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Rolling Hills Ranch at Meridian Ranch
Filings Nos. 1, 2, and 3
Traffic Impact Analysis
(LSC #194180)
September 25, 2019

Additional comments may be generated by DPW.

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

September 25, 2019
Date

Add PCD File No. PUDSP199

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September 25, 2019
Mr. Raul Guzman
Tech Contractors
P.O. Box 80036
San Diego, CA 92138

RE: Rolling Hills Ranch at Meridian Ranch
El Paso County, Colorado
Traffic Impact Analysis
LSC #194180

Dear Mr. Guzman:

In response to your request, LSC Transportation Consultants, Inc. has prepared this traffic impact analysis for the Rolling Hills Ranch at Meridian Ranch Filings 1, 2, and 3 in El Paso County, Colorado. As shown in Figure 1, the site is located generally south 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 Rolling Hills Ranch at Meridian Ranch 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 (Please refer to the October 3, 2017 TIS report for the Sketch Plan Amendment for evaluation of the impacts at Londonderry and Stapleton 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;
- 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 area of study 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 the roadway network included in these studies.

LAND USE AND ACCESS

please be aware that future filings will need to include this as a specific requirement. Staff anticipates adding this as either a condition of approval or a notation.

Land Use

Figure 2 shows the proposed site plan for the Rolling Hills Ranch at Meridian Ranch Filing Nos. 1, 2, and 3. The site is planned to include a total of 725 lots for single family homes.

As part of this development, Rex Road is planned to be constructed from its existing terminus at the intersection of Rex Road/Sunrise Ridge Drive to a proposed new full-movement intersection about 1,244 feet to the. A full-movement access is proposed to Sunrise Ridge Drive about 400 feet south of Rex Road. Lambert Road would also be extended north to provide access to this development.

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. Please refer to the October 3, 2017 TIS report for the Sketch Plan Amendment for evaluation of the impacts at Londonderry and Stapleton intersections.

complete the sentence

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

The major roadways in the site's vicinity are shown in Figure 1 and are described below.

- **Rex Road** extends east from Goodson Road to Sunrise Ridge Drive within the Meridian Ranch development. Rex Road will be extended east to Eastonville Road and ultimately will be extended to US Highway 24. Rex Road is classified as a Minor Arterial roadway by El Paso County. Rex Road is planned to be constructed as a two-lane Minor Arterial between Sunrise

Update Rex Road narrative with respect to the 2040 Roadway Classification and Corridor Preservation. Provide a history why the roadway cross section/row east of Mt Gateway Dr is narrower.

Ridge Drive and Eastonville Road with enough right-of-way reserved to widen to a four-lane Minor Arterial if needed in the future.

- **Meridian Road** extends north from South Blaney Road to County Line Road. 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 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.

On the street descriptions, identify the existing posted speed limits.

Existing Traffic Volumes

Figure 3 shows the existing traffic volumes at the intersection of Meridian Road and 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	≤ 10.0
B	10.1 - 20.0	10.1 - 15.0
C	20.1 - 35.0	15.1 - 25.0
D	35.1 - 55.0	25.1 - 35.0
E	55.1 - 80.0	35.1 - 50.0
F	≥ 80.1	≥ 50.1

[1] For unsignalized intersections, if v/c is > 1.00, then LOS is LOS F, regardless of the projected average control delay per vehicle

Include both the MTCP 2040 Roadway Plan (Classification and Lanes) and Corridor Preservation Plan in the appendix with the project location shown/labeled on both maps.
Please include these for all future Traffic Impact Study to help expedite review of the TIS.

Figure 3 presents the results of the existing intersection level of service analysis. 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.

Does the 2040 Background traffic account for other surrounding developments such as Grandview Reserve or waterbury to the east, and The Trails to the north? Update the narrative to discuss applicability of the background traffic to background traffic.

BACKGROUND TRAFFIC

Background traffic is the traffic esti eration of the proposed development. ed by adjacent/nearby developments.

Figure 4 shows the projected background traffic volumes for the short term. These background traffic volumes have been based on the existing traffic volumes (from Figure 3) 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 and the Estates at Rolling Hills Ranch Filing 1. The short-term background traffic volumes do not include traffic from Rolling Hills Ranch at Meridian Ranch. The short-term background analysis assumes Rex Road has been extended east to the proposed full-movement intersection just east of Sunrise Ridge Drive only.

Figure 5 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. The 2040 background traffic volumes do not include traffic from Rolling Hills Ranch at Meridian Ranch Filing Nos 1, 2, and 3.

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.

Rolling Hills Ranch at Meridian Ranch Filing Nos. 1, 2, and 3 is expected to generate about 6,844 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 134 vehicles would enter and 402 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 452 vehicles would enter and 266 vehicles would exit the site.

Elaborate on the trip distribution. Provide specifics. Example why was the split roughly 30% on Rex and 70% down Lambert, or why the Lambert Rd connection to Stapleton Rd was not modeled in the Long Term.

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 6 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 just east of Sunrise Ridge Drive only. 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 Eastonville Road.

SITE-GENERATED TRAFFIC

The site-generated traffic volumes were calculated by applying the directional distribution percentages (from Figure 6) 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. Figures 7 and 8 show the projected short-term and long-term site-generated traffic volumes, respectively.

TOTAL TRAFFIC

Figure 9 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 4) plus the short-term site-generated traffic volumes from Figure 7.

Figure 10 shows the projected 2040 total traffic volumes. The 2040 total traffic volumes are the sum of the 2040 background traffic volumes (from Figure 5) plus the 2040 site-generated traffic volumes from Figure 8.

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 4, 5, 9, and 10 show the level of service analysis results. The laneage and traffic control assumed in the analysis are depicted on the figures. The level of service reports are attached.

Meridian/Rex

Coordination with the County Engineer is required to determine the developer's responsibility.

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. If this intersection were to be converted to signal control, all movements are projected to operate at LOS D or better during the peak hours based on the projected short-term and 2040 total traffic volumes.

Sunrise Ridge/Rex and Site Access/Rex

The intersection of Sunrise Ridge/Rex and the proposed full-movement intersection to the east 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.

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 Eastonville Road but not further east to US 24. The intersection of Eastonville/Rex is projected to operate at LOS D or better for all movements as a stop sign-controlled "T" intersection based on the projected 2040 total peak hour traffic volumes.

QUEUING ANALYSIS

A queuing analysis was performed using Synchro/SimTraffic for Rex Road between the currently proposed full-movement intersection on the south side of Rex Road about 1,244 feet east of Sunrise Ridge Drive and a future intersection on the north side of Rex Road 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 currently proposed full-movement intersection is 28 feet during the morning peak hour and 59 feet during the afternoon peak hour. The projected maximum eastbound left-turn queue on Rex Road approaching the future full-movement intersection is 28 feet during the morning peak hour and 52 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.

Update the sentence. Missing a word

Note: The County a contract with AECOM approved in July to prepare a preliminary design and traffic study for the Rex Road-Meridian 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.

Vehicular Volume Traffic Signal Warrants

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 and/or Four-Hour Vehicular Volume Traffic Signal Warrants in the *2009 Manual on Uniform Traffic Control Devices* (MUTCD). Table 3 shows the warrant evaluation.

Five of the eight hours analyzed currently meet the thresholds for both a Four-Hour Vehicular Volume Warrant. These same five hours currently meet the criteria for an Eight Hour Vehicular Volume Warrant based on Condition B – Interruption of Continuous Traffic. All eight hours analyzed could potentially meet the Condition B criteria with growth of through traffic on Meridian Road and the projected additional traffic on Rex Road due to buildout of the approved Meridian Ranch residential filings. All eight hours analyzed are projected to meet the Condition A – Minimum Vehicular Volume once the currently proposed Rolling Hills Ranch at Meridian Ranch Filing Nos. 1, 2, and 3 are built out.

In the conclusions and recommendations section, identify alternatives that can be taken by the developer to bring the east leg of the intersection to a satisfactory LOS

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:*

This page is in the wrong location.

TRANSPORTATION
CONSULTANTS, INC.

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 5th 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 2 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.

Londonderry/Lambert

The signal warrants for this intersection were addressed in the 2017 Sketch Plan Amendment TIS report. The following is an excerpt from that report:

As shown in the Table 7, the thresholds for a Four-Hour Vehicular Volume Traffic Signal Warrant are not projected to be exceeded based on the morning peak and afternoon peak hours until full buildout of the Meridian Ranch development. It should be noted that these volumes do not include traffic projected to be generated by school to be located north of Falcon High School. All-way stop-sign control may be needed in the short term.

It is our understanding that the AWSC was approved with Winding Walk and the intersection will be converted to all-way, Stop sign control in the Fall of 2019 or Spring 2020 with the completion of Lambert Road between Stapleton Drive and Londonderry Drive. LSC recommends the traffic

volumes, operations, and crash reports at this intersection be monitored for any necessary traffic control changes (i.e. conversion to signalization) as this subdivision develops.

Provide a recommendation for how to monitor. Will traffic counts be provided with each filing or counts obtained yearly?

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

- Rolling Hills Ranch at Meridian Ranch Filing Nos 1, 2, and 3 is expected to generate about 6,844 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 134 vehicles would enter and 402 vehicles would exit the site. During the afternoon peak hour about 452 vehicles would enter and 266 vehicles would exit the site.

Required Improvements

- A list of all improvements in the vicinity of the site is presented in Table 4.

Street Classifications

- Figure 11 shows the recommended internal street classifications based on the projected buildout traffic volumes for Rolling Hills Ranch at Meridian Ranch Filing Nos 1, 2 and 3.

Intersection Traffic Control

- The intersection of Rex/Meridian is likely close to meeting a traffic signal. Also, the County approved a contract with AECOM in July to prepare a preliminary design and traffic study for the Rex Road-Meridian Road Intersection.

- The intersection of Lambert/Londonderry should be monitored as this subdivision develops for any necessary traffic control changes. Please refer to the "Traffic Signal Warrant Analysis" section above for details.

Anticipated Deviation Requests

- A deviation may be needed 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).

See comments on the PUD. One of the cul-de-sacs appears to be greater than the maximum length allowed.

Please state what the sight distance is for the proposed intersections and whether they can be met. Include an exhibit.

Provide analysis/recommendations for pedestrian routes to schools within 2 miles.

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.

* * * * *

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 2-4
Figures 1-11
List of Recent Traffic Studies in the Area
Traffic Count Reports
Level of Service Reports
Crash History

Table 2
Trip Generation Estimate
Rolling Hills Ranch

Filing	Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates [1] Average Weekday Traffic	Trip Generation Rates [1] Morning Peak Hour In	Trip Generation Rates [1] Morning Peak Hour Out	Trip Generation Rates [1] Afternoon Peak Hour In	Trip Generation Rates [1] Afternoon Peak Hour Out	Total Trips Generated Average Weekday Traffic	Total Trips Generated Morning Peak Hour In	Total Trips Generated Morning Peak Hour Out	Total Trips Generated Afternoon Peak Hour In	Total Trips Generated Afternoon Peak Hour Out
1	210	Single-Family Detached Housing	272 DU[2]	9.44	0.19	0.56	0.62	0.37	2,568	50	151	170	100
2	210	Single-Family Detached Housing	244 DU	9.44	0.19	0.56	0.62	0.37	2,303	45	135	152	89
3	210	Single-Family Detached Housing	209 DU	9.44	0.19	0.56	0.62	0.37	1,973	39	116	130	77
			725 DU						**6,844**	**134**	**402**	**452**	**266**

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
Rolling Hills at Meridian Ranch
Traffic Signal Warrant Analysis of Rex Road/Meridian Road

	Traffic Volumes															Warrant 1, Eight Hour Vehicular Volume Evaluation[5]										Warrant 2, Four Hour Vehicular Volume Evaluation[6]				Warrant 7, Crash Experience[6]									
				Short-Term Background Traffic						Short-Term Total Traffic						Warrant Thresholds				Warrant Threshold Met?							Warrant Threshold Met?				Warrant Volume Thresholds				Warrant Threshold Met?					
	Existing [1]			Buildout of Meridian Ranch Estates Fil 3 and Meridian Ranch Fil 9			Existing + Approved			Rolling Hills Ranch at Meridian Ranch Fil 1-3			Existing + Approved + Currently Proposed			Condition A (70%)		Condition B (70%)		Existing		Short-Term Background		Short-Term Total		Warrant Threshold Minor Minimum	Existing	Existing + Approved + Currently Proposed	Short-Term Future	Condition A (56%)		Condition B (56%)		Existing		Existing + Approved + Currently Proposed		Short-Term Future	
Hour	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	5	2	18	788	85	210	12	3	49	800	85	259	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	9	3	30	818	84	123	22	5	84	840	83	207	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	16	5	13	488	98	88	58	11	42	546	98	130	350	105	525	53	No	No	No	No	Yes	Yes	135	No	No	No	336	84	504	42	No	No	Yes	No	Yes	Yes
12:30 PM	461	85	59	17	5	14	478	102	73	59	11	46	537	101	119	350	105	525	53	No	No	No	No	Yes	Yes	139	No	No	No	336	84	504	42	Yes	No	Yes	No	Yes	Yes
1:45 PM	471	71	51	21	6	16	492	92	67	75	14	51	567	91	118	350	105	525	53	No	No	No	No	Yes	Yes	135	No	No	No	336	84	504	42	No	No	Yes	No	Yes	Yes
2:45 PM	852	129	80	25	7	15	877	154	95	91	17	50	968	153	145	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	31	9	19	724	190	80	113	21	62	837	189	142	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	31	9	19	800	235	84	111	21	61	911	234	145	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	5	5	8	8		5	5	5					6	5	8	5	8	8
																				No	No	No	No	Yes	Yes		Yes	Yes	Yes					No	No	Yes	No	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.

Source: LSC Transportation Consultants, Inc.

Table 4
Rolling Hills Ranch at Meridian Ranch Filing Nos. 1, 2 and 3
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[(2)]
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[(2)]
4	Construct Rex Road as an Urban 2-Lane Minor Arterial from Sunrise Ridge Drive to the proposed	With future Meridian Ranch	Meridian Ranch
5	Construct Rex Road as an Urban 2-Lane Minor Arterial from the proposed east site access to	With future Meridian Ranch	Meridian Ranch
6	Rex Road from Eastonville Road to US 24 - Corridor Preservation	Beyond 2040 - Shown on the MTCP 2060 Corridor Preservation Plan	Corridor Preservation Through Grandview Estates
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	Currently under study by El Paso County	El Paso County
10	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 (depending on the selected traffic control option). Restripe/reconfigure the east leg as needed.	Currently under study by El Paso County	El Paso County
	Rex/Eastonville		
11	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
12	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
13	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
14	Reserve ROW for 155' eastbound right-turn deceleration lane plus 160 foot taper on Rex Road approaching Eastonville Road	Needed for ultimate extension of Rex Road east of Eastonville Road. Beyond 2040 - Shown on the MTCP 2060 Corridor Preservation Plan	ROW Preservation ONLY - with development projects
	Lambert/Londonderry		
15	Monitor traffic volumes, operations and crash reports at this intersection to identify any necessary traffic control changes (IE conversion to AWSC then signalization) as this subdivision develops.	As this subdivision develops	Meridian Ranch/EPC
	Rex/Rolling Hills Ranch at Meridian Ranch Site Access		
16	Construct a 205-foot westbound lefft-turn lane pus 160-foot taper on Rex Road approaching the site access	Rolling Hills Ranch at Meridian Ranch Filing No. 1	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.

