 13.4 | | | | | |
| Intersection LOS | B | | | | | |
| Approach | EB | WB | NB | SB | | |
| Entry Lanes | 1 | 1 | 2 | 2 | | |
| Conflicting Circle Lanes | 2 | 2 | 2 | 2 | | |
| Adj Approach Flow, veh/h | 199 | 532 | 903 | 750 | | |
| Demand Flow Rate, veh/h | 201 | 537 | 922 | 772 | | |
| Vehicles Circulating, veh/h | 1065 | 845 | 124 | 755 | | |
| Vehicles Exiting, veh/h | 462 | 201 | 1142 | 627 | | |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 | | |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 | | |
| Approach Delay, s/veh | 11.4 | 24.8 | 6.6 | 13.9 | | |
| Approach LOS | B | C | A | B | | |
| Lane | Left | Left | Left | Right | Left | Right |
| Designated Moves | LTR | LTR | LT | TR | LT | TR |
| Assumed Moves | LTR | LTR | LT | TR | LT | TR |
| RT Channelized | | | | | | |
| Lane Util | 1.000 | 1.000 | 0.470 | 0.530 | 0.470 | 0.530 |
| Follow-Up Headway, s | 2.535 | 2.535 | 2.667 | 2.535 | 2.667 | 2.535 |
| Critical Headway, s | 4.328 | 4.328 | 4.645 | 4.328 | 4.645 | 4.328 |
| Entry Flow, veh/h | 201 | 537 | 433 | 489 | 363 | 409 |
| Cap Entry Lane, veh/h | 574 | 692 | 1204 | 1278 | 674 | 747 |
| Entry HV Adj Factor | 0.992 | 0.990 | 0.980 | 0.979 | 0.972 | 0.972 |
| Flow Entry, veh/h | 199 | 532 | 424 | 479 | 353 | 398 |
| Cap Entry, veh/h | 570 | 686 | 1180 | 1251 | 655 | 727 |
| V/C Ratio | 0.350 | 0.776 | 0.360 | 0.383 | 0.539 | 0.547 |
| Control Delay, s/veh | 11.4 | 24.8 | 6.5 | 6.6 | 14.4 | 13.5 |
| LOS | B | C | A | A | B | B |
| 95th %tile Queue, veh | 2 | 7 | 2 | 2 | 3 | 3 |





HCM 6th TWSC
23: Pyramid Peak & Rex Road

2040 Total Traffic
AM Peak Hour

| 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 | 7 | 298 | 12 | 7 | 393 | 2 | 30 | 1 | 21 | 7 | 2 | 19 |
| Future Vol, veh/h | 7 | 298 | 12 | 7 | 393 | 2 | 30 | 1 | 21 | 7 | 2 | 19 |
| 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| 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 | 7 | 314 | 13 | 7 | 414 | 2 | 32 | 1 | 22 | 7 | 2 | 20 |
| | | | | | | | | | | | | |
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
| Conflicting Flow All | 416 | 0 | 0 | 327 | 0 | 0 | 775 | 765 | 321 | 775 | 770 | 415 |
| Stage 1 | - | - | - | - | - | - | 335 | 335 | - | 429 | 429 | - |
| Stage 2 | - | - | - | - | - | - | 440 | 430 | - | 346 | 341 | - |
| 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 | 1143 | - | - | 1233 | - | - | 315 | 333 | 720 | 315 | 331 | 637 |
| Stage 1 | - | - | - | - | - | - | 679 | 643 | - | 604 | 584 | - |
| Stage 2 | - | - | - | - | - | - | 596 | 583 | - | 670 | 639 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1143 | - | - | 1233 | - | - | 301 | 328 | 720 | 301 | 326 | 637 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 301 | 328 | - | 301 | 326 | - |
| Stage 1 | - | - | - | - | - | - | 674 | 638 | - | 600 | 580 | - |
| Stage 2 | - | - | - | - | - | - | 571 | 579 | - | 644 | 635 | - |
| | | | | | | | | | | | | |
| Approach | EB | | | WB | | | NB | | | SB | | |
| HCM Control Delay, s | 0.2 | | | 0.1 | | | 15.6 | | | 13.1 | | |
| HCM LOS | | | | | | | C | | | B | | |
| | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | | | | |
| Capacity (veh/h) | 394 | 1143 | - | - | 1233 | - | - | 473 | | | | |
| HCM Lane V/C Ratio | 0.139 | 0.006 | - | - | 0.006 | - | - | 0.062 | | | | |
| HCM Control Delay (s) | 15.6 | 8.2 | 0 | - | 7.9 | 0 | - | 13.1 | | | | |
| HCM Lane LOS | C | A | A | - | A | A | - | B | | | | |
| HCM 95th %tile Q(veh) | 0.5 | 0 | - | - | 0 | - | - | 0.2 | | | | |

HCM 6th TWSC
24: Sunset Ridge Dr & Rex Road

2040 Total Traffic
AM Peak Hour

| 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 | 4 | 309 | 9 | 6 | 351 | 2 | 33 | 6 | 16 | 6 | 7 | 18 |
| Future Vol, veh/h | 4 | 309 | 9 | 6 | 351 | 2 | 33 | 6 | 16 | 6 | 7 | 18 |
| 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| 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, % | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 1 |
| Mvmt Flow | 4 | 325 | 9 | 6 | 369 | 2 | 35 | 6 | 17 | 6 | 7 | 19 |
| | | | | | | | | | | | | |
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
| Conflicting Flow All | 371 | 0 | 0 | 334 | 0 | 0 | 733 | 721 | 330 | 731 | 724 | 370 |
| Stage 1 | - | - | - | - | - | - | 338 | 338 | - | 382 | 382 | - |
| Stage 2 | - | - | - | - | - | - | 395 | 383 | - | 349 | 342 | - |
| Critical Hdwy | 4.11 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.11 | 6.52 | 6.21 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.11 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.11 | 5.52 | - |
| Follow-up Hdwy | 2.209 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.509 | 4.018 | 3.309 |
| Pot Cap-1 Maneuver | 1193 | - | - | 1225 | - | - | 336 | 353 | 712 | 339 | 352 | 678 |
| Stage 1 | - | - | - | - | - | - | 676 | 641 | - | 643 | 613 | - |
| Stage 2 | - | - | - | - | - | - | 630 | 612 | - | 669 | 638 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1193 | - | - | 1225 | - | - | 319 | 349 | 712 | 324 | 348 | 678 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 319 | 349 | - | 324 | 348 | - |
| Stage 1 | - | - | - | - | - | - | 673 | 638 | - | 640 | 609 | - |
| Stage 2 | - | - | - | - | - | - | 601 | 608 | - | 644 | 635 | - |
| | | | | | | | | | | | | |
| Approach | EB | | | WB | | | NB | | | SB | | |
| HCM Control Delay, s | 0.1 | | | 0.1 | | | 16 | | | 13.1 | | |
| HCM LOS | | | | | | | C | | | B | | |
| | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | | | | |
| Capacity (veh/h) | 384 | 1193 | - | - | 1225 | - | - | 476 | | | | |
| HCM Lane V/C Ratio | 0.151 | 0.004 | - | - | 0.005 | - | - | 0.069 | | | | |
| HCM Control Delay (s) | 16 | 8 | 0 | - | 8 | 0 | - | 13.1 | | | | |
| HCM Lane LOS | C | A | A | - | A | A | - | B | | | | |
| HCM 95th %tile Q(veh) | 0.5 | 0 | - | - | 0 | - | - | 0.2 | | | | |





