



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

Judge Orr Eastonville Commercial Center

Traffic Impact Study

(LSC #194730)

July 10, 2020

Please revise the title to Master Traffic Impact Study

Add PCD File No. SKP203

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.

Date



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

July 10, 2020

Philip 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
Traffic Impact Study
LSC #194730

Dear Mr. and Mrs. Buford,

LSC Transportation Consultants, Inc. has prepared this transportation memorandum 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 Highway 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 Highway 24;
- Projections of 20-year background traffic volumes on Judge Orr Road, Eastonville Road, Meridian Ranch Road, and US Highway 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;

There is also a traffic study that was completed by Liberty Tree academy just north of the site that may be of use to your analysis.

- 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 Highway 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, 2015
 - "Falcon Crossing" – dated February 5, 2007
- Please indicate the ECM criteria for intersection spacing and state whether these proposed roadways as currently shown in the conceptual site plan meet the criteria. If they do not, please indicate that deviation request would be needed.

LAND USE AND ACCESS

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)

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. Two full-movement, stop sign-controlled access points are proposed:

- Judge Orr Road – located approximately 1,620 feet east of Eastonville Road
- Eastonville Road – future extension of Copenhagen Road

The site plan on figure 2 indicates the distance as 1259 ft.

ACCESS SIGHT DISTANCE

Stopping sight distances and access sight distances prescribed in Tables 2-33 and 2-35, respectively, in ECM Section 2.4.1 will need to be maintained along the site frontage of Judge Orr Road and Eastonville Road. 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 vertical curves on Judge Orr Road or Eastonville Road that would limit sight distance.

Please state something along the lines of: once the roadway locations are finalized at the preliminary plan/final plat a sight distance analysis with exhibit will be provided. If the proposed access locations shown on the site plan are final then provide sight distance analysis with an exhibit.

ROAD AND TRAFFIC CONDITIONS AND MTCP CLASSIFICATION

The MTCP shows this as a 4-lane principal arterial. Revise

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 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 Road.

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 Highway 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

Please state why stapleton/eastonville and woodmen hills/eastonville where not included in the study area. If they do not meet the threshold indicated in ECM appendix B to be included in the study area then please state it in the narrative

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, 10th 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 5 (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 5 (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 5. The resulting primary and non-primary trips are shown in Table 5.

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 Highway 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 5). 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 on Map 9 of the County's MTCP. Additionally, traffic generated by planned adjacent and nearby developments, such as Meadowlake Ranch and Falcon Crossing, has been included in 2040 background traffic volumes, as shown in Figure 7.

Future access to the proposed Falcon Crossing site (zoned M-Industrial, 49 acres) would likely be required to align with this site's access on Judge Orr Road. Approximately 60 percent of future Falcon Crossing traffic 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 8 shows the sum of 2040 background traffic volumes (from Figure 7) plus site-generated traffic volumes (from Figure 5).

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) ¹
A	≤ 10.0	≤ 10.0
B	10.1 – 20.0	10.1 – 15.0
C	20.1 – 35.0	15.1 – 25.0
D	35.1 – 55.0	25.1 – 35.0
E	55.1 – 80.0	35.1 – 50.0
F	≥ 80.1	≥ 50.1

¹ For unsignalized intersections, if V/C is > 1.00, then LOS is LOS F regardless of the projected average control delay per vehicle

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: 2023 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

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.

Provide alternative solutions to the unsatisfactory LOS at the site access points as it appears that it is unlikely that there would be roundabout at each of the access points and the judge orr/eastonville intersection.

US Highway 24/Judge Orr Road

Please state what the developers responsibility is regarding these improvements as the site is contributing to the traffic at this intersection. If you are to propose that the developer has no responsibility in these improvements provide sufficient justification in the narrative for review.

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 that a southbound right-turn deceleration lane, a southbound right-turn acceleration lane, and an eastbound right-turn lane have been constructed. Based on the short-term total traffic volumes, 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.

VEHICLE QUEUING

Please clarify this paragraph as it first mentions a southbound left and then an eastbound left. Also it appears to be repeated on the next page. Revise accordingly.

This section contains the projected 95th-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 this intersection. Table 3 and Table 4 presents the projected short-term and long-term 95th-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 95th-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 95th-percentile queue length of 1 vehicle (25 feet) during all short- and long-term peak hours.

Table 4 present the 95th-percentile queues reported on the SimTraffic analysis reports. Both tables show the proposed back-to-back left-turn vehicle storage lengths and the available

stacking distance for the eastbound left-turn lane on Judge Orr Road. The 95th-percentile queues for the projected short-term background plus site-generated and 2040 background plus site-generated scenarios are shown in the tables.

Table 3 and Table 4 present the projected short-term and long-term 95th-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 95th-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 95th percentile queue length of 1 vehicle (25 feet) during all short- and long-term peak hours.

Reported queue length for auxiliary turn lanes in SimTraffic is generally limited by the turn-lane length. SimTraffic simply reports the maximum observed queue length during simulations.

Judge Orr Road/Proposed South Site Access

Table 3 presents the projected short-term and long-term 95th-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 95th-percentile eastbound-left turning-movement queues would **not** exceed the available stacking length during either peak hour. Synchro queueing reports indicated a short-term 95th-percentile queue length of 25 feet in the morning and afternoon peak hours, (assuming TWSC traffic control remains). During the long term, the 95th-percentile queue length would remain approximately 25 feet during both peak hours (assuming roundabout traffic control).

**Table 3: 95th-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 th -Percentile Queue (ft)	25'	25'
2040 Background + Site (Roundabout)		
Storage Length (ft)	-	-
Taper Length (ft)	-	-
95 th -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 95th-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 95th-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 95th-percentile queue length of 1 vehicle (25 feet) during all short- and long-term peak hours.

**Table 4: 95th-Percentile Queues (2040 Background + Site)
 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 th -Percentile Queue (ft)	25'	25'
2040 Background + Site (Roundabout)		
Storage Length (ft)	-	-
Taper Length (ft)	-	-
95 th -Percentile Queue (ft)	25'	25'
Note: Synchro assumes queue length per average vehicle is 25 ft		

AUXILIARY TURN-LANE ANALYSIS, INTERSECTION CONFIGURATION, AND TRAFFIC CONTROL

Judge Orr Road/Proposed South Site Access

Eastbound Approach

for each of the Auxiliary turn lanes please indicate the design speed being utilized for the turn lane lengths provided. Also please discuss Aux. turn lanes at the proposed roadways

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

north

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:

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

See previous
comment on page 9

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

Please use County standard nomenclature for the anticipated classification of the internal roadways.

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.

ROADWAY CLASSIFICATIONS

will

All internal roadways within the Judge Orr Eastonville Commercial Center development are proposed to be Urban streets. The county may 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

Based on the peak hour volumes provided at the intersection it appears that Auxiliary turn lane improvements may be required per criteria . Please address. Also please discuss whether any of the existing turn lanes require any modifications.

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

Please include the MTCP maps/tables listed in your report

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

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)

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 streets.
- Please refer to the “Queuing Analysis” section above for additional details. Synchro queue reports indicated that the 95th percentile left-turn queue at both site access points is **not** projected to exceed the recommended turn-lane lengths during either peak hour.

Please include the reports

* * * * *

Please list all deviations that are being proposed.

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 5
Figure 1 - Figure 8
Traffic Count Reports
Synchro LOS Reports

Provide a table with the list of improvements including the timing and who is responsible for the improvements.

Tables and Figures



Table 5: Detailed Trip Generation Estimate

ITE		Value	Units ¹	Trip Generation Rates ²				Internal Capture Rates ³	Driveway Trips Generated				% Non-Pass-by	% Pass-by	Non-Pass-by Trips Generated						
Code	Description			Average Weekday	A.M.		P.M.		Average Weekday	A.M.		P.M.			Average Weekday	A.M.		P.M.			
				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

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

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

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

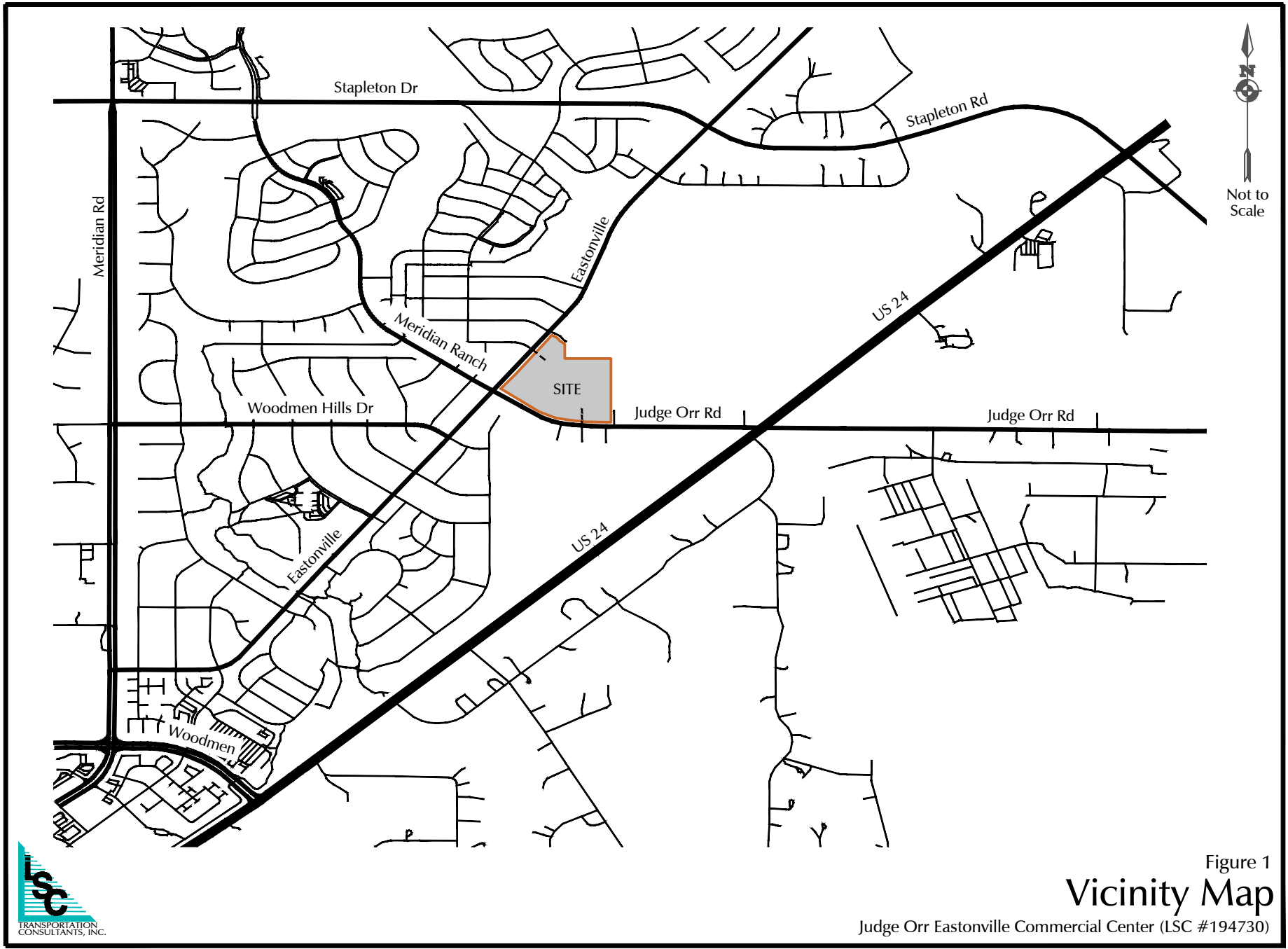


Figure 1
Vicinity Map

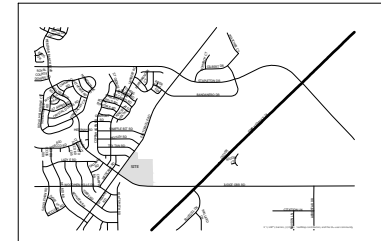
Judge Orr Eastonville Commercial Center (LSC #194730)

Judge Orr Eastonville Commercial Center

LOT 1177 WOODMEN HILLS FILING NO. 10

A PARCEL OF LAND IN THE SOUTHWEST QUARTER OF SECTION 32, T12S R64W OF THE SIXTH P.M.
EL PASO COUNTY, COLORADO

Vicinity Map



Not to Scale

Site Data
31.28 Acres
Owner: Philip Buford
Consultant: N.E.S. Inc.
619 N Cascade Ave, Suite 200
Colorado Springs, CO 80903