Source: LSC Transportation Consultants, Inc. (9/25/2019)

Provide specifics on the required configuration. Will additional ROW be required? Provide an exhibit for the anticipated reconfiguration. Which filing would the improvement be required.

Include recommendations to bring the LOS to an acceptable level with filing 1. Revise the responsibility to the developer.

Revise the r
developer.

The contract
the sight dist
of the interse
warrant and

Warrant 1, 2
with built-out
discussion w
Engineer, sh
construction
Prior to resu
the County E
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of approval r
monitoring th
installation o
is met.

Review the c
Impact Fee p
if this is an e
improvemen
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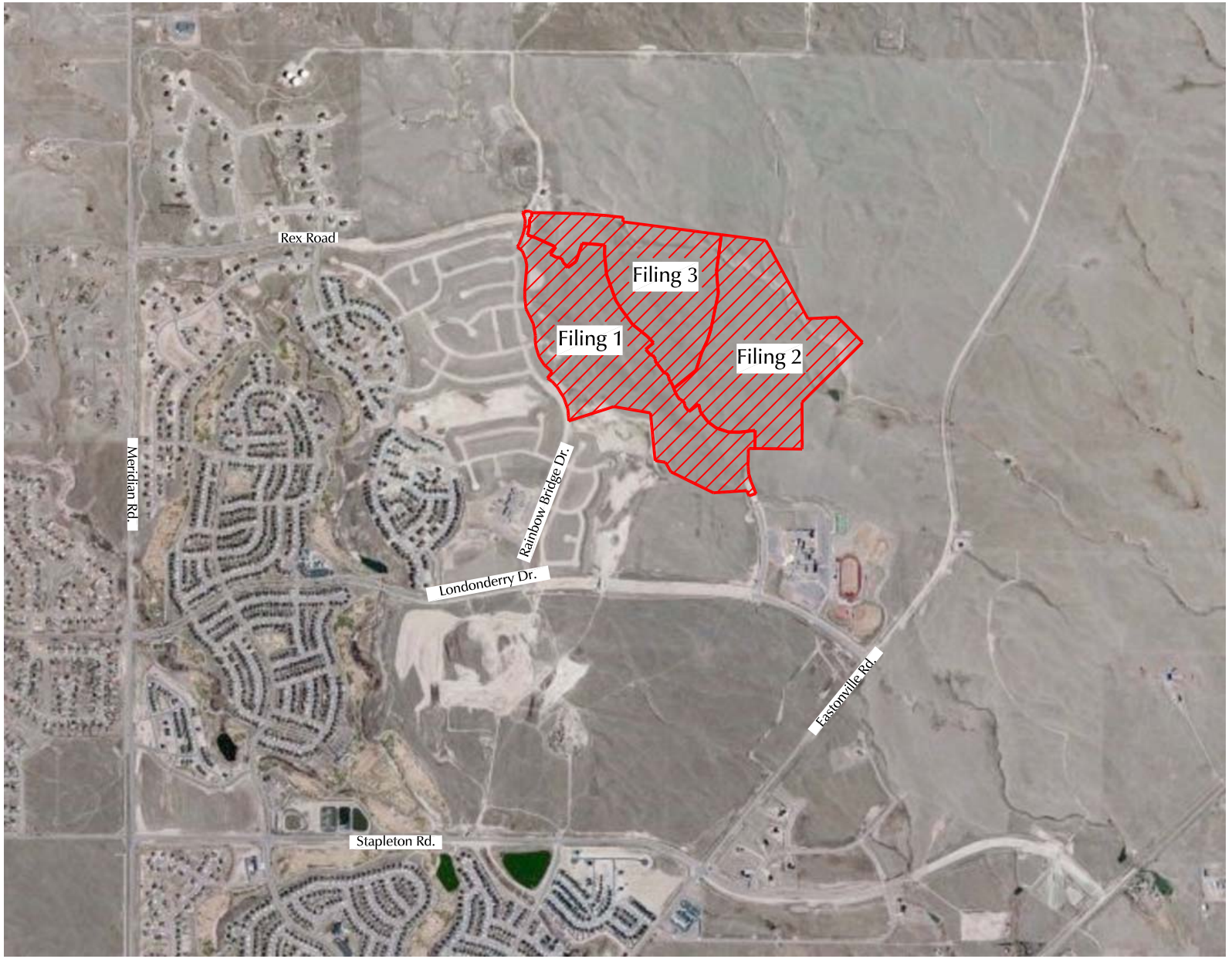
program.



Approximate Scale
Scale: 1"= 2,000'

Figure 1

Vicinity Map

Rolling Hills at Meridian Ranch Filings 1-3 (LSC #194180)

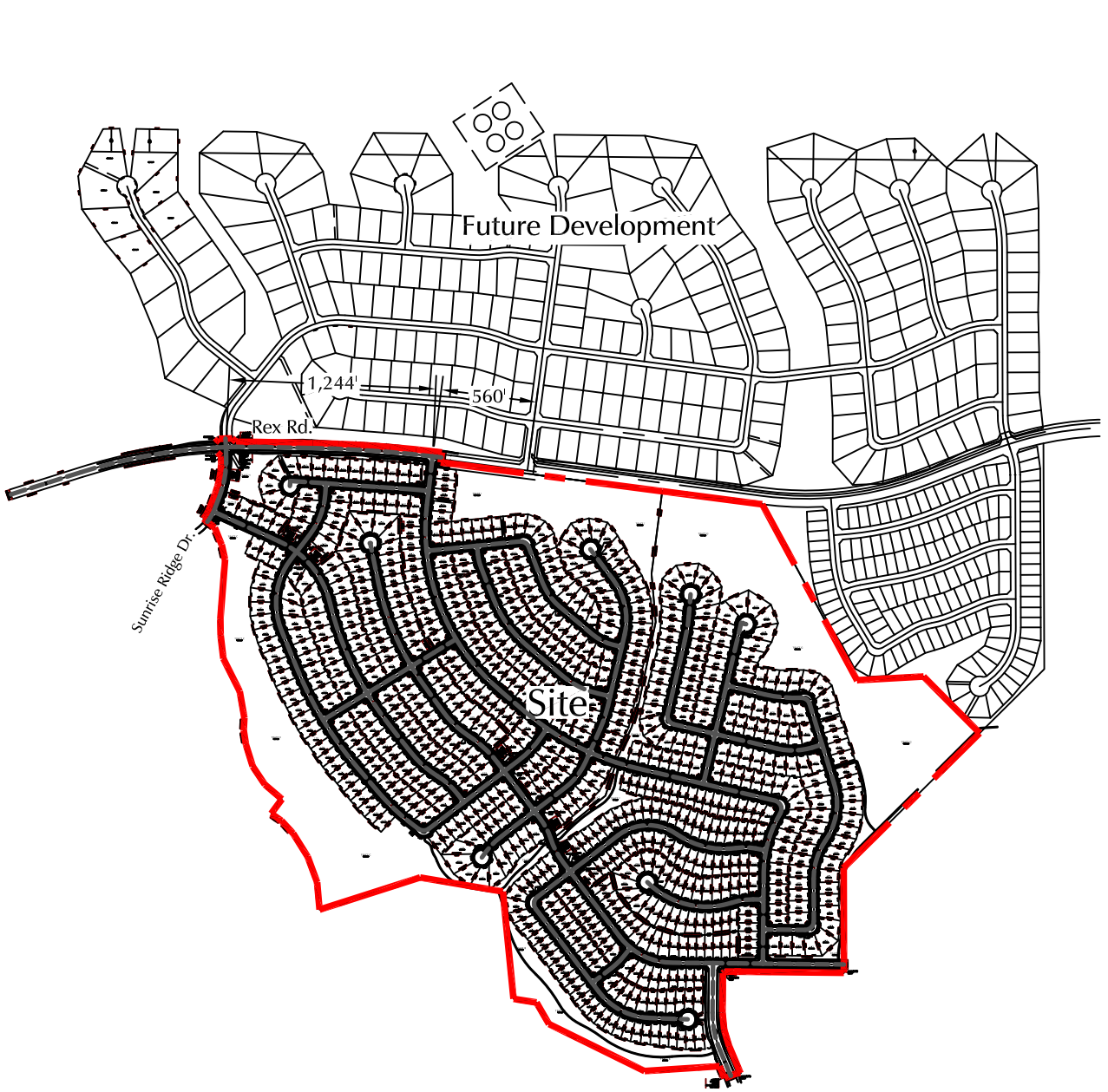
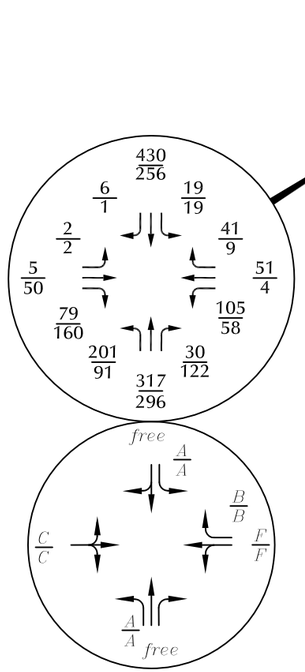


Figure 2

Site Plan

Rolling Hills at Meridian Ranch Filings 1-3 (LSC #194180)



Approximate Scale
Scale: 1"= 1,000'

LEGEND:

⊦ = Stop Sign

XX/XX = AM Weekday Peak-Hour Traffic (vehicles per hour) / PM Weekday Peak-Hour Traffic (vehicles per hour) Base on counts by LSC March 2019

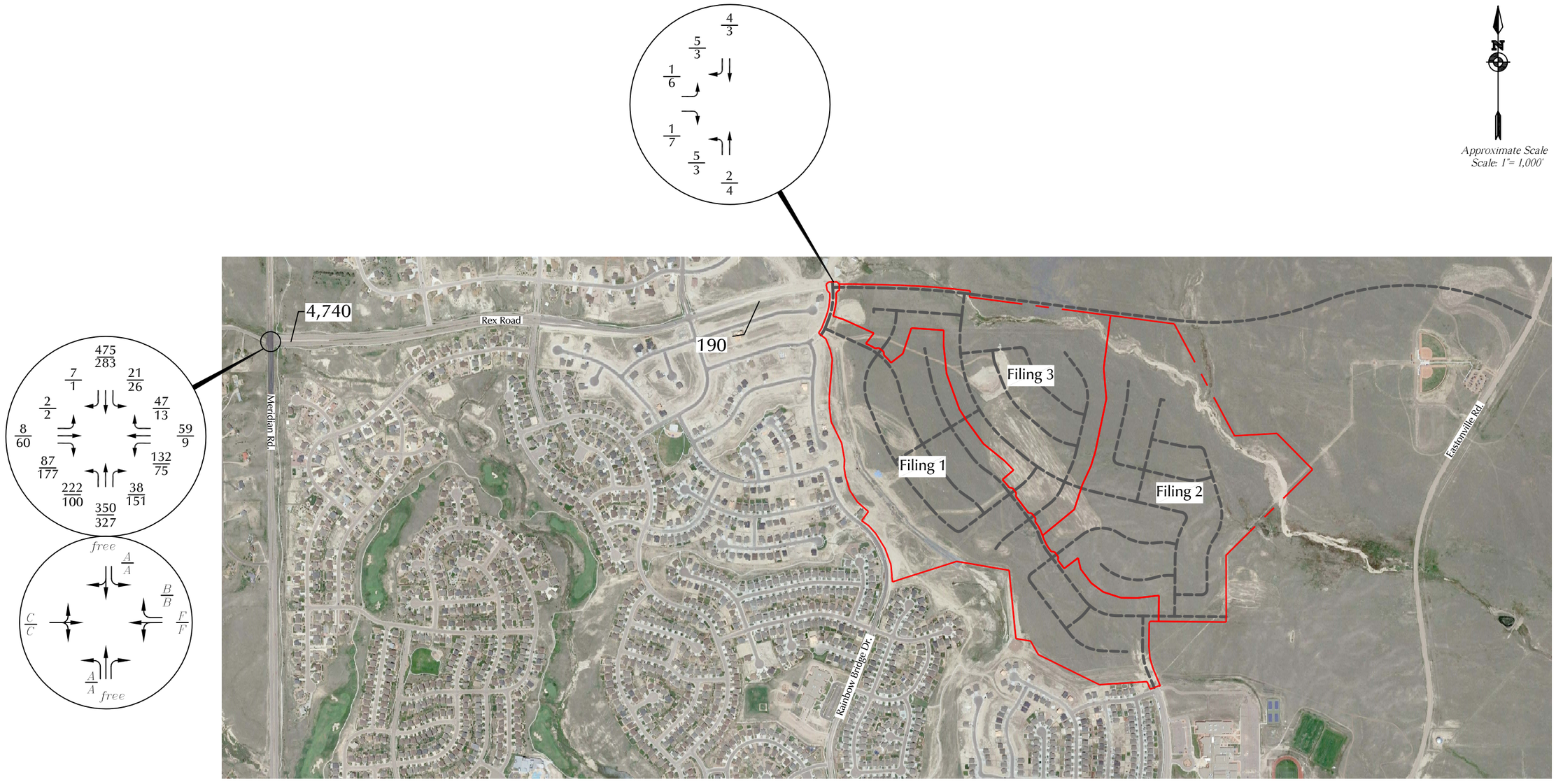
A/B = AM Individual Movement Peak-Hour Level of Service / PM Individual Movement Peak-Hour Level of Service

X,XXX= Average Daily Traffic (vehicles per day)

Figure 3

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

Rolling Hills at Meridian Ranch Filings 1-3 (LSC #194180)



LEGEND:

⊦ = Stop Sign

XX/XX = AM Weekday Peak-Hour Traffic (vehicles per hour) / PM Weekday Peak-Hour Traffic (vehicles per hour)

