

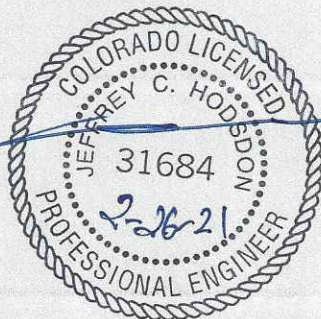


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Judge Orr Eastonville Commercial Center  
Traffic Impact Study  
PCD File No. SKP203  
(LSC #194730)  
February 5, 2021

**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.

A handwritten signature in blue ink, appearing to read 'Jeffrey C. Hodson', written over a horizontal line.

2-8-21  
Date

# **Judge Orr Eastonville Commercial Center Master Traffic Impact Study**

Prepared for:

Phillip W. Buford and Mary Jean Berg Buford

PO Box 100

17229 Highway 96

Ordway, CO 81063

FEBRUARY 5, 2021

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LSC Transportation Consultants, Inc.

Prepared by: Jeffrey C. Hodsdon, P.E.

LSC #194730



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Traffic Count Reports

Synchro LOS Reports





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February 5, 2021

Phillip W. Buford and Mary Jean Berg Buford  
PO Box 100  
17229 Highway 96  
Ordway, CO 81063

RE: Judge Orr Eastonville Commercial Center  
El Paso County, CO  
Master Traffic Impact Study  
LSC #194730  
PCD File No. SKP203

Dear Mr. and Mrs. Buford,

LSC Transportation Consultants, Inc. has prepared this Master Traffic Impact Study for the proposed Judge Orr Eastonville Commercial Center in El Paso County, CO. Located generally northeast of the intersection of Eastonville Road/Judge Orr Road (El Paso County parcel ID 4232302003), the 13.72-acre site is currently vacant. Access to the site is proposed to Judge Orr Road (south access) and Eastonville Road (west access). No direct access is proposed to US Highway 24 (US Hwy 24). This report has been prepared for submittal to El Paso County.

## REPORT CONTENTS

The preparation of this report included the following:

- An inventory of existing roadway and traffic conditions on major thoroughfares adjacent to the site, including surface conditions, functional classification, widths, pavement markings, traffic-control signs, posted speed limits, intersection and access spacing, roadway and intersection alignments, roadway grades, and auxiliary turn lanes;
- Weekday peak-hour turning-movement traffic counts at the intersections of Judge Orr Road/Meridian Ranch Road/Eastonville Road and US Hwy 24/Judge Orr Road;
- Estimated average weekday traffic (AWT) volumes adjacent to the proposed development on Judge Orr Road, Eastonville Road, Meridian Ranch Road, and US Hwy 24;
- Projections of 20-year background traffic volumes on Judge Orr Road, Eastonville Road, Meridian Ranch Road, and US Hwy 24;
- The proposed site land use and access plan;

- Estimates of average weekday and weekday peak-hour trip generation for the proposed development and the estimated directional distribution of site-generated vehicle trips on roadways and intersections adjacent to and in the vicinity of the site;
- Projected site-generated and resulting total peak-hour intersection traffic volumes at the following study-area intersections: Judge Orr Road/Meridian Ranch Road/Eastonville Road and US Hwy 24/Judge Orr Road;
- Projected total daily and peak-hour traffic volumes at the study-area intersections;
- Intersection level of service (LOS) analysis at the study-area intersections;
- Evaluation of short- and long-term projected intersection volumes to determine potential requirements for any auxiliary right-/left-turn lanes at the proposed site access points, based on the criteria in El Paso County's *Engineering Criteria Manual (ECM)*. Also included are potential long-term lane requirements; and
- Findings and recommendations for submittal to El Paso County.

#### **LIST OF OTHER TRAFFIC REPORTS USED IN THE PREPARATION OF THIS REPORT**

The following previously-completed traffic reports are located adjacent to the proposed Judge Orr Eastonville Commercial Center and were used to provide reference and background information

- "Meadowlake Ranch" – dated May 29, 2019
- "Falcon Crossing" – dated February 5, 2007
- "Liberty Tree Academy" – dated September 19, 2020
- Meridian Ranch – several reports
- Grandview Reserve – dated December 15, 2020

#### **LAND USE AND ACCESS**

##### **Proposed Land Uses**

Figure 1 shows the site location relative to the adjacent and nearby roadways. Located generally northeast of the intersection of Eastonville Road/Judge Orr Road (El Paso County parcel ID 4232302003), the site is currently vacant. Anticipated land uses for the 13.72-acre site include:

- 151 – Mini-Warehouse (500 storage units)
- 565 – Day Care Center (approximately 90 students)
- 820 – Shopping Center (18 acres, assuming a 15-percent floor area ratio)
- 912 – Drive-in Bank (7,000 square feet)

##### Proposed Site Access Locations

Figure 1 shows the area circulation and access points to the adjacent public roads, while Figure 2 contains the proposed site plan showing the proposed land uses, on-site circulation, and proposed access points. The access points may be private street/driveway connections or they

may be developed as public streets. This will be determined later, but this report and the deviations treat them as potential public street connections. Two full-movement access points/potential public street intersections are proposed:

- With Judge Orr Road – located approximately 1,235 feet east of Eastonville Road
- With Eastonville Road – future extension of Copenhagen Road

Per Standard 2.2.5.C of the ECM, ¼-mile (1,320 feet) is required on Urban Minor Arterials between public street intersections. The following proposed public street intersection spacings are currently shown on the conceptual site plan, as shown in Deviation Exhibit 1:

- 860 feet – on Eastonville Road between Judge Orr Road and the existing intersection of Eastonville/Copenhagen Road. The north site street connection is proposed to tie into this existing intersection.
- 360 feet – on Eastonville Road between the existing Eastonville/Tex Tan Road intersection and existing intersection of Eastonville/Copenhagen Road intersection. The north street connection for this site is proposed to tie into this latter existing intersection.
- 1,235 feet – along Judge Orr Road between Eastonville Road and the proposed south site street connection (which has been shifted, with this submittal, to align with the anticipated future street proposed for the property south of Judge Orr Road).
- 770 feet – along Judge Orr Road between the Meadowlake Ranch main entry street the proposed intersection of Judge Orr Road/the south site street connection/the anticipated future street proposed for the property south of Judge Orr Road

The proposed public street intersection spacings are less than one-quarter mile along both adjacent roads, which does **not** meet ECM criteria for intersection spacing. As such, deviation request(s) would be required for the proposed site public street intersection locations.

## **SIGHT DISTANCE**

Intersection sight distances prescribed in Tables 2-21, in ECM Section 2.3.6.G will need to be maintained along the site frontage of Judge Orr Road and Eastonville Road for the proposed new intersection on Judge Orr Road and the new east leg of the Eastonville/Copenhagen Road intersection. Any site improvements including (but not limited to) landscaping, parking areas, buildings, monument signs, etc. must not impede the required lines of sight. Note: there are no significant vertical curves on Judge Orr Road or Eastonville Road in the vicinity of the site that would limit sight distance.

Note: Once the roadway intersection locations are solidified at the preliminary plan/final plat stage, a sight distance analysis and sight distance exhibit(s) will be provided.

## **ROAD AND TRAFFIC CONDITIONS AND MTCP CLASSIFICATION**

Figure 1 shows the roads adjacent to and in the vicinity of the site. Adjacent roads serving the site are identified below followed by a brief description of each:

**US Highway 24 (US Hwy 24)** is a state highway extending locally from the City of Colorado Springs to Peyton in a northeasterly direction and then continuing east. US Hwy 24 is planned to be widened to four lanes through the Falcon area and is classified as an E-X – Expressway by the Colorado Department of Transportation (CDOT) and a 4-lane Principal Arterial on the *El Paso County Major Transportation Corridors Plan (MTCP)*. The posted speed limit on US Hwy 24 adjacent to the site is 65 miles per hour (mph). Auxiliary left-turn lanes currently exist on the northbound and southbound approaches at the signalized intersection of US Hwy 24/Judge Orr.

**Judge Orr Road** is a two-lane roadway that extends east from Eastonville Road across most of El Paso County. It is shown on the *El Paso County 2040 Major Transportation Corridors Plan* and the *Preserved Corridor Network Plan* as a four-lane Minor Arterial adjacent to the site (and west of Curtis Road). Posted speed limits adjacent to the site range from 45 to 55 mph. West of Curtis Road, the speed limit is 45 mph, while it generally increases to 55 mph east of Curtis Road. The intersection of US Hwy 24/Judge Orr is currently signalized. Due to the oblique angle of this intersection, the eastbound and westbound approaches are split-phased. The *US 24 Access Control Plan/PEL Study* shows future plans for realignment of Judge Orr at US Hwy 24 to improve the intersection and provide an intersection angle closer to 90 degrees.

**Eastonville Road** is shown as a two-lane Minor Arterial on the *El Paso County 2040 Major Transportation Corridors Plan* and the *Preserved Corridor Network Plan*. A two-lane roadway extending northeast from Meridian Road past Hodgen Road, Eastonville Road has a posted speed limit of 35 mph. All approaches at the four-way stop-sign-controlled intersection of Judge Orr Road/Eastonville Road have an exclusive left-turn lane, while the northwest-bound approach also has an auxiliary right-turn lane. South of Stapleton Drive, Eastonville Road's cross-section is consistent with a two-lane Urban Collector cross-section with a painted two-way left-turn lane (TWLTL).

**Meridian Ranch Road** extends from Eastonville Road to Sunset Crater Drive and is shown as a two-lane Collector on the MTCP. Judge Orr Road transitions to Meridian Road northwest of Eastonville Road and has a posted speed limit of 35 mph. The southeast-bound approach has a painted TWLTL with a shared through/right-turn lane.

### Existing Traffic Volumes

Vehicular turning-movement counts were conducted at the following intersections from 6:30-8:30 a.m. and from 4:00-6:00 p.m. on Wednesday, October 2, 2019:

- Judge Orr Road/Eastonville Road
- US Hwy 24/Judge Orr Road
- Woodmen Hills Drive/Eastonville Road

The Woodmen Hills Drive/Eastonville Road intersection has been added per staff comment. Vehicular turning-movement counts were conducted at the intersection of Woodmen Hills Drive/Eastonville Road (Thursday, December 3, 2020 from 6:30 – 8:30 a.m. and Wednesday, December 2, 2020 from 4:00 – 6:00 p.m.). Note: These volumes are likely affected by the COVID-



19 pandemic. Modified school schedules are likely having a significant effect on volumes. Given the numerous area schools, and atypical current volumes, this report focused on the long-term background and total volume projections for evaluating impacts at this intersection (although the actual December 2020 counted volumes have been included, along with “existing plus site” volumes, for completeness).

Per criteria in ECM Section B.2.3.A – Study Area Basis for Master TIS, “additional off-site major intersections where the project contributes a 10-percent impact to any approach leg of the intersection.”

The intersection of Stapleton/Eastonville is not included as a study-area intersection, as the 10-percent threshold is not exceeded.

Figure 3 shows these turning-movement volumes, as well as the average weekday traffic volumes (estimated based on factored peak-hour count data) on the study-area roadways, including at the commercial access points north of the site. Raw count data is attached.

## **PEDESTRIAN AND BICYCLE FACILITIES**

Judge Orr Road and Eastonville Road do not currently have sidewalks or bicycle lanes to accommodate pedestrians or bicycles, but sidewalks would be required along both roadways following site buildout. The proposed subdivision roads are likely to be Urban roadways and, per ECM criteria, would require sidewalks.

The applicant plans to create a trail corridor along the north side of Judge Orr Road that could potentially be part of a connection to the Rock Island Trail (along the north side of US Hwy 24).

## **TRIP GENERATION**

Estimates of the vehicle trips projected to be generated by the proposed Judge Orr Eastonville Commercial Center development have been made using the nationally published trip-generation rates from *Trip Generation, 10<sup>th</sup> Edition, 2017* by the Institute of Transportation Engineers (ITE). Corresponding trip-generation rates from the following ITE Land Use Categories have been used to develop the trip-generation estimates for site buildout:

- 151 – Mini-Warehouse
- 565 – Day Care Center
- 820 – Shopping Center
- 912 – Drive-in Bank

Table 1 below presents a summary of the estimated external site trip generation. A detailed trip-generation estimate for the site, including ITE rates for the proposed land uses, is presented in Table 6 (attached). Figure 2 shows the layout within the proposed Judge Orr Eastonville Commercial Center site.

**Table 1: Estimated External Site Vehicle-Trip Generation**

Analysis Period	Weekday		
	In	Out	Total
Morning Peak Hour	191	132	323
Afternoon Peak Hour	359	383	762
Daily/24-hour	3,399	3,399	6,798

The proposed Judge Orr Eastonville Commercial Center site is projected to generate about 6,798 total vehicle trips on the average weekday during a 24-hour period, with approximately half entering and half exiting the site. During the morning peak hour, approximately 191 entering vehicles and 132 exiting vehicles would be generated. Approximately 359 entering and 383 exiting vehicles would be generated by the site during the afternoon peak hour.

#### **Pass-By and Diverted Trips**

The total number of trips to be generated by the site has also been aggregated by trip type to account for pass-by and diverted trips. A pass-by trip is one made by a motorist who would already be on an adjacent road regardless of the proposed development, but who stops in at the site while passing by. That pass-by motorist would then continue on his or her way to a final destination in the original direction. Table 6 (attached) shows the percentage of the trips generated that were assumed to be pass-by trips. Non-primary trip percentage has been based on data from the *Trip Generation Handbook - An ITE Proposed Recommended Practice, 3rd Edition, 2014* by ITE and adjustments by LSC for site-specific conditions.

LSC has used the average ITE percentage as pass-by trips for this site to include trips from adjacent Judge Orr Road and Eastonville Road. Diverted trips from adjacent US Hwy 24 are considered non-pass-by trips. These trips would be added to Judge Orr Road and would result in altered turning movements at the intersection of US Hwy 24/Judge Orr Road, but generally would not add “new impact” trips to US Hwy 24. ITE-average percent of non-primary trips for shopping-related land used for this study are summarized in Table 6. The resulting primary and non-primary trips are shown in Table 6.

ITE *Trip Generation* estimated that the proposed Judge Orr Eastonville Commercial Center development is projected to generate about 4,636 total non-pass-by vehicle trips on the average weekday during a 24-hour period, with about half entering the site and half exiting the site during the afternoon peak hour.

## **TRIP DISTRIBUTION AND ASSIGNMENT**

### **Trip Directional Distribution**

The directional-distribution estimate of site-generated vehicle trips to the study-area roads and intersections is a necessary component in determining the site's traffic impacts. Figure 4 shows the percentages of the site-generated vehicle trips projected to be oriented to and from the site's major approaches. Estimates have been based on the following factors: the proposed new land use, the area roadway system serving the site, and the site's geographic location relative to the overall greater El Paso County/Colorado Springs area. Directional-distribution splits from LSC's previously-conducted Meadowlake Ranch traffic study (dated May 19, 2019) were considered when formulating the trip distribution percentages.

### **Site-Generated Traffic**

Site-generated traffic volumes have been estimated at the following intersections:

- Judge Orr Road/Eastonville Road
- Judge Orr Road/proposed south full-movement site access
- Eastonville Road/Copenhagen Road/proposed north full-movement site access
- US Hwy 24/Judge Orr Road

These volumes have been calculated by applying the directional-distribution percentages estimated by LSC (from Figure 4) to the trip-generation estimates (from Table 6). Figure 5 shows the projected site-generated traffic volumes for the weekday morning and afternoon peak hours. The figure also shows the estimated average daily traffic volumes (ADTs).

### **Existing + Site-Generated Traffic Volumes**

Figure 6 shows the sum of the 2023 background traffic volumes (from Figure 3) and site-generated peak-hour traffic volumes (shown in Figure 5). These volumes represent the projected short-term total traffic following site buildout. Laneage and traffic control at the study-area intersections following site buildout are shown in Figure 6.

### **2040 Background Traffic Volumes**

Long-term background traffic volumes are estimates by LSC, based on projected 2040 volumes adjacent to the site shown in Map 9 of the MTCP. Additionally, traffic generated by planned adjacent and nearby developments, such as Meadowlake Ranch, Liberty Tree Academy, and Falcon Crossing, has been included in 2040 background traffic volumes.

Projected long-term background traffic volume projections along Eastonville Road in this vicinity may be conservative. These 2040 background volumes were based, in part, on site-generated traffic from several nearby studies. Oftentimes, combining site-generated volumes from several

TIS reports may result in over-estimation – for several reasons. Paired trips between developments are not likely accounted for. TIS reports typically assume buildout of the development, whereas buildout may not be reached by the horizon year. Additionally, cumulative projected 2040 background volumes on a roadway such as Eastonville may be subject to the effects of future congestion. Drivers may avoid busy intersections (such as this one) if congestion becomes problematic and, thus, would find alternative routes. Many of these can often be accounted for using a large macroscopic subarea or regional transportation model. The next iteration of the El Paso County MTCP transportation modeling will likely provide updated overall long-term estimates for many of these roadways. A separate scenario showing “moderate growth” estimates have been prepared.

Volumes and LOS results at the intersection of Woodmen Hills Drive/Eastonville Road are shown in Figure 7b, while those for Copenhagen Road/Eastonville Road are shown in Figure 7c. All other study-area volumes and LOS results are shown in Figure 7a.

Also included are estimates of “Moderated” total-traffic volumes. These have been shown specifically for intersections with LOS E and F turning movements (note: although “moderated” volumes under this alternate scenario have not been shown for every intersection, the moderated background volumes would pass through the other intersections as well). Please refer to the previous section for reasoning behind the moderated background traffic and resulting moderated total volumes shown in these figures for select intersections.

Future access to the currently-undeveloped parcel to the south would likely be required to align with this site’s access on Judge Orr Road. LSC has assumed single-family residential development on 49 acres, with the potential for additional future single-family residential dwelling units northeast of this area (east of the drainage channel. Approximately 60 percent of future residential traffic from this south parcel was assumed to orient to/from US Hwy 24, while the remainder would access the site via the Eastonville/Judge Orr/Meridian Ranch intersection to the west.

## **2040 Total Traffic Volumes**

Figure 8a, Figure 8b, and Figure 8c show the sum of 2040 background traffic volumes (from Figure 7) plus site-generated traffic volumes (from Figure 5). Volumes and LOS results at the intersection of Woodmen Hills Drive/Eastonville Road are shown in Figure 8b, while those for Copenhagen Road/Eastonville Road are shown in Figure 8c. All other study-area volumes and LOS results are shown in Figure 8a.

Also included are estimates of “Moderated” total traffic volumes. These have been shown specifically for intersections with LOS E and F turning movements (note: although “moderated” volumes under this alternate scenario have not been shown for every intersection, the moderated background volumes would pass through the other intersections as well). Please refer to the previous section for reasoning behind the moderated background traffic and resulting moderated total volumes shown in these figures for select intersections.



## LEVEL OF SERVICE ANALYSIS

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection and is indicated on a scale from "A" to "F." LOS A is indicative of little congestion or delay. LOS F indicates a high level of congestion or delay. Table 2 shows the level of service delay ranges for signalized and unsignalized intersections.

**Table 2: Intersection Levels of Service Delay Ranges**

Level of Service	Signalized Intersections	Unsignalized Intersections
	Average Control Delay (seconds per vehicle)	Average Control Delay (seconds per vehicle) <sup>(1)</sup>
A	10.0 sec or less	10.0 sec or less
B	10.1-20.0 sec	10.1-15.0 sec
C	20.1-35.0 sec	15.1-25.0 sec
D	35.1-55.0 sec	25.1-35.0 sec
E	55.1-80.0 sec	35.1-50.0 sec
F	80.1 sec or more	50.1 sec or more
(1) For unsignalized intersections, if V/C ratio is greater than 1.0 the level of service is LOS F, regardless of the projected average control delay per vehicle.		

LOS values have been included in each figure for each turning movement/approach during the weekday morning and afternoon peak hours for the proposed site-access intersections and off-site intersections in the study area:

- Figure 3: 2020 Existing Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 6: 2020 Background + Site Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 7: 2040 Background Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 8: 2040 Background + Site Traffic, Lane Geometry, Traffic Control, and LOS

**Note: Figure 7 and Figure 8 consist of three separate parts (a, b, and c).**

LOS calculations for long-term scenarios were based upon the recommended lane geometries and traffic controls outlined in the figures above (which were based on recommended improvements in LSC's previously-conducted Meadowlake Ranch traffic study, dated May 19, 2019).

### **Judge Orr Road/Eastonville Road/Meridian Ranch**

#### Short Term

The intersection of Judge Orr/Meridian Ranch/Eastonville is currently all-way, stop-sign-controlled (AWSC). All movements at this intersection currently operate at and are projected to remain at LOS C or better during both peak hours with the addition of site-generated traffic. No modifications would be required to this intersection during the short term.

### Long Term

If the intersection of Judge Orr/Eastonville/Meridian Ranch remains AWSC, several turning movements and single-lane approaches would operate at LOS F during the peak hours, based on the projected long-term background and total volumes. However, if this intersection were either reconstructed as a modern roundabout or signalized, the intersection is projected to operate at LOS C and B during the 2040 morning and afternoon peak hours, respectively.

### **Eastonville Road/Copenhagen Road (Proposed North Site Access)**

#### Short Term

All individual turning movements and approaches are projected to operate at LOS C or better during the short-term as a two-way stop-sign-controlled intersection during both peak hours. Please refer to Figure 6 for recommended lane configurations and LOS summaries at this intersection during the short-term scenario.

#### Long Term

Both the southeast-bound and northwest-bound approaches would operate at LOS E or F during both long-term peak hours, if the intersection were to remain two-way stop-sign-controlled. Given these LOS results, LSC prepared an analysis of this intersection assuming roundabout traffic control. Based on this analysis, all individual turning movements/approaches and the intersection overall would operate at LOS B or better. Note: although this analysis has been completed, this intersection may not be a good candidate for a roundabout or traffic signal control. Moreover, with increased delay in the future for this westbound left-turn movement during peak times, some of the volume shown here would likely shift and use the south access instead and make a right turn onto Judge Orr Road to travel to southbound Eastonville Road or westbound Meridian Ranch Boulevard.

### **Judge Orr Road/Proposed South Site Access**

#### Short-Term

All individual turning movements and approaches are projected to operate at LOS C or better during the short term as a two-way stop-sign-controlled intersection with the addition of an eastbound left-turn deceleration lane. Please refer to Figure 6 for recommended lane configurations and LOS summaries at this intersection during the short-term scenario.

#### Long Term

Both the southbound and northbound left-turning movements would operate at LOS E or F during the long-term afternoon peak hour, if the intersection were to be two-way

stop-sign-controlled. However, all individual turning movements/approaches and the intersection overall would operate at LOS B or better if this south access intersection were to be roundabout-controlled during the long term.

### **US Highway 24/Judge Orr Road**

#### **Short Term**

The intersection of US Hwy 24/Judge Orr is currently signalized. The *US 24 Access Control Plan* shows this intersection realigned to one of two alternate alignments that would provide an intersection angle closer to 90 degrees. All movements at this intersection are currently operating at LOS D or better during the peak hours.

Short-term analysis assumes the proposed realignment has not yet been constructed, but assumes future southbound right-turn deceleration, a southbound right-turn acceleration, and an eastbound right-turn lane. These turn lanes are shown at the intersection of US 24/Judge Orr in CDOT's *US 24 Planning & Environmental Linkages (PEL) Study*. Based on the short-term total traffic volumes and assumed laneage, all movements at this intersection are projected to operate at LOS D or better during the peak hours.

#### **Long-Term**

By 2040, it was assumed that this intersection would be realigned and both Judge Orr Road and US Hwy 24 would be widened to provide two through lanes in each direction. Based on the projected 2040 background and total traffic volumes and the lane geometry shown in Figure 7 and Figure 8, this intersection is projected to operate at an overall LOS D during the peak hours. Some of the minor movements are projected to operate at LOS E during the peak hours. These movements have projected delays in the LOS E range simply because of the likelihood of arrival at the traffic signal at the beginning of the red phase at an intersection with many phases and a long cycle length. This movement would not be considered "failing" since the volume-to-capacity ratio is less than 1.0. The justification is that to progress through traffic along an arterial corridor, the traffic signal offsets and left-turn and side street phase times have been adjusted to favor the through traffic band, which can often result in higher delay for the left-turn movements even though there is sufficient capacity for them.

### **Eastonville Road/Woodmen Hills Drive**

#### **Short Term**

The intersection of Eastonville/Woodmen Hills is currently two-way, stop-sign-controlled (TWSC). All movements at this intersection currently operate at and are projected to remain at LOS B or

better during both peak hours with the addition of site-generated traffic. No modifications would be required to this intersection during the short term.

### Long Term

If the intersection of Eastonville/Woodmen Hills were to remain TWSC, all minor-street turning movements and single-lane approaches would operate at LOS E or worse during the long-term peak hours, based on the projected long-term background and total volumes. Despite these E or worse individual-movement levels of service on the minor street approaches, analysis results show a volume-to-capacity (v/c) ratio to be well below 1.00 for all turning movements/approaches during the long-term buildout traffic scenario. This is not uncommon for minor street approaches on arterial streets to operate at levels of service E (or even F) during peak periods. It is unlikely that a traffic-signal warrant would be met at this intersection.

Note: long-term background traffic volume projections at this intersection are likely conservative, suggesting “high growth” in the vicinity. Projected 2040 background volumes were based on site-generated traffic from many nearby studies. Oftentimes, those volumes may be over-estimated because they do not account for trips going between future developments. Additionally, the projected 2040 background volumes may decrease due to future congestion, as drivers may avoid busy intersections (such as this one) if congestion becomes problematic and, thus, would find alternative routes.

### **VEHICLE QUEUING**

This section contains the projected 95<sup>th</sup>-percentile queues for the following turning movements:

- Judge Orr Road between Eastonville Road and the proposed south access
- Eastonville Road/Copenhagen Road/proposed north site access

Projected queue lengths have also been shown for other key turning movements at both proposed site accesses. Table 3 and Table 4 present the projected short-term and long-term 95<sup>th</sup>-percentile queues during both peak hours

#### **Judge Orr Road/Proposed South Site Access**

Table 3 presents the projected short-term and long-term 95<sup>th</sup>-percentile queues for the eastbound-left turning movement at the intersection of Judge Orr Road/proposed south site access. Synchro scenario queue reports indicated that the 95<sup>th</sup>-percentile eastbound-left turning-movement queues would **not** exceed the available stacking length during either peak hour. Synchro queueing reports indicated a short-term 95<sup>th</sup>-percentile queue length of 25 feet in the morning and afternoon peak hours, (assuming TWSC traffic control remains). During the long term, the 95<sup>th</sup>-percentile queue length would remain approximately 25 feet during both peak hours (assuming roundabout traffic control).



**Table 3: 95<sup>th</sup>-Percentile Queues**  
**Judge Orr Road/Proposed South Site Access – Eastbound-Left Turning Movement**

Major Street	Judge Orr Road	
Minor Street	Proposed South Site Access	
Turning Movement	Eastbound Left	
Analysis Period	A.M. Peak	P.M. Peak
Existing + Site (Two-Way Stop Sign Control)		
Storage Length (ft)	385'	385'
Taper Length (ft)	200'	200'
95 <sup>th</sup> -Percentile Queue (ft)	25'	25'
2040 Background + Site (Roundabout)		
Storage Length (ft)	-	-
Taper Length (ft)	-	-
95 <sup>th</sup> -Percentile Queue (ft)	25'	25'
Note: Synchro assumes queue length per average vehicle is 25 ft		

**Eastonville Road/Copenhagen Road/Proposed North Site Access**

Table 4 presents the projected short-term and long-term 95<sup>th</sup>-percentile queues for the southbound-left turning movement at the intersection of Eastonville Road/Copenhagen Road/proposed north site access. Synchro scenario queue reports indicated that the 95<sup>th</sup>-percentile eastbound-left turning-movement queues would **not** exceed the available stacking length during either short-term or long-term peak hour. Synchro queueing reports indicated a 95<sup>th</sup>-percentile queue length of 1 vehicle (25 feet) during all short- and long-term peak hours.

**Table 4: 95<sup>th</sup>-Percentile Queues (2040 Background + Site)**  
**Eastonville Road/Proposed North Access – Southbound Left-Turn Lane**

Major Street	Eastonville Road	
Minor Street	Proposed North Site Access	
Turning Movement	Southbound Left	
Analysis Period	A.M. Peak	P.M. Peak
Existing + Site (Two-Way Stop Sign Control)		
Storage Length (ft)	160'	160'
Taper Length (ft)	155'	155'
95 <sup>th</sup> -Percentile Queue (ft)	25'	25'
2040 Background + Site (Roundabout)		
Storage Length (ft)	-	-
Taper Length (ft)	-	-
95 <sup>th</sup> -Percentile Queue (ft)	25'	25'
Note: Synchro assumes queue length per average vehicle is 25 ft		

## US Hwy 24/Judge Orr Road

Table 5 presents the projected short-term and long-term 95<sup>th</sup>-percentile queues for several turning movements at the intersection of US Hwy 24/Judge Orr Road. Synchro scenario queue reports indicated that the 95<sup>th</sup>-percentile queues would **not** exceed the available stacking length during either short-term or long-term peak hour for the following turning movements: eastbound through/left (short-term), westbound approach (short-term), eastbound left (long-term), westbound left (long-term), and northbound left (short-term and long-term).

**Table 5: 95<sup>th</sup>-Percentile Queues (US Highway 24/Judge Orr Road)**

Major Street	US Highway 24					
Minor Street	Judge Orr Road					
Turning Movement	Eastbound*		Westbound*		Northbound Left	
Analysis Period	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak
<b>Existing + Site</b>						
Storage Length (ft)	-	-	-	-	860'	860'
Taper Length (ft)	-	-	-	-	300'	300'
Max Queue (ft)	120'	130'	206'	194'	74'	65'
<b>2040 Background + Site</b>						
Storage Length (ft)	290'	290'	290'	290'	860'	860'
Taper Length (ft)	240'	240'	240'	240'	300'	300'
Max Queue (ft)	72'	220'	150'	266'	136'	294'
Note: Synchro assumes queue length per average vehicle is 25 ft						
* Analysis is for EB through/left lane during short-term, but EB left-turn lane for 2040						

## ROADWAY IMPROVEMENTS

### Auxiliary Turn Lanes

The following design speeds were used to determine required turn lane lengths for each of the study-area roadways:

- US Highway 24 – 70 mph
- Judge Orr Road – 50 mph
- Eastonville Road – 40 mph
- Meridian Ranch Boulevard – 40 mph

### Judge Orr Road/Proposed South Site Access

#### *Eastbound Approach*

According to the El Paso County *Engineering Criteria Manual* (ECM), exclusive left-turn lanes shall be provided for any access on a Minor Arterial or Collector with a projected peak-hour ingress

turning volume of 25 vehicles per hour (vph) or greater. The projected left-turn volume at the south site-access point is expected to exceed the minimum left-turn volume thresholds prescribing a turn lane outlined in the *ECM* upon site buildout. LSC recommends the following eastbound left-turn deceleration turn lane:

- 235-foot deceleration lane
- 200-foot approach taper
- 150 feet for storage (per ECM Table 2-30, with a DHV between 121-180 vehicles per hour)
- 45:1 redirect taper length

#### *Westbound Approach*

According to the El Paso County *Engineering Criteria Manual* (ECM), exclusive right-turn lanes shall be provided for any access on a Minor Arterial or Collector with a projected peak-hour ingress turning volume of 50 vehicles per hour (vph) or greater. The projected right-turn volume at the south site access point is expected to exceed the minimum right-turn volume thresholds prescribing a turn lane outlined in the *ECM* upon site buildout. LSC recommends the following westbound right-turn deceleration turn lane:

- 235-foot deceleration lane
- 200-foot approach taper

#### Eastonville Road/Proposed North Site Access

#### *Southwest Approach*

Eastonville Road is currently striped with a painted center two-way left-turn lane (TWLTL). The projected left-turn volume at the north site access point is expected to exceed the minimum left-turn volume thresholds prescribing a turn lane outlined in the *ECM* upon site buildout. LSC recommends the existing TWLTL be restriped for the following southwest-bound left-turn deceleration turn-lane dimensions:

- 155-foot deceleration lane
- 160-foot approach taper
- 50 feet for storage (per ECM Table 2-30, with a DHV less than 60 vehicles per hour)

#### *Northeast Approach*

According to the El Paso County *Engineering Criteria Manual* (ECM), exclusive right-turn lanes shall be provided for any access on a Minor Arterial or Collector with a projected peak-hour ingress turning volume of 50 vehicles per hour (vph) or greater. The projected right-turn volume at the north site access point is expected to exceed the minimum right-turn volume thresholds prescribing a turn lane outlined in the *ECM* upon site buildout. LSC recommends the following westbound right-turn deceleration turn lane:

- 155-foot deceleration lane
- 160-foot approach taper

#### US Highway 24/Judge Orr Road

Auxiliary turn lanes are planned to be added at this intersection as part of El Paso County intersection improvement project C14. This roadway improvement project has been identified as being needed by the year 2040 per Map 13 and Table 4 of El Paso County's 2016 MTCP:

- C14 – Judge Orr Road from Eastonville Road to Peyton Highway (\$38,248,000)
- Existing conditions – 2-lane Rural Minor Arterial
- Future conditions – 4-lane Rural Minor Arterial

As such, no modifications would be required by the applicant at the intersection of US Hwy 24/Judge Orr as a result of additional site-generated traffic from this development.

#### Judge Orr Road/Meridian Ranch Boulevard/Eastonville Road

No modifications to existing auxiliary turn lanes would be required at the intersection of Eastonville/Judge Orr/Meridian Ranch following site buildout.

#### **Intersection Configuration and Traffic Control**

Please refer to the Roadway Improvements Table (attached as Table 7).