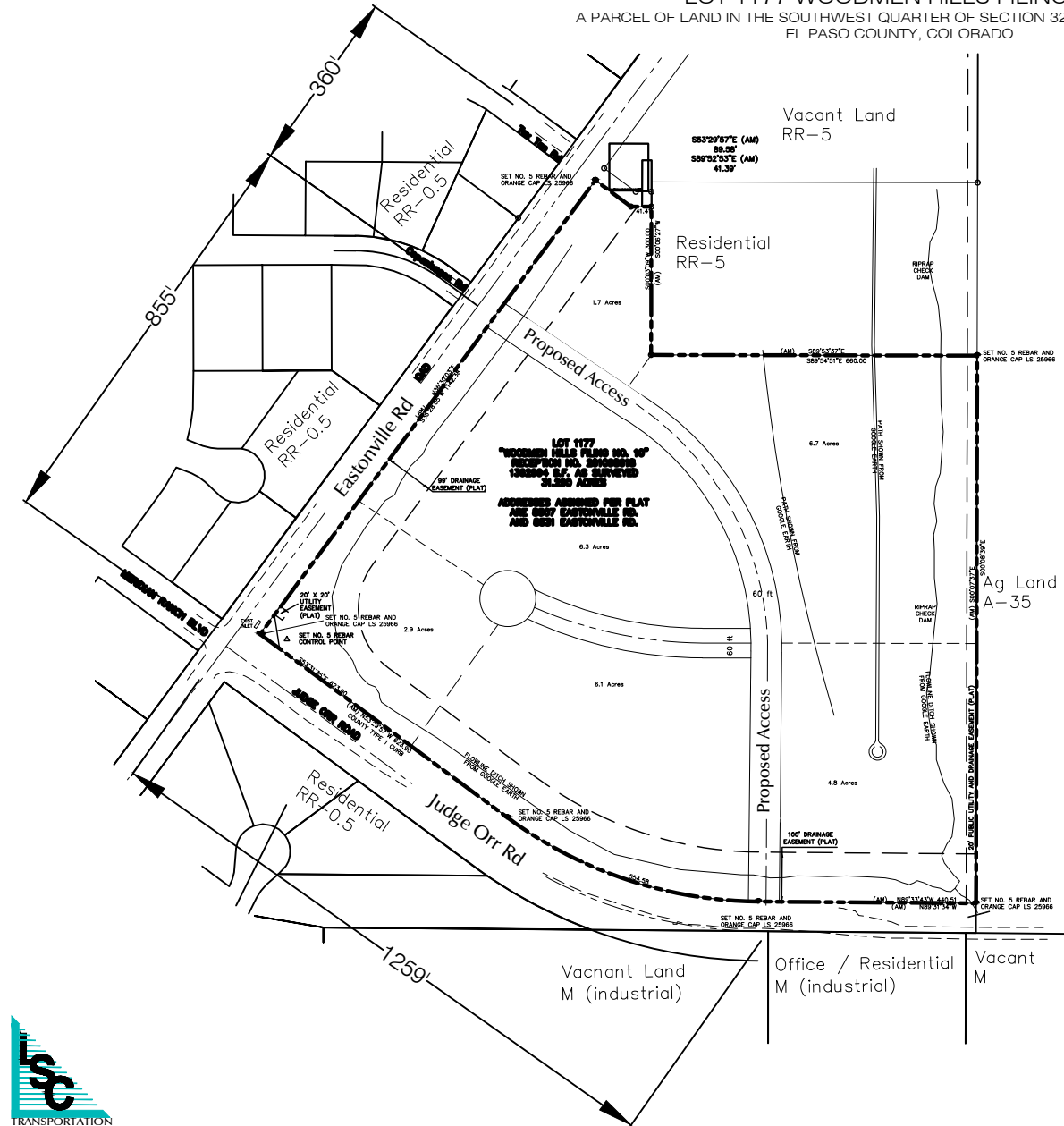
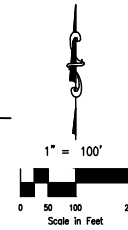
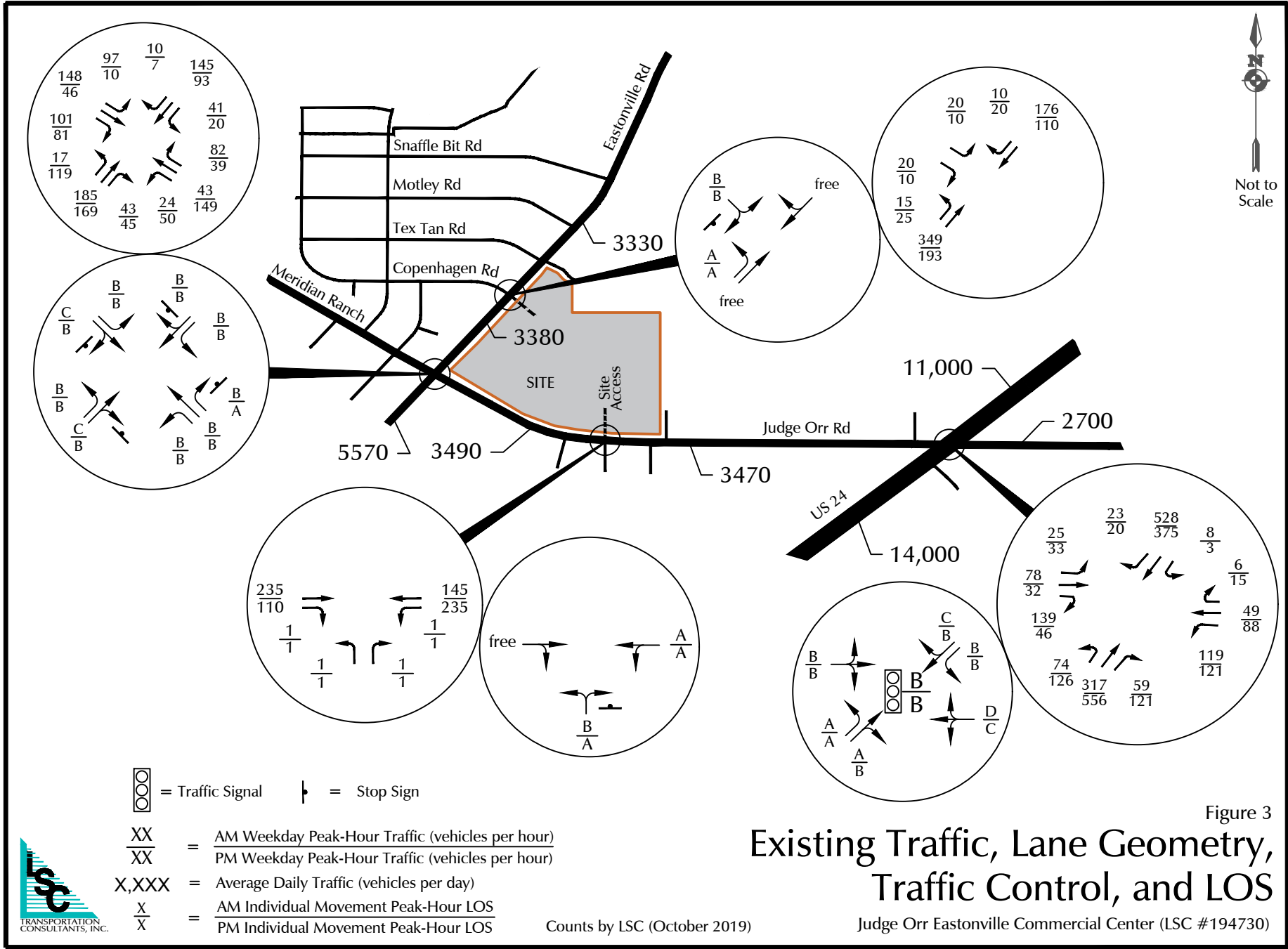
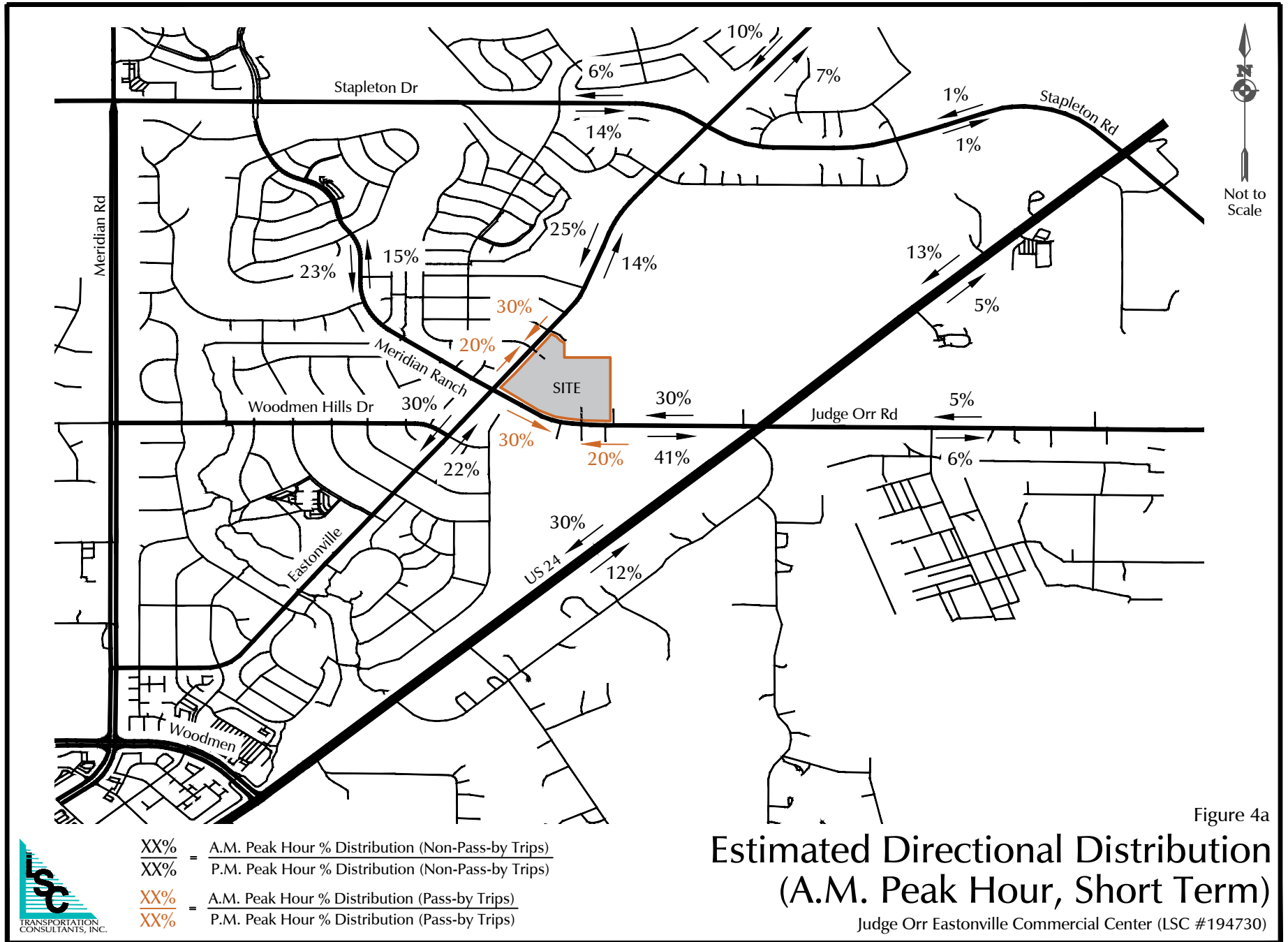
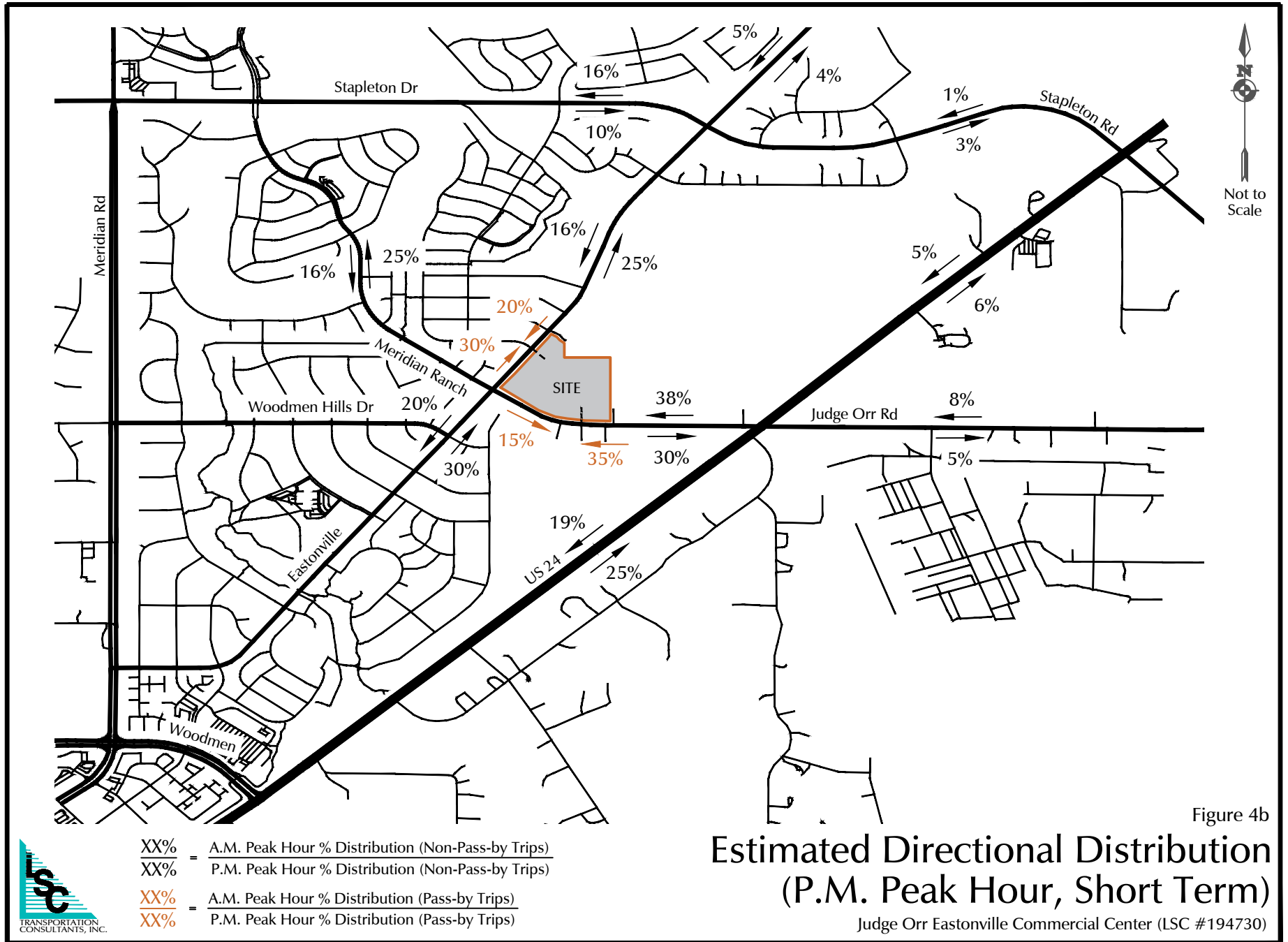


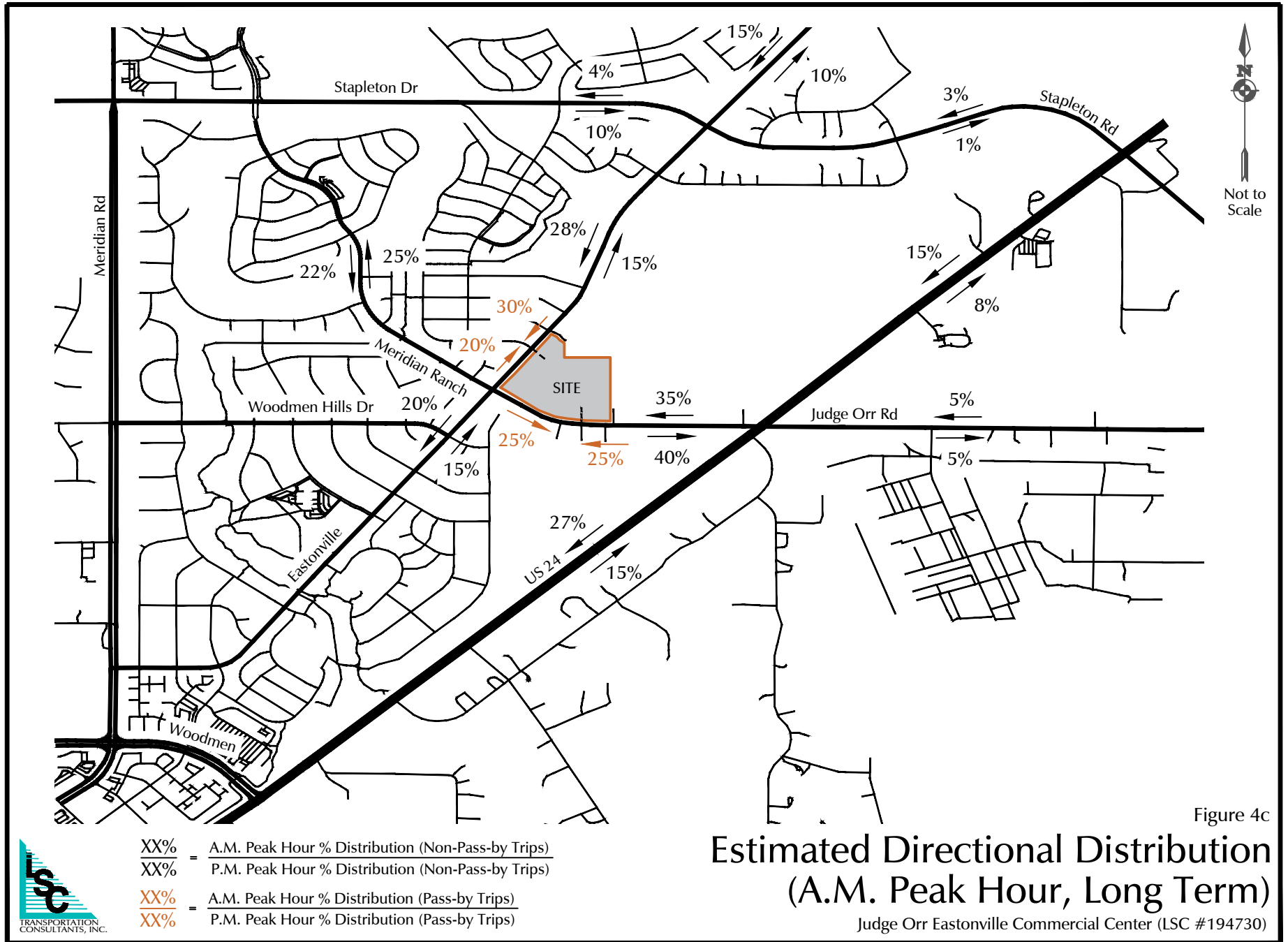
Figure 2
Site Plan

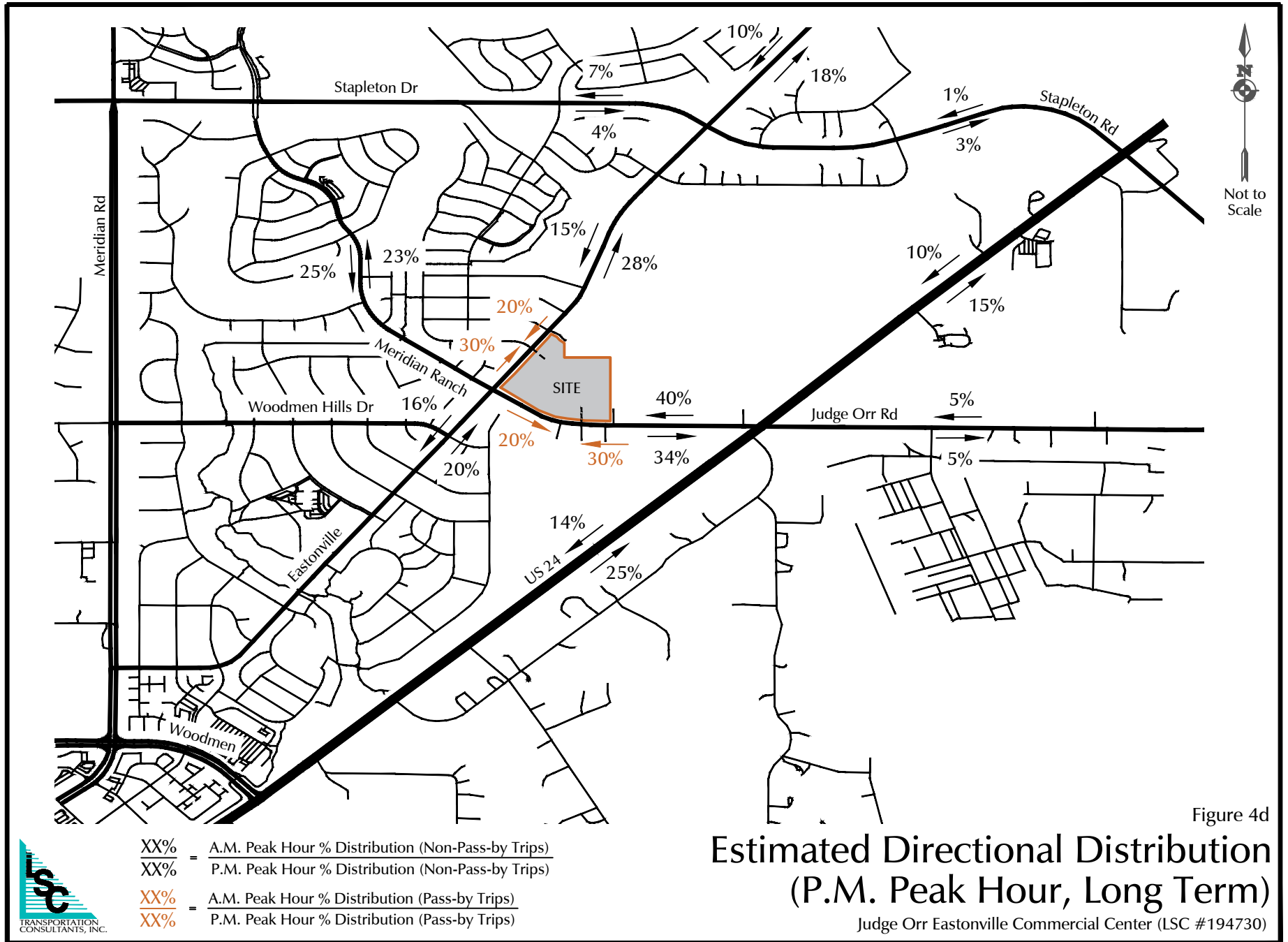
Judge Orr Eastonville Commercial Center (LSC #194730)

