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Engineering Review

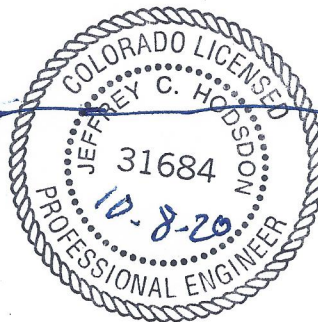
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EPC Planning & Community
Development Department

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

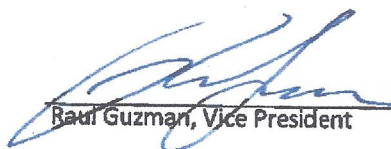
Traffic Engineer's Statement

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						
Modern Roundabout	Delay	9.3	7.2		12.8			7.4		10.3	
	LOS	A	A		B			A			
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		

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		
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.

Jul-20

**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												Overall
		Eastbound			Westbound			Northbound			Southbound			
		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												Overall
		Eastbound			Westbound			Northbound			Southbound			
		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.

Jul-20

<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	Major	Minor	Major	Minor	A	B	A	B	A	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
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	
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	
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	
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	
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	
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	
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	
																				4	5	6	6	8	7		5	5	5		5	5	5		6	5	8	8	8	8
																				No	No	No	No	Yes	No		Yes	Yes	Yes		No	Yes	Yes		Yes	No	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:

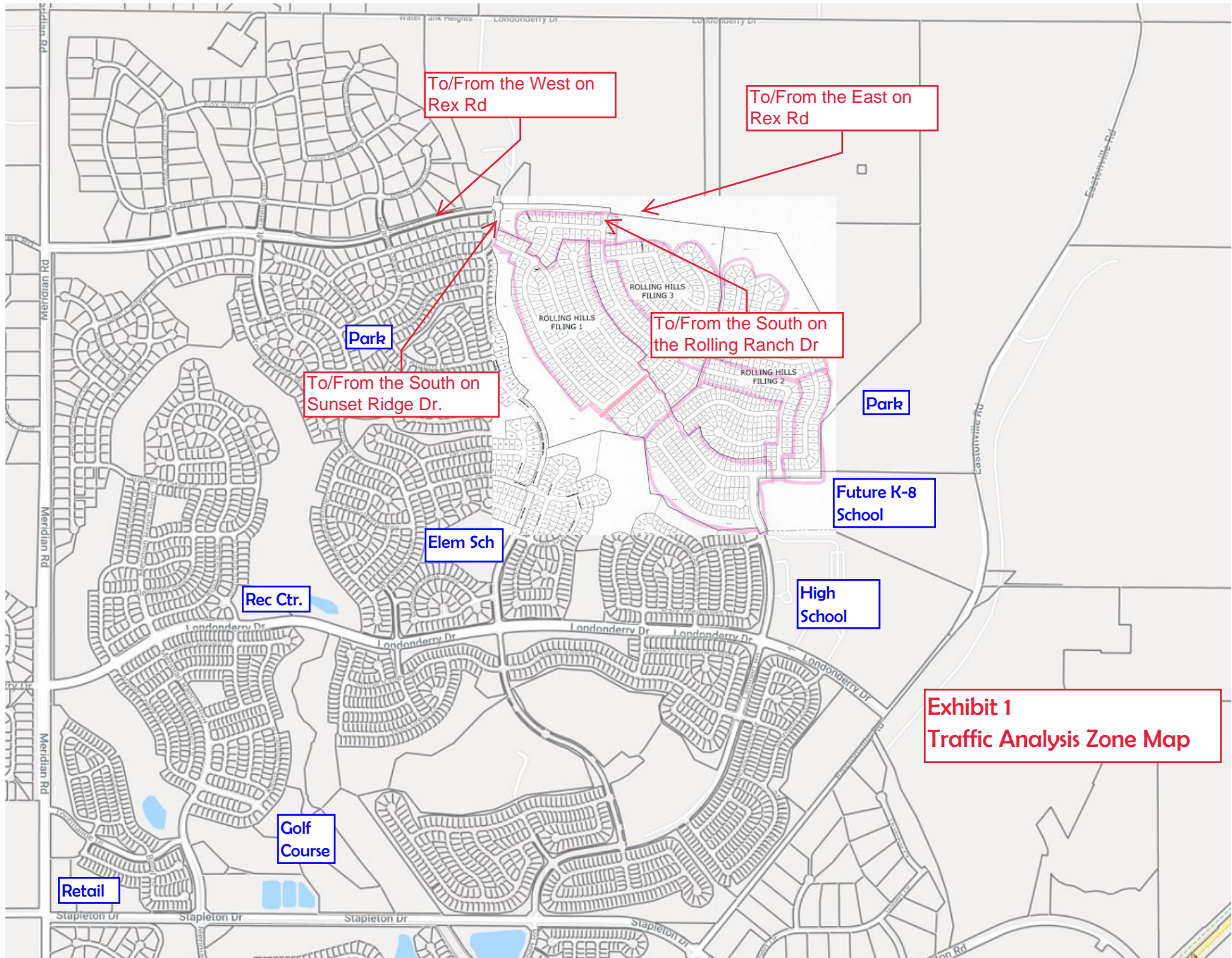
(1) See attached traffic analysis zone map

Source: LSC Transportation Consultants, Inc.

Sep-20

Exhibit 1





Figures 1-13



Approximate Scale
Scale: 1"= 2,000'

Figure 1
**Vicinity
Map**

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



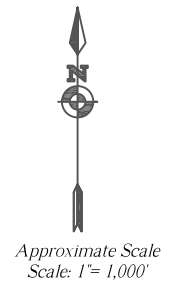
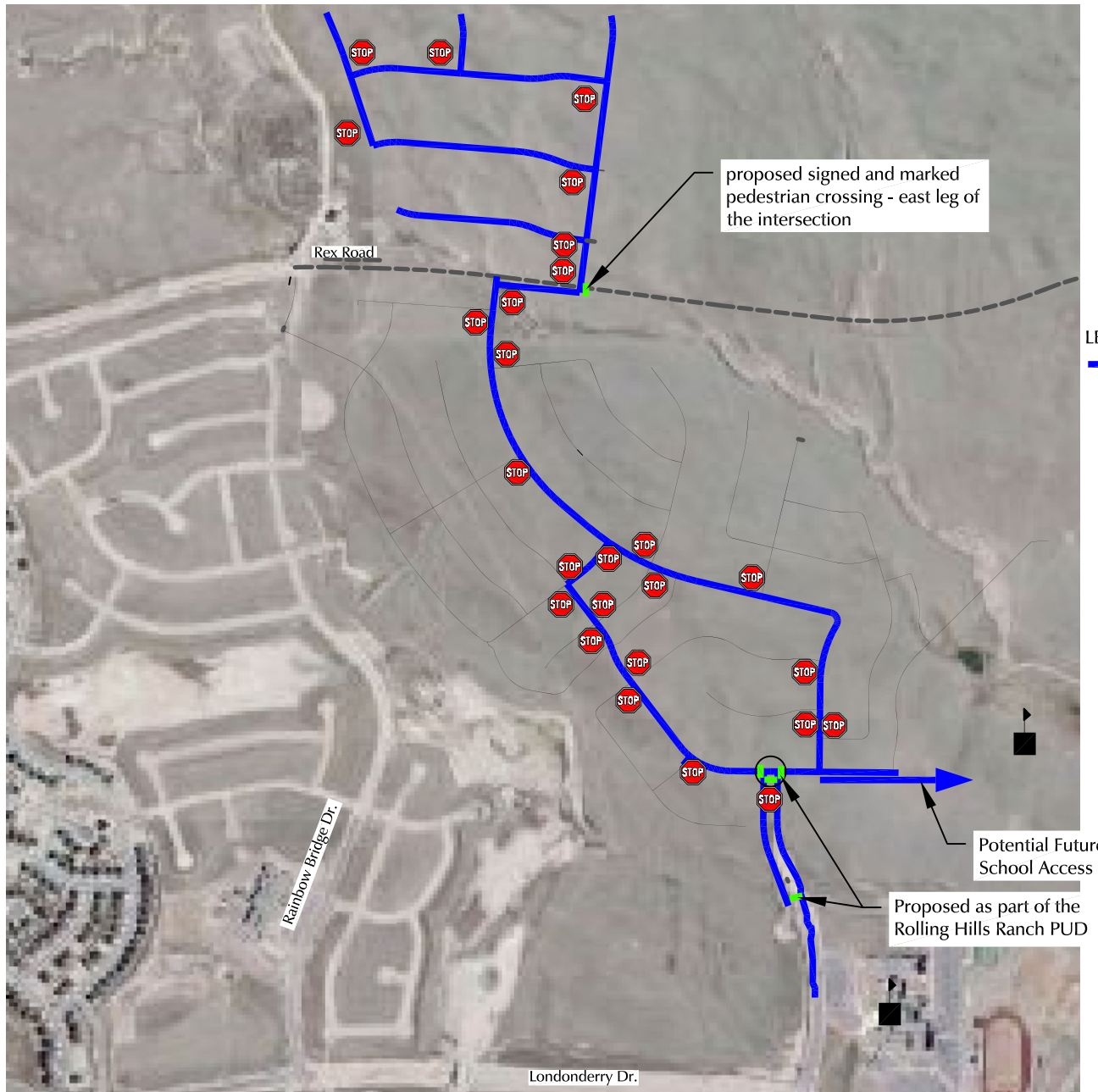


Figure 3
**School
Pedestrian Routes**

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



LEGEND:

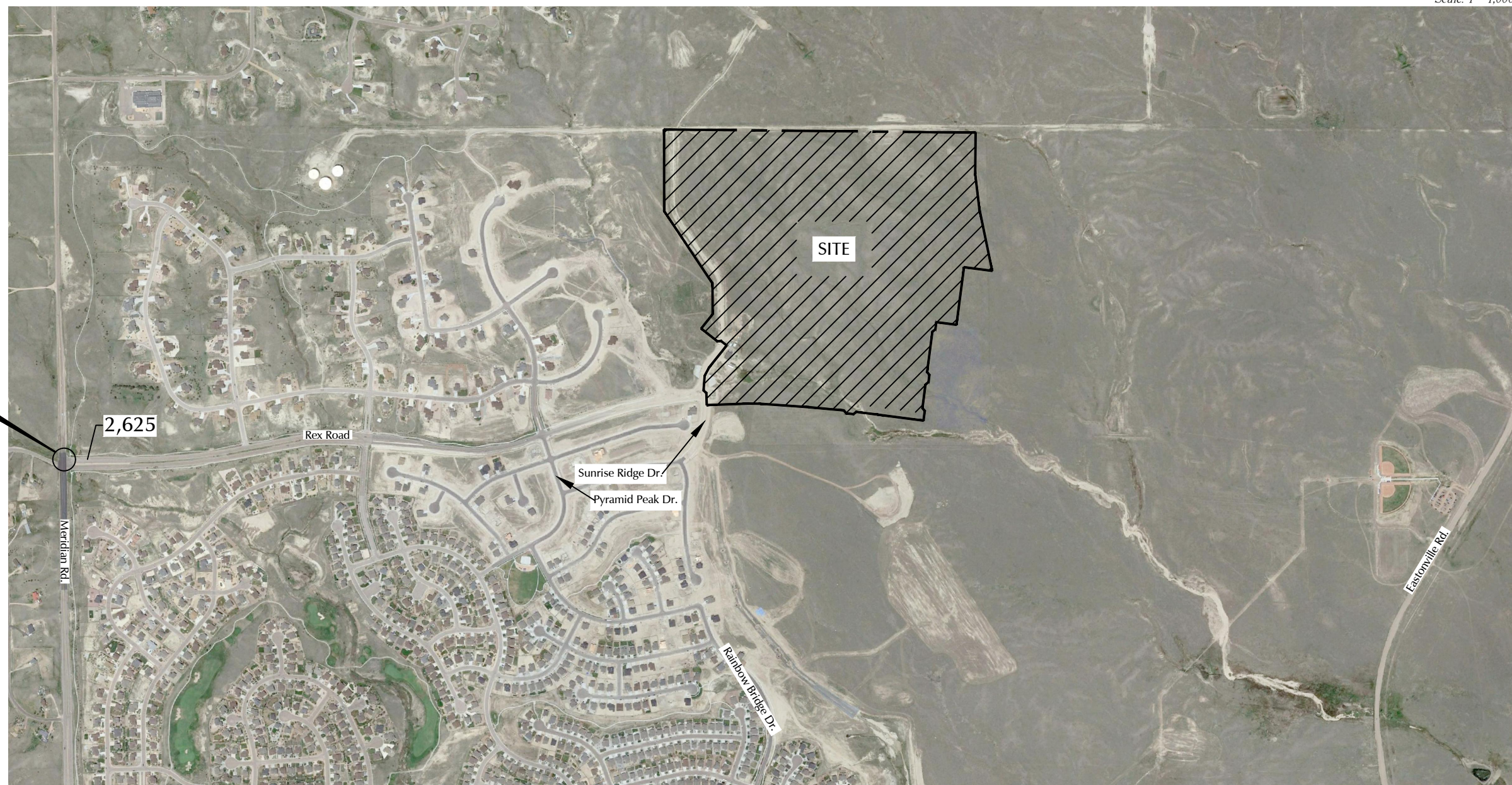
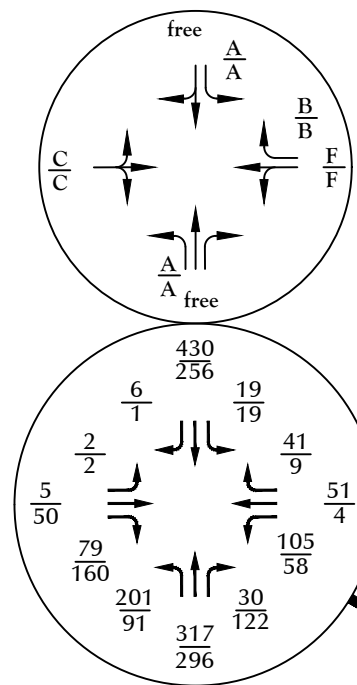
- = ECM Required Intersection Sight Distance (445' based on a design speed of 50 mph from Table 2-21)
- = ECM Required Stopping Sight Distance (305' based on a design speed of 50 mph from Table 2-17)



Figure 4

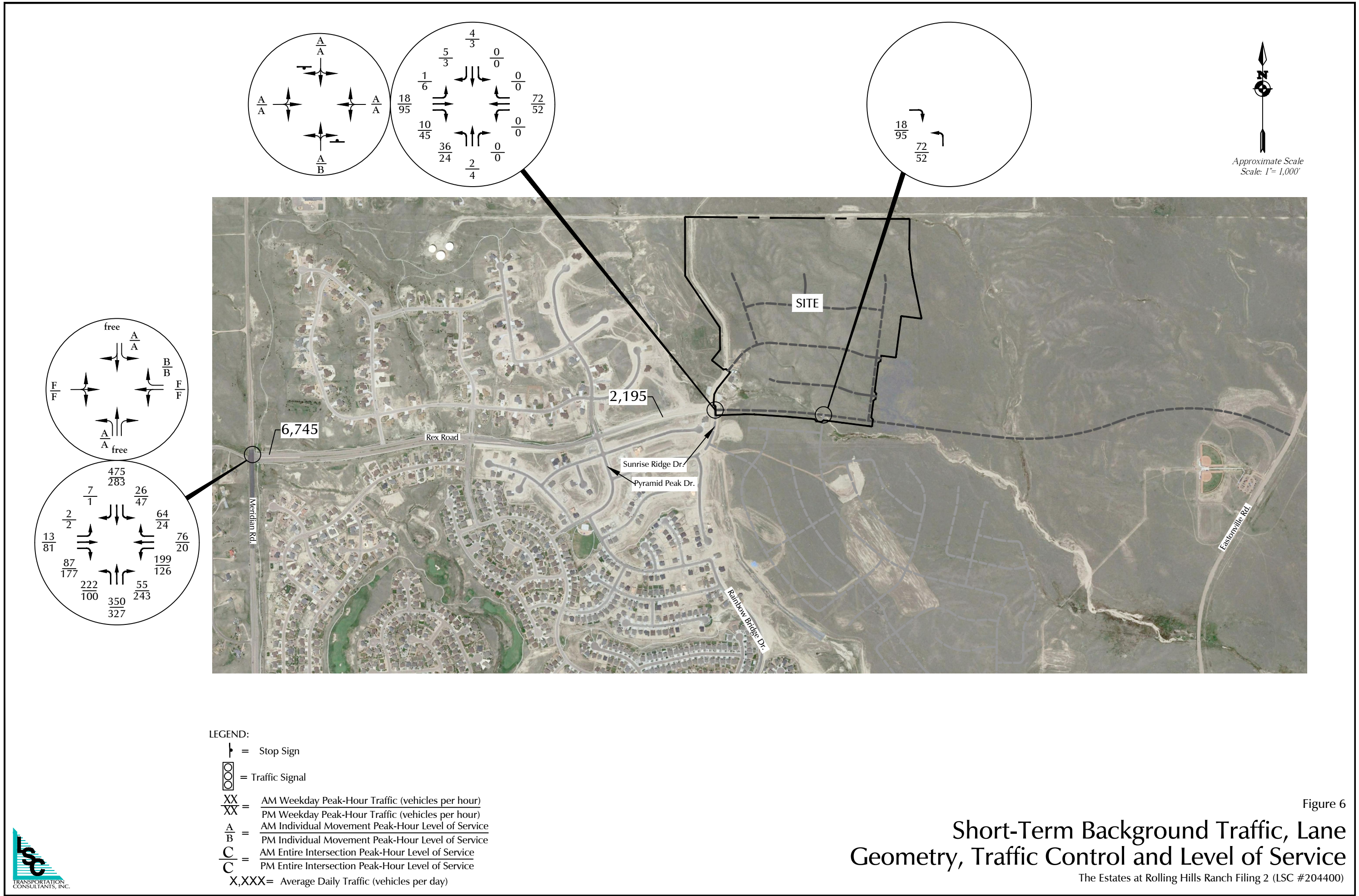
Sight Distances Analysis

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



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)