#### **ROADWAY CLASSIFICATIONS**

All internal roadways within the Judge Orr Eastonville Commercial Center development are proposed to be Urban **Non-Residential Collector** streets. The County will require internal streets to be constructed to County standards (ECM Table 2-5 presents a summary of roadways design standards).

#### **COUNTY ROAD IMPROVEMENT FEE PROGRAM**

##### **Transportation Impact Fees**

Per ECM Appendix B: *State what the current applicable Transportation Impact Fees are and what option the developer will be selecting for payment.*

The applicant will be required to participate in this program. The PID option will be identified with a future Preliminary Plan/Plat submittal.



### **Reimbursable Improvements**

The following roadway improvement projects have been identified as being needed by the year 2040 per Map 13 and Table 4 of El Paso County's 2016 MTCP:

- C14 – Judge Orr Road from Eastonville Road to Peyton Highway (\$38,248,000)
  - Existing conditions – 2-lane Rural Minor Arterial
  - Future conditions – 4-lane Rural Minor Arterial
- U19 – Eastonville Road from McLaughlin Road to Latigo Boulevard (\$18,420,000)
  - Existing conditions (note: some sections following PPRTA improvements) – 2-lane Rural Unimproved County Road
  - Future conditions – 2-lane Rural Minor Arterial

See the attached MTCP maps for reference.

### **MULTI-MODAL TRANSPORTATION AND TDM OPPORTUNITIES**

The following roadway improvement projects have been identified as being needed by the year 2040 per Map 15 and Table 5 of El Paso County's 2016 MTCP:

- M8 – Judge Orr Road from Eastonville Road to South Peyton Highway
- Bicycle improvements (2.98 miles)

### **DEVIATIONS**

The following deviations to ECM design criteria are proposed at the proposed site access intersections on Judge Orr Road and Eastonville Road:

- Section 2.2.5.C – Roadway Access Criteria (Urban Minor Arterial Access Standards)
- Section 2.3.2 – Design Standards by Function Classification

### **FINDINGS AND CONCLUSIONS**

- The site is projected to generate about 6,798 new driveway vehicle-trips on the average weekday.
- During the weekday morning peak hour of adjacent street traffic, 191 vehicles would enter the site while 132 vehicles would exit.
- During the weekday afternoon peak hour of adjacent street traffic, 359 vehicles would enter the site while 383 vehicles would exit.
- All individual approaches and turn lanes at both site-access intersections would operate at LOS C or better during both short-term peak hours as two-way stop-sign-controlled intersections. During the long term, however, LSC recommends that both site access point intersections be converted to roundabouts in order to operate at acceptable levels of service. Please refer to the "Level of Service" section above for detailed LOS results and discussion regarding all study-area intersections.

- Auxiliary left-turn and right-turn deceleration lanes would be required at both site-access points based on projected buildout traffic volumes. Please refer to the “Auxiliary Turn-Lane Analysis” section for evaluation of potential turn-lane needs.
- All internal site access roadways are proposed to be Urban Local streets.
- Please refer to the “Queuing Analysis” section above for additional details. Synchro queue reports indicated that the 95<sup>th</sup> percentile left-turn queue at both site access points is **not** projected to exceed the recommended turn-lane lengths during either peak hour.
- Please refer to the “List of Improvements” (attached) for a summary of proposed improvements, including timing and financial responsibility for each improvement.
- The following deviations to *ECM* design criteria are proposed:
  - Section 2.2.5.C – Roadway Access Criteria (Urban Minor Arterial Access Standards)
  - Section 2.3.2 – Design Standards by Function Classification

\* \* \* \* \*

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

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

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

JAB:JCH:jas

Enclosures: Table 6 and 7  
Figure 1 - Figure 8c  
Traffic Count Reports  
Synchro LOS Reports

# Tables

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**Table 6: Detailed Trip Generation Estimate**

ITE		Value	Units <sup>1</sup>	Trip Generation Rates <sup>2</sup>					Internal Capture Rates <sup>3</sup>	Driveway Trips Generated					% Non-Pass-by	% Pass-by	Non-Pass-by Trips Generated				
				Average Weekday	A.M.		P.M.			Average Weekday	A.M.		P.M.				Average Weekday	A.M.		P.M.	
Code	Description				In	Out	In	Out			In	Out	In	Out				In	Out	In	Out
151	Mini-Warehouse	5.00	SU (100s)	18.04	0.62	0.60	0.98	0.98	0%	91	4	3	5	5	100%	0%	91	4	3	5	5
565	Day Care Center	90	Students	4.09	0.41	0.37	0.37	0.42	0%	369	38	33	34	38	100%	0%	369	38	33	34	38
820	Shopping Center	117.612	KSF	57.08	1.11	0.68	2.50	2.71	16%	5640	110	68	248	268	66%	34%	3722	73	45	164	177
912	Drive-in Bank	7.000	KSF	99.60	5.51	3.99	10.23	10.23	0%	698	39	28	72	72	65%	35%	454	25	18	47	47
									Total	6798	191	132	359	383		Total	4636	140	99	249	267

<sup>1</sup> DU = dwelling units, KSF = 1,000 square feet, SU (100s) = storage units (multiples of 100)

<sup>2</sup> Source: Trip Generation, 10th Edition, 2017, by the Institute of Transportation Engineers (ITE); ITE Land Use 435 Weekday rate is an LSC estimate.

<sup>3</sup> Source: Internal Trip Capture Estimation Tool from *NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*

Table 7: Roadway Improvements

Existing County Roadway Segment Improvements			
Item #	Improvement	Timing	Responsibility
1.1	<u>Eastonville Road</u> Widen to 2-Lane Rural Minor Arterial Shown in 2040 MTCP (Project U19)	The timing of this improvement may be identified with the Preliminary Plan/Plat, if not determined before that time by others.	<u>Details TBD</u> Any responsibility of this development for completing this improvement or a portion thereof will be identified with the Preliminary Plan/Plat.
1.2	<u>Judge Orr Road</u> Widen to 4-Lane Rural Minor Arterial Shown in 2040 MTCP (Project C14)	The timing of this improvement may be identified with the Preliminary Plan/Plat, if not determined before that time by others.	<u>Details TBD</u> Any responsibility of this development for completing this improvement or a portion thereof will be identified with the Preliminary Plan/Plat.
1.3	<u>Judge Orr Road</u> Add bicycle lanes from Eastonville Road to S. Peyton Highway Shown in 2040 MTCP (Project M8)	The timing of this improvement may be identified with the Preliminary Plan/Plat, if not determined before that time by others.	<u>Details TBD</u> Any responsibility of this development for completing this improvement or a portion thereof will be identified with the Preliminary Plan/Plat.
Proposed Internal Site Roadways			
Item #	Improvement	Timing	Responsibility
2.1	Construct internal streets to County Urban Local Standards; may also be developed with private streets.	With site development (may be phased). The timing of this improvement will be identified with the Preliminary Plan/Plat.	Applicant
Off-Site, CDOT Intersection			
US Highway 24/Judge Orr Road Intersection			
Item #	Improvement	Timing	Responsibility
3.1	<u>Long Term (or Prior to 2040)</u> Realign eastbound and westbound approaches to reduce the intersection skew angle.	TBD; Please refer to the US Highway 24 PEL Study and the CDOT US Highway 24 Corridor information.	This realignment is likley to be a CDOT project.
3.2	<u>Long Term (or Prior to 2040)</u> Southwest-bound right-turn deceleration lane	Timing be determined through the CDOT access permit process. That process will come at a later stage of development. The timing will likely be associated with prevailing turning movement volumes at that time and relative to Access Code thresholds for turn lanes. As indicated in the CDOT comment letter, site-generated southwest-to-westbound right turn movement at Hwy 24 and Judge Orr is projected to add 25 vehicles (short term) in the AM peak hour. The State Highway Access Code §3.7(4)(b) requires installation of right turn deceleration lane for any access with a projected right turn volume greater than 10 vehicles per hour. The timing/phasing of improvements or participation in future improvements will likley depend on the pace and intensity of development of this site and the rate of other area developments and associated background traffic growth.	The responsibility will be determined through the CDOT access permit process. That process will come at a later stage of development. This is a Master study. CDOT indicated "Land Use(s) will need to be determined prior to making application for the State Highway Access Permit. No determination of land use(s) we described in the Letter of Intent and was general in nature." The responsibility will be determined by CDOT and may involve this development contributing a fair share escrow amount toward identified future improvements and/or actually installing a turn lane(s) or other improvement.
3.3	<u>Long Term (or Prior to 2040)</u> Southwest-bound right-turn acceleration lane	Timing be determined through the CDOT access permit process. That process will come at a later stage of development. The timing will likely be associated with prevailing turning movement volumes at that time and relative to Access Code thresholds for turn lanes. As indicated in the CDOT comment letter, Site-generated east-to-southwest-bound right turn movement at Hwy 24 and Judge Orr is projected to add 73 vehicles (short term) in the PM peak hour. The State Highway Access Code §3.7(4)(c) requires installation of right turn acceleration lane for any access with a projected right turn volume greater than 10 vehicles per hour. The timing/phasing of improvements or participation in future improvements will likley depend on the pace and intensity of development of this site and the rate of other area developments and associated background traffic growth.	
3.4	<u>Long Term (or Prior to 2040)</u> Northeast-bound right-turn deceleration lane	Dependent on Background Traffic and/or timing of a CDOT or other project at this intersection.	Although this project may have some responsibility for improvement of this intersection. This project will not add to the right turn movement at this intersection.
Adjacent Intersections			
Eastonville Road/Woodmen Hills Drive/Judge Orr Road Intersection			
Item #	Improvement	Timing	Responsibility
4.1	<u>Long Term (or Prior to 2040)</u> Reconstruct intersection as a modern roundabout (or signalize the intersection)	Once LOS of AWSC drops below acceptable levels (roundabout); or once signal warrants are met (for conversion to a signal or roundabout). Depends on the pace and intensity of development of this site and the rate of other area development and associated background traffic growth.	<u>Details TBD</u> Any responsibility of this development for completing intersection improvements or a portion thereof will be identified with the Preliminary Plan/Plat.
Eastonville Road/Copenhagen/North Site Street Connection (Proposed)			
Item #	Improvement	Timing	Responsibility
6.1	<u>Short Term</u> Southwest-bound left-turn deceleration lane	With subdivision/plat filings, per ECM turning volume thresholds	Applicant
6.2	<u>Short Term</u> Northeast-bound right-turn deceleration lane	With subdivision/plat filings, per ECM turning volume thresholds	Applicant
Proposed New Public Street Intersection			
Judge Orr Road/South Site Street Connection/Future Street South of Judge Orr			
Item #	Improvement	Timing	Responsibility
5.1	<u>Short Term</u> Eastbound left-turn deceleration lane	With subdivision/plat filings, per ECM turning volume thresholds	Applicant
5.2	<u>Short Term</u> Westbound right-turn deceleration lane	With subdivision/plat filings, per ECM turning volume thresholds	Applicant
5.3	<u>Long Term</u> Reconstruct intersection as a modern roundabout	With subdivision/plat filings (if implemented)	Applicant and potentially the future development south of Judge Orr Road
Source: LSC Transportation Consultants, Inc. (Revised 2/26/2021)			
Note: Timing and responsibility is subject to change as future applications are submitted			

# Figures

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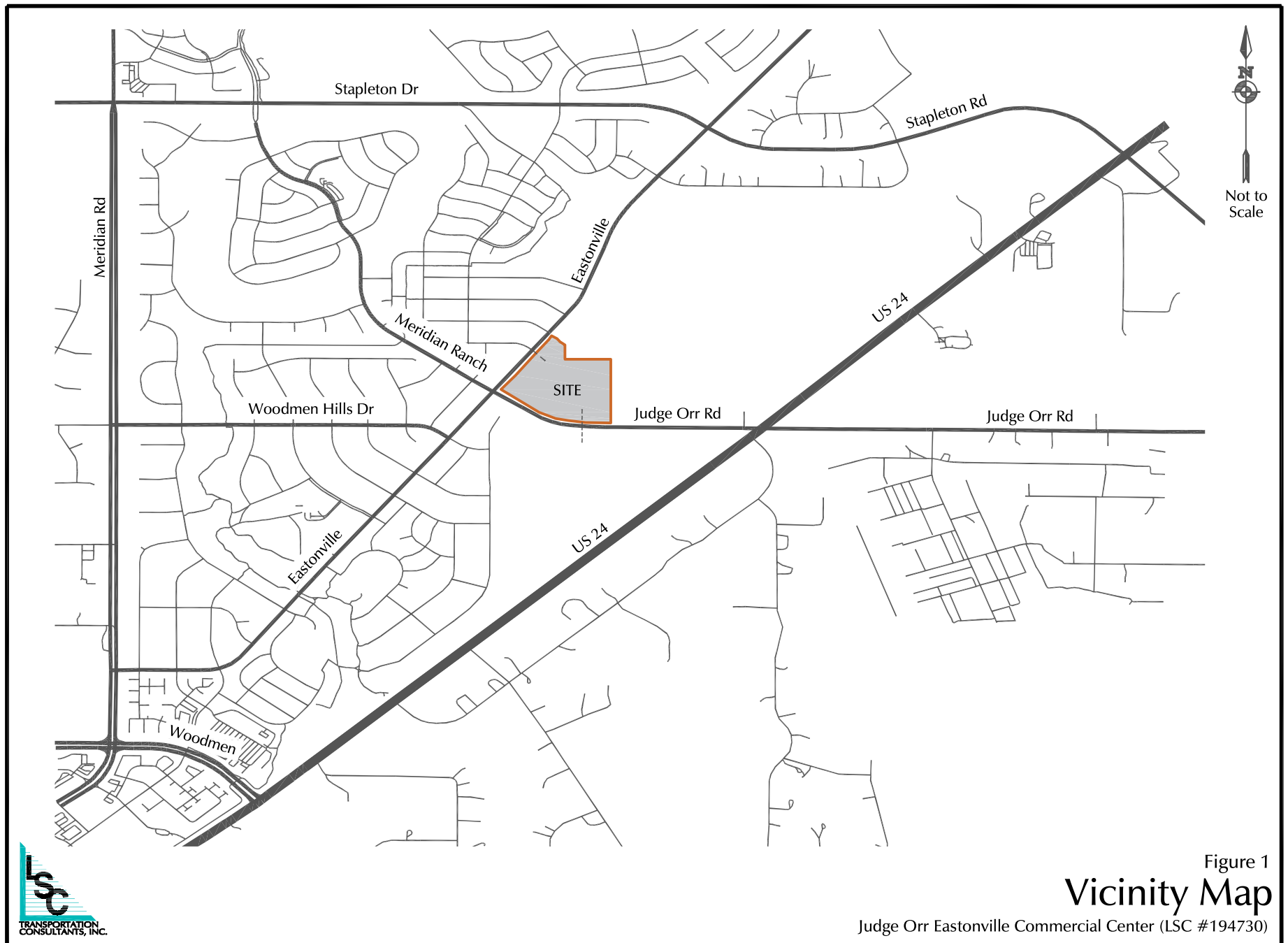
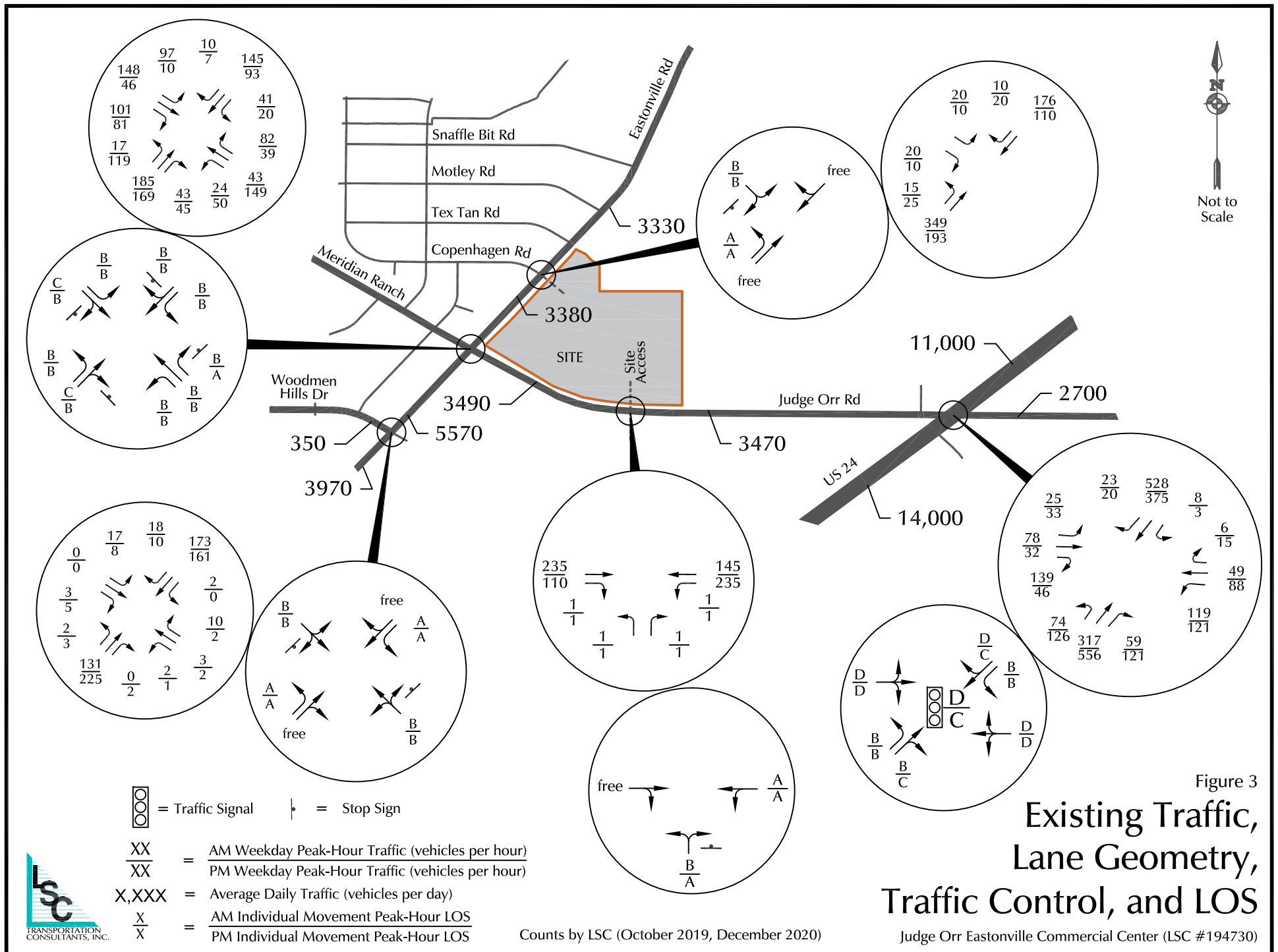
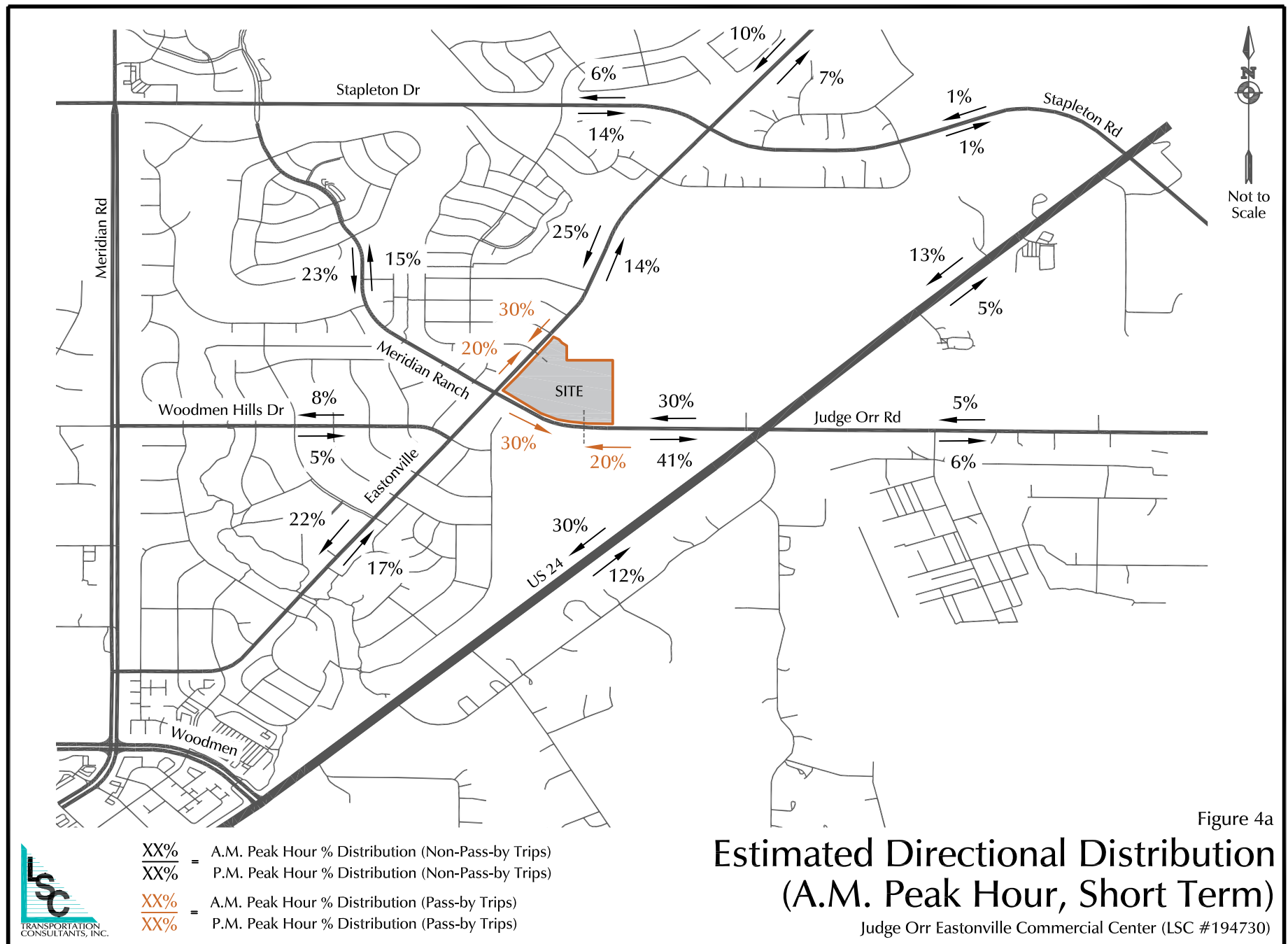


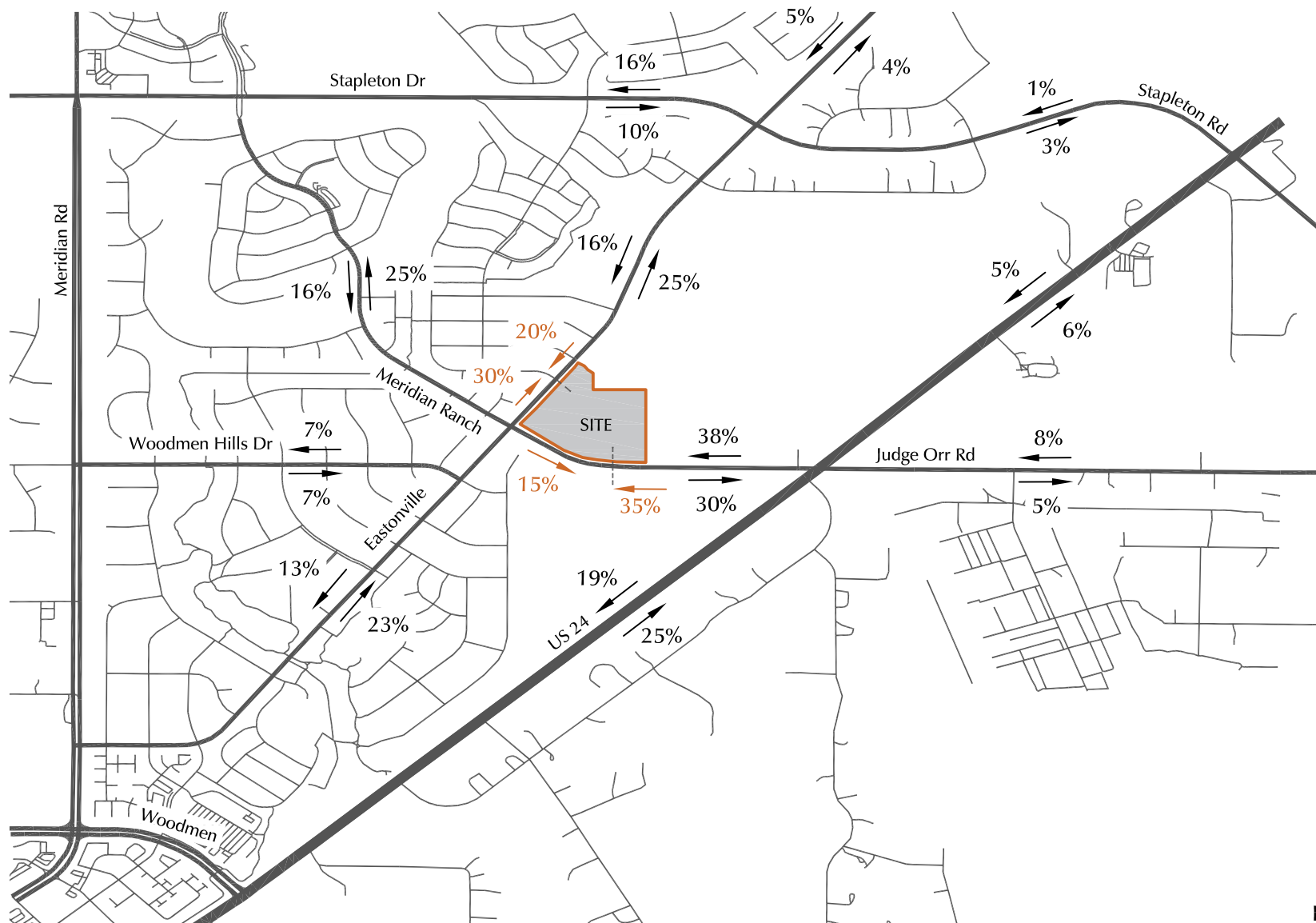
Figure 1  
**Vicinity Map**

Judge Orr Eastonville Commercial Center (LSC #194730)





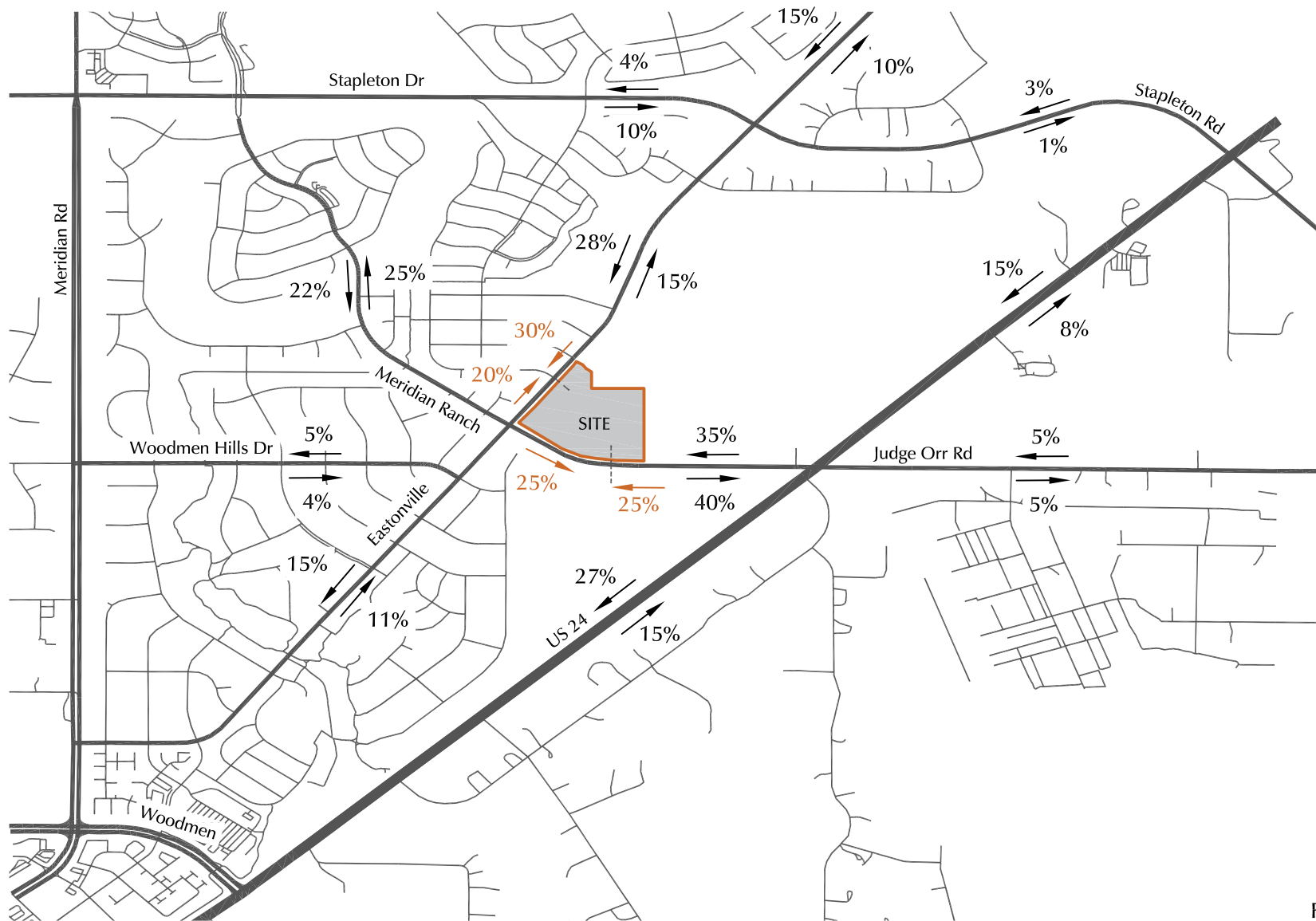




XX% = A.M. Peak Hour % Distribution (Non-Pass-by Trips)  
 XX% = P.M. Peak Hour % Distribution (Non-Pass-by Trips)  
 XX% = A.M. Peak Hour % Distribution (Pass-by Trips)  
 XX% = P.M. Peak Hour % Distribution (Pass-by Trips)

## Figure 4b Estimated Directional Distribution (P.M. Peak Hour, Short Term)

Judge Orr Eastonville Commercial Center (LSC #194730)



XX% = A.M. Peak Hour % Distribution (Non-Pass-by Trips)  
 XX% = P.M. Peak Hour % Distribution (Non-Pass-by Trips)  
 XX% = A.M. Peak Hour % Distribution (Pass-by Trips)  
 XX% = P.M. Peak Hour % Distribution (Pass-by Trips)

Figure 4c  
**Estimated Directional Distribution**  
**(A.M. Peak Hour, Long Term)**

Judge Orr Eastonville Commercial Center (LSC #194730)