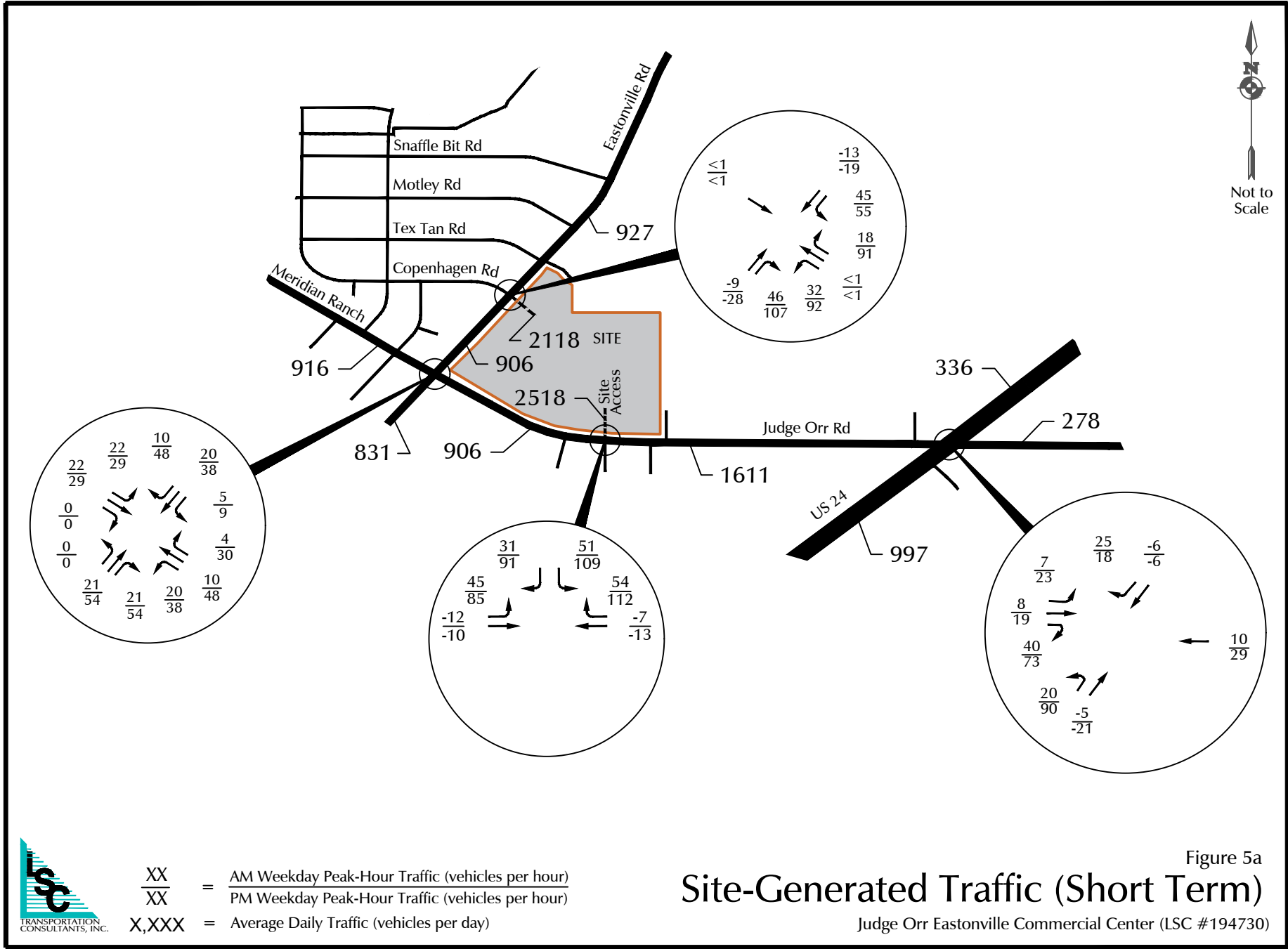


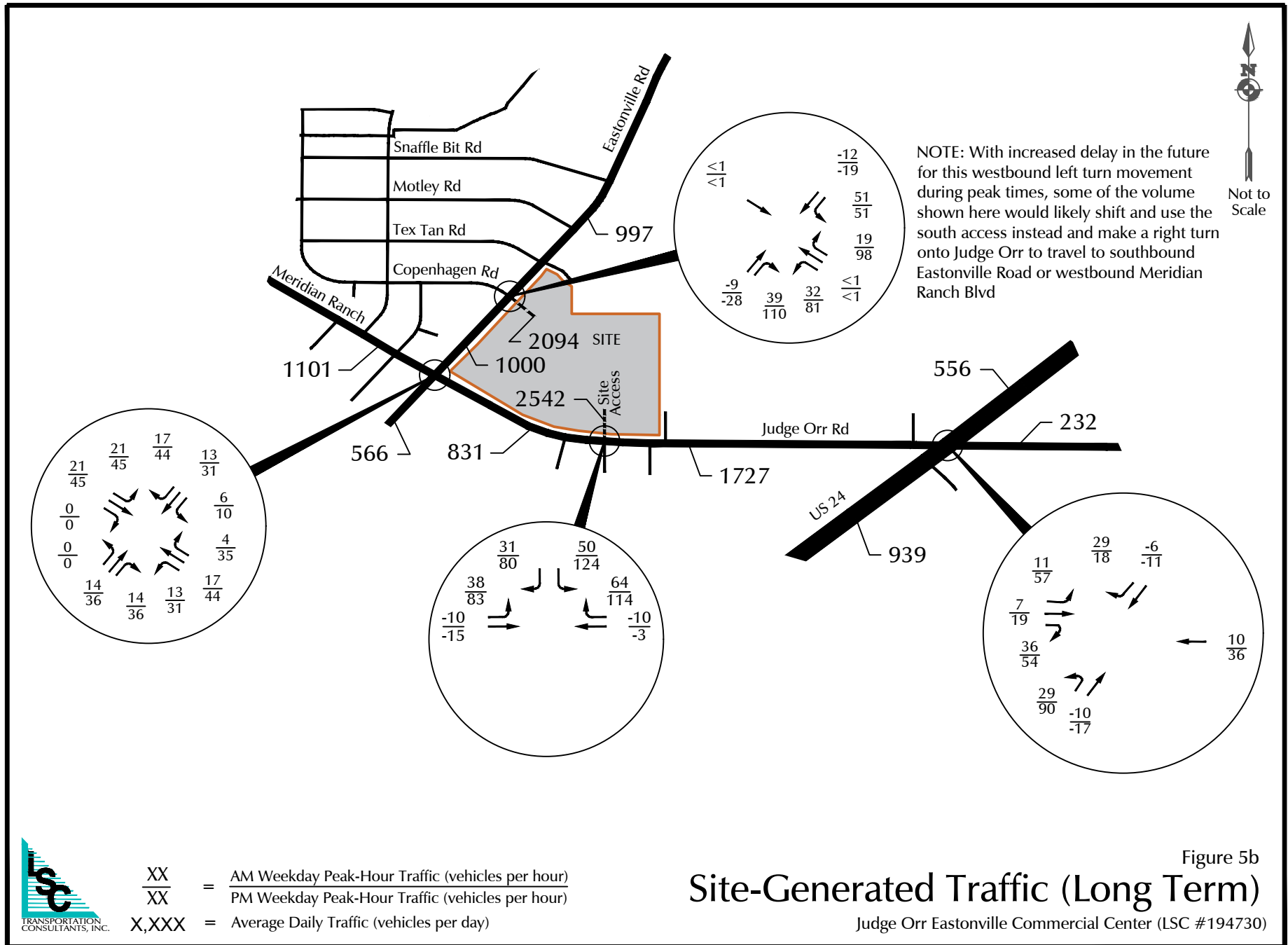


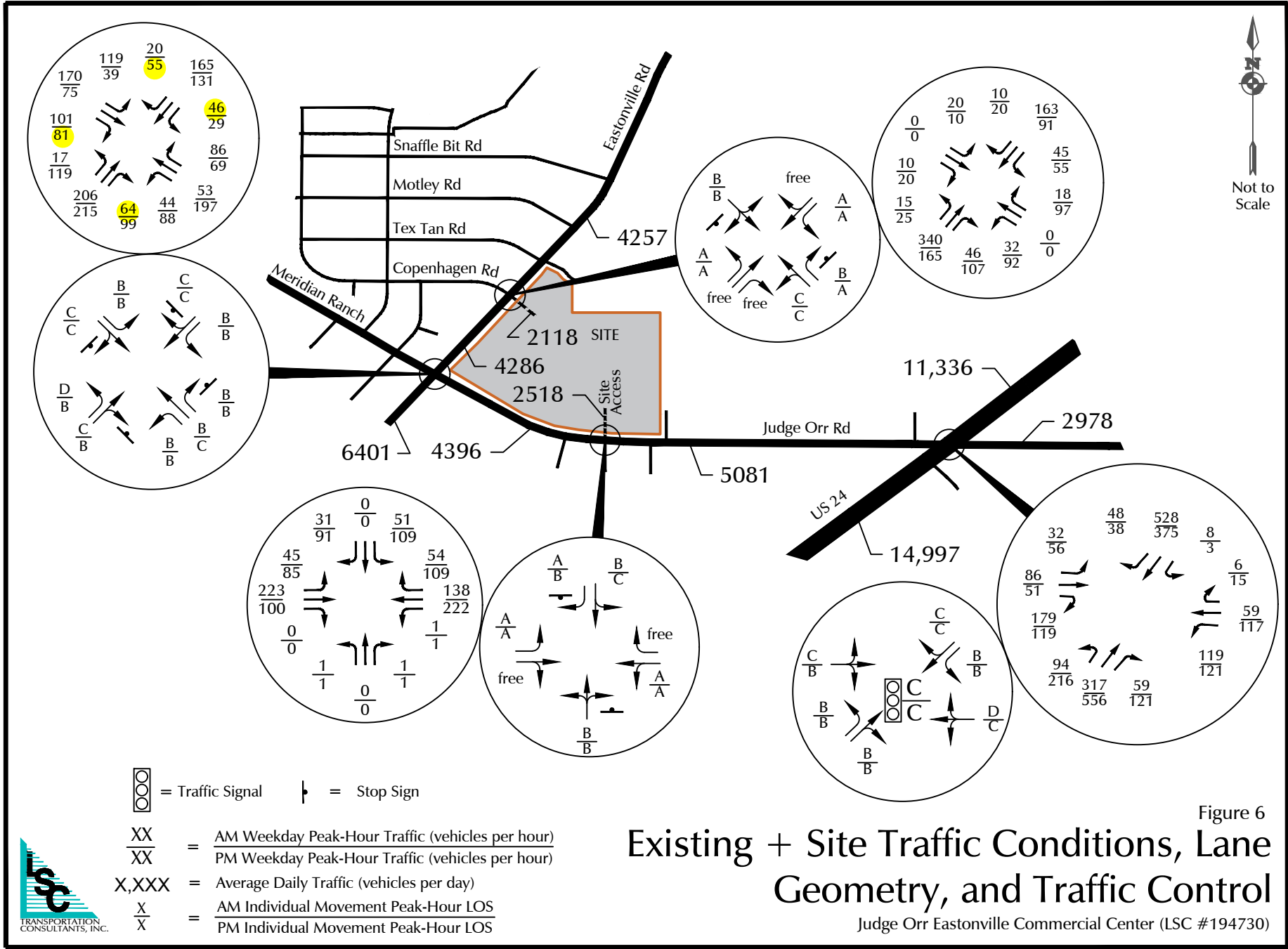












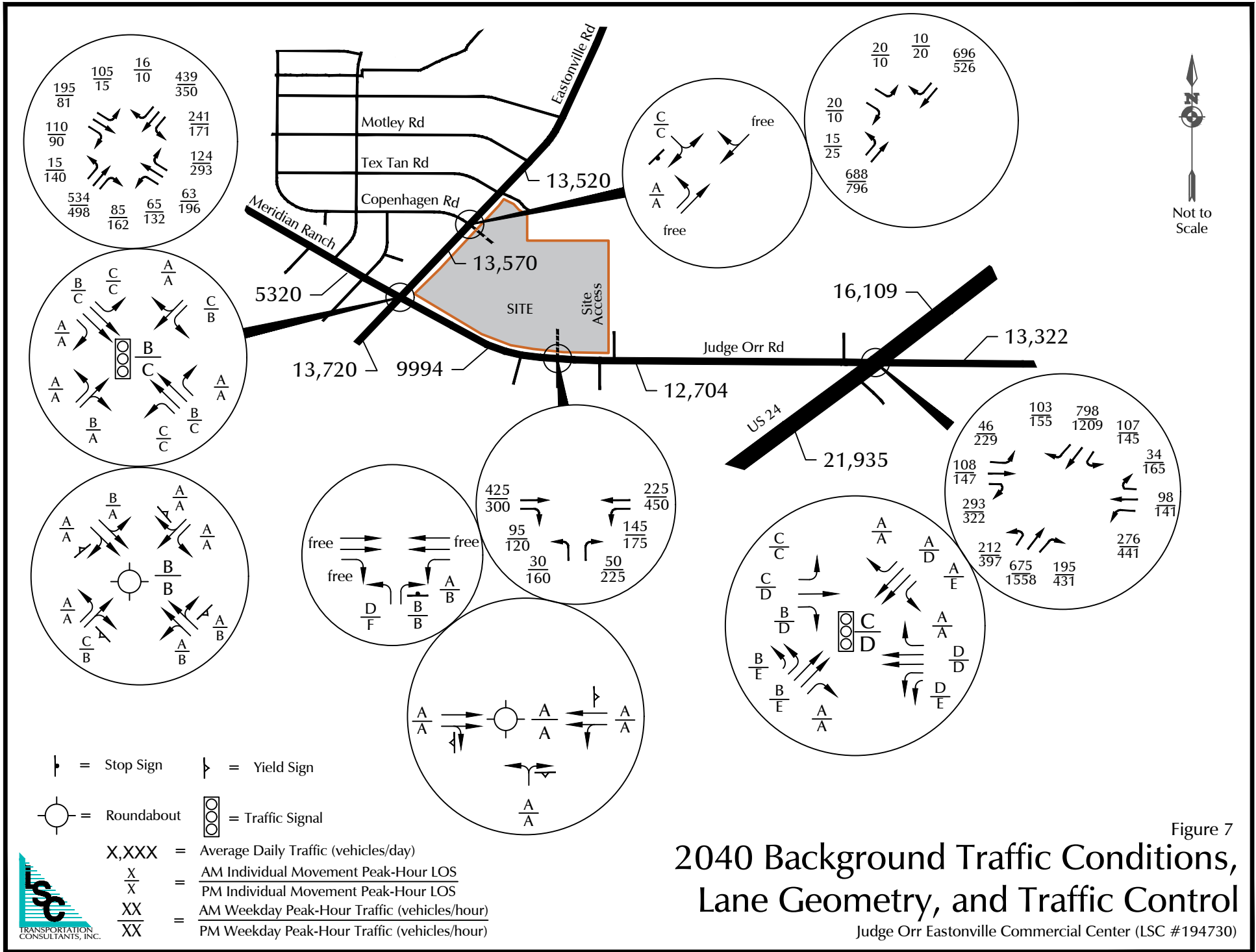


Figure 7
**2040 Background Traffic Conditions,
 Lane Geometry, and Traffic Control**
 Judge Orr Eastonville Commercial Center (LSC #194730)



