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Esteban Rodriguez Subdivision Sketch Plan Master Traffic Impact Study (LSC #S224630) August 15, 2023

Add PCD File No. SKP237

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.

Please include developer information

Date

Esteban Rodriguez Subdivision Sketch Plan

Master Traffic Impact Study

Prepared for:

Bill Guman, PLA, ASLA, APA
William Guman & Associates, Ltd.
731 North Weber Street, Suite 10
Colorado Springs, CO 80903

AUGUST 15, 2023

LSC Transportation Consultants, Inc.
Prepared by: Jeffrey C. Hodsdon, P.E.

LSC #S224640



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ECM B.2.4.A requires a discussion of safety and accident analysis.



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August 15, 2023

Bill Guman, PLA, ASLA, APA
William Guman & Associates, Ltd.
731 North Weber Street, Suite 10
Colorado Springs, CO 80903

RE: Esteban Rodriguez Subdivision
Sketch Plan
El Paso County, CO
Master Traffic Impact Study
LSC #S224640

Dear Mr. Guman,

LSC Transportation Consultants, Inc. has prepared this Master Traffic Impact Study for the proposed 493-acre Esteban Rodriguez Ranch Subdivision Sketch Plan in El Paso County, Colorado. The site is located southeast of the intersection of Judge Orr Road and Elbert Road. Approximately 144 single-family dwelling units and 19 acres of commercial uses are planned for the site. Access to the site is proposed to Judge Orr Road.

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, Weekday peak-hour turning-movement traffic counts at the following study-area intersections:

- US Highway 24/Stapleton Road
- US Highway 24/Judge Orr Road
- US Highway 24/Elbert Road
- Judge Orr Road/Curtis Road/Stapleton Road
- Judge Orr Road/Elbert Road

- Estimated average daily traffic (ADT) volumes on the following study area roadway segments: US Highway 24, Judge Orr Road, Stapleton Road, Curtis Road, Elbert Road;
- Projections of 20-year background traffic volumes on the following study area roadways: US Highway 24, Judge Orr Road, Stapleton Road, Curtis Road, Elbert Road;
- The proposed sketch plan land uses and access plan;
- Estimates of average weekday and weekday peak-hour trip generation for the proposed development and the estimated directional distribution of site-generated vehicle trips on roadways and intersections adjacent to and in the vicinity of the site;
- Projected site-generated and resulting total peak-hour intersection traffic volumes at the following study-area intersections:
 - US Highway 24/Stapleton Road
 - US Highway 24/Judge Orr Road
 - US Highway 24/Elbert Road
 - Judge Orr Road/Curtis Road/Stapleton Road
 - Judge Orr Road/Elbert Road
 - Judge Orr/proposed east access (full-movement)
- 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 requirements for any auxiliary right-/left-turn lanes at the proposed site based on the criteria in El Paso County's *Engineering Criteria Manual (ECM)*; and
- Findings and recommendations for submittal to El Paso County.

Per recent EA there was discussion regarding zoning the commercial properties to CC where warehouse uses are only allowed via special use approval. Coordinate with applicant and adjust accordingly. regardless of zone chosen, highest and best use shall be analyzed. revise accordingly.

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

The following previously-completed traffic reports are located adjacent to the proposed Esteban Rodriguez Ranch subdivision and were used to provide reference and background information:

- Davis Sketch Plan
- Saddlehorn Ranch - Several
- Meadowlake Industrial Park

Please include relevant excerpts of these studies in the appendix

LAND USE AND ACCESS

Proposed Land Uses

Figure 1 shows the site location relative to the adjacent and nearby roadways. The proposed 493-acre Esteban Rodriguez Ranch Subdivision Sketch Plan in El Paso County, Colorado is located southeast of the intersection of Judge Orr Road and Elbert Road. Approximately 144 single-family dwelling units and approximately 19 acres of commercial uses are the land uses shown on the proposed sketch plan. For purposes of estimating trip generation, this report assumes 10,000 square feet of "strip retail" building square footage and 190,000 square feet of warehousing uses

Is the lot being rezoned? Please mention the existing/proposed zoning.

for the parcels with the “commercial” designation. The strip retail use is assumed to be located on the southeast corner of the Judge Orr/Elbert Road intersection.

ECM B.2.1: Please discuss phasing of the development and the anticipated completion date.

Access and Circulation

The Sketch Plan shows the following proposed public roadway intersection spacings:

- Full-movement access as a new southern leg to Judge Orr/Elbert (currently a T-intersection)
- Full-movement access on Judge Orr Road 2,230 feet east of Elbert Road

Figure 2 contains the proposed Sketch Plan showing the proposed general sketch plan land uses, on-site roadway network, and proposed access points to Judge Orr Road.

SIGHT DISTANCE ← please also state that analysis will be provided when access layout is finalized at the subdivision stage of the development.

Intersection sight distance at all proposed public road/site access intersection locations on Judge Orr Road, and Elbert Road shown in the site plan must meet intersection sight distance requirements in *ECM* Table 2-21. Intersections not meeting sight distance may need to be shifted or otherwise mitigated for sight distance. Lines of sight for all public road intersections/access points will need to be kept clear of any sight distance obstructions, including landscaping, signage, etc.

ROAD AND TRAFFIC CONDITIONS AND MTCP CLASSIFICATION

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

Mention expected year for expansion to 4-lanes

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

US 24/Stapleton isn't signalized

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 within the study area 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*

There are some discrepancies between Synchro models, figures, and descriptions about whether Judge Orr Road is a two-lane or four-lane highway at the location of the E Access. Please make this consistent throughout the study.

Please provide signal timings for US-24 & Judge Orr in the appendix.

Control Plan/PEL Study shows future plans for realignment of Judge Orr at US Hwy 24 to improve the intersection and provide an intersection angle closer to 90 degrees.

Curtis Road is a two-lane roadway that extends south from the intersection of US Hwy 24/Stapleton Road intersection to Drennan Road. It is shown as a two-lane, rural Principal Arterial on El Paso County's *2040 Major Transportation Corridors Plan* and a four-lane Principal Arterial on the *Preserved Corridor Network Plan*. In the vicinity of Judge Orr Road, the posted speed limit is 45 mph. Both intersections of Curtis Road/Judge Orr Road and Curtis Road/Falcon Highway are two-way, stop-sign controlled. The newer section north of Judge Orr was constructed to current *ECM* standards with paved shoulders, etc. Generally, Curtis Road is an "unimproved," two-lane paved road between Judge Orr and Falcon Highway. However, upgrades are planned as part of the Saddlehorn Development.

Stapleton Road is shown as an Urban four-lane Principal Arterial on the El Paso County *Major Transportation Corridors Plan (MTCP)* and El Paso County *Corridor Preservation Plan (CPP)*. Stapleton Road extends east from Towner Drive to US Hwy 24. Stapleton continues southeast then south as Curtis Road. It is planned to be ultimately extended west to connect with the Briargate Parkway extension. Stapleton Road currently is a half-section of a four-lane Principal Arterial (one through lane in each direction) between Meridian Road and US Hwy 24.

Elbert Road is a two-lane roadway that extends north from Judge Orr Road in El Paso County to State Highway 86 in Elbert Road. Shown on the *El Paso County 2040 Major Transportation Corridors Plan* as a four-lane Minor Arterial, the posted speed on Elbert Road is 55 mph. Elbert Road is paved without shoulders in the vicinity of the site (paved, unimproved roadway).

Existing Traffic Volumes

EMC B.2.2 requires that an existing conditions scenario be analyzed

EMC B.3.1 Roadway links shall be analyzed. Acceptable maximum traffic volumes allowed for the specific class of roadway are shown in Table B-1

Vehicular turning-movement counts were conducted for the following dates and times at the following intersections. Raw count data is attached.

- Judge Orr Road/Elbert Road
 - Wednesday, January 11, 2023 from 6:30 – 8:30 a.m.
 - Wednesday, January 11, 2023 from 4:00 – 6:00 p.m.
- Judge Orr Road/Curtis Road
 - Thursday, April 21, 2022 from 6:30 – 8:30 a.m.
 - Thursday, April 21, 2022 from 4:00 – 6:00 p.m.
- US Hwy 24/Elbert Road
 - Tuesday, January 17, 2023 from 6:30 – 8:30 a.m.
 - Tuesday, January 17, 2023 from 4:00 – 6:00 p.m.
- US Hwy 24/Judge Orr Road
 - Tuesday, May 10, 2022 from 6:30 – 8:30 a.m.
 - Tuesday, May 10, 2022 from 4:00 – 6:00 p.m.
- US Hwy 24/Stapleton Road

Please discuss existing counts in further detail (e.g. peak hour, heavy vehicle percentage, were counts balanced)

ECM B.3.1 requires counts to be no more than 1 year old from date of application, but Judge Orr Rd/Curtis Rd and US 24/Judge Orr Rd counts exceed that limit.

Refer to MTCP table 5 and identify the bicycle improvement indicated along Judge Orr

- Tuesday, January 10, 2023 from 6:30 – 8:30 a.m.
- Tuesday, January 10, 2023 from 4:00 – 6:00 p.m.

Is the site expected to generate any multimodal trips and are there any future sidewalks/bike lanes through the study area planned by El Paso County? Is the developer providing any pedestrian/bicycle infrastructure

PEDESTRIAN AND BICYCLE FACILITIES

Judge Orr Road, Stapleton Road, and Elbert Road do not currently have sidewalks. Stapleton Road between Judge Orr and US Highway 24 has paved outside shoulders, which accommodate bicycles. Proposed subdivision roads are likely to be primarily Rural Local and potentially Minor Collector roadways and, per *ECM* criteria, would not require sidewalks.

TRIP GENERATION

Estimates of the vehicle trips projected to be generated by the proposed Esteban Rodriguez Subdivision residential development have been made using the nationally published trip-generation rates from *Trip Generation, 11th Edition, 2021* by the Institute of Transportation Engineers (ITE). Corresponding trip-generation rates from ITE Land Use category “210 – Single-Family Detached Housing” have been used to develop trip-generation estimates for the proposed 144-dwelling units. ITE Land Use categories “821 – Strip Retail Plaza without a Supermarket (40-150 KSF)” and “150 – Warehousing” were used to estimate potential trip generation for the approximately 19 acres of commercial on the property (on two separate parcels). LSC has assumed that a 15-percent floor-area-ratio for the assumed 10,000 square feet of “strip retail” space, with the remainder of the 19 acres associated with warehousing land uses.

Why was such a small percentage (8%) of the commercial area assumed to be retail?

Table 1 below presents a summary of the estimated site trip generation. A detailed trip-generation estimate for the site, including ITE rates land uses, is presented in Table 4 (attached). The proposed sketch plan is attached for reference.

The sketch plan land uses are projected to generate about 2,425 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 73 entering vehicles and 94 exiting vehicles are estimated to be generated. Approximately 127 entering and 114 exiting vehicles are estimated to be generated by the site during the afternoon peak hour.

Table 1: Estimated Site Vehicle-Trip Generation

Analysis Period	Total Driveway Trips		
	In	Out	Total
Morning Peak Hour	73	94	168
Afternoon Peak Hour	127	114	241
Daily/24-hour	1212	1212	2425
Analysis Period	Primary Trips		
	In	Out	Total
Morning Peak Hour	67	90	157
Afternoon Peak Hour	113	98	211
Daily/24-hour	1017	1017	2033
Analysis Period	Pass-By Trips		
	In	Out	Total
Morning Peak Hour	4	2	6
Afternoon Peak Hour	9	9	18
Daily/24-hour	115	115	230
Analysis Period	Diverted Trips		
	In	Out	Total
Morning Peak Hour	3	2	4
Afternoon Peak Hour	6	6	12
Daily/24-hour	81	81	162

Pass-By and Diverted Trips

The ITE total trip-generation estimate for assumed 10,000 square feet of “strip retail” use on about 1.5 acres southeast of Judge Orr and Elbert Road 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 street 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 destination in the original direction. Table 4 (attached) shows the percent of the trips generated that were assumed to be pass-by trips.

Analysis also accounts for diverted trips from nearby US Hwy 24, Curtis Road, and Falcon Highway. Recommended ITE-average percent diverted trips for retail-related land uses were used for this study, as summarized in Table 4. Resulting primary and non-primary trips are shown in the table.

Average pass-by trip percentages from the *Trip Generation Handbook – An ITE Proposed Recommended Practice, 3rd Edition, 2014* by ITE have been assumed.

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. The attached trip distribution exhibits and Vistro trip distribution reports show 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 uses, the area roadway system serving the site, and the site's geographic location relative to the overall greater El Paso County/Colorado Springs area. The attached reports show estimated distribution splits.

Site-Generated Traffic

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

- US Hwy 24/Stapleton Road
- US Hwy 24/Judge Orr Road
- US Hwy 24/Elbert Road
- Judge Orr Road/Curtis Road/Stapleton Road
- Judge Orr Road/Elbert Road
- Judge Orr/proposed east access (full-movement)

Site-generated volumes have been calculated by applying the directional-distribution percentages estimated by LSC (from the attached distribution exhibit and Vostro trip distribution tables) to the trip-generation estimates (from Table 4). The attached Vistro volume printouts include the projected short-term site-generated traffic volumes ("net new site trips") for the weekday morning and afternoon peak hours.

It is unclear how the short term background traffic volumes were calculated. Please detail the steps that were taken to go from the existing volumes to the short term background volumes. This includes discussing the background growth rate and the trips that were generated from the Saddlehorn development

Short-Term Total Traffic Volumes

The attached Vistro traffic volume reports show the sum of the short-term total traffic volumes and short-term site-generated peak-hour traffic volumes. 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 the attached Synchro reports.

Note: short-term background traffic volumes assume buildout of the entire Saddlehorn residential development to the south.

Similar to the comment on the short term background volumes, it is not clear how the long term background volumes were calculated. Please detail each of the pipeline developments (location, land use, trip generation, trip distribution), and how each one was factored into the long term background volume forecasts. In addition, please provide detail on the background growth rate that was used?

2043 Background Traffic Volumes

Long-term background traffic volumes are estimates by LSC, based on projected 2043 volumes adjacent to the site shown in Map 9 of the *MTCP*. Additionally, traffic generated by planned adjacent and nearby developments, such as Saddlehorn Ranch, Meadowlake Ranch, Meadowlake

Industrial Park, Davis Ranch, and Falcon Crossing, has been included in 2043 background traffic volumes. Please refer to the attached Vistro traffic volume reports for estimated long-term background volumes and assumed laneage at the study-area intersections.

Projected long-term background traffic volume projections in this vicinity have been based on LSC’s recent Saddlehorn and Meadowlake Industrial Park traffic studies. Site-generated traffic from other nearby planned developments has also been considered.

Note: long-term background traffic volumes assume buildout of the entire Saddlehorn residential development to the south and estimates of future residential development to the southeast.

2043 Total Traffic Volumes

The attached Vistro traffic volume reports show the sum of 2043 background traffic volumes plus long-term site-generated traffic volumes.

ECM B.5: "When a project's vehicular impacts do not meet the minimum acceptable LOS standard, the TIS shall include feasible measures, which would mitigate the project's impacts. The mitigation measures are intended to be in addition to the minimum required improvements necessary to meet these standards" Please suggest mitigation measures at all intersections that do not operate at an acceptable LOS in accordance with the ECM.

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 sec or less	10.0 sec or less
B	10.1-20.0 sec	10.1-15.0 sec
C	20.1-35.0 sec	15.1-25.0 sec
D	35.1-55.0 sec	25.1-35.0 sec
E	55.1-80.0 sec	35.1-50.0 sec
F	80.1 sec or more	50.1 sec or more

¹ For unsignalized intersections, if V/C ratio is greater than 1.0 the level of service is LOS F, regardless of the projected average control delay per vehicle.

The attached **LOS Tables** 1-9 show the LOS values results for the weekday morning and afternoon peak hours for the proposed site-access intersections and off-site intersections in the study area. All LOS calculations for long-term scenarios were based upon the recommended lane geometries and traffic controls shown in the attached Vistro Lane Configuration and Traffic Control reports and in the Synchro LOS reports.

Judge Orr Road/Proposed East Site Access

Judge Orr & Proposed East Site Access:

Short term lane configuration figure shows EBTR turn lane, while Synchro model shows separate EBT & EBR turn lanes. Please make figures, Synchro models, LOS tables, and descriptions consistent
Long term lane configuration figure shows Judge Orr as a four lane highway at this point, while the Synchro model shows it as a two lane highway. Please update to make figures, Synchro models, LOS tables, and descriptions consistent

All individual turning movements and approaches are projected to operate at LOS B or better through the long term with the addition of site-generated traffic.

Judge Orr Road/Curtis Road

Short Term

All individual turning movements are projected to operate at LOS C or better during the short term with the addition of site-generated traffic. Short-term analysis assumes two-way stop-sign control (TWSC) at Judge Orr/Curtis.

Long Term

Assuming the intersection of Judge Orr/Curtis is converted from TWSC to a two-lane roundabout in the future, all individual turning movements would operate at LOS B or better during both peak hours of the long-term buildout scenario. This intersection improvement was previously recommended in the *Saddlehorn Ranch* traffic study. Additionally, eastbound and westbound approaches on Judge Orr Road and the southbound approach on Curtis Road are assumed to be two through lanes in each direction (per the 2040 MTCP).

US Highway 24/Stapleton Road

US-24 & Stapleton Rd

Long term lane configuration figure shows this as a stop controlled intersection and with dual northbound left turn lanes and single left turn lanes for the other three approaches. The Synchro models model this intersection with dual NB and SB left turn lanes. Please update to make figures, Synchro models, LOS tables, and descriptions consistent

Short-Term

Currently, the intersection of US Hwy 24/Stapleton is two-way stop-sign-controlled (TWSC). The following turning movements currently operate at LOS E or worse, with or without the addition of site-generated traffic: northwest-bound left, northwest-bound through, southeast-bound left, and southeast-bound through.

Mention that several of the movements operate at LOS F and exceed capacity. It should also be noted that the site trips push the failing movements even farther over capacity.

Once signalized, all individual turning movements and the intersection overall are projected to operate at and are projected to operate at LOS C or better during both short-term peak hours, with or without the addition of site-generated traffic. CDOT has indicated that this intersection is on the list of intersections programmed for signalization.

Long-Term

Please discuss possible interim solutions for the intersection of US-24 & Stapleton Rd to prevent the intersection from operating over capacity until a signal is constructed.

Based on the long-term scenario analyzed in this report, dual left-turn lanes are projected to be constructed to all approaches at the intersection of US Hwy 24/Stapleton Road. Additionally, all approaches on US Hwy 24 and Stapleton Road would be improved to two through lanes in each direction. Assuming the planned f

Please indicate what this developments possible responsibility is for upgrading the intersection to satisfactory conditions. Is it providing escrow? or does this development trigger the signal warrants? If there are no feasible interim solutions then please state that. please address.

through, and southwest-left turn lanes are projected to operate at LOS E during at least one peak hour.

All other individual turning movements and the intersection overall are projected to operate at LOS D or better during both long-term peak hours, with or without the addition of site-generated traffic. Please refer to the attached Synchro sheets for anticipated/assumed future lane geometry and LOS at this intersection.

US Highway 24/Judge Orr Road

Short Term

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

what is the LOS for these movements

Short-term analysis assumes the proposed realignment has not yet been constructed, nor does it assume that the future southbound right-turn deceleration, a southbound right-turn acceleration, and an eastbound right-turn lane would be constructed in the short term. These turn lanes are shown at the intersection of US Hwy 24/Judge Orr in CDOT's *US 24 Planning & Environmental Linkages (PEL) Study*.