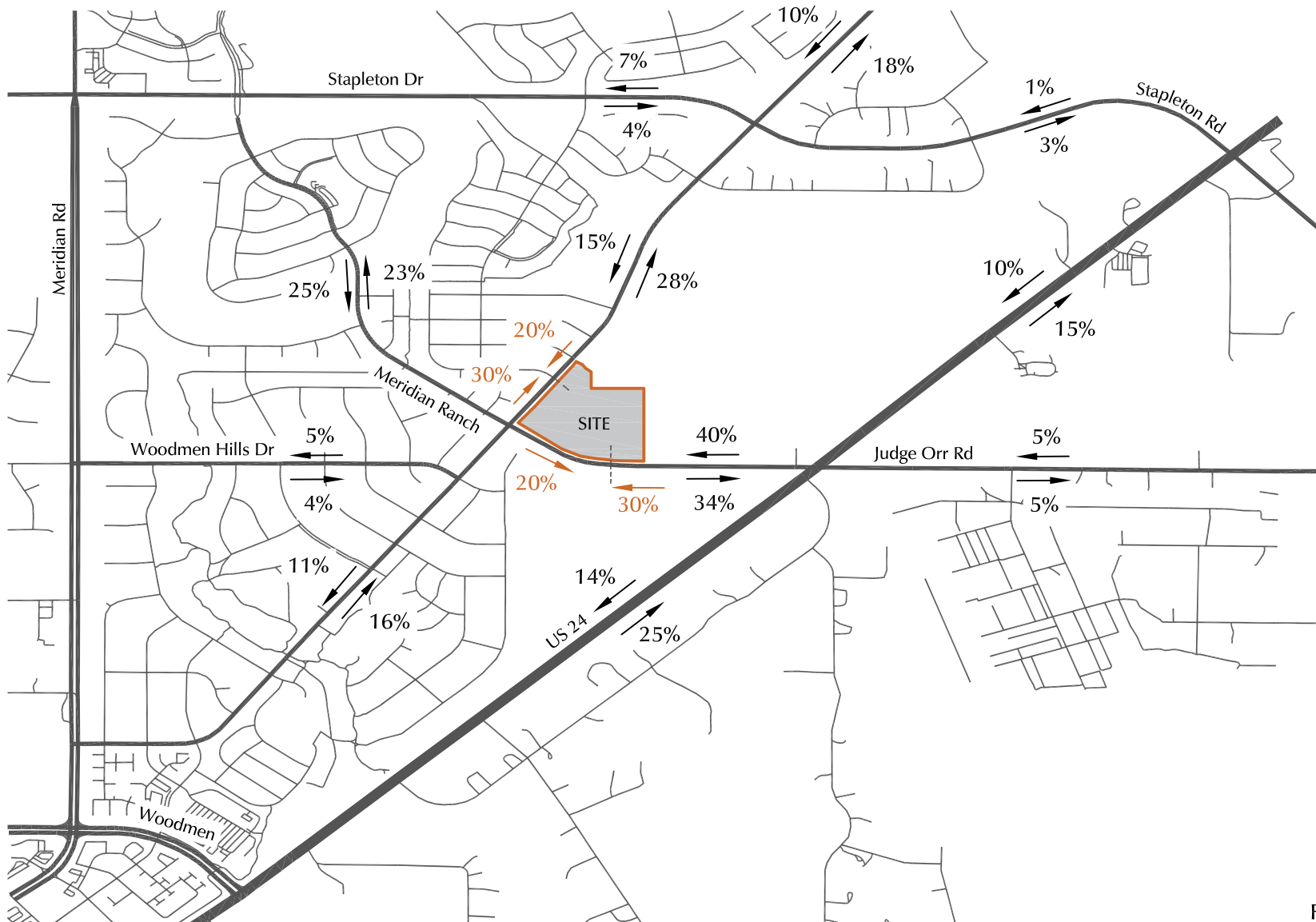
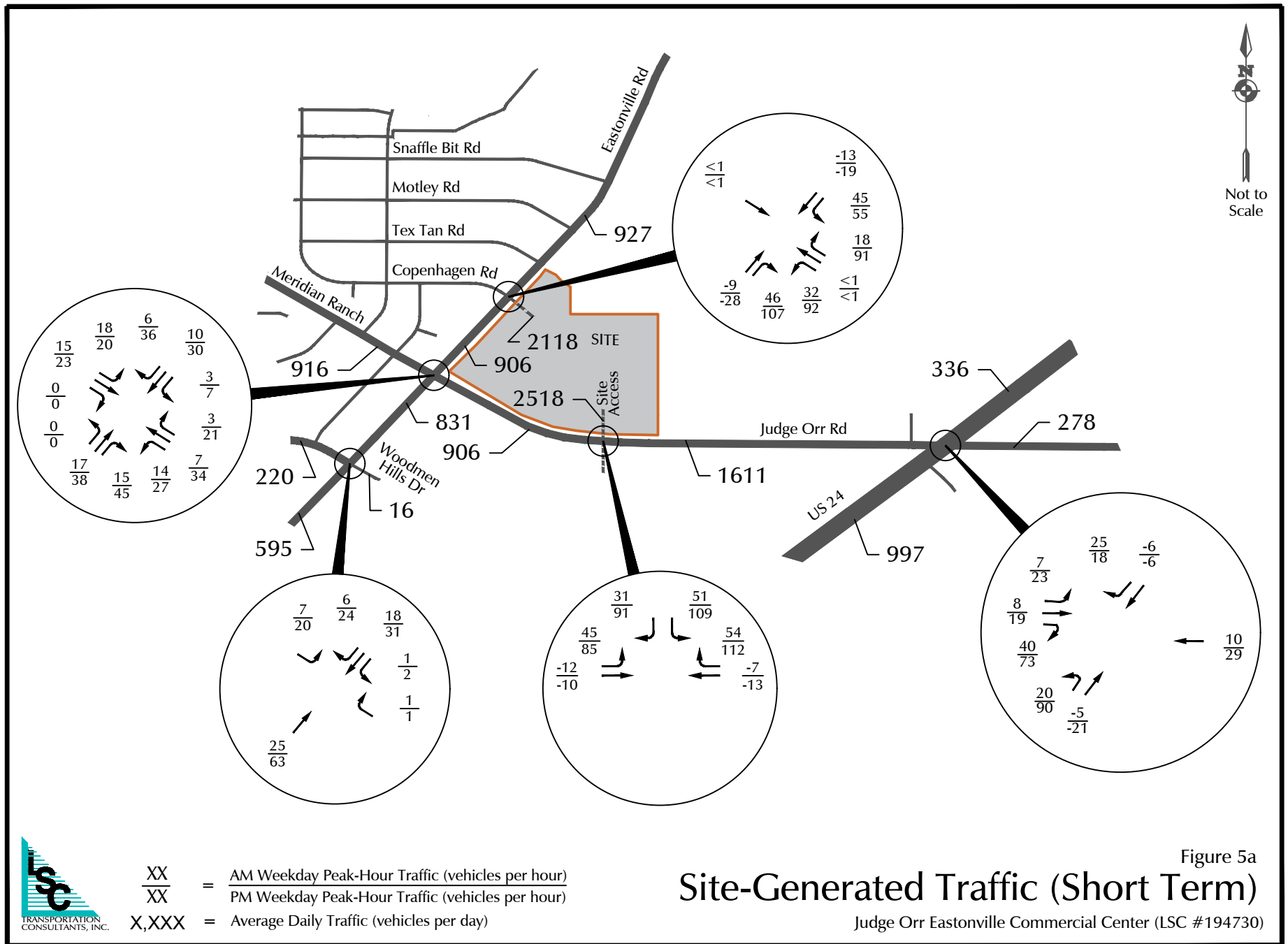
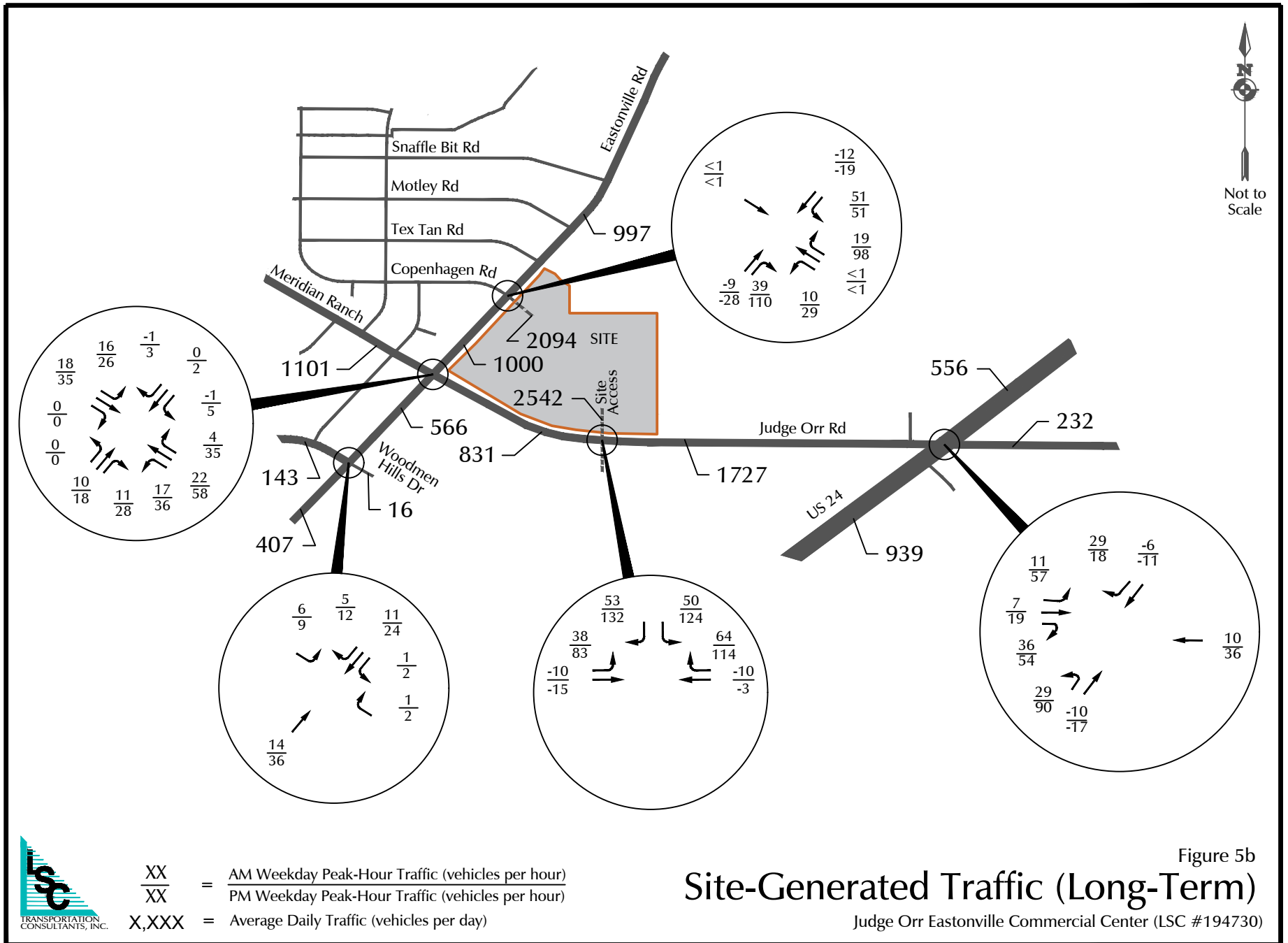


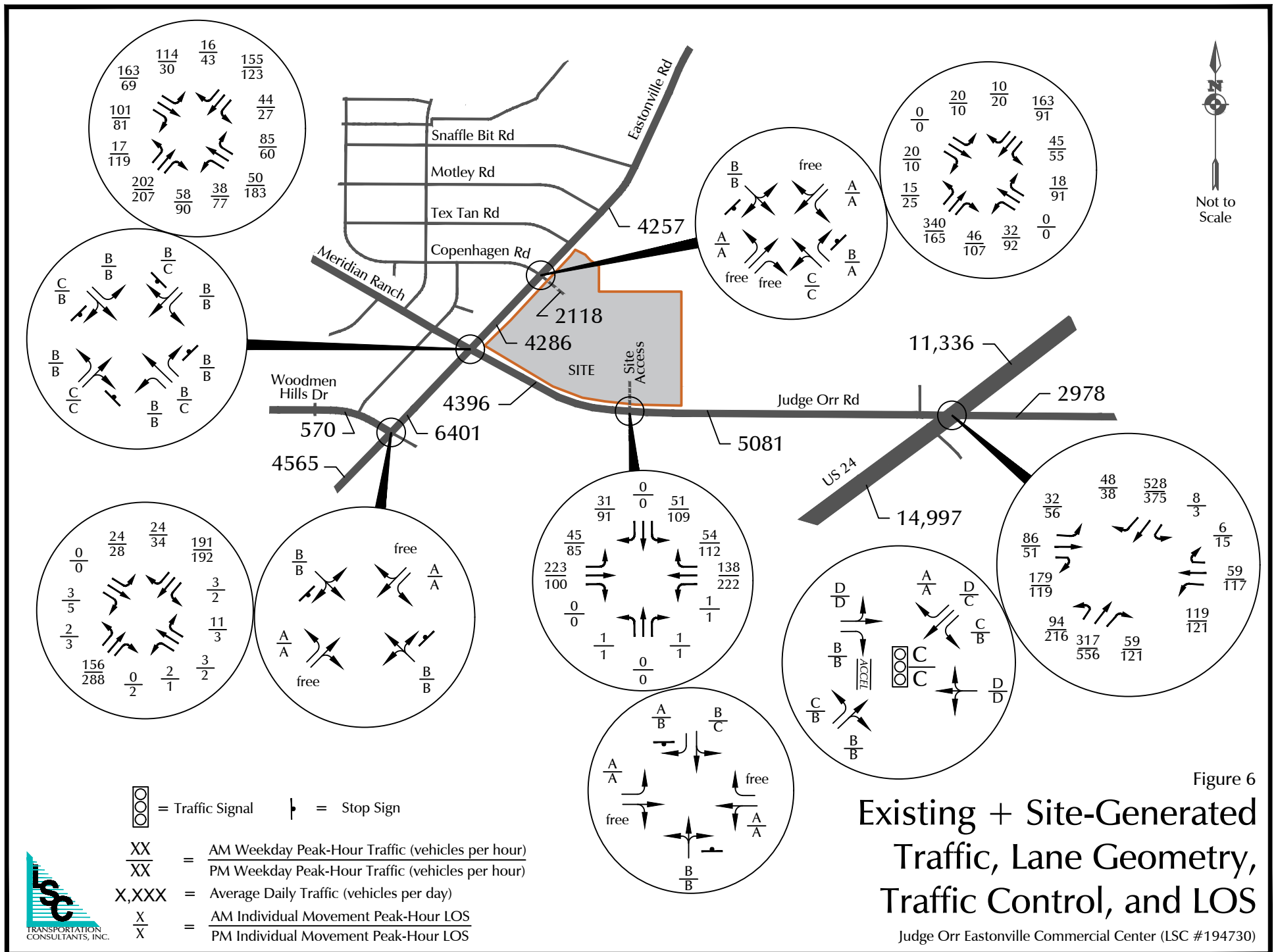
Figure 4d  
**Estimated Directional Distribution**  
**(P.M. Peak Hour, Long Term)**

Judge Orr Eastonville Commercial Center (LSC #194730)









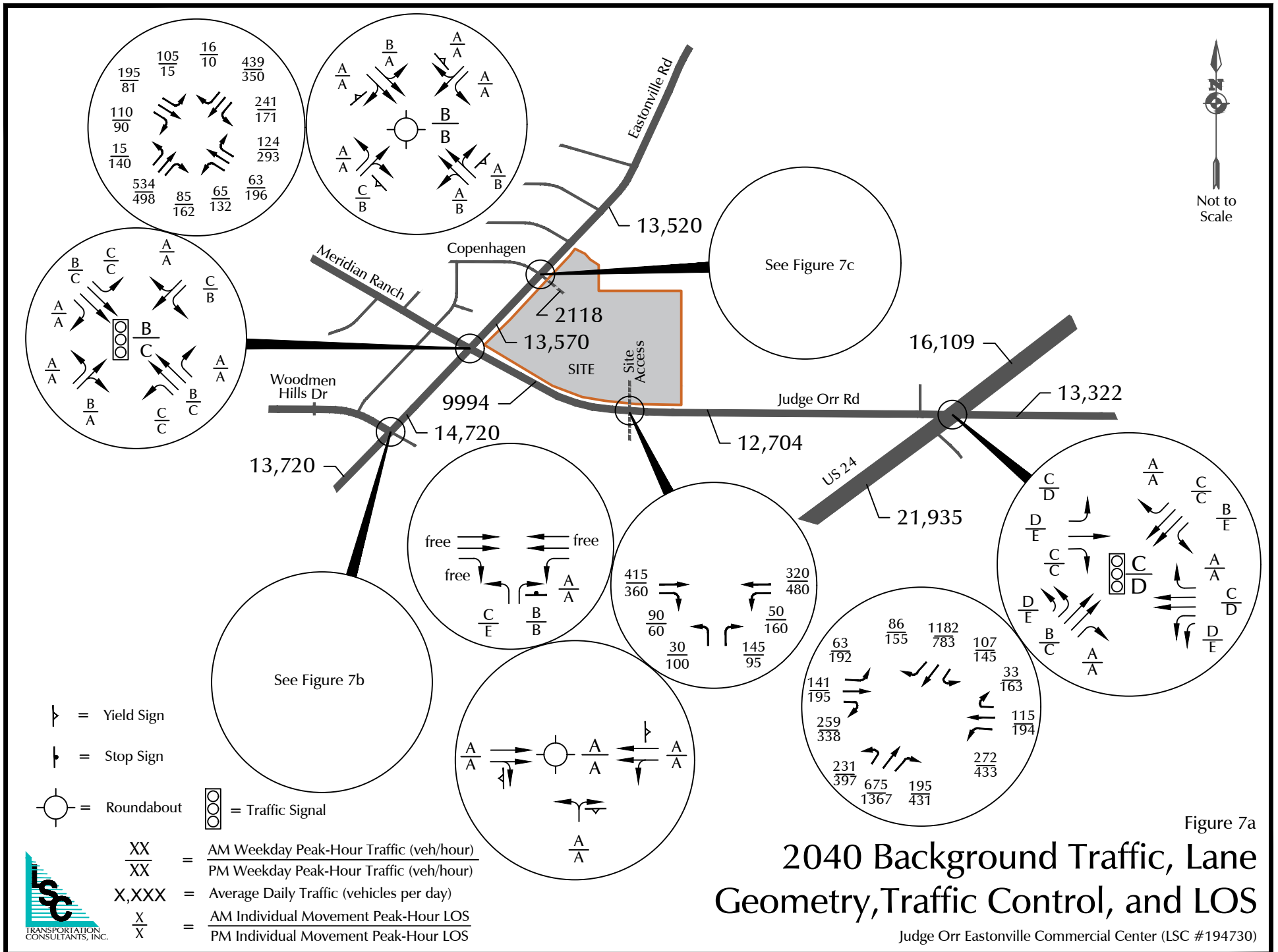
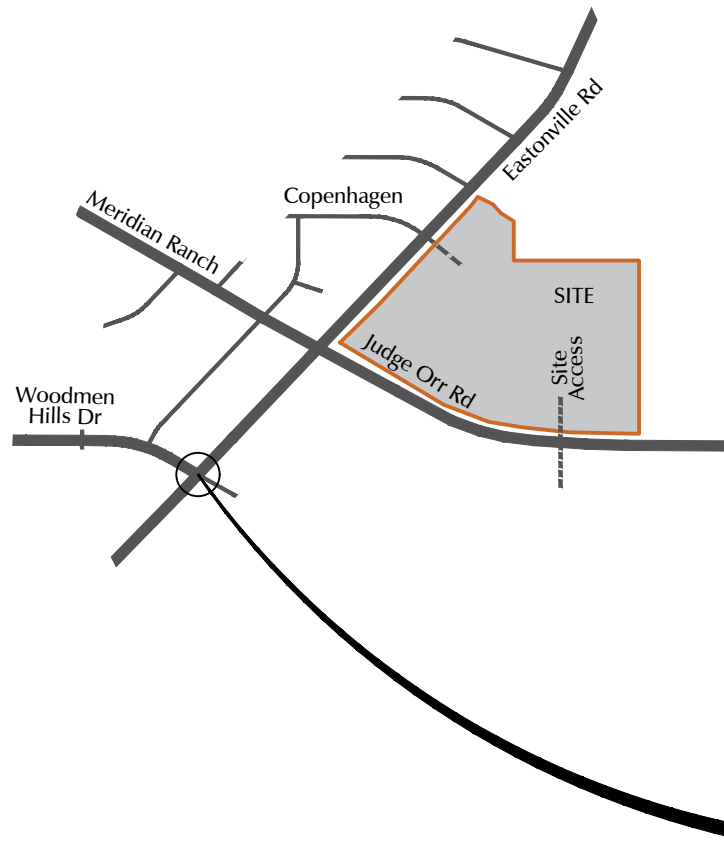
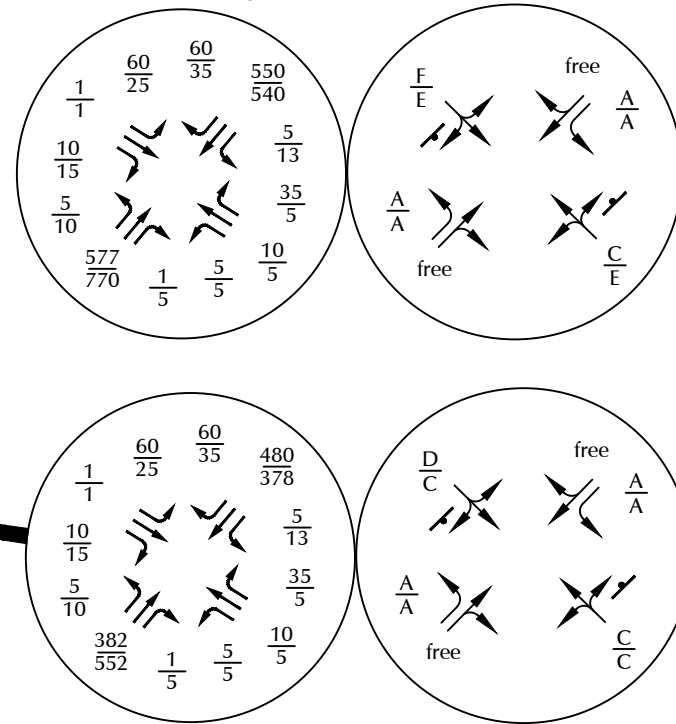


Figure 7a  
**2040 Background Traffic, Lane  
 Geometry, Traffic Control, and LOS**  
 Judge Orr Eastonville Commercial Center (LSC #194730)



Based on "2040 Background"  
link volumes from Figure 7a



"Moderated Background"  
2040 volumes

⏏ = Stop Sign

XX  
XX = AM Weekday Peak-Hour Traffic (veh/hour)  
PM Weekday Peak-Hour Traffic (veh/hour)  
X,XXX = Average Daily Traffic (vehicles per day)  
X  
X = AM Individual Movement Peak-Hour LOS  
PM Individual Movement Peak-Hour LOS

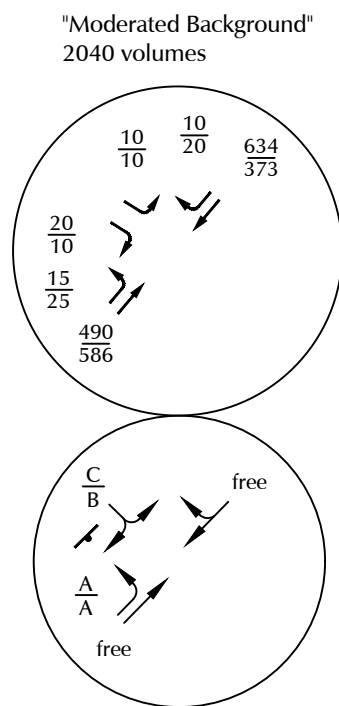


## 2040 Background Traffic, Lane Geometry, Traffic Control, and LOS at Eastonville Rd/Woodmen Hills Dr

Judge Orr Eastonville Commercial Center (LSC #194730)



Figure 7b



2040 Background w/north/south  
through volumes based on Eastonville  
link volumes to the south from Figure 7a

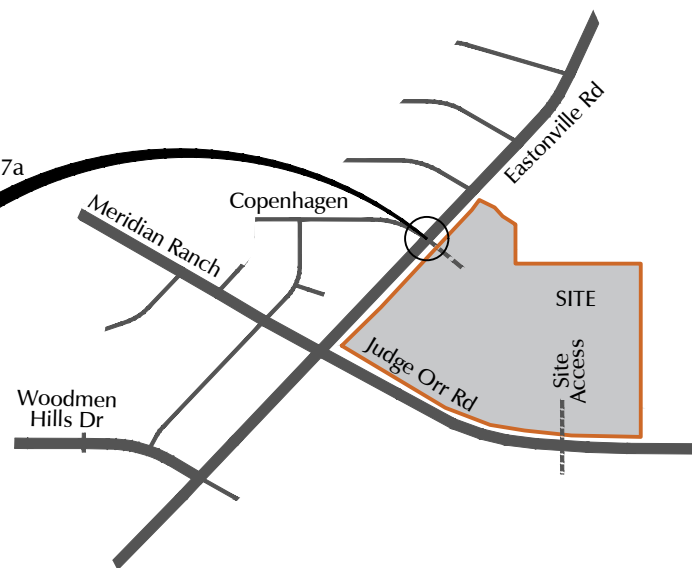
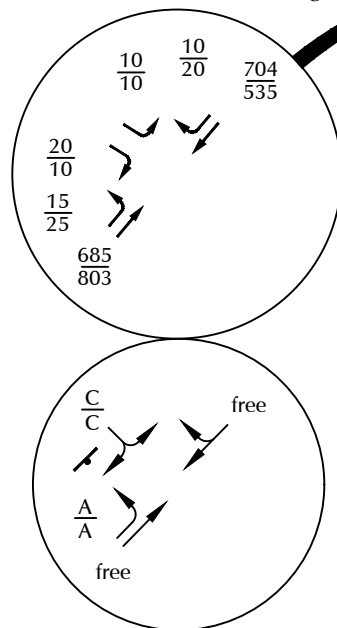
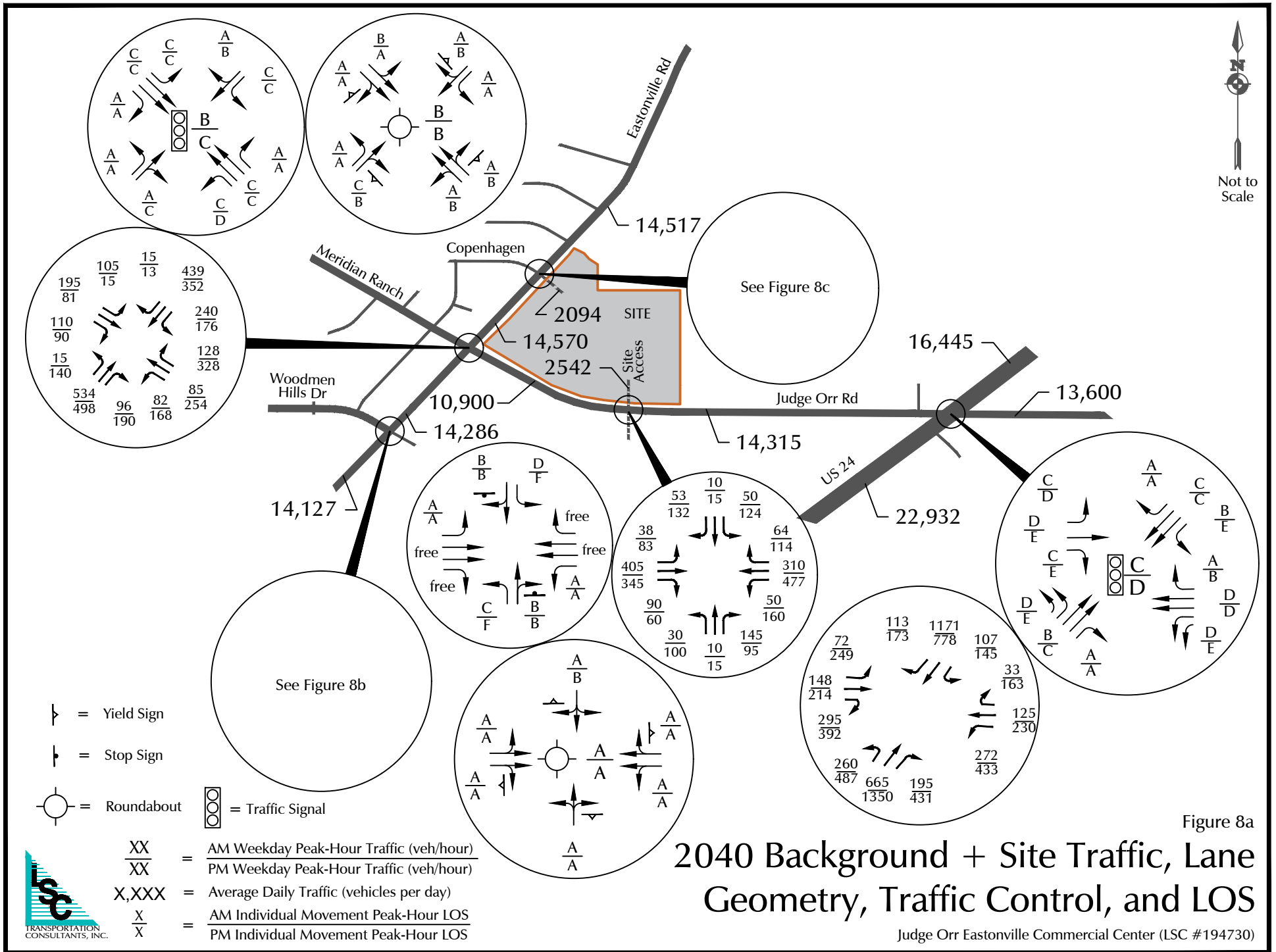
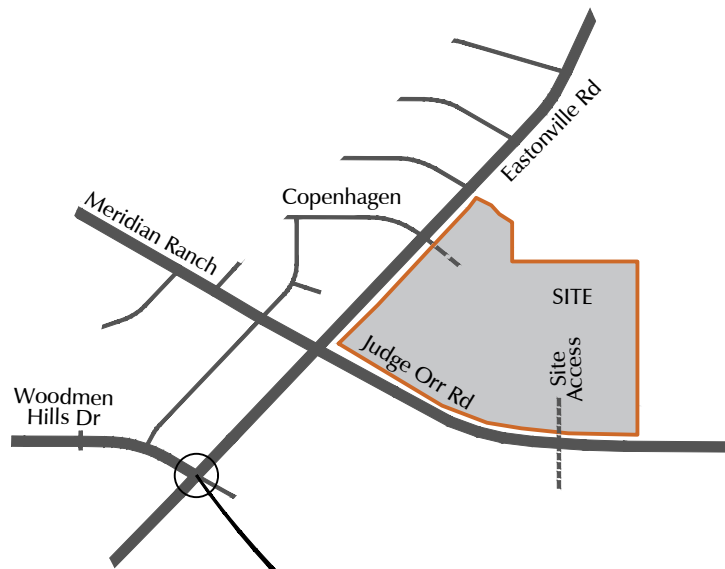


Figure 7c  
2040 Background Traffic, Lane  
Geometry, Traffic Control, and LOS  
at Eastonville Rd/Copenhagen Rd  
Judge Orr Eastonville Commercial Center (LSC #194730)

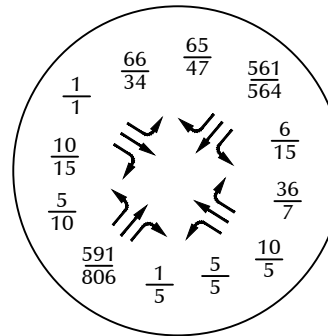


$\frac{XX}{XX}$  = AM Weekday Peak-Hour Traffic (veh/hour)  
 $\frac{XX}{XX}$  = PM Weekday Peak-Hour Traffic (veh/hour)  
 X,XXX = Average Daily Traffic (vehicles per day)  
 $\frac{X}{X}$  = AM Individual Movement Peak-Hour LOS  
 $\frac{X}{X}$  = PM Individual Movement Peak-Hour LOS

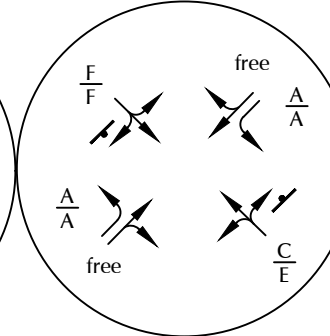




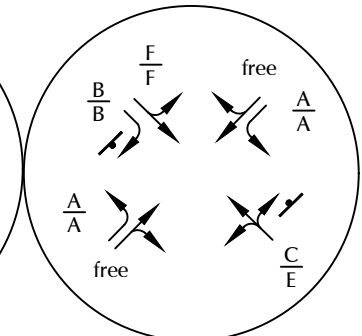
Site-Generated + 2040 Background w/  
north/south through volumes based on  
Eastonville link volumes to the north  
from Figure 7a



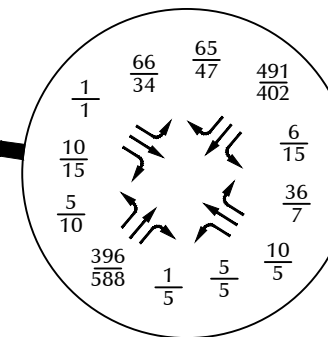
Single Lane SE Approach



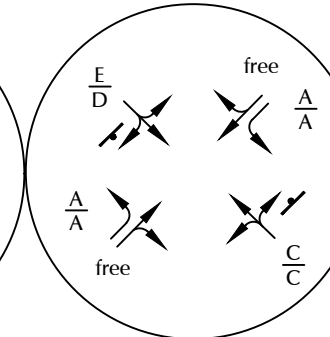
2-Lane SE Approach



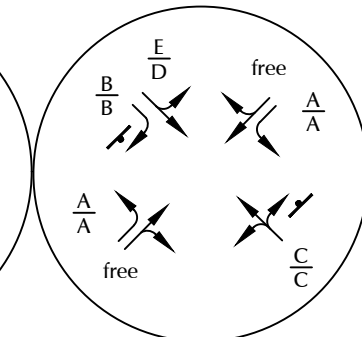
Based on "Moderated Background"  
from Figure 7b + Site-Generated  
volumes



Single Lane SE Approach



2-Lane SE Approach



⏏ = Stop Sign

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

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

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

$\frac{X}{X}$  = AM Individual Movement Peak-Hour LOS

$\frac{X}{X}$  = PM Individual Movement Peak-Hour LOS

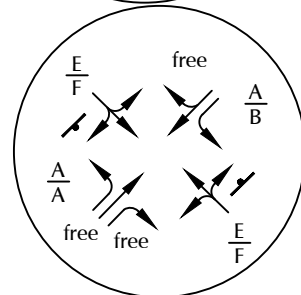
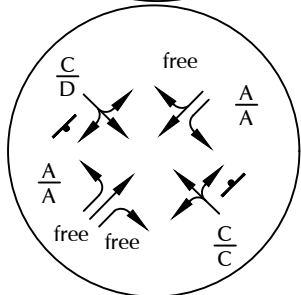
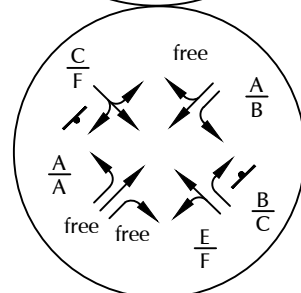
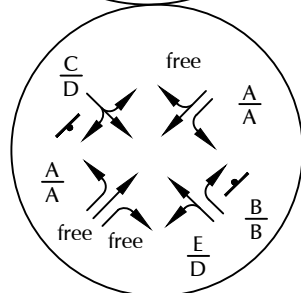
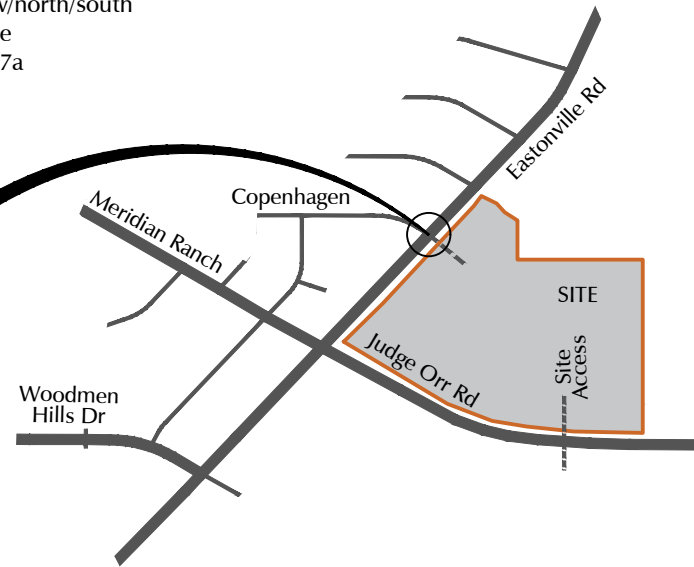
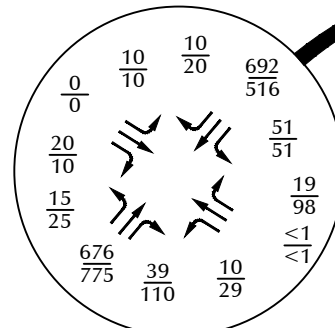
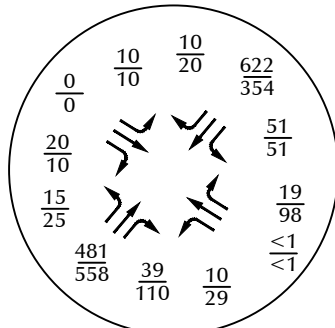


Figure 8b  
2040 Background + Site Traffic, Lane  
Geometry, Traffic Control, and LOS  
at Eastonville Rd/Woodmen Hills Dr

Judge Orr Eastonville Commercial Center (LSC #194730)

Site-Generated volumes plus 2040 Background w/north/south  
through volumes based on Eastonville  
link volumes to the north from Figure 7a

Based on "Moderated Background"  
(from Figure 7c) + Site-Generated  
volumes



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



Figure 8c  
2040 Background + Site Traffic, Lane  
Geometry, Traffic Control, and LOS  
at Eastonville Rd/Copenhagen Rd

Judge Orr Eastonville Commercial Center (LSC #194730)



# Traffic Counts

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# LSC Transportation Consultants, Inc.