HCM 6th TWSC
41: Rex Road & Estate Ridge Dr

2040 Total Traffic
AM Peak Hour

Intersection

Int Delay, s/veh 1.5

Movement EBL EBT WBT WBR SBL SBR

| | | | | | | |
|--------------------------|---|---|---|------|---|------|
| Lane Configurations |  |  |  | |  | |
| Traffic Vol, veh/h | 17 | 345 | 253 | 6 | 24 | 50 |
| Future Vol, veh/h | 17 | 345 | 253 | 6 | 24 | 50 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 200 | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 18 | 363 | 266 | 6 | 25 | 53 |

Major/Minor Major1 Major2 Minor2

| | | | | | | |
|----------------------|-------|---|---|---|-------|-------|
| Conflicting Flow All | 272 | 0 | - | 0 | 668 | 269 |
| Stage 1 | - | - | - | - | 269 | - |
| Stage 2 | - | - | - | - | 399 | - |
| 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 | 1291 | - | - | - | 423 | 770 |
| Stage 1 | - | - | - | - | 776 | - |
| Stage 2 | - | - | - | - | 678 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1291 | - | - | - | 417 | 770 |
| Mov Cap-2 Maneuver | - | - | - | - | 417 | - |
| Stage 1 | - | - | - | - | 765 | - |
| Stage 2 | - | - | - | - | 678 | - |

Approach EB WB SB

| | | | |
|----------------------|-----|---|------|
| HCM Control Delay, s | 0.4 | 0 | 11.8 |
| HCM LOS | | | B |

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

| | | | | | |
|-----------------------|-------|---|---|---|-------|
| Capacity (veh/h) | 1291 | - | - | - | 604 |
| HCM Lane V/C Ratio | 0.014 | - | - | - | 0.129 |
| HCM Control Delay (s) | 7.8 | - | - | - | 11.8 |
| HCM Lane LOS | A | - | - | - | B |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.4 |

HCM 6th TWSC
208: Rolling Hills Ranch Access & Rex Road

2040 Total Traffic
AM Peak Hour

Intersection

Int Delay, s/veh 3.3

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| Traffic Vol, veh/h | 292 | 39 | 31 | 273 | 85 | 70 |
| Future Vol, veh/h | 292 | 39 | 31 | 273 | 85 | 70 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 200 | 250 | - | 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 | 307 | 41 | 33 | 287 | 89 | 74 |

| Major/Minor | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0 | 0 | 348 |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Critical Hdwy | - | - | 4.12 |
| Critical Hdwy Stg 1 | - | - | - |
| Critical Hdwy Stg 2 | - | - | - |
| Follow-up Hdwy | - | - | 2.218 |
| Pot Cap-1 Maneuver | - | - | 1211 |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Platoon blocked, % | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1211 |
| Mov Cap-2 Maneuver | - | - | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |

| Approach | EB | WB | NB |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0 | 0.8 | 15.1 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h) | 517 | - | - | 1211 | - |
| HCM Lane V/C Ratio | 0.316 | - | - | 0.027 | - |
| HCM Control Delay (s) | 15.1 | - | - | 8.1 | - |
| HCM Lane LOS | C | - | - | A | - |
| HCM 95th %tile Q(veh) | 1.3 | - | - | 0.1 | - |

HCM 6th TWSC
1: Eastonville Rd & Rex Rd

2040 Total Traffic
AM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|--------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 1103.5 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ↰ | ↑ | ↱ | ↰ | ↑ | ↱ | ↰ | ↑ | ↱ | ↰ | ↑ | ↱ |
| Traffic Vol, veh/h | 35 | 163 | 218 | 658 | 85 | 27 | 86 | 130 | 371 | 23 | 194 | 52 |
| Future Vol, veh/h | 35 | 163 | 218 | 658 | 85 | 27 | 86 | 130 | 371 | 23 | 194 | 52 |
| 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 | - | 155 | 300 | - | 155 | 315 | - | 155 | 205 | - | 155 |
| 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 | 37 | 172 | 229 | 693 | 89 | 28 | 91 | 137 | 391 | 24 | 204 | 55 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 825 | 962 | 204 | 799 | 626 | 137 | 259 | 0 | 0 | 528 | 0 | 0 |
| Stage 1 | 252 | 252 | - | 319 | 319 | - | - | - | - | - | - | - |
| Stage 2 | 573 | 710 | - | 480 | 307 | - | - | - | - | - | - | - |
| 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 | 292 | 256 | 837 | ~ 304 | 401 | 911 | 1306 | - | - | 1039 | - | - |
| Stage 1 | 752 | 698 | - | 693 | 653 | - | - | - | - | - | - | - |
| Stage 2 | 505 | 437 | - | ~ 567 | 661 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 214 | 233 | 837 | ~ 83 | 365 | 911 | 1306 | - | - | 1039 | - | - |
| Mov Cap-2 Maneuver | 214 | 233 | - | ~ 83 | 365 | - | - | - | - | - | - | - |
| Stage 1 | 699 | 682 | - | ~ 644 | 607 | - | - | - | - | - | - | - |
| Stage 2 | 388 | 406 | - | ~ 301 | 646 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|----------------------|----|-----------|-----|-----|
| HCM Control Delay, s | 29 | \$ 2909.6 | 1.2 | 0.7 |
| HCM LOS | D | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | EBLn3 | WBLn1 | WBLn2 | WBLn3 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|--------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1306 | - | - | 214 | 233 | 837 | 83 | 365 | 911 | 1039 | - | - |
| HCM Lane V/C Ratio | 0.069 | - | - | 0.172 | 0.736 | 0.274 | 8.345 | 0.245 | 0.031 | 0.023 | - | - |
| HCM Control Delay (s) | 8 | - | - | 25.3 | 54.1 | 10.3 | 3402.2 | 18 | 9.1 | 8.5 | - | - |
| HCM Lane LOS | A | - | - | D | F | B | F | C | A | A | - | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0.6 | 5.1 | 1.1 | 79.5 | 0.9 | 0.1 | 0.1 | - | - |