Long-Term

By 2043, 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 2043 background and total traffic volumes and lane geometry shown in the Synchro reports, this intersection is projected to operate at an overall LOS C during the peak hours. Some minor movements are projected to operate at LOS E during the peak hours 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. These movements would not be considered "failing" since the volume-to-capacity ratios would be 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.

US Highway 24/Elbert Road

Short Term

Why is there no long term analysis?

provide long term analysis

All individual turning movements are projected to operate at LOS D or better during the short-term with the addition of site-generated traffic. Short-term analysis assumes two-way stop-sign control (TWSC) at US Hwy 24/Elbert Road.

Judge Orr & Elbert

Long term lane configuration figure shows a separate EBL turn lane while the lane configuration figure shows a shared EBTL turn lane. Please make consistent across figures, synchro models, and LOS tables.

Judge Orr Road/Elbert Road

All single-lane approaches are projected to operate at LOS C or better through the long term with the addition of site-generated traffic.

ROADWAY IMPROVEMENTS

Auxiliary Turn-Lane Thresholds

Section 2.3.7.D of the *ECM* lists ingress/egress volume thresholds in which exclusive right- or left-turn lanes would be required, by classification:

- Principal Arterial
- Left-turn deceleration lane – 10 vehicles per hour (vph) or greater
- Right-turn deceleration lane – 25 vph or greater
- Right-turn acceleration lane – 50 vph or greater (if speed limit greater than 40 mph)
- Minor Arterial
- Left-turn deceleration lane – 25 vph or greater
- Right-turn deceleration lane – 50 vph or greater
- Right-turn acceleration lane – not generally required

Major roadways in the study area have the following 2040 *ECM* roadway classifications:

- Stapleton Road – Principal Arterial
- Judge Orr Road – Minor Arterial
- Elbert Road – Minor Arterial

All proposed auxiliary turn lanes would be required to meet design criteria outlined in Section 2.3.7.E of the *ECM*.

This assessment and findings are based on the preliminary estimates of trip generation and traffic volumes in this report. Additional turn lanes may be needed if trip generation is higher than projected herein. The evaluation of auxiliary turn lane needs should be revisited with the Preliminary Plan(s).

Judge Orr Road/Elbert Road

Based on projected left-turn and right-turn peak-hour turning volumes, the following auxiliary turn lane would be required at the proposed site access at Judge Orr Road/Elbert Road:

- Eastbound-right-turn deceleration lane

Storage/taper/decel length should be given

The following auxiliary turn lanes would **not** be required at the proposed northwest site access on Stapleton Road:

- Westbound-left-turn deceleration lane
- Northbound-to-eastbound-right-turn acceleration lane

judge Orr?

identify any aux. lanes on the new southern leg of Elbert road approaching Judge Orr

Judge Orr Road/Proposed East Site Access

Based on projected northbound-left and southbound-right peak-hour turning volumes, no auxiliary turn lanes would be required at the proposed east site access on Judge Orr Road.

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

Discuss that several movements warrant turn lanes under existing traffic volumes. Are there any operational or safety issues that may occur prior to these lanes being constructed?

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.

provide aux. lane analysis for Judge Orr/Stapleton.

Intersection Configuration and Traffic Control

All proposed site-access points would be two-way, Stop sign-controlled intersections.

ROADWAY CLASSIFICATIONS

Generally, roadways within the sketch plan should be classified as Rural Local or Rural Minor Collector as shown in Figure 3. The entry street segments are projected to carry about 1,500 and 675 vehicles per day (ADT) for the west and east access street connections to Judge Orr, respectively. Most of the streets south of these entry streets are projected to carry ADT volumes below 750 vehicles per day. These recommended classifications should be revisited at the preliminary plan stage when commercial land uses are more defined relative to trip generation. The classifications shown in Figure 3 are preliminary recommendations by LSC based on

As previously comment, a roadway segment analysis needs to be conducted for the public roads within the study area as well. Refer to ECM B.3.1.

estimated daily traffic volumes and other factors such as land uses served, design vehicles, and roadway continuity.

COUNTY ROAD IMPROVEMENT FEE PROGRAM

Transportation Impact Fees

Per *ECM* Appendix B:

State what the current applicable Transportation Impact Fees are and what option the developer will be selecting for payment.

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

Reimbursable Improvements

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

- C12 – Stapleton Road from Towner to Judge Orr Road (\$41,076,000)
 - Existing conditions – 2-lane Urban Principal Arterial
 - Future conditions – 4-lane Urban Principal Arterial
- 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

See the attached *MTCP* maps for reference.

MULTI-MODAL TRANSPORTATION AND TDM OPPORTUNITIES

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

- M7 – Elbert Road from Judge Orr Road to US Hwy 24
 - Bicycle improvements (7.00 miles)
- M8 – Judge Orr Road from Eastonville Road to South Peyton Highway
 - Bicycle improvements (2.98 miles)

Pedestrian and Bicycle Accommodations

There are no existing public schools located within two miles of the site.

The following is a list of known and planned multi-modal and pedestrian accommodations in the general area:

- A park-and-ride facility has been constructed near Meridian Road and US Highway 24.
- The Rock Island Regional Trail runs along the north side of Highway 24 generally between Falcon and Peyton.
- Many of the area County roads have been or will be upgraded to provide paved shoulders for cyclists. Stapleton is shown as a future “bike route.”
- The Highway 24 PEL study also includes multi-modal elements.

DEVIATIONS

Potentially-Required Deviations

None with this Sketch Plan submittal. However, the locations of future commercial access points south of Judge Orr along the entry roads will need to be evaluated against criteria in ECM section 2.4. Also, internal public roads/streets not depicted on the sketch plan but shown on the preliminary plan(s) will need to meet intersection criteria, including spacing criteria shown in ECM Table 2-5 for Rural Minor Collector roadways (or Rural Local roadways, as applicable). Deviation(s) will likely be required for any internal commercial access or internal public street intersection spacing not meeting criteria.

Approved Deviations (for Reference)

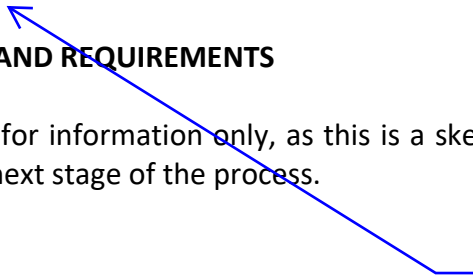
Judge Orr Road

As part of the Saddlehorn Ranch development, a deviation (by JR Engineering, dated September 4, 2020) was approved for modification to the standard *ECM* cross section of Judge Orr Road, which has a 2040 classification of Rural Four-Lane, Minor Arterial roadway (*ECM* Section 2.2.4 criteria). Although Judge Orr Road is shown as a four-lane Rural Minor Arterial in the 2040 *MTCP*, the *ECM* does not have a standard cross-section for this type of roadway functional classification. The deviation shows an interim four-lane Rural Minor Arterial cross-section with an additional eastbound 12-foot travel lane on the south side (Saddlehorn side).

Additional ROW would be required for completion of the full 4-lane section, but additional ROW is not available (not controlled by this development) on the north side of Judge Orr. Currently, Saddlehorn Ranch is dedicating an additional 40 feet of ROW to facilitate this in the future.

CDOT PROCESS AND REQUIREMENTS

The following is for information only, as this is a sketch plan application. The following can be revisited at the next stage of the process.



identify that ROW along the southern portion of Judge Orr will be provided by the development.

- US Hwy 24/Stapleton is planned to be signalized. The CDOT has indicated for other area projects a requirement to escrow a fair share amount toward this future traffic signal.
- The “formula” for calculating the development responsibility has been based on the average AM & PM site-generated passenger cars directly impacting the 4-hour warrant, the development would be responsible an amount based on the number of site-generated new vehicles / 60 vehicles-to-warrant x ~\$700K/signal cost.
- **LSC Note:** There are a number of developments – in progress and future/planned – in the area which will also add traffic to this intersection and impact the 4-hour warrant. As CDOT collects escrow for other developments, LSC recommends that as the collective impact trips (directly impacting the 4-hour warrant volumes) by area developments begins to exceed the 60-vehicle-per-hour denominator, fair-share recalculation of pro-rata share escrow amounts and credit be provided to developments according to the updated fair-share calculations. Also, once the signal is installed, credit should be provided from the Countywide Fee Program based on a ratio of fee program unit signal cost divided by the \$700K signal cost.

Please summarize any proposed improvements that will be made by the developer in the findings and conclusions section

FINDINGS AND CONCLUSIONS

- The site is projected to generate about 2,425 new driveway vehicle-trips on the average weekday.
- During the weekday morning peak hour of adjacent street traffic, 73 vehicles would enter the site while 94 vehicles would exit.
- During the weekday afternoon peak hour of adjacent street traffic, 127 vehicles would enter the site while 114 vehicles would exit.
- Projected levels of service would be LOS C or better at all proposed site access locations. Please refer to the “Level of Service” section above for detailed LOS results and discussion regarding all study-area intersections.
- Please refer to the “Auxiliary Turn-Lane Analysis” section for evaluation of potential turn-lane needs at the study-area intersections.
- All internal site access roadways are proposed to be public streets with LSC-recommended classifications (preliminary) of Rural Minor Collector and Rural Local.
- Deviations are not included with this submittal.

* * * * *

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

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

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

JCH/JAB:jas

Enclosures: Table 4
LOS Tables 1-12
Figures 1-3
Vistro Reports
Traffic Count Reports
Synchro LOS Reports

Tables



Table 3: Detailed Trip Generation Estimate

ITE		Value ³	Units ¹	Trip Generation Rates ²				Driveway Trips Generated				% Primary	% Pass-By	% Diverted	External 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
210	Single-Family (Detached) Housing	144	DU	9.80	0.19	0.53	0.61	0.36	1411	27	77	88	52	100%	0%	0%	1411	27	77	88	52
150	Warehouse	190.000	KSF	1.78	0.19	0.06	0.07	0.19	338	36	11	14	35	100%	0%	0%	338	36	11	14	35
821	Strip Retail Plaza w/o Supermarket (40-150 KSF)	10.000	KSF	67.52	1.07	0.66	2.54	2.65	675	11	7	25	26	42%	34%	24%	284	5	3	11	11
								Total	2425	73	94	127	114			Total	2033	67	90	113	98

¹ DU = dwelling units, KSF = 1,000 square feet

² Source: *Trip Generation, 11th Edition (2021)* by the Institute of Transportation Engineers (ITE)

³ Assumes 15% floor-area ratio for retail land uses and 25% for warehouse land uses

Per ECM B.2.4. the peak hour link LOS should be reported for each scenario

Please include second of delay for each movement

A subnote may be added to your table that references the synchro reports have the second of delay for each movement.

Table 1: LOS Summary – US 24 + Judge Orr Road (Short Term)

Traffic Control	Signal		Signal	
	ST Baseline		ST Baseline + Site	
	AM	PM	AM	PM
SW T/R	D	C	D	C
SWL	B	C	B	C
WB	E	D	E	E
NE T/R	B	C	B	D
NEL	B	B	C	C
EB	D	E	D	E
Overall	D	D	D	D

Table 2: LOS Summary – US 24 + Judge Orr Road (Long Term)

Traffic Control	Signal		Signal	
	2043 BG		2043 BG + Site	
	AM	PM	AM	PM
SWR	A	A	A	A
SWT	C	C	C	C
SWL	B	D	B	E
NWR	A	A	A	A
NWT	D	D	D	D
NWL	D	E	E	E
NER	A	A	A	A
NET	B	C	B	C
NEL	D	E	D	E
SER	C	D	C	D
SET	D	D	D	D
SEL	C	C	C	C
Overall	C	C	C	C

Table 3: LOS Summary – US 24 + Stapleton Road

Traffic Control	TWSC		TWSC		Signal		Signal	
	ST Baseline		ST Baseline + Site		2043 BG		2043 BG + Site	
	AM	PM	AM	PM	AM	PM	AM	PM
SWR	free		free		A	B	B	C
SWT	free		free		D	D	D	D
SWL	A	A	A	A	E	E	E	E
NWR	B	B	B	B	A	A	A	A
NWT	E	F	F	F	C	D	D	E
NWL	F	F	F	F	B	C	C	C
NER	free		free		A	A	A	A
NET	free		free		D	C	C	C
NEL	A	A	A	A	E	E	E	D
SER	B	B	B	B	B	C	C	D
SET	F	E	F	F	C	D	D	D
SEL	F	F	F	F	B	C	C	D
Overall					C	C	C	D

Table 4: LOS Summary – US 24 + Elbert Road

Traffic Control	TWSC		TWSC	
	ST Baseline		ST Baseline + Site	
	AM	PM	AM	PM
SWR	free		free	
SWT	free		free	
SWL	A	A	A	A
NWR	A	A	A	A
NWT	C	C	C	D
NWL	C	D	C	D
NER	free		free	
NET	free		free	
NEL	A	A	A	A
SER	A	A	A	A
SET	C	C	C	D
SEL	C	D	C	D

Table 5: LOS Summary – Judge Orr Road + Elbert Road (Background Traffic Only)

Traffic Control	TWSC		TWSC	
	ST Baseline		2043 BG	
	AM	PM	AM	PM
SB	A	A	B	B
WB	free		free	
EB	A	A	A	A

Table 6: LOS Summary – Judge Orr Road + Elbert Road (Background + Site Traffic)

Traffic Control	TWSC		TWSC	
	ST Baseline + Site		2043 BG + Site	
	AM	PM	AM	PM
SB	B	B	B	C
WBR	free		free	
WB T/L	A	A	A	A
NB	B	B	B	C
EBR	free		free	
EB T/L	A	A	A	A

Table 7: LOS Summary – Judge Orr Road + East Site Access

Traffic Control	TWSC		TWSC		TWSC		TWSC	
	ST Baseline		ST Baseline + Site		2043 BG		2043 BG + Site	
	AM	PM	AM	PM	AM	PM	AM	PM
NB			B	B			B	C
WB	free		free		free		free	
EB	free		A	A			A	A

Table 8: LOS Summary – Judge Orr Road + Curtis Road/Stapleton Road (Short Term)

Traffic Control	TWSC		TWSC	
	ST Baseline		ST Baseline + Site	
	AM	PM	AM	PM
SB T/R	C	B	C	C
SBL	B	C	C	E
WB T/R	free		free	
WBL	A	A	A	A
NB T/R	B	C	B	C
NBL	C	C	C	C
EBR	free		free	
EB T/L	A	A	A	A

Table 9: LOS Summary – Judge Orr Road + Curtis Road/Stapleton Road (LongTerm)

Traffic Control	Roundabout		Roundabout	
	2043 BG		2043 BG + Site	
	AM	PM	AM	PM
SB T/L	A	A	A	A
SB T/R	A	A	A	A
WB T/L	A	A	A	B
WB T/R	A	A	A	A
NB T/L	A	B	A	B
NB T/R	A	B	A	B
EB T/L	A	A	A	A
EB T/R	A	A	A	A
Overall	A	A	A	A

Figures



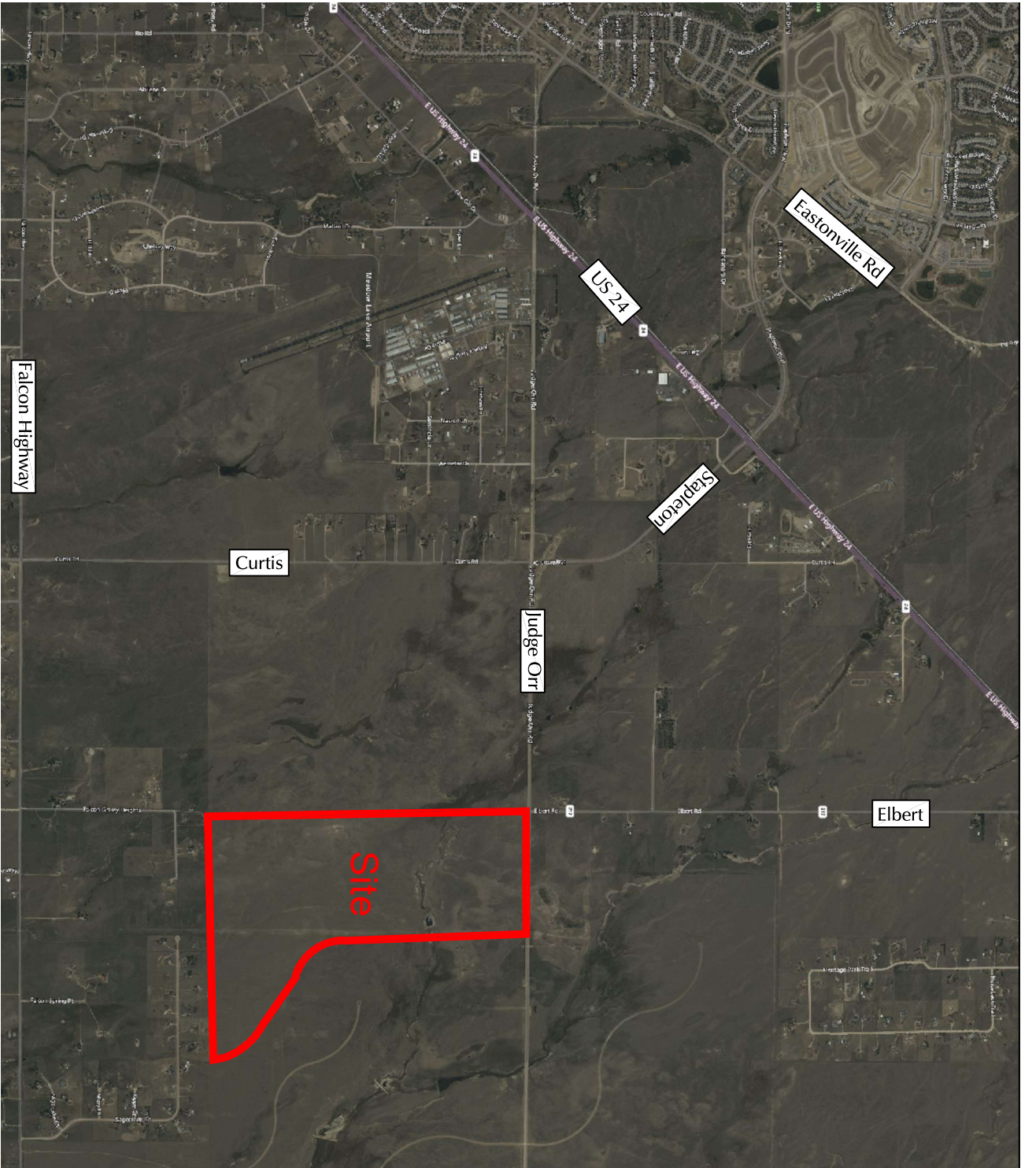


Figure 1

Vicinity Map

Esteban Rodriguez Sketch Plan (LSC# S22.4630)

Approximate
Scale
1" = 1,000'