A/B = AM Individual Movement Peak-Hour Level of Service / PM Individual Movement Peak-Hour Level of Service

X,XXX= Average Daily Traffic (vehicles per day)

Figure 4

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

Rolling Hills at Meridian Ranch Filings 1-3 (LSC #194180)

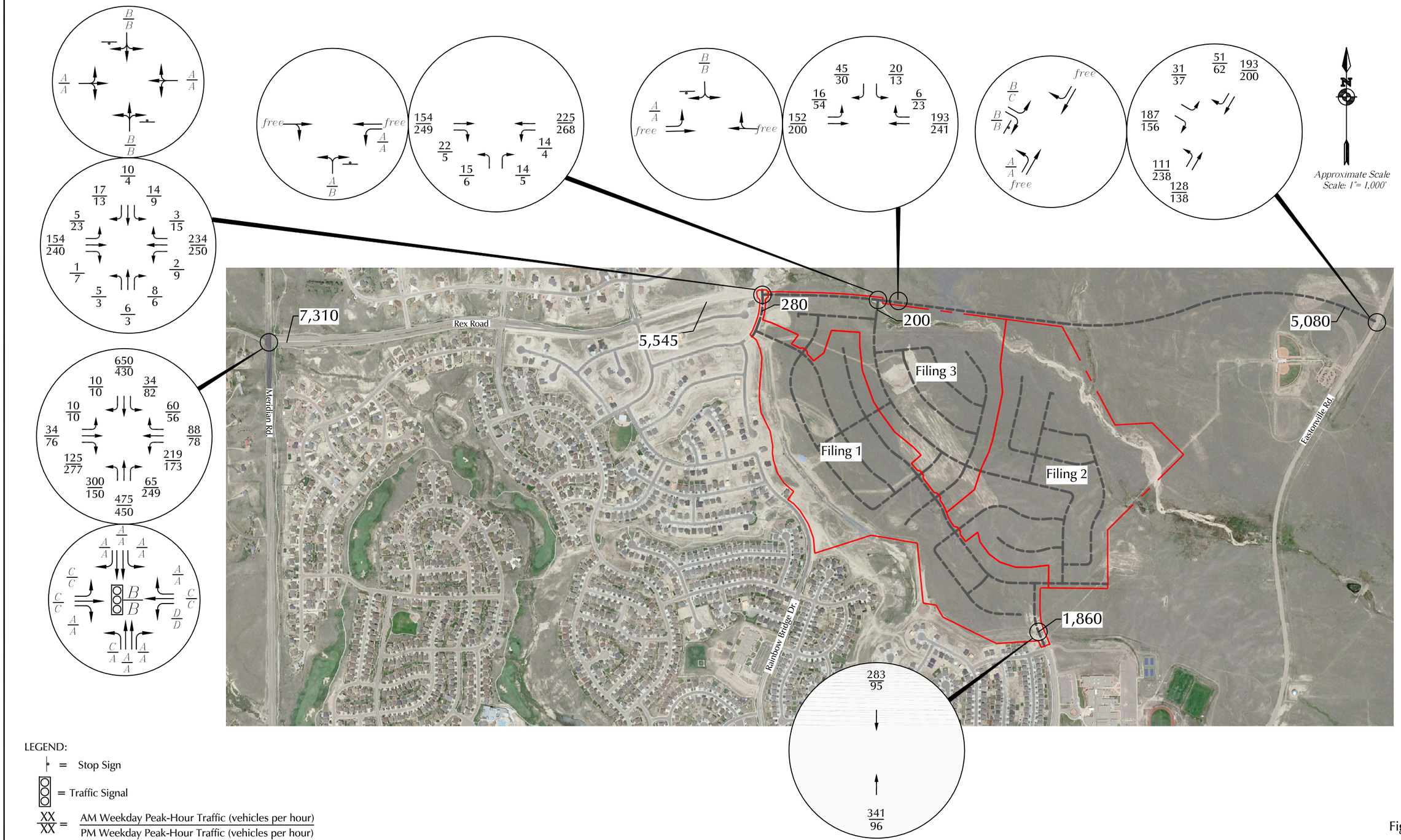


Figure 5

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

Rolling Hills at Meridian Ranch Filings 1-3 (LSC #194180)

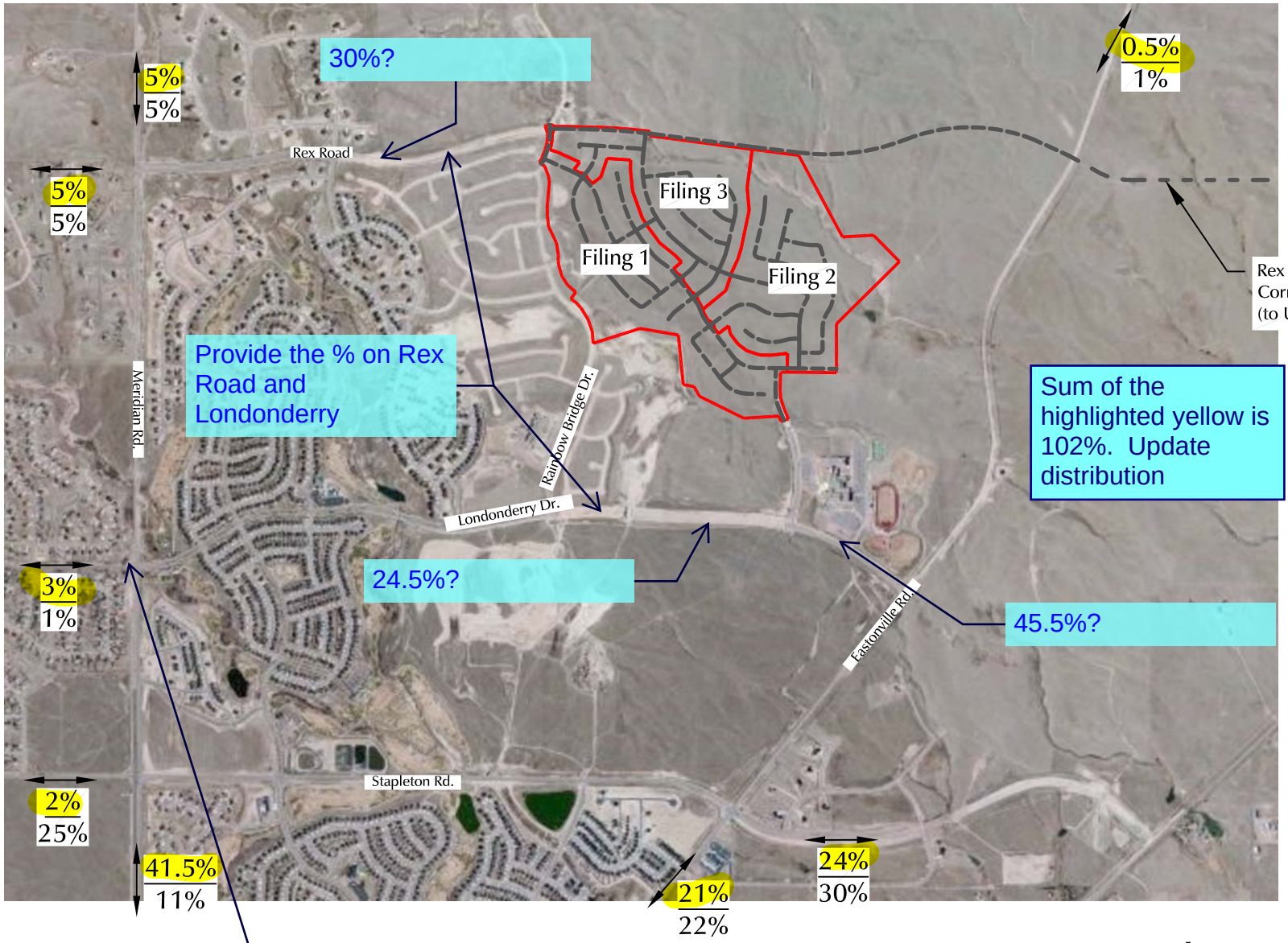


Figure 6

Directional Distribution of Site-Generated Traffic

Pulling Hills at Meridian Ranch Filings 1-3 (LSC #194180)

LEGEND:

XX% / XX% = Short-Term Percent Direction / 2040 Percent Directional Distribution

Include Meridian/Londonderry in the study area or provide justification on the narrative why this intersection does not need to be included in the study area. Justification shall be based on the criteria noted in ECM Appendix B Section B.2.3.B 5th bullet point.

LEGEND:

XX/XX = AM Weekday Peak-Hour Traffic (vehicles per hour) / PM Weekday Peak-Hour Traffic (vehicles per hour)

X,XXX= Average Daily Traffic (vehicles per day)

Figure 7

Assignment of Short-Term Site-Generated Traffic

Rolling Hills at Meridian Ranch Filings 1-3 (LSC #194180)

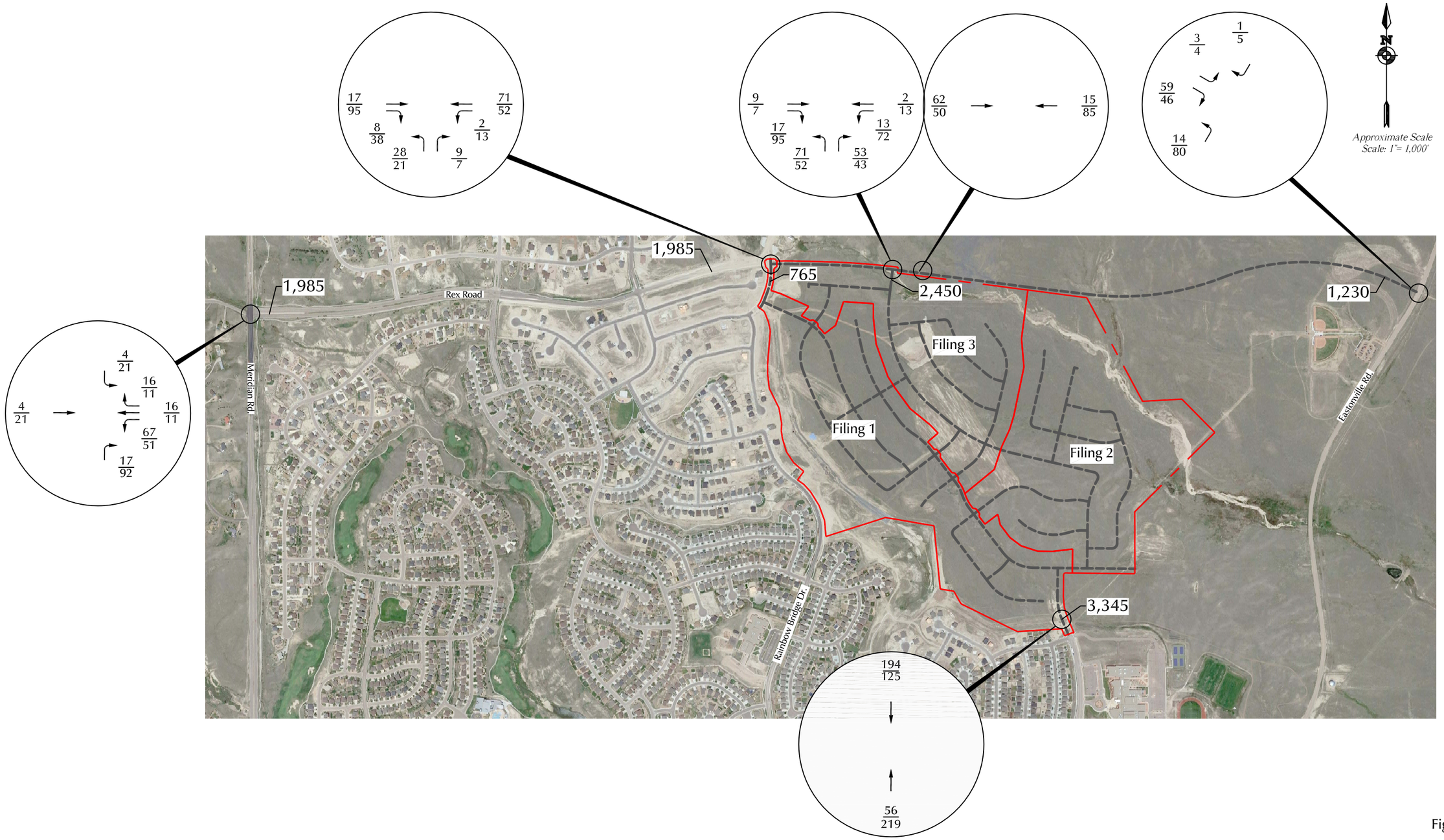


Figure 8

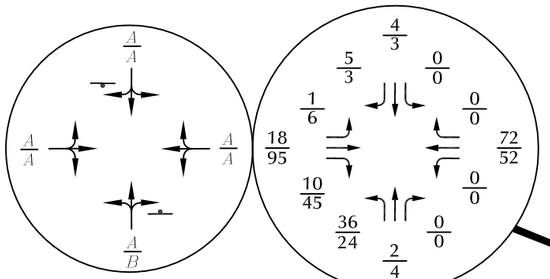
Assignment of 2040 Site-Generated Traffic

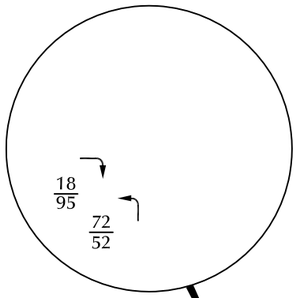
Rolling Hills at Meridian Ranch Filings 1-3 (LSC #194180)

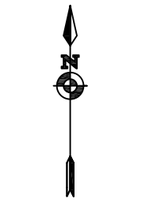
LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

X,XXX= Average Daily Traffic (vehicles per day)

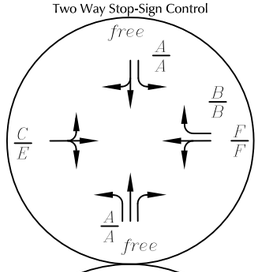


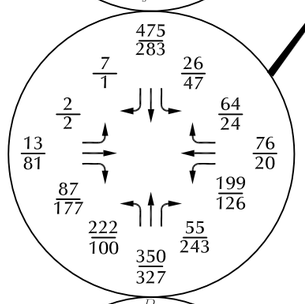


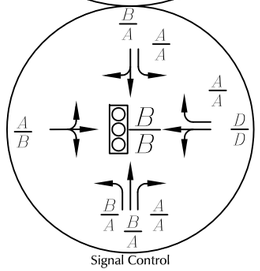


Approximate Scale
Scale: 1"= 1,000'

Two Way Stop-Sign Control







Signal Control

LEGEND:

= Stop Sign

= Traffic Signal

$\frac{XX}{XX}$ = AM Weekday Peak-Hour Traffic (vehicles per hour) / PM Weekday Peak-Hour Traffic (vehicles per hour)

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

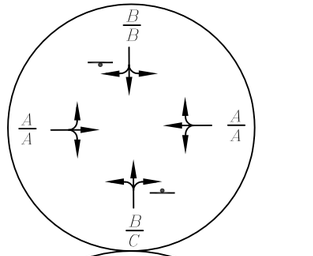
$\frac{C}{C}$ = AM Entire Intersection Peak-Hour Level of Service / PM Entire Intersection Peak-Hour Level of Service

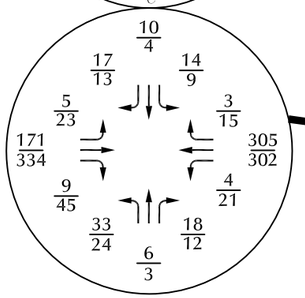
X,XXX= Average Daily Traffic (vehicles per day)

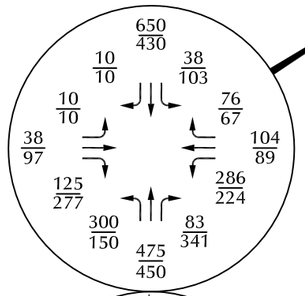
Figure 9

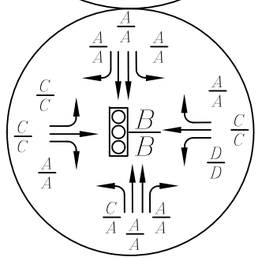
Short-Term Total Traffic, Lane Geometry, Traffic Control and Level of Service

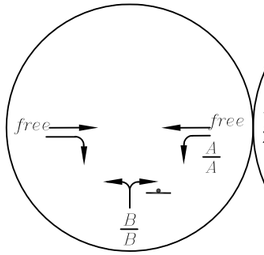
Rolling Hills at Meridian Ranch Filings 1-3 (LSC #194180)

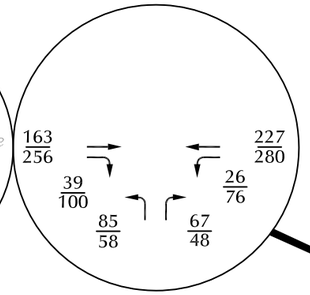


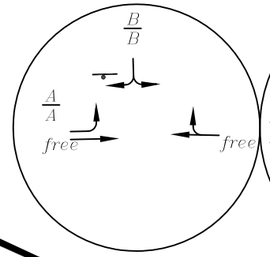


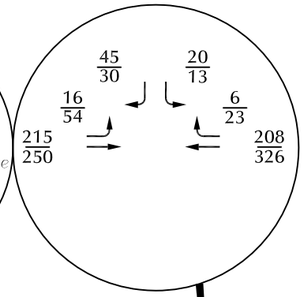


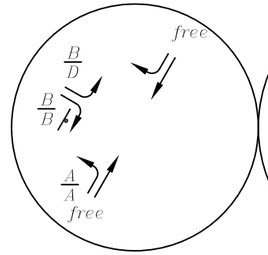


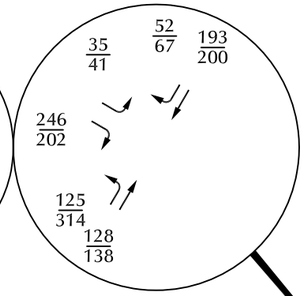


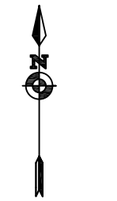




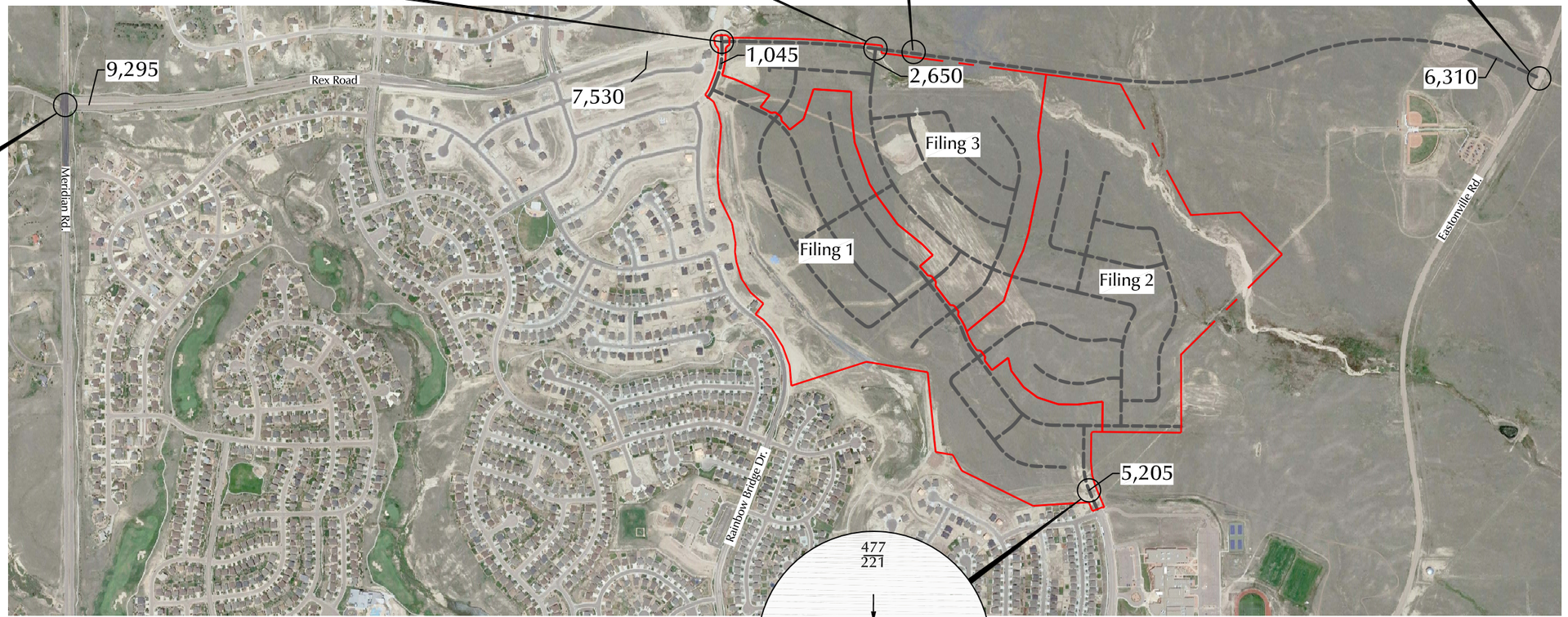


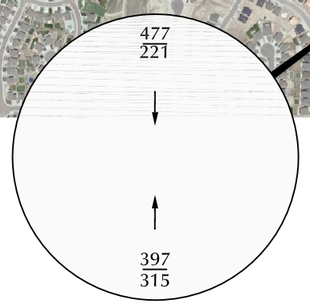






Approximate Scale
Scale: 1"= 1,000'





LEGEND:

= Stop Sign

= Traffic Signal

XX/XX = AM Weekday Peak-Hour Traffic (vehicles per hour) / PM Weekday Peak-Hour Traffic (vehicles per hour)

A/B = AM Individual Movement Peak-Hour Level of Service / PM Individual Movement Peak-Hour Level of Service

C/C = AM Entire Intersection Peak-Hour Level of Service / PM Entire Intersection Peak-Hour Level of Service

X,XXX= Average Daily Traffic (vehicles per day)

Figure 10

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

Rolling Hills at Meridian Ranch Filings 1-3 (LSC #194180)

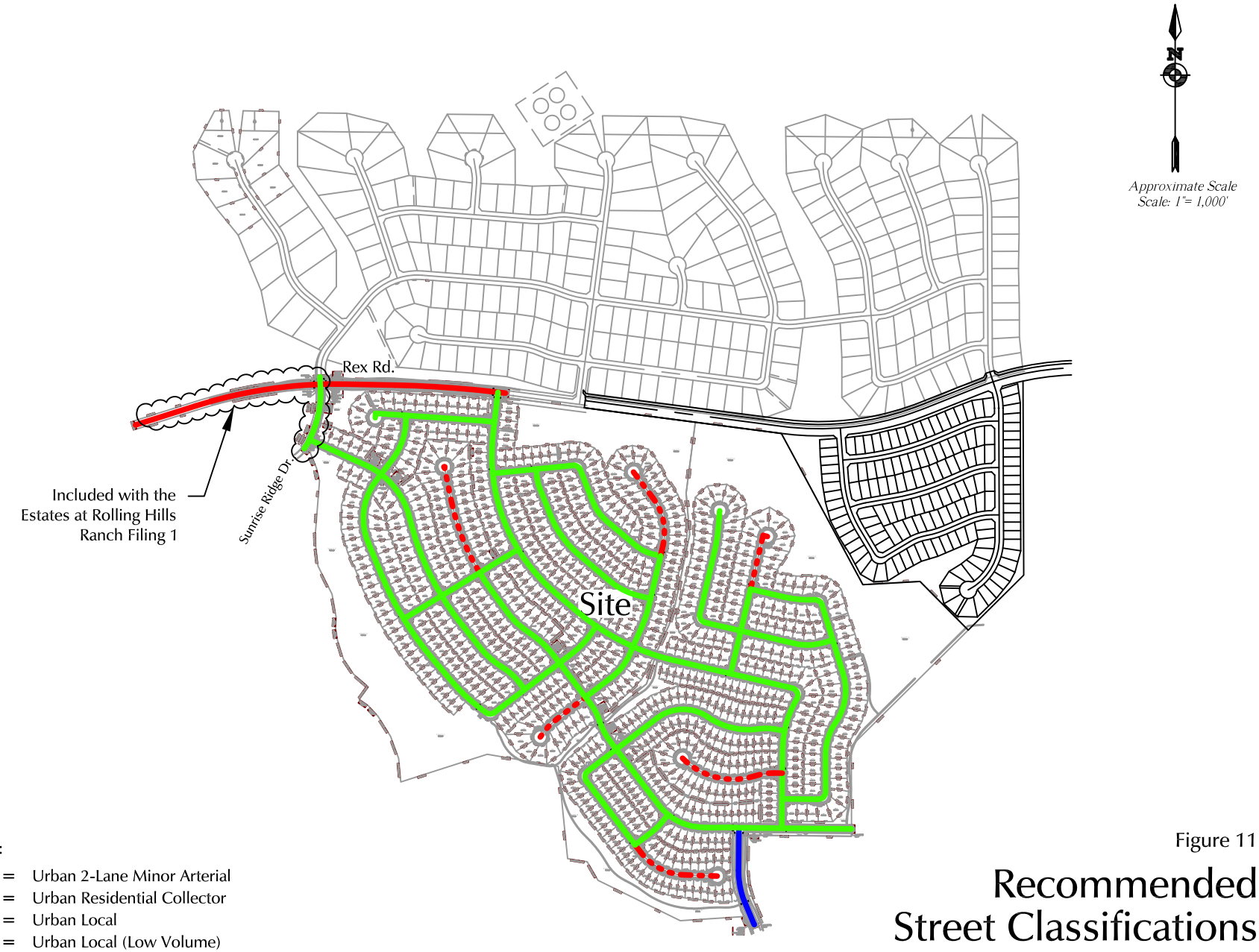


Figure 11

Recommended Street Classifications

Rolling Hills at Meridian Ranch Filings 1-3 (LSC #194180)

List of Recent Traffic Studies in the Area

TRANSPORTATION
CONSULTANTS, INC.

Appendix Table 1
Area Traffic Impact Studies by LSC
Rolling Hills Ranch Filing Nos. 1-3

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
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 Traffic Impact Analysis	January 11, 2019

Source: LSC Transportation Consultants, Inc.

Traffic Counts

TRANSPORTATION
CONSULTANTS, INC.

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				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
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
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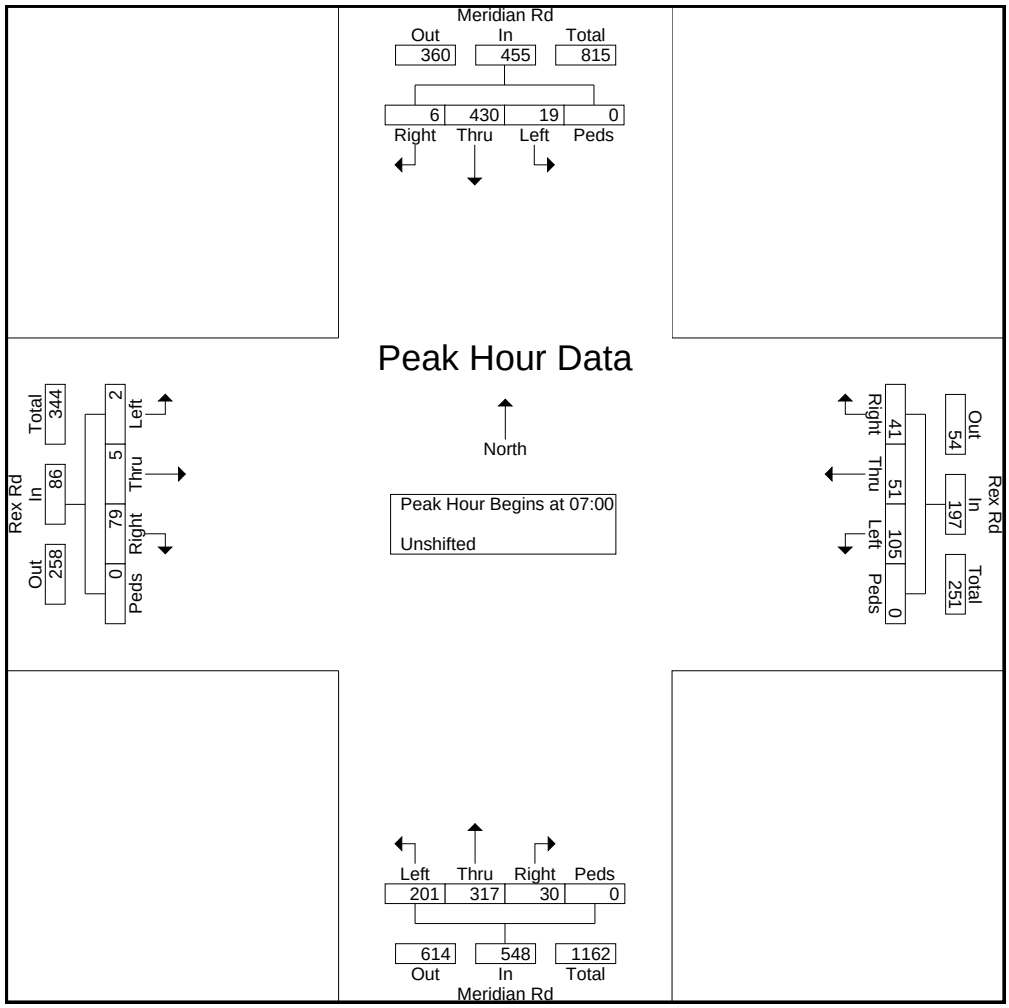
719-633-2868