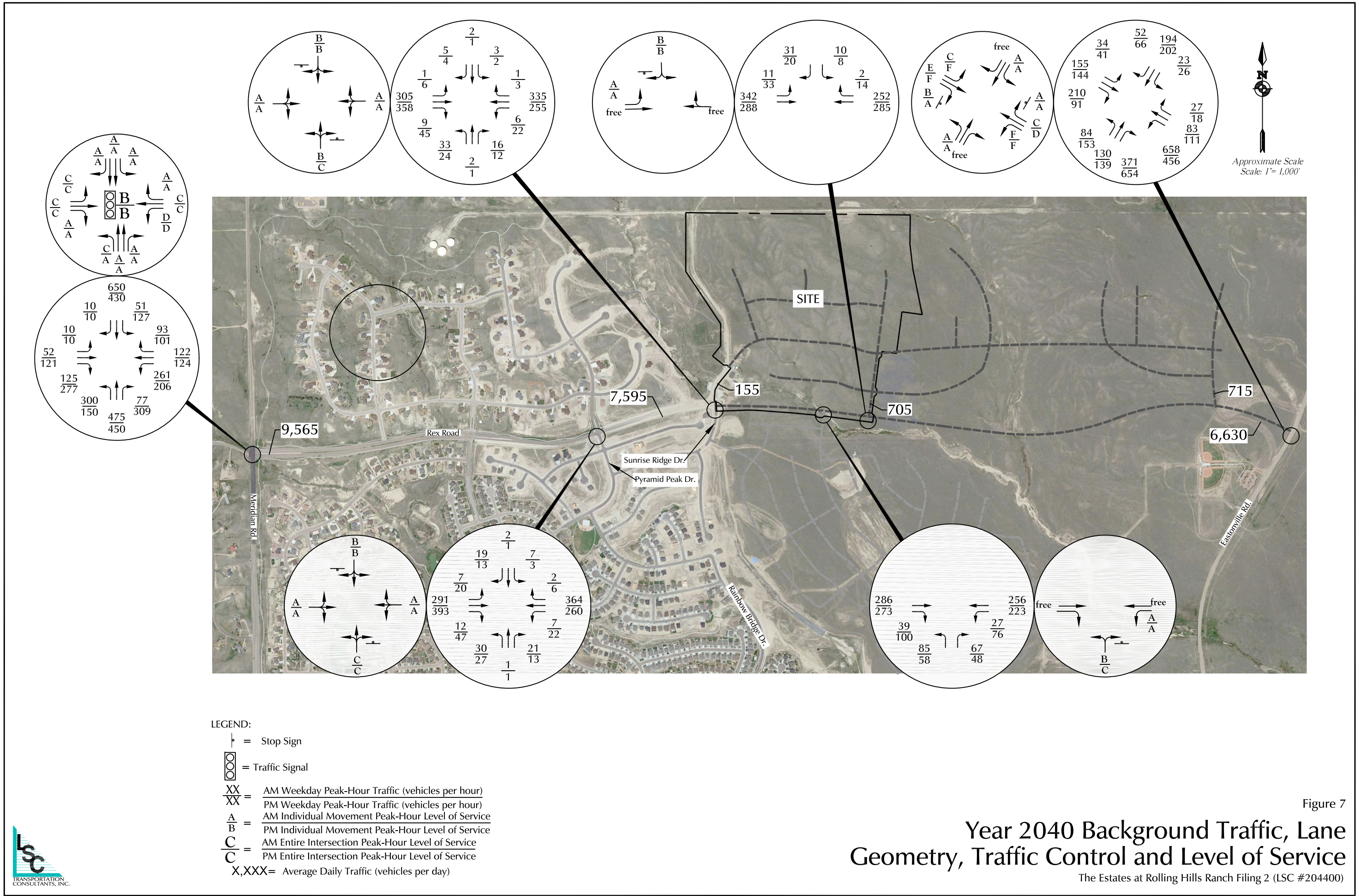


Figure 7



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)

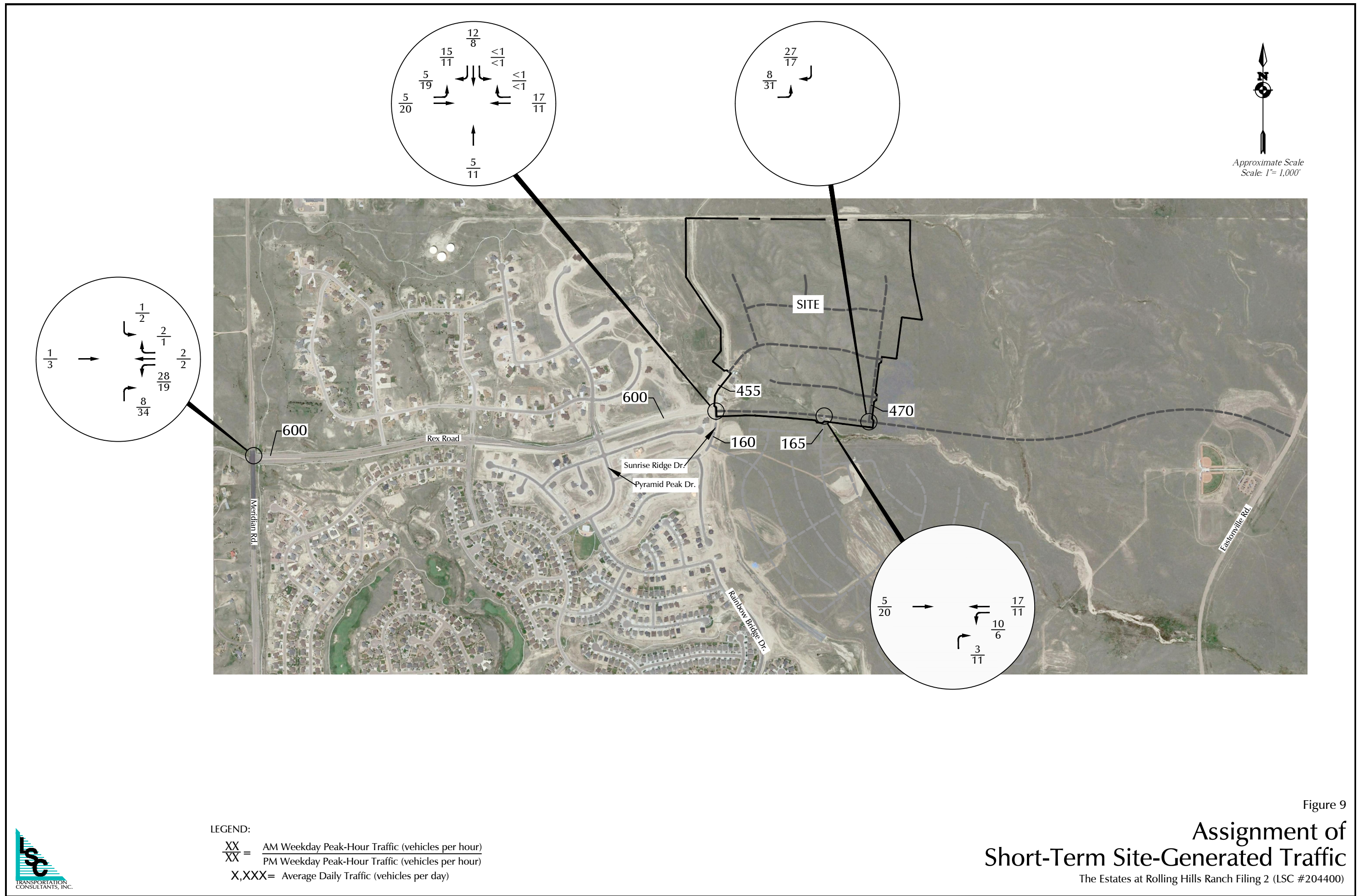


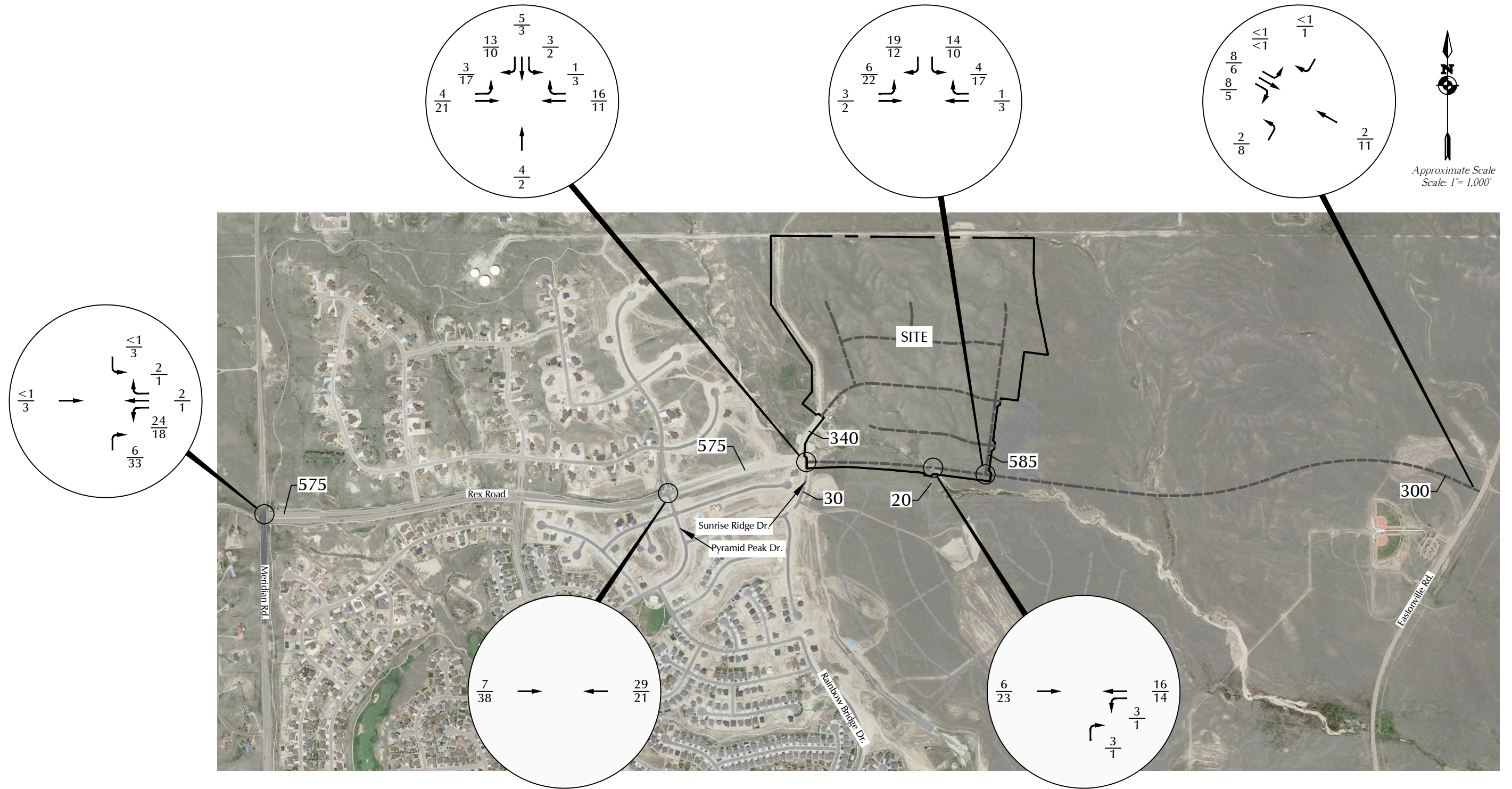
LEGEND:

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)