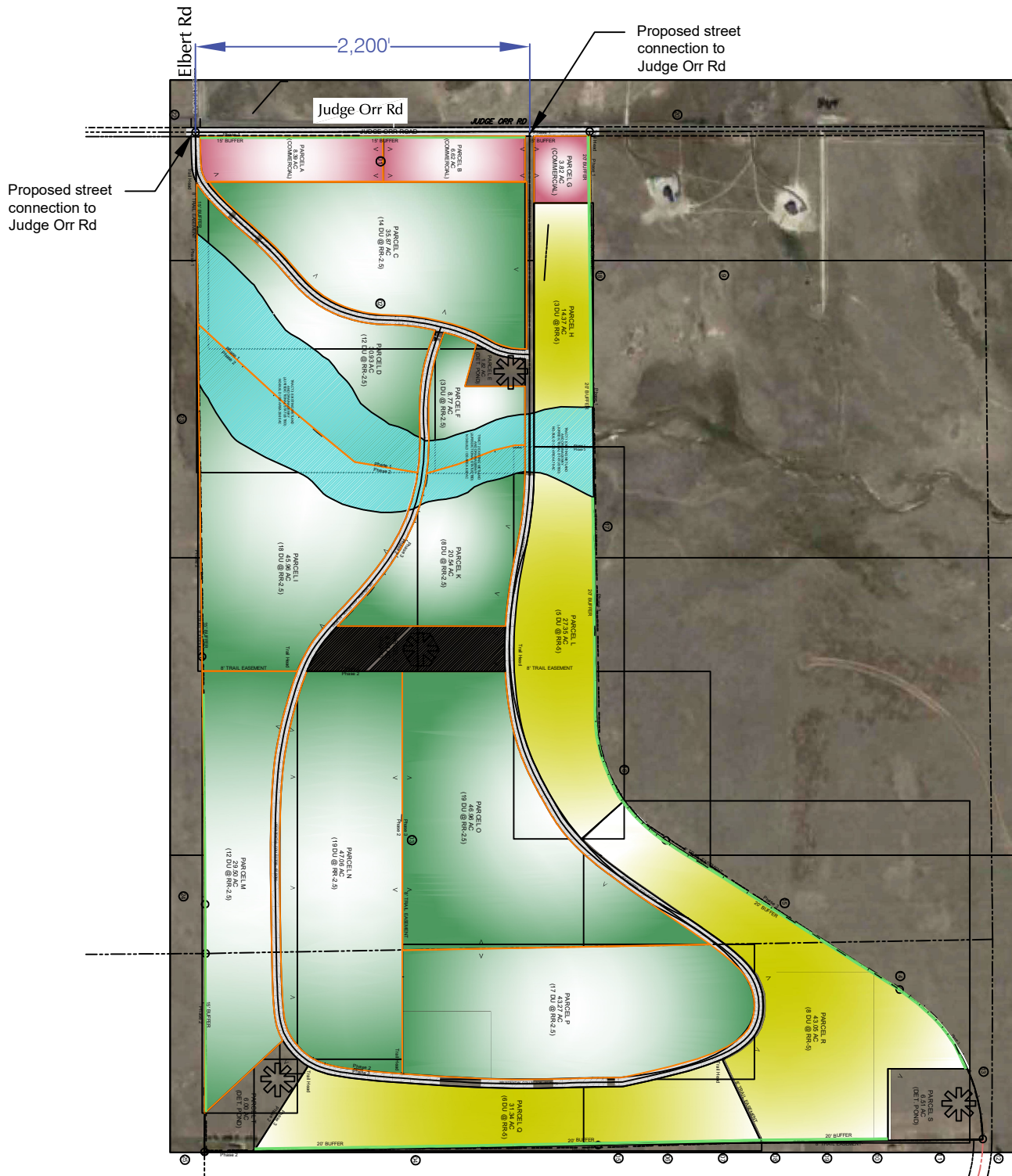
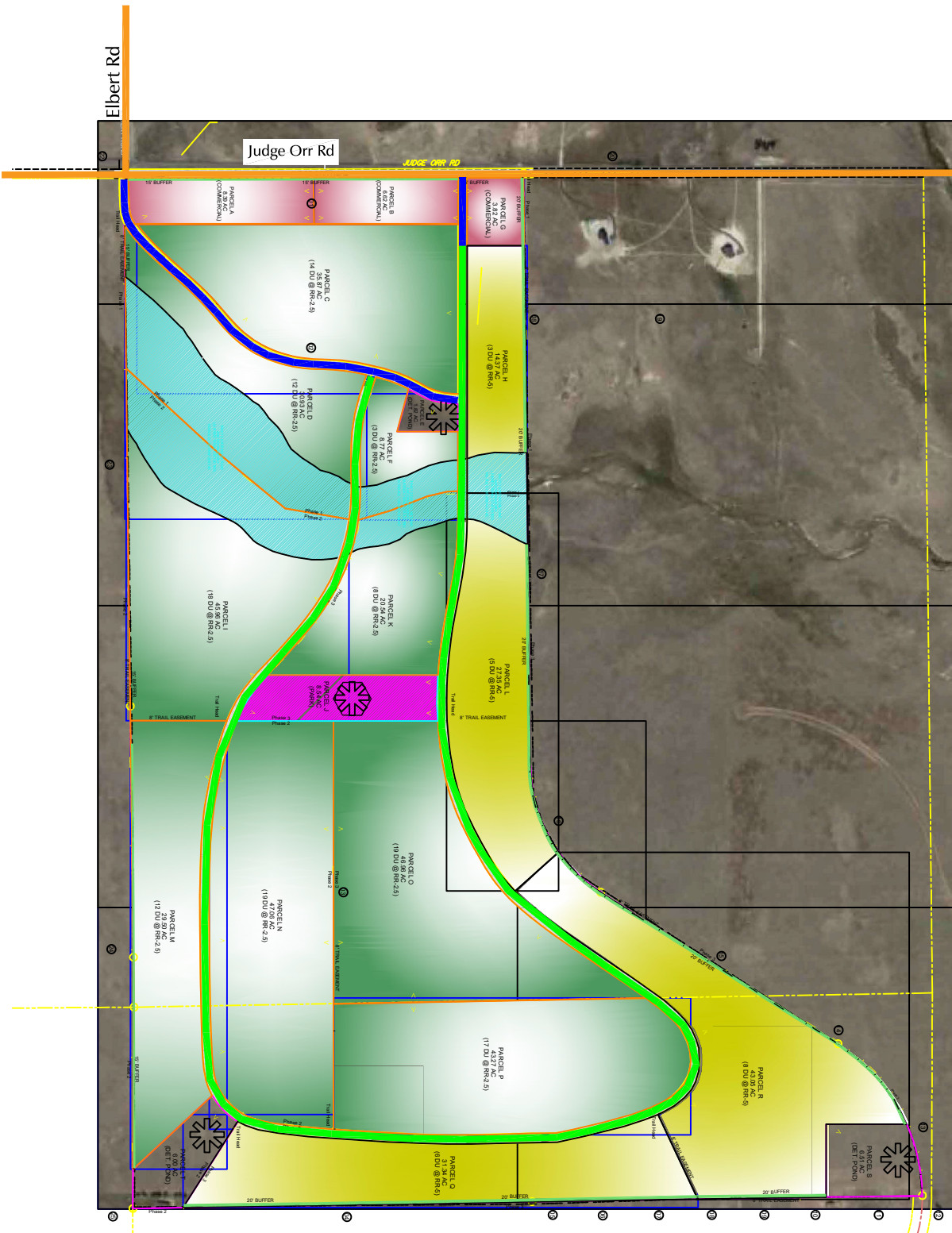


Figure 2
Site Plan

Esteban Rodriguez Sketch Plan (LSC# S224630)



Approximate
Scale
1" = 1,000'



- Rural Local
- Rural Minor Collector
- Rural Minor Arterial

Figure 3
Roadway Classifications

Esteban Rodriguez Sketch Plan (LSC# S224630)



Traffic Counts



LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
 Colorado Springs, CO 80909
 719-633-2868

File Name : Curtis Rd - Judge Orr Rd AM

Site Code : S214950

Start Date : 4/21/2022

Page No : 1

Groups Printed- Unshifted

Start Time	Curtis Rd Southbound					Judge Orr Rd Westbound					Curtis Rd Northbound					Judge Orr Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
06:30	0	15	0	0	15	1	8	0	0	9	0	3	1	0	4	4	2	0	0	6	34
06:35	0	13	1	0	14	1	10	1	0	12	0	2	2	0	4	6	1	0	0	7	37
06:40	0	14	0	0	14	0	11	1	0	12	0	4	1	0	5	4	2	0	0	6	37
06:45	0	12	1	0	13	2	12	1	0	15	0	5	3	0	8	5	1	0	0	6	42
06:50	0	14	0	0	14	4	6	0	0	10	0	5	1	0	6	4	5	0	0	9	39
06:55	0	14	2	0	16	0	9	4	0	13	0	2	2	0	4	4	3	0	0	7	40
Total	0	82	4	0	86	8	56	7	0	71	0	21	10	0	31	27	14	0	0	41	229
07:00	0	13	0	0	13	1	9	2	0	12	0	11	2	0	13	4	4	0	0	8	46
07:05	0	13	0	0	13	5	16	2	0	23	0	6	3	0	9	6	3	0	0	9	54
07:10	0	18	0	0	18	2	9	1	0	12	0	9	4	0	13	9	3	0	0	12	55
07:15	0	16	0	0	16	6	11	4	0	21	0	9	2	0	11	7	3	0	0	10	58
07:20	0	15	0	0	15	1	9	1	0	11	0	9	4	0	13	7	3	0	0	10	49
07:25	0	9	1	0	10	5	11	1	0	17	0	7	4	0	11	8	2	0	0	10	48
07:30	0	20	0	0	20	1	8	1	0	10	0	4	2	0	6	7	4	1	0	12	48
07:35	0	9	1	0	10	3	7	2	0	12	0	5	3	0	8	9	1	0	0	10	40
07:40	0	13	3	0	16	3	9	0	0	12	0	5	5	0	10	9	2	0	0	11	49
07:45	0	18	0	0	18	1	7	1	0	9	0	3	2	0	5	5	1	1	0	7	39
07:50	0	13	1	0	14	0	12	0	0	12	0	3	1	0	4	4	2	0	0	6	36
07:55	1	11	1	0	13	2	13	1	0	16	1	5	5	0	11	3	2	0	0	5	45
Total	1	168	7	0	176	30	121	16	0	167	1	76	37	0	114	78	30	2	0	110	567
08:00	1	8	1	0	10	1	4	1	0	6	0	3	3	0	6	2	2	0	0	4	26
08:05	0	8	3	0	11	2	6	1	0	9	0	2	0	0	2	1	2	0	0	3	25
08:10	0	1	3	0	4	1	8	0	0	9	0	3	0	0	3	2	3	1	0	6	22
08:15	0	7	1	0	8	0	6	1	0	7	0	3	1	0	4	1	4	0	0	5	24
08:20	0	6	2	0	8	3	9	0	0	12	0	7	1	0	8	4	3	0	0	7	35
08:25	1	4	0	0	5	0	6	0	0	6	2	4	0	0	6	2	6	0	0	8	25
Grand Total	3	284	21	0	308	45	216	26	0	287	3	119	52	0	174	117	64	3	0	184	953
Apprch %	1	92.2	6.8	0		15.7	75.3	9.1	0		1.7	68.4	29.9	0		63.6	34.8	1.6	0		
Total %	0.3	29.8	2.2	0	32.3	4.7	22.7	2.7	0	30.1	0.3	12.5	5.5	0	18.3	12.3	6.7	0.3	0	19.3	

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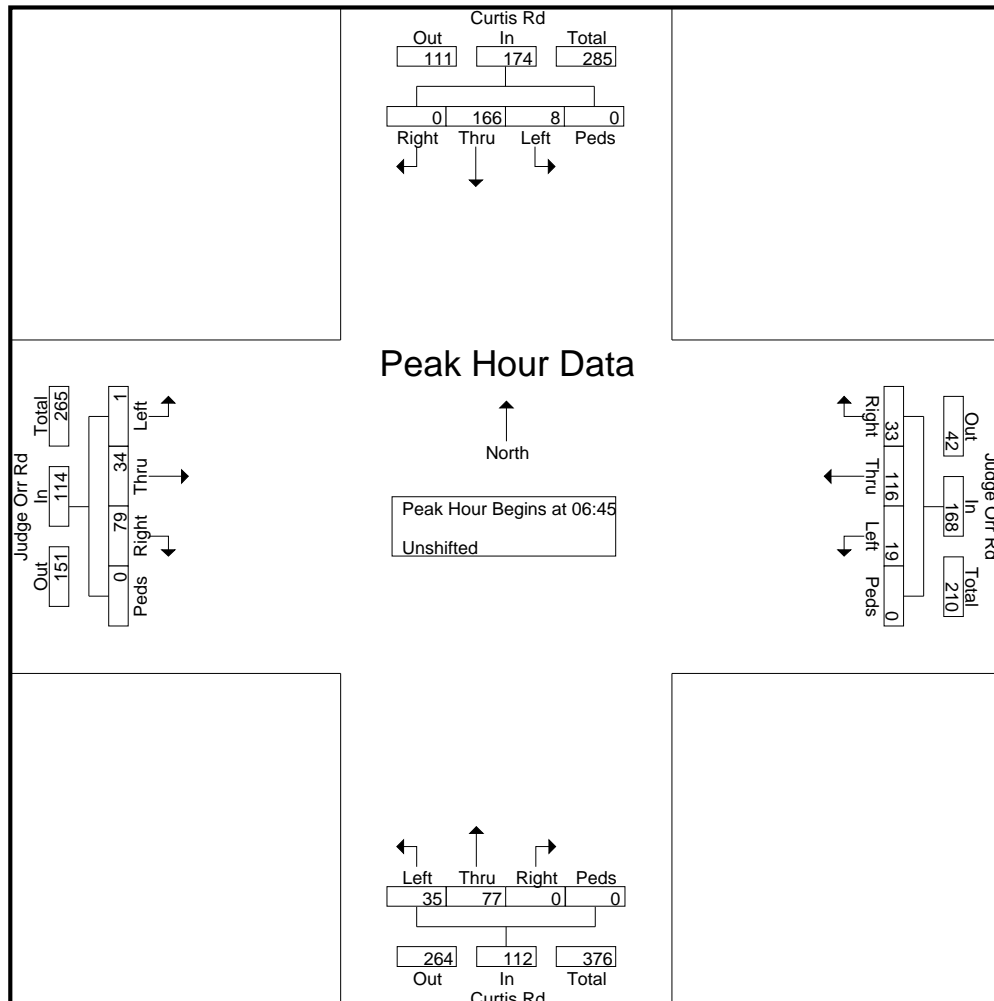
File Name : Curtis Rd - Judge Orr Rd AM

Site Code : S214950

Start Date : 4/21/2022

Page No : 2

Start Time	Curtis Rd Southbound					Judge Orr Rd Westbound					Curtis Rd Northbound					Judge Orr Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 06:30 to 08:25 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:45																					
06:45	0	12	1	0	13	2	12	1	0	15	0	5	3	0	8	5	1	0	0	6	42
06:50	0	14	0	0	14	4	6	0	0	10	0	5	1	0	6	4	5	0	0	9	39
06:55	0	14	2	0	16	0	9	4	0	13	0	2	2	0	4	4	3	0	0	7	40
07:00	0	13	0	0	13	1	9	2	0	12	0	11	2	0	13	4	4	0	0	8	46
07:05	0	13	0	0	13	5	16	2	0	23	0	6	3	0	9	6	3	0	0	9	54
07:10	0	18	0	0	18	2	9	1	0	12	0	9	4	0	13	9	3	0	0	12	55
07:15	0	16	0	0	16	6	11	4	0	21	0	9	2	0	11	7	3	0	0	10	58
07:20	0	15	0	0	15	1	9	1	0	11	0	9	4	0	13	7	3	0	0	10	49
07:25	0	9	1	0	10	5	11	1	0	17	0	7	4	0	11	8	2	0	0	10	48
07:30	0	20	0	0	20	1	8	1	0	10	0	4	2	0	6	7	4	1	0	12	48
07:35	0	9	1	0	10	3	7	2	0	12	0	5	3	0	8	9	1	0	0	10	40
07:40	0	13	3	0	16	3	9	0	0	12	0	5	5	0	10	9	2	0	0	11	49
Total Volume	0	166	8	0	174	33	116	19	0	168	0	77	35	0	112	79	34	1	0	114	568
% App. Total	0	95.4	4.6	0		19.6	69	11.3	0		0	68.8	31.2	0		69.3	29.8	0.9	0		
PHF	.000	.692	.222	.000	.725	.458	.604	.396	.000	.609	.000	.583	.583	.000	.718	.731	.567	.083	.000	.792	.816



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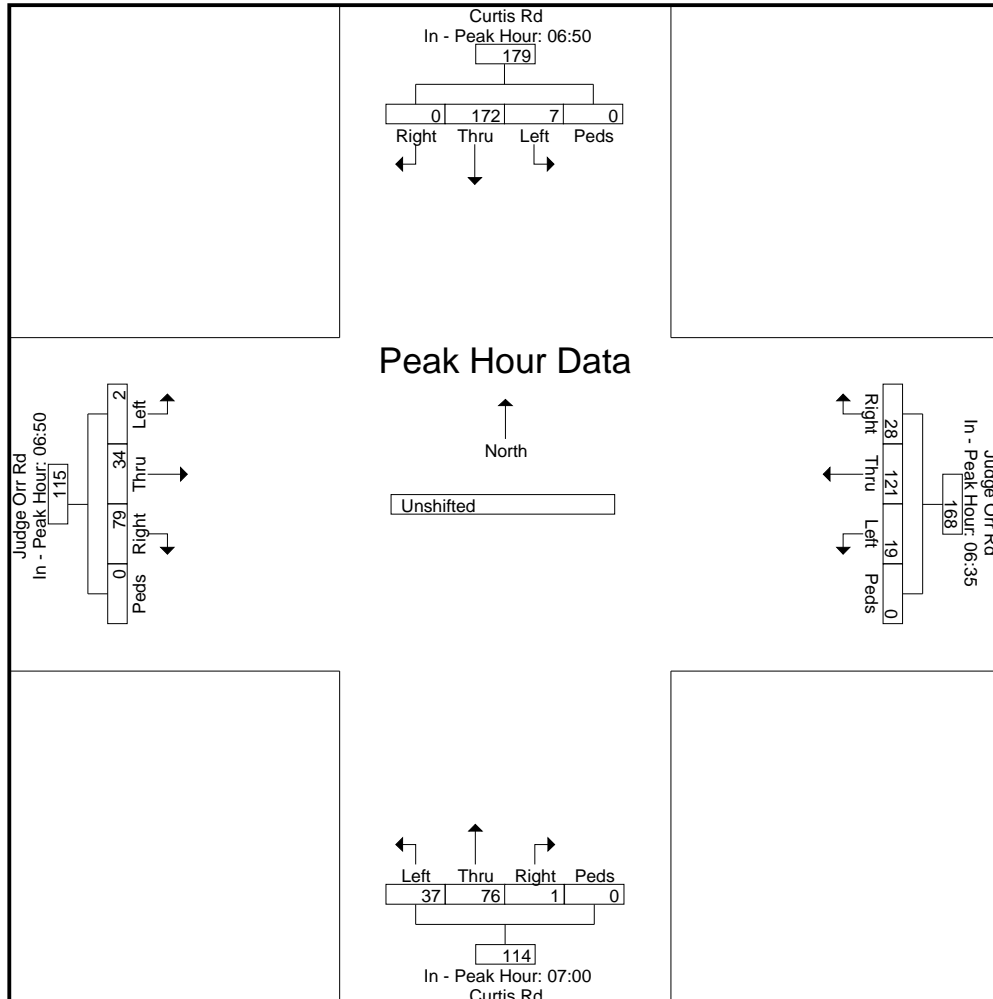
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Start Time	Curtis Rd Southbound					Judge Orr Rd Westbound					Curtis Rd Northbound					Judge Orr Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	