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



LSC Transportation Consultants, Inc.
545 E Pikes Peak Ave, Suite 210
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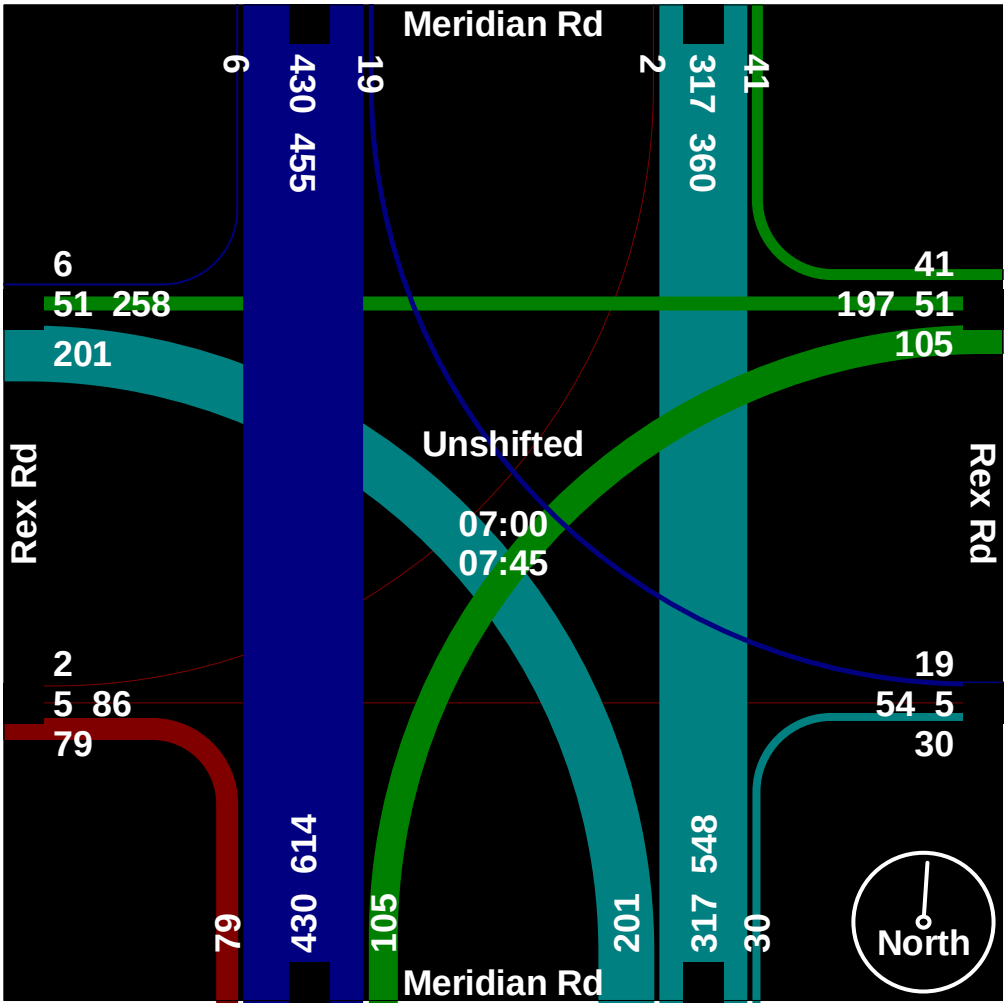
719-633-2868

File Name : Meridian Rd-Rex Rd AM
Site Code : 194180
Start Date : 3/5/2019
Page No : 3



LSC Transportation Consultants, Inc.

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

File Name : Meridian Rd - Rex Rd Mid
Site Code : 00194180
Start Date : 3/12/2019
Page No : 1

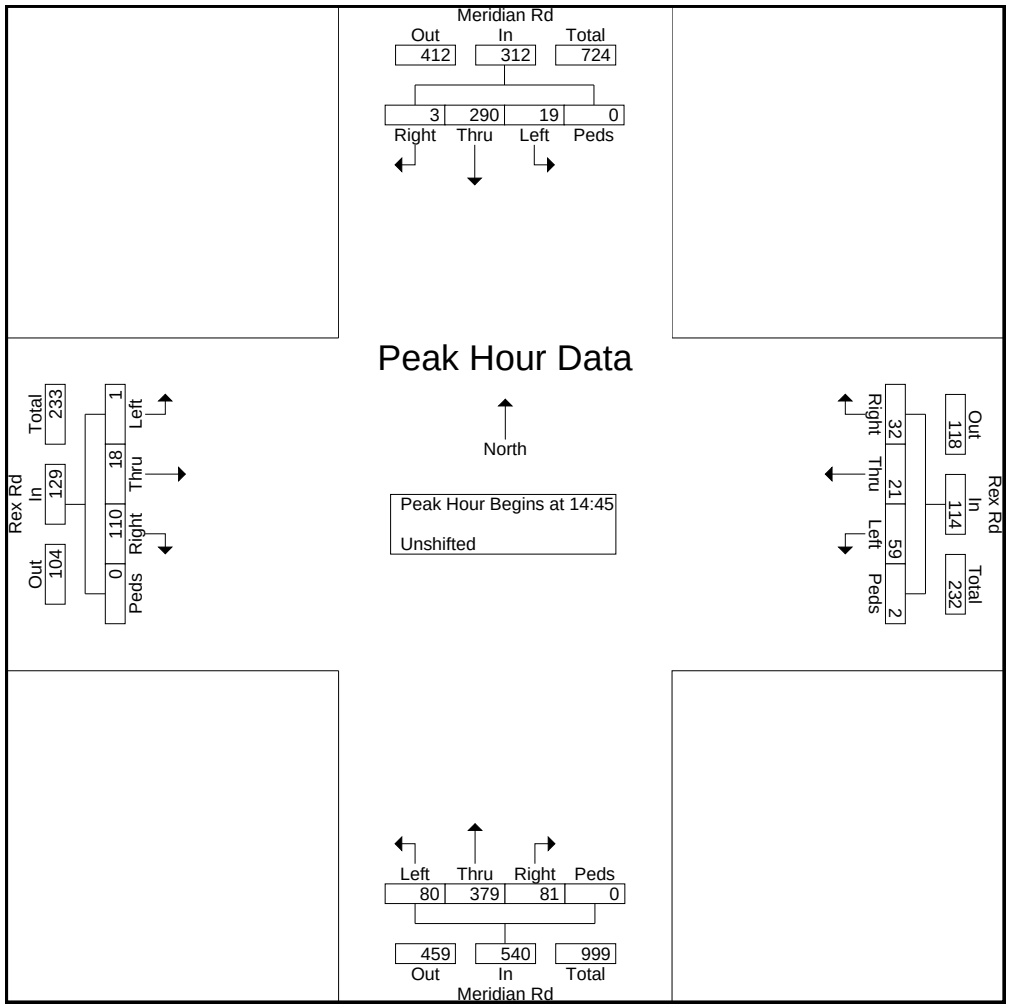
Groups Printed- Unshifted

	Meridian Rd Southbound				Rex Rd Westbound				Meridian Rd Northbound				Rex Rd Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
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	

LSC Transportation Consultants, Inc.
545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name : Meridian Rd - Rex Rd Mid
Site Code : 00194180
Start Date : 3/12/2019
Page No : 2

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



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File Name : Meridian Rd - Rex Rd Mid
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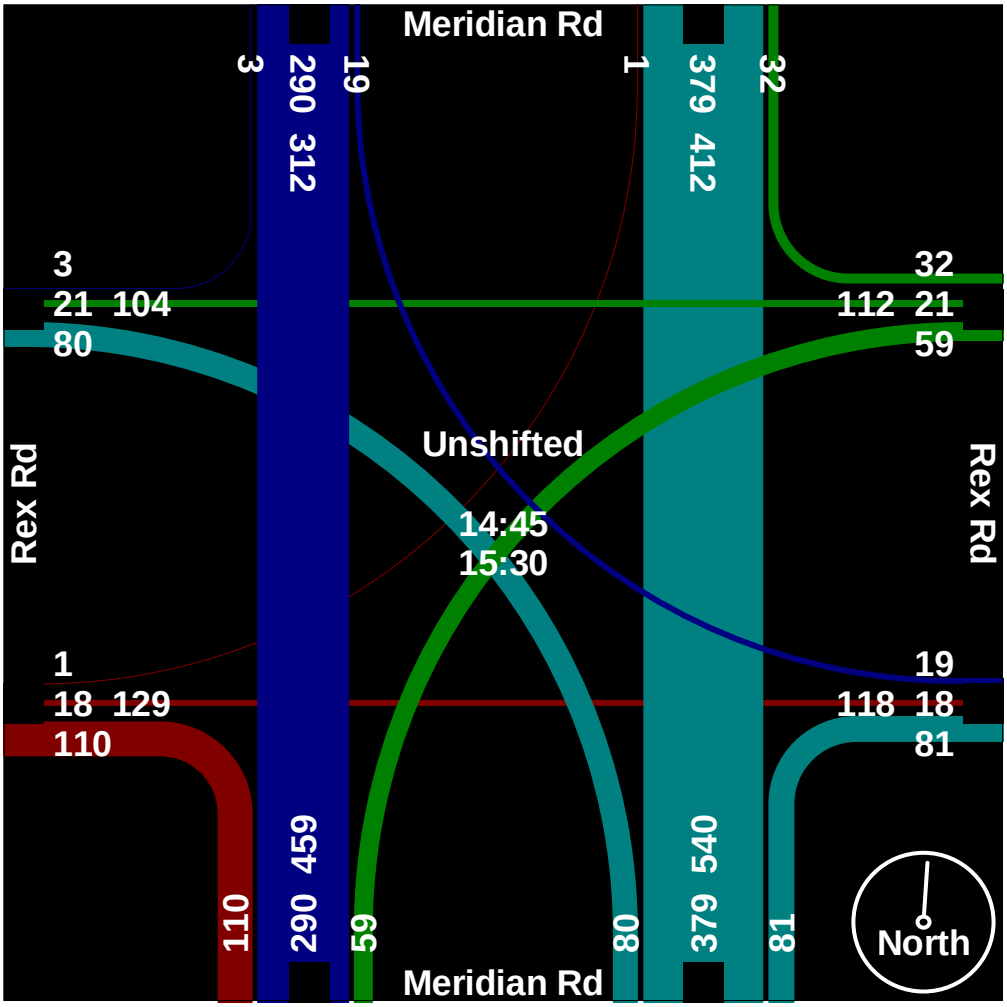

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File Name : Meridian Rd - Rex Rd Noon
Site Code : 00194180
Start Date : 3/12/2019
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Groups Printed- Unshifted

	Meridian Rd Southbound				Rex Rd Westbound				Meridian Rd Northbound				Rex Rd Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
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
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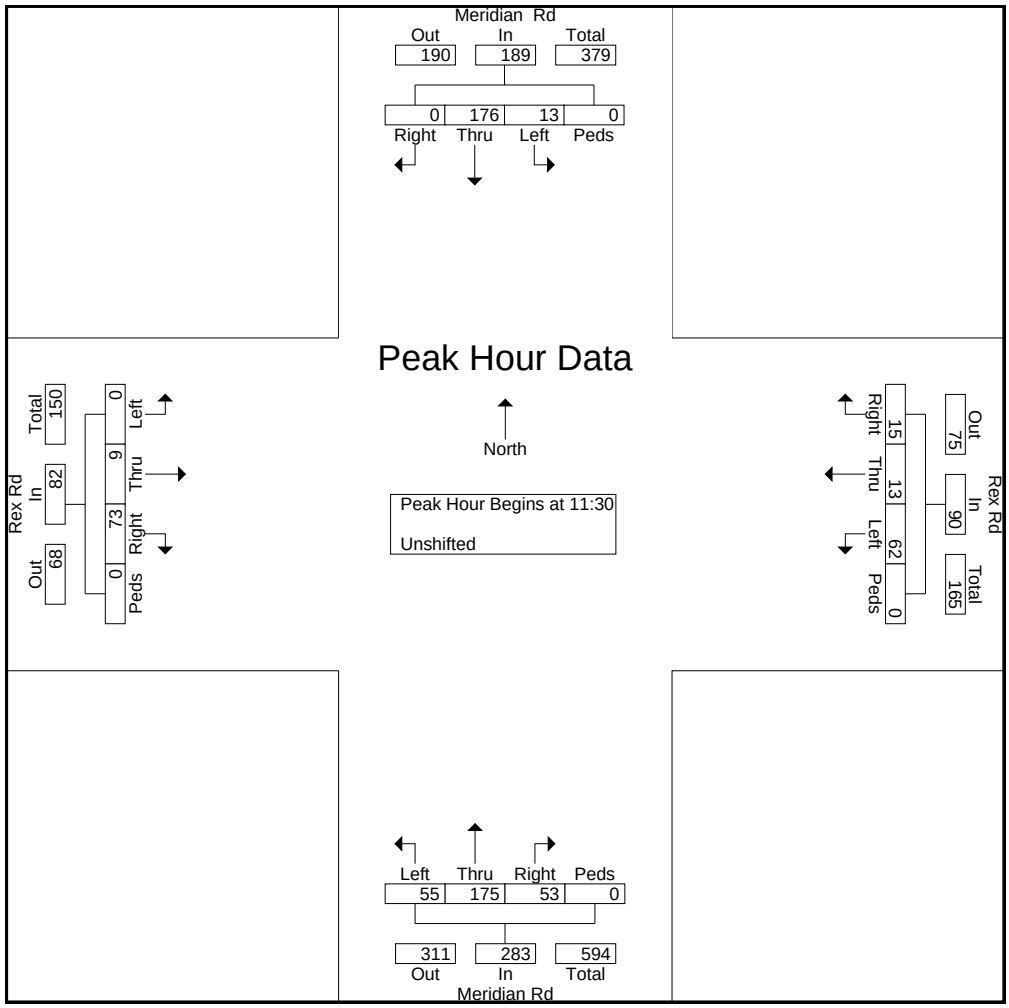
	Meridian Rd Southbound					Rex Rd Westbound					Meridian Rd Northbound					Rex Rd Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1																					
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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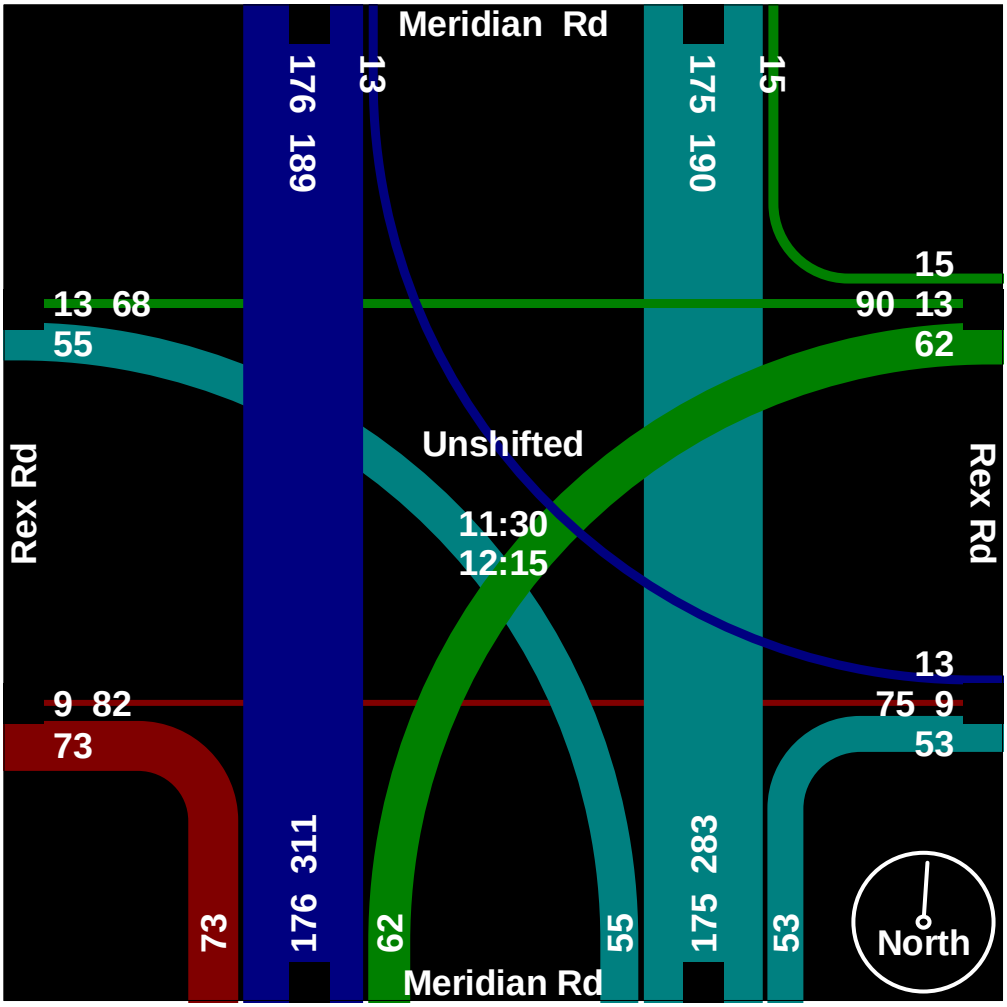