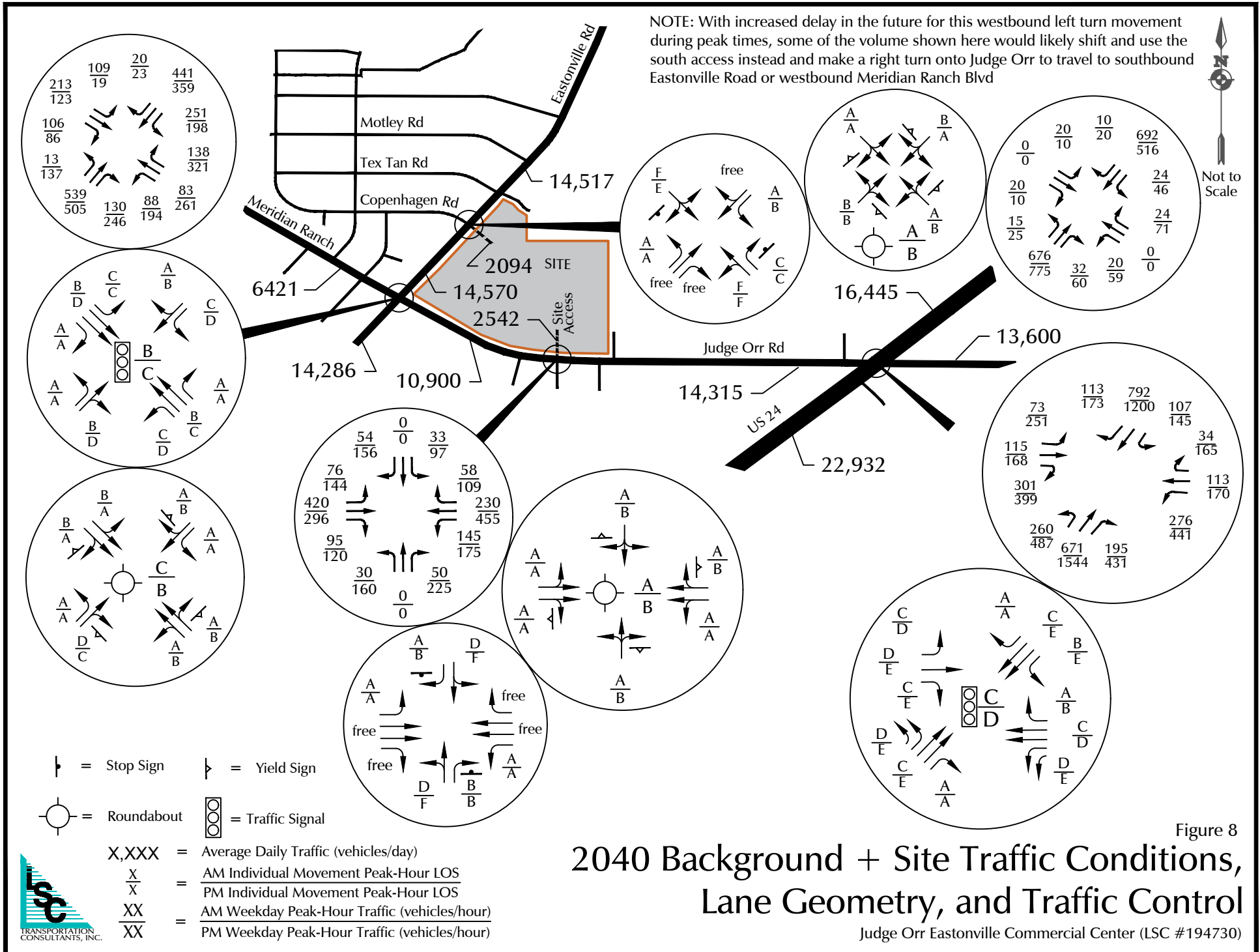


Figure 8
**2040 Background + Site Traffic Conditions,
 Lane Geometry, and Traffic Control**
 Judge Orr Eastonville Commercial Center (LSC #194730)



Traffic Counts





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

Start Time	Eastonville Rd Southbound					Judge Orr Rd Westbound					Eastonville Rd 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	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	

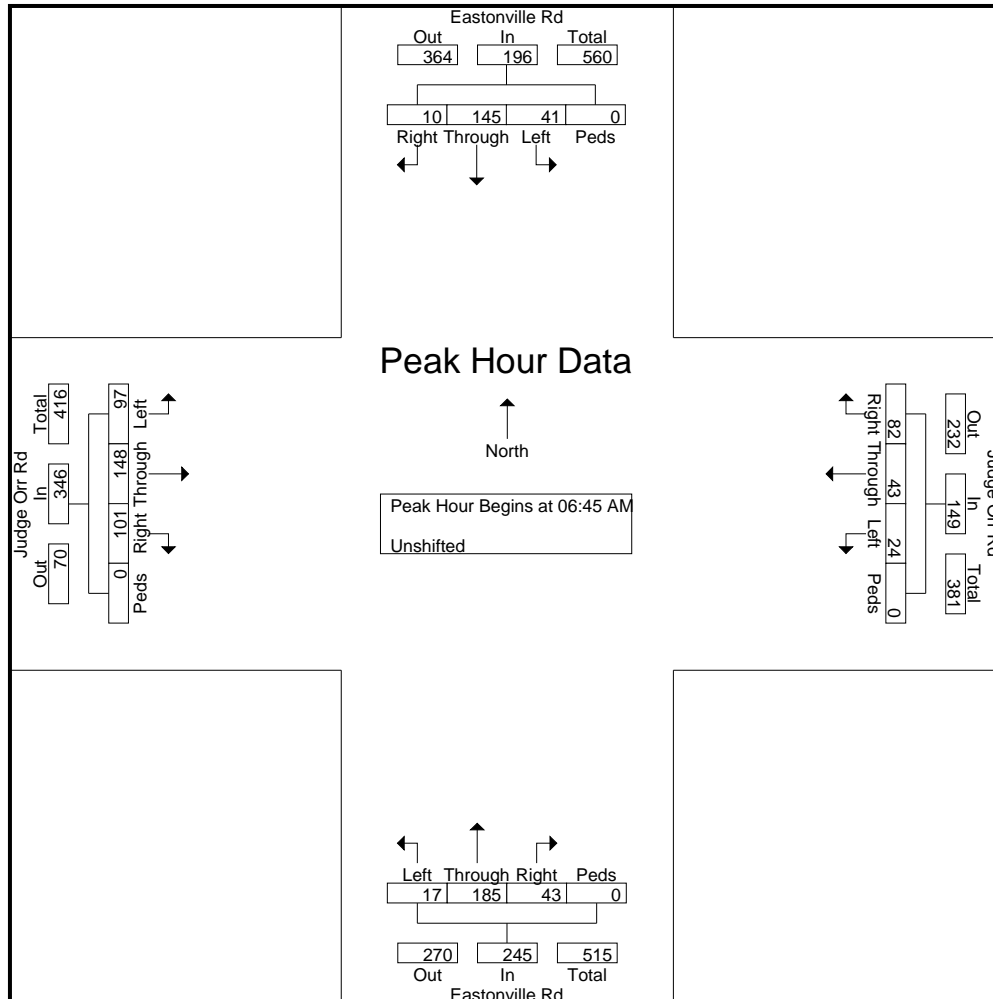


LSC Transportation Consultants, Inc.

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 : 2

Start Time	Eastonville Rd Southbound					Judge Orr Rd Westbound					Eastonville Rd 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	
Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1																					
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



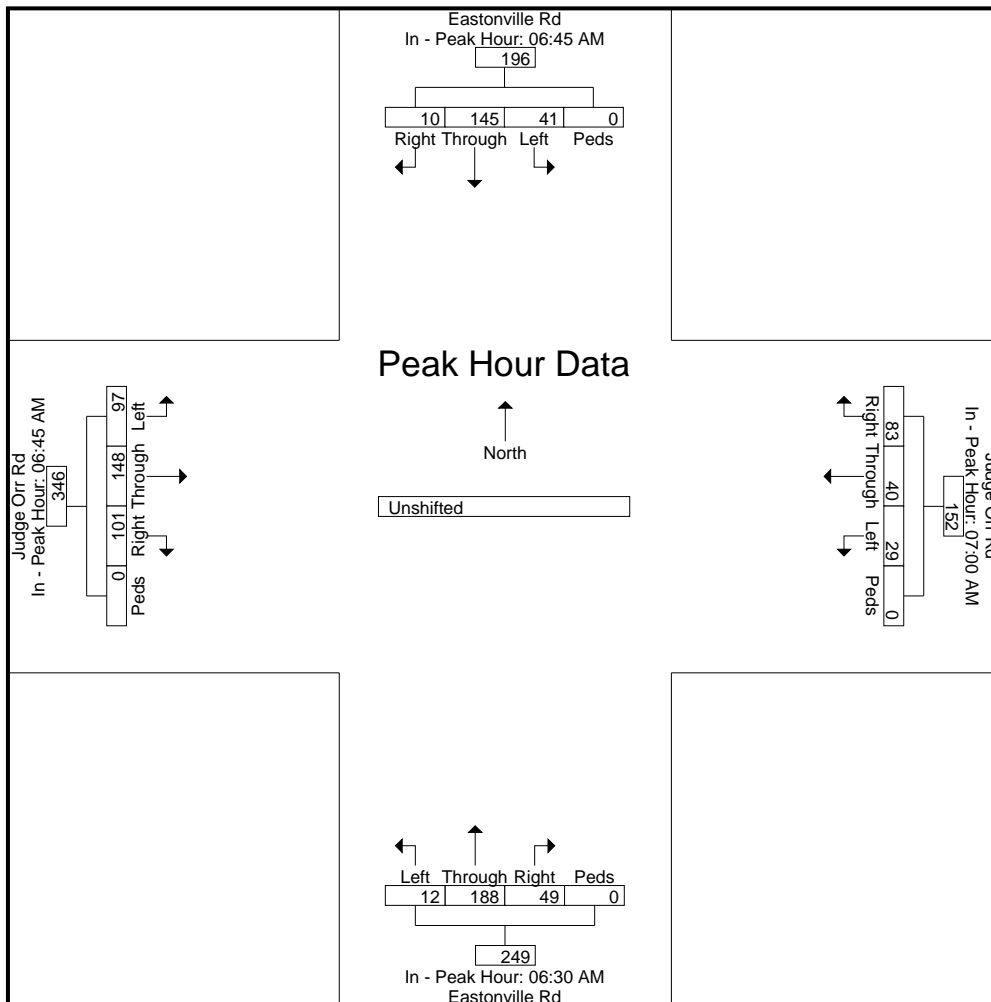


LSC Transportation Consultants, Inc.

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 : 3

Start Time	Eastonville Rd Southbound					Judge Orr Rd Westbound					Eastonville Rd 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	
Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1																					
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	





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 PM 10-19

Site Code : 194730

Start Date : 10/2/2019

Page No : 1

Groups Printed- Unshifted

Start Time	Eastonville Rd Southbound					Judge Orr Rd Westbound					Eastonville Rd 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	
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	

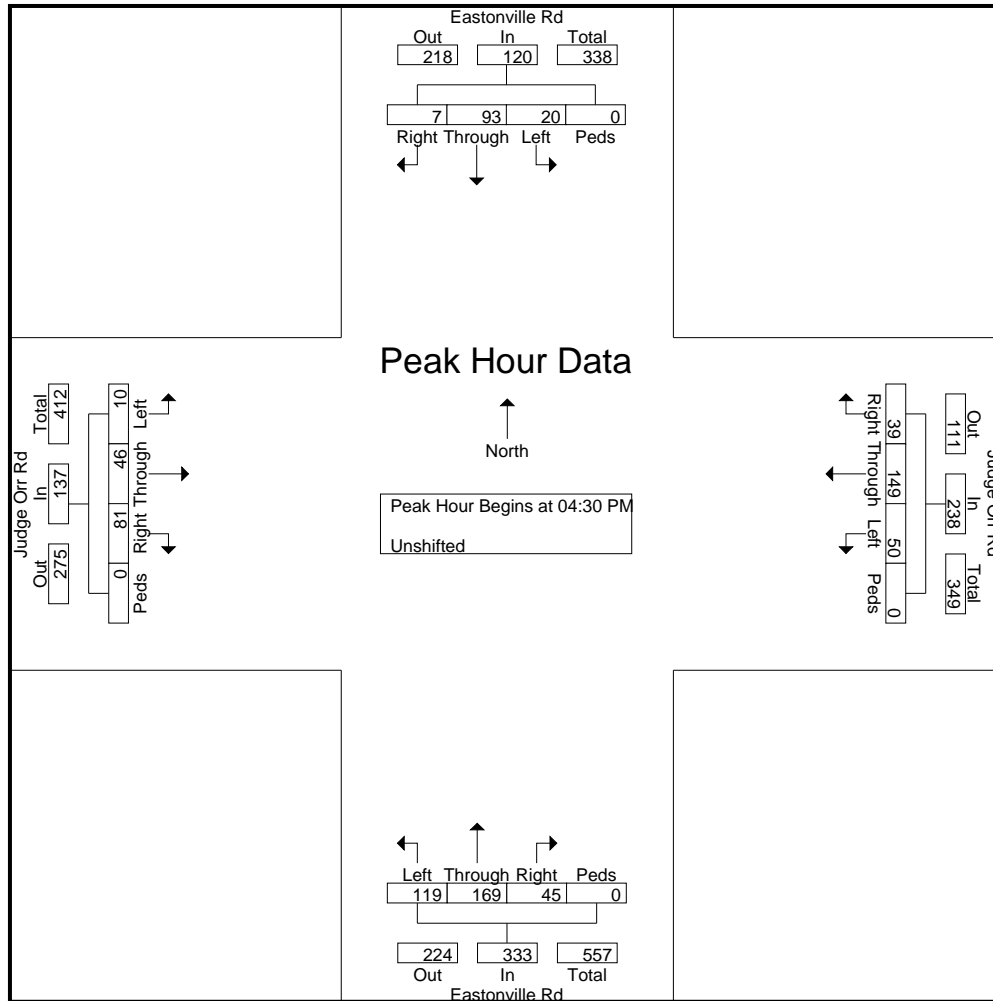


LSC Transportation Consultants, Inc.

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

File Name : Eastonville Rd - Judge Orr Rd PM 10-19
 Site Code : 194730
 Start Date : 10/2/2019
 Page No : 2

Start Time	Eastonville Rd Southbound					Judge Orr Rd Westbound					Eastonville Rd 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	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
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



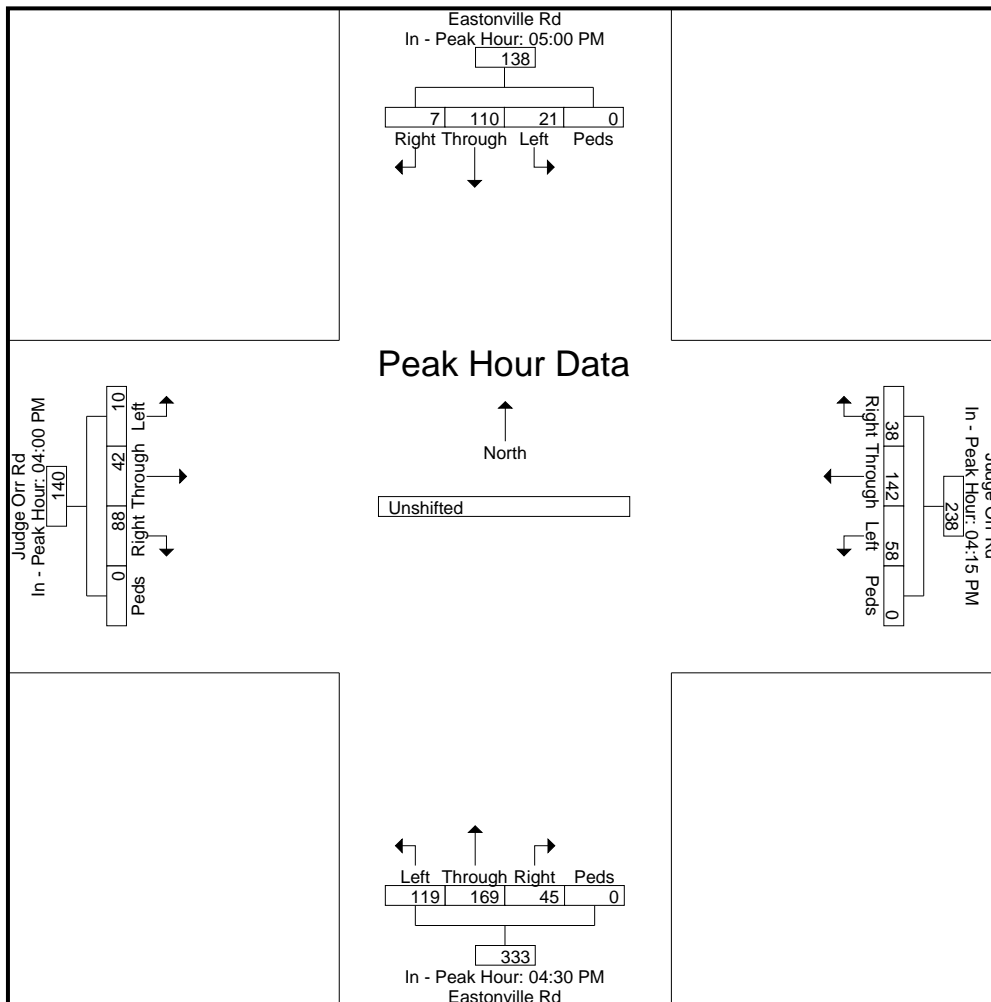


LSC Transportation Consultants, Inc.

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

File Name : Eastonville Rd - Judge Orr Rd PM 10-19
 Site Code : 194730
 Start Date : 10/2/2019
 Page No : 3

Start Time	Eastonville Rd Southbound					Judge Orr Rd Westbound					Eastonville Rd 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	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
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	





LSC Transportation Consultants, Inc.