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













HCM 6th Roundabout
1: Eastonville Rd & Rex Rd

2040 Total Traffic
AM Peak Hour

| Intersection | | | | | | |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 13.4 | | | | | |
| Intersection LOS | B | | | | | |
| Approach | EB | | WB | | NB | |
| Entry Lanes | 2 | | 1 | | 2 | |
| Conflicting Circle Lanes | 1 | | 1 | | 1 | |
| Adj Approach Flow, veh/h | 438 | | 810 | | 619 | |
| Demand Flow Rate, veh/h | 447 | | 827 | | 632 | |
| Vehicles Circulating, veh/h | 939 | | 271 | | 237 | |
| Vehicles Exiting, veh/h | 240 | | 598 | | 1149 | |
| Ped Vol Crossing Leg, #/h | 0 | | 0 | | 0 | |
| Ped Cap Adj | 1.000 | | 1.000 | | 1.000 | |
| Approach Delay, s/veh | 11.5 | | 19.2 | | 6.1 | |
| Approach LOS | B | | C | | A | |
| Lane | Left | Right | Left | Left | Right | Left |
| Designated Moves | LT | R | LTR | LT | R | LTR |
| Assumed Moves | LT | R | LTR | LT | R | LTR |
| RT Channelized | | | | | | |
| Lane Util | 0.477 | 0.523 | 1.000 | 0.369 | 0.631 | 1.000 |
| Follow-Up Headway, s | 2.535 | 2.535 | 2.609 | 2.535 | 2.535 | 2.609 |
| Critical Headway, s | 4.544 | 4.544 | 4.976 | 4.544 | 4.544 | 4.976 |
| Entry Flow, veh/h | 213 | 234 | 827 | 233 | 399 | 288 |
| Cap Entry Lane, veh/h | 604 | 604 | 1047 | 1145 | 1145 | 556 |
| Entry HV Adj Factor | 0.979 | 0.979 | 0.980 | 0.980 | 0.980 | 0.982 |
| Flow Entry, veh/h | 209 | 229 | 810 | 228 | 391 | 283 |
| Cap Entry, veh/h | 592 | 591 | 1025 | 1121 | 1122 | 546 |
| V/C Ratio | 0.353 | 0.387 | 0.790 | 0.204 | 0.349 | 0.518 |
| Control Delay, s/veh | 11.1 | 11.8 | 19.2 | 5.0 | 6.7 | 16.0 |
| LOS | B | B | C | A | A | C |
| 95th %tile Queue, veh | 2 | 2 | 9 | 1 | 2 | 3 |

Volume
1: Eastonville Rd & Rex Rd

2040 Total Traffic
AM Peak Hour

























| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Traffic Volume (vph) | 35 | 163 | 218 | 658 | 85 | 27 | 86 | 130 | 371 | 23 | 194 | 52 |
| Future Volume (vph) | 35 | 163 | 218 | 658 | 85 | 27 | 86 | 130 | 371 | 23 | 194 | 52 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Adj. Flow (vph) | 37 | 172 | 229 | 693 | 89 | 28 | 91 | 137 | 391 | 24 | 204 | 55 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 37 | 172 | 229 | 693 | 89 | 28 | 91 | 137 | 391 | 24 | 204 | 55 |
| Intersection Summary | | | | | | | | | | | | |

Timings

1: Eastonville Rd & Rex Rd

2040 Total Traffic

AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph) | 35 | 163 | 218 | 658 | 85 | 27 | 86 | 130 | 371 | 23 | 194 | 52 |
| Future Volume (vph) | 35 | 163 | 218 | 658 | 85 | 27 | 86 | 130 | 371 | 23 | 194 | 52 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 10.0 | 20.0 | 20.0 | 10.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 |
| Total Split (s) | 16.0 | 30.0 | 30.0 | 16.0 | 30.0 | 30.0 | 74.0 | 74.0 | 74.0 | 74.0 | 74.0 | 74.0 |
| Total Split (%) | 13.3% | 25.0% | 25.0% | 13.3% | 25.0% | 25.0% | 61.7% | 61.7% | 61.7% | 61.7% | 61.7% | 61.7% |
| 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 Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | None | None | None | None | None | None | None | None | None | None | None |
| Act Effect Green (s) | 16.0 | 9.9 | 9.9 | 25.8 | 21.9 | 21.9 | 11.3 | 11.3 | 11.3 | 11.3 | 11.3 | 11.3 |
| Actuated g/C Ratio | 0.34 | 0.21 | 0.21 | 0.54 | 0.46 | 0.46 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 |
| v/c Ratio | 0.07 | 0.44 | 0.45 | 1.01 | 0.10 | 0.04 | 0.33 | 0.31 | 0.58 | 0.08 | 0.46 | 0.13 |
| Control Delay | 7.0 | 21.1 | 6.3 | 52.6 | 11.4 | 1.6 | 18.9 | 17.3 | 6.1 | 15.1 | 19.5 | 5.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 7.0 | 21.1 | 6.3 | 52.6 | 11.4 | 1.6 | 18.9 | 17.3 | 6.1 | 15.1 | 19.5 | 5.1 |
| LOS | A | C | A | D | B | A | B | B | A | B | B | A |
| Approach Delay | | 12.2 | | | 46.3 | | | 10.4 | | | 16.3 | |
| Approach LOS | | B | | | D | | | B | | | B | |