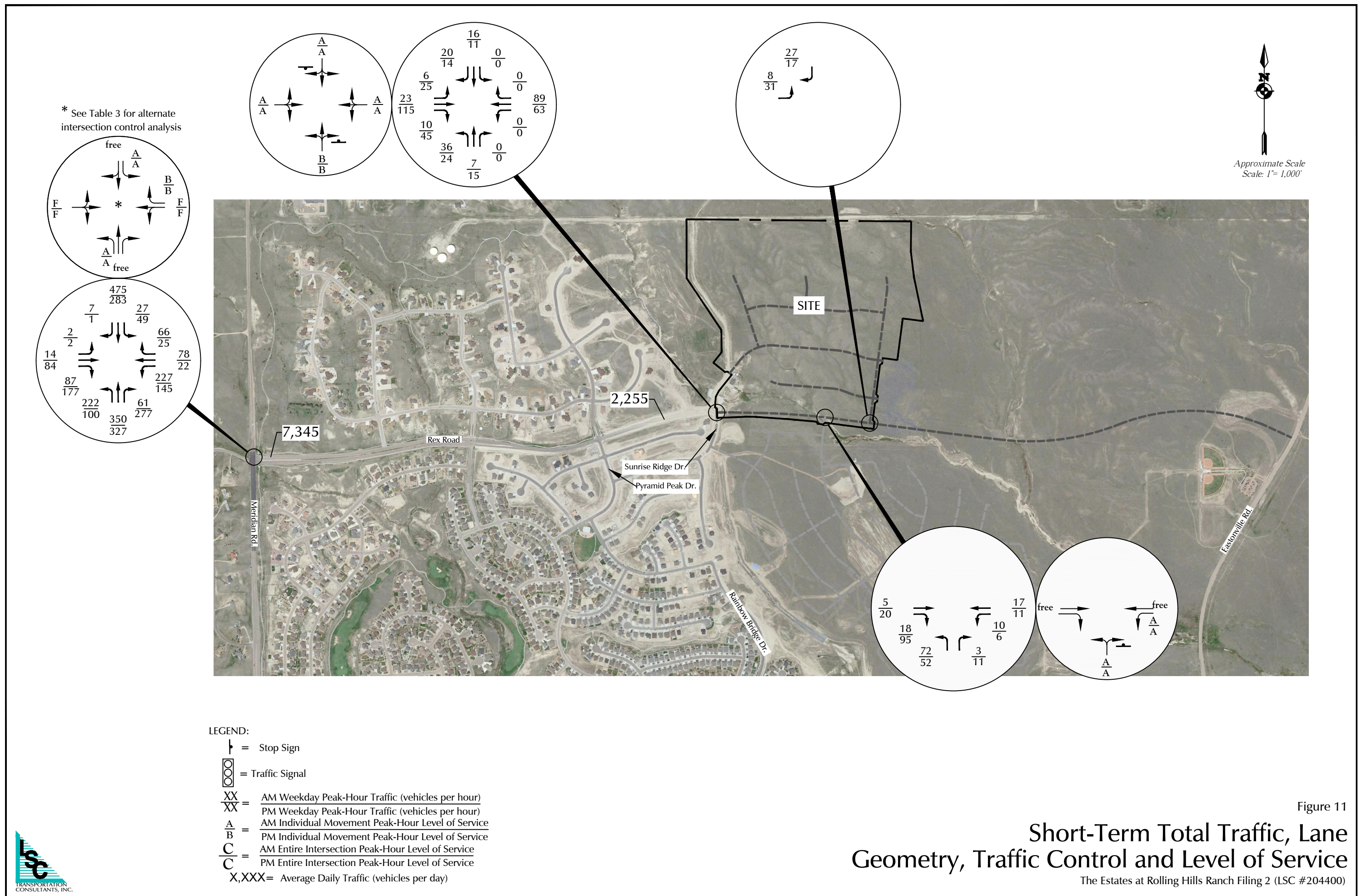
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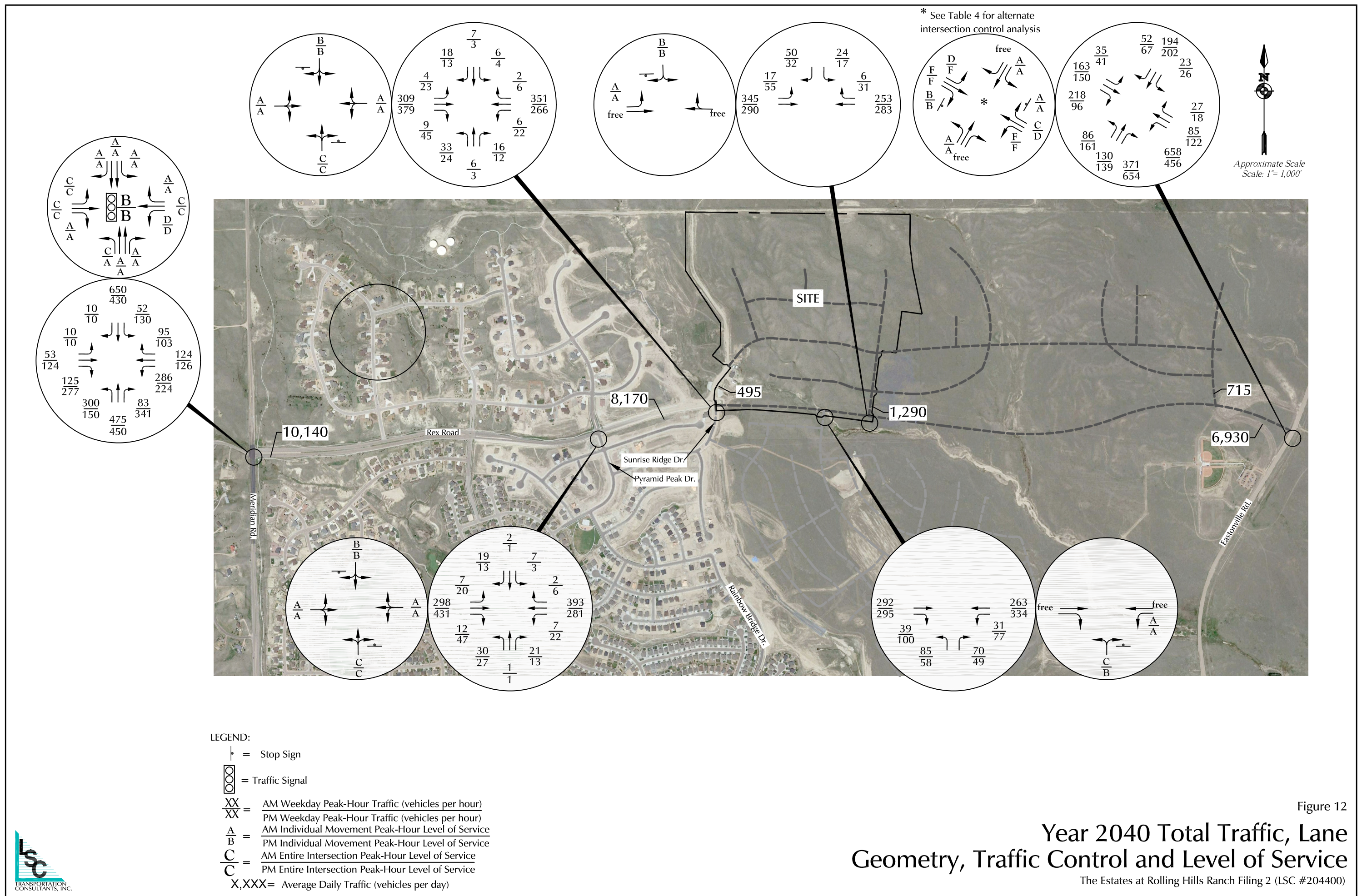
$\frac{XX}{XX}$ = AM Weekday Peak-Hour Traffic (vehicles per hour)
 $\frac{XX}{XX}$ = PM Weekday Peak-Hour Traffic (vehicles per hour)
 X,XXX = Average Daily Traffic (vehicles per day)