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719-633-2868

File Name : Meridian Rd-Rex Rd PM
Site Code : 194180
Start Date : 3/5/2019
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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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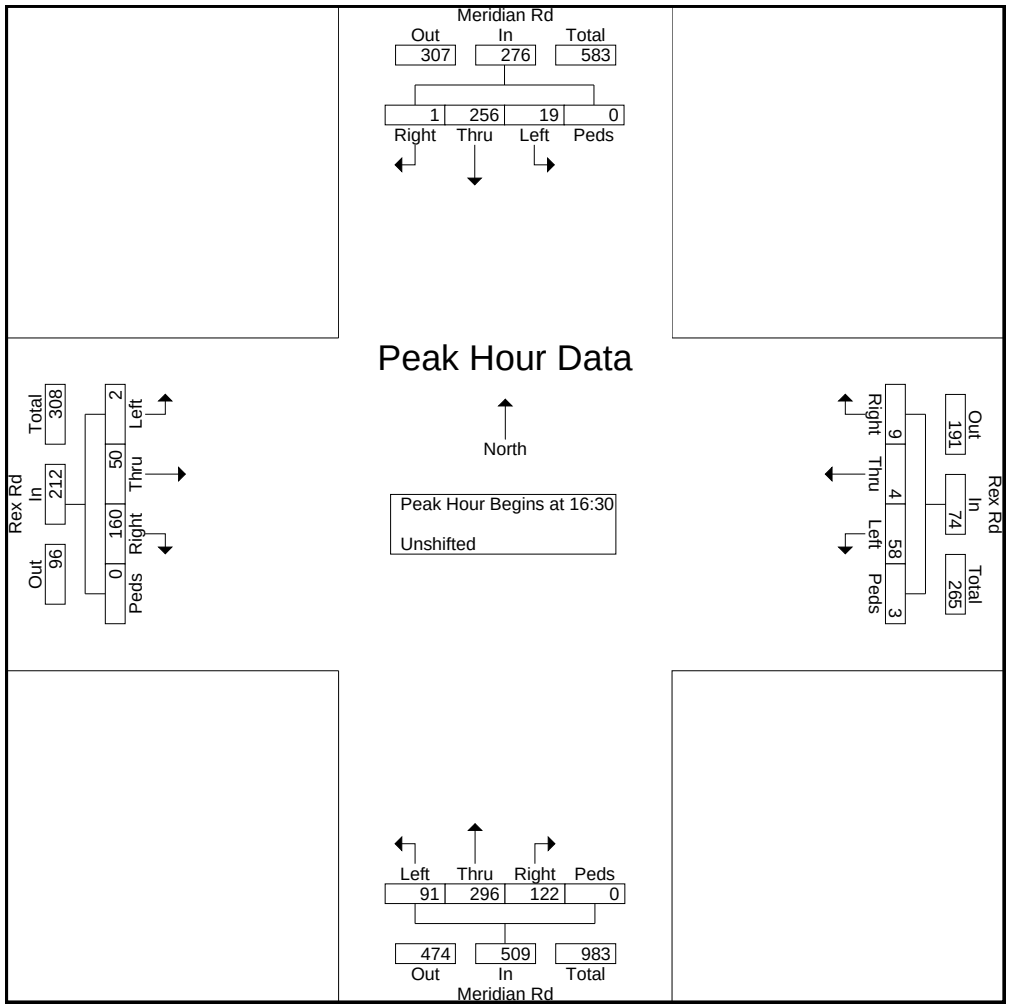
	Meridian Rd Southbound					Rex Rd Westbound					Meridian Rd Northbound					Rex Rd Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
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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File Name : Meridian Rd-Rex Rd PM
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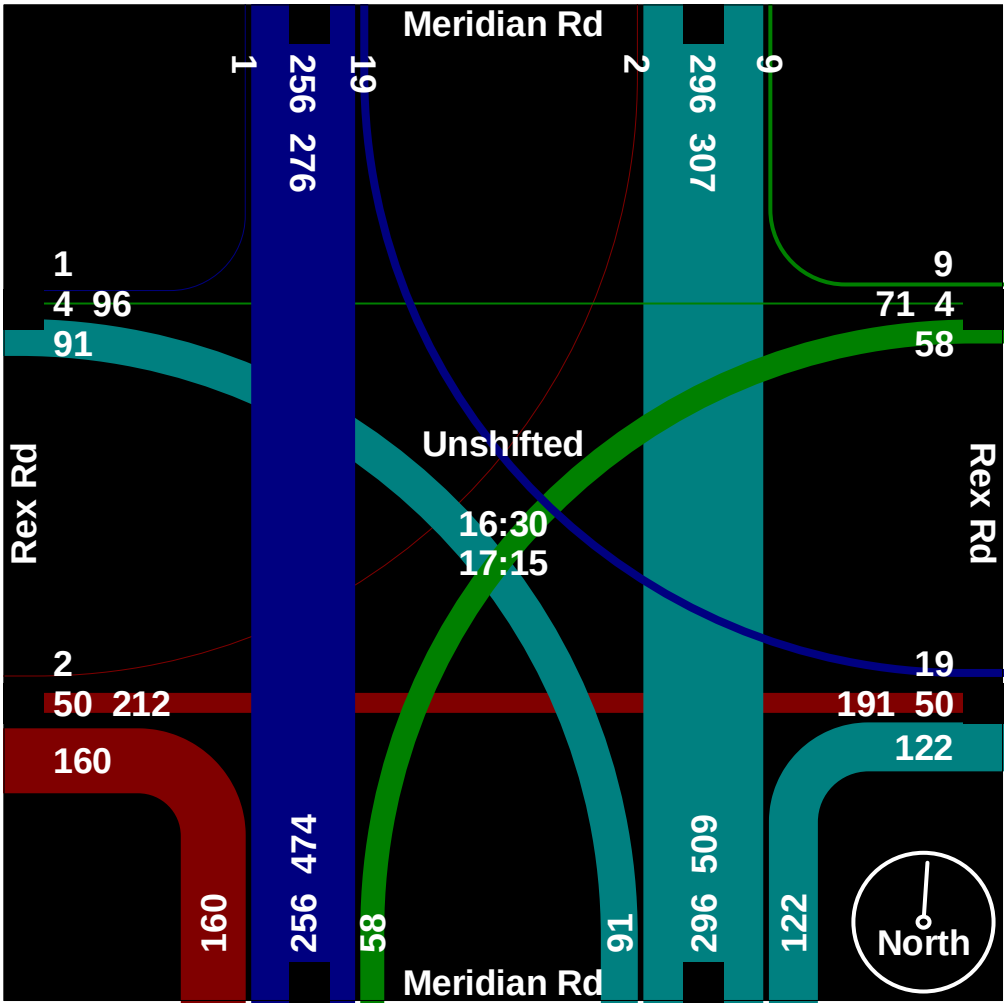


Levels of Service

TRANSPORTATION
CONSULTANTS, INC.

Intersection	
Int Delay, s/veh	50.9

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	100	100	100	86	86	86	100	100	100	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	5	79	122	59	48	201	317	30	20	457	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1288	1249	460	1261	1222	317	463	0	0	347	0	0
Stage 1	500	500	-	719	719	-	-	-	-	-	-	-
Stage 2	788	749	-	542	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	141	173	601	147	180	724	1098	-	-	1212	-	-
Stage 1	553	543	-	420	433	-	-	-	-	-	-	-
Stage 2	384	419	-	525	541	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	77	139	601	~ 106	145	724	1098	-	-	1212	-	-
Mov Cap-2 Maneuver	77	139	-	~ 106	145	-	-	-	-	-	-	-
Stage 1	452	534	-	343	354	-	-	-	-	-	-	-
Stage 2	244	342	-	444	532	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15	285.3	3.3	0.3
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1098	-	-	445	116	724	1212	-	-
HCM Lane V/C Ratio	0.183	-	-	0.193	1.564	0.066	0.017	-	-
HCM Control Delay (s)	9	-	-	15	$ 357.6	10.3	8	-	-
HCM Lane LOS	A	-	-	C	F	B	A	-	-
HCM 95th %tile Q(veh)	0.7	-	-	0.7	13.3	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	EBLn1	WBLn1	WBLn2	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	-	-

Intersection	
Int Delay, s/veh	119.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	8	87	132	59	47	222	350	38	21	475	7
Future Vol, veh/h	2	8	87	132	59	47	222	350	38	21	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	100	100	100	86	86	86	100	100	100	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	8	87	153	69	55	222	350	38	22	505	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1428	1385	509	1394	1350	350	512	0	0	388	0	0
Stage 1	553	553	-	794	794	-	-	-	-	-	-	-
Stage 2	875	832	-	600	556	-	-	-	-	-	-	-
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	113	143	564	~ 119	150	693	1053	-	-	1170	-	-
Stage 1	517	514	-	381	400	-	-	-	-	-	-	-
Stage 2	344	384	-	488	513	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	47	111	564	~ 79	116	693	1053	-	-	1170	-	-
Mov Cap-2 Maneuver	47	111	-	~ 79	116	-	-	-	-	-	-	-
Stage 1	408	504	-	301	316	-	-	-	-	-	-	-
Stage 2	196	303	-	399	503	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.6	$ 639.1	3.4	0.3
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1053	-	-	361	88	693	1170	-	-
HCM Lane V/C Ratio	0.211	-	-	0.269	2.524	0.079	0.019	-	-
HCM Control Delay (s)	9.3	-	-	18.6	$ 793.7	10.6	8.1	-	-
HCM Lane LOS	A	-	-	C	F	B	A	-	-
HCM 95th %tile Q(veh)	0.8	-	-	1.1	20.8	0.3	0.1	-	-

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

Intersection	
Int Delay, s/veh	11.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	60	177	75	9	13	100	327	151	26	283	1
Future Vol, veh/h	2	60	177	75	9	13	100	327	151	26	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	100	100	100	92	92	92	100	100	100	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	60	177	82	10	14	100	327	151	28	301	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	973	1036	302	1003	885	327	302	0	0	478	0	0
Stage 1	358	358	-	527	527	-	-	-	-	-	-	-
Stage 2	615	678	-	476	358	-	-	-	-	-	-	-
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	231	232	738	221	284	714	1259	-	-	1084	-	-
Stage 1	660	628	-	535	528	-	-	-	-	-	-	-
Stage 2	479	452	-	570	628	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	203	208	738	121	255	714	1259	-	-	1084	-	-
Mov Cap-2 Maneuver	203	208	-	121	255	-	-	-	-	-	-	-
Stage 1	608	612	-	493	486	-	-	-	-	-	-	-
Stage 2	424	416	-	381	612	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.2	73.7	1.4	0.7
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1259	-	-	444	128	714	1084	-	-
HCM Lane V/C Ratio	0.079	-	-	0.538	0.713	0.02	0.026	-	-
HCM Control Delay (s)	8.1	-	-	22.2	83.5	10.1	8.4	-	-
HCM Lane LOS	A	-	-	C	F	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	3.1	4	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	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	95	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	1	2	2	1	2	2	2	2	2	2	2
Mvmt Flow	1	20	11	0	78	0	39	2	0	0	4	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	78	0	0	31	0	0	111	106	26	107	111	78
Stage 1	-	-	-	-	-	-	28	28	-	78	78	-
Stage 2	-	-	-	-	-	-	83	78	-	29	33	-
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	1520	-	-	1582	-	-	867	784	1050	872	779	983
Stage 1	-	-	-	-	-	-	989	872	-	931	830	-
Stage 2	-	-	-	-	-	-	925	830	-	988	868	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1520	-	-	1582	-	-	857	783	1050	869	778	983
Mov Cap-2 Maneuver	-	-	-	-	-	-	857	783	-	869	778	-
Stage 1	-	-	-	-	-	-	988	871	-	930	830	-
Stage 2	-	-	-	-	-	-	915	830	-	985	867	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	9.4	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	853	1520	-	-	1582	-	-	880
HCM Lane V/C Ratio	0.048	0.001	-	-	-	-	-	0.011
HCM Control Delay (s)	9.4	7.4	0	-	0	-	-	9.1
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	278.7