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 47.5

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 25.1

Intersection LOS: C

Intersection Capacity Utilization 76.7%

ICU Level of Service D













Analysis Period (min) 15

Splits and Phases: 1: Eastonville Rd & Rex Rd

| | | |
|--|---|--|
|  Ø2 |  Ø3 |  Ø4 |
| 74 s | 16 s | 30 s |
|  Ø6 |  Ø7 |  Ø8 |
| 74 s | 16 s | 30 s |

























Volume
101: Meridian Rd & Rex Road

2040 Total Traffic
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Traffic Volume (vph) | 10 | 124 | 277 | 224 | 126 | 103 | 150 | 450 | 341 | 130 | 430 | 10 |
| Future Volume (vph) | 10 | 124 | 277 | 224 | 126 | 103 | 150 | 450 | 341 | 130 | 430 | 10 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 3% | 1% | 1% | 3% | 1% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Adj. Flow (vph) | 11 | 131 | 292 | 236 | 133 | 108 | 158 | 474 | 359 | 137 | 453 | 11 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 11 | 131 | 292 | 236 | 133 | 108 | 158 | 474 | 359 | 137 | 453 | 11 |
| Intersection Summary | | | | | | | | | | | | |

Timings
101: Meridian Rd & Rex Road

2040 Total Traffic
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph) | 10 | 124 | 277 | 224 | 126 | 103 | 150 | 450 | 341 | 130 | 430 | 10 |
| Future Volume (vph) | 10 | 124 | 277 | 224 | 126 | 103 | 150 | 450 | 341 | 130 | 430 | 10 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 |
| Total Split (s) | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 |
| Total Split (%) | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 60.0% | 60.0% | 60.0% | 60.0% | 60.0% | 60.0% |
| 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 Optimize? | | | | | | | | | | | | |
| Recall Mode | None | None | None | None | None | None | Max | Max | Max | Max | Max | Max |
| Act Effect Green (s) | 21.3 | 21.3 | 21.3 | 21.3 | 21.3 | 21.3 | 55.3 | 55.3 | 55.3 | 55.3 | 55.3 | 55.3 |
| Actuated g/C Ratio | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 |
| v/c Ratio | 0.04 | 0.28 | 0.48 | 0.76 | 0.29 | 0.23 | 0.27 | 0.21 | 0.31 | 0.24 | 0.20 | 0.01 |
| Control Delay | 23.4 | 27.2 | 5.8 | 46.5 | 27.3 | 6.2 | 10.0 | 7.8 | 1.8 | 9.7 | 7.8 | 2.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.4 | 27.2 | 5.8 | 46.5 | 27.3 | 6.2 | 10.0 | 7.8 | 1.8 | 9.7 | 7.8 | 2.0 |
| LOS | C | C | A | D | C | A | A | A | A | A | A | A |
| Approach Delay | | 12.7 | | | 32.0 | | | 6.0 | | | 8.1 | |
| Approach LOS | | B | | | C | | | A | | | A | |

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 86.7

Natural Cycle: 45

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 12.6

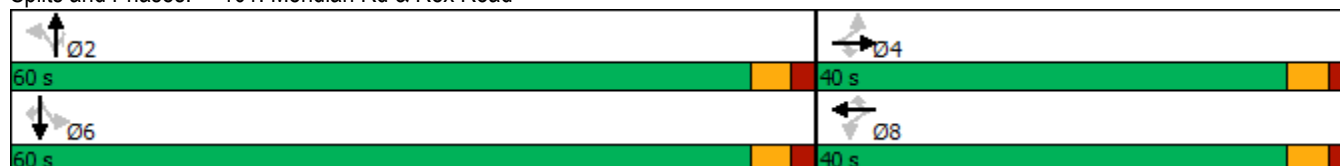
Intersection LOS: B

Intersection Capacity Utilization 55.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 101: Meridian Rd & Rex Road



HCM 6th Roundabout
101: Meridian Rd & Rex Road

2040 Total Traffic
PM Peak Hour

| Intersection | | | | | | |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 11.0 | | | | | |
| Intersection LOS | B | | | | | |
| Approach | EB | WB | NB | | SB | |
| Entry Lanes | 1 | 1 | 2 | | 2 | |
| Conflicting Circle Lanes | 2 | 2 | 2 | | 2 | |
| Adj Approach Flow, veh/h | 434 | 477 | 991 | | 601 | |
| Demand Flow Rate, veh/h | 438 | 481 | 1011 | | 616 | |
| Vehicles Circulating, veh/h | 843 | 659 | 281 | | 532 | |
| Vehicles Exiting, veh/h | 305 | 633 | 1000 | | 608 | |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | | 0 | |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | | 1.000 | |
| Approach Delay, s/veh | 16.9 | 13.8 | 8.7 | | 8.4 | |
| Approach LOS | C | B | A | | A | |
| Lane | Left | Left | Left | Right | Left | Right |
| Designated Moves | LTR | LTR | LT | TR | LT | TR |
| Assumed Moves | LTR | LTR | LT | TR | LT | TR |
| RT Channelized | | | | | | |
| Lane Util | 1.000 | 1.000 | 0.470 | 0.530 | 0.471 | 0.529 |
| Follow-Up Headway, s | 2.535 | 2.535 | 2.667 | 2.535 | 2.667 | 2.535 |
| Critical Headway, s | 4.328 | 4.328 | 4.645 | 4.328 | 4.645 | 4.328 |
| Entry Flow, veh/h | 438 | 481 | 475 | 536 | 290 | 326 |
| Cap Entry Lane, veh/h | 694 | 811 | 1042 | 1118 | 827 | 903 |
| Entry HV Adj Factor | 0.990 | 0.991 | 0.980 | 0.980 | 0.975 | 0.978 |
| Flow Entry, veh/h | 434 | 477 | 466 | 525 | 283 | 319 |
| Cap Entry, veh/h | 687 | 804 | 1022 | 1096 | 807 | 883 |
| V/C Ratio | 0.632 | 0.593 | 0.456 | 0.479 | 0.350 | 0.361 |
| Control Delay, s/veh | 16.9 | 13.8 | 8.7 | 8.7 | 8.6 | 8.2 |
| LOS | C | B | A | A | A | A |
| 95th %tile Queue, veh | 5 | 4 | 2 | 3 | 2 | 2 |