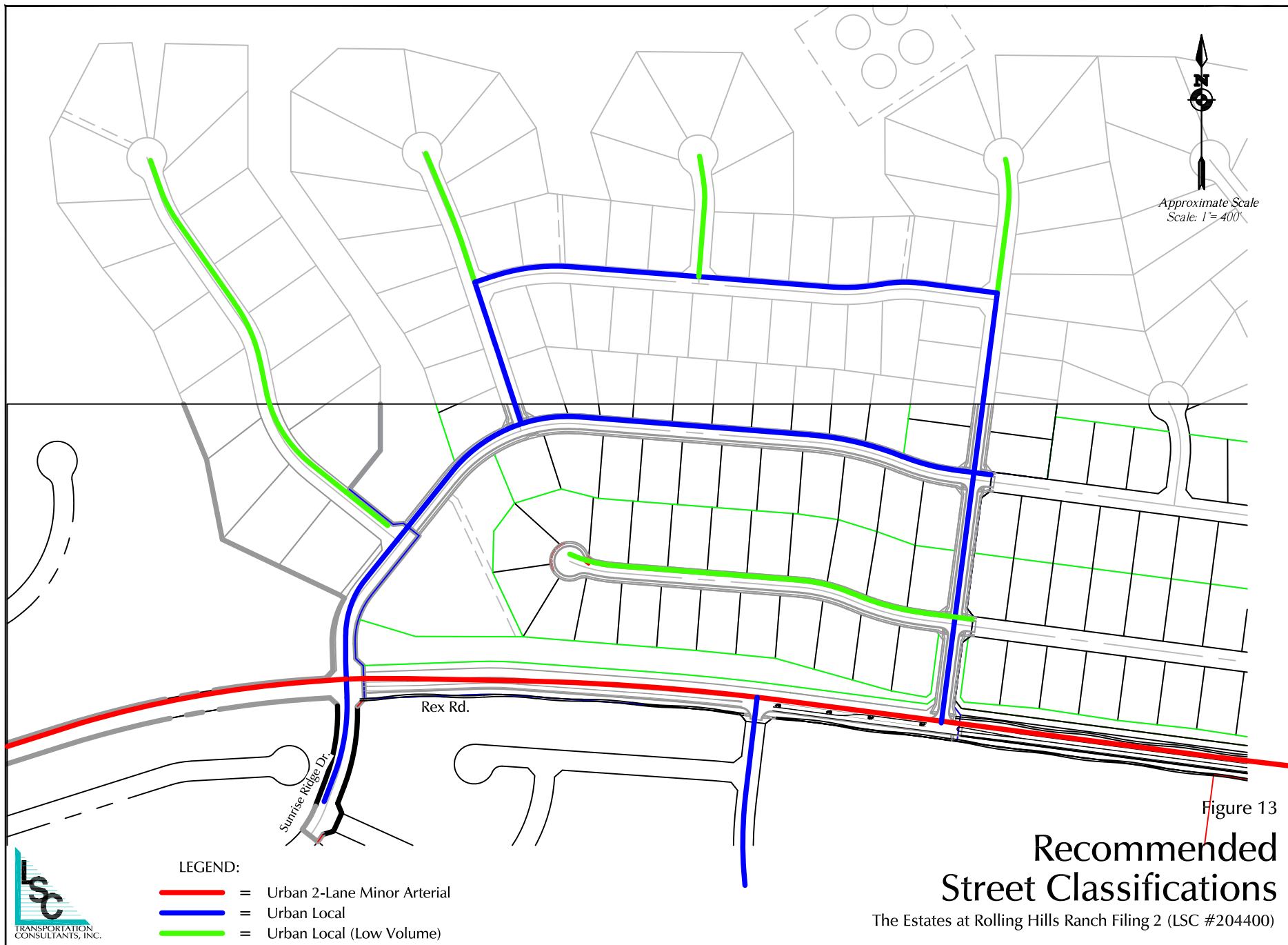
Figure 10

Assignment of 2040 Site-Generated Traffic

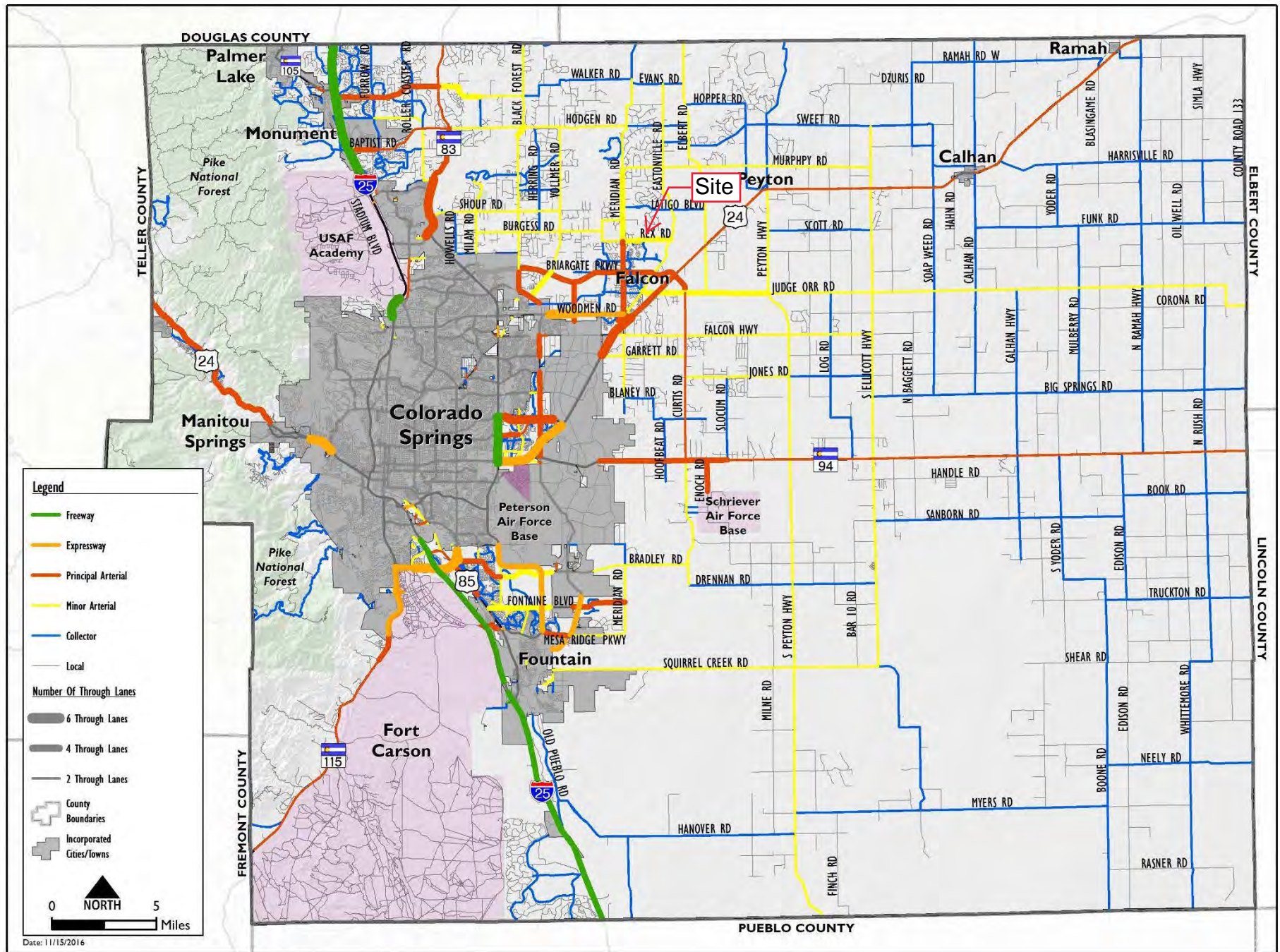
The Estates at Rolling Hills Ranch Filing 2 (LSC #204400)





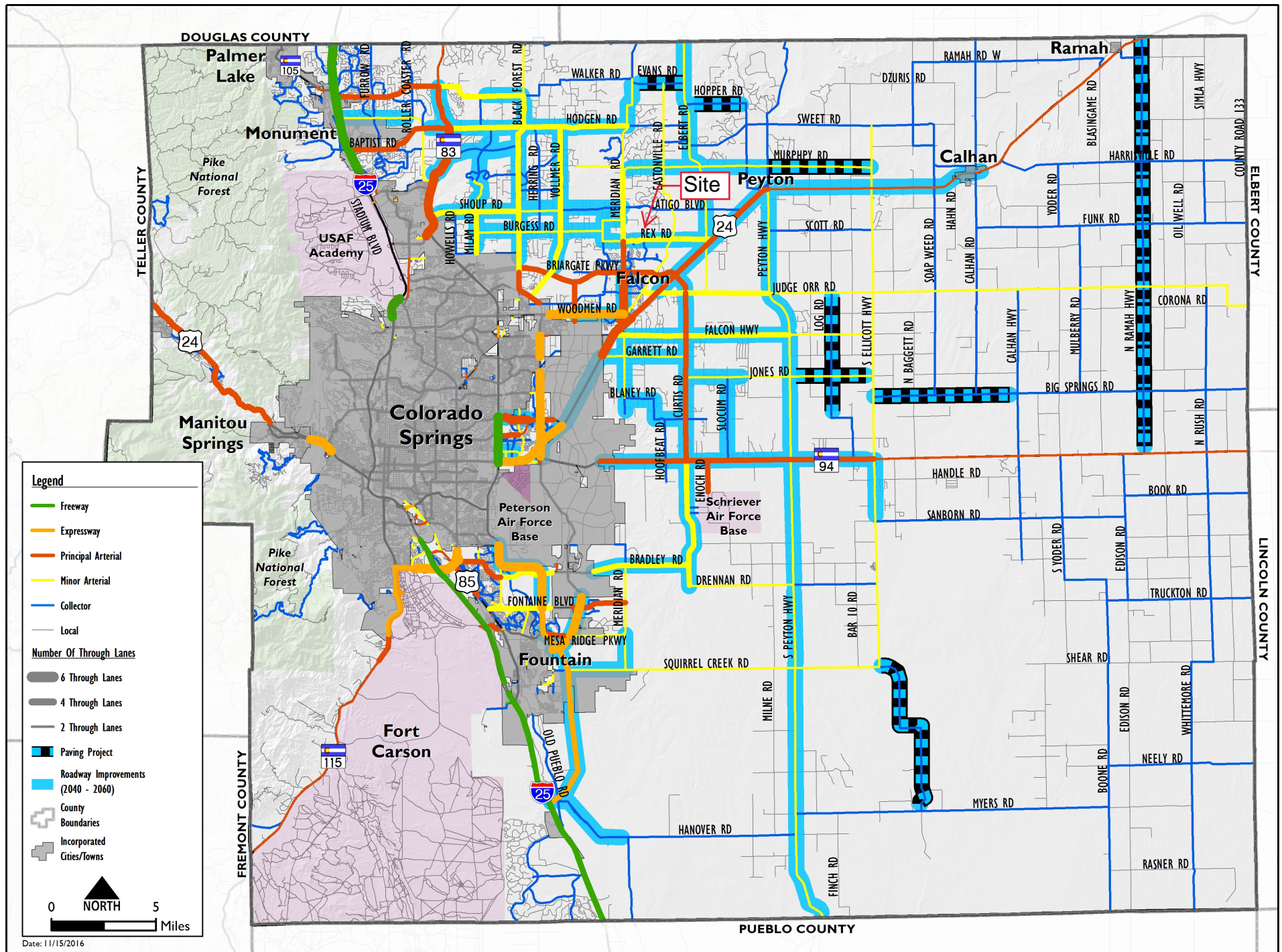


MTCP Maps



Map 14: 2040 Roadway Plan (Classification and Lanes)

Map 17: 2060 Corridor Preservation



Traffic Counts

LSC Transportation Consultants, Inc.