Peak Hour Analysis From 06:30 to 08:25 - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	06:50					06:35					07:00					06:50				
+0 mins.	0	14	0	0	14	1	10	1	0	12	0	11	2	0	13	4	5	0	0	9
+5 mins.	0	14	2	0	16	0	11	1	0	12	0	6	3	0	9	4	3	0	0	7
+10 mins.	0	13	0	0	13	2	12	1	0	15	0	9	4	0	13	4	4	0	0	8
+15 mins.	0	13	0	0	13	4	6	0	0	10	0	9	2	0	11	6	3	0	0	9
+20 mins.	0	18	0	0	18	0	9	4	0	13	0	9	4	0	13	9	3	0	0	12
+25 mins.	0	16	0	0	16	1	9	2	0	12	0	7	4	0	11	7	3	0	0	10
+30 mins.	0	15	0	0	15	5	16	2	0	23	0	4	2	0	6	7	3	0	0	10
+35 mins.	0	9	1	0	10	2	9	1	0	12	0	5	3	0	8	8	2	0	0	10
+40 mins.	0	20	0	0	20	6	11	4	0	21	0	5	5	0	10	7	4	1	0	12
+45 mins.	0	9	1	0	10	1	9	1	0	11	0	3	2	0	5	9	1	0	0	10
+50 mins.	0	13	3	0	16	5	11	1	0	17	0	3	1	0	4	9	2	0	0	11
+55 mins.	0	18	0	0	18	1	8	1	0	10	1	5	5	0	11	5	1	1	0	7
Total Volume	0	172	7	0	179	28	121	19	0	168	1	76	37	0	114	79	34	2	0	115
% App. Total	0	96.1	3.9	0		16.7	72	11.3	0		0.9	66.7	32.5	0		68.7	29.6	1.7	0	
PHF	.000	.717	.194	.000	.746	.389	.630	.396	.000	.609	.083	.576	.617	.000	.731	.731	.567	.167	.000	.799



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Groups Printed- Unshifted

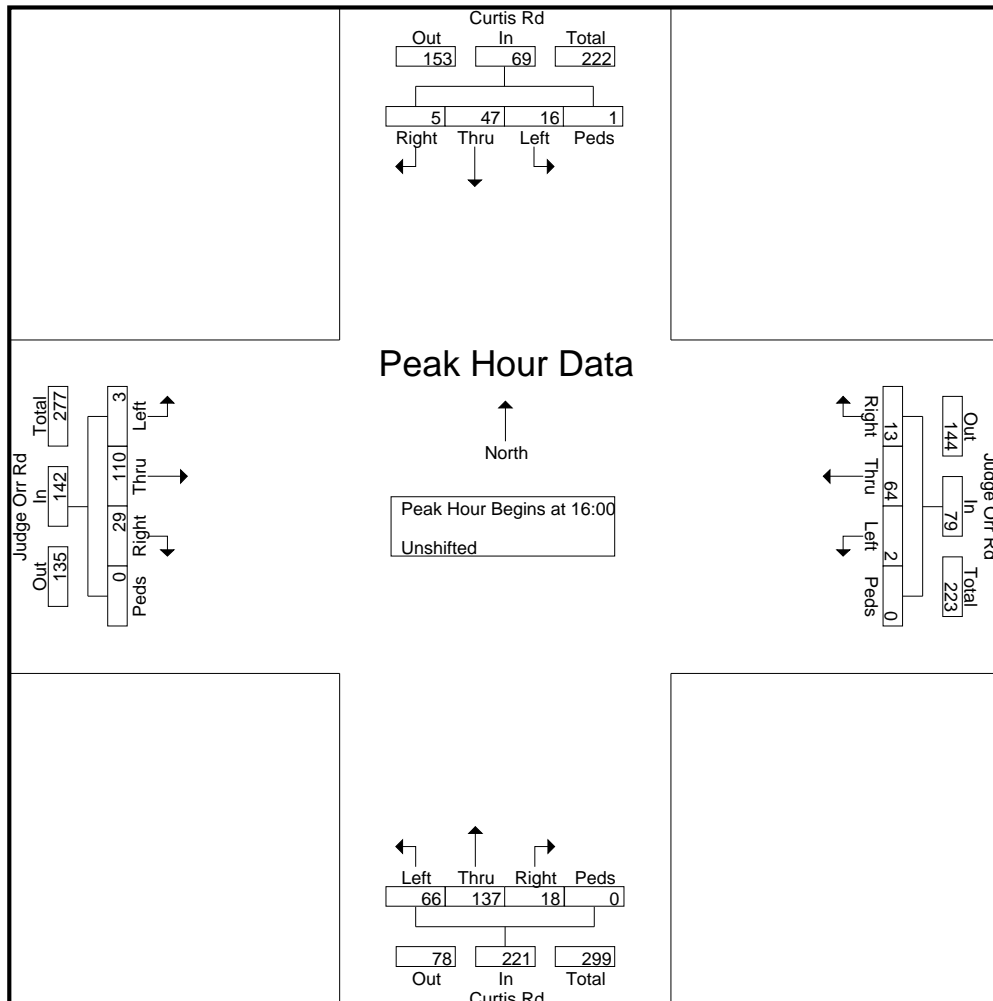
Start Time	Curtis Rd Southbound					Judge Orr Rd Westbound					Curtis Rd Northbound					Judge Orr Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
16:00	1	4	1	0	6	0	7	0	0	7	0	11	4	0	15	3	10	0	0	13	41
16:05	1	5	2	1	9	1	8	0	0	9	0	12	8	0	20	2	9	0	0	11	49
16:10	0	3	1	0	4	0	10	1	0	11	2	10	3	0	15	4	12	0	0	16	46
16:15	0	4	1	0	5	1	3	1	0	5	1	11	3	0	15	3	8	0	0	11	36
16:20	1	5	0	0	6	1	5	0	0	6	3	11	9	0	23	3	10	0	0	13	48
16:25	0	1	1	0	2	2	5	0	0	7	0	16	6	0	22	3	3	0	0	6	37
16:30	0	4	2	0	6	2	6	0	0	8	1	9	5	0	15	1	16	1	0	18	47
16:35	0	1	1	0	2	1	3	0	0	4	1	13	3	0	17	4	9	1	0	14	37
16:40	0	6	2	0	8	2	2	0	0	4	3	8	5	0	16	2	5	0	0	7	35
16:45	0	7	1	0	8	1	3	0	0	4	3	9	5	0	17	1	7	0	0	8	37
16:50	1	4	3	0	8	2	7	0	0	9	1	15	10	0	26	2	14	1	0	17	60
16:55	1	3	1	0	5	0	5	0	0	5	3	12	5	0	20	1	7	0	0	8	38
Total	5	47	16	1	69	13	64	2	0	79	18	137	66	0	221	29	110	3	0	142	511
17:00	0	3	2	0	5	0	4	0	0	4	2	9	3	0	14	4	11	0	0	15	38
17:05	0	2	1	0	3	4	4	0	0	8	3	21	3	0	27	0	5	0	0	5	43
17:10	0	4	1	0	5	0	2	0	0	2	1	11	5	0	17	1	16	1	0	18	42
17:15	1	7	0	0	8	0	4	0	0	4	1	8	3	0	12	2	8	0	0	10	34
17:20	0	6	2	0	8	2	5	0	0	7	1	9	3	0	13	3	8	1	0	12	40
17:25	0	2	0	0	2	1	6	0	0	7	0	6	5	0	11	3	6	0	0	9	29
17:30	0	1	2	0	3	2	3	0	0	5	0	7	1	0	8	3	15	0	0	18	34
17:35	0	5	4	0	9	1	3	0	0	4	0	7	2	0	9	3	7	0	0	10	32
17:40	1	4	3	0	8	2	5	0	0	7	2	3	3	0	8	0	14	0	0	14	37
17:45	1	4	5	0	10	0	9	0	0	9	0	7	2	0	9	3	12	0	0	15	43
17:50	0	6	2	0	8	0	7	1	0	8	0	3	2	0	5	0	4	1	0	5	26
17:55	0	3	2	0	5	0	3	0	0	3	1	8	0	0	9	0	7	0	0	7	24
Total	3	47	24	0	74	12	55	1	0	68	11	99	32	0	142	22	113	3	0	138	422
Grand Total	8	94	40	1	143	25	119	3	0	147	29	236	98	0	363	51	223	6	0	280	933
Apprch %	5.6	65.7	28	0.7		17	81	2	0		8	65	27	0		18.2	79.6	2.1	0		
Total %	0.9	10.1	4.3	0.1	15.3	2.7	12.8	0.3	0	15.8	3.1	25.3	10.5	0	38.9	5.5	23.9	0.6	0	30	

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File Name : Curtis Rd - Judge Orr Rd PM
 Site Code : S214950
 Start Date : 4/21/2022
 Page No : 2

Start Time	Curtis Rd Southbound					Judge Orr Rd Westbound					Curtis Rd Northbound					Judge Orr Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 16:00 to 17:55 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	1	4	1	0	6	0	7	0	0	7	0	11	4	0	15	3	10	0	0	13	41
16:05	1	5	2	1	9	1	8	0	0	9	0	12	8	0	20	2	9	0	0	11	49
16:10	0	3	1	0	4	0	10	1	0	11	2	10	3	0	15	4	12	0	0	16	46
16:15	0	4	1	0	5	1	3	1	0	5	1	11	3	0	15	3	8	0	0	11	36
16:20	1	5	0	0	6	1	5	0	0	6	3	11	9	0	23	3	10	0	0	13	48
16:25	0	1	1	0	2	2	5	0	0	7	0	16	6	0	22	3	3	0	0	6	37
16:30	0	4	2	0	6	2	6	0	0	8	1	9	5	0	15	1	16	1	0	18	47
16:35	0	1	1	0	2	1	3	0	0	4	1	13	3	0	17	4	9	1	0	14	37
16:40	0	6	2	0	8	2	2	0	0	4	3	8	5	0	16	2	5	0	0	7	35
16:45	0	7	1	0	8	1	3	0	0	4	3	9	5	0	17	1	7	0	0	8	37
16:50	1	4	3	0	8	2	7	0	0	9	1	15	10	0	26	2	14	1	0	17	60
16:55	1	3	1	0	5	0	5	0	0	5	3	12	5	0	20	1	7	0	0	8	38
Total Volume	5	47	16	1	69	13	64	2	0	79	18	137	66	0	221	29	110	3	0	142	511
% App. Total	7.2	68.1	23.2	1.4		16.5	81	2.5	0		8.1	62	29.9	0		20.4	77.5	2.1	0		
PHF	.417	.560	.444	.083	.639	.542	.533	.167	.000	.598	.500	.714	.550	.000	.708	.604	.573	.250	.000	.657	.710

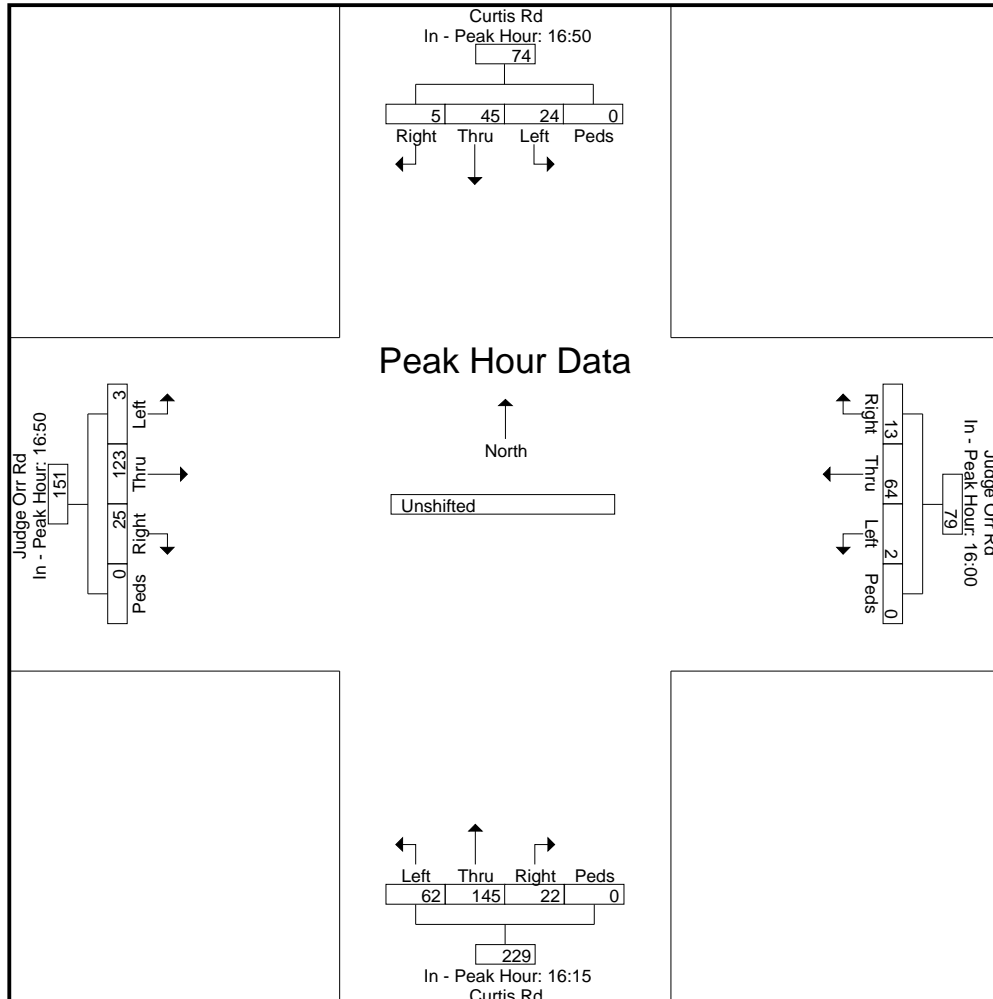


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 719-633-2868

File Name : Curtis Rd - Judge Orr Rd PM
 Site Code : S214950
 Start Date : 4/21/2022
 Page No : 3

Start Time	Curtis Rd Southbound					Judge Orr Rd Westbound					Curtis Rd Northbound					Judge Orr Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 16:00 to 17:55 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	16:50					16:00					16:15					16:50					
+0 mins.	1	4	3	0	8	0	7	0	0	7	1	11	3	0	15	2	14	1	0	17	
+5 mins.	1	3	1	0	5	1	8	0	0	9	3	11	9	0	23	1	7	0	0	8	
+10 mins.	0	3	2	0	5	0	10	1	0	11	0	16	6	0	22	4	11	0	0	15	
+15 mins.	0	2	1	0	3	1	3	1	0	5	1	9	5	0	15	0	5	0	0	5	
+20 mins.	0	4	1	0	5	1	5	0	0	6	1	13	3	0	17	1	16	1	0	18	
+25 mins.	1	7	0	0	8	2	5	0	0	7	3	8	5	0	16	2	8	0	0	10	
+30 mins.	0	6	2	0	8	2	6	0	0	8	3	9	5	0	17	3	8	1	0	12	
+35 mins.	0	2	0	0	2	1	3	0	0	4	1	15	10	0	26	3	6	0	0	9	
+40 mins.	0	1	2	0	3	2	2	0	0	4	3	12	5	0	20	3	15	0	0	18	
+45 mins.	0	5	4	0	9	1	3	0	0	4	2	9	3	0	14	3	7	0	0	10	
+50 mins.	1	4	3	0	8	2	7	0	0	9	3	21	3	0	27	0	14	0	0	14	
+55 mins.	1	4	5	0	10	0	5	0	0	5	1	11	5	0	17	3	12	0	0	15	
Total Volume	5	45	24	0	74	13	64	2	0	79	22	145	62	0	229	25	123	3	0	151	
% App. Total	6.8	60.8	32.4	0		16.5	81	2.5	0		9.6	63.3	27.1	0		16.6	81.5	2	0		
PHF	.417	.536	.400	.000	.617	.542	.533	.167	.000	.598	.611	.575	.517	.000	.707	.521	.641	.250	.000	.699	



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2504 E. Pikes Peak Ave, Suite 304
 Colorado Springs, CO 80909
 719-633-2868

File Name : Elbert Rd - Judge Orr Rd AM 1-23

Site Code : S224640

Start Date : 1/11/2023

Page No : 1

Groups Printed- Unshifted

Start Time	Elbert Rd Southbound					Judge Orr Rd Westbound					Northbound					Judge Orr Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
06:30	1	0	1	0	2	0	15	0	0	15	0	0	0	0	0	0	3	0	0	3	20
06:35	0	0	1	0	1	1	6	0	0	7	0	0	0	0	0	0	1	0	0	1	9
06:40	0	0	0	0	0	1	14	0	0	15	0	0	0	0	0	0	1	1	0	2	17
06:45	0	0	2	0	2	0	11	0	0	11	0	0	0	0	0	0	1	0	0	1	14
06:50	0	0	0	0	0	3	8	0	0	11	0	0	0	0	0	0	1	0	0	1	12
06:55	1	0	0	0	1	2	8	0	0	10	0	0	0	0	0	0	3	0	0	3	14
Total	2	0	4	0	6	7	62	0	0	69	0	0	0	0	0	0	10	1	0	11	86
07:00	1	0	0	0	1	1	10	0	0	11	0	0	0	0	0	0	6	0	0	6	18
07:05	0	0	0	0	0	2	13	0	0	15	0	0	0	0	0	0	2	0	0	2	17
07:10	0	0	1	0	1	2	20	0	0	22	0	0	0	0	0	0	1	0	0	1	24
07:15	2	0	0	0	2	1	14	0	0	15	0	0	0	0	0	0	4	0	0	4	21
07:20	0	0	0	0	0	2	11	0	0	13	0	0	0	0	0	0	3	0	0	3	16
07:25	0	0	1	0	1	0	14	0	0	14	0	0	0	0	0	0	4	0	0	4	19
07:30	1	0	1	0	2	1	15	0	0	16	0	0	0	0	0	0	1	0	0	1	19
07:35	2	0	1	0	3	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	11
07:40	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	6	0	0	6	20
07:45	2	0	0	0	2	0	11	0	0	11	0	0	0	0	0	0	2	0	0	2	15
07:50	0	0	0	0	0	3	8	0	0	11	0	0	0	0	0	0	4	0	0	4	15
07:55	1	0	0	0	1	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	10
Total	9	0	4	0	13	12	142	0	0	154	0	0	0	0	0	0	38	0	0	38	205
08:00	1	0	0	0	1	3	5	0	0	8	0	0	0	0	0	0	3	0	0	3	12
08:05	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	2	0	0	2	9
08:10	1	0	0	0	1	1	12	0	0	13	0	0	0	0	0	0	4	0	0	4	18
08:15	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	1	1	0	2	11
08:20	0	0	1	0	1	0	9	0	0	9	0	0	0	0	0	0	4	1	0	5	15
08:25	1	0	0	0	1	2	5	0	0	7	0	0	0	0	0	0	3	0	0	3	11
Grand Total	14	0	9	0	23	25	251	0	0	276	0	0	0	0	0	0	65	3	0	68	367
Apprch %	60.9	0	39.1	0		9.1	90.9	0	0		0	0	0	0		0	95.6	4.4	0		
Total %	3.8	0	2.5	0	6.3	6.8	68.4	0	0	75.2	0	0	0	0	0	0	17.7	0.8	0	18.5	