HCM 6th TWSC
23: Pyramid Peak & Rex Road

2040 Total Traffic
PM Peak Hour

| 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 | 431 | 47 | 22 | 281 | 6 | 27 | 1 | 13 | 3 | 1 | 13 |
| Future Vol, veh/h | 20 | 431 | 47 | 22 | 281 | 6 | 27 | 1 | 13 | 3 | 1 | 13 |
| 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| 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 | 454 | 49 | 23 | 296 | 6 | 28 | 1 | 14 | 3 | 1 | 14 |
| | | | | | | | | | | | | |
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
| Conflicting Flow All | 302 | 0 | 0 | 503 | 0 | 0 | 874 | 869 | 479 | 873 | 890 | 299 |
| Stage 1 | - | - | - | - | - | - | 521 | 521 | - | 345 | 345 | - |
| Stage 2 | - | - | - | - | - | - | 353 | 348 | - | 528 | 545 | - |
| 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 | 1259 | - | - | 1061 | - | - | 270 | 290 | 587 | 271 | 282 | 741 |
| Stage 1 | - | - | - | - | - | - | 539 | 532 | - | 671 | 636 | - |
| Stage 2 | - | - | - | - | - | - | 664 | 634 | - | 534 | 519 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1259 | - | - | 1061 | - | - | 254 | 276 | 587 | 254 | 268 | 741 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 254 | 276 | - | 254 | 268 | - |
| Stage 1 | - | - | - | - | - | - | 527 | 520 | - | 656 | 619 | - |
| Stage 2 | - | - | - | - | - | - | 634 | 618 | - | 509 | 507 | - |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Approach | EB | | | WB | | | NB | | | SB | | |
| HCM Control Delay, s | 0.3 | | | 0.6 | | | 18.5 | | | 12.3 | | |
| HCM LOS | | | | | | | C | | | B | | |
| | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | | | | |
| Capacity (veh/h) | 310 | 1259 | - | - | 1061 | - | - | 514 | | | | |
| HCM Lane V/C Ratio | 0.139 | 0.017 | - | - | 0.022 | - | - | 0.035 | | | | |
| HCM Control Delay (s) | 18.5 | 7.9 | 0 | - | 8.5 | 0 | - | 12.3 | | | | |
| HCM Lane LOS | C | A | A | - | A | A | - | B | | | | |
| HCM 95th %tile Q(veh) | 0.5 | 0.1 | - | - | 0.1 | - | - | 0.1 | | | | |





HCM 6th TWSC
24: Sunset Ridge Dr & Rex Road

2040 Total Traffic
PM Peak Hour

| 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 | 23 | 379 | 45 | 22 | 266 | 6 | 24 | 3 | 12 | 4 | 3 | 13 |
| Future Vol, veh/h | 23 | 379 | 45 | 22 | 266 | 6 | 24 | 3 | 12 | 4 | 3 | 13 |
| 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| 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, % | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 1 |
| Mvmt Flow | 24 | 399 | 47 | 23 | 280 | 6 | 25 | 3 | 13 | 4 | 3 | 14 |
| | | | | | | | | | | | | |
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
| Conflicting Flow All | 286 | 0 | 0 | 446 | 0 | 0 | 809 | 803 | 423 | 808 | 823 | 283 |
| Stage 1 | - | - | - | - | - | - | 471 | 471 | - | 329 | 329 | - |
| Stage 2 | - | - | - | - | - | - | 338 | 332 | - | 479 | 494 | - |
| Critical Hdwy | 4.11 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.11 | 6.52 | 6.21 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.11 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.11 | 5.52 | - |
| Follow-up Hdwy | 2.209 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.509 | 4.018 | 3.309 |
| Pot Cap-1 Maneuver | 1282 | - | - | 1114 | - | - | 299 | 317 | 631 | 301 | 309 | 758 |
| Stage 1 | - | - | - | - | - | - | 573 | 560 | - | 686 | 646 | - |
| Stage 2 | - | - | - | - | - | - | 676 | 644 | - | 570 | 546 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1282 | - | - | 1114 | - | - | 280 | 301 | 631 | 282 | 294 | 758 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 280 | 301 | - | 282 | 294 | - |
| Stage 1 | - | - | - | - | - | - | 559 | 546 | - | 669 | 630 | - |
| Stage 2 | - | - | - | - | - | - | 644 | 628 | - | 541 | 532 | - |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Approach | EB | | | WB | | | NB | | | SB | | |
| HCM Control Delay, s | 0.4 | | | 0.6 | | | 17 | | | 12.8 | | |
| HCM LOS | | | | | | | C | | | B | | |
| | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | | | | |
| Capacity (veh/h) | 340 | 1282 | - | - | 1114 | - | - | 481 | | | | |
| HCM Lane V/C Ratio | 0.121 | 0.019 | - | - | 0.021 | - | - | 0.044 | | | | |
| HCM Control Delay (s) | 17 | 7.9 | 0 | - | 8.3 | 0 | - | 12.8 | | | | |
| HCM Lane LOS | C | A | A | - | A | A | - | B | | | | |
| HCM 95th %tile Q(veh) | 0.4 | 0.1 | - | - | 0.1 | - | - | 0.1 | | | | |

HCM 6th TWSC
41: Rex Road & Estate Ridge Dr

2040 Total Traffic
PM Peak Hour

| Intersection | | | | | | |
|--------------------------|---|---|---|------|---|-------|
| Int Delay, s/veh | 1.5 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations |  |  |  | |  | |
| Traffic Vol, veh/h | 55 | 290 | 283 | 31 | 17 | 32 |
| Future Vol, veh/h | 55 | 290 | 283 | 31 | 17 | 32 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 200 | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 58 | 305 | 298 | 33 | 18 | 34 |
| Major/Minor | Major1 | Major2 | Minor2 | | | |
| Conflicting Flow All | 331 | 0 | - | 0 | 736 | 315 |
| Stage 1 | - | - | - | - | 315 | - |
| Stage 2 | - | - | - | - | 421 | - |
| 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 | 1228 | - | - | - | 386 | 725 |
| Stage 1 | - | - | - | - | 740 | - |
| Stage 2 | - | - | - | - | 662 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1228 | - | - | - | 368 | 725 |
| Mov Cap-2 Maneuver | - | - | - | - | 368 | - |
| Stage 1 | - | - | - | - | 705 | - |
| Stage 2 | - | - | - | - | 662 | - |
| Approach | EB | WB | | SB | | |
| HCM Control Delay, s | 1.3 | 0 | | 12.3 | | |
| HCM LOS | | | | B | | |
| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | |
| Capacity (veh/h) | 1228 | - | - | - | 542 | |
| HCM Lane V/C Ratio | 0.047 | - | - | - | 0.095 | |
| HCM Control Delay (s) | 8.1 | - | - | - | 12.3 | |
| HCM Lane LOS | A | - | - | - | B | |
| HCM 95th %tile Q(veh) | 0.1 | - | - | - | 0.3 | |