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

File Name : Eastonville Rd - Judge Orr Rd AM 10-19

Site Code : 194730

Start Date : 10/2/2019

Page No : 1

## Groups Printed- Unshifted

	Eastonville Rd Southbound					Judge Orr Rd Westbound					Eastonville Rd Northbound					Judge Orr Rd Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
06:30 AM	13	26	0	0	39	3	11	0	0	14	2	35	12	0	49	8	41	22	0	71	173
06:45 AM	20	25	0	0	45	2	12	10	0	24	2	36	13	0	51	6	43	23	0	72	192
Total	33	51	0	0	84	5	23	10	0	38	4	71	25	0	100	14	84	45	0	143	365
07:00 AM	6	35	1	0	42	6	6	24	0	36	3	63	10	0	76	24	37	21	0	82	236
07:15 AM	7	48	6	0	61	10	9	25	0	44	5	54	14	0	73	47	36	26	0	109	287
07:30 AM	8	37	3	0	48	6	16	23	0	45	7	32	6	0	45	20	32	31	0	83	221
07:45 AM	9	30	0	0	39	7	9	11	0	27	5	40	6	0	51	10	28	29	0	67	184
Total	30	150	10	0	190	29	40	83	0	152	20	189	36	0	245	101	133	107	0	341	928
08:00 AM	12	30	1	0	43	6	6	6	0	18	9	13	9	0	31	0	18	25	0	43	135
08:15 AM	5	23	0	0	28	7	10	0	0	17	21	17	10	0	48	0	17	28	0	45	138
Grand Total	80	254	11	0	345	47	79	99	0	225	54	290	80	0	424	115	252	205	0	572	1566
Apprch %	23.2	73.6	3.2	0		20.9	35.1	44	0		12.7	68.4	18.9	0		20.1	44.1	35.8	0		
Total %	5.1	16.2	0.7	0	22	3	5	6.3	0	14.4	3.4	18.5	5.1	0	27.1	7.3	16.1	13.1	0	36.5	



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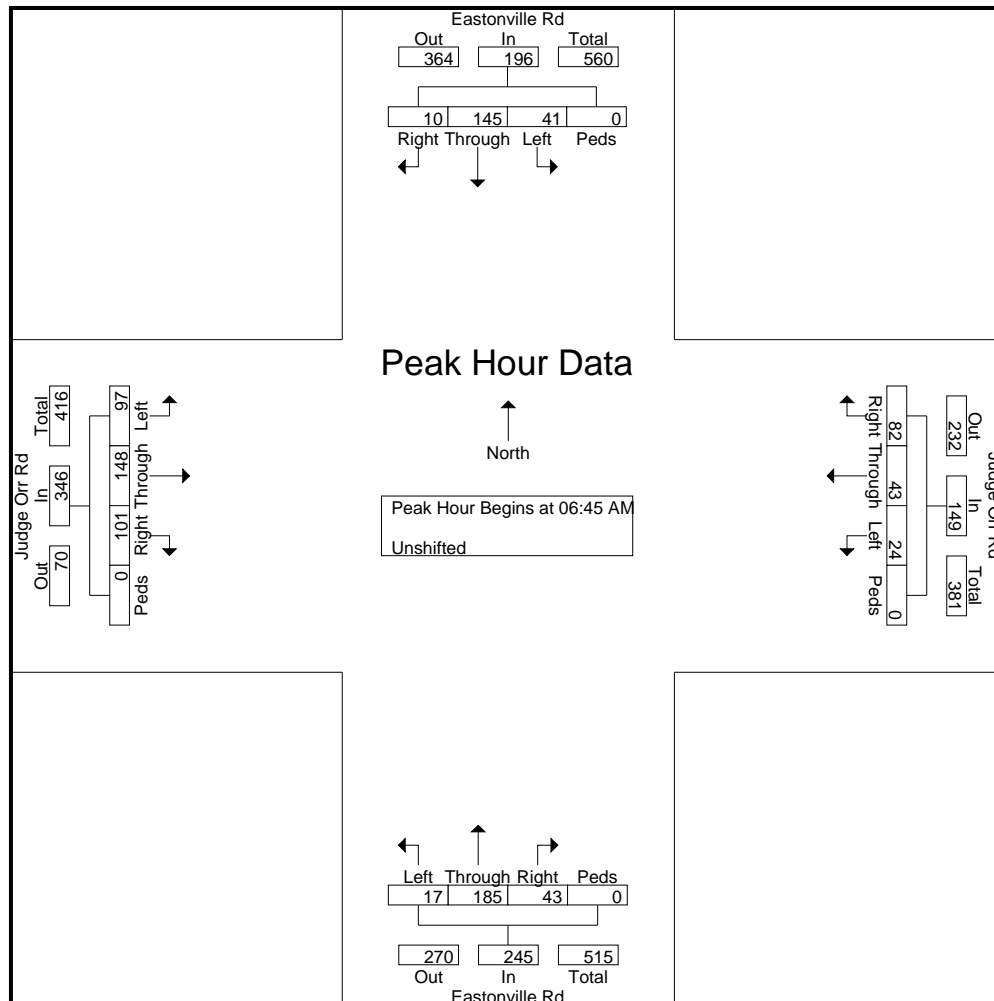
File Name : Eastonville Rd - Judge Orr Rd AM 10-19

Site Code : 194730

Start Date : 10/2/2019

Page No : 2

	Eastonville Rd Southbound					Judge Orr Rd Westbound					Eastonville Rd Northbound					Judge Orr Rd Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
<b>Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 06:45 AM																					
06:45 AM	20	25	0	0	45	2	12	10	0	24	2	36	13	0	51	6	43	23	0	72	192
07:00 AM	6	35	1	0	42	6	6	24	0	36	3	63	10	0	76	24	37	21	0	82	236
07:15 AM	7	48	6	0	61	10	9	25	0	44	5	54	14	0	73	47	36	26	0	109	287
07:30 AM	8	37	3	0	48	6	16	23	0	45	7	32	6	0	45	20	32	31	0	83	221
Total Volume	41	145	10	0	196	24	43	82	0	149	17	185	43	0	245	97	148	101	0	346	936
% App. Total	20.9	74	5.1	0		16.1	28.9	55	0		6.9	75.5	17.6	0		28	42.8	29.2	0		
PHF	.513	.755	.417	.000	.803	.600	.672	.820	.000	.828	.607	.734	.768	.000	.806	.516	.860	.815	.000	.794	.815





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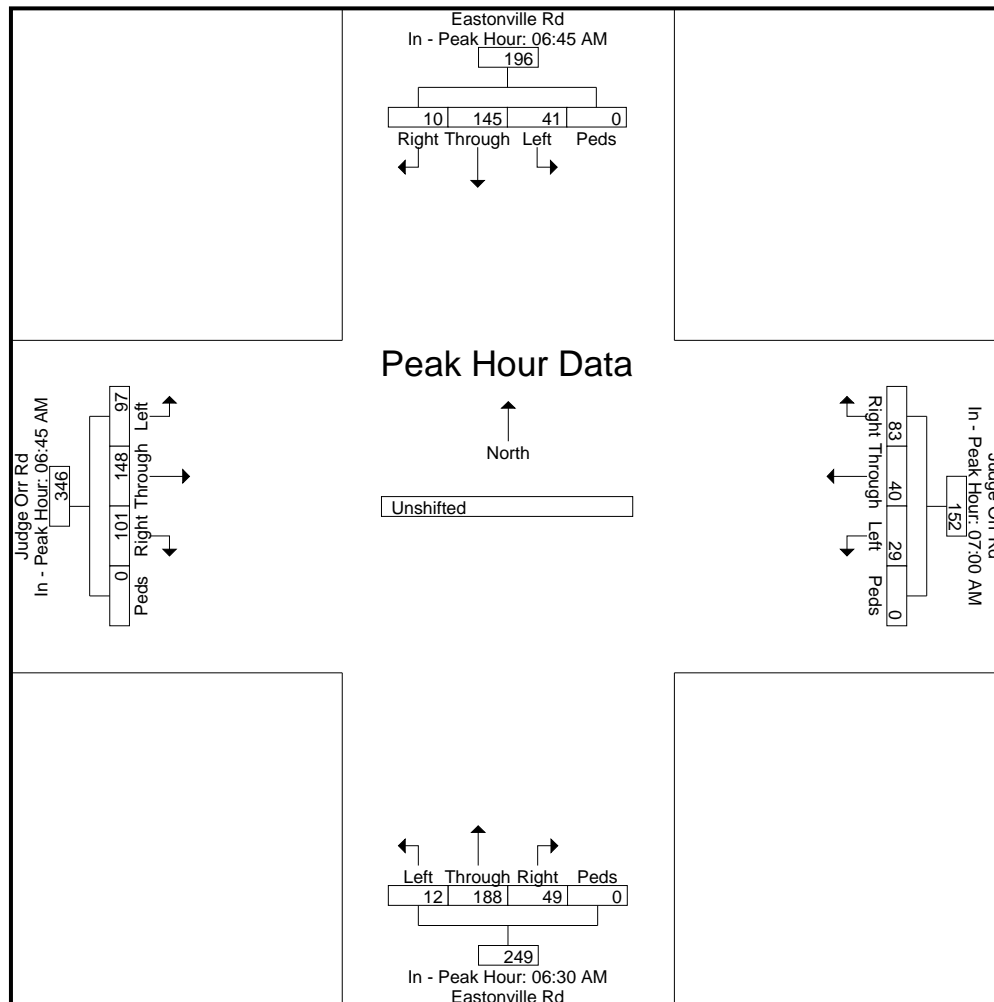
File Name : Eastonville Rd - Judge Orr Rd AM 10-19

Site Code : 194730

Start Date : 10/2/2019

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	Eastonville Rd Southbound					Judge Orr Rd Westbound					Eastonville Rd Northbound					Judge Orr Rd Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
<b>Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	06:45 AM					07:00 AM					06:30 AM					06:45 AM					
+0 mins.	20	25	0	0	45	6	6	24	0	36	2	35	12	0	49	6	43	23	0	72	
+15 mins.	6	35	1	0	42	10	9	25	0	44	2	36	13	0	51	24	37	21	0	82	
+30 mins.	7	48	6	0	61	6	16	23	0	45	3	63	10	0	76	47	36	26	0	109	
+45 mins.	8	37	3	0	48	7	9	11	0	27	5	54	14	0	73	20	32	31	0	83	
Total Volume	41	145	10	0	196	29	40	83	0	152	12	188	49	0	249	97	148	101	0	346	
% App. Total	20.9	74	5.1	0		19.1	26.3	54.6	0		4.8	75.5	19.7	0		28	42.8	29.2	0		
PHF	.513	.755	.417	.000	.803	.725	.625	.830	.000	.844	.600	.746	.875	.000	.819	.516	.860	.815	.000	.794	





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545 E Pikes Peak Ave, Suite 210

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File Name : Eastonville Rd - Judge Orr Rd PM 10-19

Site Code : 194730

Start Date : 10/2/2019

Page No : 1

## Groups Printed- Unshifted

	Eastonville Rd Southbound					Judge Orr Rd Westbound					Eastonville Rd Northbound					Judge Orr Rd Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
04:00 PM	10	21	1	0	32	11	25	9	0	45	26	30	16	0	72	2	8	26	0	36	185
04:15 PM	5	18	2	0	25	14	26	6	0	46	24	28	11	0	63	3	10	17	0	30	164
04:30 PM	5	22	2	0	29	18	47	12	0	77	32	40	13	0	85	4	12	19	0	35	226
04:45 PM	7	30	2	0	39	14	36	9	0	59	29	28	13	0	70	1	12	26	0	39	207
Total	27	91	7	0	125	57	134	36	0	227	111	126	53	0	290	10	42	88	0	140	782
05:00 PM	4	20	0	0	24	12	33	11	0	56	26	44	8	0	78	1	11	16	0	28	186
05:15 PM	4	21	3	0	28	6	33	7	0	46	32	57	11	0	100	4	11	20	0	35	209
05:30 PM	5	33	2	0	40	5	28	12	0	45	22	44	7	0	73	2	9	14	0	25	183
05:45 PM	8	36	2	0	46	6	24	5	0	35	25	41	11	0	77	1	16	18	0	35	193
Total	21	110	7	0	138	29	118	35	0	182	105	186	37	0	328	8	47	68	0	123	771
Grand Total	48	201	14	0	263	86	252	71	0	409	216	312	90	0	618	18	89	156	0	263	1553
Apprch %	18.3	76.4	5.3	0		21	61.6	17.4	0		35	50.5	14.6	0		6.8	33.8	59.3	0		
Total %	3.1	12.9	0.9	0	16.9	5.5	16.2	4.6	0	26.3	13.9	20.1	5.8	0	39.8	1.2	5.7	10	0	16.9	



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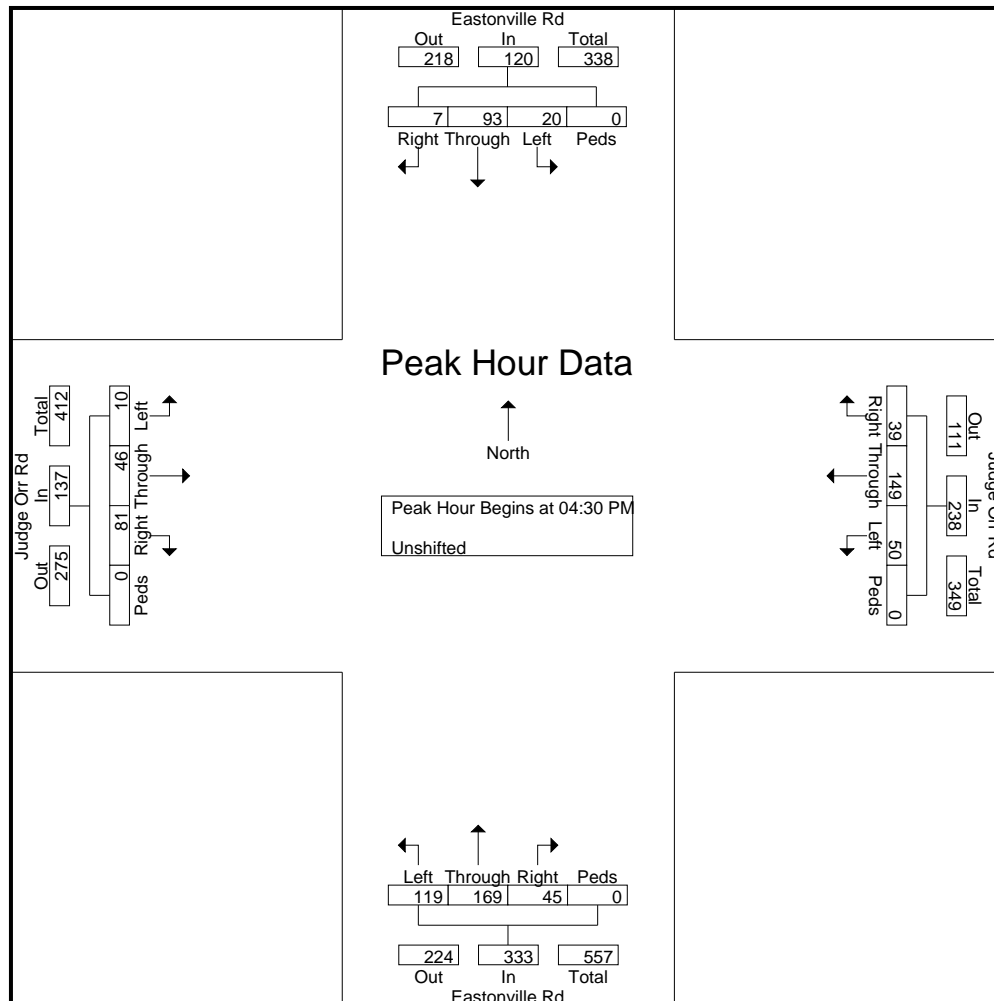
File Name : Eastonville Rd - Judge Orr Rd PM 10-19

Site Code : 194730

Start Date : 10/2/2019

Page No : 2

	Eastonville Rd Southbound					Judge Orr Rd Westbound					Eastonville Rd Northbound					Judge Orr Rd Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
<b>Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	5	22	2	0	29	18	47	12	0	77	32	40	13	0	85	4	12	19	0	35	226
04:45 PM	7	30	2	0	39	14	36	9	0	59	29	28	13	0	70	1	12	26	0	39	207
05:00 PM	4	20	0	0	24	12	33	11	0	56	26	44	8	0	78	1	11	16	0	28	186
05:15 PM	4	21	3	0	28	6	33	7	0	46	32	57	11	0	100	4	11	20	0	35	209
Total Volume	20	93	7	0	120	50	149	39	0	238	119	169	45	0	333	10	46	81	0	137	828
% App. Total	16.7	77.5	5.8	0		21	62.6	16.4	0		35.7	50.8	13.5	0		7.3	33.6	59.1	0		
PHF	.714	.775	.583	.000	.769	.694	.793	.813	.000	.773	.930	.741	.865	.000	.833	.625	.958	.779	.000	.878	.916





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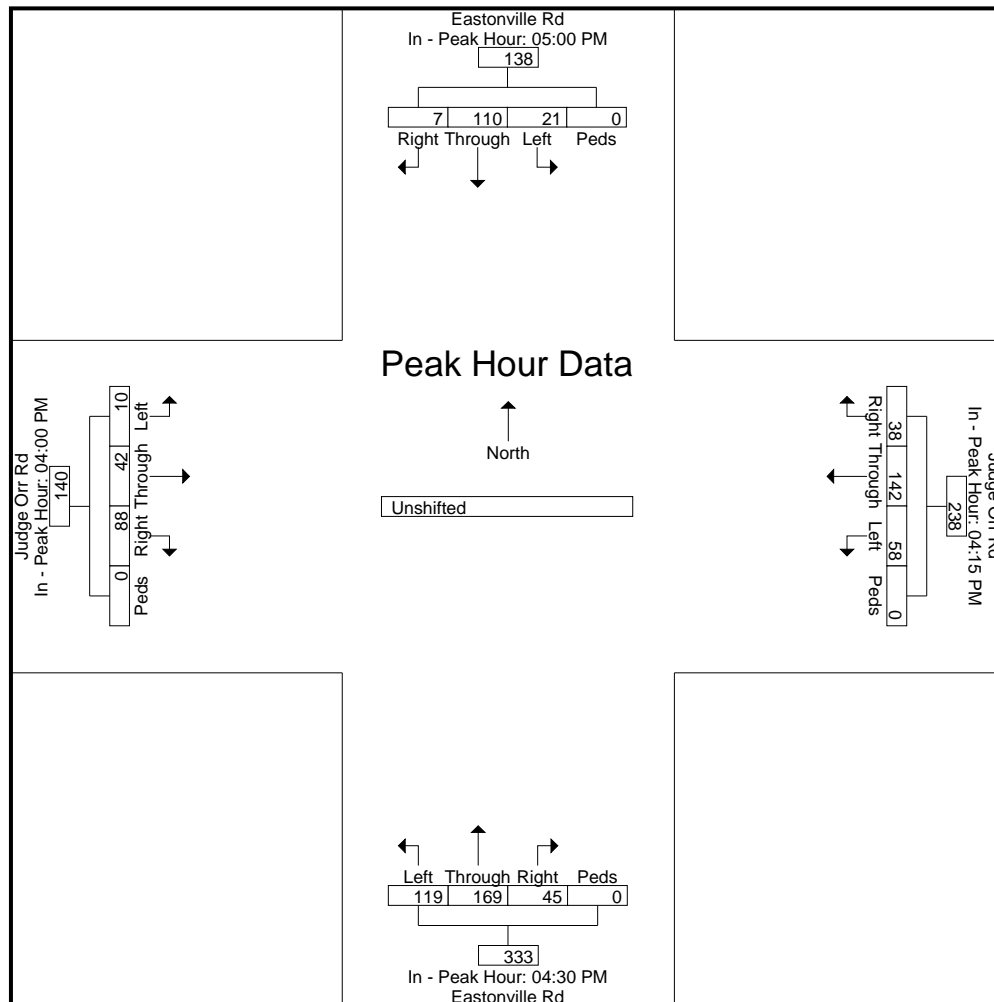
File Name : Eastonville Rd - Judge Orr Rd PM 10-19

Site Code : 194730

Start Date : 10/2/2019

Page No : 3

	Eastonville Rd Southbound					Judge Orr Rd Westbound					Eastonville Rd Northbound					Judge Orr Rd Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
<b>Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	05:00 PM					04:15 PM					04:30 PM					04:00 PM					
+0 mins.	4	20	0	0	24	14	26	6	0	46	32	40	13	0	85	2	8	26	0	36	
+15 mins.	4	21	3	0	28	18	47	12	0	77	29	28	13	0	70	3	10	17	0	30	
+30 mins.	5	33	2	0	40	14	36	9	0	59	26	44	8	0	78	4	12	19	0	35	
+45 mins.	8	36	2	0	46	12	33	11	0	56	32	57	11	0	100	1	12	26	0	39	
Total Volume	21	110	7	0	138	58	142	38	0	238	119	169	45	0	333	10	42	88	0	140	
% App. Total	15.2	79.7	5.1	0		24.4	59.7	16	0		35.7	50.8	13.5	0		7.1	30	62.9	0		
PHF	.656	.764	.583	.000	.750	.806	.755	.792	.000	.773	.930	.741	.865	.000	.833	.625	.875	.846	.000	.897	





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File Name : Hwy 24 - Judge Orr Rr AM 10-19

Site Code : 194730

Start Date : 10/2/2019

Page No : 1

## Groups Printed- Unshifted

Start Time	Hwy 24 Southbound					Judge Orr Rd Westbound					Hwy 24 Northbound					Judge Orr Rd Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
06:30 AM	0	104	3	0	107	40	7	1	0	48	3	63	13	0	79	2	24	37	0	63	297
06:45 AM	0	142	1	0	143	29	4	1	0	34	19	87	15	0	121	4	21	53	0	78	376
Total	0	246	4	0	250	69	11	2	0	82	22	150	28	0	200	6	45	90	0	141	673
07:00 AM	2	137	4	0	143	34	12	4	0	50	18	92	12	0	122	7	17	26	0	50	365
07:15 AM	4	117	8	0	129	33	18	0	0	51	17	77	18	0	112	10	25	29	0	64	356
07:30 AM	2	132	10	0	144	23	15	1	0	39	20	61	14	1	96	4	15	31	0	50	329
07:45 AM	0	111	5	0	116	19	6	0	0	25	16	56	19	0	91	1	16	23	0	40	272
Total	8	497	27	0	532	109	51	5	0	165	71	286	63	1	421	22	73	109	0	204	1322
08:00 AM	1	94	3	0	98	32	10	3	0	45	5	60	15	0	80	5	14	24	0	43	266
08:15 AM	2	99	1	0	102	22	5	2	0	29	11	65	13	0	89	3	9	22	0	34	254
Grand Total	11	936	35	0	982	232	77	12	0	321	109	561	119	1	790	36	141	245	0	422	2515
Apprch %	1.1	95.3	3.6	0		72.3	24	3.7	0		13.8	71	15.1	0.1		8.5	33.4	58.1	0		
Total %	0.4	37.2	1.4	0	39	9.2	3.1	0.5	0	12.8	4.3	22.3	4.7	0	31.4	1.4	5.6	9.7	0	16.8	





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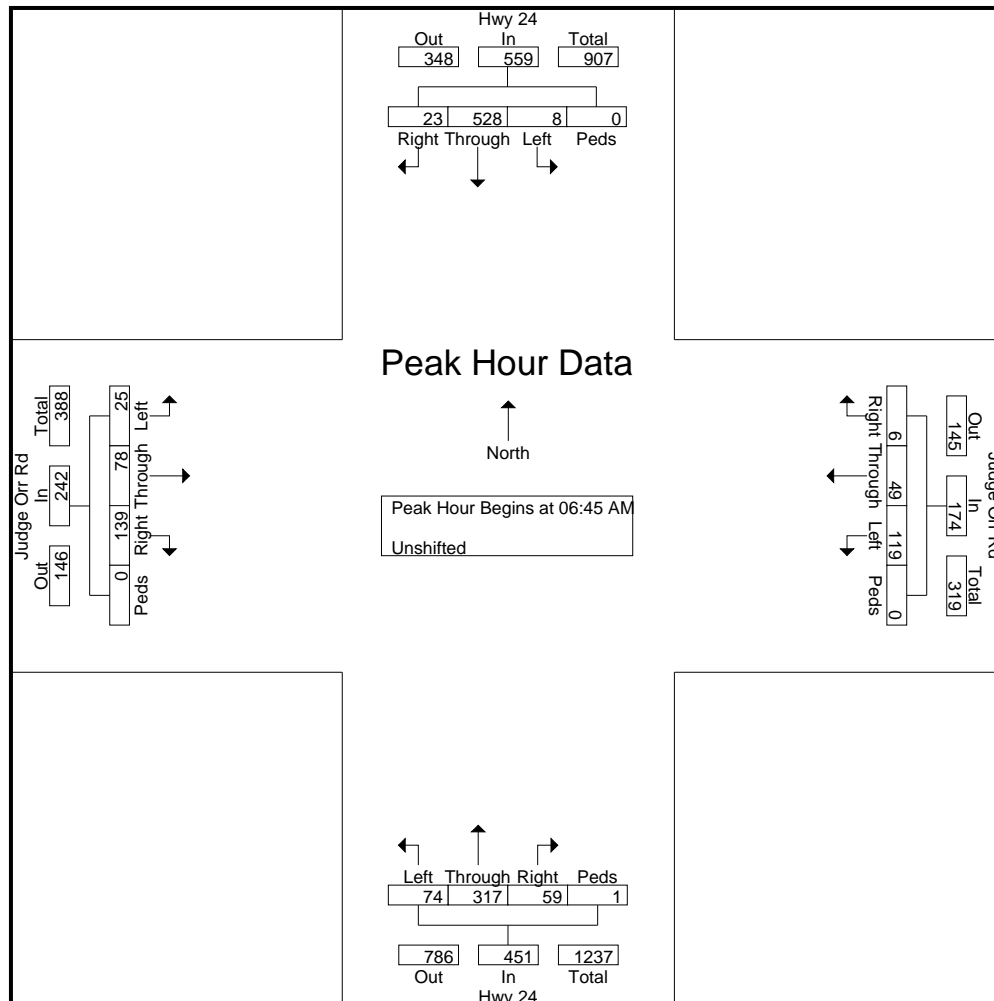
File Name : Hwy 24 - Judge Orr Rr AM 10-19

Site Code : 194730

Start Date : 10/2/2019

Page No : 2

	Hwy 24 Southbound					Judge Orr Rd Westbound					Hwy 24 Northbound					Judge Orr Rd Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
<b>Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 06:45 AM																					
06:45 AM	0	142	1	0	143	29	4	1	0	34	19	87	15	0	121	4	21	53	0	78	376
07:00 AM	2	137	4	0	143	34	12	4	0	50	18	92	12	0	122	7	17	26	0	50	365
07:15 AM	4	117	8	0	129	33	18	0	0	51	17	77	18	0	112	10	25	29	0	64	356
07:30 AM	2	132	10	0	144	23	15	1	0	39	20	61	14	1	96	4	15	31	0	50	329
Total Volume	8	528	23	0	559	119	49	6	0	174	74	317	59	1	451	25	78	139	0	242	1426
% App. Total	1.4	94.5	4.1	0		68.4	28.2	3.4	0		16.4	70.3	13.1	0.2		10.3	32.2	57.4	0		
PHF	.500	.930	.575	.000	.970	.875	.681	.375	.000	.853	.925	.861	.819	.250	.924	.625	.780	.656	.000	.776	.948





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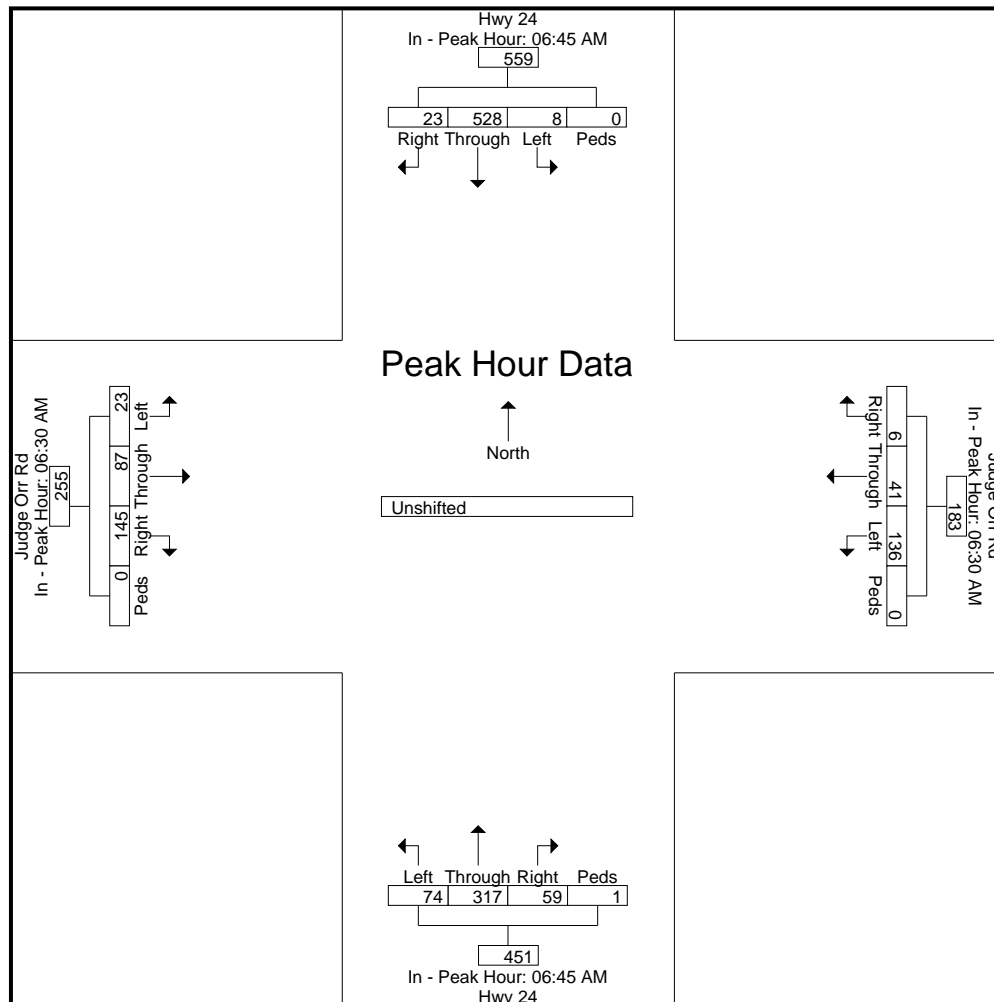
File Name : Hwy 24 - Judge Orr Rr AM 10-19

Site Code : 194730

Start Date : 10/2/2019

Page No : 3

	Hwy 24 Southbound					Judge Orr Rd Westbound					Hwy 24 Northbound					Judge Orr Rd Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
<b>Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	06:45 AM					06:30 AM					06:45 AM					06:30 AM					
+0 mins.	0	142	1	0	143	40	7	1	0	48	19	87	15	0	121	2	24	37	0	63	
+15 mins.	2	137	4	0	143	29	4	1	0	34	18	92	12	0	122	4	21	53	0	78	
+30 mins.	4	117	8	0	129	34	12	4	0	50	17	77	18	0	112	7	17	26	0	50	
+45 mins.	2	132	10	0	144	33	18	0	0	51	20	61	14	1	96	10	25	29	0	64	
Total Volume	8	528	23	0	559	136	41	6	0	183	74	317	59	1	451	23	87	145	0	255	
% App. Total	1.4	94.5	4.1	0		74.3	22.4	3.3	0		16.4	70.3	13.1	0.2		9	34.1	56.9	0		
PHF	.500	.930	.575	.000	.970	.850	.569	.375	.000	.897	.925	.861	.819	.250	.924	.575	.870	.684	.000	.817	