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	100	100	100	86	86	86	100	100	100	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	13	87	231	88	74	222	350	55	28	505	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1468	1414	509	1409	1362	350	512	0	0	405	0	0
Stage 1	565	565	-	794	794	-	-	-	-	-	-	-
Stage 2	903	849	-	615	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	106	138	564	~ 116	148	693	1053	-	-	1154	-	-
Stage 1	510	508	-	381	400	-	-	-	-	-	-	-
Stage 2	332	377	-	479	506	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	29	106	564	~ 73	114	693	1053	-	-	1154	-	-
Mov Cap-2 Maneuver	29	106	-	~ 73	114	-	-	-	-	-	-	-
Stage 1	402	496	-	301	316	-	-	-	-	-	-	-
Stage 2	168	297	-	385	494	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.5	$ 1164.5	3.3	0.4
HCM LOS	C	F		

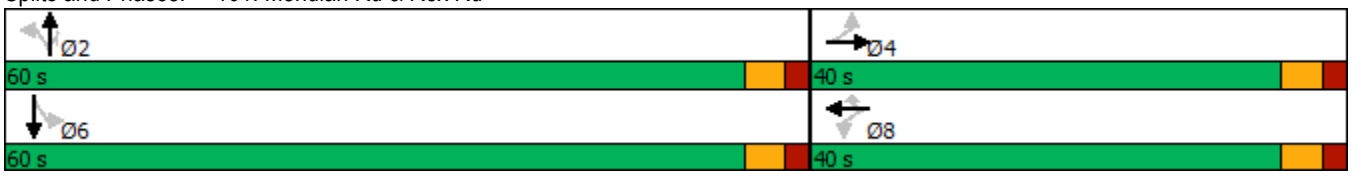
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1053	-	-	295	81	693	1154	-	-
HCM Lane V/C Ratio	0.211	-	-	0.346	3.948	0.107	0.024	-	-
HCM Control Delay (s)	9.3	-	-	23.5	$ 1433	10.8	8.2	-	-
HCM Lane LOS	A	-	-	C	F	B	A	-	-
HCM 95th %tile Q(veh)	0.8	-	-	1.5	33.4	0.4	0.1	-	-

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	2	13	199	76	64	222	350	55	26	475
Future Volume (vph)	2	13	199	76	64	222	350	55	26	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)	40.0	40.0	40.0	40.0	40.0	60.0	60.0	60.0	60.0	60.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%	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
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 Effct Green (s)		25.4		25.4	25.4	55.3	55.3	55.3	55.3	55.3
Actuated g/C Ratio		0.28		0.28	0.28	0.61	0.61	0.61	0.61	0.61
v/c Ratio		0.20		0.83	0.15	0.49	0.31	0.06	0.05	0.45
Control Delay		7.9		48.7	6.4	16.5	10.6	3.1	9.5	12.4
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		7.9		48.7	6.4	16.5	10.6	3.1	9.5	12.4
LOS		A		D	A	B	B	A	A	B
Approach Delay		7.9		40.8			12.1			12.2
Approach LOS		A		D			B			B

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 90.7	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 18.6	Intersection LOS: B
Intersection Capacity Utilization 71.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 101: Meridian Rd & Rex Rd



Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	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	95	92	92	92	92	95	92	95	92	95	95	95
Heavy Vehicles, %	2	1	2	2	1	2	2	2	2	2	2	2
Mvmt Flow	6	103	49	0	57	0	26	4	0	0	3	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	57	0	0	152	0	0	200	197	128	199	221	57
Stage 1	-	-	-	-	-	-	140	140	-	57	57	-
Stage 2	-	-	-	-	-	-	60	57	-	142	164	-
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	1547	-	-	1429	-	-	759	699	922	760	678	1009
Stage 1	-	-	-	-	-	-	863	781	-	955	847	-
Stage 2	-	-	-	-	-	-	951	847	-	861	762	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1547	-	-	1429	-	-	751	696	922	754	675	1009
Mov Cap-2 Maneuver	-	-	-	-	-	-	751	696	-	754	675	-
Stage 1	-	-	-	-	-	-	860	778	-	951	847	-
Stage 2	-	-	-	-	-	-	944	847	-	853	759	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	10.1	9.5
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	743	1547	-	-	1429	-	-	809
HCM Lane V/C Ratio	0.041	0.004	-	-	-	-	-	0.008
HCM Control Delay (s)	10.1	7.3	0	-	0	-	-	9.5
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	53.3

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	100	100	100	92	92	92	100	100	100	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	81	177	137	22	26	100	327	243	50	301	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1075	1172	302	1058	929	327	302	0	0	570	0	0
Stage 1	402	402	-	527	527	-	-	-	-	-	-	-
Stage 2	673	770	-	531	402	-	-	-	-	-	-	-
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	197	192	738	203	268	714	1259	-	-	1002	-	-
Stage 1	625	600	-	535	528	-	-	-	-	-	-	-
Stage 2	445	410	-	532	600	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	160	168	738	~ 87	235	714	1259	-	-	1002	-	-
Mov Cap-2 Maneuver	160	168	-	~ 87	235	-	-	-	-	-	-	-
Stage 1	576	570	-	493	486	-	-	-	-	-	-	-
Stage 2	377	378	-	330	570	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	38.7	$ 362.2	1.2	1.2
HCM LOS	E	F		

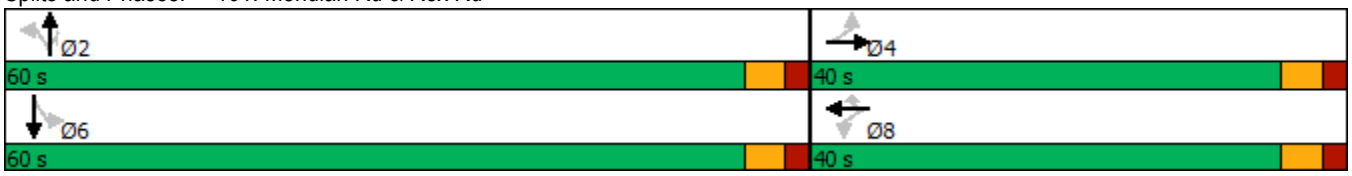
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1259	-	-	354	95	714	1002	-	-
HCM Lane V/C Ratio	0.079	-	-	0.734	1.67	0.037	0.05	-	-
HCM Control Delay (s)	8.1	-	-	38.7	$ 420.1	10.2	8.8	-	-
HCM Lane LOS	A	-	-	E	F	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	5.6	12.7	0.1	0.2	-	-

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	2	81	126	20	24	100	327	243	47	283
Future Volume (vph)	2	81	126	20	24	100	327	243	47	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)	40.0	40.0	40.0	40.0	40.0	60.0	60.0	60.0	60.0	60.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%	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
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 Effct Green (s)		22.8		22.8	22.8	55.1	55.1	55.1	55.1	55.1
Actuated g/C Ratio		0.26		0.26	0.26	0.63	0.63	0.63	0.63	0.63
v/c Ratio		0.50		0.75	0.06	0.15	0.28	0.22	0.08	0.26
Control Delay		17.9		52.3	9.4	8.4	8.8	1.7	7.9	8.7
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		17.9		52.3	9.4	8.4	8.8	1.7	7.9	8.7
LOS		B		D	A	A	A	A	A	A
Approach Delay		17.9		46.3			6.2			8.5
Approach LOS		B		D			A			A

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 88	
Natural Cycle: 50	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 13.9	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



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	5	154	1	2	234	3	5	6	8	14	10	17
Future Vol, veh/h	5	154	1	2	234	3	5	6	8	14	10	17
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	5	162	1	2	246	3	5	6	8	15	11	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	249	0	0	163	0	0	439	426	163	432	425	248
Stage 1	-	-	-	-	-	-	173	173	-	252	252	-
Stage 2	-	-	-	-	-	-	266	253	-	180	173	-
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	1323	-	-	1416	-	-	528	520	882	536	521	793
Stage 1	-	-	-	-	-	-	829	756	-	754	698	-
Stage 2	-	-	-	-	-	-	739	698	-	824	756	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1323	-	-	1416	-	-	506	517	882	524	518	793
Mov Cap-2 Maneuver	-	-	-	-	-	-	506	517	-	524	518	-
Stage 1	-	-	-	-	-	-	826	753	-	751	697	-
Stage 2	-	-	-	-	-	-	710	697	-	806	753	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	11	11.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	622	1323	-	-	1416	-	-	608
HCM Lane V/C Ratio	0.032	0.004	-	-	0.001	-	-	0.071
HCM Control Delay (s)	11	7.7	0	-	7.5	0	-	11.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	152	193	6	20	45
Future Vol, veh/h	16	152	193	6	20	45
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	17	160	203	6	21	47

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	209	0	-	0	400	206
Stage 1	-	-	-	-	206	-
Stage 2	-	-	-	-	194	-
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	1362	-	-	-	606	835
Stage 1	-	-	-	-	829	-
Stage 2	-	-	-	-	839	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1362	-	-	-	599	835
Mov Cap-2 Maneuver	-	-	-	-	599	-
Stage 1	-	-	-	-	819	-
Stage 2	-	-	-	-	839	-

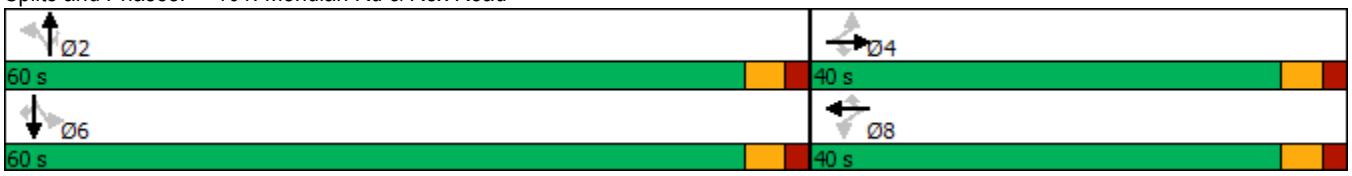
Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1362	-	-	-	745
HCM Lane V/C Ratio	0.012	-	-	-	0.092
HCM Control Delay (s)	7.7	-	-	-	10.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	34	125	219	88	60	300	475	65	34	650	10
Future Volume (vph)	10	34	125	219	88	60	300	475	65	34	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 Effct Green (s)	19.1	19.1	19.1	19.1	19.1	19.1	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	0.66	0.66	0.66	0.66	0.66	0.66
v/c Ratio	0.04	0.08	0.29	0.74	0.22	0.15	0.69	0.22	0.06	0.06	0.30	0.01
Control Delay	24.2	25.0	6.4	44.8	27.0	7.7	21.1	6.9	2.2	7.2	7.4	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.2	25.0	6.4	44.8	27.0	7.7	21.1	6.9	2.2	7.2	7.4	1.7
LOS	C	C	A	D	C	A	C	A	A	A	A	A
Approach Delay		11.3			34.5			11.6			7.3	
Approach LOS		B			C			B			A	

Intersection Summary		
Cycle Length: 100		
Actuated Cycle Length: 84.4		
Natural Cycle: 60		
Control Type: Semi Act-Uncoord		
Maximum v/c Ratio: 0.74		
Intersection Signal Delay: 14.2	Intersection LOS: B	
Intersection Capacity Utilization 65.9%	ICU Level of Service C	
Analysis Period (min) 15		

Splits and Phases: 101: Meridian Rd & Rex Road



Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	31	187	111	128	193	52
Future Vol, veh/h	31	187	111	128	193	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	300	0	250	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	2	2	1
Mvmt Flow	33	197	117	135	203	55

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	572	203	258	0	-	0
Stage 1	203	-	-	-	-	-
Stage 2	369	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	483	840	1313	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	702	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	440	840	1313	-	-	-
Mov Cap-2 Maneuver	440	-	-	-	-	-
Stage 1	759	-	-	-	-	-
Stage 2	702	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.1	3.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1313	-	440	840	-	-
HCM Lane V/C Ratio	0.089	-	0.074	0.234	-	-
HCM Control Delay (s)	8	-	13.8	10.6	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.2	0.9	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	154	22	14	225	15	14
Future Vol, veh/h	154	22	14	225	15	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	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	162	23	15	237	16	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	185	0	441	174
Stage 1	-	-	-	-	174	-
Stage 2	-	-	-	-	267	-
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	-	-	1390	-	574	869
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	778	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1390	-	568	869
Mov Cap-2 Maneuver	-	-	-	-	568	-
Stage 1	-	-	-	-	847	-
Stage 2	-	-	-	-	778	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	682	-	-	1390	-
HCM Lane V/C Ratio	0.045	-	-	0.011	-
HCM Control Delay (s)	10.5	-	-	7.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

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	23	240	7	9	250	15	3	3	6	9	4	13
Future Vol, veh/h	23	240	7	9	250	15	3	3	6	9	4	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	253	7	9	263	16	3	3	6	9	4	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	279	0	0	260	0	0	603	602	257	598	597	271
Stage 1	-	-	-	-	-	-	305	305	-	289	289	-
Stage 2	-	-	-	-	-	-	298	297	-	309	308	-
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	1289	-	-	1304	-	-	411	414	782	416	416	770
Stage 1	-	-	-	-	-	-	705	662	-	721	673	-
Stage 2	-	-	-	-	-	-	711	668	-	703	660	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1289	-	-	1304	-	-	391	402	782	401	404	770
Mov Cap-2 Maneuver	-	-	-	-	-	-	391	402	-	401	404	-
Stage 1	-	-	-	-	-	-	689	647	-	705	668	-
Stage 2	-	-	-	-	-	-	688	663	-	679	645	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.3	12	12.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	526	1289	-	-	1304	-	-	528
HCM Lane V/C Ratio	0.024	0.019	-	-	0.007	-	-	0.052
HCM Control Delay (s)	12	7.8	0	-	7.8	0	-	12.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	54	200	241	23	13	30
Future Vol, veh/h	54	200	241	23	13	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	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	57	211	254	24	14	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	278	0	-	0	591	266
Stage 1	-	-	-	-	266	-
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	1285	-	-	-	470	773
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	732	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1285	-	-	-	449	773
Mov Cap-2 Maneuver	-	-	-	-	449	-
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	732	-