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

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	

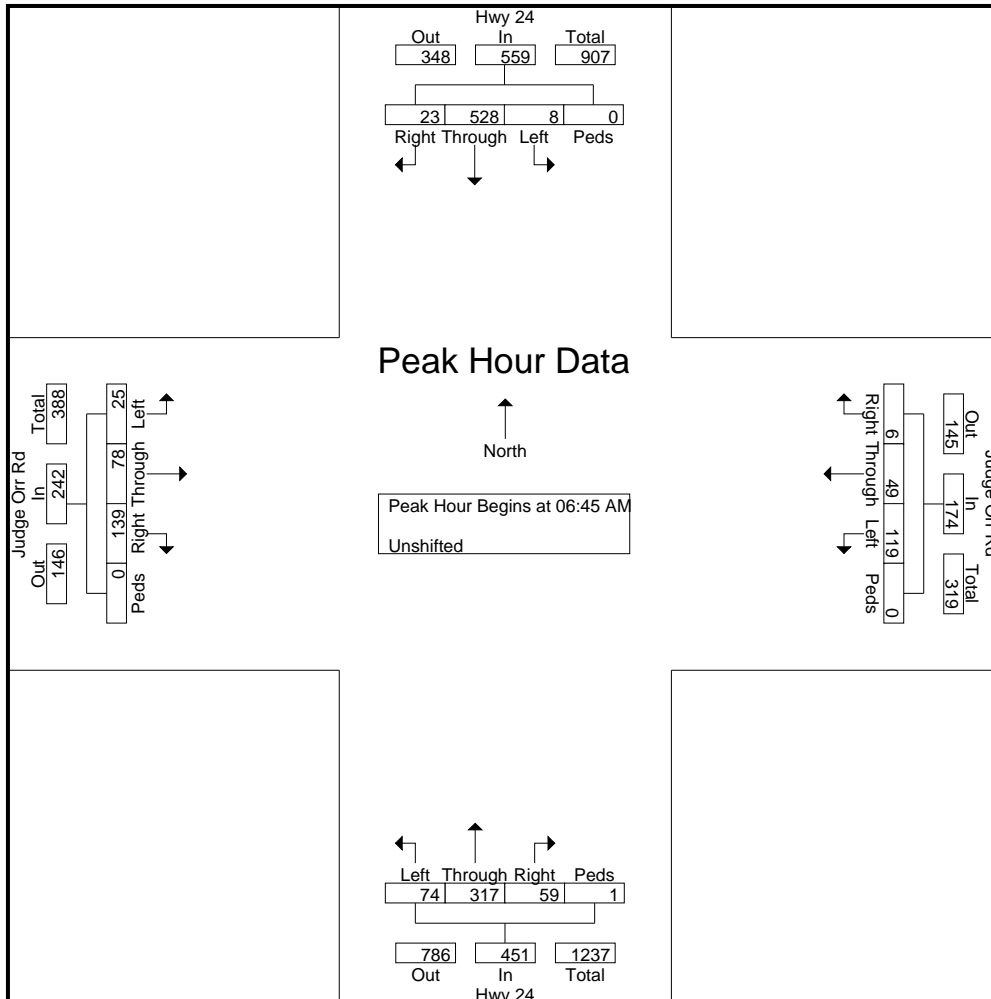


LSC Transportation Consultants, Inc.

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

File Name : Hwy 24 - Judge Orr Rr AM 10-19
 Site Code : 194730
 Start Date : 10/2/2019
 Page No : 2

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	
Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1																					
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



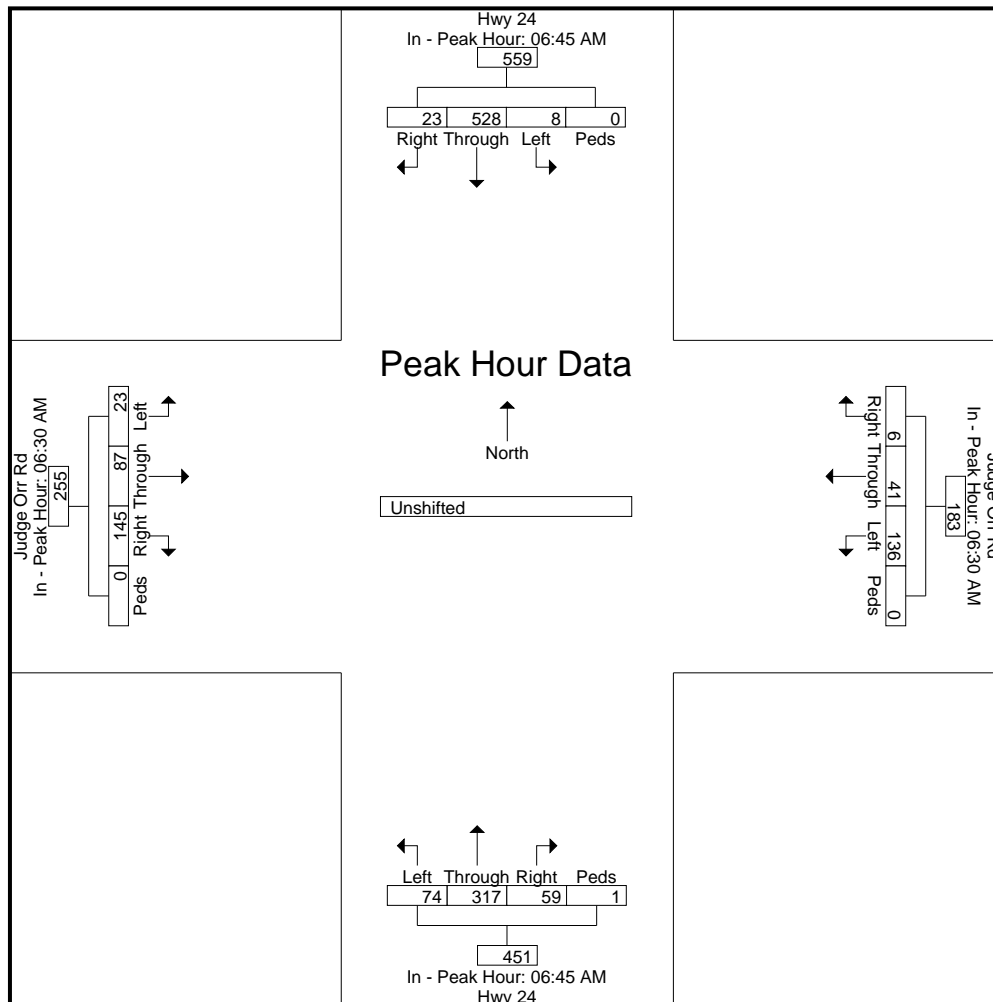


LSC Transportation Consultants, Inc.

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

File Name : Hwy 24 - Judge Orr Rr AM 10-19
 Site Code : 194730
 Start Date : 10/2/2019
 Page No : 3

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	
Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1																					
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	





LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210

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 : 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	
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	

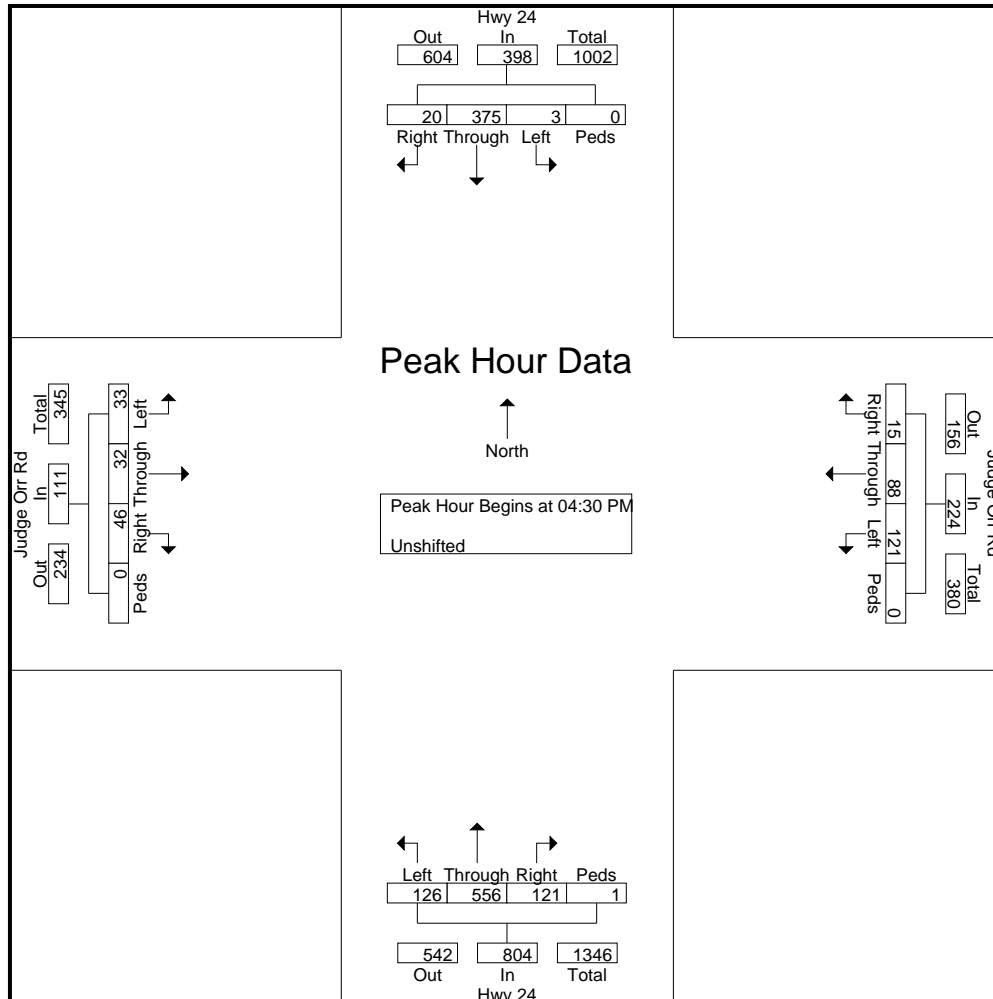


LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
 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

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	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
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



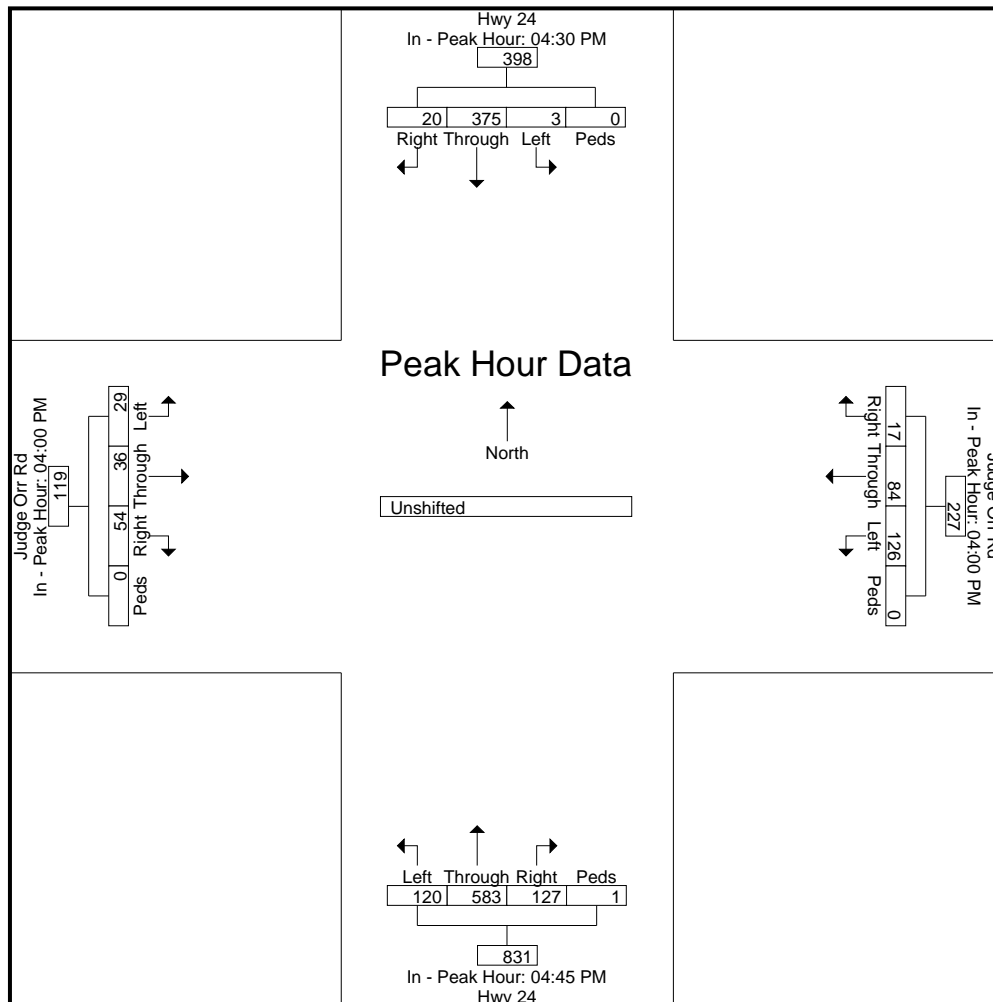


LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
 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 : 3

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	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
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	



Levels of Service



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	529	-	-	-	-	-
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	-	647	-	-
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	Minor2	Minor3
Conflicting Flow All	0	0	271	0	440
Stage 1	-	-	-	-	271
Stage 2	-	-	-	-	169
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1292	-	574
Stage 1	-	-	-	-	775
Stage 2	-	-	-	-	861
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1292	-	573
Mov Cap-2 Maneuver	-	-	-	-	573
Stage 1	-	-	-	-	774
Stage 2	-	-	-	-	861

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 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

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		0.950			0.574		0.214			0.522		
Satd. Flow (perm)	0	1633	0	0	1064	0	399	1820	0	972	1850	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		115			3			22			4	
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	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		

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

Existing
AM

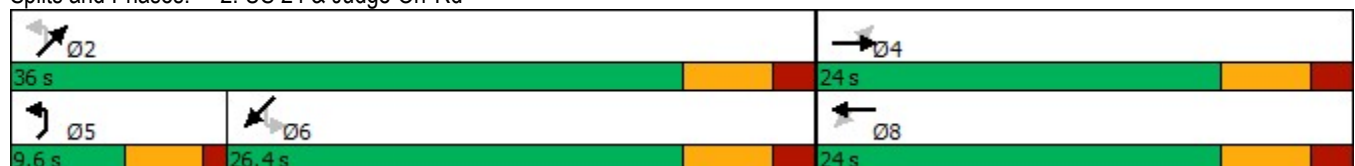


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		9.5	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		9.6	36.0		26.4	26.4	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		16.0%	60.0%		44.0%	44.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		5.1	30.0		20.4	20.4	
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)		13.9			13.9		31.7	30.2		24.7	24.7	
Actuated g/C Ratio		0.25			0.25		0.57	0.54		0.44	0.44	
v/c Ratio		0.57			0.75		0.23	0.41		0.02	0.73	
Control Delay		15.4			38.1		8.3	9.7		13.4	24.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		15.4			38.1		8.3	9.7		13.4	24.8	
LOS		B			D		A	A		B	C	
Approach Delay		15.4			38.1			9.5			24.6	
Approach LOS		B			D			A			C	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	56.1
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	20.0
Intersection LOS:	B
Intersection Capacity Utilization:	75.8%
ICU Level of Service:	D
Analysis Period (min):	15

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



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	Minor2	Minor3
Conflicting Flow All	0	0	127	0	399
Stage 1	-	-	-	-	127
Stage 2	-	-	-	-	272
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1459	-	607
Stage 1	-	-	-	-	899
Stage 2	-	-	-	-	774
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1459	-	606
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 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		0.853			0.789		0.339			0.335		
Satd. Flow (perm)	0	1500	0	0	1456	0	631	1812	0	624	1848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53			6			26			5	
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	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		

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

Existing
PM

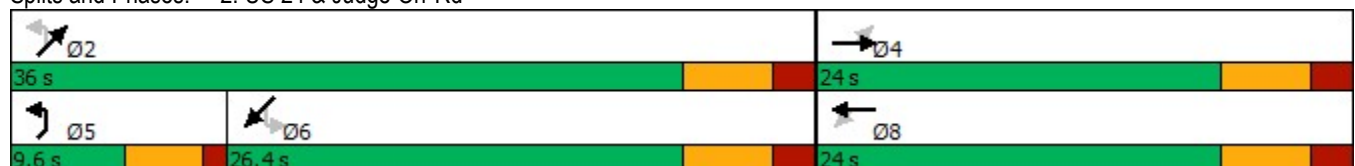


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		9.5	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		9.6	36.0		26.4	26.4	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		16.0%	60.0%		44.0%	44.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		5.1	30.0		20.4	20.4	
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)		14.4			14.4		32.6	31.1		23.5	23.5	
Actuated g/C Ratio		0.25			0.25		0.57	0.54		0.41	0.41	
v/c Ratio		0.31			0.70		0.29	0.73		0.01	0.57	
Control Delay		12.6			29.5		8.6	16.8		13.3	18.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		12.6			29.5		8.6	16.8		13.3	18.8	
LOS		B			C		A	B		B	B	
Approach Delay		12.6			29.5			15.5			18.8	
Approach LOS		B			C			B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	57.5
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.73
Intersection Signal Delay:	18.3
Intersection LOS:	B
Intersection Capacity Utilization:	74.7%
ICU Level of Service:	D
Analysis Period (min):	15

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	EBLn1	WBLn1	WBLn2	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	-	-

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	223	1	1	138	54	1	0	1	31	0	51
Future Vol, veh/h	45	223	1	1	138	54	1	0	1	31	0	51
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	1	1	159	62	1	0	1	37	0	61

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	221	0	0	243	0	0	564	564	243	502	502	159
Stage 1	-	-	-	-	-	-	341	341	-	161	161	-
Stage 2	-	-	-	-	-	-	223	223	-	341	341	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1348	-	-	1323	-	-	436	435	796	480	471	886
Stage 1	-	-	-	-	-	-	674	639	-	841	765	-
Stage 2	-	-	-	-	-	-	780	719	-	674	639	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1348	-	-	1323	-	-	394	419	796	466	454	886
Mov Cap-2 Maneuver	-	-	-	-	-	-	394	419	-	466	454	-
Stage 1	-	-	-	-	-	-	650	616	-	811	764	-
Stage 2	-	-	-	-	-	-	725	718	-	648	616	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0	11.9	10.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	527	1348	-	-	1323	-	-	466	886
HCM Lane V/C Ratio	0.005	0.036	-	-	0.001	-	-	0.08	0.069
HCM Control Delay (s)	11.9	7.8	-	-	7.7	0	-	13.4	9.4
HCM Lane LOS	B	A	-	-	A	A	-	B	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.3	0.2