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545 E Pikes Peak Ave, Suite 210  
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719-633-2868

File Name : Hwy 24 - Judge Orr Rr PM 10-19

Site Code : 194730

Start Date : 10/2/2019

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	Hwy 24 Southbound					Judge Orr Rd Westbound					Hwy 24 Northbound					Judge Orr Rd Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
04:00 PM	0	84	4	0	88	42	16	6	0	64	21	138	26	0	185	4	11	9	0	24	361
04:15 PM	0	101	3	0	104	27	16	2	0	45	32	137	33	0	202	6	9	17	0	32	383
04:30 PM	2	92	8	0	102	24	29	3	0	56	38	116	26	0	180	8	7	15	0	30	368
04:45 PM	0	100	2	0	102	33	23	6	0	62	31	136	29	1	197	11	9	13	0	33	394
Total	2	377	17	0	396	126	84	17	0	227	122	527	114	1	764	29	36	54	0	119	1506
05:00 PM	0	83	5	0	88	27	18	6	0	51	34	162	33	0	229	7	6	9	0	22	390
05:15 PM	1	100	5	0	106	37	18	0	0	55	23	142	33	0	198	7	10	9	0	26	385
05:30 PM	2	90	2	0	94	24	9	3	0	36	32	143	32	0	207	4	6	10	0	20	357
05:45 PM	0	86	3	0	89	54	8	1	0	63	25	127	16	0	168	5	12	17	0	34	354
Total	3	359	15	0	377	142	53	10	0	205	114	574	114	0	802	23	34	45	0	102	1486
Grand Total	5	736	32	0	773	268	137	27	0	432	236	1101	228	1	1566	52	70	99	0	221	2992
Apprch %	0.6	95.2	4.1	0		62	31.7	6.2	0		15.1	70.3	14.6	0.1		23.5	31.7	44.8	0		
Total %	0.2	24.6	1.1	0	25.8	9	4.6	0.9	0	14.4	7.9	36.8	7.6	0	52.3	1.7	2.3	3.3	0	7.4	



# LSC Transportation Consultants, Inc.

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Colorado Springs, CO 80905  
719-633-2868

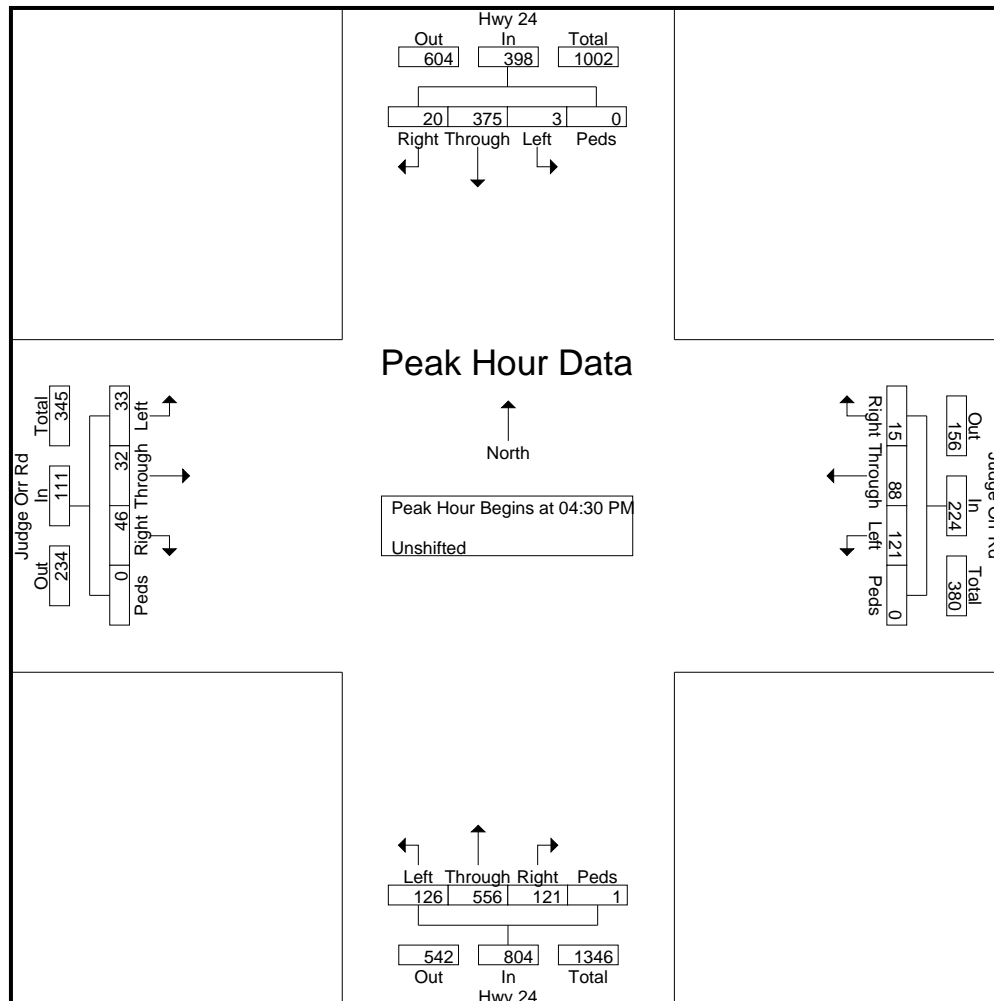
File Name : Hwy 24 - Judge Orr Rr PM 10-19

Site Code : 194730

Start Date : 10/2/2019

Page No : 2

	Hwy 24 Southbound					Judge Orr Rd Westbound					Hwy 24 Northbound					Judge Orr Rd Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
<b>Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	2	92	8	0	102	24	29	3	0	56	38	116	26	0	180	8	7	15	0	30	368
04:45 PM	0	100	2	0	102	33	23	6	0	62	31	136	29	1	197	11	9	13	0	33	394
05:00 PM	0	83	5	0	88	27	18	6	0	51	34	162	33	0	229	7	6	9	0	22	390
05:15 PM	1	100	5	0	106	37	18	0	0	55	23	142	33	0	198	7	10	9	0	26	385
Total Volume	3	375	20	0	398	121	88	15	0	224	126	556	121	1	804	33	32	46	0	111	1537
% App. Total	0.8	94.2	5	0		54	39.3	6.7	0		15.7	69.2	15	0.1		29.7	28.8	41.4	0		
PHF	.375	.938	.625	.000	.939	.818	.759	.625	.000	.903	.829	.858	.917	.250	.878	.750	.800	.767	.000	.841	.975





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719-633-2868

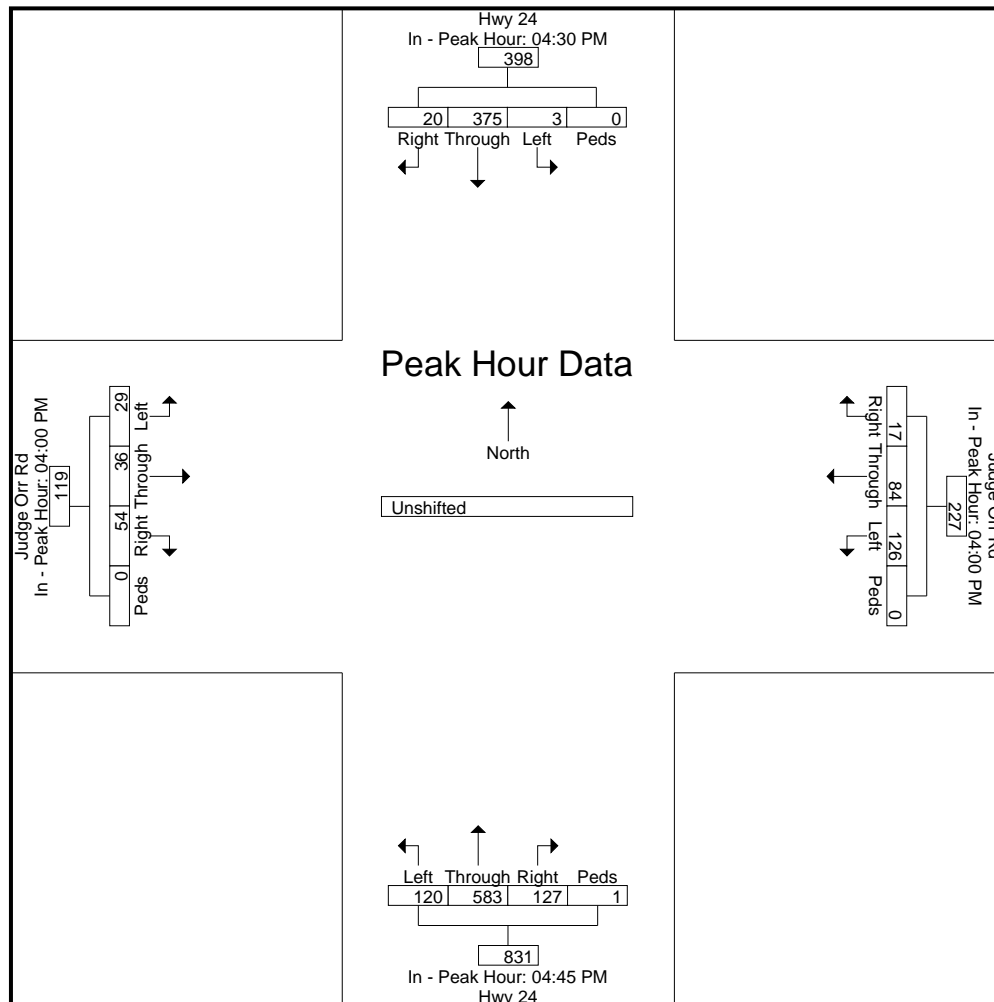
File Name : Hwy 24 - Judge Orr Rr PM 10-19

Site Code : 194730

Start Date : 10/2/2019

Page No : 3

	Hwy 24 Southbound					Judge Orr Rd Westbound					Hwy 24 Northbound					Judge Orr Rd Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
<b>Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	04:30 PM					04:00 PM					04:45 PM					04:00 PM					
+0 mins.	2	92	8	0	102	42	16	6	0	64	31	136	29	1	197	4	11	9	0	24	
+15 mins.	0	100	2	0	102	27	16	2	0	45	34	162	33	0	229	6	9	17	0	32	
+30 mins.	0	83	5	0	88	24	29	3	0	56	23	142	33	0	198	8	7	15	0	30	
+45 mins.	1	100	5	0	106	33	23	6	0	62	32	143	32	0	207	11	9	13	0	33	
Total Volume	3	375	20	0	398	126	84	17	0	227	120	583	127	1	831	29	36	54	0	119	
% App. Total	0.8	94.2	5	0		55.5	37	7.5	0		14.4	70.2	15.3	0.1		24.4	30.3	45.4	0		
PHF	.375	.938	.625	.000	.939	.750	.724	.708	.000	.887	.882	.900	.962	.250	.907	.659	.818	.794	.000	.902	



# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
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719-633-2868

File Name : Eastonville Rd - Woodmen Hills Dr AM  
Site Code : 00194730  
Start Date : 12/3/2020  
Page No : 1

## Groups Printed- Unshifted

	Eastonville Rd Southbound					Woodmen Hills Dr Westbound					Eastonville Rd Northbound					Woodmen Hills Dr Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
07:00 AM	0	24	2	0	26	0	0	5	0	5	0	25	0	0	25	1	0	1	0	2	58
07:15 AM	2	33	4	0	39	0	1	3	0	4	0	36	0	0	36	7	0	0	0	7	86
07:30 AM	0	68	5	0	73	0	0	1	0	1	1	37	0	0	38	7	0	1	0	8	120
07:45 AM	0	48	7	0	55	2	2	1	0	5	1	33	0	0	34	2	0	1	0	3	97
Total	2	173	18	0	193	2	3	10	0	15	2	131	0	0	133	17	0	3	0	20	361
08:00 AM	0	18	2	0	20	0	2	0	0	2	0	18	0	0	18	2	0	0	0	2	42
08:15 AM	0	29	1	0	30	0	1	1	0	2	0	16	0	0	16	3	0	1	0	4	52
08:30 AM	1	16	1	0	18	0	1	0	0	1	0	10	0	0	10	1	0	0	0	1	30
08:45 AM	1	15	2	0	18	0	1	1	0	2	0	13	0	0	13	2	0	2	0	4	37
Total	2	78	6	0	86	0	5	2	0	7	0	57	0	0	57	8	0	3	0	11	161
Grand Total	4	251	24	0	279	2	8	12	0	22	2	188	0	0	190	25	0	6	0	31	522
Apprch %	1.4	90	8.6	0		9.1	36.4	54.5	0		1.1	98.9	0	0		80.6	0	19.4	0		
Total %	0.8	48.1	4.6	0	53.4	0.4	1.5	2.3	0	4.2	0.4	36	0	0	36.4	4.8	0	1.1	0	5.9	

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File Name : Eastonville Rd - Woodmen Hills Dr AM  
Site Code : 00194730  
Start Date : 12/3/2020  
Page No : 2

	Eastonville Rd Southbound					Woodmen Hills Dr Westbound					Eastonville Rd Northbound					Woodmen Hills Dr Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
<b>Peak Hour Analysis From 7:00:00 AM to 8:45:00 AM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 7:00:00 AM																					
7:00:00 AM	0	24	2	0	26	0	0	5	0	5	0	25	0	0	25	1	0	1	0	2	58
7:15:00 AM	2	33	4	0	39	0	1	3	0	4	0	36	0	0	36	7	0	0	0	7	86
7:30:00 AM	0	68	5	0	73	0	0	1	0	1	1	37	0	0	38	7	0	1	0	8	120
7:45:00 AM	0	48	7	0	55	2	2	1	0	5	1	33	0	0	34	2	0	1	0	3	97
Total Volume	2	173	18	0	193	2	3	10	0	15	2	131	0	0	133	17	0	3	0	20	361
% App. Total	1	89.6	9.3	0		13.3	20	66.7	0		1.5	98.5	0	0		85	0	15	0		
PHF	.250	.636	.643	.000	.661	.250	.375	.500	.000	.750	.500	.885	.000	.000	.875	.607	.000	.750	.000	.625	.752

# LSC Transportation Consultants, Inc.

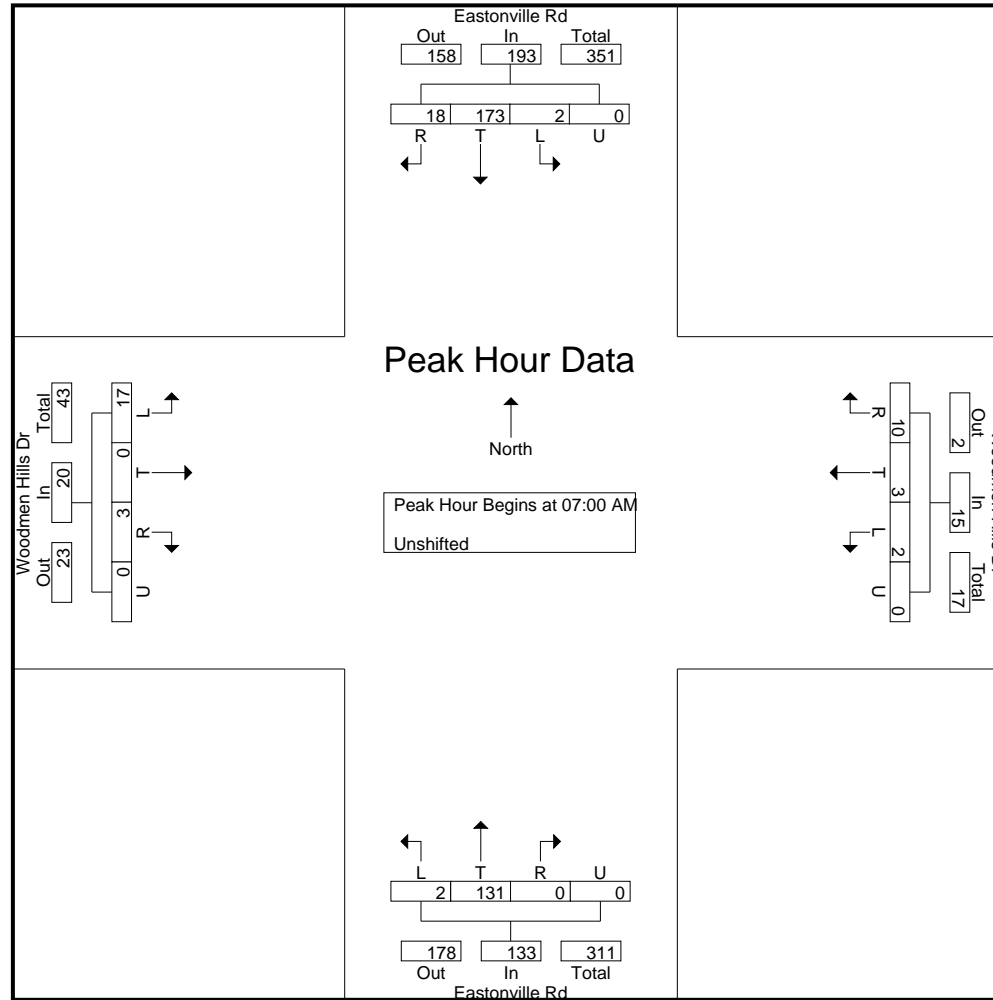
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719-633-2868

File Name : Eastonville Rd - Woodmen Hills Dr AM

Site Code : 00194730

Start Date : 12/3/2020

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Site Code : 00194730  
Start Date : 12/3/2020  
Page No : 4

	Eastonville Rd Southbound					Woodmen Hills Dr Westbound					Eastonville Rd Northbound					Woodmen Hills Dr Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
<b>Peak Hour Analysis From 7:00:00 AM to 8:45:00 AM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	7:00:00 AM					7:00:00 AM					7:00:00 AM					7:00:00 AM					
+0 mins.	0	24	2	0	26	0	0	5	0	5	0	25	0	0	25	1	0	1	0	2	
+5 mins.	2	33	4	0	39	0	1	3	0	4	0	36	0	0	36	7	0	0	0	7	
+10 mins.	0	68	5	0	73	0	0	1	0	1	1	37	0	0	38	7	0	1	0	8	
+15 mins.	0	48	7	0	55	2	2	1	0	5	1	33	0	0	34	2	0	1	0	3	
Total Volume	2	173	18	0	193	2	3	10	0	15	2	131	0	0	133	17	0	3	0	20	
% App. Total	1	89.6	9.3	0		13.3	20	66.7	0		1.5	98.5	0	0		85	0	15	0		
PHF	.250	.636	.643	.000	.661	.250	.375	.500	.000	.750	.500	.885	.000	.000	.875	.607	.000	.750	.000	.625	

# LSC Transportation Consultants, Inc.

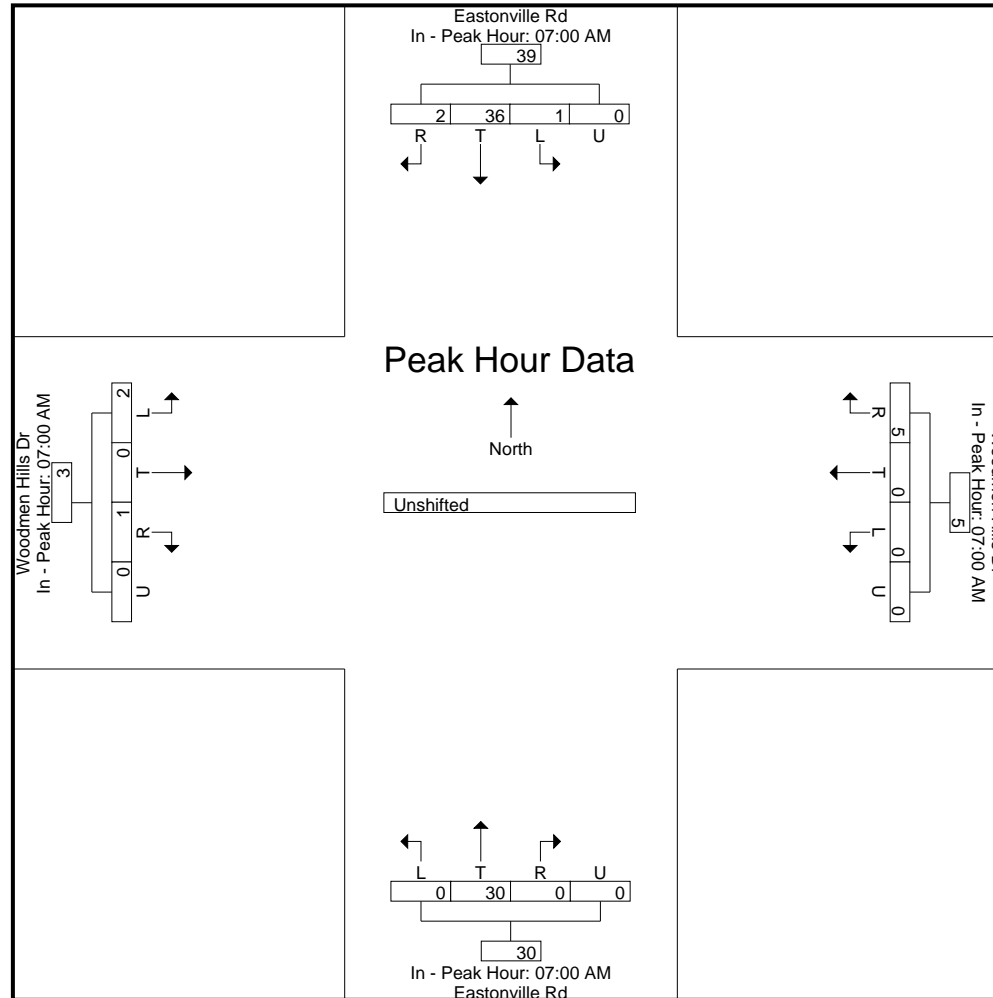
545 E Pikes Peak Ave, Suite 210  
Colorado Springs, CO 80905  
719-633-2868

File Name : Eastonville Rd - Woodmen Hills Dr AM

Site Code : 00194730

Start Date : 12/3/2020

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719-633-2868

File Name : Eastonville Rd - Woodmen Hills Dr PM  
Site Code : 00194730  
Start Date : 12/2/2020  
Page No : 1

## Groups Printed- Unshifted

	Eastonville Rd Southbound					Woodmen Hills Dr Westbound					Eastonville Rd Northbound					Woodmen Hills Dr Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
04:00 PM	1	49	0	0	50	1	2	0	0	3	1	46	0	0	47	3	1	0	0	4	104
04:15 PM	0	41	0	0	41	0	1	1	0	2	1	50	1	0	52	4	0	0	0	4	99
04:30 PM	0	37	4	0	41	0	0	0	0	0	2	51	1	0	54	1	0	4	0	5	100
04:45 PM	0	40	3	0	43	0	0	0	0	0	2	58	0	0	60	3	0	0	0	3	106
Total	1	167	7	0	175	1	3	1	0	5	6	205	2	0	213	11	1	4	0	16	409
05:00 PM	0	43	3	0	46	1	1	1	0	3	1	66	0	0	67	0	0	1	0	1	117
05:15 PM	2	29	1	0	32	1	1	2	0	4	0	46	3	0	49	2	0	1	0	3	88
05:30 PM	1	28	0	0	29	0	0	0	0	0	2	65	0	0	67	2	0	1	0	3	99
05:45 PM	2	34	1	0	37	0	1	1	0	2	1	61	2	0	64	1	0	0	0	1	104
Total	5	134	5	0	144	2	3	4	0	9	4	238	5	0	247	5	0	3	0	8	408
Grand Total	6	301	12	0	319	3	6	5	0	14	10	443	7	0	460	16	1	7	0	24	817
Apprch %	1.9	94.4	3.8	0		21.4	42.9	35.7	0		2.2	96.3	1.5	0		66.7	4.2	29.2	0		
Total %	0.7	36.8	1.5	0	39	0.4	0.7	0.6	0	1.7	1.2	54.2	0.9	0	56.3	2	0.1	0.9	0	2.9	

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Page No : 2

	Eastonville Rd Southbound					Woodmen Hills Dr Westbound					Eastonville Rd Northbound					Woodmen Hills Dr Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
<b>Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1</b>																					
Peak Hour for Entire Intersection Begins at 4:15:00 PM																					
4:15:00 PM	0	41	0	0	41	0	<b>1</b>	<b>1</b>	0	2	1	50	<b>1</b>	0	52	<b>4</b>	0	0	0	4	99
4:30:00 PM	0	37	<b>4</b>	0	41	0	0	0	0	0	<b>2</b>	51	1	0	54	1	0	<b>4</b>	0	<b>5</b>	100
4:45:00 PM	0	40	3	0	43	0	0	0	0	0	2	58	0	0	60	3	0	0	0	3	106
5:00:00 PM	0	<b>43</b>	3	0	<b>46</b>	<b>1</b>	1	1	0	<b>3</b>	1	<b>66</b>	0	0	<b>67</b>	0	0	1	0	1	<b>117</b>
Total Volume	0	161	10	0	171	1	2	2	0	5	6	225	2	0	233	8	0	5	0	13	422
% App. Total	0	94.2	5.8	0		20	40	40	0		2.6	96.6	0.9	0		61.5	0	38.5	0		
PHF	.000	.936	.625	.000	.929	.250	.500	.500	.000	.417	.750	.852	.500	.000	.869	.500	.000	.313	.000	.650	.902

# LSC Transportation Consultants, Inc.

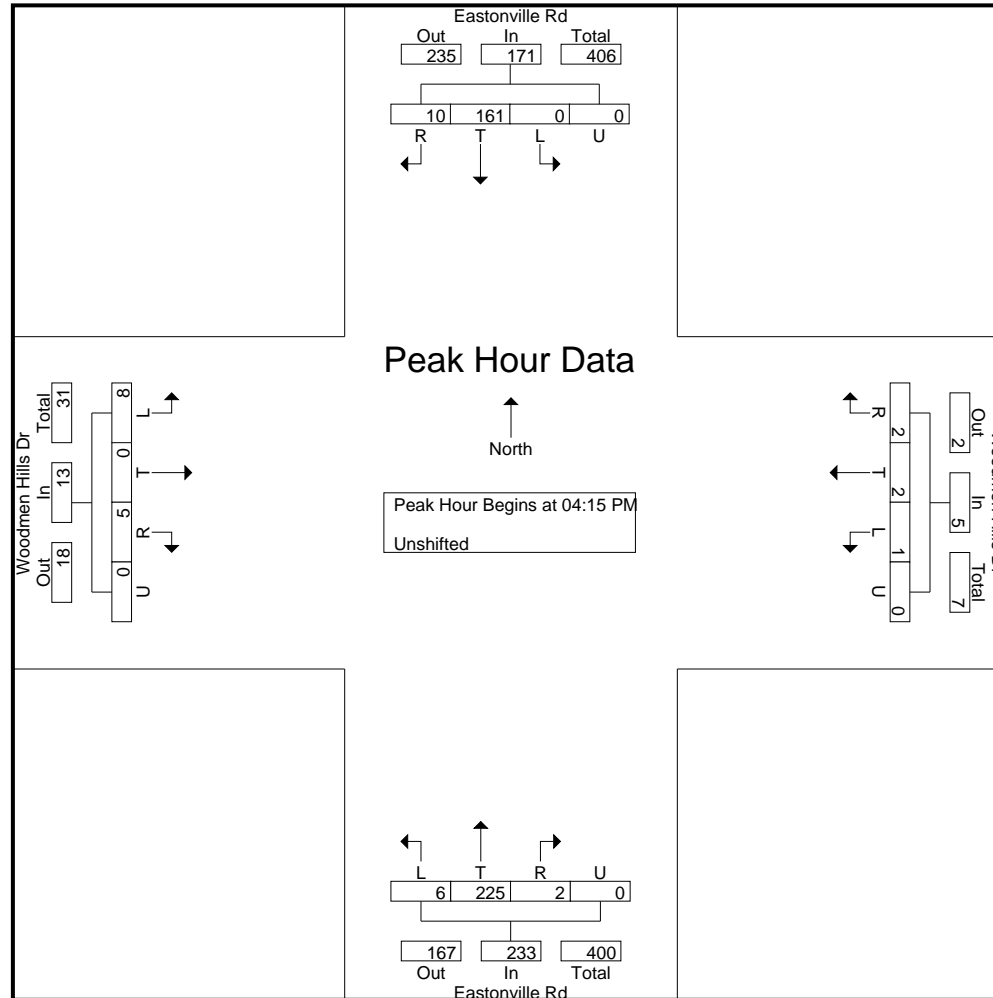
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File Name : Eastonville Rd - Woodmen Hills Dr PM

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	Eastonville Rd Southbound					Woodmen Hills Dr Westbound					Eastonville Rd Northbound					Woodmen Hills Dr Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
<b>Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1</b>																					
Peak Hour for Each Approach Begins at:																					
	4:00:00 PM					5:00:00 PM					5:00:00 PM					4:00:00 PM					
+0 mins.	<b>1</b>	<b>49</b>	0	0	<b>50</b>	<b>1</b>	<b>1</b>	1	0	3	1	<b>66</b>	0	0	<b>67</b>	3	<b>1</b>	0	0	4	
+5 mins.	0	41	0	0	41	1	1	<b>2</b>	0	<b>4</b>	0	46	<b>3</b>	0	49	<b>4</b>	0	0	0	4	
+10 mins.	0	37	<b>4</b>	0	41	0	0	0	0	0	<b>2</b>	65	0	0	67	1	0	<b>4</b>	0	<b>5</b>	
+15 mins.	0	40	3	0	43	0	1	1	0	2	1	61	2	0	64	3	0	0	0	3	
Total Volume	1	167	7	0	175	2	3	4	0	9	4	238	5	0	247	11	1	4	0	16	
% App. Total	0.6	95.4	4	0		22.2	33.3	44.4	0		1.6	96.4	2	0		68.8	6.2	25	0		
PHF	.250	.852	.438	.000	.875	.500	.750	.500	.000	.563	.500	.902	.417	.000	.922	.688	.250	.250	.000	.800	

# LSC Transportation Consultants, Inc.

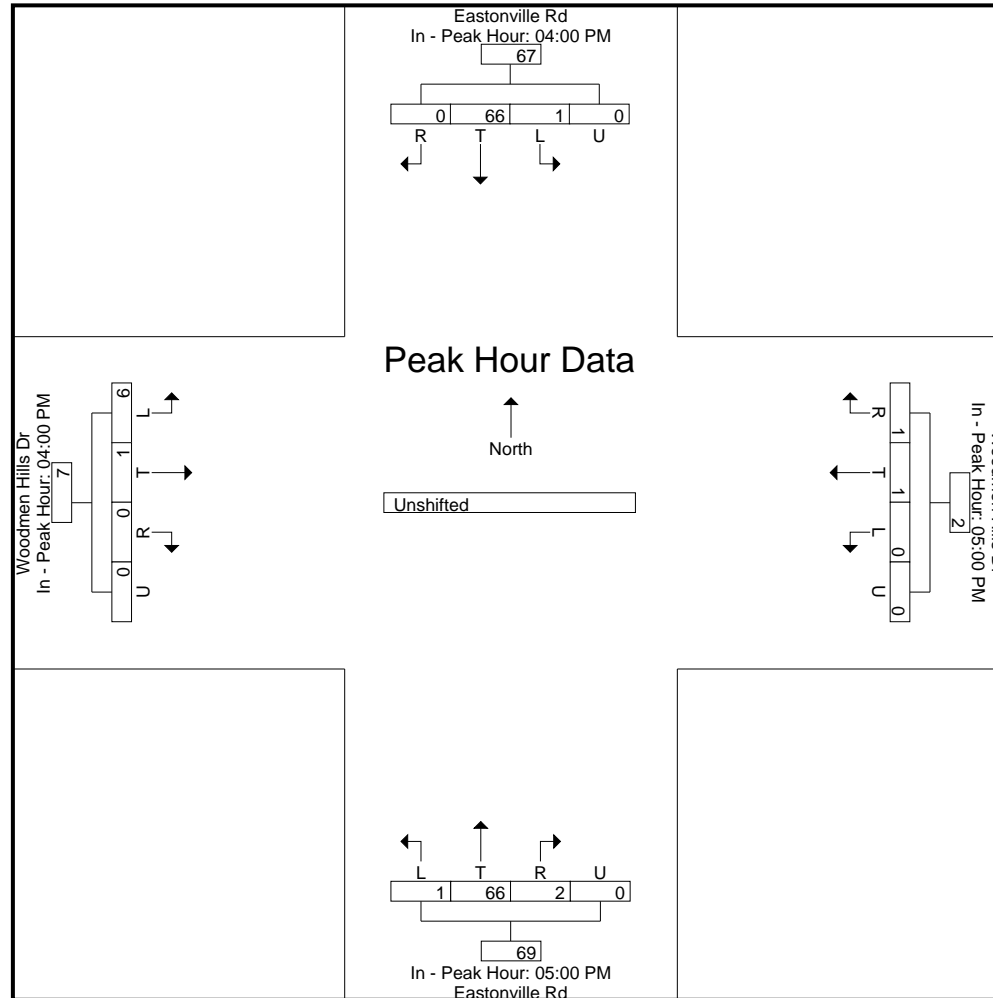
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
