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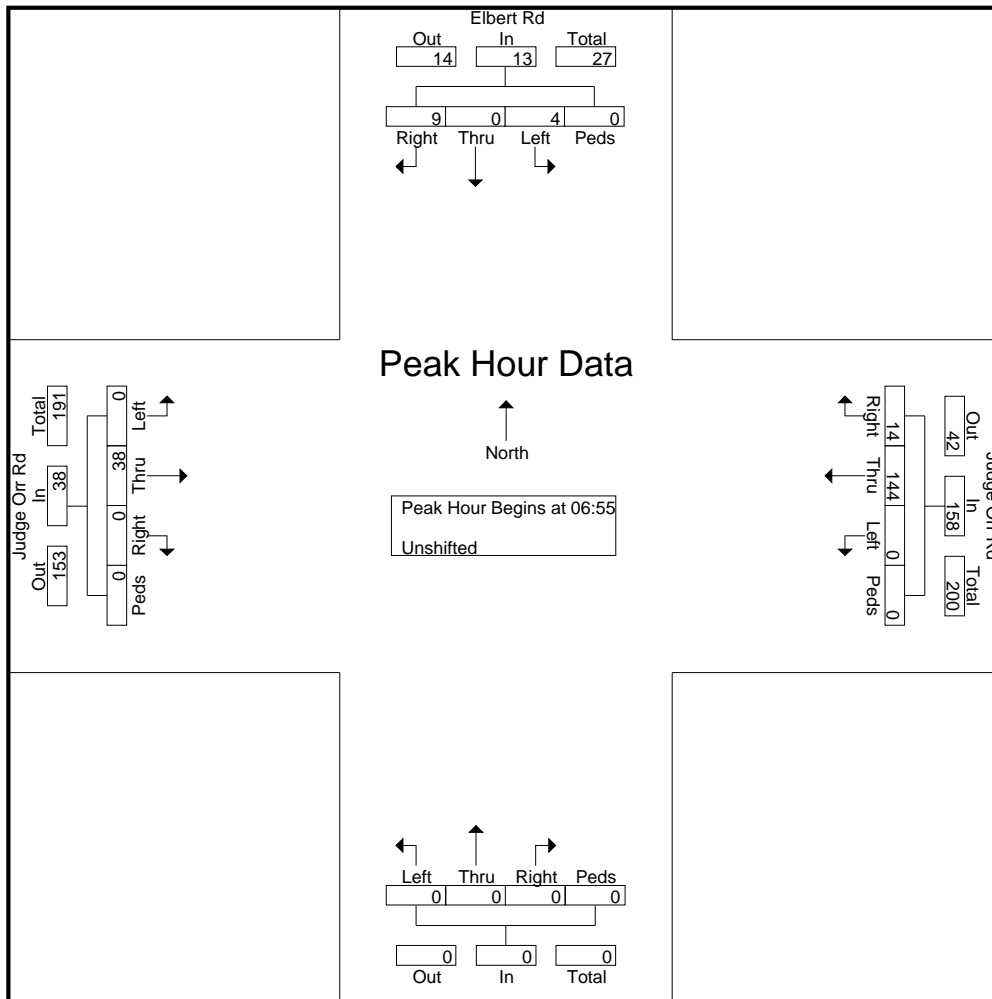
File Name : Elbert Rd - Judge Orr Rd AM 1-23

Site Code : S224640

Start Date : 1/11/2023

Page No : 2

Start Time	Elbert Rd Southbound					Judge Orr Rd Westbound					Northbound					Judge Orr Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 06:30 to 08:25 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:55																					
06:55	1	0	0	0	1	2	8	0	0	10	0	0	0	0	0	0	3	0	0	3	14
07:00	1	0	0	0	1	1	10	0	0	11	0	0	0	0	0	0	6	0	0	6	18
07:05	0	0	0	0	0	2	13	0	0	15	0	0	0	0	0	0	2	0	0	2	17
07:10	0	0	1	0	1	2	20	0	0	22	0	0	0	0	0	0	1	0	0	1	24
07:15	2	0	0	0	2	1	14	0	0	15	0	0	0	0	0	0	4	0	0	4	21
07:20	0	0	0	0	0	2	11	0	0	13	0	0	0	0	0	0	3	0	0	3	16
07:25	0	0	1	0	1	0	14	0	0	14	0	0	0	0	0	0	4	0	0	4	19
07:30	1	0	1	0	2	1	15	0	0	16	0	0	0	0	0	0	1	0	0	1	19
07:35	2	0	1	0	3	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	11
07:40	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	6	0	0	6	20
07:45	2	0	0	0	2	0	11	0	0	11	0	0	0	0	0	0	2	0	0	2	15
07:50	0	0	0	0	0	3	8	0	0	11	0	0	0	0	0	0	4	0	0	4	15
Total Volume	9	0	4	0	13	14	144	0	0	158	0	0	0	0	0	0	38	0	0	38	209
% App. Total	69.2	0	30.8	0		8.9	91.1	0	0		0	0	0	0		0	100	0	0		
PHF	.375	.000	.333	.000	.361	.389	.600	.000	.000	.598	.000	.000	.000	.000	.000	.000	.528	.000	.000	.528	.726



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File Name : Elbert Rd - Judge Orr Rd AM 1-23

Site Code : S224640

Start Date : 1/11/2023

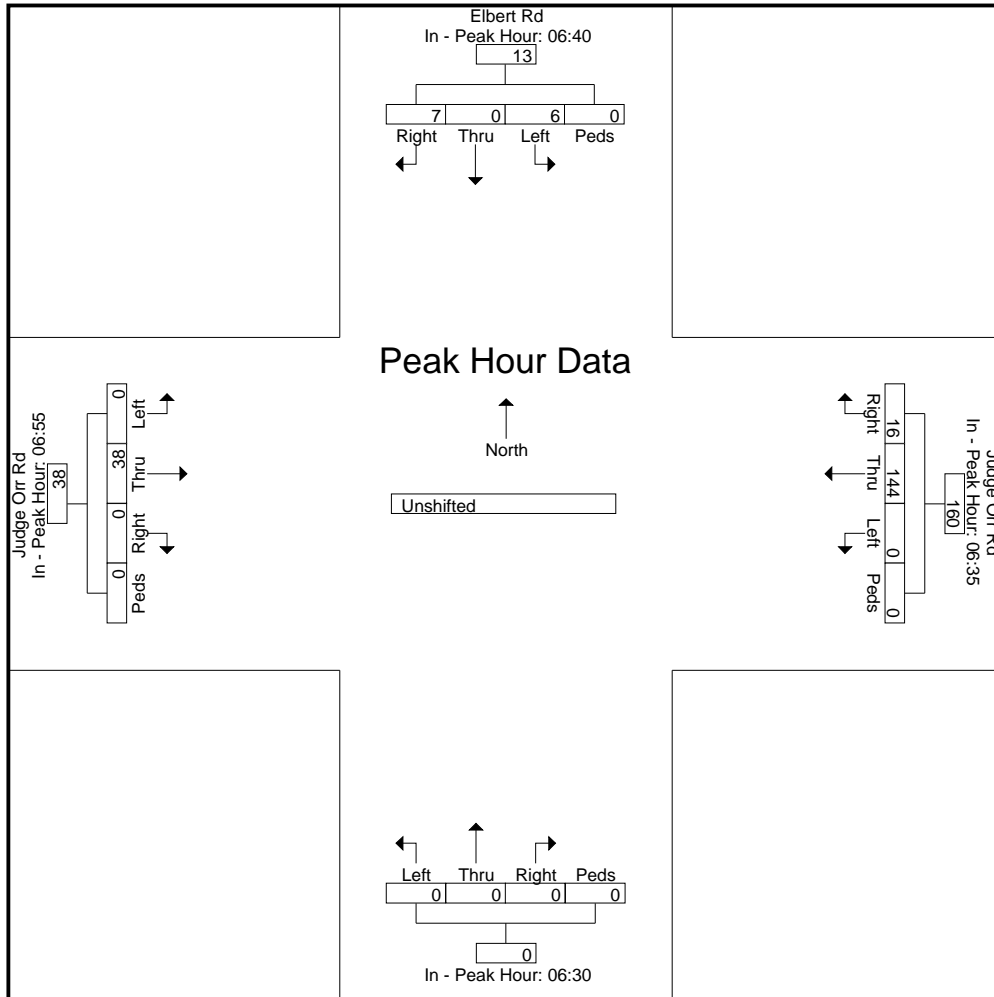
Page No : 3

Start Time	Elbert Rd Southbound					Judge Orr Rd Westbound					Northbound					Judge Orr Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	

Peak Hour Analysis From 06:30 to 08:25 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	06:40					06:35					06:30					06:55				
+0 mins.	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	0	3	0	0	3
+5 mins.	0	0	2	0	2	1	14	0	0	15	0	0	0	0	0	0	6	0	0	6
+10 mins.	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	2	0	0	2
+15 mins.	1	0	0	0	1	3	8	0	0	11	0	0	0	0	0	0	1	0	0	1
+20 mins.	1	0	0	0	1	2	8	0	0	10	0	0	0	0	0	0	4	0	0	4
+25 mins.	0	0	0	0	0	1	10	0	0	11	0	0	0	0	0	0	3	0	0	3
+30 mins.	0	0	1	0	1	2	13	0	0	15	0	0	0	0	0	0	4	0	0	4
+35 mins.	2	0	0	0	2	2	20	0	0	22	0	0	0	0	0	0	1	0	0	1
+40 mins.	0	0	0	0	0	1	14	0	0	15	0	0	0	0	0	0	2	0	0	2
+45 mins.	0	0	1	0	1	2	11	0	0	13	0	0	0	0	0	0	6	0	0	6
+50 mins.	1	0	1	0	2	0	14	0	0	14	0	0	0	0	0	0	2	0	0	2
+55 mins.	2	0	1	0	3	1	15	0	0	16	0	0	0	0	0	0	4	0	0	4
Total Volume	7	0	6	0	13	16	144	0	0	160	0	0	0	0	0	0	38	0	0	38
% App. Total	53.8	0	46.2	0		10	90	0	0		0	0	0	0		0	100	0	0	
PHF	.292	.000	.250	.000	.361	.444	.600	.000	.000	.606	.000	.000	.000	.000	.000	.000	.528	.000	.000	.528



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 Colorado Springs, CO 80909
 719-633-2868

File Name : Elbert Rd - Judge Orr Rd AM PM

Site Code : S224640

Start Date : 1/11/2023

Page No : 1

Groups Printed- Unshifted

Start Time	Elbert Rd Southbound					Judge Orr Rd Westbound					Northbound					Judge Orr Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
06:30	1	0	1	0	2	0	15	0	0	15	0	0	0	0	0	0	3	0	0	3	20
06:35	0	0	1	0	1	1	6	0	0	7	0	0	0	0	0	0	1	0	0	1	9
06:40	0	0	0	0	0	1	14	0	0	15	0	0	0	0	0	0	1	1	0	2	17
06:45	0	0	2	0	2	0	11	0	0	11	0	0	0	0	0	0	1	0	0	1	14
06:50	0	0	0	0	0	3	8	0	0	11	0	0	0	0	0	0	1	0	0	1	12
06:55	1	0	0	0	1	2	8	0	0	10	0	0	0	0	0	0	3	0	0	3	14
Total	2	0	4	0	6	7	62	0	0	69	0	0	0	0	0	0	10	1	0	11	86
07:00	1	0	0	0	1	1	10	0	0	11	0	0	0	0	0	0	6	0	0	6	18
07:05	0	0	0	0	0	2	13	0	0	15	0	0	0	0	0	0	2	0	0	2	17
07:10	0	0	1	0	1	2	20	0	0	22	0	0	0	0	0	0	1	0	0	1	24
07:15	2	0	0	0	2	1	14	0	0	15	0	0	0	0	0	0	4	0	0	4	21
07:20	0	0	0	0	0	2	11	0	0	13	0	0	0	0	0	0	3	0	0	3	16
07:25	0	0	1	0	1	0	14	0	0	14	0	0	0	0	0	0	4	0	0	4	19
07:30	1	0	1	0	2	1	15	0	0	16	0	0	0	0	0	0	1	0	0	1	19
07:35	2	0	1	0	3	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	11
07:40	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	6	0	0	6	20
07:45	2	0	0	0	2	0	11	0	0	11	0	0	0	0	0	0	2	0	0	2	15
07:50	0	0	0	0	0	3	8	0	0	11	0	0	0	0	0	0	4	0	0	4	15
07:55	1	0	0	0	1	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	10
Total	9	0	4	0	13	12	142	0	0	154	0	0	0	0	0	0	38	0	0	38	205
08:00	1	0	0	0	1	3	5	0	0	8	0	0	0	0	0	0	3	0	0	3	12
08:05	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	2	0	0	2	9
08:10	1	0	0	0	1	1	12	0	0	13	0	0	0	0	0	0	4	0	0	4	18
08:15	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	1	1	0	2	11
08:20	0	0	1	0	1	0	9	0	0	9	0	0	0	0	0	0	4	1	0	5	15
08:25	1	0	0	0	1	2	5	0	0	7	0	0	0	0	0	0	3	0	0	3	11
*** BREAK ***																					
Total	3	0	1	0	4	6	47	0	0	53	0	0	0	0	0	0	17	2	0	19	76
16:00	0	0	1	0	1	1	6	0	0	7	0	0	0	0	0	0	9	1	0	10	18
16:05	0	0	1	0	1	1	4	0	0	5	0	0	0	0	0	0	7	0	0	7	13
16:10	0	0	1	0	1	1	4	0	0	5	0	0	0	0	0	0	8	0	0	8	14
16:15	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	16	0	0	16	19
16:20	1	0	1	0	2	1	5	0	0	6	0	0	0	0	0	0	9	0	0	9	17
16:25	1	0	1	0	2	0	4	0	0	4	0	0	0	0	0	0	13	0	0	13	19
16:30	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	16	1	0	17	23
16:35	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	14	1	0	15	18
16:40	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	14	1	0	15	19
16:45	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	0	16	1	0	17	21
16:50	0	0	1	0	1	0	4	0	0	4	0	0	0	0	0	0	7	1	0	8	13

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2504 E. Pikes Peak Ave, Suite 304
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File Name : Elbert Rd - Judge Orr Rd AM PM

Site Code : S224640

Start Date : 1/11/2023

Page No : 2

Groups Printed- Unshifted

Start Time	Elbert Rd Southbound					Judge Orr Rd Westbound					Northbound					Judge Orr Rd Eastbound					Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total		
16:55	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	0	8	1	0	0	9	12
Total	3	0	8	0	11	5	46	0	0	51	0	0	0	0	0	0	137	7	0	144	206	
17:00	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	13	1	0	14	16	
17:05	0	0	4	0	4	0	3	0	0	3	0	0	0	0	0	0	14	0	0	14	21	
17:10	0	0	1	0	1	0	6	0	0	6	0	0	0	0	0	0	5	0	0	5	12	
17:15	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	9	1	0	10	12	
17:20	1	0	0	0	1	2	5	0	0	7	0	0	0	0	0	0	12	0	0	12	20	
17:25	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	7	
17:30	0	0	2	0	2	1	6	0	0	7	0	0	0	0	0	0	12	0	0	12	21	
17:35	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	0	6	0	0	6	13	
17:40	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	19	0	0	19	21	
17:45	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	4	
17:50	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	7	
17:55	0	0	2	0	2	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	8	
Total	2	0	12	0	14	5	36	0	0	41	0	0	0	0	0	0	105	2	0	107	162	
Grand Total	19	0	29	0	48	35	333	0	0	368	0	0	0	0	0	0	307	12	0	319	735	
Apprch %	39.6	0	60.4	0		9.5	90.5	0	0		0	0	0	0		0	96.2	3.8	0			
Total %	2.6	0	3.9	0	6.5	4.8	45.3	0	0	50.1	0	0	0	0	0	0	41.8	1.6	0	43.4		

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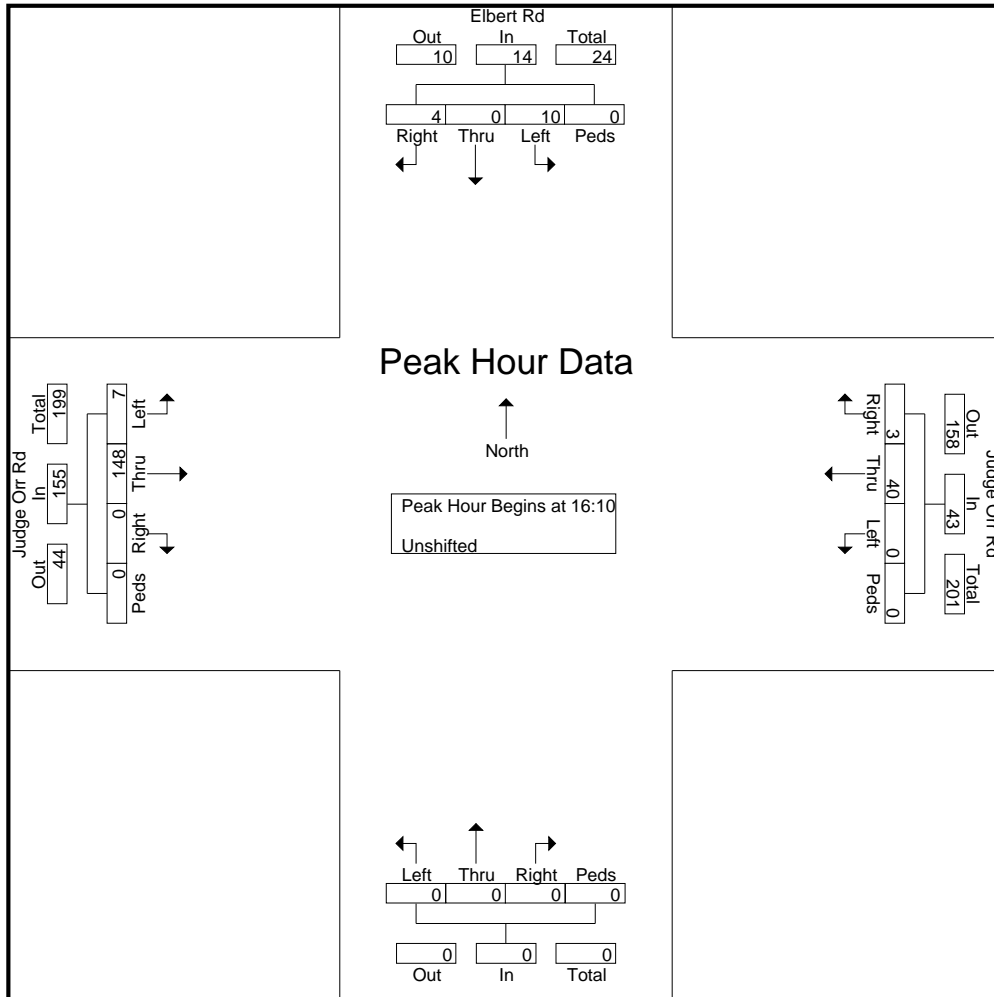
File Name : Elbert Rd - Judge Orr Rd AM PM

Site Code : S224640

Start Date : 1/11/2023

Page No : 3

Start Time	Elbert Rd Southbound					Judge Orr Rd Westbound					Northbound					Judge Orr Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 06:30 to 17:55 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:10																					
16:10	0	0	1	0	1	1	4	0	0	5	0	0	0	0	0	0	8	0	0	8	14
16:15	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	16	0	0	16	19
16:20	1	0	1	0	2	1	5	0	0	6	0	0	0	0	0	0	9	0	0	9	17
16:25	1	0	1	0	2	0	4	0	0	4	0	0	0	0	0	0	13	0	0	13	19
16:30	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	16	1	0	17	23
16:35	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	14	1	0	15	18
16:40	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	14	1	0	15	19
16:45	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	0	16	1	0	17	21
16:50	0	0	1	0	1	0	4	0	0	4	0	0	0	0	0	0	7	1	0	8	13
16:55	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	0	8	1	0	9	12
17:00	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	13	1	0	14	16
17:05	0	0	4	0	4	0	3	0	0	3	0	0	0	0	0	0	14	0	0	14	21
Total Volume	4	0	10	0	14	3	40	0	0	43	0	0	0	0	0	0	148	7	0	155	212
% App. Total	28.6	0	71.4	0		7	93	0	0		0	0	0	0		0	95.5	4.5	0		
PHF	.333	.000	.208	.000	.292	.250	.556	.000	.000	.597	.000	.000	.000	.000	.000	.000	.771	.583	.000	.760	.768



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File Name : Elbert Rd - Judge Orr Rd AM PM