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

Existing + Site
 AM

Intersection	
Intersection Delay, s/veh	17.3
Intersection LOS	C

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↶	↷		↶	↷	↶	↶	↷		↶	↷	
Traffic Vol, veh/h	119	170	101	44	53	86	17	206	64	46	165	20
Future Vol, veh/h	119	170	101	44	53	86	17	206	64	46	165	20
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	129	185	110	51	61	99	18	224	70	50	179	22
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	18.2	12.2	20.9	15.7
HCM LOS	C	B	C	C

Lane	NELn1	NELn2	NWLn1	NWLn2	NWLn3	SELn1	SELn2	SWLn1	SWLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	100%	0%
Vol Thru, %	0%	76%	0%	100%	0%	0%	63%	0%	89%
Vol Right, %	0%	24%	0%	0%	100%	0%	37%	0%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	270	44	53	86	119	271	46	185
LT Vol	17	0	44	0	0	119	0	46	0
Through Vol	0	206	0	53	0	0	170	0	165
RT Vol	0	64	0	0	86	0	101	0	20
Lane Flow Rate	18	293	51	61	99	129	295	50	201
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.042	0.612	0.121	0.137	0.203	0.288	0.591	0.116	0.435
Departure Headway (Hd)	8.184	7.506	8.612	8.097	7.378	8.005	7.225	8.379	7.792
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	436	478	415	441	484	448	498	427	460
Service Time	5.954	5.276	6.394	5.88	5.159	5.774	4.993	6.158	5.57
HCM Lane V/C Ratio	0.041	0.613	0.123	0.138	0.205	0.288	0.592	0.117	0.437
HCM Control Delay	11.3	21.5	12.6	12.2	12	14	20	12.3	16.5
HCM Lane LOS	B	C	B	B	B	B	C	B	C
HCM 95th-tile Q	0.1	4	0.4	0.5	0.8	1.2	3.8	0.4	2.2

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		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		0.918			0.996			0.977			0.987	
Flt Protected		0.995			0.969		0.950			0.950		
Satd. Flow (prot)	0	1701	0	0	1798	0	1770	1820	0	1770	1839	0
Flt Permitted		0.946			0.544		0.159			0.522		
Satd. Flow (perm)	0	1618	0	0	1009	0	296	1820	0	972	1839	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		131			3			22			8	
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 (%)												
Lane Group Flow (vph)	0	323	0	0	212	0	102	409	0	9	620	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	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		

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

Existing + Site
AM

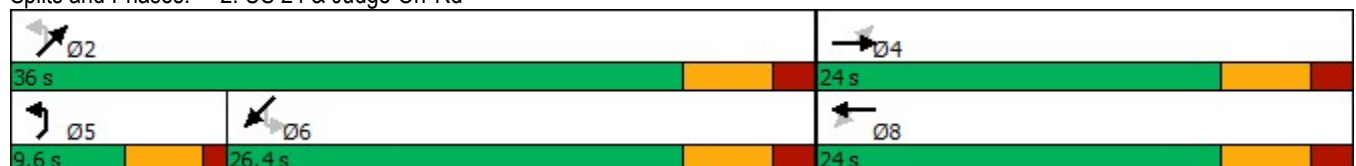


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		9.5	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		9.6	36.0		26.4	26.4	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		16.0%	60.0%		44.0%	44.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		5.1	30.0		20.4	20.4	
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)		14.9			14.9		31.6	30.1		22.6	22.6	
Actuated g/C Ratio		0.26			0.26		0.55	0.53		0.40	0.40	
v/c Ratio		0.62			0.80		0.35	0.42		0.02	0.84	
Control Delay		16.3			43.3		10.3	10.1		13.5	32.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		16.3			43.3		10.3	10.1		13.5	32.8	
LOS		B			D		B	B		B	C	
Approach Delay		16.3			43.3			10.1			32.5	
Approach LOS		B			D			B			C	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	57.1
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	23.9
Intersection LOS:	C
Intersection Capacity Utilization:	82.0%
ICU Level of Service:	D
Analysis Period (min):	15

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



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	EBLn1	WBLn1	WBLn2	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	-	-

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	1	1	222	112	1	0	1	109	0	91
Future Vol, veh/h	85	100	1	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	1	1	224	122	1	0	1	131	0	110

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	346	0	0	110	0	0	636	642	110	520	520	224
Stage 1	-	-	-	-	-	-	294	294	-	226	226	-
Stage 2	-	-	-	-	-	-	342	348	-	294	294	-
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	-	-	1480	-	-	391	392	943	467	461	815
Stage 1	-	-	-	-	-	-	714	670	-	777	717	-
Stage 2	-	-	-	-	-	-	673	634	-	714	670	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1213	-	-	1480	-	-	319	362	943	439	426	815
Mov Cap-2 Maneuver	-	-	-	-	-	-	319	362	-	439	426	-
Stage 1	-	-	-	-	-	-	660	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	-	-	1480	-	-	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 AWSC
 1: Eastonville Rd & Judge Orr Rd/Meridian Ranch Rd

Existing + Site
 PM

Intersection	
Intersection Delay, s/veh	18.9
Intersection LOS	C

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↶	↷		↶	↷	↶	↶	↷		↶	↷	
Traffic Vol, veh/h	39	75	81	88	197	69	119	215	99	29	131	55
Future Vol, veh/h	39	75	81	88	197	69	119	215	99	29	131	55
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	42	82	88	101	226	79	129	234	108	32	142	60
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	15.6	16.3	23.5	17.2
HCM LOS	C	C	C	C

Lane	NELn1	NELn2	NWLn1	NWLn2	NWLn3	SELn1	SELn2	SWLn1	SWLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	100%	0%
Vol Thru, %	0%	68%	0%	100%	0%	0%	48%	0%	70%
Vol Right, %	0%	32%	0%	0%	100%	0%	52%	0%	30%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	119	314	88	197	69	39	156	29	186
LT Vol	119	0	88	0	0	39	0	29	0
Through Vol	0	215	0	197	0	0	75	0	131
RT Vol	0	99	0	0	69	0	81	0	55
Lane Flow Rate	129	341	101	226	79	42	170	32	202
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.296	0.711	0.242	0.509	0.163	0.108	0.39	0.079	0.464
Departure Headway (Hd)	8.354	7.619	8.613	8.1	7.38	9.167	8.273	8.985	8.26
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	433	478	419	446	488	392	436	400	439
Service Time	6.054	5.319	6.326	5.812	5.093	6.896	6.002	6.702	5.977
HCM Lane V/C Ratio	0.298	0.713	0.241	0.507	0.162	0.107	0.39	0.08	0.46
HCM Control Delay	14.5	26.9	14.1	18.9	11.5	13	16.2	12.5	17.9
HCM Lane LOS	B	D	B	C	B	B	C	B	C
HCM 95th-tile Q	1.2	5.6	0.9	2.8	0.6	0.4	1.8	0.3	2.4

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

Existing + Site
PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (vph)	56	51	119	119	59	6	94	317	59	8	528	48
Future Volume (vph)	56	51	119	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		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		0.929			0.996			0.977			0.988	
Flt Protected		0.988			0.969		0.950			0.950		
Satd. Flow (prot)	0	1710	0	0	1798	0	1770	1820	0	1770	1840	0
Flt Permitted		0.871			0.640		0.163			0.525		
Satd. Flow (perm)	0	1507	0	0	1187	0	304	1820	0	978	1840	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		95			3			22			8	
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)	64	59	137	137	68	7	101	341	63	9	574	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	260	0	0	212	0	101	404	0	9	626	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	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		

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

Existing + Site
PM

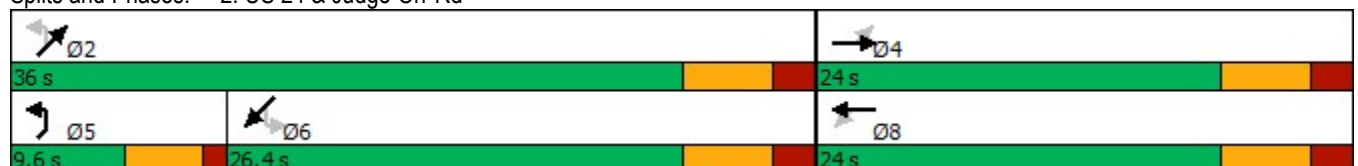


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		9.5	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		9.6	36.0		26.4	26.4	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		16.0%	60.0%		44.0%	44.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		5.1	30.0		20.4	20.4	
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)		13.9			13.9		31.7	30.2		22.7	22.7	
Actuated g/C Ratio		0.25			0.25		0.57	0.54		0.40	0.40	
v/c Ratio		0.59			0.72		0.33	0.41		0.02	0.84	
Control Delay		17.2			33.3		9.8	9.6		13.4	31.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		17.2			33.3		9.8	9.6		13.4	31.7	
LOS		B			C		A	A		B	C	
Approach Delay		17.2			33.3			9.7			31.4	
Approach LOS		B			C			A			C	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	56.1
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	22.6
Intersection LOS:	C
Intersection Capacity Utilization:	72.4%
ICU Level of Service:	C
Analysis Period (min):	15

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



Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	20	20	15	688	696	10
Future Vol, veh/h	20	20	15	688	696	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	748	800	11

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1586	806	811	0	-	0
Stage 1	806	-	-	-	-	-
Stage 2	780	-	-	-	-	-
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	119	382	815	-	-	-
Stage 1	439	-	-	-	-	-
Stage 2	452	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	117	382	815	-	-	-
Mov Cap-2 Maneuver	254	-	-	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	452	-	-	-	-	-

Approach	EB	NE	SW
HCM Control Delay, s	19.2	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NEL	NET	EBLn1	SWT	SWR
Capacity (veh/h)	815	-	305	-	-
HCM Lane V/C Ratio	0.02	-	0.168	-	-
HCM Control Delay (s)	9.5	-	19.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Intersection						
Int Delay, s/veh	2.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	425	95	145	225	30	50
Future Vol, veh/h	425	95	145	225	30	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	235	385	-	0	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	489	109	167	259	38	64

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	598	0	953 245
Stage 1	-	-	-	-	489 -
Stage 2	-	-	-	-	464 -
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	-	-	975	-	257 755
Stage 1	-	-	-	-	582 -
Stage 2	-	-	-	-	599 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	975	-	213 755
Mov Cap-2 Maneuver	-	-	-	-	213 -
Stage 1	-	-	-	-	582 -
Stage 2	-	-	-	-	497 -

Approach	EB	WB	NB
HCM Control Delay, s	0	3.7	16
HCM LOS			C

























Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	213	755	-	-	975	-
HCM Lane V/C Ratio	0.181	0.085	-	-	0.171	-
HCM Control Delay (s)	25.6	10.2	-	-	9.5	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	0.3	-	-	0.6	-

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	

Intersection					
Intersection Delay, s/veh	4.7				
Intersection LOS	A				
Approach	EB		WB		NB
Entry Lanes	2		2		1
Conflicting Circle Lanes	2		2		2
Adj Approach Flow, veh/h	565		390		96
Demand Flow Rate, veh/h	576		398		98
Vehicles Circulating, veh/h	156		37		471
Vehicles Exiting, veh/h	279		532		261
Ped Vol Crossing Leg, #/h	0		0		0
Ped Cap Adj	1.000		1.000		1.000
Approach Delay, s/veh	5.2		4.0		4.8
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	0.470	0.530	0.470	0.530	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	271	305	187	211	98
Cap Entry Lane, veh/h	1169	1244	1305	1376	952
Entry HV Adj Factor	0.979	0.981	0.981	0.980	0.980
Flow Entry, veh/h	265	299	183	207	96
Cap Entry, veh/h	1145	1221	1280	1349	932
V/C Ratio	0.232	0.245	0.143	0.153	0.103
Control Delay, s/veh	5.2	5.1	4.0	3.9	4.8
LOS	A	A	A	A	A
95th %tile Queue, veh	1	1	1	1	0

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

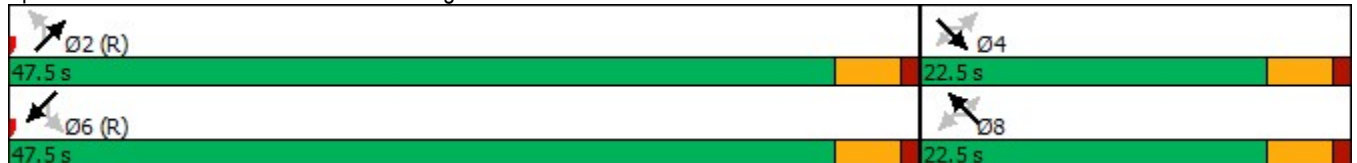


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	47.5	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	

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

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



Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	10	10	25	796	526	20
Future Vol, veh/h	10	10	25	796	526	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	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	13	27	856	566	22

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1487	577	588	0	-	0
Stage 1	577	-	-	-	-	-
Stage 2	910	-	-	-	-	-
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	137	516	987	-	-	-
Stage 1	562	-	-	-	-	-
Stage 2	393	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	133	516	987	-	-	-
Mov Cap-2 Maneuver	267	-	-	-	-	-
Stage 1	547	-	-	-	-	-
Stage 2	393	-	-	-	-	-

Approach	EB	NE	SW
HCM Control Delay, s	16	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NEL	NET	EBLn1	SWT	SWR
Capacity (veh/h)	987	-	352	-	-
HCM Lane V/C Ratio	0.027	-	0.073	-	-
HCM Control Delay (s)	8.8	-	16	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection						
Int Delay, s/veh	86.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	300	120	450	175	160	225
Future Vol, veh/h	300	120	450	175	160	225
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	93	93	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	326	130	484	188	174	245

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	456	0	1388
Stage 1	-	-	-	-	326
Stage 2	-	-	-	-	1062
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	1101	-	~ 134
Stage 1	-	-	-	-	704
Stage 2	-	-	-	-	294
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1101	-	~ 75
Mov Cap-2 Maneuver	-	-	-	-	~ 75
Stage 1	-	-	-	-	704
Stage 2	-	-	-	-	~ 165

Approach	EB	WB	NB
HCM Control Delay, s	0	7.8	\$ 306.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	75	853	-	-	1101	-
HCM Lane V/C Ratio	2.319	0.287	-	-	0.439	-
HCM Control Delay (s)	\$ 721.4	10.9	-	-	10.8	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	16.4	1.2	-	-	2.3	-























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

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	6.1				
Intersection LOS	A				
Approach	EB		WB		NB
Entry Lanes	2		2		1
Conflicting Circle Lanes	2		2		2
Adj Approach Flow, veh/h	456		672		419
Demand Flow Rate, veh/h	466		686		427
Vehicles Circulating, veh/h	192		177		333
Vehicles Exiting, veh/h	671		583		325
Ped Vol Crossing Leg, #/h	0		0		0
Ped Cap Adj	1.000		1.000		1.000
Approach Delay, s/veh	4.9		5.8		7.7
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	0.470	0.530	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	247	322	364	427
Cap Entry Lane, veh/h	1131	1206	1147	1222	1070
Entry HV Adj Factor	0.980	0.979	0.981	0.979	0.981
Flow Entry, veh/h	215	242	316	356	419
Cap Entry, veh/h	1108	1181	1126	1196	1050
V/C Ratio	0.194	0.205	0.281	0.298	0.399
Control Delay, s/veh	5.0	4.9	5.8	5.8	7.7
LOS	A	A	A	A	A
95th %tile Queue, veh	1	1	1	1	2

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			0.513			0.310		
Satd. Flow (perm)	1155	3539	1583	1293	3539	1583	956	1794	0	577	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

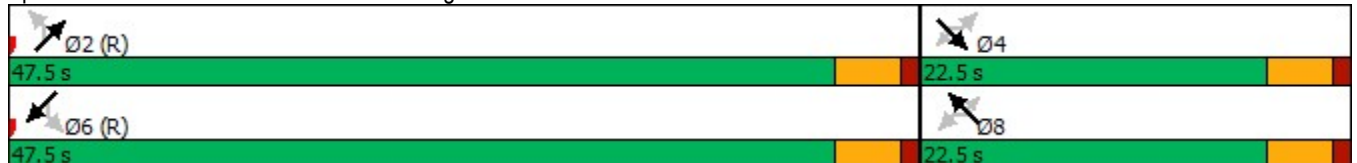


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	47.5	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)	13.7	13.7	13.7	13.7	13.7	13.7	47.3	47.3		47.3	47.3	
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.20	0.68	0.68		0.68	0.68	
v/c Ratio	0.08	0.13	0.26	0.56	0.30	0.56	0.23	0.58		0.47	0.31	
Control Delay	21.2	21.8	6.8	33.1	24.0	7.1	6.5	8.9		11.9	6.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	21.2	21.8	6.8	33.1	24.0	7.1	6.5	8.9		11.9	6.2	
LOS	C	C	A	C	C	A	A	A		B	A	
Approach Delay		14.5			18.0			8.5			8.0	
Approach LOS		B			B			A			A	

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

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)	229	147	322	441	141	165	397	1558	431	145	1209	155
Future Volume (vph)	229	147	322	441	141	165	397	1558	431	145	1209	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	0.656			0.950			0.950			0.097		
Satd. Flow (perm)	1222	1863	1583	3433	3539	1583	3433	3539	1583	181	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			174			176			393			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	0.93	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)	246	158	346	474	152	177	418	1640	454	153	1273	163
Shared Lane Traffic (%)												
Lane Group Flow (vph)	246	158	346	474	152	177	418	1640	454	153	1273	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