# Levels of Service

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Lanes, Volumes, Timings  
2: US 24 & Judge Orr Rd

Existing  
AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	25	78	139	119	49	6	74	317	59	8	528	26
Future Volume (vph)	25	78	139	119	49	6	74	317	59	8	528	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	860		0	695		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			300			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.923			0.995			0.977			0.993	
Flt Protected		0.995			0.967		0.950			0.950		
Satd. Flow (prot)	0	1711	0	0	1792	0	1770	1820	0	1770	1850	0
Flt Permitted		0.995			0.967		0.153			0.522		
Satd. Flow (perm)	0	1711	0	0	1792	0	285	1820	0	972	1850	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65			2			14			3	
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		2032			1524			1735			2505	
Travel Time (s)		30.8			23.1			21.5			31.1	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	29	90	160	137	56	7	80	345	64	9	568	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	279	0	0	200	0	80	409	0	9	596	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA		Split	NA		pm+pt	NA		Perm	NA	
Protected Phases	4	4		8	8		5	2		6	6	
Permitted Phases							2			6		

Existing AM  
Lanes, Volumes, Timings

Synchro 10 Report  
JAB

Lanes, Volumes, Timings  
2: US 24 & Judge Orr Rd

Existing  
AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		9.5	24.0		24.0	24.0	
Total Split (s)	21.0	21.0		21.0	21.0		10.0	48.0		38.0	38.0	
Total Split (%)	23.3%	23.3%		23.3%	23.3%		11.1%	53.3%		42.2%	42.2%	
Maximum Green (s)	15.0	15.0		15.0	15.0		5.5	42.0		32.0	32.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.5	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		4.5	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effect Green (s)		14.0			13.3		43.6	42.1		34.3	34.3	
Actuated g/C Ratio		0.16			0.15		0.50	0.48		0.39	0.39	
v/c Ratio		0.85			0.73		0.34	0.46		0.02	0.82	
Control Delay		52.0			51.5		16.6	17.4		19.2	37.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		52.0			51.5		16.6	17.4		19.2	37.2	
LOS		D			D		B	B		B	D	
Approach Delay		52.0			51.5			17.2			36.9	
Approach LOS		D			D			B			D	
Queue Length 50th (ft)		119			107		24	148		3	316	
Queue Length 95th (ft)		#236			#174		48	228		14	#522	
Internal Link Dist (ft)		1952			1444			1655			2425	
Turn Bay Length (ft)							860			695		
Base Capacity (vph)		348			309		235	882		380	726	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.80			0.65		0.34	0.46		0.02	0.82	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 87.5

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 35.3

Intersection LOS: D

Intersection Capacity Utilization 75.8%

ICU Level of Service D

Analysis Period (min) 15

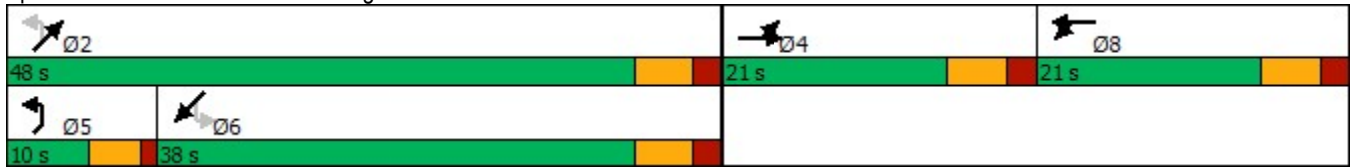
# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings  
 2: US 24 & Judge Orr Rd

Existing  
 AM










Splits and Phases: 2: US 24 & Judge Orr Rd



HCM 6th AWSC  
1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd

Existing  
AM

Intersection	
Intersection Delay, s/veh	14.1
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	97	148	101	24	43	82	17	185	43	41	145	10
Future Vol, veh/h	97	148	101	24	43	82	17	185	43	41	145	10
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.92	0.92	0.92	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	105	161	110	28	49	94	18	201	47	47	167	11
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	14.8	11.1	15.7	13.4
HCM LOS	B	B	C	B

Lane	NELn1	NELn2	NWLn1	NWLn2	NWLn3	SELn1	SELn2	SWLn1	SWLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	100%	0%
Vol Thru, %	0%	81%	0%	100%	0%	0%	59%	0%	94%
Vol Right, %	0%	19%	0%	0%	100%	0%	41%	0%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	228	24	43	82	97	249	41	155
LT Vol	17	0	24	0	0	97	0	41	0
Through Vol	0	185	0	43	0	0	148	0	145
RT Vol	0	43	0	0	82	0	101	0	10
Lane Flow Rate	18	248	28	49	94	105	271	47	178
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.039	0.481	0.061	0.103	0.177	0.218	0.499	0.101	0.356
Departure Headway (Hd)	7.628	6.988	7.988	7.476	6.761	7.44	6.641	7.747	7.194
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	470	515	449	479	531	483	544	463	501
Service Time	5.367	4.726	5.732	5.221	4.505	5.177	4.378	5.489	4.935
HCM Lane V/C Ratio	0.038	0.482	0.062	0.102	0.177	0.217	0.498	0.102	0.355
HCM Control Delay	10.7	16.1	11.3	11.1	11	12.2	15.8	11.4	13.9
HCM Lane LOS	B	C	B	B	B	B	C	B	B
HCM 95th-tile Q	0.1	2.6	0.2	0.3	0.6	0.8	2.8	0.3	1.6

HCM 6th TWSC  
3: Eastonville Rd & Copenhagen Rd

Existing  
AM

Intersection

Int Delay, s/veh 1

Movement EBL EBR NEL NET SWT SWR

Lane Configurations 

Traffic Vol, veh/h 20 20 15 349 176 10

Future Vol, veh/h 20 20 15 349 176 10

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Stop Stop Free Free Free Free

RT Channelized - None - None - None

Storage Length 0 - 25 - - -

Veh in Median Storage, # 0 - - 0 0 -

Grade, % 0 - - 0 0 -

Peak Hour Factor 78 78 92 92 87 87

Heavy Vehicles, % 2 2 2 2 2 2

Mvmt Flow 26 26 16 379 202 11

Major/Minor Minor2 Major1 Major2

Conflicting Flow All 619 208 213 0 - 0

Stage 1 208 - - - - -

Stage 2 411 - - - - -

Critical Hdwy 6.42 6.22 4.12 - - -

Critical Hdwy Stg 1 5.42 - - - - -

Critical Hdwy Stg 2 5.42 - - - - -

Follow-up Hdwy 3.518 3.318 2.218 - - -

Pot Cap-1 Maneuver 452 832 1357 - - -

Stage 1 827 - - - - -

Stage 2 669 - - - - -

Platoon blocked, % - - -

Mov Cap-1 Maneuver 447 832 1357 - - -

Mov Cap-2 Maneuver 535 - - - - -

Stage 1 817 - - - - -

Stage 2 669 - - - - -

Approach EB NE SW

HCM Control Delay, s 11 0.3 0

HCM LOS B

Minor Lane/Major Mvmt NEL NET EBLn1 SWT SWR

Capacity (veh/h) 1357 - 651 - -

HCM Lane V/C Ratio 0.012 - 0.079 - -




HCM Control Delay (s) 7.7 - 11 - -

HCM Lane LOS A - B - -

HCM 95th %tile Q(veh) 0 - 0.3 - -







HCM 6th TWSC  
12: Adjacent Driveway & Judge Orr Rd

Existing  
AM

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	235	1	1	145	1	1
Future Vol, veh/h	235	1	1	145	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	270	1	1	167	1	1
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	271	0	440	271
Stage 1	-	-	-	-	271	-
Stage 2	-	-	-	-	169	-
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	-	-	1292	-	574	768
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	861	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1292	-	573	768
Mov Cap-2 Maneuver	-	-	-	-	573	-
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	860	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.1		10.5	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	656	-	-	1292	-	
HCM Lane V/C Ratio	0.004	-	-	0.001	-	
HCM Control Delay (s)	10.5	-	-	7.8	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0	-	

HCM 6th TWSC  
13: Eastonville Rd & Woodmen Hills Dr










Existing  
AM

Intersection												
Int Delay, s/veh	1.2											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	17	0	3	2	3	10	2	131	0	2	173	18
Future Vol, veh/h	17	0	3	2	3	10	2	131	0	2	173	18
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	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	83	83	83	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	0	4	3	4	13	2	158	0	2	199	21
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	385	376	210	378	386	158	220	0	0	158	0	0
Stage 1	214	214	-	162	162	-	-	-	-	-	-	-
Stage 2	171	162	-	216	224	-	-	-	-	-	-	-
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	573	555	830	580	548	887	1349	-	-	1422	-	-
Stage 1	788	725	-	840	764	-	-	-	-	-	-	-
Stage 2	831	764	-	786	718	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	560	554	830	576	547	887	1349	-	-	1422	-	-
Mov Cap-2 Maneuver	560	554	-	576	547	-	-	-	-	-	-	-
Stage 1	787	724	-	839	763	-	-	-	-	-	-	-
Stage 2	814	763	-	781	717	-	-	-	-	-	-	-
Approach	SE		NW		NE		SW					
HCM Control Delay, s	11.4		10		0.1		0.1					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR					
Capacity (veh/h)	1349	-	-	741	589	1422	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.026	0.044	0.002	-	-				
HCM Control Delay (s)	7.7	-	-	10	11.4	7.5	-	-				
HCM Lane LOS	A	-	-	B	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-				

HCM 6th AWSC  
1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd

Existing  
PM

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	10	46	81	50	149	39	119	169	45	20	93	7
Future Vol, veh/h	10	46	81	50	149	39	119	169	45	20	93	7
Peak Hour Factor	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	53	93	54	162	42	129	184	49	23	107	8
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	0



















Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	11.4	11.4	12.6	11.3
HCM LOS	B	B	B	B

Lane	NELn1	NELn2	NWLn1	NWLn2	NWLn3	SELn1	SELn2	SWLn1	SWLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	100%	0%
Vol Thru, %	0%	79%	0%	100%	0%	0%	36%	0%	93%
Vol Right, %	0%	21%	0%	0%	100%	0%	64%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	119	214	50	149	39	10	127	20	100
LT Vol	119	0	50	0	0	10	0	20	0
Through Vol	0	169	0	149	0	0	46	0	93
RT Vol	0	45	0	0	39	0	81	0	7
Lane Flow Rate	129	233	54	162	42	11	146	23	115
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.245	0.398	0.108	0.298	0.07	0.024	0.261	0.047	0.217
Departure Headway (Hd)	6.817	6.164	7.13	6.623	5.913	7.394	6.43	7.342	6.786
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	525	582	501	541	602	482	555	486	526
Service Time	4.583	3.93	4.903	4.395	3.685	5.174	4.209	5.121	4.565
HCM Lane V/C Ratio	0.246	0.4	0.108	0.299	0.07	0.023	0.263	0.047	0.219
HCM Control Delay	11.8	13	10.8	12.2	9.1	10.4	11.5	10.5	11.5
HCM Lane LOS	B	B	B	B	A	B	B	B	B
HCM 95th-tile Q	1	1.9	0.4	1.2	0.2	0.1	1	0.1	0.8



Lanes, Volumes, Timings  
2: US 24 & Judge Orr Rd

Existing  
PM













												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	33	32	46	121	88	15	126	556	121	3	375	20
Future Volume (vph)	33	32	46	121	88	15	126	556	121	3	375	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	860		0	695		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			300			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.944			0.991			0.973			0.992	
Flt Protected		0.985			0.974		0.950			0.950		
Satd. Flow (prot)	0	1732	0	0	1798	0	1770	1812	0	1770	1848	0
Flt Permitted		0.985			0.763		0.287			0.219		
Satd. Flow (perm)	0	1732	0	0	1408	0	535	1812	0	408	1848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31			4			16			3	
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		2032			1524			1735			2505	
Travel Time (s)		30.8			23.1			21.5			31.1	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	38	37	53	139	101	17	135	598	130	3	408	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	128	0	0	257	0	135	728	0	3	430	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases	4	4			8		5	2			6	
Permitted Phases				8			2			6		

Existing PM  
Lanes, Volumes, Timings

Synchro 10 Report  
JAB

Lanes, Volumes, Timings  
2: US 24 & Judge Orr Rd






Existing  
PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		9.5	24.0		24.0	24.0	
Total Split (s)	14.0	14.0		28.0	28.0		10.6	48.0		37.4	37.4	
Total Split (%)	15.6%	15.6%		31.1%	31.1%		11.8%	53.3%		41.6%	41.6%	
Maximum Green (s)	8.0	8.0		22.0	22.0		6.1	42.0		31.4	31.4	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.5	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		4.5	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)		7.6			19.1		43.6	42.1		31.5	31.5	
Actuated g/C Ratio		0.09			0.22		0.50	0.48		0.36	0.36	
v/c Ratio		0.71			0.82		0.38	0.82		0.02	0.64	
Control Delay		52.7			53.9		15.9	29.3		20.0	28.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		52.7			53.9		15.9	29.3		20.0	28.9	
LOS		D			D		B	C		B	C	
Approach Delay		52.7			53.9			27.2			28.9	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)		54			133		41	344		1	202	
Queue Length 95th (ft)		#130			#232		75	#571		7	308	
Internal Link Dist (ft)		1952			1444			1655			2425	
Turn Bay Length (ft)							860			695		
Base Capacity (vph)		188			360		355	886		147	671	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.68			0.71		0.38	0.82		0.02	0.64	
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												
Actuated Cycle Length: 86.9												
Natural Cycle: 85												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.82												
Intersection Signal Delay: 33.6							Intersection LOS: C					
Intersection Capacity Utilization 74.7%							ICU Level of Service D					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												

Lanes, Volumes, Timings  
 2: US 24 & Judge Orr Rd






Existing  
 PM

Splits and Phases: 2: US 24 & Judge Orr Rd

 Ø2			 Ø4			 Ø8		
48 s			14 s			28 s		
 Ø5			 Ø6					
10.6 s			37.4 s					




HCM 6th TWSC  
3: Eastonville Rd & Copenhagen Rd

Existing  
PM

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	10	10	25	193	110	20
Future Vol, veh/h	10	10	25	193	110	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	13	29	222	126	23
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	418	138	149	0	-	0
Stage 1	138	-	-	-	-	-
Stage 2	280	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	591	910	1432	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	767	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	579	910	1432	-	-	-
Mov Cap-2 Maneuver	633	-	-	-	-	-
Stage 1	871	-	-	-	-	-
Stage 2	767	-	-	-	-	-
Approach	EB	NE		SW		
HCM Control Delay, s	10	0.9		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NEL	NET	EBLn1	SWT	SWR	
Capacity (veh/h)	1432	-	747	-	-	
HCM Lane V/C Ratio	0.02	-	0.034	-	-	
HCM Control Delay (s)	7.6	-	10	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-	

HCM 6th TWSC  
12: Adjacent Driveway & Judge Orr Rd

Existing  
PM

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	110	1	1	235	1	1
Future Vol, veh/h	110	1	1	235	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	126	1	1	270	1	1
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	127	0	399	127
Stage 1	-	-	-	-	127	-
Stage 2	-	-	-	-	272	-
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	-	-	1459	-	607	923
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	774	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1459	-	606	923
Mov Cap-2 Maneuver	-	-	-	-	606	-
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	773	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		9.9	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	732	-	-	1459	-	
HCM Lane V/C Ratio	0.004	-	-	0.001	-	
HCM Control Delay (s)	9.9	-	-	7.5	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0	-	

HCM 6th TWSC  
13: Eastonville Rd & Woodmen Hills Dr

Existing  
PM

Intersection												
Int Delay, s/veh	0.6											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	8	0	5	1	2	2	3	225	2	0	161	10
Future Vol, veh/h	8	0	5	1	2	2	3	225	2	0	161	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	6	1	3	3	3	259	2	0	185	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	460	458	191	460	462	260	196	0	0	261	0	0
Stage 1	191	191	-	266	266	-	-	-	-	-	-	-
Stage 2	269	267	-	194	196	-	-	-	-	-	-	-
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	512	499	851	512	497	779	1377	-	-	1303	-	-
Stage 1	811	742	-	739	689	-	-	-	-	-	-	-
Stage 2	737	688	-	808	739	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	507	498	851	507	496	779	1377	-	-	1303	-	-
Mov Cap-2 Maneuver	507	498	-	507	496	-	-	-	-	-	-	-
Stage 1	809	742	-	738	688	-	-	-	-	-	-	-
Stage 2	730	687	-	802	739	-	-	-	-	-	-	-










Approach	SE		NW		NE		SW	
HCM Control Delay, s	11.2		11.2		0.1		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1377	-	-	583	600	1303	-
HCM Lane V/C Ratio	0.003	-	-	0.011	0.028	-	-
HCM Control Delay (s)	7.6	-	-	11.2	11.2	0	-
HCM Lane LOS	A	-	-	B	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-

HCM 6th AWSC  
1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd

Existing + Site  
AM

Intersection	
Intersection Delay, s/veh	16.1
Intersection LOS	C





















Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	114	163	101	38	50	85	17	202	58	44	155	16
Future Vol, veh/h	114	163	101	38	50	85	17	202	58	44	155	16
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	124	177	110	44	57	98	18	220	63	48	168	17
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	16.9	11.8	19	14.6
HCM LOS	C	B	C	B

Lane	NELn1	NELn2	NWLn1	NWLn2	NWLn3	SELn1	SELn2	SWLn1	SWLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	100%	0%
Vol Thru, %	0%	78%	0%	100%	0%	0%	62%	0%	91%
Vol Right, %	0%	22%	0%	0%	100%	0%	38%	0%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	260	38	50	85	114	264	44	171
LT Vol	17	0	38	0	0	114	0	44	0
Through Vol	0	202	0	50	0	0	163	0	155
RT Vol	0	58	0	0	85	0	101	0	16
Lane Flow Rate	18	283	44	57	98	124	287	48	186
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.041	0.574	0.102	0.126	0.194	0.268	0.559	0.109	0.393
Departure Headway (Hd)	7.977	7.31	8.385	7.872	7.154	7.798	7.013	8.185	7.608
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	448	492	426	454	500	460	514	437	472
Service Time	5.736	5.069	6.154	5.641	4.922	5.557	4.771	5.949	5.373
HCM Lane V/C Ratio	0.04	0.575	0.103	0.126	0.196	0.27	0.558	0.11	0.394
HCM Control Delay	11.1	19.5	12.1	11.8	11.7	13.4	18.4	12	15.3
HCM Lane LOS	B	C	B	B	B	B	C	B	C
HCM 95th-tile Q	0.1	3.6	0.3	0.4	0.7	1.1	3.4	0.4	1.8

Lanes, Volumes, Timings  
2: US 24 & Judge Orr Rd

Existing + Site  
AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	32	86	179	119	59	6	94	317	59	8	528	48
Future Volume (vph)	32	86	179	119	59	6	94	317	59	8	528	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	860		0	695		0
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			300			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.996			0.977			0.999	0.850
Flt Protected		0.987			0.969		0.950			0.950		
Satd. Flow (prot)	0	1839	1583	0	1798	0	1770	1820	0	1770	1768	1504
Flt Permitted		0.987			0.729		0.137			0.519		
Satd. Flow (perm)	0	1839	1583	0	1353	0	255	1820	0	967	1768	1504
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			195		2			13			1	164
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		2032			1524			1735			2505	
Travel Time (s)		30.8			23.1			21.5			31.1	
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	35	93	195	137	68	7	102	345	64	9	568	52
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	0	128	195	0	212	0	102	409	0	9	573	47
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	4	4			8		5	2			6	
Permitted Phases			4	8			2			6		6













Existing + Site AM  
Lanes, Volumes, Timings

Synchro 10 Report  
JAB



Lanes, Volumes, Timings  
2: US 24 & Judge Orr Rd

Existing + Site  
AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4	4	8	8		5	2		6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0		9.5	24.0		24.0	24.0	24.0
Total Split (s)	21.0	21.0	21.0	25.0	25.0		8.0	44.0		36.0	36.0	36.0
Total Split (%)	23.3%	23.3%	23.3%	27.8%	27.8%		8.9%	48.9%		40.0%	40.0%	40.0%
Maximum Green (s)	15.0	15.0	15.0	19.0	19.0		3.5	38.0		30.0	30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.5	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	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)		6.0	6.0		6.0		4.5	6.0		6.0	6.0	6.0
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Max		Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0			11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0			0		0	0	0
Act Effect Green (s)		10.9	10.9		16.6		39.7	38.2		32.0	32.0	32.0
Actuated g/C Ratio		0.13	0.13		0.20		0.47	0.46		0.38	0.38	0.38
v/c Ratio		0.54	0.52		0.79		0.55	0.49		0.02	0.85	0.07
Control Delay		43.1	10.7		54.0		28.0	19.1		20.1	40.4	0.2
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		43.1	10.7		54.0		28.0	19.1		20.1	40.4	0.2
LOS		D	B		D		C	B		C	D	A
Approach Delay		23.5			54.0			20.9			37.1	
Approach LOS		C			D			C			D	
Queue Length 50th (ft)		66	0		106		31	149		3	310	0
Queue Length 95th (ft)		120	57		#206		#74	250		14	#564	0
Internal Link Dist (ft)		1952			1444			1655			2425	
Turn Bay Length (ft)							860			695		
Base Capacity (vph)		331	444		309		184	836		369	675	675
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.39	0.44		0.69		0.55	0.49		0.02	0.85	0.07

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 83.8

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 31.7

Intersection LOS: C

Intersection Capacity Utilization 64.9%

ICU Level of Service C

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings  
 2: US 24 & Judge Orr Rd










Existing + Site  
 AM

Splits and Phases: 2: US 24 & Judge Orr Rd










HCM 6th TWSC  
3: Eastonville Rd & Copenhagen Rd

Existing + Site  
AM

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	20	0	20	32	0	18	15	340	46	45	163	10
Future Vol, veh/h	20	0	20	32	0	18	15	340	46	45	163	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	50	-	155	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	92	78	92	92	92	92	92	92	92	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	0	26	35	0	20	16	370	50	49	187	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	728	743	193	706	698	370	198	0	0	420	0	0
Stage 1	291	291	-	402	402	-	-	-	-	-	-	-
Stage 2	437	452	-	304	296	-	-	-	-	-	-	-
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	339	343	849	351	364	676	1375	-	-	1139	-	-
Stage 1	717	672	-	625	600	-	-	-	-	-	-	-
Stage 2	598	570	-	705	668	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	316	324	849	326	344	676	1375	-	-	1139	-	-
Mov Cap-2 Maneuver	316	324	-	326	344	-	-	-	-	-	-	-
Stage 1	708	643	-	618	593	-	-	-	-	-	-	-
Stage 2	574	563	-	654	639	-	-	-	-	-	-	-
Approach	EB		WB		NE		SW					
HCM Control Delay, s	13.8		14.9		0.3		1.6					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1WBLn1WBLn2	SWL	SWT	SWR					
Capacity (veh/h)	1375	-	-	461 326 676	1139	-	-					
HCM Lane V/C Ratio	0.012	-	-	0.111 0.107 0.029	0.043	-	-					
HCM Control Delay (s)	7.7	-	-	13.8 17.4 10.5	8.3	-	-					
HCM Lane LOS	A	-	-	B C B	A	-	-					
HCM 95th %tile Q(veh)	0	-	-	0.4 0.4 0.1	0.1	-	-					

HCM 6th TWSC  
12: Judge Orr Rd & S Access

Existing + Site  
AM

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	223	0	1	138	54	1	0	0	51	0	31
Future Vol, veh/h	45	223	0	1	138	54	1	0	0	51	0	31
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	385	-	-	-	-	235	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	87	87	87	78	78	78	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	242	0	1	159	62	1	0	0	61	0	37







Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	221	0	0	242	0	0	551	563	242	501	501	159
Stage 1	-	-	-	-	-	-	340	340	-	161	161	-
Stage 2	-	-	-	-	-	-	211	223	-	340	340	-
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	1348	-	-	1324	-	-	445	435	797	480	472	886
Stage 1	-	-	-	-	-	-	675	639	-	841	765	-
Stage 2	-	-	-	-	-	-	791	719	-	675	639	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1348	-	-	1324	-	-	414	419	797	467	455	886
Mov Cap-2 Maneuver	-	-	-	-	-	-	414	419	-	467	455	-
Stage 1	-	-	-	-	-	-	651	616	-	811	764	-
Stage 2	-	-	-	-	-	-	757	718	-	650	616	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0	13.7	12.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	414	1348	-	-	1324	-	-	467	886
HCM Lane V/C Ratio	0.003	0.036	-	-	0.001	-	-	0.132	0.042
HCM Control Delay (s)	13.7	7.8	-	-	7.7	0	-	13.9	9.2
HCM Lane LOS	B	A	-	-	A	A	-	B	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.5	0.1

HCM 6th TWSC  
15: Eastonville Rd & Woodmen Hills Dr










Existing + Site  
AM

Intersection												
Int Delay, s/veh	1.4											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	24	0	3	2	3	11	2	156	0	3	191	24
Future Vol, veh/h	24	0	3	2	3	11	2	156	0	3	191	24
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	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	0	4	3	4	14	2	179	0	3	220	28
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	432	423	234	425	437	179	248	0	0	179	0	0
Stage 1	240	240	-	183	183	-	-	-	-	-	-	-
Stage 2	192	183	-	242	254	-	-	-	-	-	-	-
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	534	522	805	540	513	864	1318	-	-	1397	-	-
Stage 1	763	707	-	819	748	-	-	-	-	-	-	-
Stage 2	810	748	-	762	697	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	521	520	805	536	511	864	1318	-	-	1397	-	-
Mov Cap-2 Maneuver	521	520	-	536	511	-	-	-	-	-	-	-
Stage 1	761	706	-	817	747	-	-	-	-	-	-	-
Stage 2	791	747	-	757	696	-	-	-	-	-	-	-
Approach	SE		NW		NE		SW					
HCM Control Delay, s	12.1		10.2		0.1		0.1					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR					
Capacity (veh/h)	1318	-	-	716	542	1397	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.029	0.064	0.002	-	-				
HCM Control Delay (s)	7.7	-	-	10.2	12.1	7.6	-	-				
HCM Lane LOS	A	-	-	B	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-				

HCM 6th AWSC  
1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd

Existing + Site  
PM

Intersection	
Intersection Delay, s/veh	16.4
Intersection LOS	C




















Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	30	69	81	77	183	60	119	207	90	27	123	43
Future Vol, veh/h	30	69	81	77	183	60	119	207	90	27	123	43
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	75	88	89	210	69	129	225	98	29	134	47
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	14.3	14.6	19.5	15
HCM LOS	B	B	C	B

Lane	NELn1	NELn2	NWLn1	NWLn2	NWLn3	SELn1	SELn2	SWLn1	SWLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	100%	0%
Vol Thru, %	0%	70%	0%	100%	0%	0%	46%	0%	74%
Vol Right, %	0%	30%	0%	0%	100%	0%	54%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	119	297	77	183	60	30	150	27	166
LT Vol	119	0	77	0	0	30	0	27	0
Through Vol	0	207	0	183	0	0	69	0	123
RT Vol	0	90	0	0	60	0	81	0	43
Lane Flow Rate	129	323	89	210	69	33	163	29	180
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.282	0.64	0.201	0.448	0.133	0.078	0.351	0.069	0.391
Departure Headway (Hd)	7.856	7.133	8.171	7.66	6.943	8.652	7.747	8.492	7.796
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	457	507	438	469	514	413	463	421	460
Service Time	5.617	4.894	5.938	5.426	4.709	6.428	5.522	6.265	5.568
HCM Lane V/C Ratio	0.282	0.637	0.203	0.448	0.134	0.08	0.352	0.069	0.391
HCM Control Delay	13.7	21.8	13	16.5	10.8	12.2	14.7	11.9	15.5
HCM Lane LOS	B	C	B	C	B	B	B	B	C
HCM 95th-tile Q	1.1	4.5	0.7	2.3	0.5	0.3	1.6	0.2	1.8










Lanes, Volumes, Timings  
12: Judge Orr Rd & S Access

Existing + Site  
PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	100	0	1	222	112	1	0	1	109	0	91
Future Volume (vph)	85	100	0	1	222	112	1	0	1	109	0	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	385		0	0		235	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		1
Taper Length (ft)	200			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850		0.932				0.850
Flt Protected	0.950							0.976			0.950	
Satd. Flow (prot)	1770	1863	0	0	1863	1583	0	1694	0	0	1770	1583
Flt Permitted	0.950							0.976			0.950	
Satd. Flow (perm)	1770	1863	0	0	1863	1583	0	1694	0	0	1770	1583
Link Speed (mph)		45			35			30			30	
Link Distance (ft)		774			2032			432			585	
Travel Time (s)		11.7			39.6			9.8			13.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.99	0.92	0.78	0.78	0.78	0.83	0.83	0.83
Adj. Flow (vph)	92	109	0	1	224	122	1	0	1	131	0	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	109	0	0	225	122	0	2	0	0	131	110
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	37.7%						ICU Level of Service A					
Analysis Period (min)	15											

HCM 6th TWSC  
3: Eastonville Rd & Copenhagen Rd








Existing + Site  
PM

Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	10	0	10	92	0	91	25	165	107	55	91	20
Future Vol, veh/h	10	0	10	92	0	91	25	165	107	55	91	20
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	50	-	155	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	92	78	83	83	83	92	92	92	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	13	111	0	110	27	179	116	63	105	23
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	589	592	117	482	487	179	128	0	0	295	0	0
Stage 1	243	243	-	233	233	-	-	-	-	-	-	-
Stage 2	346	349	-	249	254	-	-	-	-	-	-	-
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	420	419	935	495	481	864	1458	-	-	1266	-	-
Stage 1	761	705	-	770	712	-	-	-	-	-	-	-
Stage 2	670	633	-	755	697	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	348	391	935	463	448	864	1458	-	-	1266	-	-
Mov Cap-2 Maneuver	348	391	-	463	448	-	-	-	-	-	-	-
Stage 1	747	670	-	755	698	-	-	-	-	-	-	-
Stage 2	574	621	-	708	662	-	-	-	-	-	-	-
Approach	EB		WB		NE		SW					
HCM Control Delay, s	12.5		12.5		0.6		2.6					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1WBLn1WBLn2	SWL	SWT	SWR					
Capacity (veh/h)	1458	-	-	507 463 864	1266	-	-					
HCM Lane V/C Ratio	0.019	-	-	0.051 0.239 0.127	0.05	-	-					
HCM Control Delay (s)	7.5	-	-	12.5 15.2 9.8	8	-	-					
HCM Lane LOS	A	-	-	B C A	A	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	0.2 0.9 0.4	0.2	-	-					



HCM 6th TWSC  
12: Judge Orr Rd & S Access

Existing + Site  
PM

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	85	100	0	1	222	112	1	0	1	109	0	91
Future Vol, veh/h	85	100	0	1	222	112	1	0	1	109	0	91
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	385	-	-	-	-	235	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	99	92	78	78	78	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	92	109	0	1	224	122	1	0	1	131	0	110

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	346	0	0	109	0	0	635	641	109	520	519	224
Stage 1	-	-	-	-	-	-	293	293	-	226	226	-
Stage 2	-	-	-	-	-	-	342	348	-	294	293	-
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	1213	-	-	1481	-	-	391	393	945	467	461	815
Stage 1	-	-	-	-	-	-	715	670	-	777	717	-
Stage 2	-	-	-	-	-	-	673	634	-	714	670	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1213	-	-	1481	-	-	319	363	945	439	426	815
Mov Cap-2 Maneuver	-	-	-	-	-	-	319	363	-	439	426	-
Stage 1	-	-	-	-	-	-	661	619	-	718	716	-
Stage 2	-	-	-	-	-	-	582	633	-	659	619	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.8	0	12.6	13.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	477	1213	-	-	1481	-	-	439	815
HCM Lane V/C Ratio	0.005	0.076	-	-	0.001	-	-	0.299	0.135
HCM Control Delay (s)	12.6	8.2	-	-	7.4	0	-	16.7	10.1
HCM Lane LOS	B	A	-	-	A	A	-	C	B
HCM 95th %tile Q(veh)	0	0.2	-	-	0	-	-	1.2	0.5

HCM 6th TWSC  
15: Eastonville Rd & Woodmen Hills Dr

Existing + Site  
PM

Intersection												
Int Delay, s/veh	1.2											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	28	0	5	1	2	3	3	288	2	2	192	34
Future Vol, veh/h	28	0	5	1	2	3	3	288	2	2	192	34
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	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	0	6	1	3	4	3	313	2	2	209	37

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	556	553	228	555	570	314	246	0	0	315	0	0
Stage 1	232	232	-	320	320	-	-	-	-	-	-	-
Stage 2	324	321	-	235	250	-	-	-	-	-	-	-
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	442	441	811	442	431	726	1320	-	-	1245	-	-
Stage 1	771	713	-	692	652	-	-	-	-	-	-	-
Stage 2	688	652	-	768	700	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	436	439	811	437	429	726	1320	-	-	1245	-	-
Mov Cap-2 Maneuver	436	439	-	437	429	-	-	-	-	-	-	-
Stage 1	769	712	-	691	651	-	-	-	-	-	-	-
Stage 2	680	651	-	761	699	-	-	-	-	-	-	-

Approach	SE		NW		NE		SW	
HCM Control Delay, s	13.4		11.8		0.1		0.1	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1320	-	-	541	469	1245	-
HCM Lane V/C Ratio	0.002	-	-	0.014	0.09	0.002	-
HCM Control Delay (s)	7.7	-	-	11.8	13.4	7.9	-
HCM Lane LOS	A	-	-	B	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0	-