Site Code : S224640

Start Date : 1/11/2023

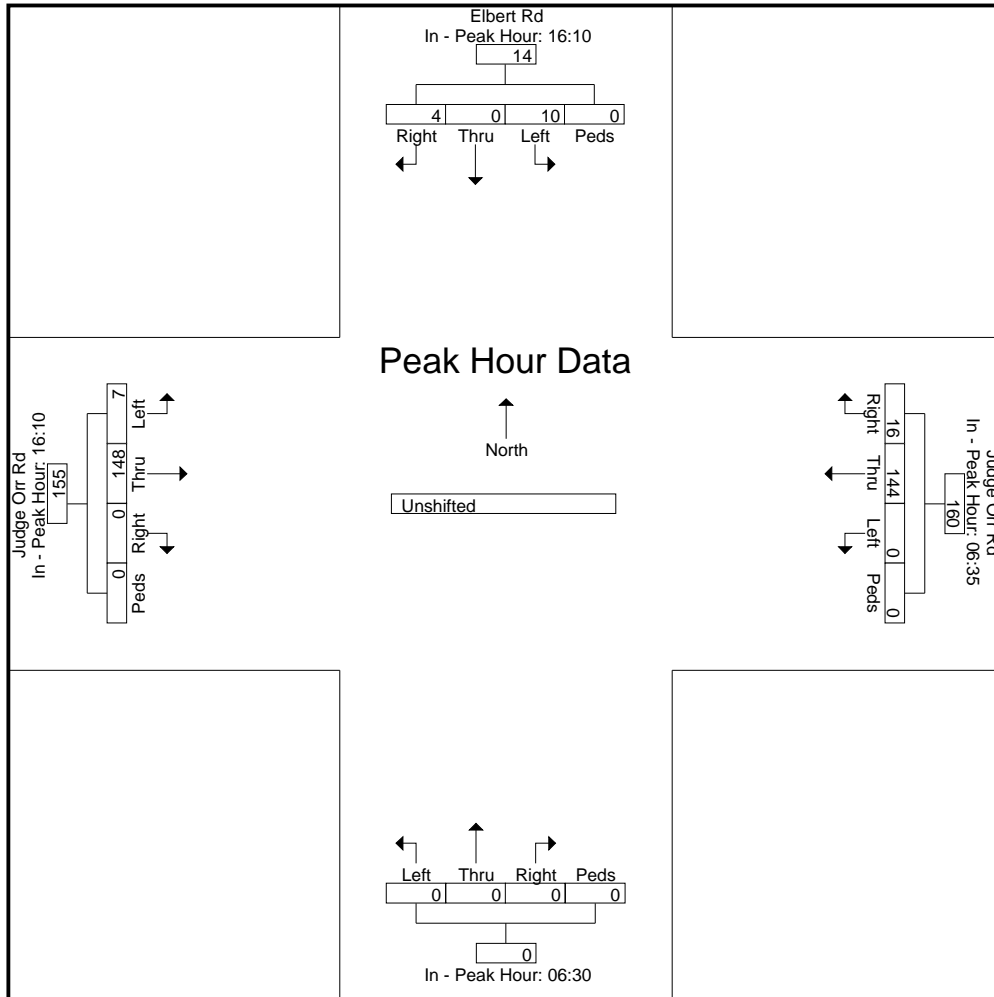
Page No : 4

Start Time	Elbert Rd Southbound					Judge Orr Rd Westbound					Northbound					Judge Orr Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	

Peak Hour Analysis From 06:30 to 17:55 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:10					06:35					06:30					16:10				
+0 mins.	0	0	1	0	1	1	6	0	0	7	0	0	0	0	0	0	8	0	0	8
+5 mins.	0	0	1	0	1	1	14	0	0	15	0	0	0	0	0	0	16	0	0	16
+10 mins.	1	0	1	0	2	0	11	0	0	11	0	0	0	0	0	0	9	0	0	9
+15 mins.	1	0	1	0	2	3	8	0	0	11	0	0	0	0	0	0	13	0	0	13
+20 mins.	0	0	0	0	0	2	8	0	0	10	0	0	0	0	0	0	16	1	0	17
+25 mins.	0	0	0	0	0	1	10	0	0	11	0	0	0	0	0	0	14	1	0	15
+30 mins.	0	0	0	0	0	2	13	0	0	15	0	0	0	0	0	0	14	1	0	15
+35 mins.	1	0	0	0	1	2	20	0	0	22	0	0	0	0	0	0	16	1	0	17
+40 mins.	0	0	1	0	1	1	14	0	0	15	0	0	0	0	0	0	7	1	0	8
+45 mins.	0	0	1	0	1	2	11	0	0	13	0	0	0	0	0	0	8	1	0	9
+50 mins.	1	0	0	0	1	0	14	0	0	14	0	0	0	0	0	0	13	1	0	14
+55 mins.	0	0	4	0	4	1	15	0	0	16	0	0	0	0	0	0	14	0	0	14
Total Volume	4	0	10	0	14	16	144	0	0	160	0	0	0	0	0	0	148	7	0	155
% App. Total	28.6	0	71.4	0		10	90	0	0		0	0	0	0		0	95.5	4.5	0	
PHF	.333	.000	.208	.000	.292	.444	.600	.000	.000	.606	.000	.000	.000	.000	.000	.000	.771	.583	.000	.760



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2504 E. Pikes Peak Ave, Suite 304
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 719-633-2868

File Name : Hwy 24 - Judge Orr Rd AM

Site Code : S214950

Start Date : 5/10/2022

Page No : 1

Groups Printed- Unshifted

Start Time	Hwy 24 Southbound					Judge Orr Rd Westbound					Hwy 24 Northbound					Judge Orr Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
06:30	1	130	0	0	131	1	7	36	0	44	4	66	8	0	78	43	14	2	0	59	312
06:45	4	173	3	0	180	0	10	20	0	30	18	92	8	0	118	34	10	4	0	48	376
Total	5	303	3	0	311	1	17	56	0	74	22	158	16	0	196	77	24	6	0	107	688
07:00	2	132	0	0	134	3	7	39	0	49	18	98	23	0	139	50	16	9	0	75	397
07:15	3	137	2	0	142	1	23	26	0	50	19	82	18	0	119	43	16	2	0	61	372
07:30	9	137	2	0	148	0	17	30	0	47	9	71	24	0	104	51	20	0	0	71	370
07:45	1	102	1	0	104	1	15	15	0	31	21	67	17	0	105	21	15	3	0	39	279
Total	15	508	5	0	528	5	62	110	0	177	67	318	82	0	467	165	67	14	0	246	1418
08:00	2	108	1	0	111	1	8	22	0	31	23	68	12	1	104	28	20	5	0	53	299
08:15	5	96	1	0	102	2	3	29	0	34	15	70	14	0	99	15	13	4	0	32	267
Grand Total	27	1015	10	0	1052	9	90	217	0	316	127	614	124	1	866	285	124	29	0	438	2672
Apprch %	2.6	96.5	1	0		2.8	28.5	68.7	0		14.7	70.9	14.3	0.1		65.1	28.3	6.6	0		
Total %	1	38	0.4	0	39.4	0.3	3.4	8.1	0	11.8	4.8	23	4.6	0	32.4	10.7	4.6	1.1	0	16.4	

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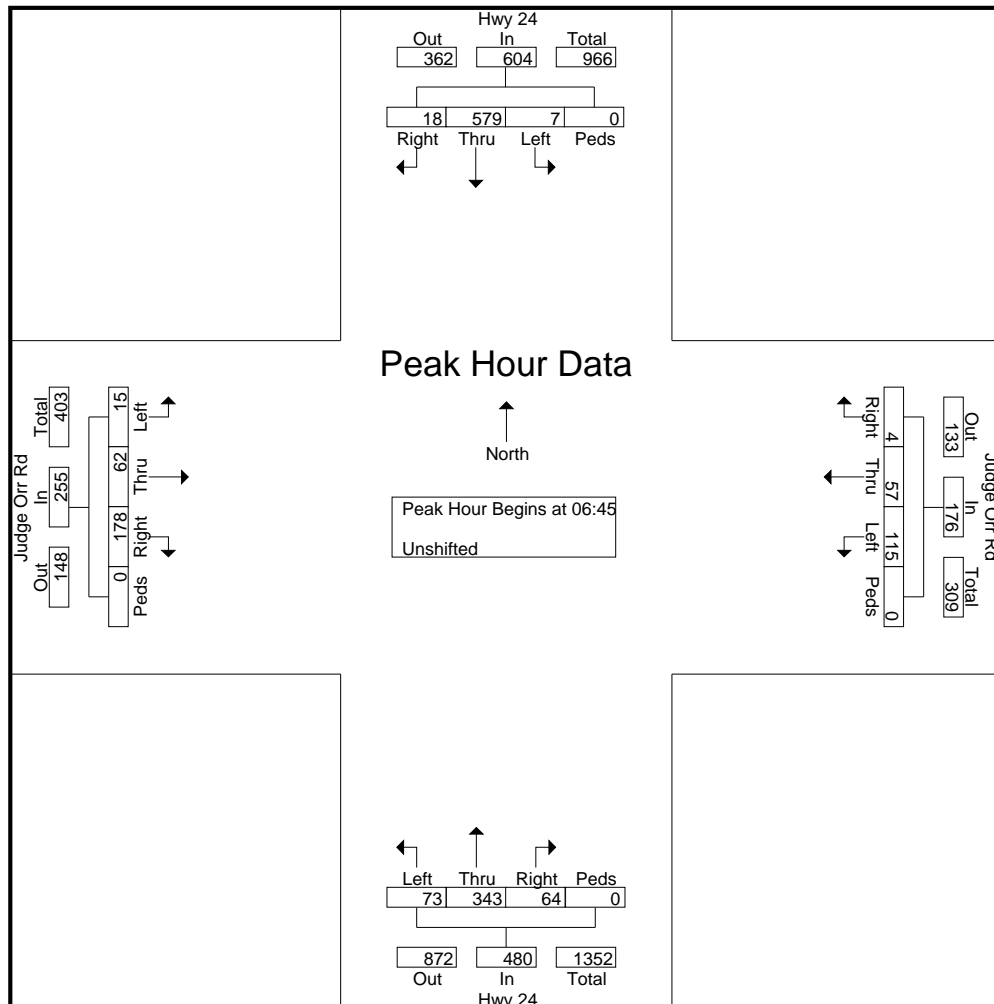
File Name : Hwy 24 - Judge Orr Rd AM

Site Code : S214950

Start Date : 5/10/2022

Page No : 2

Start Time	Hwy 24 Southbound					Judge Orr Rd Westbound					Hwy 24 Northbound					Judge Orr Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 6:30:00 AM to 8:15:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 6:45:00 AM																					
6:45:00 AM	4	173	3	0	180	0	10	20	0	30	18	92	8	0	118	34	10	4	0	48	376
7:00:00 AM	2	132	0	0	134	3	7	39	0	49	18	98	23	0	139	50	16	9	0	75	397
7:15:00 AM	3	137	2	0	142	1	23	26	0	50	19	82	18	0	119	43	16	2	0	61	372
7:30:00 AM	9	137	2	0	148	0	17	30	0	47	9	71	24	0	104	51	20	0	0	71	370
Total Volume	18	579	7	0	604	4	57	115	0	176	64	343	73	0	480	178	62	15	0	255	1515
% App. Total	3	95.9	1.2	0		2.3	32.4	65.3	0		13.3	71.5	15.2	0		69.8	24.3	5.9	0		
PHF	.500	.837	.583	.000	.839	.333	.620	.737	.000	.880	.842	.875	.760	.000	.863	.873	.775	.417	.000	.850	.954

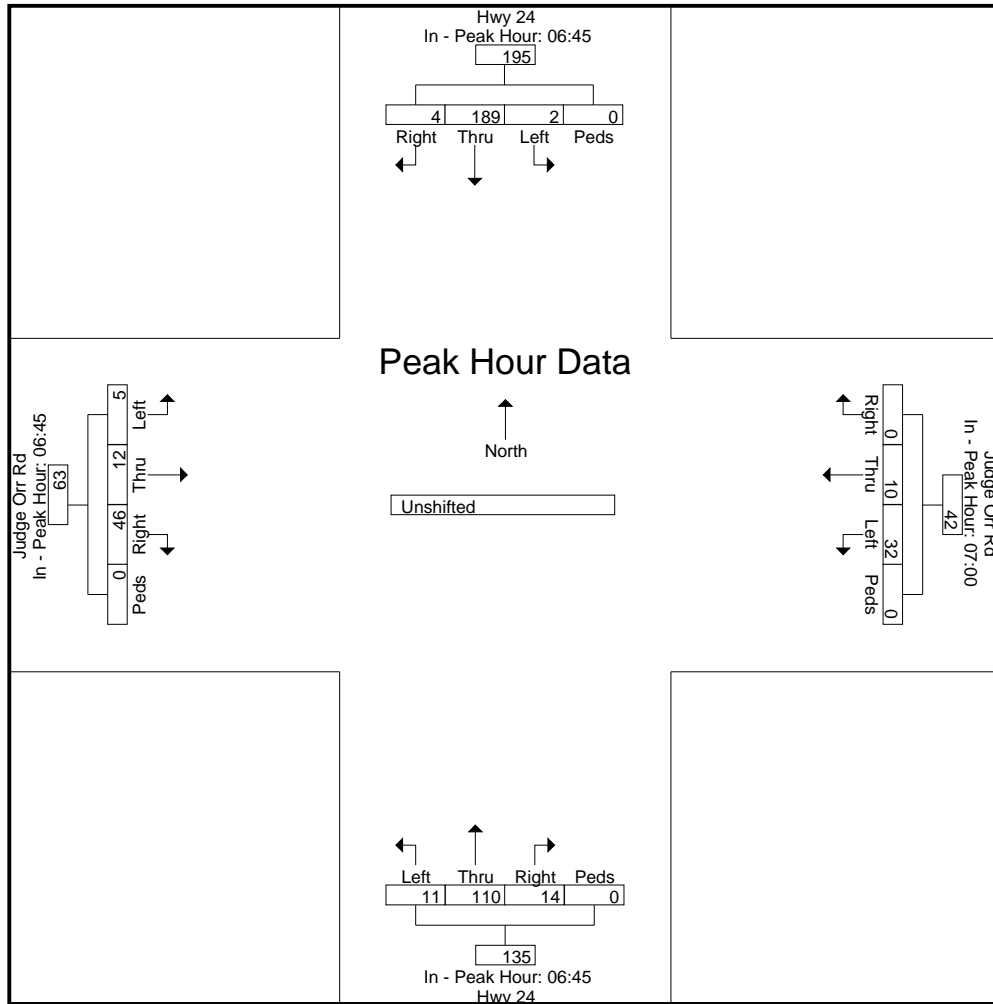


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2504 E. Pikes Peak Ave, Suite 304
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File Name : Hwy 24 - Judge Orr Rd AM
 Site Code : S214950
 Start Date : 5/10/2022
 Page No : 3

Start Time	Hwy 24 Southbound					Judge Orr Rd Westbound					Hwy 24 Northbound					Judge Orr Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 6:30:00 AM to 8:15:00 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	6:45:00 AM					7:00:00 AM					6:45:00 AM					6:45:00 AM					
+0 mins.	4	173	3	0	180	3	7	39	0	49	18	92	8	0	118	34	10	4	0	48	
+5 mins.	2	132	0	0	134	1	23	26	0	50	18	98	23	0	139	50	16	9	0	75	
+10 mins.	3	137	2	0	142	0	17	30	0	47	19	82	18	0	119	43	16	2	0	61	
+15 mins.	9	137	2	0	148	1	15	15	0	31	9	71	24	0	104	51	20	0	0	71	
Total Volume	18	579	7	0	604	5	62	110	0	177	64	343	73	0	480	178	62	15	0	255	
% App. Total	3	95.9	1.2	0		2.8	35	62.1	0		13.3	71.5	15.2	0		69.8	24.3	5.9	0		
PHF	.500	.837	.583	.000	.839	.417	.674	.705	.000	.885	.842	.875	.760	.000	.863	.873	.775	.417	.000	.850	



Hwy 24

LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
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File Name : Hwy 24 - Judge Orr Rd PM

Site Code : S214950

Start Date : 5/10/2022

Page No : 1

Groups Printed- Unshifted

Start Time	Hwy 24 Southbound					Judge Orr Rd Westbound					Hwy 24 Northbound					Judge Orr Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
16:00	5	77	2	0	84	1	7	22	0	30	33	143	24	0	200	10	7	5	0	22	336
16:15	3	105	1	0	109	5	17	25	0	47	27	152	30	0	209	21	11	11	0	43	408
16:30	7	105	1	0	113	1	14	29	0	44	34	144	34	1	213	18	11	11	0	40	410
16:45	1	101	0	0	102	2	9	24	0	35	31	135	41	0	207	15	13	12	0	40	384
Total	16	388	4	0	408	9	47	100	0	156	125	574	129	1	829	64	42	39	0	145	1538
17:00	2	99	0	0	101	4	13	38	0	55	29	147	40	0	216	16	16	10	0	42	414
17:15	7	127	0	0	134	2	16	26	0	44	34	133	24	1	192	13	11	7	0	31	401
17:30	6	91	1	0	98	2	6	16	0	24	39	149	32	0	220	10	15	10	0	35	377
17:45	6	98	0	0	104	0	5	22	0	27	29	158	30	0	217	11	17	8	0	36	384
Total	21	415	1	0	437	8	40	102	0	150	131	587	126	1	845	50	59	35	0	144	1576
Grand Total	37	803	5	0	845	17	87	202	0	306	256	1161	255	2	1674	114	101	74	0	289	3114
Apprch %	4.4	95	0.6	0		5.6	28.4	66	0		15.3	69.4	15.2	0.1		39.4	34.9	25.6	0		
Total %	1.2	25.8	0.2	0	27.1	0.5	2.8	6.5	0	9.8	8.2	37.3	8.2	0.1	53.8	3.7	3.2	2.4	0	9.3	

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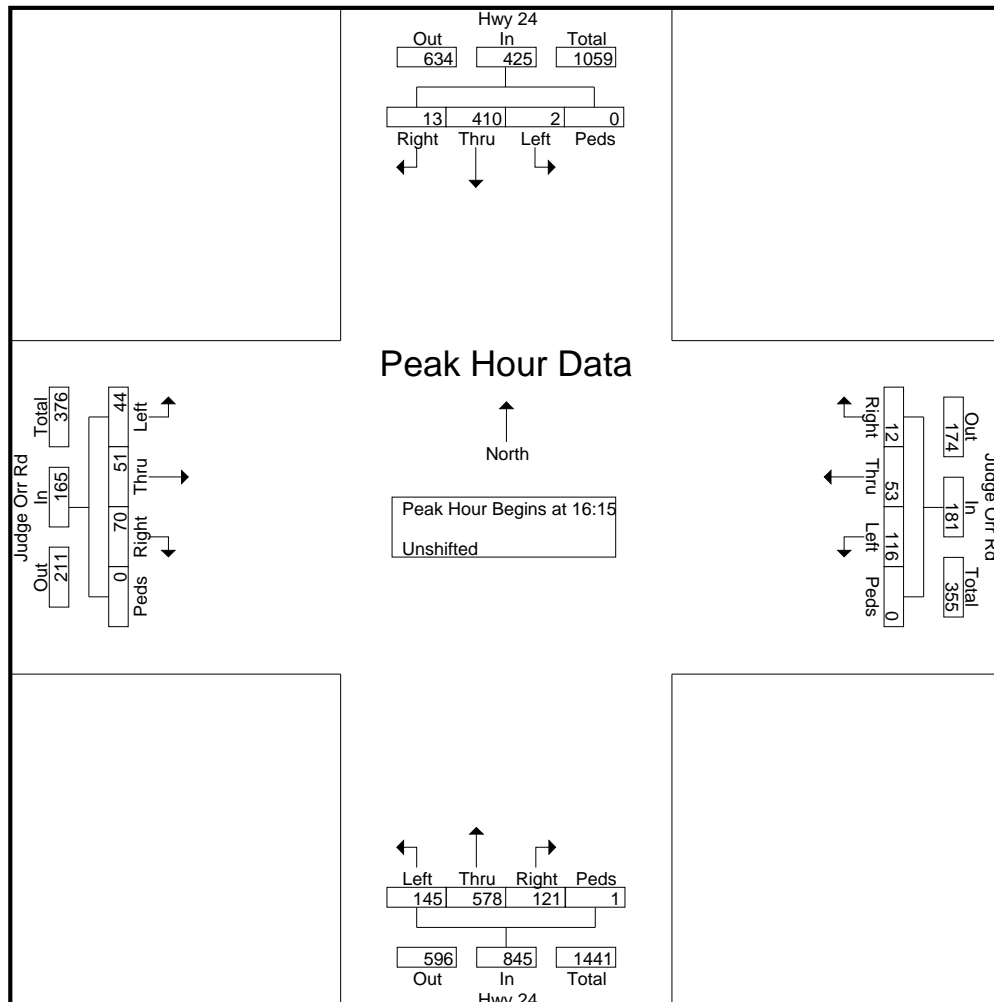
File Name : Hwy 24 - Judge Orr Rd PM