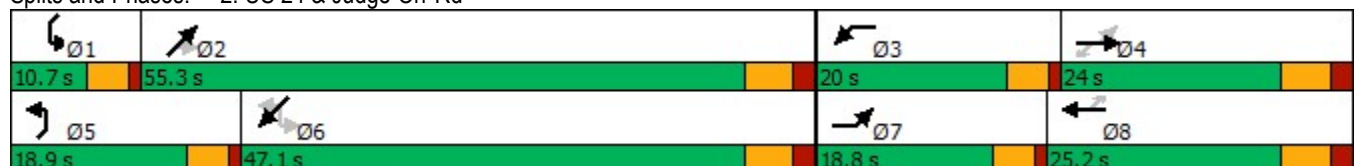


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	24.0	24.0	9.5	24.0	24.0	9.5	24.0	24.0
Total Split (s)	18.8	24.0	24.0	20.0	25.2	25.2	18.9	55.3	55.3	10.7	47.1	47.1
Total Split (%)	17.1%	21.8%	21.8%	18.2%	22.9%	22.9%	17.2%	50.3%	50.3%	9.7%	42.8%	42.8%
Maximum Green (s)	14.3	18.0	18.0	15.5	19.2	19.2	14.4	49.3	49.3	6.2	41.1	41.1
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 Effct Green (s)	31.1	15.9	15.9	15.5	17.8	17.8	14.4	49.3	49.3	48.8	41.1	41.1
Actuated g/C Ratio	0.29	0.15	0.15	0.14	0.16	0.16	0.13	0.46	0.46	0.45	0.38	0.38
v/c Ratio	0.59	0.58	0.91	0.96	0.26	0.43	0.91	1.01	0.49	0.89	0.95	0.23
Control Delay	33.4	51.6	50.6	79.3	40.6	9.7	72.4	56.3	5.3	67.5	47.7	4.4
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	33.4	51.6	50.6	79.3	40.6	9.7	72.4	56.3	5.3	67.5	47.7	4.4
LOS	C	D	D	E	D	A	E	E	A	E	D	A
Approach Delay		45.2			56.6			49.7			45.2	
Approach LOS		D			E			D			D	

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	108
Natural Cycle:	110
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.01
Intersection Signal Delay:	48.8
Intersection LOS:	D
Intersection Capacity Utilization:	88.9%
ICU Level of Service:	E
Analysis Period (min):	15

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



Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕	↕	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	20	0	20	32	0	19	15	754	39	51	684	10
Future Vol, veh/h	20	0	20	32	0	19	15	754	39	51	684	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	26	0	26	39	0	23	16	811	42	55	735	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1727	1736	741	1707	1699	811	746	0	0	853	0	0
Stage 1	851	851	-	843	843	-	-	-	-	-	-	-
Stage 2	876	885	-	864	856	-	-	-	-	-	-	-
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	70	87	416	72	92	379	862	-	-	786	-	-
Stage 1	355	376	-	358	380	-	-	-	-	-	-	-
Stage 2	344	363	-	349	374	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	61	79	416	63	84	379	862	-	-	786	-	-
Mov Cap-2 Maneuver	61	79	-	63	84	-	-	-	-	-	-	-
Stage 1	348	350	-	351	373	-	-	-	-	-	-	-
Stage 2	317	356	-	305	348	-	-	-	-	-	-	-

Approach	EB		WB		NE		SW	
HCM Control Delay, s	67.3		85.8		0.2		0.7	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1	WBLn1	WBLn2	SWL	SWT	SWR
Capacity (veh/h)	862	-	-	106	63	379	786	-	-
HCM Lane V/C Ratio	0.019	-	-	0.484	0.612	0.06	0.07	-	-
HCM Control Delay (s)	9.3	-	-	67.3	127.7	15.1	9.9	-	-
HCM Lane LOS	A	-	-	F	F	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.1	2.6	0.2	0.2	-	-

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	415	95	145	215	64	30	0	50	50	0	31
Future Vol, veh/h	38	415	95	145	215	64	30	0	50	50	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	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	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	446	102	158	234	70	36	0	60	60	0	37

Major/Minor	Major1		Major2		Minor1			Minor2				
Conflicting Flow All	304	0	0	548	0	0	961	1148	223	855	1180	117
Stage 1	-	-	-	-	-	-	528	528	-	550	550	-
Stage 2	-	-	-	-	-	-	433	620	-	305	630	-
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	1254	-	-	1018	-	-	211	197	780	252	189	913
Stage 1	-	-	-	-	-	-	502	526	-	487	514	-
Stage 2	-	-	-	-	-	-	571	478	-	680	473	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1254	-	-	1018	-	-	174	161	780	200	154	913
Mov Cap-2 Maneuver	-	-	-	-	-	-	174	161	-	200	154	-
Stage 1	-	-	-	-	-	-	485	509	-	471	434	-
Stage 2	-	-	-	-	-	-	463	404	-	607	457	-

Approach	EB		WB		NB			SB		
HCM Control Delay, s	0.6		3.1		17.9			22.4		
HCM LOS					C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	174	780	1254	-	-	1018	-	-	200	913
HCM Lane V/C Ratio	0.208	0.077	0.033	-	-	0.155	-	-	0.301	0.041
HCM Control Delay (s)	31	10	8	-	-	9.2	-	-	30.6	9.1
HCM Lane LOS	D	B	A	-	-	A	-	-	D	A
HCM 95th %tile Q(veh)	0.8	0.2	0.1	-	-	0.5	-	-	1.2	0.1























Intersection									
Intersection Delay, s/veh	15.5								
Intersection LOS	C								
Approach	SE		NW		NE		SW		
Entry Lanes	2		2		2		2		
Conflicting Circle Lanes	2		2		2		2		
Adj Approach Flow, veh/h	492		329		720		787		
Demand Flow Rate, veh/h	502		336		734		803		
Vehicles Circulating, veh/h	859		764		651		202		
Vehicles Exiting, veh/h	146		621		710		898		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	11.1		8.0		31.3		7.0		
Approach LOS	B		A		D		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	0.022	0.978	0.337	0.663	
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	236	266	158	178	16	718	271	532	
Cap Entry Lane, veh/h	613	684	668	742	742	817	1121	1196	
Entry HV Adj Factor	0.980	0.981	0.979	0.980	1.000	0.981	0.982	0.980	
Flow Entry, veh/h	231	261	155	174	16	704	266	521	
Cap Entry, veh/h	601	671	655	727	742	801	1100	1172	
V/C Ratio	0.385	0.389	0.236	0.240	0.022	0.879	0.242	0.445	
Control Delay, s/veh	11.6	10.7	8.4	7.7	5.1	31.9	5.5	7.7	
LOS	B	B	A	A	A	D	A	A	
95th %tile Queue, veh	2	2	1	1	0	11	1	2	

Intersection				
Intersection Delay, s/veh	11.5			
Intersection LOS	B			
Approach	EB	WB	NE	SW
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	52	62	869	801
Demand Flow Rate, veh/h	54	63	886	817
Vehicles Circulating, veh/h	846	870	83	56
Vehicles Exiting, veh/h	27	99	817	877
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.5	7.8	12.8	10.6
Approach LOS	A	A	B	B
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	54	63	886	817
Cap Entry Lane, veh/h	582	568	1268	1303
Entry HV Adj Factor	0.963	0.984	0.981	0.981
Flow Entry, veh/h	52	62	869	801
Cap Entry, veh/h	561	559	1243	1278
V/C Ratio	0.093	0.111	0.699	0.627
Control Delay, s/veh	7.5	7.8	12.8	10.6
LOS	A	A	B	B
95th %tile Queue, veh	0	0	6	5

Intersection						
Intersection Delay, s/veh	5.1					
Intersection LOS	A					
Approach	EB		WB		NB	SB
Entry Lanes	2		2		1	1
Conflicting Circle Lanes	2		2		2	2
Adj Approach Flow, veh/h	589		462		96	97
Demand Flow Rate, veh/h	601		471		98	99
Vehicles Circulating, veh/h	222		79		558	437
Vehicles Exiting, veh/h	314		577		265	113
Ped Vol Crossing Leg, #/h	0		0		0	0
Ped Cap Adj	1.000		1.000		1.000	1.000
Approach Delay, s/veh	5.7		4.4		5.2	4.7
Approach LOS	A		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	0.469	0.531	0.469	0.531	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	282	319	221	250	98	99
Cap Entry Lane, veh/h	1101	1176	1255	1328	884	979
Entry HV Adj Factor	0.982	0.979	0.983	0.980	0.980	0.980
Flow Entry, veh/h	277	312	217	245	96	97
Cap Entry, veh/h	1080	1151	1234	1301	866	960
V/C Ratio	0.256	0.271	0.176	0.188	0.111	0.101
Control Delay, s/veh	5.8	5.6	4.4	4.3	5.2	4.7
LOS	A	A	A	A	A	A
95th %tile Queue, veh	1	1	1	1	0	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		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	0.95	0.95	1.00
Frt			0.850			0.850		0.977			0.991	
Flt Protected	0.950			0.950			0.950			0.950	0.996	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1820	0	1681	1747	0
Flt Permitted	0.694			0.605			0.362			0.292	0.916	
Satd. Flow (perm)	1293	3539	1583	1127	3539	1583	674	1820	0	517	1606	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			147		24			9	
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	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	137	235	120	90	92	147	16	596	108	266	486	35
Shared Lane Traffic (%)										18%		
Lane Group Flow (vph)	137	235	120	90	92	147	16	704	0	218	569	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 + Site
AM

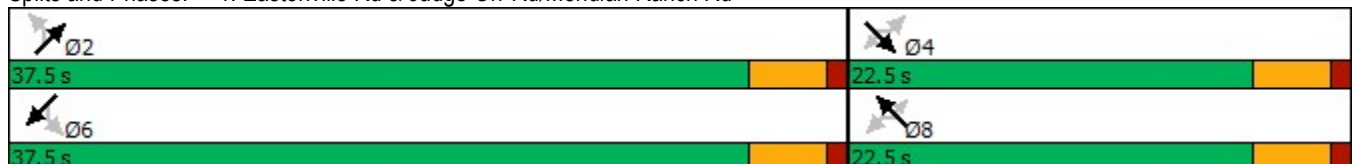


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	37.5	37.5		37.5	37.5	
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%	62.5%	62.5%		62.5%	62.5%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	33.0	33.0		33.0	33.0	
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)	11.3	11.3	11.3	11.3	11.3	11.3	32.3	32.3		32.3	32.3	
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21	0.21	0.61	0.61		0.61	0.61	
v/c Ratio	0.50	0.31	0.28	0.37	0.12	0.32	0.04	0.63		0.69	0.58	
Control Delay	24.7	18.3	5.8	22.2	16.6	5.8	5.8	10.3		24.6	9.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	24.7	18.3	5.8	22.2	16.6	5.8	5.8	10.3		24.6	9.9	
LOS	C	B	A	C	B	A	A	B		C	A	
Approach Delay		17.0			13.3			10.2			14.0	
Approach LOS		B			B			B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	52.7
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	13.4
Intersection LOS:	B
Intersection Capacity Utilization:	85.0%
ICU Level of Service:	E
Analysis Period (min):	15

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



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)	46	108	293	276	98	34	212	675	195	107	798	103
Future Volume (vph)	46	108	293	276	98	34	212	675	195	107	798	103
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	0.684			0.950			0.950			0.320		
Satd. Flow (perm)	1274	1863	1583	3433	3539	1583	3433	3539	1583	596	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			196			149			210			193
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)	50	117	318	300	107	37	228	726	210	113	840	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	117	318	300	107	37	228	726	210	113	840	108
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

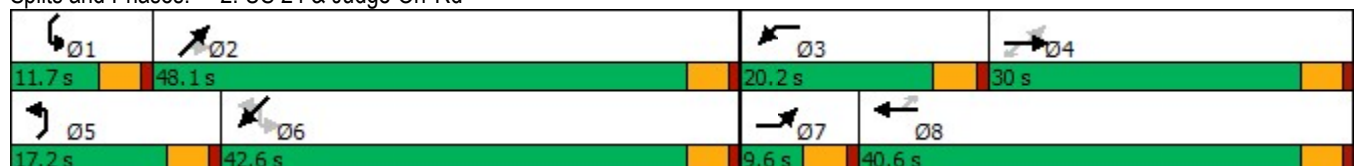


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.6	30.0	30.0	20.2	40.6	40.6	17.2	48.1	48.1	11.7	42.6	42.6
Total Split (%)	8.7%	27.3%	27.3%	18.4%	36.9%	36.9%	15.6%	43.7%	43.7%	10.6%	38.7%	38.7%
Maximum Green (s)	5.1	25.5	25.5	15.7	36.1	36.1	12.7	43.6	43.6	7.2	38.1	38.1
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 Effct Green (s)	19.5	14.4	14.4	13.2	24.6	24.6	11.0	44.0	44.0	47.0	39.9	39.9
Actuated g/C Ratio	0.20	0.15	0.15	0.14	0.25	0.25	0.11	0.46	0.46	0.49	0.41	0.41
v/c Ratio	0.18	0.42	0.79	0.64	0.12	0.07	0.58	0.45	0.25	0.30	0.57	0.14
Control Delay	23.4	41.8	30.2	47.3	28.0	0.3	48.4	20.7	3.7	14.2	25.7	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.4	41.8	30.2	47.3	28.0	0.3	48.4	20.7	3.7	14.2	25.7	0.4
LOS	C	D	C	D	C	A	D	C	A	B	C	A
Approach Delay		32.3			38.7			23.0			21.9	
Approach LOS		C			D			C			C	

Intersection Summary






















Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	96.7
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.79
Intersection Signal Delay:	26.3
Intersection LOS:	C
Intersection Capacity Utilization:	59.3%
ICU Level of Service:	B
Analysis Period (min):	15

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



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

2040 Background + Site
AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	415	95	145	215	64	30	0	50	50	0	31
Future Volume (vph)	38	415	95	145	215	64	30	0	50	50	0	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	385		235	385		235	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	200			200			25			25		
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		0.916			0.949	
Flt Protected	0.950			0.950				0.982			0.970	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1676	0	0	1715	0
Flt Permitted	0.606			0.494				0.840			0.755	
Satd. Flow (perm)	1129	3539	1583	920	3539	1583	0	1433	0	0	1335	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			102			70		60			37	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		774			2032			432			647	
Travel Time (s)		11.7			30.8			9.8			14.7	
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	41	446	102	158	234	70	36	0	60	60	0	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	446	102	158	234	70	0	96	0	0	97	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			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
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
12: Judge Orr Rd & S Access

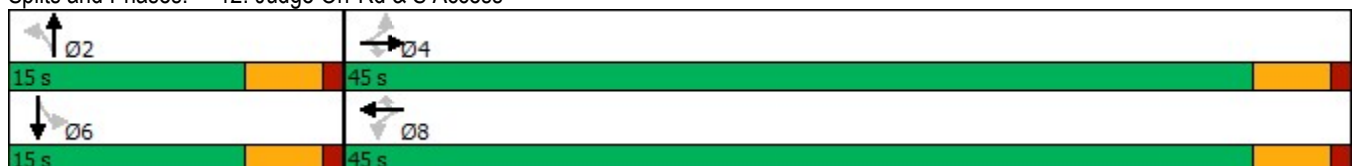
2040 Background + Site
AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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)	45.0	45.0	45.0	45.0	45.0	45.0	15.0	15.0		15.0	15.0	
Total Split (%)	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	25.0%	25.0%		25.0%	25.0%	
Maximum Green (s)	40.5	40.5	40.5	40.5	40.5	40.5	10.5	10.5		10.5	10.5	
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	
Total Lost Time (s)	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)	10.5	10.5	10.5	10.5	10.5	10.5		6.8			6.8	
Actuated g/C Ratio	0.39	0.39	0.39	0.39	0.39	0.39		0.26			0.26	
v/c Ratio	0.09	0.32	0.15	0.44	0.17	0.11		0.23			0.26	
Control Delay	5.4	6.1	2.1	10.1	5.4	2.2		6.7			8.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay	5.4	6.1	2.1	10.1	5.4	2.2		6.7			8.6	
LOS	A	A	A	B	A	A		A			A	
Approach Delay		5.4			6.5			6.7			8.6	
Approach LOS		A			A			A			A	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	26.6
Natural Cycle:	45
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.44
Intersection Signal Delay:	6.1
Intersection LOS:	A
Intersection Capacity Utilization:	38.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 12: Judge Orr Rd & S Access



Intersection												
Int Delay, s/veh	7.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↔			↔	↔	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	10	0	10	59	0	71	25	775	60	46	516	20
Future Vol, veh/h	10	0	10	59	0	71	25	775	60	46	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	68	0	82	27	833	65	50	561	22

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1633	1624	572	1566	1570	833	583	0	0	898	0	0
Stage 1	672	672	-	887	887	-	-	-	-	-	-	-
Stage 2	961	952	-	679	683	-	-	-	-	-	-	-
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	81	102	520	90	111	369	991	-	-	756	-	-
Stage 1	445	454	-	339	362	-	-	-	-	-	-	-
Stage 2	308	338	-	441	449	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	59	93	520	82	101	369	991	-	-	756	-	-
Mov Cap-2 Maneuver	59	93	-	82	101	-	-	-	-	-	-	-
Stage 1	433	424	-	330	352	-	-	-	-	-	-	-
Stage 2	233	329	-	402	419	-	-	-	-	-	-	-

Approach	EB		WB		NE		SW	
HCM Control Delay, s	49.5		74.7		0.3		0.8	
HCM LOS	E		F					

Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1	WBLn1	WBLn2	SWL	SWT	SWR
Capacity (veh/h)	991	-	-	106	82	369	756	-	-
HCM Lane V/C Ratio	0.027	-	-	0.242	0.827	0.221	0.066	-	-
HCM Control Delay (s)	8.7	-	-	49.5	143.6	17.5	10.1	-	-
HCM Lane LOS	A	-	-	E	F	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9	4.2	0.8	0.2	-	-