HCM 6th TWSC
208: Rolling Hills Ranch Access & Rex Road

2040 Total Traffic
PM Peak Hour

Intersection

Int Delay, s/veh 2.8

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| Traffic Vol, veh/h | 295 | 100 | 77 | 237 | 58 | 49 |
| Future Vol, veh/h | 295 | 100 | 77 | 237 | 58 | 49 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 200 | 250 | - | 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 | 311 | 105 | 81 | 249 | 61 | 52 |

| Major/Minor | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0 | 0 | 416 |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Critical Hdwy | - | - | 4.12 |
| Critical Hdwy Stg 1 | - | - | - |
| Critical Hdwy Stg 2 | - | - | - |
| Follow-up Hdwy | - | - | 2.218 |
| Pot Cap-1 Maneuver | - | - | 1143 |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Platoon blocked, % | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1143 |
| Mov Cap-2 Maneuver | - | - | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |

| Approach | EB | WB | NB |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0 | 2.1 | 14.9 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h) | 474 | - | - | 1143 | - |
| HCM Lane V/C Ratio | 0.238 | - | - | 0.071 | - |
| HCM Control Delay (s) | 14.9 | - | - | 8.4 | - |
| HCM Lane LOS | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.9 | - | - | 0.2 | - |

HCM 6th TWSC
1: Eastonville Rd & Rex Rd

2040 Total Traffic
PM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 24.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ↰ | ↑ | ↱ | ↰ | ↑ | ↱ | ↰ | ↑ | ↱ | ↰ | ↑ | ↱ |
| Traffic Vol, veh/h | 41 | 150 | 96 | 456 | 122 | 18 | 161 | 139 | 654 | 26 | 202 | 67 |
| Future Vol, veh/h | 41 | 150 | 96 | 456 | 122 | 18 | 161 | 139 | 654 | 26 | 202 | 67 |
| 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 | - | 155 | 300 | - | 155 | 315 | - | 155 | 205 | - | 155 |
| 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 | 43 | 158 | 101 | 480 | 128 | 19 | 169 | 146 | 688 | 27 | 213 | 71 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1169 | 1439 | 213 | 916 | 822 | 146 | 284 | 0 | 0 | 834 | 0 | 0 |
| Stage 1 | 267 | 267 | - | 484 | 484 | - | - | - | - | - | - | - |
| Stage 2 | 902 | 1172 | - | 432 | 338 | - | - | - | - | - | - | - |
| 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 | 170 | ~ 133 | 827 | ~ 253 | 309 | 901 | 1278 | - | - | 799 | - | - |
| Stage 1 | 738 | 688 | - | 564 | 552 | - | - | - | - | - | - | - |
| Stage 2 | 332 | 266 | - | 602 | 641 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 90 | ~ 111 | 827 | - | 259 | 901 | 1278 | - | - | 799 | - | - |
| Mov Cap-2 Maneuver | 90 | ~ 111 | - | - | 259 | - | - | - | - | - | - | - |
| Stage 1 | 641 | 665 | - | 490 | 479 | - | - | - | - | - | - | - |
| Stage 2 | 206 | 231 | - | ~ 389 | 619 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|----------------------|-------|----|-----|-----|
| HCM Control Delay, s | 173.9 | | 1.4 | 0.9 |
| HCM LOS | F | - | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | EBLn3 | WBLn1 | WBLn2 | WBLn3 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1278 | - | - | 90 | 111 | 827 | - | 259 | 901 | 799 | - | - |
| HCM Lane V/C Ratio | 0.133 | - | - | 0.48 | 1.422 | 0.122 | - | 0.496 | 0.021 | 0.034 | - | - |
| HCM Control Delay (s) | 8.2 | - | - | 77.4 | 305.1 | 10 | - | 31.8 | 9.1 | 9.7 | - | - |
| HCM Lane LOS | A | - | - | F | F | B | - | D | A | A | - | - |
| HCM 95th %tile Q(veh) | 0.5 | - | - | 2 | 11.2 | 0.4 | - | 2.6 | 0.1 | 0.1 | - | - |

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













HCM 6th Roundabout
1: Eastonville Rd & Rex Rd

2040 Total Traffic
PM Peak Hour

| Intersection | | | | | | |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 11.5 | | | | | |
| Intersection LOS | B | | | | | |
| Approach | EB | | WB | | NB | |
| Entry Lanes | 2 | | 1 | | 2 | |
| Conflicting Circle Lanes | 1 | | 1 | | 1 | |
| Adj Approach Flow, veh/h | 302 | | 627 | | 1003 | |
| Demand Flow Rate, veh/h | 308 | | 640 | | 1023 | |
| Vehicles Circulating, veh/h | 735 | | 365 | | 233 | |
| Vehicles Exiting, veh/h | 375 | | 891 | | 810 | |
| Ped Vol Crossing Leg, #/h | 0 | | 0 | | 0 | |
| Ped Cap Adj | 1.000 | | 1.000 | | 1.000 | |
| Approach Delay, s/veh | 7.8 | | 14.8 | | 9.5 | |
| Approach LOS | A | | B | | A | |
| Lane | Left | Right | Left | Left | Right | Left |
| Designated Moves | LT | R | LTR | LT | R | LTR |
| Assumed Moves | LT | R | LTR | LT | R | LTR |
| RT Channelized | | | | | | |
| Lane Util | 0.666 | 0.334 | 1.000 | 0.314 | 0.686 | 1.000 |
| Follow-Up Headway, s | 2.535 | 2.535 | 2.609 | 2.535 | 2.535 | 2.609 |
| Critical Headway, s | 4.544 | 4.544 | 4.976 | 4.544 | 4.544 | 4.976 |
| Entry Flow, veh/h | 205 | 103 | 640 | 321 | 702 | 317 |
| Cap Entry Lane, veh/h | 727 | 727 | 951 | 1149 | 1149 | 615 |
| Entry HV Adj Factor | 0.980 | 0.981 | 0.980 | 0.982 | 0.980 | 0.980 |
| Flow Entry, veh/h | 201 | 101 | 627 | 315 | 688 | 311 |
| Cap Entry, veh/h | 713 | 713 | 932 | 1128 | 1126 | 602 |
| V/C Ratio | 0.282 | 0.142 | 0.673 | 0.279 | 0.611 | 0.516 |
| Control Delay, s/veh | 8.4 | 6.6 | 14.8 | 5.8 | 11.1 | 14.7 |
| LOS | A | A | B | A | B | B |
| 95th %tile Queue, veh | 1 | 0 | 5 | 1 | 4 | 3 |