Site Code : S214950

Start Date : 5/10/2022

Page No : 2

Start Time	Hwy 24 Southbound					Judge Orr Rd Westbound					Hwy 24 Northbound					Judge Orr Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 4:15:00 PM																					
4:15:00 PM	3	105	1	0	109	5	17	25	0	47	27	152	30	0	209	21	11	11	0	43	408
4:30:00 PM	7	105	1	0	113	1	14	29	0	44	34	144	34	1	213	18	11	11	0	40	410
4:45:00 PM	1	101	0	0	102	2	9	24	0	35	31	135	41	0	207	15	13	12	0	40	384
5:00:00 PM	2	99	0	0	101	4	13	38	0	55	29	147	40	0	216	16	16	10	0	42	414
Total Volume	13	410	2	0	425	12	53	116	0	181	121	578	145	1	845	70	51	44	0	165	1616
% App. Total	3.1	96.5	0.5	0		6.6	29.3	64.1	0		14.3	68.4	17.2	0.1		42.4	30.9	26.7	0		
PHF	.464	.976	.500	.000	.940	.600	.779	.763	.000	.823	.890	.951	.884	.250	.978	.833	.797	.917	.000	.959	.976



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File Name : Hwy 24 - Judge Orr Rd PM
 Site Code : S214950
 Start Date : 5/10/2022
 Page No : 3

Start Time	Hwy 24 Southbound					Judge Orr Rd Westbound					Hwy 24 Northbound					Judge Orr Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	

Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	4:30:00 PM					4:15:00 PM					4:15:00 PM					4:15:00 PM				
+0 mins.	7	105	1	0	113	5	17	25	0	47	27	152	30	0	209	21	11	11	0	43
+5 mins.	1	101	0	0	102	1	14	29	0	44	34	144	34	1	213	18	11	11	0	40
+10 mins.	2	99	0	0	101	2	9	24	0	35	31	135	41	0	207	15	13	12	0	40
+15 mins.	7	127	0	0	134	4	13	38	0	55	29	147	40	0	216	16	16	10	0	42
Total Volume	17	432	1	0	450	12	53	116	0	181	121	578	145	1	845	70	51	44	0	165
% App. Total	3.8	96	0.2	0		6.6	29.3	64.1	0		14.3	68.4	17.2	0.1		42.4	30.9	26.7	0	
PHF	.607	.850	.250	.000	.840	.600	.779	.763	.000	.823	.890	.951	.884	.250	.978	.833	.797	.917	.000	.959

LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
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 719-633-2868

File Name : Hwy 24 - Stapleton Rd AM PM
 Site Code : S224640
 Start Date : 1/10/2023
 Page No : 1

Groups Printed- Unshifted

Start Time	Hwy 24 Southbound					Stapleton Dr Westbound					Hwy 24 Northbound					Stapleton Dr Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
06:30	1	29	1	0	31	0	1	1	0	2	1	7	1	0	9	20	11	1	0	32	74
06:35	0	33	0	0	33	1	4	0	0	5	0	12	0	0	12	11	11	2	0	24	74
06:40	0	35	2	0	37	1	0	0	0	1	0	13	2	0	15	16	8	2	0	26	79
06:45	3	41	3	0	47	1	6	3	0	10	1	22	4	0	27	13	9	2	0	24	108
06:50	3	32	1	0	36	1	3	0	0	4	1	15	7	0	23	14	7	1	0	22	85
06:55	2	22	1	0	25	2	8	0	0	10	0	24	6	0	30	16	13	0	0	29	94
Total	9	192	8	0	209	6	22	4	0	32	3	93	20	0	116	90	59	8	0	157	514
07:00	4	35	3	0	42	2	6	0	0	8	0	29	2	0	31	7	13	1	0	21	102
07:05	4	33	4	0	41	1	10	0	0	11	0	22	4	0	26	7	11	6	0	24	102
07:10	0	33	3	0	36	4	11	1	0	16	0	30	5	0	35	15	12	2	0	29	116
07:15	2	36	2	0	40	4	14	1	0	19	0	29	7	0	36	13	15	3	0	31	126
07:20	4	46	1	0	51	1	6	0	0	7	0	30	4	0	34	11	13	1	0	25	117
07:25	5	51	8	0	64	0	7	0	0	7	0	28	0	0	28	10	7	1	0	18	117
07:30	2	34	2	0	38	0	7	0	0	7	1	16	6	0	23	9	20	2	0	31	99
07:35	6	40	5	0	51	0	9	1	0	10	0	9	2	0	11	12	7	2	0	21	93
07:40	4	31	1	0	36	0	7	2	0	9	0	9	3	0	12	5	9	0	0	14	71
07:45	1	31	1	0	33	2	5	1	0	8	0	13	6	0	19	6	17	2	0	25	85
07:50	3	21	4	0	28	0	5	0	0	5	1	18	1	0	20	10	15	2	0	27	80
07:55	2	15	3	0	20	1	1	0	0	2	0	16	4	0	20	8	5	1	0	14	56
Total	37	406	37	0	480	15	88	6	0	109	2	249	44	0	295	113	144	23	0	280	1164
08:00	3	39	2	0	44	0	6	0	0	6	0	10	5	0	15	4	10	2	0	16	81
08:05	1	30	0	0	31	1	2	1	0	4	2	19	5	0	26	4	6	4	0	14	75
08:10	2	27	2	0	31	2	2	1	0	5	0	13	4	0	17	5	6	0	0	11	64
08:15	4	31	0	0	35	5	1	2	0	8	0	7	5	0	12	8	5	2	0	15	70
08:20	5	22	3	0	30	1	7	0	0	8	0	3	3	0	6	7	4	1	0	12	56
08:25	4	34	1	0	39	0	2	0	0	2	1	14	0	0	15	4	7	5	0	16	72
*** BREAK ***																					
Total	19	183	8	0	210	9	20	4	0	33	3	66	22	0	91	32	38	14	0	84	418
16:00	2	26	0	0	28	3	7	1	0	11	0	41	13	0	54	3	3	4	0	10	103
16:05	3	25	0	0	28	4	6	0	0	10	0	46	15	0	61	1	2	5	0	8	107
16:10	3	32	0	0	35	2	8	0	0	10	3	35	15	0	53	6	4	2	0	12	110
16:15	3	36	1	0	40	3	9	1	0	13	4	45	7	0	56	4	1	2	0	7	116
16:20	0	31	3	0	34	1	7	1	0	9	2	46	15	0	63	4	2	1	0	7	113
16:25	1	24	1	0	26	2	11	0	0	13	3	47	8	0	58	5	10	3	0	18	115
16:30	1	23	0	0	24	0	10	2	0	12	1	42	7	0	50	5	3	2	0	10	96
16:35	2	32	1	0	35	1	5	1	0	7	4	34	4	0	42	2	1	1	0	4	88
16:40	5	29	1	0	35	2	13	0	0	15	1	29	7	0	37	4	9	1	0	14	101
16:45	3	31	2	0	36	5	10	3	0	18	2	31	13	0	46	3	2	2	0	7	107
16:50	1	32	1	0	34	2	11	0	0	13	4	39	7	0	50	6	4	2	0	12	109

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File Name : Hwy 24 - Stapleton Rd AM PM

Site Code : S224640

Start Date : 1/10/2023

Page No : 2

Groups Printed- Unshifted

Start Time	Hwy 24 Southbound					Stapleton Dr Westbound					Hwy 24 Northbound					Stapleton Dr Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
16:55	5	29	1	0	35	3	15	2	0	20	3	31	15	0	49	2	4	2	0	8	112
Total	29	350	11	0	390	28	112	11	0	151	27	466	126	0	619	45	45	27	0	117	1277
17:00	3	22	0	0	25	0	20	0	0	20	1	37	13	0	51	8	1	0	0	9	105
17:05	2	30	0	0	32	4	6	1	0	11	7	47	14	0	68	2	4	0	0	6	117
17:10	3	45	1	0	49	3	19	1	0	23	1	31	9	0	41	4	1	1	0	6	119
17:15	3	29	1	0	33	1	4	1	0	6	0	46	7	0	53	3	1	1	0	5	97
17:20	3	27	1	0	31	4	11	1	0	16	3	34	8	0	45	3	5	2	0	10	102
17:25	3	21	0	0	24	3	2	0	0	5	0	30	11	0	41	2	4	2	0	8	78
17:30	3	18	0	0	21	5	8	0	0	13	2	43	8	0	53	1	3	0	0	4	91
17:35	3	17	0	0	20	2	6	0	0	8	0	33	14	0	47	2	1	3	0	6	81
17:40	1	18	0	0	19	2	6	2	0	10	1	32	6	0	39	0	1	3	0	4	72
17:45	4	24	1	0	29	2	4	1	0	7	1	51	7	0	59	3	2	1	0	6	101
17:50	1	13	0	0	14	1	6	1	0	8	0	48	13	0	61	2	5	3	0	10	93
17:55	3	18	0	0	21	3	7	0	0	10	1	23	9	0	33	4	7	2	0	13	77
Total	32	282	4	0	318	30	99	8	0	137	17	455	119	0	591	34	35	18	0	87	1133
Grand Total	126	1413	68	0	1607	88	341	33	0	462	52	1329	331	0	1712	314	321	90	0	725	4506
Apprch %	7.8	87.9	4.2	0		19	73.8	7.1	0		3	77.6	19.3	0		43.3	44.3	12.4	0		
Total %	2.8	31.4	1.5	0	35.7	2	7.6	0.7	0	10.3	1.2	29.5	7.3	0	38	7	7.1	2	0	16.1	

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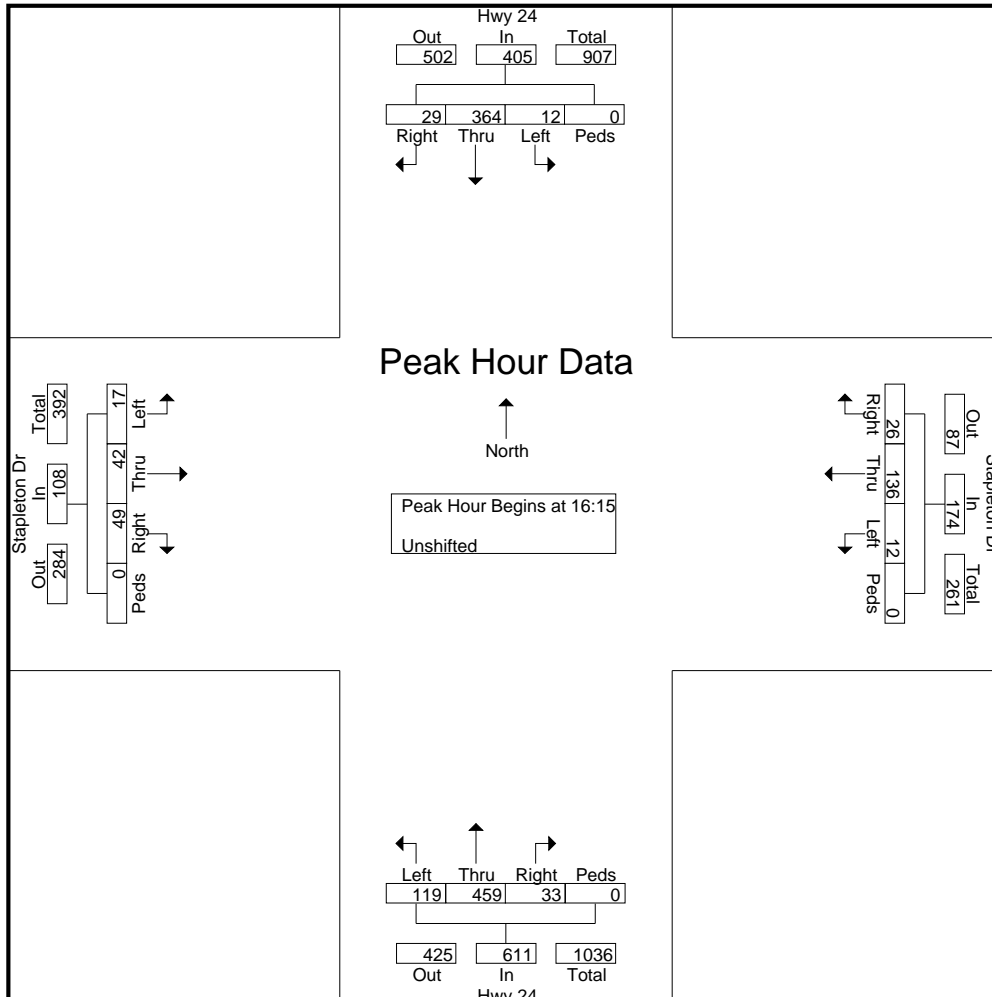
File Name : Hwy 24 - Stapleton Rd AM PM

Site Code : S224640

Start Date : 1/10/2023

Page No : 3

Start Time	Hwy 24 Southbound					Stapleton Dr Westbound					Hwy 24 Northbound					Stapleton Dr Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 06:30 to 17:55 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	3	36	1	0	40	3	9	1	0	13	4	45	7	0	56	4	1	2	0	7	116
16:20	0	31	3	0	34	1	7	1	0	9	2	46	15	0	63	4	2	1	0	7	113
16:25	1	24	1	0	26	2	11	0	0	13	3	47	8	0	58	5	10	3	0	18	115
16:30	1	23	0	0	24	0	10	2	0	12	1	42	7	0	50	5	3	2	0	10	96
16:35	2	32	1	0	35	1	5	1	0	7	4	34	4	0	42	2	1	1	0	4	88
16:40	5	29	1	0	35	2	13	0	0	15	1	29	7	0	37	4	9	1	0	14	101
16:45	3	31	2	0	36	5	10	3	0	18	2	31	13	0	46	3	2	2	0	7	107
16:50	1	32	1	0	34	2	11	0	0	13	4	39	7	0	50	6	4	2	0	12	109
16:55	5	29	1	0	35	3	15	2	0	20	3	31	15	0	49	2	4	2	0	8	112
17:00	3	22	0	0	25	0	20	0	0	20	1	37	13	0	51	8	1	0	0	9	105
17:05	2	30	0	0	32	4	6	1	0	11	7	47	14	0	68	2	4	0	0	6	117
17:10	3	45	1	0	49	3	19	1	0	23	1	31	9	0	41	4	1	1	0	6	119
Total Volume	29	364	12	0	405	26	136	12	0	174	33	459	119	0	611	49	42	17	0	108	1298
% App. Total	7.2	89.9	3	0		14.9	78.2	6.9	0		5.4	75.1	19.5	0		45.4	38.9	15.7	0		
PHF	.483	.674	.333	.000	.689	.433	.567	.333	.000	.630	.393	.814	.661	.000	.749	.510	.350	.472	.000	.500	.909



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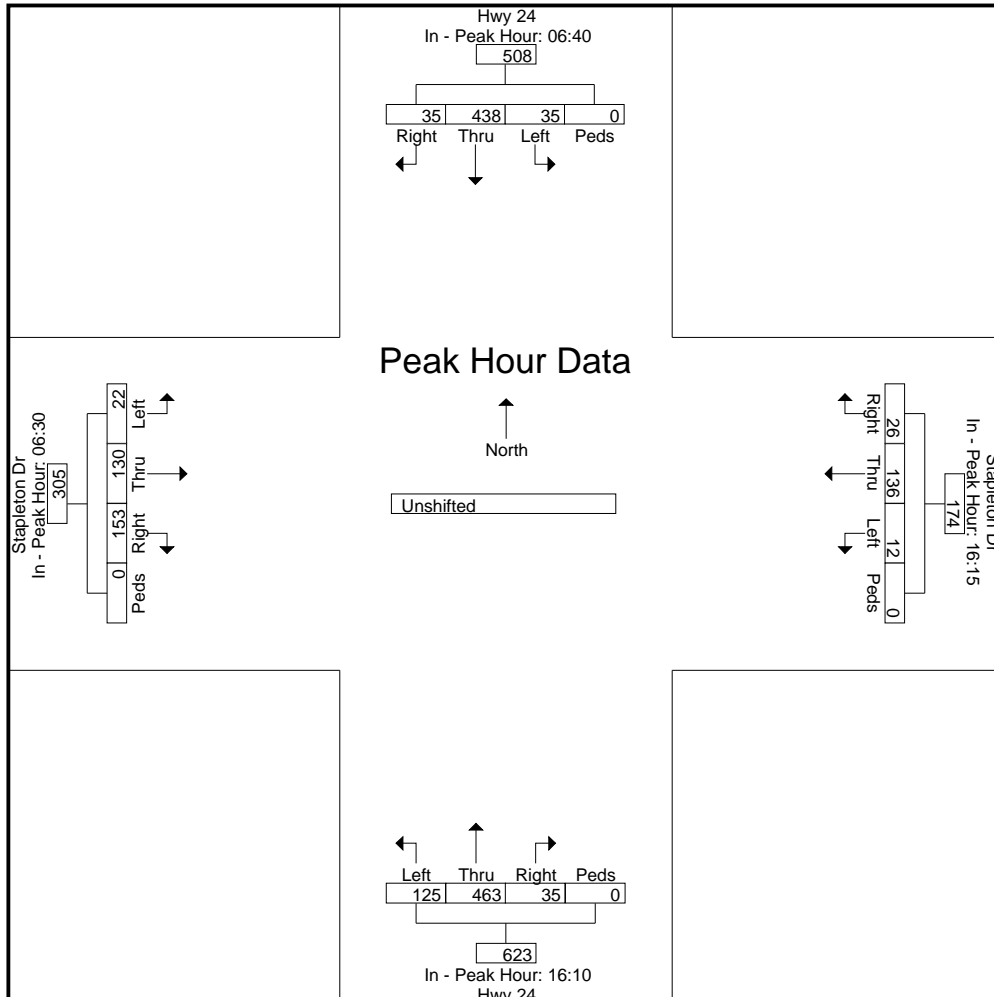
2504 E. Pikes Peak Ave, Suite 304
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 719-633-2868

File Name : Hwy 24 - Stapleton Rd AM PM
 Site Code : S224640
 Start Date : 1/10/2023
 Page No : 4

Start Time	Hwy 24 Southbound					Stapleton Dr Westbound					Hwy 24 Northbound					Stapleton Dr Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	