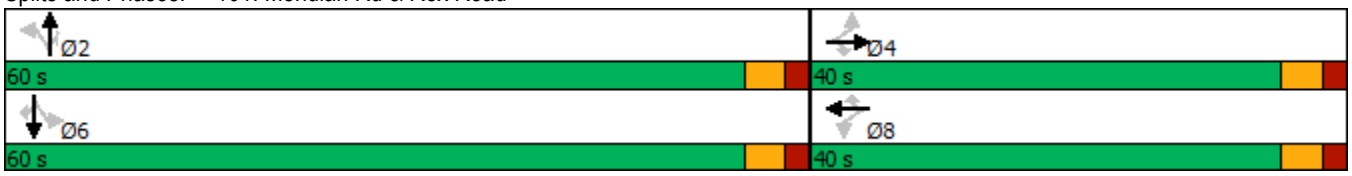
Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1285	-	-	-	635
HCM Lane V/C Ratio	0.044	-	-	-	0.071
HCM Control Delay (s)	7.9	-	-	-	11.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	76	277	173	78	56	150	450	249	82	430	10
Future Volume (vph)	10	76	277	173	78	56	150	450	249	82	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 Effct Green (s)	16.3	16.3	16.3	16.3	16.3	16.3	55.2	55.2	55.2	55.2	55.2	55.2
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.20	0.68	0.68	0.68	0.68	0.68	0.68
v/c Ratio	0.04	0.21	0.53	0.69	0.22	0.16	0.25	0.20	0.22	0.14	0.19	0.01
Control Delay	25.3	27.8	7.2	43.9	27.9	8.4	7.4	5.8	1.4	6.6	5.7	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	27.8	7.2	43.9	27.9	8.4	7.4	5.8	1.4	6.6	5.7	1.5
LOS	C	C	A	D	C	A	A	A	A	A	A	A
Approach Delay		12.0			33.4			4.8			5.8	
Approach LOS		B			C			A			A	

Intersection Summary		
Cycle Length: 100		
Actuated Cycle Length: 81.5		
Natural Cycle: 45		
Control Type: Semi Act-Uncoord		
Maximum v/c Ratio: 0.69		
Intersection Signal Delay: 10.6	Intersection LOS: B	
Intersection Capacity Utilization 51.1%	ICU Level of Service A	
Analysis Period (min) 15		

Splits and Phases: 101: Meridian Rd & Rex Road



Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	156	238	138	200	62
Future Vol, veh/h	37	156	238	138	200	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	300	0	250	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	2	2	1
Mvmt Flow	39	164	251	145	211	65

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	858	211	276	0	-	0
Stage 1	211	-	-	-	-	-
Stage 2	647	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	329	832	1293	-	-	-
Stage 1	827	-	-	-	-	-
Stage 2	523	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	265	832	1293	-	-	-
Mov Cap-2 Maneuver	265	-	-	-	-	-
Stage 1	667	-	-	-	-	-
Stage 2	523	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.4	5.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1293	-	265	832	-	-
HCM Lane V/C Ratio	0.194	-	0.147	0.197	-	-
HCM Control Delay (s)	8.5	-	20.9	10.4	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.7	-	0.5	0.7	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	249	5	4	268	6	5
Future Vol, veh/h	249	5	4	268	6	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	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	262	5	4	282	6	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	267	0	555	265
Stage 1	-	-	-	-	265	-
Stage 2	-	-	-	-	290	-
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	-	493	774
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	759	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1297	-	492	774
Mov Cap-2 Maneuver	-	-	-	-	492	-
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	759	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	590	-	-	1297	-
HCM Lane V/C Ratio	0.02	-	-	0.003	-
HCM Control Delay (s)	11.2	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	171	9	4	305	3	33	6	18	14	10	17
Future Vol, veh/h	5	171	9	4	305	3	33	6	18	14	10	17
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	5	180	9	4	321	3	35	6	19	15	11	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	324	0	0	189	0	0	540	527	185	538	530	323
Stage 1	-	-	-	-	-	-	195	195	-	331	331	-
Stage 2	-	-	-	-	-	-	345	332	-	207	199	-
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	1241	-	-	1385	-	-	453	456	857	456	455	720
Stage 1	-	-	-	-	-	-	807	739	-	684	645	-
Stage 2	-	-	-	-	-	-	671	644	-	797	736	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1241	-	-	1385	-	-	431	452	857	438	451	720
Mov Cap-2 Maneuver	-	-	-	-	-	-	431	452	-	438	451	-
Stage 1	-	-	-	-	-	-	803	735	-	681	642	-
Stage 2	-	-	-	-	-	-	641	641	-	769	732	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	12.9	12.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	514	1241	-	-	1385	-	-	527
HCM Lane V/C Ratio	0.117	0.004	-	-	0.003	-	-	0.082
HCM Control Delay (s)	12.9	7.9	0	-	7.6	0	-	12.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	215	208	6	20	45
Future Vol, veh/h	16	215	208	6	20	45
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	17	226	219	6	21	47

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	225	0	-	0	482	222
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	260	-
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	1344	-	-	-	543	818
Stage 1	-	-	-	-	815	-
Stage 2	-	-	-	-	783	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1344	-	-	-	536	818
Mov Cap-2 Maneuver	-	-	-	-	536	-
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	783	-

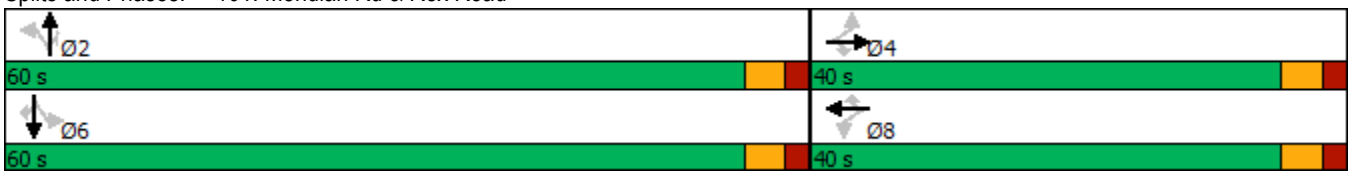
Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1344	-	-	-	704
HCM Lane V/C Ratio	0.013	-	-	-	0.097
HCM Control Delay (s)	7.7	-	-	-	10.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	38	125	286	104	76	300	475	83	38	650	10
Future Volume (vph)	10	38	125	286	104	76	300	475	83	38	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 Effct Green (s)	24.3	24.3	24.3	24.3	24.3	24.3	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	0.62	0.62	0.62	0.62	0.62	0.62
v/c Ratio	0.03	0.08	0.25	0.81	0.21	0.16	0.75	0.23	0.09	0.07	0.32	0.01
Control Delay	22.6	23.4	5.5	47.5	25.4	6.3	28.2	9.0	2.5	9.4	9.6	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	22.6	23.4	5.5	47.5	25.4	6.3	28.2	9.0	2.5	9.4	9.6	2.2
LOS	C	C	A	D	C	A	C	A	A	A	A	A
Approach Delay		10.4			35.8			15.1			9.5	
Approach LOS		B			D			B			A	

Intersection Summary		
Cycle Length: 100		
Actuated Cycle Length: 89.7		
Natural Cycle: 60		
Control Type: Semi Act-Uncoord		
Maximum v/c Ratio: 0.81		
Intersection Signal Delay: 17.4	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



Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	246	125	128	193	52
Future Vol, veh/h	35	246	125	128	193	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	300	0	250	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	2	2	1
Mvmt Flow	37	259	132	135	203	55

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	602	203	258	0	-	0
Stage 1	203	-	-	-	-	-
Stage 2	399	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	464	840	1313	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	680	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	417	840	1313	-	-	-
Mov Cap-2 Maneuver	417	-	-	-	-	-
Stage 1	749	-	-	-	-	-
Stage 2	680	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1313	-	417	840	-	-
HCM Lane V/C Ratio	0.1	-	0.088	0.308	-	-
HCM Control Delay (s)	8	-	14.5	11.2	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.3	1.3	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	163	39	26	227	85	67
Future Vol, veh/h	163	39	26	227	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	172	41	27	239	89	71

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	213	0	465	172
Stage 1	-	-	-	-	172	-
Stage 2	-	-	-	-	293	-
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	-	-	1357	-	556	872
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	757	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1357	-	545	872
Mov Cap-2 Maneuver	-	-	-	-	545	-
Stage 1	-	-	-	-	841	-
Stage 2	-	-	-	-	757	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	653	-	-	1357	-
HCM Lane V/C Ratio	0.245	-	-	0.02	-
HCM Control Delay (s)	12.3	-	-	7.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1	-	-	0.1	-

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	23	334	45	21	302	15	24	3	12	9	4	13
Future Vol, veh/h	23	334	45	21	302	15	24	3	12	9	4	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	352	47	22	318	16	25	3	13	9	4	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	334	0	0	399	0	0	803	802	376	802	817	326
Stage 1	-	-	-	-	-	-	424	424	-	370	370	-
Stage 2	-	-	-	-	-	-	379	378	-	432	447	-
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	1231	-	-	1160	-	-	302	317	670	303	311	718
Stage 1	-	-	-	-	-	-	608	587	-	652	620	-
Stage 2	-	-	-	-	-	-	643	615	-	604	573	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1231	-	-	1160	-	-	282	302	670	284	296	718
Mov Cap-2 Maneuver	-	-	-	-	-	-	282	302	-	284	296	-
Stage 1	-	-	-	-	-	-	593	572	-	636	606	-
Stage 2	-	-	-	-	-	-	612	601	-	575	559	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.5	16.8	14.4
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	345	1231	-	-	1160	-	-	411
HCM Lane V/C Ratio	0.119	0.02	-	-	0.019	-	-	0.067
HCM Control Delay (s)	16.8	8	0	-	8.2	0	-	14.4
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	54	250	326	23	13	30
Future Vol, veh/h	54	250	326	23	13	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	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	57	263	343	24	14	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	367	0	-	0	732	355
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	377	-
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	1192	-	-	-	388	689
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	694	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1192	-	-	-	369	689
Mov Cap-2 Maneuver	-	-	-	-	369	-
Stage 1	-	-	-	-	676	-
Stage 2	-	-	-	-	694	-

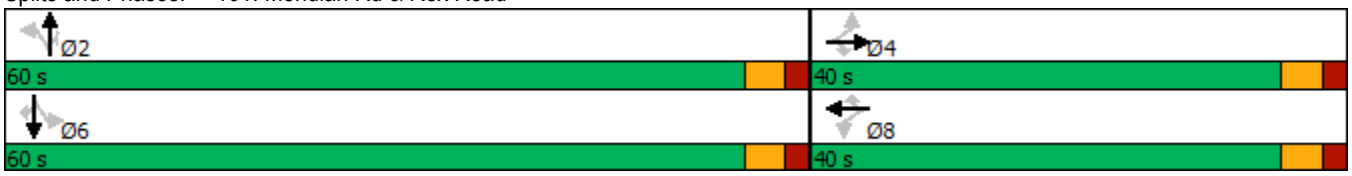
Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1192	-	-	-	546
HCM Lane V/C Ratio	0.048	-	-	-	0.083
HCM Control Delay (s)	8.2	-	-	-	12.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	97	277	224	89	67	150	450	341	103	430	10
Future Volume (vph)	10	97	277	224	89	67	150	450	341	103	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 Effct Green (s)	20.7	20.7	20.7	20.7	20.7	20.7	55.3	55.3	55.3	55.3	55.3	55.3
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24	0.24	0.64	0.64	0.64	0.64	0.64	0.64
v/c Ratio	0.03	0.23	0.48	0.76	0.21	0.16	0.27	0.21	0.31	0.19	0.20	0.01
Control Delay	23.6	26.5	6.0	45.7	26.2	7.0	9.6	7.6	1.8	8.9	7.5	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	23.6	26.5	6.0	45.7	26.2	7.0	9.6	7.6	1.8	8.9	7.5	2.0
LOS	C	C	A	D	C	A	A	A	A	A	A	A
Approach Delay		11.6			34.3			5.8			7.7	
Approach LOS		B			C			A			A	

Intersection Summary		
Cycle Length: 100		
Actuated Cycle Length: 86.1		
Natural Cycle: 45		
Control Type: Semi Act-Uncoord		
Maximum v/c Ratio: 0.76		
Intersection Signal Delay: 12.1	Intersection LOS: B	
Intersection Capacity Utilization 53.9%	ICU Level of Service A	
Analysis Period (min) 15		

Splits and Phases: 101: Meridian Rd & Rex Road



Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	41	202	319	138	200	67
Future Vol, veh/h	41	202	319	138	200	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	300	0	250	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	2	2	1
Mvmt Flow	43	213	336	145	211	71

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1028	211	282	0	-	0
Stage 1	211	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	260	832	1286	-	-	-
Stage 1	827	-	-	-	-	-
Stage 2	436	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	192	832	1286	-	-	-
Mov Cap-2 Maneuver	192	-	-	-	-	-
Stage 1	611	-	-	-	-	-
Stage 2	436	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.9	6.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1286	-	192	832	-	-
HCM Lane V/C Ratio	0.261	-	0.225	0.256	-	-
HCM Control Delay (s)	8.8	-	29.1	10.8	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	1.1	-	0.8	1	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	256	100	76	280	58	48
Future Vol, veh/h	256	100	76	280	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	269	105	80	295	61	51

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	374	0	724	269
Stage 1	-	-	-	-	269	-
Stage 2	-	-	-	-	455	-
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	-	-	1184	-	393	770
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	639	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1184	-	366	770
Mov Cap-2 Maneuver	-	-	-	-	366	-
Stage 1	-	-	-	-	723	-
Stage 2	-	-	-	-	639	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	14.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	480	-	-	1184	-
HCM Lane V/C Ratio	0.232	-	-	0.068	-
HCM Control Delay (s)	14.8	-	-	8.3	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0.2	-

Queuing and Blocking Report

Intersection: 41: Rex Road & Estates Access

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	28	54
Average Queue (ft)	2	31
95th Queue (ft)	15	49
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)	28	92
Average Queue (ft)	3	42
95th Queue (ft)	18	70
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 & Estates Access

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	52	58
Average Queue (ft)	13	22
95th Queue (ft)	38	49
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	WB	NB
Directions Served	R	L	LR
Maximum Queue (ft)	10	59	78
Average Queue (ft)	0	18	38
95th Queue (ft)	8	46	63
Link Distance (ft)			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

TRANSPORTATION
CONSULTANTS, INC.

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.