Intersection												
Int Delay, s/veh	106.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗	↘		↗	↘		↗	↘		↗	↘
Traffic Vol, veh/h	144	296	120	175	455	109	160	0	225	97	0	156
Future Vol, veh/h	144	296	120	175	455	109	160	0	225	97	0	156
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	92	92	92	87	92	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	157	322	130	190	489	117	174	0	245	111	0	179

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	606	0	0	452	0	0	1261	1622	161	1344	1635	245
Stage 1	-	-	-	-	-	-	636	636	-	869	869	-
Stage 2	-	-	-	-	-	-	625	986	-	475	766	-
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	968	-	-	1105	-	-	~127	102	855	~110	100	755
Stage 1	-	-	-	-	-	-	433	470	-	313	367	-
Stage 2	-	-	-	-	-	-	439	324	-	539	410	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	968	-	-	1105	-	-	~68	63	855	~55	62	755
Mov Cap-2 Maneuver	-	-	-	-	-	-	~68	63	-	~55	62	-
Stage 1	-	-	-	-	-	-	363	394	-	262	270	-
Stage 2	-	-	-	-	-	-	246	238	-	322	344	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.4			2.1			\$ 354.2			251.5		
HCM LOS							F			F		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	68	855	968	-	-	1105	-	-	55	755
HCM Lane V/C Ratio	2.558	0.286	0.162	-	-	0.172	-	-	2.027	0.237
HCM Control Delay (s)	\$ 837	10.9	9.4	-	-	8.9	-	-	\$ 637.9	11.2
HCM Lane LOS	F	B	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	17.1	1.2	0.6	-	-	0.6	-	-	10.9	0.9
























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

Intersection									
Intersection Delay, s/veh	13.7								
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	248		835		935		624		
Demand Flow Rate, veh/h	253		852		954		637		
Vehicles Circulating, veh/h	824		711		375		647		
Vehicles Exiting, veh/h	459		618		702		916		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	8.1		14.4		16.8		10.6		
Approach LOS	A		B		C		B		
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	0.625	0.375	0.469	0.531	0.154	0.846	0.341	0.659	
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	158	95	400	452	147	807	217	420	
Cap Entry Lane, veh/h	633	705	702	776	956	1032	744	819	
Entry HV Adj Factor	0.983	0.979	0.982	0.980	0.980	0.981	0.982	0.979	
Flow Entry, veh/h	155	93	393	443	144	791	213	411	
Cap Entry, veh/h	622	690	689	760	937	1012	731	802	
V/C Ratio	0.250	0.135	0.570	0.583	0.154	0.782	0.292	0.513	
Control Delay, s/veh	9.0	6.7	14.8	14.0	5.3	18.9	8.4	11.7	
LOS	A	A	B	B	A	C	A	B	
95th %tile Queue, veh	1	0	4	4	1	8	1	3	

Intersection						
Intersection Delay, s/veh	8.6					
Intersection LOS	A					
Approach	EB		WB		NB	SB
Entry Lanes	2		2		1	1
Conflicting Circle Lanes	2		2		2	2
Adj Approach Flow, veh/h	609		796		419	290
Demand Flow Rate, veh/h	621		812		427	296
Vehicles Circulating, veh/h	307		337		601	870
Vehicles Exiting, veh/h	859		691		327	279
Ped Vol Crossing Leg, #/h	0		0		0	0
Ped Cap Adj	1.000		1.000		1.000	1.000
Approach Delay, s/veh	6.4		7.9		11.1	11.7
Approach LOS	A		A		B	B
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	292	329	382	430	427	296
Cap Entry Lane, veh/h	1018	1094	990	1066	852	678
Entry HV Adj Factor	0.980	0.980	0.980	0.981	0.981	0.980
Flow Entry, veh/h	286	323	374	422	419	290
Cap Entry, veh/h	997	1072	970	1046	836	664
V/C Ratio	0.287	0.301	0.386	0.403	0.501	0.437
Control Delay, s/veh	6.5	6.3	8.0	7.8	11.1	11.7
LOS	A	A	A	A	B	B
95th %tile Queue, veh	1	1	2	2	3	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)	19	123	86	194	261	321	137	505	246	198	359	23
Future Volume (vph)	19	123	86	194	261	321	137	505	246	198	359	23
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		0.951			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1771	0	1770	1846	0
Flt Permitted	0.579			0.512			0.451			0.086		
Satd. Flow (perm)	1079	3539	1583	954	3539	1583	840	1771	0	160	1846	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			115			345		34			5	
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)	21	134	93	209	281	345	147	543	265	213	386	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	134	93	209	281	345	147	808	0	213	411	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

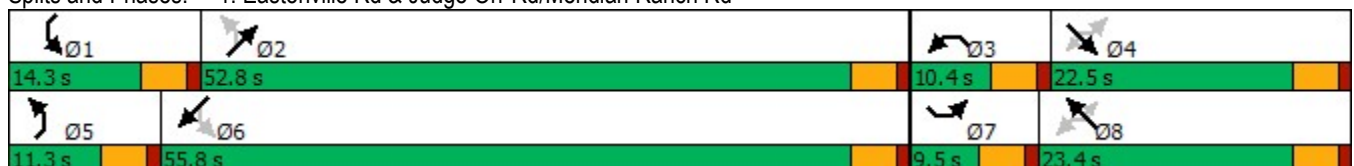


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	22.5	22.5	10.4	23.4	23.4	11.3	52.8		14.3	55.8	
Total Split (%)	9.5%	22.5%	22.5%	10.4%	23.4%	23.4%	11.3%	52.8%		14.3%	55.8%	
Maximum Green (s)	5.0	18.0	18.0	5.9	18.9	18.9	6.8	48.3		9.8	51.3	
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 Effct Green (s)	16.0	11.0	11.0	20.2	18.1	18.1	50.3	43.5		56.0	46.3	
Actuated g/C Ratio	0.18	0.12	0.12	0.23	0.20	0.20	0.57	0.49		0.63	0.52	
v/c Ratio	0.09	0.31	0.31	0.77	0.39	0.58	0.27	0.91		0.77	0.42	
Control Delay	27.8	37.9	7.5	51.2	34.3	8.4	8.0	36.4		38.0	14.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	27.8	37.9	7.5	51.2	34.3	8.4	8.0	36.4		38.0	14.7	
LOS	C	D	A	D	C	A	A	D		D	B	
Approach Delay		25.6			27.8			32.0			22.7	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	88.4
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.91
Intersection Signal Delay:	27.9
Intersection LOS:	C
Intersection Capacity Utilization:	82.5%
ICU Level of Service:	E
Analysis Period (min):	15

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



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

2040 Background + Site
PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	251	168	399	441	170	165	487	1544	431	145	1200	173
Future Volume (vph)	251	168	399	441	170	165	487	1544	431	145	1200	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	235		0	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	0.636			0.950			0.950			0.104		
Satd. Flow (perm)	1185	1863	1583	3433	3539	1583	3433	3539	1583	194	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			230			164			399			174
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)	270	181	429	474	183	177	513	1625	454	153	1263	182
Shared Lane Traffic (%)												
Lane Group Flow (vph)	270	181	429	474	183	177	513	1625	454	153	1263	182
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
PM

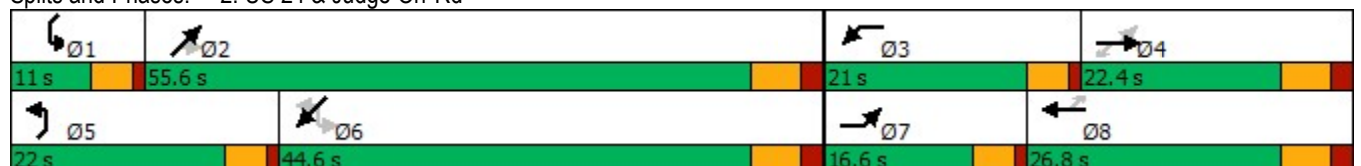


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	24.0	24.0	9.5	24.0	24.0	9.5	24.0	24.0
Total Split (s)	16.6	22.4	22.4	21.0	26.8	26.8	22.0	55.6	55.6	11.0	44.6	44.6
Total Split (%)	15.1%	20.4%	20.4%	19.1%	24.4%	24.4%	20.0%	50.5%	50.5%	10.0%	40.5%	40.5%
Maximum Green (s)	12.1	16.4	16.4	16.5	20.8	20.8	17.5	49.6	49.6	6.5	38.6	38.6
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 Effct Green (s)	30.0	16.4	16.4	16.5	20.8	20.8	17.5	49.6	49.6	46.6	38.6	38.6
Actuated g/C Ratio	0.27	0.15	0.15	0.15	0.19	0.19	0.16	0.45	0.45	0.42	0.35	0.35
v/c Ratio	0.70	0.65	1.00	0.92	0.27	0.41	0.94	1.02	0.49	0.87	1.02	0.27
Control Delay	39.9	56.2	64.9	71.2	39.4	10.6	72.5	58.0	5.1	65.2	66.0	5.4
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	39.9	56.2	64.9	71.2	39.4	10.6	72.5	58.0	5.1	65.2	66.0	5.4
LOS	D	E	E	E	D	B	E	E	A	E	E	A
Approach Delay		55.5			51.3			51.6			59.0	
Approach LOS		E			D			D			E	

Intersection Summary

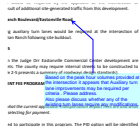
Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	110
Natural Cycle:	110
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.02
Intersection Signal Delay:	54.1
Intersection LOS:	D
Intersection Capacity Utilization:	89.6%
ICU Level of Service:	E
Analysis Period (min):	15

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



TIS_v1_redlines.pdf Markup Summary

Callout (17)



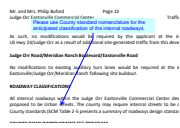
Subject: Callout
Page Label: 14
Author: Daniel Torres
Date: 10/1/2020 10:06:55 PM
Status:
Color: ■
Layer:
Space:

Based on the peak hour volumes provided at the intersection it appears that Auxiliary turn lane improvements may be required per criteria . Please address.
Also please discuss whether any of the existing turn lanes require any modifications.



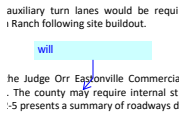
Subject: Callout
Page Label: 3
Author: Daniel Torres
Date: 10/1/2020 10:16:23 PM
Status:
Color: ■
Layer:
Space:

Please state something along the lines of: once the roadway locations are finalized at the preliminary plan/final plat a sight distance analysis with exhibit will be provided. If the proposed access locations shown on the site plan are final then provide sight distance analysis with an exhibit.



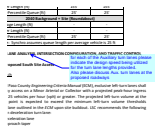
Subject: Callout
Page Label: 14
Author: Daniel Torres
Date: 10/1/2020 10:17:47 PM
Status:
Color: ■
Layer:
Space:

Please use County standard nomenclature for the anticipated classification of the internal roadways.



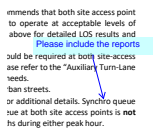
Subject: Callout
Page Label: 14
Author: Daniel Torres
Date: 10/1/2020 10:18:00 PM
Status:
Color: ■
Layer:
Space:

will



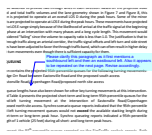
Subject: Callout
Page Label: 12
Author: Daniel Torres
Date: 10/1/2020 10:23:04 PM
Status:
Color: ■
Layer:
Space:

for each of the Auxiliary turn lanes please indicate the design speed being utilized for the turn lane lengths provided.
Also please discuss Aux. turn lanes at the proposed roadways



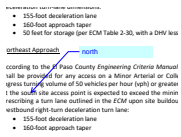
Subject: Callout
Page Label: 15
Author: Daniel Torres
Date: 10/1/2020 10:28:37 PM
Status:
Color: ■
Layer:
Space:

Please include the reports



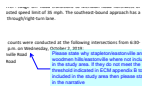
Subject: Callout
Page Label: 10
Author: Daniel Torres
Date: 10/1/2020 9:16:24 PM
Status:
Color: ■
Layer:
Space:

Please clarify this paragraph as it first mentions a southbound left and then an eastbound left. Also it appears to be repeated on the next page. Revise accordingly.



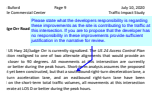
Subject: Callout
Page Label: 13
Author: Daniel Torres
Date: 10/1/2020 9:31:56 PM
Status:
Color: ■
Layer:
Space:

north



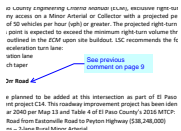
Subject: Callout
Page Label: 4
Author: Daniel Torres
Date: 10/1/2020 9:50:34 PM
Status:
Color: ■
Layer:
Space:

Please state why stapleton/eastonville and woodmen hills/eastonville where not included in the study area. If they do not meet the threshold indicated in ECM appendix B to be included in the study area then please state it in the narrative



Subject: Callout
Page Label: 10
Author: Daniel Torres
Date: 10/1/2020 9:55:35 PM
Status:
Color: ■
Layer:
Space:

Please state what the developers responsibility is regarding these improvements as the site is contributing to the traffic at this intersection. If you are to propose that the developer has no responsibility in these improvements provide sufficient justification in the narrative for review.



Subject: Callout
Page Label: 13
Author: Daniel Torres
Date: 10/1/2020 9:56:33 PM
Status:
Color: ■
Layer:
Space:

See previous comment on page 9


Cloud (1)




Subject: Cloud
Page Label: 10
Author: Daniel Torres
Date: 10/1/2020 9:13:56 PM
Status:
Color: ■
Layer:
Space:

Highlight (8)


$\frac{36}{15}$ $\frac{64}{99}$ $\frac{42}{88}$

Subject: Highlight
Page Label: 27
Author: Daniel Torres
Date: 10/1/2020 10:05:20 PM
Status:
Color: 
Layer:
Space:


131
 $\frac{46}{29}$

Subject: Highlight
Page Label: 27
Author: Daniel Torres
Date: 10/1/2020 10:05:38 PM
Status:
Color: 
Layer:
Space:


$\frac{19}{9}$ $\frac{20}{55}$ $\frac{1}{1}$

Subject: Highlight
Page Label: 27
Author: Daniel Torres
Date: 10/1/2020 10:05:42 PM
Status:
Color: 
Layer:
Space:

$\frac{101}{81}$ $\frac{17}{17}$


Subject: Highlight
Page Label: 27
Author: Daniel Torres
Date: 10/1/2020 10:05:49 PM
Status:
Color: 
Layer:
Space:

Intersection of Judge Dr/Restonville/Meridian Roundabouts and single-lane approaches would operate at LOS E or F during the 2040 morning and afternoon peak hours. How a modern roundabout or signalized, the intersection would be completed, this


Subject: Highlight
Page Label: 8
Author: Daniel Torres
Date: 10/1/2020 9:04:51 PM
Status:
Color: 
Layer:
Space:

a modern roundabout or signalized,

rate at LOS E or F during the 2040 morning and afternoon peak hours. How a modern roundabout or signalized, the intersection would be completed, this


Subject: Highlight
Page Label: 9
Author: Daniel Torres
Date: 10/1/2020 9:05:34 PM
Status:
Color: 
Layer:
Space:

stop sign-controlled intersection over a roundabout-contr

Subject: Highlight
Page Label: 9
Author: Daniel Torres
Date: 10/1/2020 9:06:13 PM
Status:
Color: 
Layer:
Space:


roundabout-c


Subject: Highlight
Page Label: 10
Author: Daniel Torres
Date: 10/1/2020 9:43:42 PM
Status:
Color: 
Layer:
Space:

Subject: Highlight
Page Label: 10
Author: Daniel Torres
Date: 10/1/2020 9:43:42 PM
Status:
Color: 
Layer:
Space:


a southbound right-turn deceleration lane, a southbound right-turn acceleration lane, and an eastbound right-turn lane have been


Text Box (4)

Subject: Text Box
Page Label: 15
Author: Daniel Torres
Date: 10/1/2020 10:14:05 PM
Status:
Color: 
Layer:
Space:


Subject: Text Box
Page Label: 15
Author: Daniel Torres
Date: 10/1/2020 10:14:05 PM
Status:
Color: 
Layer:
Space:


Provide a table with the list of improvements including the timing and who is responsible for the improvements.

Subject: Text Box
Page Label: 9
Author: Daniel Torres
Date: 10/1/2020 10:14:50 PM
Status:
Color: 
Layer:
Space:


Subject: Text Box
Page Label: 9
Author: Daniel Torres
Date: 10/1/2020 10:14:50 PM
Status:
Color: 
Layer:
Space:


Provide alternative solutions to the unsatisfactory LOS at the site access points as it appears that it is unlikely that there would be roundabout at each of the access points and the judge orr/eastonville intersection.

Subject: Text Box
Page Label: 15
Author: Daniel Torres
Date: 10/1/2020 10:18:51 PM
Status:
Color: 
Layer:
Space:

Subject: Text Box
Page Label: 15
Author: Daniel Torres
Date: 10/1/2020 10:18:51 PM
Status:
Color: 
Layer:
Space:

Please list all deviations that are being proposed.

Subject: Text Box
Page Label: 1
Author: Daniel Torres
Date: 9/30/2020 3:28:16 PM
Status:
Color: 
Layer:
Space:

Subject: Text Box
Page Label: 1
Author: Daniel Torres
Date: 9/30/2020 3:28:16 PM
Status:
Color: 
Layer:
Space:

Add PCD File No. SKP203

information were prepared under my r
s. So far as is consistent with the stand
with the criteria established by the Count