HCM 6th Roundabout  
1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd























2040 Background  
AM

Intersection									
Intersection Delay, s/veh	12.1								
Intersection LOS	B								
Approach	SE		NW		NE		SW		
Entry Lanes	2		2		2		2		
Conflicting Circle Lanes	2		2		2		2		
Adj Approach Flow, veh/h	446		274		681		748		
Demand Flow Rate, veh/h	454		279		694		762		
Vehicles Circulating, veh/h	817		717		596		157		
Vehicles Exiting, veh/h	102		573		675		839		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	9.9		7.1		22.1		6.3		
Approach LOS	A		A		C		A		
Lane	Left	Right	Left	Right	Left	Right	Left	Right	
Designated Moves	LT	TR	LT	TR	L	LTR	L	TR	
Assumed Moves	LT	TR	LT	TR	L	TR	L	TR	
RT Channelized									
Lane Util	0.469	0.531	0.470	0.530	0.023	0.977	0.346	0.654	
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328	
Entry Flow, veh/h	213	241	131	148	16	678	264	498	
Cap Entry Lane, veh/h	637	709	698	772	780	856	1168	1243	
Entry HV Adj Factor	0.984	0.980	0.982	0.980	1.000	0.980	0.981	0.981	
Flow Entry, veh/h	210	236	129	145	16	665	259	489	
Cap Entry, veh/h	626	695	685	756	780	839	1146	1219	
V/C Ratio	0.335	0.340	0.188	0.192	0.021	0.792	0.226	0.401	
Control Delay, s/veh	10.3	9.5	7.4	6.8	4.8	22.5	5.2	6.9	
LOS	B	A	A	A	A	C	A	A	
95th %tile Queue, veh	1	2	1	1	0	8	1	2	

<b>Intersection</b>					
Intersection Delay, s/veh	4.6				
Intersection LOS	A				
<b>Approach</b>	<b>EB</b>		<b>WB</b>		<b>NB</b>
Entry Lanes	2		2		1
Conflicting Circle Lanes	2		2		2
Adj Approach Flow, veh/h	549		402		201
Demand Flow Rate, veh/h	560		410		205
Vehicles Circulating, veh/h	55		35		460
Vehicles Exiting, veh/h	390		630		155
Ped Vol Crossing Leg, #/h	0		0		0
Ped Cap Adj	1.000		1.000		1.000
Approach Delay, s/veh	4.6		4.0		5.9
Approach LOS	A		A		A
<b>Lane</b>	<b>Left</b>	<b>Right</b>	<b>Left</b>	<b>Right</b>	<b>Left</b>
Designated Moves	LT	TR	LT	TR	LR
Assumed Moves	LT	TR	LT	TR	LR
RT Channelized					
Lane Util	0.470	0.530	0.471	0.529	1.000
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328
Entry Flow, veh/h	263	297	193	217	205
Cap Entry Lane, veh/h	1283	1355	1307	1378	960
Entry HV Adj Factor	0.981	0.980	0.979	0.982	0.980
Flow Entry, veh/h	258	291	189	213	201
Cap Entry, veh/h	1259	1328	1280	1354	942
V/C Ratio	0.205	0.219	0.148	0.157	0.213
Control Delay, s/veh	4.6	4.6	4.0	3.9	5.9
LOS	A	A	A	A	A
95th %tile Queue, veh	1	1	1	1	1













Lanes, Volumes, Timings  
1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd

2040 Background  
AM

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	105	195	110	65	63	124	15	534	85	241	439	16
Future Volume (vph)	105	195	110	65	63	124	15	534	85	241	439	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	95		155	275		275	250		0	250		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	80			155			95			95		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.979			0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1824	0	1770	1853	0
Flt Permitted	0.710			0.619			0.453			0.347		
Satd. Flow (perm)	1323	3539	1583	1153	3539	1583	844	1824	0	646	1853	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			135		21			5	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		641			820			951			875	
Travel Time (s)		12.5			16.0			18.5			17.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	114	212	120	71	68	135	16	574	91	259	472	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	114	212	120	71	68	135	16	665	0	259	489	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes						Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		

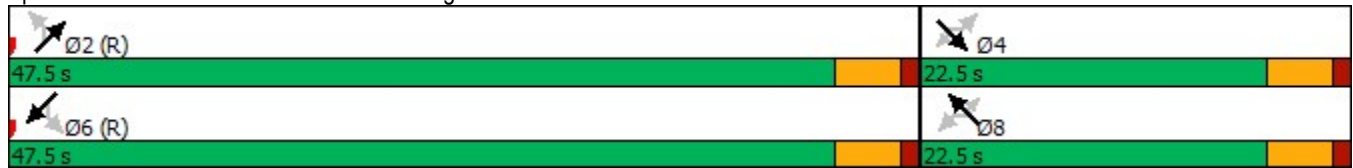
Lanes, Volumes, Timings  
1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd

2040 Background  
AM

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	47.5	47.5		47.5	47.5	
Total Split (%)	32.1%	32.1%	32.1%	32.1%	32.1%	32.1%	67.9%	67.9%		67.9%	67.9%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	43.0	43.0		43.0	43.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	11.9	11.9	11.9	11.9	11.9	11.9	49.1	49.1		49.1	49.1	
Actuated g/C Ratio	0.17	0.17	0.17	0.17	0.17	0.17	0.70	0.70		0.70	0.70	
v/c Ratio	0.51	0.35	0.33	0.36	0.11	0.35	0.03	0.52		0.57	0.38	
Control Delay	33.2	26.1	7.4	29.3	23.0	7.4	4.7	7.3		13.3	6.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	33.2	26.1	7.4	29.3	23.0	7.4	4.7	7.3		13.3	6.0	
LOS	C	C	A	C	C	A	A	A		B	A	
Approach Delay		22.9			16.9			7.3			8.5	
Approach LOS		C			B			A			A	
Queue Length 50th (ft)	46	43	0	28	13	0	2	99		43	65	
Queue Length 95th (ft)	83	64	36	57	26	38	9	236		#164	153	
Internal Link Dist (ft)		561			740			871			795	
Turn Bay Length (ft)	95		155	275		275	250			250		
Base Capacity (vph)	340	910	496	296	910	507	592	1285		453	1301	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.34	0.23	0.24	0.24	0.07	0.27	0.03	0.52		0.57	0.38	
Intersection Summary												
Area Type:	Other											
Cycle Length: 70												
Actuated Cycle Length: 70												
Offset: 0 (0%), Referenced to phase 2:NETL and 6:SWTL, Start of Green												
Natural Cycle: 65												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.57												
Intersection Signal Delay: 12.2						Intersection LOS: B						
Intersection Capacity Utilization 71.6%						ICU Level of Service C						
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												

























Queue shown is maximum after two cycles.

Splits and Phases: 1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd



Lanes, Volumes, Timings  
2: US 24 & Judge Orr Rd













2040 Background  
AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	63	141	259	272	115	33	231	675	195	107	1182	86
Future Volume (vph)	63	141	259	272	115	33	231	675	195	107	1182	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	235		235	235		235	860		290	695		290
Storage Lanes	1		1	2		1	2		1	1		1
Taper Length (ft)	200			200			300			300		
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3433	3539	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.673			0.950			0.950			0.352		
Satd. Flow (perm)	1254	1863	1583	3433	3539	1583	3433	3539	1583	656	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			208			164			205			208
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		2032			1524			1735			2505	
Travel Time (s)		30.8			23.1			21.5			31.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.93	0.93	0.93
Adj. Flow (vph)	68	153	282	296	125	36	243	711	205	115	1271	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	153	282	296	125	36	243	711	205	115	1271	92
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4			8			2	6		6



Lanes, Volumes, Timings  
2: US 24 & Judge Orr Rd

2040 Background  
AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	24.0	24.0	9.5	24.0	24.0	9.5	24.0	24.0
Total Split (s)	11.0	24.4	24.4	19.0	32.4	32.4	17.0	55.6	55.6	11.0	49.6	49.6
Total Split (%)	10.0%	22.2%	22.2%	17.3%	29.5%	29.5%	15.5%	50.5%	50.5%	10.0%	45.1%	45.1%
Maximum Green (s)	6.5	18.4	18.4	14.5	26.4	26.4	12.5	49.6	49.6	6.5	43.6	43.6
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	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)	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (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
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	21.5	13.6	13.6	13.1	22.5	22.5	11.5	49.7	49.7	52.7	44.7	44.7
Actuated g/C Ratio	0.21	0.13	0.13	0.13	0.22	0.22	0.11	0.48	0.48	0.51	0.43	0.43
v/c Ratio	0.23	0.63	0.73	0.69	0.16	0.08	0.64	0.42	0.24	0.29	0.83	0.12
Control Delay	27.6	54.9	24.3	52.7	34.3	0.3	53.3	19.3	3.2	12.5	33.5	0.3
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	27.6	54.9	24.3	52.7	34.3	0.3	53.3	19.3	3.2	12.5	33.5	0.3
LOS	C	D	C	D	C	A	D	B	A	B	C	A
Approach Delay		34.1			43.5			23.6			29.8	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	32	99	46	98	36	0	81	161	0	32	403	0
Queue Length 95th (ft)	64	165	138	150	62	0	128	227	41	63	#577	0
Internal Link Dist (ft)		1952			1444			1655			2425	
Turn Bay Length (ft)	235		235	235		235	860		290	695		290
Base Capacity (vph)	293	330	452	480	901	525	414	1693	864	402	1523	799
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.46	0.62	0.62	0.14	0.07	0.59	0.42	0.24	0.29	0.83	0.12

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 103.9

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 30.1

Intersection LOS: C

Intersection Capacity Utilization 71.9%

ICU Level of Service C

Analysis Period (min) 15


# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings  
2: US 24 & Judge Orr Rd





2040 Background  
AM

Splits and Phases: 2: US 24 & Judge Orr Rd

 Ø1	 Ø2	 Ø3	 Ø4
11 s	55.6 s	19 s	24.4 s
 Ø5	 Ø6	 Ø7	 Ø8
17 s	49.6 s	11 s	32.4 s

HCM 6th TWSC  
3: Eastonville Rd & Copenhagen Rd

2040 Background  
AM -- High Growth

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	10	20	15	685	704	10
Future Vol, veh/h	10	20	15	685	704	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	92	92	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	26	16	745	809	11

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1592	815	820	0	-	0
Stage 1	815	-	-	-	-	-
Stage 2	777	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	118	377	809	-	-	-
Stage 1	435	-	-	-	-	-
Stage 2	453	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	116	377	809	-	-	-
Mov Cap-2 Maneuver	253	-	-	-	-	-
Stage 1	426	-	-	-	-	-
Stage 2	453	-	-	-	-	-

Approach	EB	NE	SW
HCM Control Delay, s	17.6	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NEL	NET EBLn1	SWT	SWR
Capacity (veh/h)	809	- 324	-	-
HCM Lane V/C Ratio	0.02	- 0.119	-	-
HCM Control Delay (s)	9.5	- 17.6	-	-
HCM Lane LOS	A	- C	-	-
HCM 95th %tile Q(veh)	0.1	- 0.4	-	-

HCM 6th TWSC  
12: Adjacent Driveway & Judge Orr Rd

2040 Background  
AM -- High Growth

Intersection						
Int Delay, s/veh	2.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	415	90	50	320	30	145
Future Vol, veh/h	415	90	50	320	30	145
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	235	385	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	451	98	54	348	34	167
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	549	0	733	226
Stage 1	-	-	-	-	451	-
Stage 2	-	-	-	-	282	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1017	-	356	777
Stage 1	-	-	-	-	609	-
Stage 2	-	-	-	-	741	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1017	-	337	777
Mov Cap-2 Maneuver	-	-	-	-	337	-
Stage 1	-	-	-	-	609	-
Stage 2	-	-	-	-	702	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.2		11.9	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	337	777	-	-	1017	-
HCM Lane V/C Ratio	0.102	0.215	-	-	0.053	-
HCM Control Delay (s)	16.9	10.9	-	-	8.7	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0.8	-	-	0.2	-

HCM 6th TWSC  
13: Eastonville Rd & Woodmen Hills Dr

2040 Background  
AM -- High Growth

Intersection												
Int Delay, s/veh	4.7											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↔			↔		↰	↱		↰	↱	
Traffic Vol, veh/h	60	1	10	5	10	35	5	577	1	5	550	60
Future Vol, veh/h	60	1	10	5	10	35	5	577	1	5	550	60
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	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	83	83	83	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	69	1	11	6	12	42	5	620	1	5	591	65





Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1292	1265	624	1271	1297	621	656	0	0	621	0	0
Stage 1	634	634	-	631	631	-	-	-	-	-	-	-
Stage 2	658	631	-	640	666	-	-	-	-	-	-	-
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	140	169	485	145	162	487	931	-	-	960	-	-
Stage 1	467	473	-	469	474	-	-	-	-	-	-	-
Stage 2	453	474	-	464	457	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	120	167	485	140	160	487	931	-	-	960	-	-
Mov Cap-2 Maneuver	120	167	-	140	160	-	-	-	-	-	-	-
Stage 1	465	471	-	467	472	-	-	-	-	-	-	-
Stage 2	401	472	-	450	455	-	-	-	-	-	-	-

Approach	SE		NW		NE		SW	
HCM Control Delay, s	65.9		20.4		0.1		0.1	
HCM LOS	F		C					

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	931	-	-	294	135	960	-
HCM Lane V/C Ratio	0.006	-	-	0.205	0.605	0.006	-
HCM Control Delay (s)	8.9	-	-	20.4	65.9	8.8	-
HCM Lane LOS	A	-	-	C	F	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	3.1	0	-

HCM 6th TWSC  
3: Eastonville Rd & Copenhagen Rd

2040 Background  
AM -- Moderate Growth

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	10	20	15	490	634	10
Future Vol, veh/h	10	20	15	490	634	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	92	92	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	26	16	533	729	11
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1300	735	740	0	-	0
Stage 1	735	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	178	420	867	-	-	-
Stage 1	474	-	-	-	-	-
Stage 2	569	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	175	420	867	-	-	-
Mov Cap-2 Maneuver	312	-	-	-	-	-
Stage 1	465	-	-	-	-	-
Stage 2	569	-	-	-	-	-
Approach	EB	NE		SW		
HCM Control Delay, s	15.6	0.3		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NEL	NET	EBLn1	SWT	SWR	
Capacity (veh/h)	867	-	377	-	-	
HCM Lane V/C Ratio	0.019	-	0.102	-	-	
HCM Control Delay (s)	9.2	-	15.6	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-	

HCM 6th TWSC  
12: Adjacent Driveway & Judge Orr Rd

2040 Background  
AM -- Moderate Growth

Intersection						
Int Delay, s/veh	2.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	415	90	50	320	30	145
Future Vol, veh/h	415	90	50	320	30	145
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	235	385	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	451	98	54	348	34	167
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	549	0	733	226
Stage 1	-	-	-	-	451	-
Stage 2	-	-	-	-	282	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1017	-	356	777
Stage 1	-	-	-	-	609	-
Stage 2	-	-	-	-	741	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1017	-	337	777
Mov Cap-2 Maneuver	-	-	-	-	337	-
Stage 1	-	-	-	-	609	-
Stage 2	-	-	-	-	702	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.2		11.9	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	337	777	-	-	1017	-
HCM Lane V/C Ratio	0.102	0.215	-	-	0.053	-
HCM Control Delay (s)	16.9	10.9	-	-	8.7	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0.8	-	-	0.2	-

HCM 6th TWSC  
13: Eastonville Rd & Woodmen Hills Dr

2040 Background  
AM -- Moderate Growth

Intersection												
Int Delay, s/veh	2.7											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	50	1	10	5	10	35	5	382	1	5	480	60
Future Vol, veh/h	50	1	10	5	10	35	5	382	1	5	480	60
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	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	83	83	83	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	1	11	6	12	42	5	411	1	5	516	65

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1008	981	549	987	1013	412	581	0	0	412	0	0
Stage 1	559	559	-	422	422	-	-	-	-	-	-	-
Stage 2	449	422	-	565	591	-	-	-	-	-	-	-
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	219	249	535	226	239	640	993	-	-	1147	-	-
Stage 1	513	511	-	609	588	-	-	-	-	-	-	-
Stage 2	589	588	-	510	494	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	195	247	535	219	237	640	993	-	-	1147	-	-
Mov Cap-2 Maneuver	195	247	-	219	237	-	-	-	-	-	-	-
Stage 1	510	509	-	606	585	-	-	-	-	-	-	-
Stage 2	536	585	-	496	492	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	29	15.1	0.1	0.1
HCM LOS	D	C		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	993	-	-	418	219	1147	-
HCM Lane V/C Ratio	0.005	-	-	0.144	0.32	0.005	-
HCM Control Delay (s)	8.6	-	-	15.1	29	8.2	-
HCM Lane LOS	A	-	-	C	D	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	1.3	0	-



HCM 6th Roundabout  
1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd























2040 Background  
PM

Intersection									
Intersection Delay, s/veh	10.2								
Intersection LOS	B								
Approach	SE		NW		NE		SW		
Entry Lanes	2		2		2		2		
Conflicting Circle Lanes	2		2		2		2		
Adj Approach Flow, veh/h	213		668		860		571		
Demand Flow Rate, veh/h	217		681		877		583		
Vehicles Circulating, veh/h	717		717		300		514		
Vehicles Exiting, veh/h	380		460		634		884		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	6.6		11.5		11.4		8.4		
Approach LOS	A		B		B		A		
Lane	Left	Right	Left	Right	Left	Right	Left	Right	
Designated Moves	LT	TR	LT	TR	L	TR	L	TR	
Assumed Moves	LT	TR	LT	TR	L	TR	L	TR	
RT Channelized									
Lane Util	0.470	0.530	0.470	0.530	0.176	0.824	0.322	0.678	
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328	
Entry Flow, veh/h	102	115	320	361	154	723	188	395	
Cap Entry Lane, veh/h	698	772	698	772	1024	1100	841	917	
Entry HV Adj Factor	0.982	0.982	0.981	0.980	0.981	0.981	0.979	0.981	
Flow Entry, veh/h	100	113	314	354	151	709	184	387	
Cap Entry, veh/h	685	758	685	757	1004	1080	823	900	
V/C Ratio	0.146	0.149	0.458	0.468	0.150	0.657	0.223	0.431	
Control Delay, s/veh	6.9	6.3	11.9	11.2	5.0	12.8	6.7	9.1	
LOS	A	A	B	B	A	B	A	A	
95th %tile Queue, veh	1	1	2	3	1	5	1	2	

Intersection					
Intersection Delay, s/veh	5.3				
Intersection LOS	A				
Approach	EB		WB		NB
Entry Lanes	2		2		1
Conflicting Circle Lanes	2		2		2
Adj Approach Flow, veh/h	456		688		224
Demand Flow Rate, veh/h	465		701		228
Vehicles Circulating, veh/h	175		117		399
Vehicles Exiting, veh/h	643		510		241
Ped Vol Crossing Leg, #/h	0		0		0
Ped Cap Adj	1.000		1.000		1.000
Approach Delay, s/veh	4.8		5.5		5.8
Approach LOS	A		A		A
Lane	Left	Right	Left	Right	Left
Designated Moves	LT	TR	LT	TR	LR
Assumed Moves	LT	TR	LT	TR	LR
RT Channelized					
Lane Util	0.471	0.529	0.469	0.531	1.000
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328
Entry Flow, veh/h	219	246	329	372	228
Cap Entry Lane, veh/h	1149	1224	1212	1286	1012
Entry HV Adj Factor	0.979	0.983	0.982	0.980	0.982
Flow Entry, veh/h	214	242	323	364	224
Cap Entry, veh/h	1125	1203	1191	1260	994
V/C Ratio	0.191	0.201	0.271	0.289	0.225
Control Delay, s/veh	4.9	4.7	5.5	5.5	5.8
LOS	A	A	A	A	A
95th %tile Queue, veh	1	1	1	1	1













Lanes, Volumes, Timings  
1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd

2040 Background  
PM

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	15	81	90	132	196	293	140	498	162	171	350	10
Future Volume (vph)	15	81	90	132	196	293	140	498	162	171	350	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	95		155	275		275	250		0	250		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	80			155			95			95		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.963			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1794	0	1770	1855	0
Flt Permitted	0.620			0.694			0.515			0.313		
Satd. Flow (perm)	1155	3539	1583	1293	3539	1583	959	1794	0	583	1855	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			103			315		43			4	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		641			820			951			875	
Travel Time (s)		12.5			16.0			18.5			17.0	
Peak Hour Factor	0.87	0.87	0.87	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	17	93	103	142	211	315	151	535	174	184	376	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	93	103	142	211	315	151	709	0	184	387	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes						Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		

Lanes, Volumes, Timings  
1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd

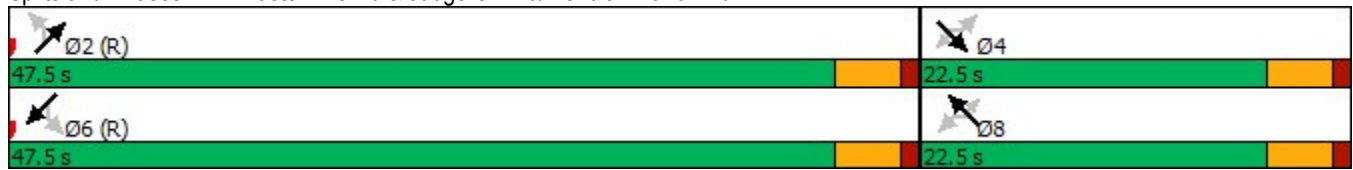
2040 Background  
PM

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	47.5	47.5		47.5	47.5	
Total Split (%)	32.1%	32.1%	32.1%	32.1%	32.1%	32.1%	67.9%	67.9%		67.9%	67.9%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	43.0	43.0		43.0	43.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	13.3	13.3	13.3	13.3	13.3	13.3	47.7	47.7		47.7	47.7	
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.19	0.68	0.68		0.68	0.68	
v/c Ratio	0.08	0.14	0.27	0.58	0.31	0.57	0.23	0.57		0.46	0.31	
Control Delay	21.5	22.2	7.0	34.5	24.5	7.4	6.3	8.6		11.3	6.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	21.5	22.2	7.0	34.5	24.5	7.4	6.3	8.6		11.3	6.0	
LOS	C	C	A	C	C	A	A	A		B	A	
Approach Delay		14.8			18.6			8.2			7.7	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)	6	17	0	56	41	0	21	125		32	56	
Queue Length 95th (ft)	19	32	31	102	64	56	54	260		97	115	
Internal Link Dist (ft)		561			740			871			795	
Turn Bay Length (ft)	95		155	275		275	250			250		
Base Capacity (vph)	297	910	483	332	910	641	654	1237		397	1266	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.06	0.10	0.21	0.43	0.23	0.49	0.23	0.57		0.46	0.31	
Intersection Summary												
Area Type:	Other											
Cycle Length: 70												
Actuated Cycle Length: 70												
Offset: 0 (0%), Referenced to phase 2:NETL and 6:SWTL, Start of Green												
Natural Cycle: 60												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.58												
Intersection Signal Delay: 11.7					Intersection LOS: B							
Intersection Capacity Utilization 70.8%					ICU Level of Service C							
Analysis Period (min) 15												

Lanes, Volumes, Timings  
1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd

























2040 Background  
PM

Splits and Phases: 1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd















Lanes, Volumes, Timings  
2: US 24 & Judge Orr Rd

2040 Background  
PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	192	195	338	433	194	163	397	1367	431	145	783	155
Future Volume (vph)	192	195	338	433	194	163	397	1367	431	145	783	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	235		235	235		235	860		290	695		290
Storage Lanes	1		1	2		1	2		1	1		1
Taper Length (ft)	200			200			300			300		
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3433	3539	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.621			0.950			0.950			0.101		
Satd. Flow (perm)	1157	1863	1583	3433	3539	1583	3433	3539	1583	188	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			257			170			453			208
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		2032			1524			1735			2505	
Travel Time (s)		30.8			23.1			21.5			31.1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	206	210	363	466	209	175	418	1439	454	153	824	163
Shared Lane Traffic (%)												
Lane Group Flow (vph)	206	210	363	466	209	175	418	1439	454	153	824	163
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4			8			2	6		6

Lanes, Volumes, Timings  
2: US 24 & Judge Orr Rd

2040 Background  
PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	24.0	24.0	9.5	24.0	24.0	9.5	24.0	24.0
Total Split (s)	15.0	23.3	23.3	20.0	28.3	28.3	22.0	56.0	56.0	10.7	44.7	44.7
Total Split (%)	13.6%	21.2%	21.2%	18.2%	25.7%	25.7%	20.0%	50.9%	50.9%	9.7%	40.6%	40.6%
Maximum Green (s)	10.5	17.3	17.3	15.5	22.3	22.3	17.5	50.0	50.0	6.2	38.7	38.7
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	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)	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (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
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	27.5	15.7	15.7	15.5	20.8	20.8	16.5	50.0	50.0	47.4	39.7	39.7
Actuated g/C Ratio	0.25	0.14	0.14	0.14	0.19	0.19	0.15	0.46	0.46	0.44	0.37	0.37
v/c Ratio	0.59	0.78	0.81	0.95	0.31	0.40	0.80	0.88	0.47	0.89	0.64	0.23
Control Delay	35.3	65.2	28.8	77.0	38.9	9.1	57.1	34.6	3.4	68.5	31.6	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	35.3	65.2	28.8	77.0	38.9	9.1	57.1	34.6	3.4	68.5	31.6	2.2
LOS	D	E	C	E	D	A	E	C	A	E	C	A
Approach Delay		40.3			53.6			32.5			32.4	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	105	143	69	171	66	3	147	478	0	55	256	0
Queue Length 95th (ft)	168	#242	#211	#273	101	60	#203	#592	56	#182	325	22
Internal Link Dist (ft)		1952			1444			1655			2425	
Turn Bay Length (ft)	235		235	235		235	860		290	695		290
Base Capacity (vph)	354	297	468	490	728	460	554	1632	974	172	1297	711
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.71	0.78	0.95	0.29	0.38	0.75	0.88	0.47	0.89	0.64	0.23

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 108.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 37.2

Intersection LOS: D

Intersection Capacity Utilization 85.9%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings  
2: US 24 & Judge Orr Rd

2040 Background  
PM

Splits and Phases: 2: US 24 & Judge Orr Rd

 Ø1	 Ø2	 Ø3	 Ø4
10.7 s	56 s	20 s	23.3 s
 Ø5	 Ø6	 Ø7	 Ø8
22 s	44.7 s	15 s	28.3 s



HCM 6th Roundabout  
1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd























2040 Background + Site  
AM

Intersection									
Intersection Delay, s/veh	12.9								
Intersection LOS	B								
Approach	SE		NW		NE		SW		
Entry Lanes	2		2		2		2		
Conflicting Circle Lanes	2		2		2		2		
Adj Approach Flow, veh/h	446		339		700		746		
Demand Flow Rate, veh/h	454		346		714		760		
Vehicles Circulating, veh/h	840		724		595		212		
Vehicles Exiting, veh/h	132		585		699		858		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	10.2		7.8		23.8		6.7		
Approach LOS	B		A		C		A		
Lane	Left	Right	Left	Right	Left	Right	Left	Right	
Designated Moves	LT	TR	LT	TR	L	TR	L	TR	
Assumed Moves	LT	TR	LT	TR	L	TR	L	TR	
RT Channelized									
Lane Util	0.469	0.531	0.471	0.529	0.022	0.978	0.346	0.654	
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328	
Entry Flow, veh/h	213	241	163	183	16	698	263	497	
Cap Entry Lane, veh/h	623	695	694	767	781	856	1111	1186	
Entry HV Adj Factor	0.984	0.980	0.978	0.982	1.000	0.981	0.981	0.981	
Flow Entry, veh/h	210	236	159	180	16	684	258	488	
Cap Entry, veh/h	613	682	678	754	781	840	1090	1163	
V/C Ratio	0.342	0.347	0.235	0.238	0.020	0.815	0.237	0.419	
Control Delay, s/veh	10.6	9.8	8.1	7.5	4.8	24.2	5.5	7.4	
LOS	B	A	A	A	A	C	A	A	
95th %tile Queue, veh	2	2	1	1	0	9	1	2	

Intersection						
Intersection Delay, s/veh	5.1					
Intersection LOS	A					
Approach	EB		WB		NB	
Entry Lanes	2		2		1	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	573		461		212	
Demand Flow Rate, veh/h	585		470		216	
Vehicles Circulating, veh/h	128		88		547	
Vehicles Exiting, veh/h	444		675		166	
Ped Vol Crossing Leg, #/h	0		0		0	
Ped Cap Adj	1.000		1.000		1.000	
Approach Delay, s/veh	5.1		4.4		6.6	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.328
Entry Flow, veh/h	275	310	221	249	216	138
Cap Entry Lane, veh/h	1200	1274	1245	1318	892	982
Entry HV Adj Factor	0.980	0.980	0.981	0.982	0.980	0.984
Flow Entry, veh/h	269	304	217	244	212	136
Cap Entry, veh/h	1176	1248	1221	1294	875	966
V/C Ratio	0.229	0.243	0.178	0.189	0.242	0.141
Control Delay, s/veh	5.1	5.0	4.5	4.4	6.6	5.0
LOS	A	A	A	A	A	A
95th %tile Queue, veh	1	1	1	1	1	0













Lanes, Volumes, Timings  
1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd

2040 Background + Site  
AM

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	126	216	110	78	80	128	15	548	99	247	452	33
Future Volume (vph)	126	216	110	78	80	128	15	548	99	247	452	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	95		0	275		275	250		0	250		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	80			155			95			95		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.977			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1820	0	1770	1844	0
Flt Permitted	0.694			0.605			0.393			0.299		
Satd. Flow (perm)	1293	3539	1583	1127	3539	1583	732	1820	0	557	1844	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			147		24			10	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		641			820			942			875	
Travel Time (s)		12.5			16.0			18.4			17.0	
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.92	0.92	0.92	0.87	0.87	0.87
Adj. Flow (vph)	137	235	120	90	92	147	16	596	108	284	520	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	137	235	120	90	92	147	16	704	0	284	558	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes						Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	custom	NA	custom	Perm	NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4		4	8	8	8	2			6		

Lanes, Volumes, Timings  
1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd

2040 Background + Site  
AM

























												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	52.5	52.5		52.5	52.5	
Total Split (%)	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	70.0%	70.0%		70.0%	70.0%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	48.0	48.0		48.0	48.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	12.2	12.2	12.2	12.2	12.2	12.2	36.8	36.8		36.8	36.8	
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21	0.21	0.63	0.63		0.63	0.63	
v/c Ratio	0.51	0.32	0.28	0.39	0.13	0.33	0.04	0.61		0.82	0.48	
Control Delay	31.3	23.3	7.3	28.7	22.2	7.2	4.9	9.3		31.4	7.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	31.3	23.3	7.3	28.7	22.2	7.2	4.9	9.3		31.4	7.5	
LOS	C	C	A	C	C	A	A	A		C	A	
Approach Delay		21.6			17.3			9.2			15.5	
Approach LOS		C			B			A			B	
Queue Length 50th (ft)	49	42	0	31	15	0	2	118		62	84	
Queue Length 95th (ft)	106	76	38	72	34	38	9	254		#233	169	
Internal Link Dist (ft)		561			740			862			795	
Turn Bay Length (ft)	95			275		275	250			250		
Base Capacity (vph)	434	1188	611	378	1188	629	591	1474		449	1491	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.32	0.20	0.20	0.24	0.08	0.23	0.03	0.48		0.63	0.37	
Intersection Summary												
Area Type:	Other											
Cycle Length: 75												
Actuated Cycle Length: 58.8												
Natural Cycle: 75												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.82												
Intersection Signal Delay: 15.1						Intersection LOS: B						
Intersection Capacity Utilization 74.7%						ICU Level of Service D						
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												

Splits and Phases: 1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd

 Ø2	 Ø4
52.5 s	22.5 s
 Ø6	 Ø8
52.5 s	22.5 s













Lanes, Volumes, Timings  
2: US 24 & Judge Orr Rd

2040 Background + Site  
AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	72	148	295	272	125	33	260	665	195	107	778	113
Future Volume (vph)	72	148	295	272	125	33	260	665	195	107	778	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290		0	290		290	860		290	695		290
Storage Lanes	1		1	2		1	2		1	1		1
Taper Length (ft)	240			240			300			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3433	3539	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.666			0.950			0.950			0.359		
Satd. Flow (perm)	1241	1863	1583	3433	3539	1583	3433	3539	1583	669	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			272			149			210			149
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		2032			1524			1735			2505	
Travel Time (s)		30.8			23.1			21.5			31.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	78	161	321	296	136	36	280	715	210	113	819	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	161	321	296	136	36	280	715	210	113	819	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4			8			2	6		6

Lanes, Volumes, Timings  
2: US 24 & Judge Orr Rd

2040 Background + Site  
AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	17.0	23.6	23.6	19.0	25.6	25.6	23.0	56.0	56.0	11.4	44.4	44.4
Total Split (%)	15.5%	21.5%	21.5%	17.3%	23.3%	23.3%	20.9%	50.9%	50.9%	10.4%	40.4%	40.4%
Maximum Green (s)	12.5	19.1	19.1	14.5	21.1	21.1	18.5	51.5	51.5	6.9	39.9	39.9
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (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
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	22.9	14.2	14.2	13.1	20.8	20.8	13.7	51.7	51.7	51.4	44.7	44.7
Actuated g/C Ratio	0.22	0.14	0.14	0.13	0.20	0.20	0.13	0.50	0.50	0.50	0.43	0.43
v/c Ratio	0.24	0.63	0.71	0.69	0.19	0.08	0.62	0.41	0.23	0.28	0.54	0.16
Control Delay	27.9	54.0	18.1	52.7	36.6	0.4	49.1	18.0	3.0	12.5	25.0	2.5
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	27.9	54.0	18.1	52.7	36.6	0.4	49.1	18.0	3.0	12.5	25.0	2.5
LOS	C	D	B	D	D	A	D	B	A	B	C	A
Approach Delay		29.8			44.0			22.6			21.1	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	37	104	30	98	41	0	92	155	0	30	211	0
Queue Length 95th (ft)	72	172	123	150	71	0	136	221	39	62	314	23
Internal Link Dist (ft)		1952			1444			1655			2425	
Turn Bay Length (ft)	290			290		290	860		290	695		290
Base Capacity (vph)	383	344	514	481	749	452	614	1762	894	406	1525	766
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.47	0.62	0.62	0.18	0.08	0.46	0.41	0.23	0.28	0.54	0.16