Volume
1: Eastonville Rd & Rex Rd

2040 Total Traffic
PM Peak Hour

























| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Traffic Volume (vph) | 41 | 150 | 96 | 456 | 122 | 18 | 161 | 139 | 654 | 26 | 202 | 67 |
| Future Volume (vph) | 41 | 150 | 96 | 456 | 122 | 18 | 161 | 139 | 654 | 26 | 202 | 67 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Adj. Flow (vph) | 43 | 158 | 101 | 480 | 128 | 19 | 169 | 146 | 688 | 27 | 213 | 71 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 43 | 158 | 101 | 480 | 128 | 19 | 169 | 146 | 688 | 27 | 213 | 71 |
| Intersection Summary | | | | | | | | | | | | |

Timings

1: Eastonville Rd & Rex Rd

2040 Total Traffic

PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph) | 41 | 150 | 96 | 456 | 122 | 18 | 161 | 139 | 654 | 26 | 202 | 67 |
| Future Volume (vph) | 41 | 150 | 96 | 456 | 122 | 18 | 161 | 139 | 654 | 26 | 202 | 67 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 10.0 | 20.0 | 20.0 | 10.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 |
| Total Split (s) | 15.0 | 30.0 | 30.0 | 15.0 | 30.0 | 30.0 | 75.0 | 75.0 | 75.0 | 75.0 | 75.0 | 75.0 |
| Total Split (%) | 12.5% | 25.0% | 25.0% | 12.5% | 25.0% | 25.0% | 62.5% | 62.5% | 62.5% | 62.5% | 62.5% | 62.5% |
| 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 Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | None | None | None | None | None | None | None | None | None | None | None |
| Act Effect Green (s) | 16.5 | 10.0 | 10.0 | 24.7 | 21.3 | 21.3 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 |
| Actuated g/C Ratio | 0.31 | 0.19 | 0.19 | 0.47 | 0.40 | 0.40 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 |
| v/c Ratio | 0.09 | 0.45 | 0.27 | 0.81 | 0.17 | 0.03 | 0.46 | 0.24 | 0.75 | 0.07 | 0.36 | 0.13 |
| Control Delay | 10.7 | 25.4 | 7.7 | 28.3 | 16.5 | 0.1 | 18.3 | 13.8 | 8.4 | 12.3 | 15.1 | 4.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 10.7 | 25.4 | 7.7 | 28.3 | 16.5 | 0.1 | 18.3 | 13.8 | 8.4 | 12.3 | 15.1 | 4.2 |
| LOS | B | C | A | C | B | A | B | B | A | B | B | A |
| Approach Delay | | 17.4 | | | 25.1 | | | 10.8 | | | 12.4 | |
| Approach LOS | | B | | | C | | | B | | | B | |

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 52.8

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 15.9


Intersection LOS: B

Intersection Capacity Utilization 69.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Eastonville Rd & Rex Rd

| | | |
|--|---|--|
|  Ø2 |  Ø3 |  Ø4 |
| 75 s | 15 s | 30 s |
|  Ø6 |  Ø7 |  Ø8 |
| 75 s | 15 s | 30 s |

Queuing Reports

Queuing and Blocking Report

Intersection: 41: Rex Road & Estate Ridge Dr

| Movement | EB | SB |
|-----------------------|-----|-----|
| Directions Served | L | LR |
| Maximum Queue (ft) | 28 | 75 |
| Average Queue (ft) | 3 | 32 |
| 95th Queue (ft) | 18 | 59 |
| Link Distance (ft) | | 305 |
| Upstream Blk Time (%) | | |
| Queuing Penalty (veh) | | |
| Storage Bay Dist (ft) | 200 | |
| Storage Blk Time (%) | | |
| Queuing Penalty (veh) | | |

Intersection: 208: Rolling Hills Ranch Access & Rex Road

| Movement | WB | NB |
|-----------------------|-----|-----|
| Directions Served | L | LR |
| Maximum Queue (ft) | 34 | 100 |
| Average Queue (ft) | 6 | 45 |
| 95th Queue (ft) | 26 | 79 |
| Link Distance (ft) | | 204 |
| Upstream Blk Time (%) | | |
| Queuing Penalty (veh) | | |
| Storage Bay Dist (ft) | 250 | |
| Storage Blk Time (%) | | |
| Queuing Penalty (veh) | | |

Zone Summary

| |
|------------------------------|
| Zone wide Queuing Penalty: 0 |
|------------------------------|

Queuing and Blocking Report

Intersection: 41: Rex Road & Estate Ridge Dr

| Movement | EB | SB |
|-----------------------|-----|-----|
| Directions Served | L | LR |
| Maximum Queue (ft) | 31 | 47 |
| Average Queue (ft) | 10 | 26 |
| 95th Queue (ft) | 32 | 47 |
| Link Distance (ft) | | 305 |
| Upstream Blk Time (%) | | |
| Queuing Penalty (veh) | | |
| Storage Bay Dist (ft) | 200 | |
| Storage Blk Time (%) | | |
| Queuing Penalty (veh) | | |

Intersection: 208: Rolling Hills Ranch Access & Rex Road

| Movement | EB | EB | WB | NB |
|-----------------------|------|-----|-----|-----|
| Directions Served | T | R | L | LR |
| Maximum Queue (ft) | 4 | 4 | 57 | 98 |
| Average Queue (ft) | 0 | 0 | 17 | 38 |
| 95th Queue (ft) | 3 | 3 | 47 | 68 |
| Link Distance (ft) | 1187 | | | 204 |
| Upstream Blk Time (%) | | | | |
| Queuing Penalty (veh) | | | | |
| Storage Bay Dist (ft) | | 200 | 250 | |
| Storage Blk Time (%) | | | | |
| Queuing Penalty (veh) | | | | |