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	

LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

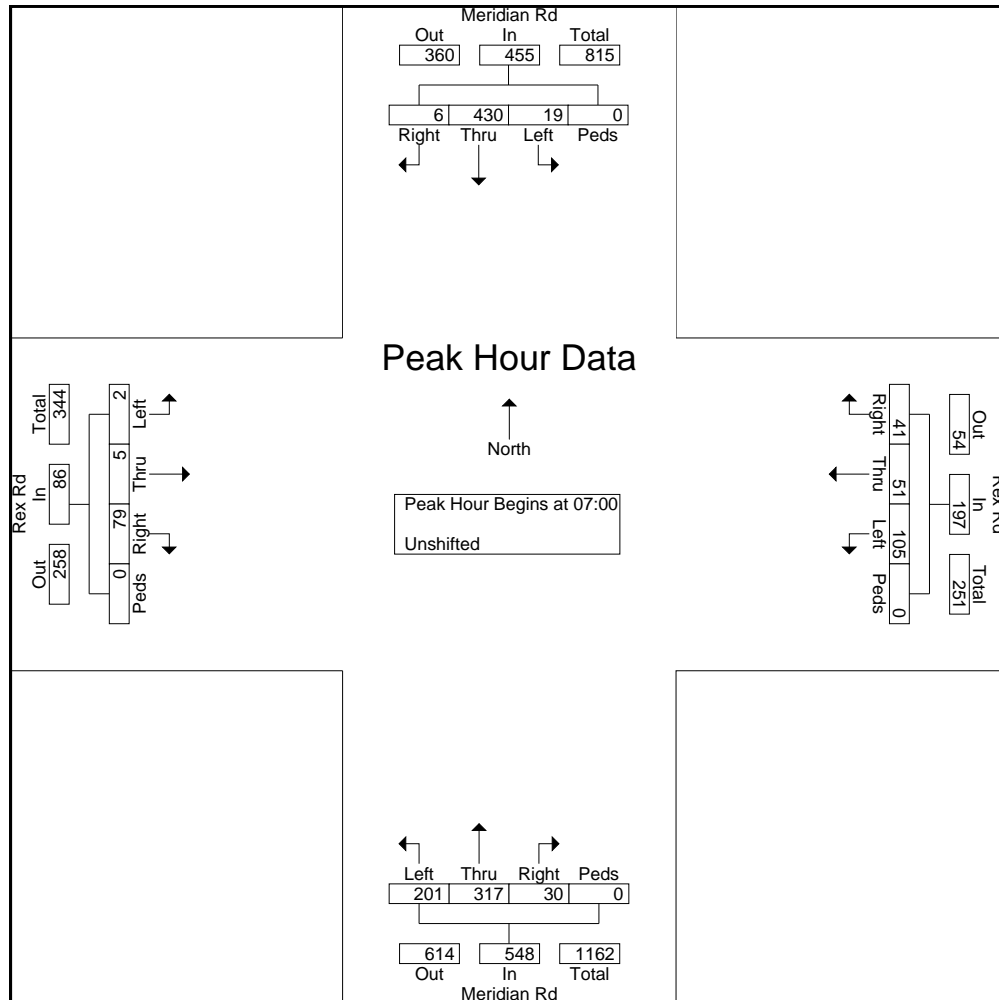
File Name : Meridian Rd-Rex Rd AM

Site Code : 194180

Start Date : 3/5/2019

Page No : 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 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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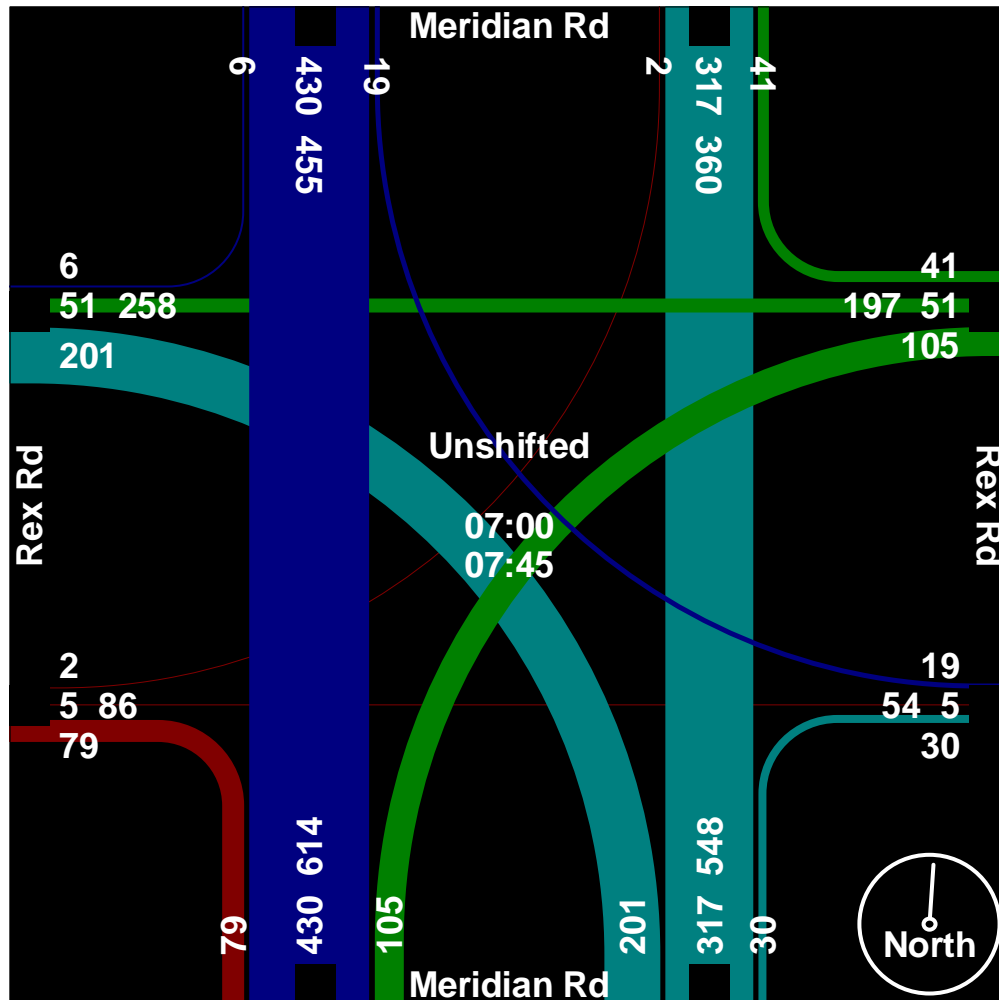
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719-633-2868

File Name : Meridian Rd-Rex Rd AM

Site Code : 194180

Start Date : 3/5/2019

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File Name : Meridian Rd - Rex Rd Mid

Site Code : 00194180

Start Date : 3/12/2019

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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	
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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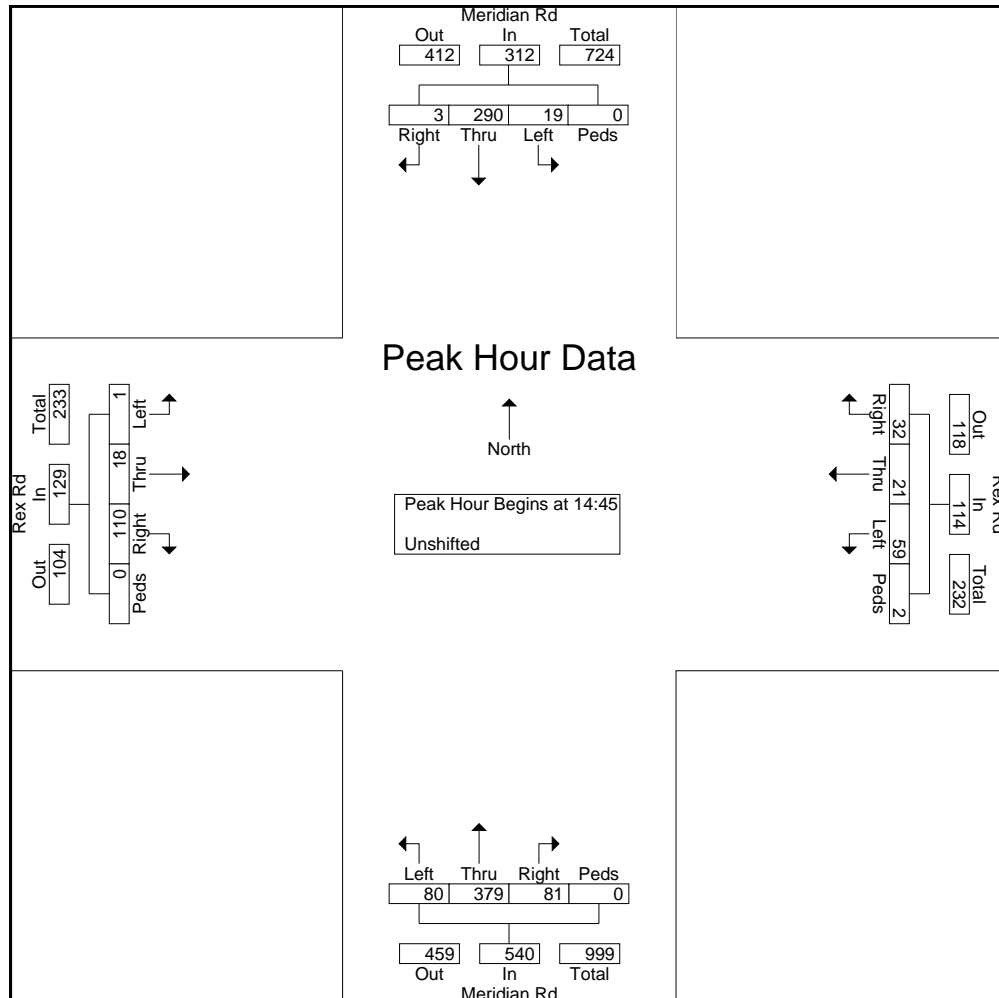
File Name : Meridian Rd - Rex Rd Mid