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 103.7

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 26.4

Intersection LOS: C

Intersection Capacity Utilization 59.5%

ICU Level of Service B

Analysis Period (min) 15

Lanes, Volumes, Timings  
2: US 24 & Judge Orr Rd

2040 Background + Site  
AM

Splits and Phases: 2: US 24 & Judge Orr Rd

 Ø1	 Ø2	 Ø3	 Ø4
11.4 s	56 s	19 s	23.6 s
 Ø5	 Ø6	 Ø7	 Ø8
23 s	44.4 s	17 s	25.6 s



Intersection												
Int Delay, s/veh	3.6											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↰	↱		↰		↰	↱		↰	↱	
Traffic Vol, veh/h	66	1	10	5	10	36	5	396	1	6	491	65
Future Vol, veh/h	66	1	10	5	10	36	5	396	1	6	491	65
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	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	80	1	12	6	12	43	5	426	1	6	528	70

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1039	1012	563	1019	1047	427	598	0	0	427	0	0
Stage 1	575	575	-	437	437	-	-	-	-	-	-	-
Stage 2	464	437	-	582	610	-	-	-	-	-	-	-
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	209	239	526	215	228	628	979	-	-	1132	-	-
Stage 1	503	503	-	598	579	-	-	-	-	-	-	-
Stage 2	578	579	-	499	485	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	185	237	526	208	226	628	979	-	-	1132	-	-
Mov Cap-2 Maneuver	185	237	-	208	226	-	-	-	-	-	-	-
Stage 1	500	500	-	595	576	-	-	-	-	-	-	-
Stage 2	524	576	-	484	483	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	35	15.4	0.1	0.1
HCM LOS	E	C		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SELn2	SWL	SWT	SWR
Capacity (veh/h)	979	-	-	406	186	526	1132	-
HCM Lane V/C Ratio	0.005	-	-	0.151	0.434	0.023	0.006	-
HCM Control Delay (s)	8.7	-	-	15.4	38.4	12	8.2	-
HCM Lane LOS	A	-	-	C	E	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	2	0.1	0	-

HCM 6th TWSC  
16: Eastonville Rd & Woodmen Hills Dr








2040 Background + Site  
AM -- Moderate Growth

Intersection												
Int Delay, s/veh	3.8											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	66	1	10	5	10	36	5	396	1	6	491	66
Future Vol, veh/h	66	1	10	5	10	36	5	396	1	6	491	66
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	80	1	12	6	12	43	5	426	1	6	528	71

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1040	1013	564	1019	1048	427	599	0	0	427	0	0
Stage 1	576	576	-	437	437	-	-	-	-	-	-	-
Stage 2	464	437	-	582	611	-	-	-	-	-	-	-
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	208	239	525	215	228	628	978	-	-	1132	-	-
Stage 1	503	502	-	598	579	-	-	-	-	-	-	-
Stage 2	578	579	-	499	484	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	184	237	525	208	226	628	978	-	-	1132	-	-
Mov Cap-2 Maneuver	184	237	-	208	226	-	-	-	-	-	-	-
Stage 1	500	499	-	595	576	-	-	-	-	-	-	-
Stage 2	524	576	-	484	482	-	-	-	-	-	-	-

Approach	SE		NW		NE		SW	
HCM Control Delay, s	37.1		15.4		0.1		0.1	
HCM LOS	E		C					

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	978	-	-	406	202	1132	-
HCM Lane V/C Ratio	0.005	-	-	0.151	0.459	0.006	-
HCM Control Delay (s)	8.7	-	-	15.4	37.1	8.2	-
HCM Lane LOS	A	-	-	C	E	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	2.2	0	-

Intersection												
Int Delay, s/veh	6.1											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	66	1	10	5	10	36	5	591	1	6	561	65
Future Vol, veh/h	66	1	10	5	10	36	5	591	1	6	561	65
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	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	80	1	12	6	12	43	5	635	1	6	603	70

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1323	1296	638	1303	1331	636	673	0	0	636	0	0
Stage 1	650	650	-	646	646	-	-	-	-	-	-	-
Stage 2	673	646	-	657	685	-	-	-	-	-	-	-
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	133	162	477	138	154	478	918	-	-	947	-	-
Stage 1	458	465	-	460	467	-	-	-	-	-	-	-
Stage 2	445	467	-	454	448	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	113	160	477	132	152	478	918	-	-	947	-	-
Mov Cap-2 Maneuver	113	160	-	132	152	-	-	-	-	-	-	-
Stage 1	456	462	-	458	465	-	-	-	-	-	-	-
Stage 2	392	465	-	439	445	-	-	-	-	-	-	-

Approach	SE		NW		NE		SW	
HCM Control Delay, s	82.1		21.1		0.1		0.1	
HCM LOS	F		C					













Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SELn2	SWL	SWT	SWR
Capacity (veh/h)	918	-	-	285	113	477	947	-
HCM Lane V/C Ratio	0.006	-	-	0.216	0.714	0.025	0.007	-
HCM Control Delay (s)	8.9	-	-	21.1	92.5	12.7	8.8	-
HCM Lane LOS	A	-	-	C	F	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	3.8	0.1	0	-

Intersection												
Int Delay, s/veh	6.5											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕		↗	↖		↗	↖	
Traffic Vol, veh/h	66	1	10	5	10	36	5	591	1	6	561	65
Future Vol, veh/h	66	1	10	5	10	36	5	591	1	6	561	65
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	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	80	1	12	6	12	43	5	635	1	6	603	70

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1323	1296	638	1303	1331	636	673	0	0	636	0	0
Stage 1	650	650	-	646	646	-	-	-	-	-	-	-
Stage 2	673	646	-	657	685	-	-	-	-	-	-	-
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	133	162	477	138	154	478	918	-	-	947	-	-
Stage 1	458	465	-	460	467	-	-	-	-	-	-	-
Stage 2	445	467	-	454	448	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	113	160	477	132	152	478	918	-	-	947	-	-
Mov Cap-2 Maneuver	113	160	-	132	152	-	-	-	-	-	-	-
Stage 1	456	462	-	458	465	-	-	-	-	-	-	-
Stage 2	392	465	-	439	445	-	-	-	-	-	-	-

Approach	SE		NW		NE		SW	
HCM Control Delay, s	88.2		21.1		0.1		0.1	
HCM LOS	F		C					

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	918	-	-	285	126	947	-
HCM Lane V/C Ratio	0.006	-	-	0.216	0.736	0.007	-
HCM Control Delay (s)	8.9	-	-	21.1	88.2	8.8	-
HCM Lane LOS	A	-	-	C	F	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	4.2	0	-

Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	405	90	50	310	64	30	10	145	50	10	53
Future Vol, veh/h	38	405	90	50	310	64	30	10	145	50	10	53
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	385	-	235	385	-	235	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	92	92	92	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	435	97	54	337	70	34	11	167	57	11	61
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	407	0	0	532	0	0	799	1032	218	750	1059	169
Stage 1	-	-	-	-	-	-	517	517	-	445	445	-
Stage 2	-	-	-	-	-	-	282	515	-	305	614	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1148	-	-	1032	-	-	276	231	786	300	223	845
Stage 1	-	-	-	-	-	-	509	532	-	562	573	-
Stage 2	-	-	-	-	-	-	701	533	-	680	481	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1148	-	-	1032	-	-	229	211	786	212	204	845
Mov Cap-2 Maneuver	-	-	-	-	-	-	229	211	-	212	204	-
Stage 1	-	-	-	-	-	-	491	513	-	542	543	-
Stage 2	-	-	-	-	-	-	603	505	-	505	464	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			1			14.1			19.3		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	229	668	1148	-	-	1032	-	-	212	564		
HCM Lane V/C Ratio	0.151	0.267	0.036	-	-	0.053	-	-	0.271	0.128		
HCM Control Delay (s)	23.5	12.3	8.3	-	-	8.7	-	-	28.2	12.3		
HCM Lane LOS	C	B	A	-	-	A	-	-	D	B		
HCM 95th %tile Q(veh)	0.5	1.1	0.1	-	-	0.2	-	-	1.1	0.4		

HCM 6th TWSC  
3: Eastonville Rd & Copenhagen Rd

2040 Background + Site  
AM -- Moderate-Growth

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕	↕	↕	↕	↕	↕	↕	
Traffic Vol, veh/h	10	0	20	10	0	19	15	676	39	51	622	10
Future Vol, veh/h	10	0	20	10	0	19	15	676	39	51	622	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	50	-	155	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	83	83	83	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	26	12	0	23	16	727	42	55	669	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1577	1586	675	1557	1549	727	680	0	0	769	0	0
Stage 1	785	785	-	759	759	-	-	-	-	-	-	-
Stage 2	792	801	-	798	790	-	-	-	-	-	-	-
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	89	108	454	92	114	424	912	-	-	845	-	-
Stage 1	386	404	-	399	415	-	-	-	-	-	-	-
Stage 2	382	397	-	380	402	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	79	99	454	81	105	424	912	-	-	845	-	-
Mov Cap-2 Maneuver	79	99	-	81	105	-	-	-	-	-	-	-
Stage 1	379	378	-	392	408	-	-	-	-	-	-	-
Stage 2	355	390	-	335	376	-	-	-	-	-	-	-
Approach	EB		WB		NE		SW					
HCM Control Delay, s	31.1		28.9		0.2		0.7					
HCM LOS	D		D									
Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1WBLn1WBLn2	SWL	SWT	SWR					
Capacity (veh/h)	912	-	-	176	81	424	845	-	-			
HCM Lane V/C Ratio	0.018	-	-	0.219	0.149	0.054	0.065	-	-			
HCM Control Delay (s)	9	-	-	31.1	57.1	14	9.6	-	-			
HCM Lane LOS	A	-	-	D	F	B	A	-	-			
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0.5	0.2	0.2	-	-			

HCM 6th TWSC  
3: Eastonville Rd & Copenhagen Rd

2040 Background + Site  
AM -- Moderate Growth

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↱			↰		↱	↰	↱	↱	↰	
Traffic Vol, veh/h	10	0	20	10	0	19	15	481	39	51	622	10
Future Vol, veh/h	10	0	20	10	0	19	15	481	39	51	622	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	155	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	26	13	0	24	16	517	42	55	669	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1367	1376	675	1347	1339	517	680	0	0	559	0	0
Stage 1	785	785	-	549	549	-	-	-	-	-	-	-
Stage 2	582	591	-	798	790	-	-	-	-	-	-	-
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	124	145	454	128	153	558	912	-	-	1012	-	-
Stage 1	386	404	-	520	516	-	-	-	-	-	-	-
Stage 2	499	494	-	380	402	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	112	135	454	114	142	558	912	-	-	1012	-	-
Mov Cap-2 Maneuver	112	135	-	114	142	-	-	-	-	-	-	-
Stage 1	379	382	-	511	507	-	-	-	-	-	-	-
Stage 2	469	485	-	339	380	-	-	-	-	-	-	-

Approach	EB		WB		NE		SW	
HCM Control Delay, s	24.3		22.9		0.3		0.7	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1WBLn1	SWL	SWT	SWR
Capacity (veh/h)	912	-	-	225 238	1012	-	-
HCM Lane V/C Ratio	0.018	-	-	0.171 0.156	0.054	-	-
HCM Control Delay (s)	9	-	-	24.3 22.9	8.8	-	-
HCM Lane LOS	A	-	-	C C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6 0.5	0.2	-	-

HCM 6th TWSC  
3: Eastonville Rd & Copenhagen Rd

2040 Background + Site  
AM -- High-Growth

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕	↗	↖	↕	↗	↖	↕	
Traffic Vol, veh/h	10	0	20	10	0	19	15	481	39	51	622	10
Future Vol, veh/h	10	0	20	10	0	19	15	481	39	51	622	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	50	-	155	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	83	83	83	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	26	12	0	23	16	517	42	55	669	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1367	1376	675	1347	1339	517	680	0	0	559	0	0
Stage 1	785	785	-	549	549	-	-	-	-	-	-	-
Stage 2	582	591	-	798	790	-	-	-	-	-	-	-
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	124	145	454	128	153	558	912	-	-	1012	-	-
Stage 1	386	404	-	520	516	-	-	-	-	-	-	-
Stage 2	499	494	-	380	402	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	112	135	454	114	142	558	912	-	-	1012	-	-
Mov Cap-2 Maneuver	112	135	-	114	142	-	-	-	-	-	-	-
Stage 1	379	382	-	511	507	-	-	-	-	-	-	-
Stage 2	470	485	-	339	380	-	-	-	-	-	-	-
Approach	EB		WB		NE		SW					
HCM Control Delay, s	24.3		21.6		0.3		0.7					
HCM LOS	C		C									
Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1WBLn1WBLn2	SWL	SWT	SWR					
Capacity (veh/h)	912	-	-	225 114 558	1012	-	-					
HCM Lane V/C Ratio	0.018	-	-	0.171 0.106 0.041	0.054	-	-					
HCM Control Delay (s)	9	-	-	24.3 40.3 11.7	8.8	-	-					
HCM Lane LOS	A	-	-	C E B	A	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	0.6 0.3 0.1	0.2	-	-					



HCM 6th TWSC  
3: Eastonville Rd & Copenhagen Rd

2040 Background + Site  
AM -- High Growth

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↱			↰		↱	↰	↱	↱	↰	
Traffic Vol, veh/h	10	0	20	10	0	19	15	676	39	51	692	10
Future Vol, veh/h	10	0	20	10	0	19	15	676	39	51	692	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	155	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	83	83	83	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	26	12	0	23	16	727	42	55	744	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1652	1661	750	1632	1624	727	755	0	0	769	0	0
Stage 1	860	860	-	759	759	-	-	-	-	-	-	-
Stage 2	792	801	-	873	865	-	-	-	-	-	-	-
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	79	97	411	81	102	424	855	-	-	845	-	-
Stage 1	351	373	-	399	415	-	-	-	-	-	-	-
Stage 2	382	397	-	345	371	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	70	89	411	71	94	424	855	-	-	845	-	-
Mov Cap-2 Maneuver	70	89	-	71	94	-	-	-	-	-	-	-
Stage 1	344	349	-	391	407	-	-	-	-	-	-	-
Stage 2	355	389	-	302	347	-	-	-	-	-	-	-

Approach	EB		WB		NE		SW	
HCM Control Delay, s	35.2		34.6		0.2		0.6	
HCM LOS	E		D					

Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1WBLn1	SWL	SWT	SWR
Capacity (veh/h)	855	-	-	157 156	845	-	-
HCM Lane V/C Ratio	0.019	-	-	0.245 0.224	0.065	-	-
HCM Control Delay (s)	9.3	-	-	35.2 34.6	9.6	-	-
HCM Lane LOS	A	-	-	E D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9 0.8	0.2	-	-

HCM 6th Roundabout  
1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd























2040 Background + Site  
PM

Intersection									
Intersection Delay, s/veh	11.4								
Intersection LOS	B								
Approach	SE		NW		NE		SW		
Entry Lanes	2		2		2		2		
Conflicting Circle Lanes	2		2		2		2		
Adj Approach Flow, veh/h	202		807		871		581		
Demand Flow Rate, veh/h	206		823		888		593		
Vehicles Circulating, veh/h	764		700		299		613		
Vehicles Exiting, veh/h	442		487		671		910		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	6.9		13.6		11.8		9.6		
Approach LOS	A		B		B		A		
Lane	Left	Right	Left	Right	Left	Right	Left	Right	
Designated Moves	LT	R	LT	TR	L	TR	L	TR	
Assumed Moves	LT	R	LT	TR	L	TR	L	TR	
RT Channelized									
Lane Util	0.515	0.485	0.470	0.530	0.169	0.831	0.325	0.675	
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328	
Entry Flow, veh/h	106	100	387	436	150	738	193	400	
Cap Entry Lane, veh/h	668	742	709	783	1025	1101	768	843	
Entry HV Adj Factor	0.983	0.980	0.980	0.980	0.980	0.980	0.979	0.981	
Flow Entry, veh/h	104	98	379	427	147	724	189	392	
Cap Entry, veh/h	657	727	694	768	1005	1080	752	827	
V/C Ratio	0.159	0.135	0.546	0.557	0.146	0.670	0.251	0.474	
Control Delay, s/veh	7.3	6.4	14.0	13.2	4.9	13.2	7.6	10.6	
LOS	A	A	B	B	A	B	A	B	
95th %tile Queue, veh	1	0	3	3	1	5	1	3	

Intersection						
Intersection Delay, s/veh	7.5					
Intersection LOS	A					
Approach	EB		WB		NB	
Entry Lanes	2		2		1	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	530		810		241	
Demand Flow Rate, veh/h	540		825		245	
Vehicles Circulating, veh/h	339		226		620	
Vehicles Exiting, veh/h	795		639		259	
Ped Vol Crossing Leg, #/h	0		0		0	
Ped Cap Adj	1.000		1.000		1.000	
Approach Delay, s/veh	6.2		6.9		7.6	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.328
Entry Flow, veh/h	254	286	388	437	245	317
Cap Entry Lane, veh/h	988	1065	1096	1172	838	709
Entry HV Adj Factor	0.980	0.981	0.981	0.982	0.982	0.980
Flow Entry, veh/h	249	281	381	429	241	311
Cap Entry, veh/h	968	1045	1075	1151	824	695
V/C Ratio	0.257	0.269	0.354	0.373	0.292	0.447
Control Delay, s/veh	6.3	6.1	6.9	6.8	7.6	11.5
LOS	A	A	A	A	A	B
95th %tile Queue, veh	1	1	2	2	1	2













Lanes, Volumes, Timings  
1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd

2040 Background + Site  
PM

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	15	81	90	168	254	328	140	498	190	176	352	13
Future Volume (vph)	15	81	90	168	254	328	140	498	190	176	352	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	95		155	275		275	250		0	250		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	80			155			95			95		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.959			0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1786	0	1770	1853	0
Flt Permitted	0.584			0.478			0.446			0.109		
Satd. Flow (perm)	1088	3539	1583	890	3539	1583	831	1786	0	203	1853	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			127			353		28			3	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		689			820			951			875	
Travel Time (s)		13.4			16.0			18.5			17.0	
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	16	88	98	181	273	353	151	535	204	189	378	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	88	98	181	273	353	151	739	0	189	392	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes						Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		

Lanes, Volumes, Timings  
1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd

2040 Background + Site  
PM

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	22.5	22.5	9.8	22.8	22.8	11.4	44.7		13.0	46.3	
Total Split (%)	10.6%	25.0%	25.0%	10.9%	25.3%	25.3%	12.7%	49.7%		14.4%	51.4%	
Maximum Green (s)	5.0	18.0	18.0	5.3	18.3	18.3	6.9	40.2		8.5	41.8	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effect Green (s)	12.4	8.9	8.9	16.1	15.2	15.2	42.1	35.2		44.9	36.6	
Actuated g/C Ratio	0.17	0.12	0.12	0.22	0.20	0.20	0.57	0.47		0.60	0.49	
v/c Ratio	0.07	0.21	0.33	0.68	0.38	0.58	0.27	0.86		0.63	0.43	
Control Delay	24.0	32.9	6.5	41.0	28.6	8.0	7.6	29.8		22.9	14.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	24.0	32.9	6.5	41.0	28.6	8.0	7.6	29.8		22.9	14.6	
LOS	C	C	A	D	C	A	A	C		C	B	
Approach Delay		19.4			22.3			26.1			17.3	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	6	21	0	79	60	0	23	277		30	108	
Queue Length 95th (ft)	21	42	26	#138	108	72	63	#607		#143	221	
Internal Link Dist (ft)		609			740			871			795	
Turn Bay Length (ft)	95		155	275		275	250			250		
Base Capacity (vph)	229	889	493	266	904	667	564	1015		310	1083	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.07	0.10	0.20	0.68	0.30	0.53	0.27	0.73		0.61	0.36	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 74.3

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 22.3

Intersection LOS: C

Intersection Capacity Utilization 74.8%

ICU Level of Service D

Analysis Period (min) 15








# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings  
 1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd








2040 Background + Site  
 PM

Splits and Phases: 1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd

 Ø1	 Ø2	 Ø3	 Ø4
13 s	44.7 s	9.8 s	22.5 s
 Ø5	 Ø6	 Ø7	 Ø8
11.4 s	46.3 s	9.5 s	22.8 s

HCM 6th TWSC  
7: Eastonville Rd & Woodmen Hills Dr

2040 Background + Site  
PM -- Moderate-Growth

Intersection												
Int Delay, s/veh	1.9											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	34	1	15	5	5	7	10	588	5	15	402	47
Future Vol, veh/h	34	1	15	5	5	7	10	588	5	15	402	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	78	78	78	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	1	18	6	6	9	11	632	5	16	432	51
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1154	1149	458	1156	1172	635	483	0	0	637	0	0
Stage 1	490	490	-	657	657	-	-	-	-	-	-	-
Stage 2	664	659	-	499	515	-	-	-	-	-	-	-
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	174	198	603	174	192	478	1080	-	-	947	-	-
Stage 1	560	549	-	454	462	-	-	-	-	-	-	-
Stage 2	450	461	-	554	535	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	163	193	603	165	187	478	1080	-	-	947	-	-
Mov Cap-2 Maneuver	163	193	-	165	187	-	-	-	-	-	-	-
Stage 1	554	540	-	449	457	-	-	-	-	-	-	-
Stage 2	431	456	-	527	526	-	-	-	-	-	-	-
Approach	SE		NW		NE		SW					
HCM Control Delay, s	27.4		21.7		0.1		0.3					
HCM LOS	D		C									
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SELn2	SWL	SWT	SWR				
Capacity (veh/h)	1080	-	-	237	164	603	947	-	-			
HCM Lane V/C Ratio	0.01	-	-	0.092	0.257	0.03	0.017	-	-			
HCM Control Delay (s)	8.4	-	-	21.7	34.4	11.2	8.9	-	-			
HCM Lane LOS	A	-	-	C	D	B	A	-	-			
HCM 95th %tile Q(veh)	0	-	-	0.3	1	0.1	0.1	-	-			

HCM 6th TWSC  
7: Eastonville Rd & Woodmen Hills Dr

2040 Background + Site  
PM -- Moderate-Growth








Intersection												
Int Delay, s/veh	2											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Vol, veh/h	34	1	15	5	5	7	10	588	5	15	402	47
Future Vol, veh/h	34	1	15	5	5	7	10	588	5	15	402	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	78	78	78	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	1	18	6	6	9	11	632	5	16	432	51

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1154	1149	458	1156	1172	635	483	0	0	637	0	0
Stage 1	490	490	-	657	657	-	-	-	-	-	-	-
Stage 2	664	659	-	499	515	-	-	-	-	-	-	-
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	174	198	603	174	192	478	1080	-	-	947	-	-
Stage 1	560	549	-	454	462	-	-	-	-	-	-	-
Stage 2	450	461	-	554	535	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	163	193	603	165	187	478	1080	-	-	947	-	-
Mov Cap-2 Maneuver	163	193	-	165	187	-	-	-	-	-	-	-
Stage 1	554	540	-	449	457	-	-	-	-	-	-	-
Stage 2	431	456	-	527	526	-	-	-	-	-	-	-

Approach	SE		NW		NE		SW	
HCM Control Delay, s	28.9		21.7		0.1		0.3	
HCM LOS	D		C					







Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1080	-	-	237	210	947	-
HCM Lane V/C Ratio	0.01	-	-	0.092	0.287	0.017	-
HCM Control Delay (s)	8.4	-	-	21.7	28.9	8.9	-
HCM Lane LOS	A	-	-	C	D	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	1.1	0.1	-












Intersection												
Int Delay, s/veh	3											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	34	1	15	5	5	7	10	806	5	15	564	47
Future Vol, veh/h	34	1	15	5	5	7	10	806	5	15	564	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	78	78	78	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	1	18	6	6	9	11	867	5	16	606	51
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1563	1558	632	1565	1581	870	657	0	0	872	0	0
Stage 1	664	664	-	892	892	-	-	-	-	-	-	-
Stage 2	899	894	-	673	689	-	-	-	-	-	-	-
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	91	112	480	90	109	351	931	-	-	773	-	-
Stage 1	450	458	-	337	360	-	-	-	-	-	-	-
Stage 2	334	360	-	445	446	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	82	108	480	84	105	351	931	-	-	773	-	-
Mov Cap-2 Maneuver	82	108	-	84	105	-	-	-	-	-	-	-
Stage 1	445	448	-	333	356	-	-	-	-	-	-	-
Stage 2	316	356	-	418	437	-	-	-	-	-	-	-
Approach	SE		NW		NE		SW					
HCM Control Delay, s	64.5		37		0.1		0.2					
HCM LOS	F		E									
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SELn2	SWL	SWT	SWR				
Capacity (veh/h)	931	-	-	134	83	480	773	-	-			
HCM Lane V/C Ratio	0.012	-	-	0.163	0.508	0.038	0.021	-	-			
HCM Control Delay (s)	8.9	-	-	37	86.6	12.8	9.8	-	-			
HCM Lane LOS	A	-	-	E	F	B	A	-	-			
HCM 95th %tile Q(veh)	0	-	-	0.6	2.2	0.1	0.1	-	-			

HCM 6th TWSC  
7: Eastonville Rd & Woodmen Hills Dr










2040 Background + Site  
PM -- High-Growth

Intersection												
Int Delay, s/veh	3.3											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	34	1	15	5	5	7	10	806	5	15	564	47
Future Vol, veh/h	34	1	15	5	5	7	10	806	5	15	564	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	78	78	78	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	1	18	6	6	9	11	867	5	16	606	51
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1563	1558	632	1565	1581	870	657	0	0	872	0	0
Stage 1	664	664	-	892	892	-	-	-	-	-	-	-
Stage 2	899	894	-	673	689	-	-	-	-	-	-	-
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	91	112	480	90	109	351	931	-	-	773	-	-
Stage 1	450	458	-	337	360	-	-	-	-	-	-	-
Stage 2	334	360	-	445	446	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	82	108	480	84	105	351	931	-	-	773	-	-
Mov Cap-2 Maneuver	82	108	-	84	105	-	-	-	-	-	-	-
Stage 1	445	448	-	333	356	-	-	-	-	-	-	-
Stage 2	316	356	-	418	437	-	-	-	-	-	-	-
Approach	SE		NW		NE		SW					
HCM Control Delay, s	71.7		37		0.1		0.2					
HCM LOS	F		E									
Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SELn1	SWL	SWT	SWR					
Capacity (veh/h)	931	-	-	134	110	773	-	-				
HCM Lane V/C Ratio	0.012	-	-	0.163	0.548	0.021	-	-				
HCM Control Delay (s)	8.9	-	-	37	71.7	9.8	-	-				
HCM Lane LOS	A	-	-	E	F	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.6	2.6	0.1	-	-				

Intersection												
Int Delay, s/veh	92.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	83	345	60	160	477	114	100	15	95	124	15	132
Future Vol, veh/h	83	345	60	160	477	114	100	15	95	124	15	132
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	385	-	235	-	-	235	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	93	93	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	90	375	65	174	513	123	115	17	109	143	17	152
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	636	0	0	440	0	0	1168	1539	188	1237	1481	257
Stage 1	-	-	-	-	-	-	555	555	-	861	861	-
Stage 2	-	-	-	-	-	-	613	984	-	376	620	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	943	-	-	1116	-	-	149	115	822	~ 132	124	742
Stage 1	-	-	-	-	-	-	484	511	-	317	371	-
Stage 2	-	-	-	-	-	-	446	325	-	617	478	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	943	-	-	1116	-	-	~ 76	78	822	~ 72	85	742
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 76	78	-	~ 72	85	-
Stage 1	-	-	-	-	-	-	438	462	-	287	280	-
Stage 2	-	-	-	-	-	-	251	245	-	466	433	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.6			1.9			263.6			\$ 348.2		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1 NBLn2		EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	76	822	943	-	-	1116	-	-	73	742		
HCM Lane V/C Ratio	1.739	0.133	0.096	-	-	0.156	-	-	2.189	0.204		
HCM Control Delay (s)	\$ 473.1	10	9.2	-	-	8.8	-	-	\$ 668.3	11.1		
HCM Lane LOS	F	B	A	-	-	A	-	-	F	B		
HCM 95th %tile Q(veh)	11.4	0.5	0.3	-	-	0.6	-	-	14.9	0.8		
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

HCM 6th TWSC  
3: Eastonville Rd & Copenhagen Rd

2040 Background + Site  
PM -- Moderate-Growth

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	10	0	10	29	0	98	25	558	110	51	354	20
Future Vol, veh/h	10	0	10	29	0	98	25	558	110	51	354	20
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	50	-	155	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	87	87	87	93	93	93	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	13	33	0	113	27	600	118	55	385	22
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1276	1278	396	1167	1171	600	407	0	0	718	0	0
Stage 1	506	506	-	654	654	-	-	-	-	-	-	-
Stage 2	770	772	-	513	517	-	-	-	-	-	-	-
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	144	166	653	171	193	501	1152	-	-	883	-	-
Stage 1	549	540	-	456	463	-	-	-	-	-	-	-
Stage 2	393	409	-	544	534	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	104	152	653	157	177	501	1152	-	-	883	-	-
Mov Cap-2 Maneuver	104	152	-	157	177	-	-	-	-	-	-	-
Stage 1	536	507	-	446	452	-	-	-	-	-	-	-
Stage 2	297	400	-	500	501	-	-	-	-	-	-	-
Approach	EB		WB		NE		SW					
HCM Control Delay, s	28.4		18.8		0.3		1.1					
HCM LOS	D		C									
Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1WBLn1WBLn2	SWL	SWT	SWR					
Capacity (veh/h)	1152	-	-	179	157	501	883	-	-			
HCM Lane V/C Ratio	0.023	-	-	0.143	0.212	0.225	0.063	-	-			
HCM Control Delay (s)	8.2	-	-	28.4	34	14.3	9.3	-	-			
HCM Lane LOS	A	-	-	D	D	B	A	-	-			
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.8	0.9	0.2	-	-			

HCM 6th TWSC  
3: Eastonville Rd & Copenhagen Rd

2040 Background + Site  
PM -- Moderate-Growth

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕		↗	↗	↗	↗	↗	
Traffic Vol, veh/h	10	0	10	29	0	98	25	558	110	51	354	20
Future Vol, veh/h	10	0	10	29	0	98	25	558	110	51	354	20
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	-	-	-	-	-	-	50	-	155	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	87	87	87	93	93	93	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	13	33	0	113	27	600	118	55	385	22










Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1276	1278	396	1167	1171	600	407	0	0	718	0	0
Stage 1	506	506	-	654	654	-	-	-	-	-	-	-
Stage 2	770	772	-	513	517	-	-	-	-	-	-	-
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	144	166	653	171	193	501	1152	-	-	883	-	-
Stage 1	549	540	-	456	463	-	-	-	-	-	-	-
Stage 2	393	409	-	544	534	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	104	152	653	157	177	501	1152	-	-	883	-	-
Mov Cap-2 Maneuver	104	152	-	157	177	-	-	-	-	-	-	-
Stage 1	536	507	-	446	452	-	-	-	-	-	-	-
Stage 2	297	400	-	500	501	-	-	-	-	-	-	-

Approach	EB		WB		NE		SW	
HCM Control Delay, s	28.4		23.9		0.3		1.1	
HCM LOS	D		C					

Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1WBLn1	SWL	SWT	SWR
Capacity (veh/h)	1152	-	-	179 334	883	-	-
HCM Lane V/C Ratio	0.023	-	-	0.143 0.437	0.063	-	-
HCM Control Delay (s)	8.2	-	-	28.4 23.9	9.3	-	-
HCM Lane LOS	A	-	-	D C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5 2.1	0.2	-	-

HCM 6th TWSC  
3: Eastonville Rd & Copenhagen Rd

2040 Background + Site  
PM -- Aggressive

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	10	0	10	29	0	98	25	775	110	51	516	20
Future Vol, veh/h	10	0	10	29	0	98	25	775	110	51	516	20
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	50	-	155	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	87	87	87	93	93	93	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	13	33	0	113	27	833	118	55	561	22
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1685	1687	572	1576	1580	833	583	0	0	951	0	0
Stage 1	682	682	-	887	887	-	-	-	-	-	-	-
Stage 2	1003	1005	-	689	693	-	-	-	-	-	-	-
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	75	94	520	89	109	369	991	-	-	722	-	-
Stage 1	440	450	-	339	362	-	-	-	-	-	-	-
Stage 2	292	319	-	436	445	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	48	85	520	80	98	369	991	-	-	722	-	-
Mov Cap-2 Maneuver	48	85	-	80	98	-	-	-	-	-	-	-
Stage 1	428	416	-	330	352	-	-	-	-	-	-	-
Stage 2	197	310	-	393	411	-	-	-	-	-	-	-
Approach	EB		WB		NE		SW					
HCM Control Delay, s	61.9		32.7		0.2		0.9					
HCM LOS	F		D									
Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1WBLn1WBLn2	SWL	SWT	SWR					
Capacity (veh/h)	991	-	-	88	80	369	722	-	-			
HCM Lane V/C Ratio	0.027	-	-	0.291	0.417	0.305	0.077	-	-			
HCM Control Delay (s)	8.7	-	-	61.9	79	19	10.4	-	-			
HCM Lane LOS	A	-	-	F	F	C	B	-	-			
HCM 95th %tile Q(veh)	0.1	-	-	1.1	1.7	1.3	0.2	-	-			