Zone Summary

| |
|------------------------------|
| Zone wide Queuing Penalty: 0 |
|------------------------------|

Crash History

| Year | Month | Day | AccidentTime | FIP | ReferencePointName | ReferencePointAtName | AccidentNarrative |
|------|-------|-----|--------------|----------|--------------------|----------------------|---|
| 2016 | 1 | 7 | 7:50:00 PM | Injury | MERIDIAN RD | REX RD | Vehicle #1 was southbound on Meridian Rd. Vehicle #2 was northbound on Meridian Rd. Driver #1 lost control of vehicle #1 on the icy roads, and it rotated counter clockwise. Vehicle #1 traveled into the northbound lane, where its front collided with the driver's side of vehicle #2. After this collision, vehicle #2 continued north, rotating counter-clockwise, and then clockwise, traveling onto the right shoulder, where it came to rest, facing south. Vehicle #1 was moved prior to investigation. |
| 2016 | 10 | 12 | 2:56:00 PM | Property | MERIDIAN RD | REX RD | Vehicle 1, a pickup with trailer, was driving westbound on Rex Road, approaching the intersection with Meridian Road. Vehicle 2 was traveling northbound on Meridian Road approaching an intersection with Rex Road. After stopping, Vehicle 1 entered the intersection and was impacted by Vehicle 2. Both vehicles were moved to a safer location prior to investigation. No point or impact or final rest measurements were made due to both vehicles leaving the scene. |
| 2017 | 6 | 9 | 5:40:00 PM | Property | MERIDIAN RD | REX RD | Vehicles 1 and 2 were northbound on Meridian Rd just north of Rex Rd. Vehicle 1 pulled onto the shoulder then began to make a U-turn. Vehicle 1 turned into the path of vehicle 2. Vehicle 1 collided its side with the side of vehicle 2. Both vehicles were moved prior to investigation. |
| 2017 | 9 | 27 | 5:05:00 AM | Property | MERIDIAN RD | REX RD | Vehicle #1 was southbound on Meridian Rd. A deer ran into the roadway and vehicle #1 collided its front with the deer. Vehicle #1 was moved prior to investigation. |
| 2017 | 11 | 30 | 7:50:00 AM | Property | MERIDIAN RD | REX RD | VEHICLE #1 WAS TRAVELING WESTBOUND ON REX RD, CROSSING THE INTERSECTION OF MERIDIAN RD, AFTER STOPPING AT THE STOP SIGN. VEHICLE #2 WAS TRAVELING SOUTHBOUND ON MERIDIAN RD, AT THE INTERSECTION OF REX RD. VEHICLE #2 COLLIDED ITS FRONT WITH THE PASSENGER REAR QUARTER PANEL OF VEHICLE #1. VEHICLE #1 AND VEHICLE #2 CAME TO REST IN THE NORTHBOUND LANE OF TRAFFIC ON MERIDIAN RD. BOTH VEHICLES WERE MOVED OUT OF TRAFFIC PRIOR TO ARRIVAL. |
| 2018 | 5 | 22 | 4:03:00 PM | Property | MERIDIAN RD | REX RD | Vehicle #1 was westbound on Rex Road proceeding from a stop sign, turning left onto southbound Meridian Road. Vehicle #2 was northbound on Meridian Road. The front of vehicle #1 collided with the right front of vehicle #2 approximately 40' south of the north road edge of Rex Road and 25' west of the east road edge of Meriden Road. Vehicles were moved prior to investigation. |
| 2018 | 10 | 7 | 8:21:00 PM | Injury | MERIDIAN RD | REX RD | Vehicle #1 was westbound on Rex Road. Vehicle #2 was northbound on Meridian Road. The front of vehicle #2 collided with the left front side of vehicle #1 approximately 22' west of the east road edge of Meridian Road and 34' south of the north road edge of Rex Road. Vehicle #2 continued northbound going off the right side of the road coming to final rest on all four wheels facing east. Vehicle #1 went of the right side of the road coming to final rest on all four wheels facing west. Vehicles were moved prior to investigation. |
| 2018 | 10 | 17 | 5:20:00 PM | Property | MERIDIAN RD | REX RD | Vehicle #2 was stopped at a stop sign on Rex Rd at the intersection of Meridian Rd facing eastbound. Vehicle #1 was directly behind Vehicle #2. Vehicle #1 collided with Vehicle #2 with the front driver's side of the vehicle into the rear passenger side of Vehicle #2. Both vehicles moved prior to my arrival. |
| 2018 | 10 | 24 | 3:29:00 PM | Property | MERIDIAN RD | REX RD | Vehicle #1 was stopped at the stop sign on Rex Rd at the intersection of Meridian Rd facing east, west of Meridian Rd. Vehicle #2 was traveling northbound on Meridian Rd crossing the intersection of Rex Rd. Vehicle #3 was stopped at the stop on Rex Rd at the intersection of Meridian Rd facing westbound on the east side of Meridian Rd. Vehicle #4 was directly behind Vehicle #3. Vehicle #1 entered the intersection of Meridian Rd causing Vehicle #2 to collide into the passenger side of Vehicle #1. Vehicle #2 rotated clockwise and went into the divided median on Rex Rd, east of Meridian Rd, striking a sign. Vehicle #1 struck Vehicle #3 with the front passenger side into the front driver's side of Vehicle #3. The collision pushed Vehicle #3 backwards causing the trailer being towed by Vehicle #3 to hit the front of Vehicle #4. Vehicle #2 came to final rest on the divided median facing eastbound. Vehicle #1 came to final rest in the eastbound lanes of Rex Rd facing eastbound. Vehicle #3 and #4 remained in their original positions. |
| 2018 | 12 | 14 | 11:09:00 AM | Property | MERIDIAN RD | REX RD | Vehicle #1 was westbound on Rex Rd, approaching Meridian Rd. Vehicle #2 was southbound on Meridian Rd approaching Rex Rd. Vehicle #1 did not stop for the stop sign at Meridian and drove into the path of vehicle #2. Vehicle #2's front collided with the right side of vehicle #1. This collision forced vehicle #1 to rotate counter clockwise, and its right side collided with the left side of vehicle #2. Both vehicles were moved prior to investigation. |