Site Code : 00194180

Start Date : 3/12/2019

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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 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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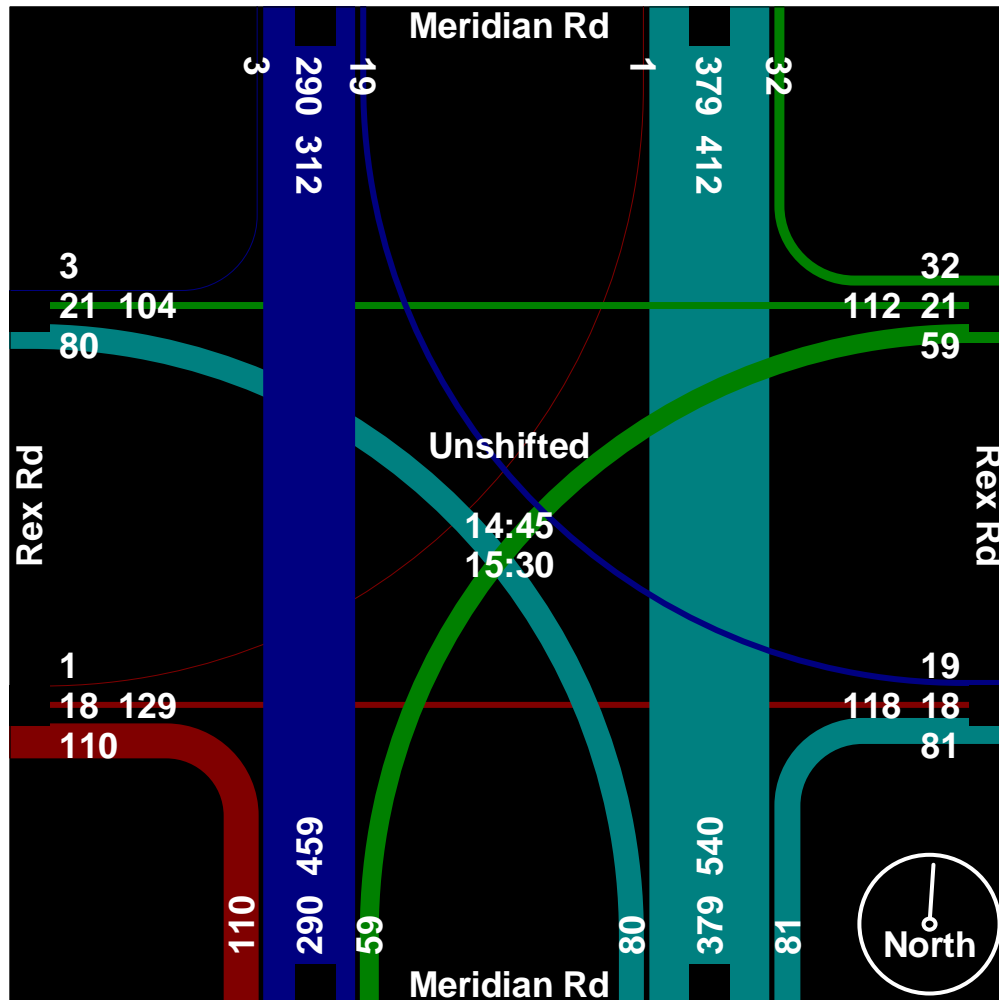
719-633-2868

File Name : Meridian Rd - Rex Rd Mid

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File Name : Meridian Rd - Rex Rd Noon

Site Code : 00194180

Start Date : 3/12/2019

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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	
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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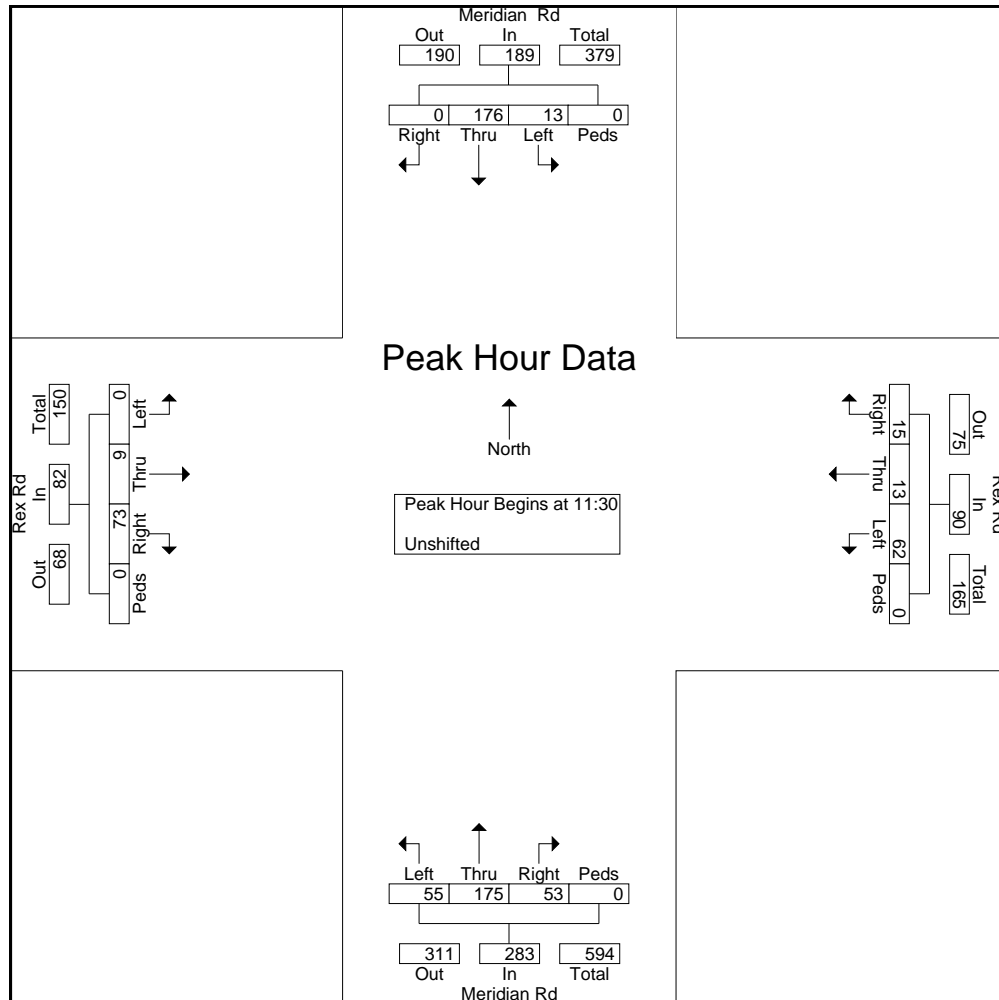
File Name : Meridian Rd - Rex Rd Noon

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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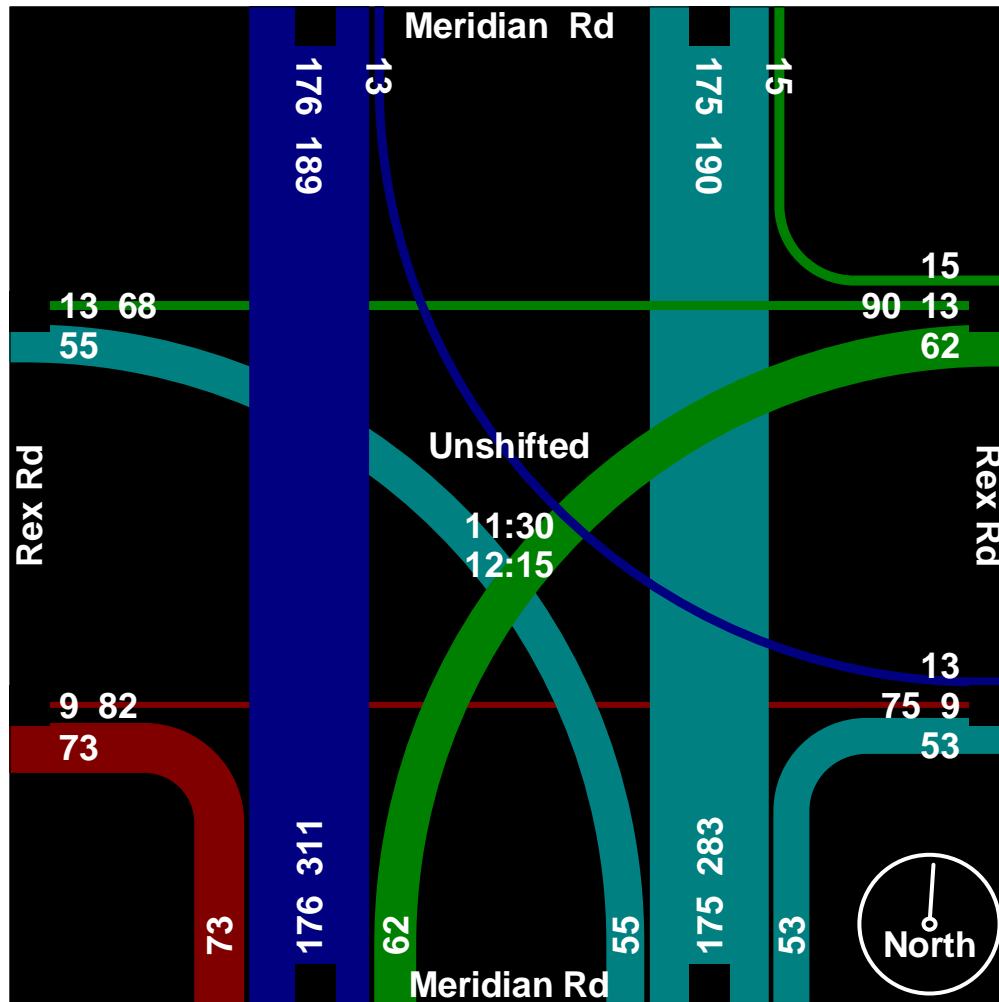
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Groups Printed- Unshifted

	Meridian Rd Southbound				Rex Rd Westbound				Meridian Rd Northbound				Rex Rd Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
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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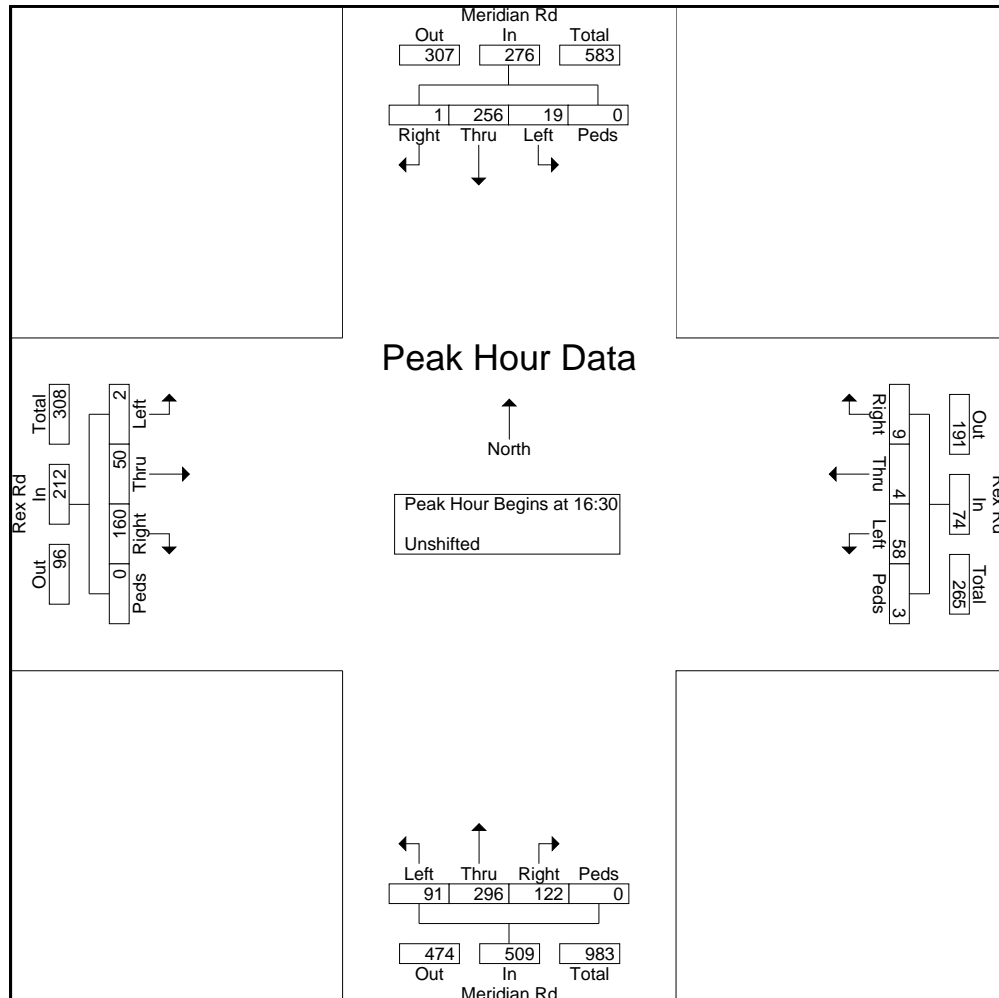
File Name : Meridian Rd-Rex Rd PM

Site Code : 194180

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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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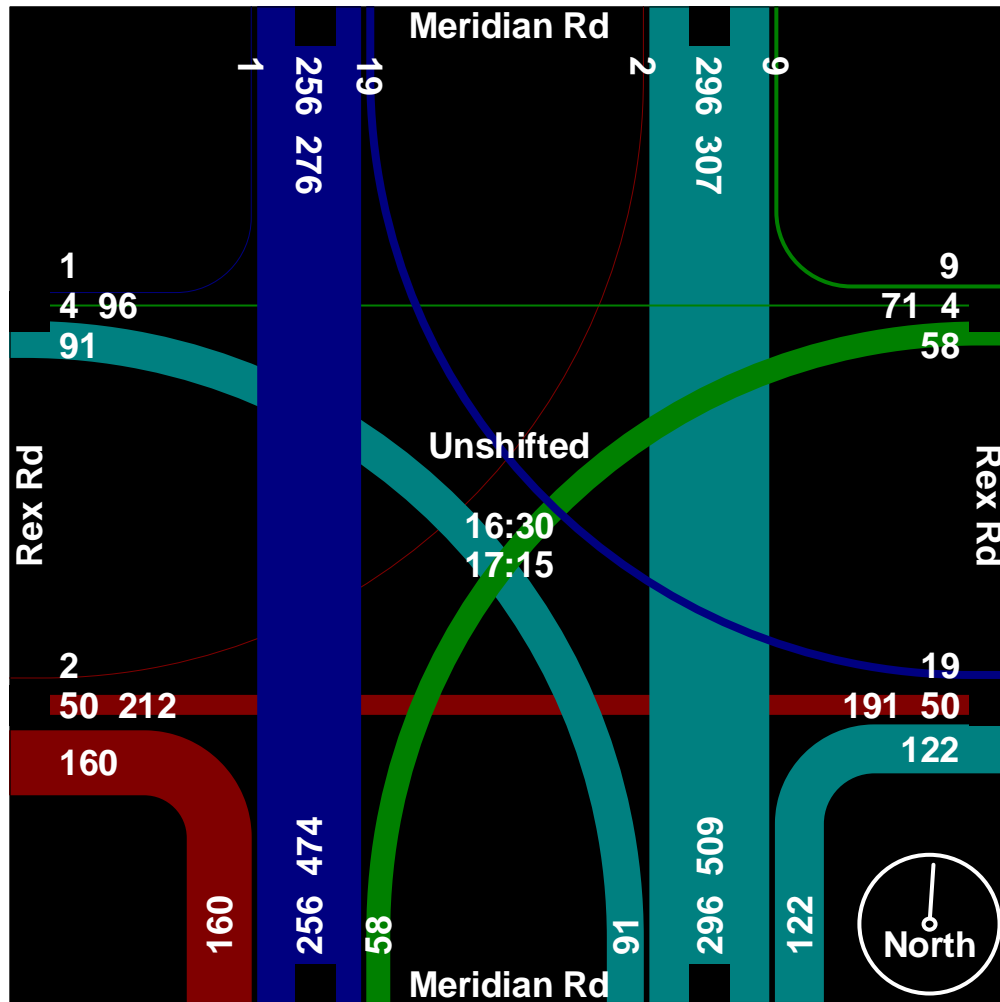
719-633-2868

File Name : Meridian Rd-Rex Rd PM

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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	EBLn1WBLn1WBLn2	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

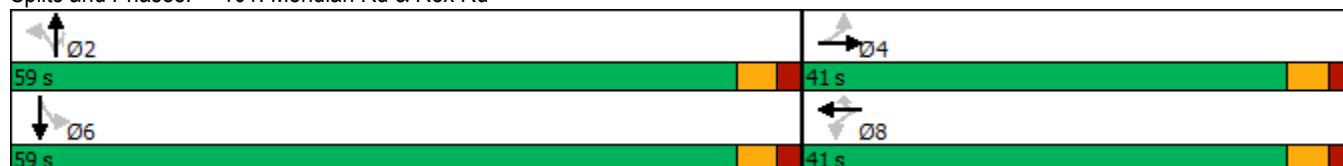
Intersection LOS: C

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	0	50	6
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	44	-
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	-	-	1587	-	959	1077
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	978	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1587	-	951	1077
Mov Cap-2 Maneuver	-	-	-	-	951	-
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	978	-
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

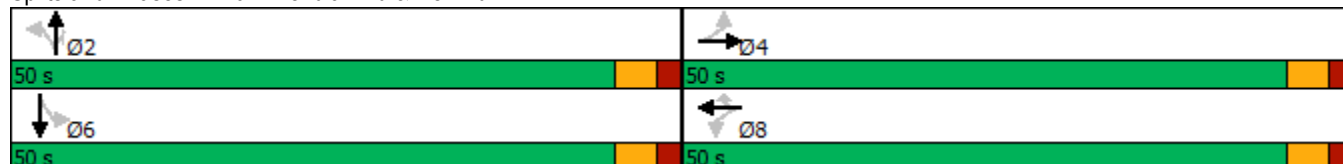
Intersection LOS: B

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

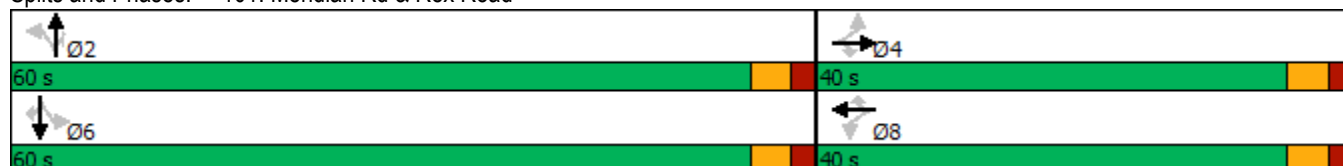
Intersection LOS: B





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

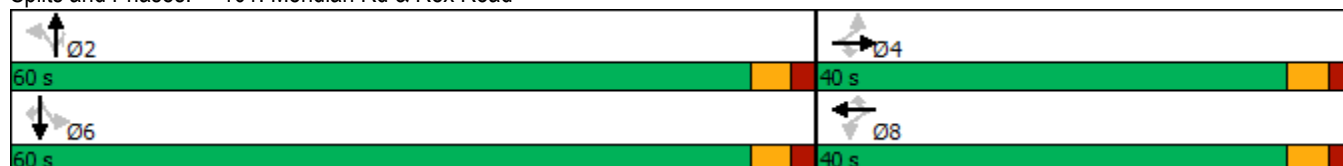
Intersection LOS: B





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				

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

2040 Background Traffic
PM Peak Hour













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

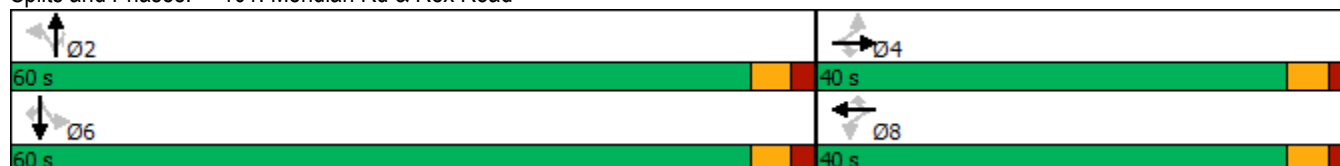
Intersection LOS: B

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

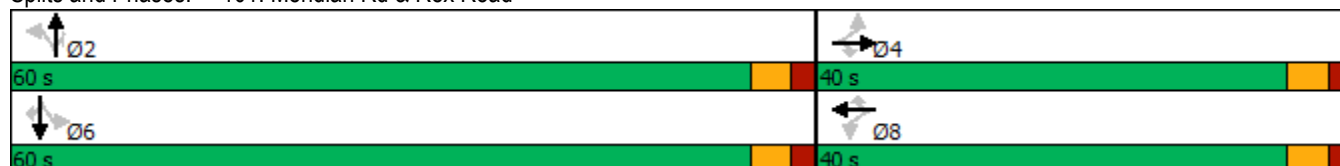
Intersection LOS: B

Intersection Capacity Utilization 55.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 101: Meridian Rd & Rex Road



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.