Peak Hour Analysis From 06:30 to 17:55 - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	06:40					16:15					16:10					06:30				
+0 mins.	0	35	2	0	37	3	9	1	0	13	3	35	15	0	53	20	11	1	0	32
+5 mins.	3	41	3	0	47	1	7	1	0	9	4	45	7	0	56	11	11	2	0	24
+10 mins.	3	32	1	0	36	2	11	0	0	13	2	46	15	0	63	16	8	2	0	26
+15 mins.	2	22	1	0	25	0	10	2	0	12	3	47	8	0	58	13	9	2	0	24
+20 mins.	4	35	3	0	42	1	5	1	0	7	1	42	7	0	50	14	7	1	0	22
+25 mins.	4	33	4	0	41	2	13	0	0	15	4	34	4	0	42	16	13	0	0	29
+30 mins.	0	33	3	0	36	5	10	3	0	18	1	29	7	0	37	7	13	1	0	21
+35 mins.	2	36	2	0	40	2	11	0	0	13	2	31	13	0	46	7	11	6	0	24
+40 mins.	4	46	1	0	51	3	15	2	0	20	4	39	7	0	50	15	12	2	0	29
+45 mins.	5	51	8	0	64	0	20	0	0	20	3	31	15	0	49	13	15	3	0	31
+50 mins.	2	34	2	0	38	4	6	1	0	11	1	37	13	0	51	11	13	1	0	25
+55 mins.	6	40	5	0	51	3	19	1	0	23	7	47	14	0	68	10	7	1	0	18
Total Volume	35	438	35	0	508	26	136	12	0	174	35	463	125	0	623	153	130	22	0	305
% App. Total	6.9	86.2	6.9	0		14.9	78.2	6.9	0		5.6	74.3	20.1	0		50.2	42.6	7.2	0	
PHF	.486	.716	.365	.000	.661	.433	.567	.333	.000	.630	.417	.821	.694	.000	.763	.638	.722	.306	.000	.794



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719-633-2868

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 719-633-2868

File Name : Elbert Rd - Hwy 24 PM

Site Code : S224640

Start Date : 1/17/2023

Page No : 1

Groups Printed- Unshifted

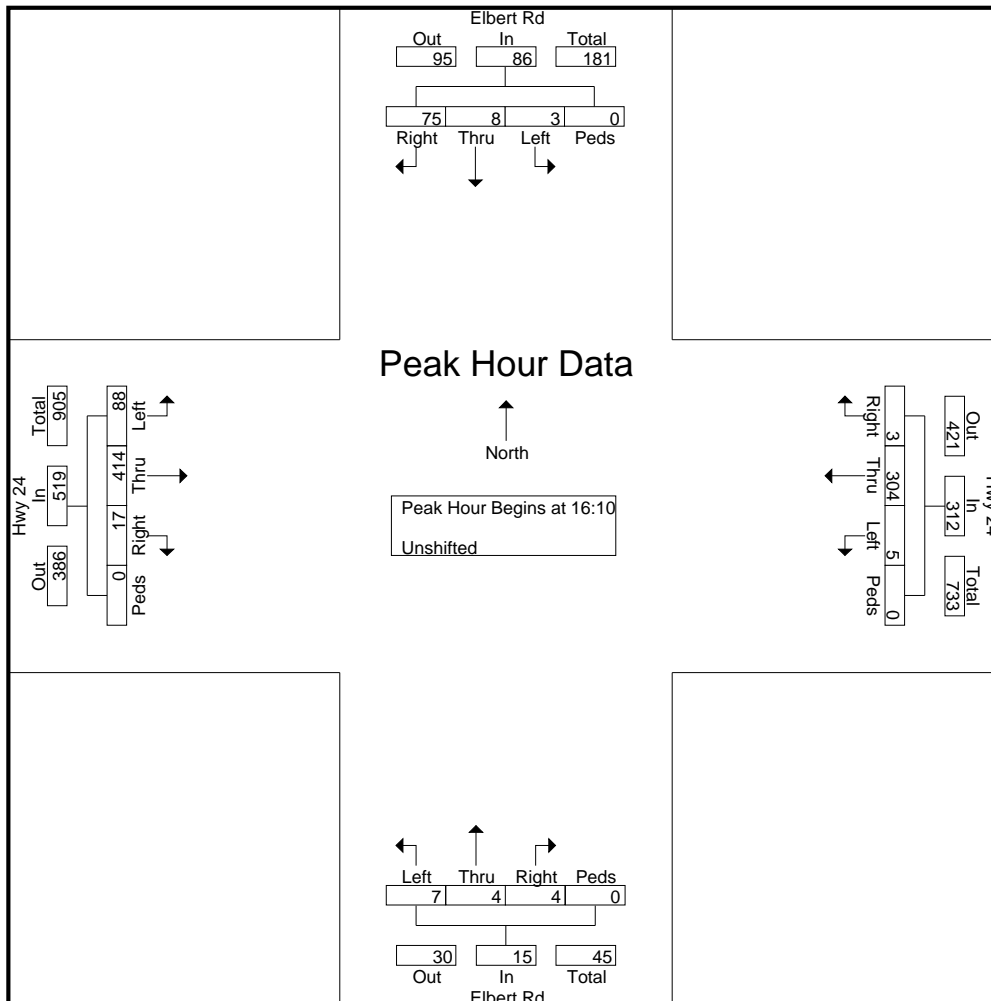
Start Time	Elbert Rd Southbound					Hwy 24 Westbound					Elbert Rd Northbound					Hwy 24 Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
16:00	3	3	1	0	7	0	21	0	0	21	0	0	2	0	2	2	33	7	0	42	72
16:05	1	1	1	0	3	0	21	0	0	21	0	0	0	0	0	0	33	8	0	41	65
16:10	3	0	0	0	3	0	42	0	0	42	1	0	0	0	1	2	33	4	0	39	85
16:15	4	0	0	0	4	1	20	0	0	21	0	0	0	0	0	2	32	9	0	43	68
16:20	5	0	1	0	6	1	17	0	0	18	1	0	0	0	1	0	44	10	0	54	79
16:25	6	1	0	0	7	0	29	0	0	29	0	1	1	0	2	2	20	7	0	29	67
16:30	7	2	0	0	9	0	18	1	0	19	0	1	0	0	1	2	47	9	0	58	87
16:35	5	0	0	0	5	1	43	0	0	44	0	0	2	0	2	1	36	9	0	46	97
16:40	11	1	0	0	12	0	30	1	0	31	0	0	1	0	1	1	29	8	0	38	82
16:45	10	1	0	0	11	0	22	1	0	23	0	0	1	0	1	0	42	4	0	46	81
16:50	5	2	1	0	8	0	24	1	0	25	1	1	1	0	3	2	25	10	0	37	73
16:55	5	1	0	0	6	0	19	1	0	20	0	1	0	0	1	3	29	9	0	41	68
Total	65	12	4	0	81	3	306	5	0	314	3	4	8	0	15	17	403	94	0	514	924
17:00	9	0	0	0	9	0	16	0	0	16	1	0	1	0	2	0	38	2	0	40	67
17:05	5	0	1	0	6	0	24	0	0	24	0	0	0	0	0	2	39	7	0	48	78
17:10	6	1	1	0	8	0	20	0	0	20	1	0	0	0	1	0	34	12	0	46	75
17:15	5	0	1	0	6	0	24	1	0	25	1	0	0	0	1	3	36	3	0	42	74
17:20	3	1	0	0	4	0	16	0	0	16	0	1	0	0	1	3	32	5	0	40	61
17:25	3	4	0	0	7	0	14	0	0	14	0	1	0	0	1	1	39	7	0	47	69
17:30	4	2	0	0	6	0	11	0	0	11	0	1	0	0	1	0	39	12	0	51	69
17:35	3	1	1	0	5	0	21	0	0	21	0	0	2	0	2	1	50	11	0	62	90
17:40	5	1	0	0	6	1	14	0	0	15	1	0	2	0	3	2	28	9	0	39	63
17:45	4	2	0	0	6	0	17	0	0	17	0	1	0	0	1	2	45	9	0	56	80
17:50	4	1	1	0	6	0	15	0	0	15	1	0	1	0	2	1	36	8	0	45	68
17:55	5	2	1	0	8	0	16	0	0	16	0	1	1	0	2	2	38	7	0	47	73
Total	56	15	6	0	77	1	208	1	0	210	5	5	7	0	17	17	454	92	0	563	867
Grand Total	121	27	10	0	158	4	514	6	0	524	8	9	15	0	32	34	857	186	0	1077	1791
Apprch %	76.6	17.1	6.3	0		0.8	98.1	1.1	0		25	28.1	46.9	0		3.2	79.6	17.3	0		
Total %	6.8	1.5	0.6	0	8.8	0.2	28.7	0.3	0	29.3	0.4	0.5	0.8	0	1.8	1.9	47.9	10.4	0	60.1	

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2504 E. Pikes Peak Ave, Suite 304
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 719-633-2868

File Name : Elbert Rd - Hwy 24 PM
 Site Code : S224640
 Start Date : 1/17/2023
 Page No : 2

Start Time	Elbert Rd Southbound					Hwy 24 Westbound					Elbert Rd Northbound					Hwy 24 Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 16:00 to 17:55 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:10																					
16:10	3	0	0	0	3	0	42	0	0	42	1	0	0	0	1	2	33	4	0	39	85
16:15	4	0	0	0	4	1	20	0	0	21	0	0	0	0	0	2	32	9	0	43	68
16:20	5	0	1	0	6	1	17	0	0	18	1	0	0	0	1	0	44	10	0	54	79
16:25	6	1	0	0	7	0	29	0	0	29	0	1	1	0	2	2	20	7	0	29	67
16:30	7	2	0	0	9	0	18	1	0	19	0	1	0	0	1	2	47	9	0	58	87
16:35	5	0	0	0	5	1	43	0	0	44	0	0	2	0	2	1	36	9	0	46	97
16:40	11	1	0	0	12	0	30	1	0	31	0	0	1	0	1	1	29	8	0	38	82
16:45	10	1	0	0	11	0	22	1	0	23	0	0	1	0	1	0	42	4	0	46	81
16:50	5	2	1	0	8	0	24	1	0	25	1	1	1	0	3	2	25	10	0	37	73
16:55	5	1	0	0	6	0	19	1	0	20	0	1	0	0	1	3	29	9	0	41	68
17:00	9	0	0	0	9	0	16	0	0	16	1	0	1	0	2	0	38	2	0	40	67
17:05	5	0	1	0	6	0	24	0	0	24	0	0	0	0	0	2	39	7	0	48	78
Total Volume	75	8	3	0	86	3	304	5	0	312	4	4	7	0	15	17	414	88	0	519	932
% App. Total	87.2	9.3	3.5	0		1	97.4	1.6	0		26.7	26.7	46.7	0		3.3	79.8	17	0		
PHF	.568	.333	.250	.000	.597	.250	.589	.417	.000	.591	.333	.333	.292	.000	.417	.472	.734	.733	.000	.746	.801

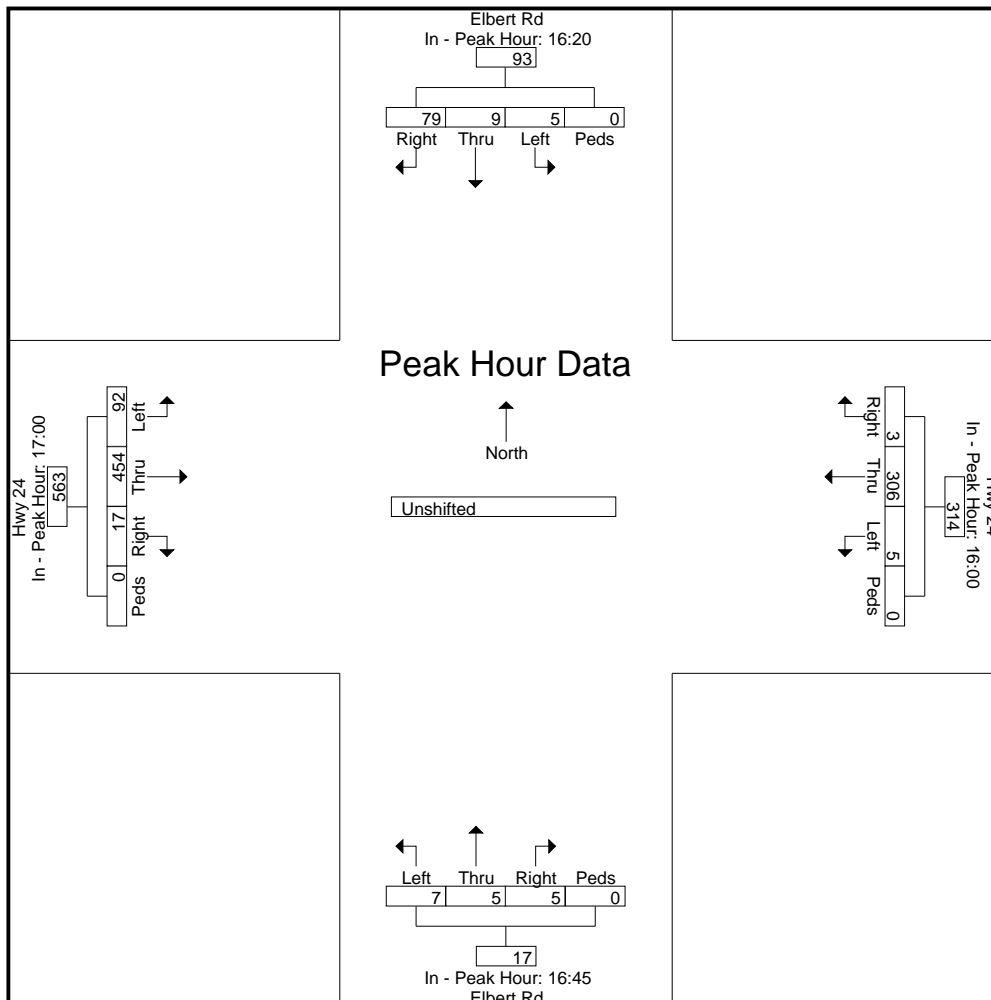


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2504 E. Pikes Peak Ave, Suite 304
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 719-633-2868

File Name : Elbert Rd - Hwy 24 PM
 Site Code : S224640
 Start Date : 1/17/2023
 Page No : 3

Start Time	Elbert Rd Southbound					Hwy 24 Westbound					Elbert Rd Northbound					Hwy 24 Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 16:00 to 17:55 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	16:20					16:00					16:45					17:00					
+0 mins.	5	0	1	0	6	0	21	0	0	21	0	0	1	0	1	0	38	2	0	40	
+5 mins.	6	1	0	0	7	0	21	0	0	21	1	1	1	0	3	2	39	7	0	48	
+10 mins.	7	2	0	0	9	0	42	0	0	42	0	1	0	0	1	0	34	12	0	46	
+15 mins.	5	0	0	0	5	1	20	0	0	21	1	0	1	0	2	3	36	3	0	42	
+20 mins.	11	1	0	0	12	1	17	0	0	18	0	0	0	0	0	3	32	5	0	40	
+25 mins.	10	1	0	0	11	0	29	0	0	29	1	0	0	0	1	1	39	7	0	47	
+30 mins.	5	2	1	0	8	0	18	1	0	19	1	0	0	0	1	0	39	12	0	51	
+35 mins.	5	1	0	0	6	1	43	0	0	44	0	1	0	0	1	1	50	11	0	62	
+40 mins.	9	0	0	0	9	0	30	1	0	31	0	1	0	0	1	2	28	9	0	39	
+45 mins.	5	0	1	0	6	0	22	1	0	23	0	1	0	0	1	2	45	9	0	56	
+50 mins.	6	1	1	0	8	0	24	1	0	25	0	0	2	0	2	1	36	8	0	45	
+55 mins.	5	0	1	0	6	0	19	1	0	20	1	0	2	0	3	2	38	7	0	47	
Total Volume	79	9	5	0	93	3	306	5	0	314	5	5	7	0	17	17	454	92	0	563	
% App. Total	84.9	9.7	5.4	0		1	97.5	1.6	0		29.4	29.4	41.2	0		3	80.6	16.3	0		
PHF	.598	.375	.417	.000	.646	.250	.593	.417	.000	.595	.417	.417	.292	.000	.472	.472	.757	.639	.000	.757	



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2504 E. Pikes Peak Ave, Suite 304
 Colorado Springs, CO 80909
 719-633-2868

File Name : Elbert Rd - Hwy 24 AM

Site Code : S224640

Start Date : 1/17/2023

Page No : 1

Groups Printed- Unshifted

Start Time	Elbert Rd Southbound					Hwy 24 Westbound					Elbert Rd Northbound					Hwy 24 Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
06:30	5	0	0	0	5	0	29	0	0	29	0	0	1	0	1	0	6	2	0	8	43
06:35	7	0	0	0	7	0	27	0	0	27	0	0	0	0	0	0	6	0	0	6	40
06:40	10	0	0	0	10	0	27	0	0	27	0	0	1	0	1	0	14	1	0	15	53
06:45	6	2	0	0	8	0	25	0	0	25	0	2	1	0	3	1	11	4	0	16	52
06:50	12	2	0	0	14	0	21	0	0	21	0	0	3	0	3	1	23	1	0	25	63
06:55	7	1	1	0	9	2	26	0	0	28	0	0	0	0	0	0	19	0	0	19	56
Total	47	5	1	0	53	2	155	0	0	157	0	2	6	0	8	2	79	8	0	89	307
07:00	12	1	1	0	14	1	31	0	0	32	0	0	4	0	4	1	23	6	0	30	80
07:05	6	1	0	0	7	0	31	1	0	32	0	1	1	0	2	0	25	4	0	29	70
07:10	5	0	0	0	5	0	40	0	0	40	0	3	0	0	3	0	25	2	0	27	75
07:15	16	0	1	0	17	0	32	0	0	32	0	2	1	0	3	0	28	4	0	32	84
07:20	8	0	0	0	8	1	28	0	0	29	0	2	0	0	2	0	26	6	0	32	71
07:25	7	0	0	0	7	0	40	0	0	40	0	2	0	0	2	0	19	9	0	28	77
07:30	4	2	0	0	6	0	35	1	0	36	0	1	1	0	2	0	19	5	0	24	68
07:35	3	1	0	0	4	0	36	1	0	37	0	0	0	0	0	0	15	1	0	16	57
07:40	19	0	0	0	19	0	35	0	0	35	0	1	2	0	3	0	11	0	0	11	68
07:45	4	0	0	0	4	0	26	0	0	26	0	1	1	0	2	0	12	2	0	14	46
07:50	8	2	0	0	10	0	20	0	0	20	0	2	2	0	4	1	16	3	0	20	54
07:55	6	1	1	0	8	1	21	0	0	22	0	1	4	0	5	0	18	2	0	20	55
Total	98	8	3	0	109	3	375	3	0	381	0	16	16	0	32	2	237	44	0	283	805
08:00	7	0	0	0	7	0	29	0	0	29	0	2	1	0	3	0	20	6	0	26	65
08:05	4	0	0	0	4	0	28	0	0	28	0	2	3	0	5	0	8	4	0	12	49
08:10	5	1	0	0	6	1	27	0	0	28	0	0	3	0	3	2	9	2	0	13	50
08:15	11	1	0	0	12	0	30	0	0	30	0	0	0	0	0	0	11	5	0	16	58
08:20	4	0	1	0	5	0	31	0	0	31	0	0	3	0	3	1	8	2	0	11	50
08:25	5	0	0	0	5	1	22	0	0	23	0	2	0	0	2	0	19	3	0	22	52
Grand Total	181	15	5	0	201	7	697	3	0	707	0	24	32	0	56	7	391	74	0	472	1436
Apprch %	90	7.5	2.5	0		1	98.6	0.4	0		0	42.9	57.1	0		1.5	82.8	15.7	0		
Total %	12.6	1	0.3	0	14	0.5	48.5	0.2	0	49.2	0	1.7	2.2	0	3.9	0.5	27.2	5.2	0	32.9	

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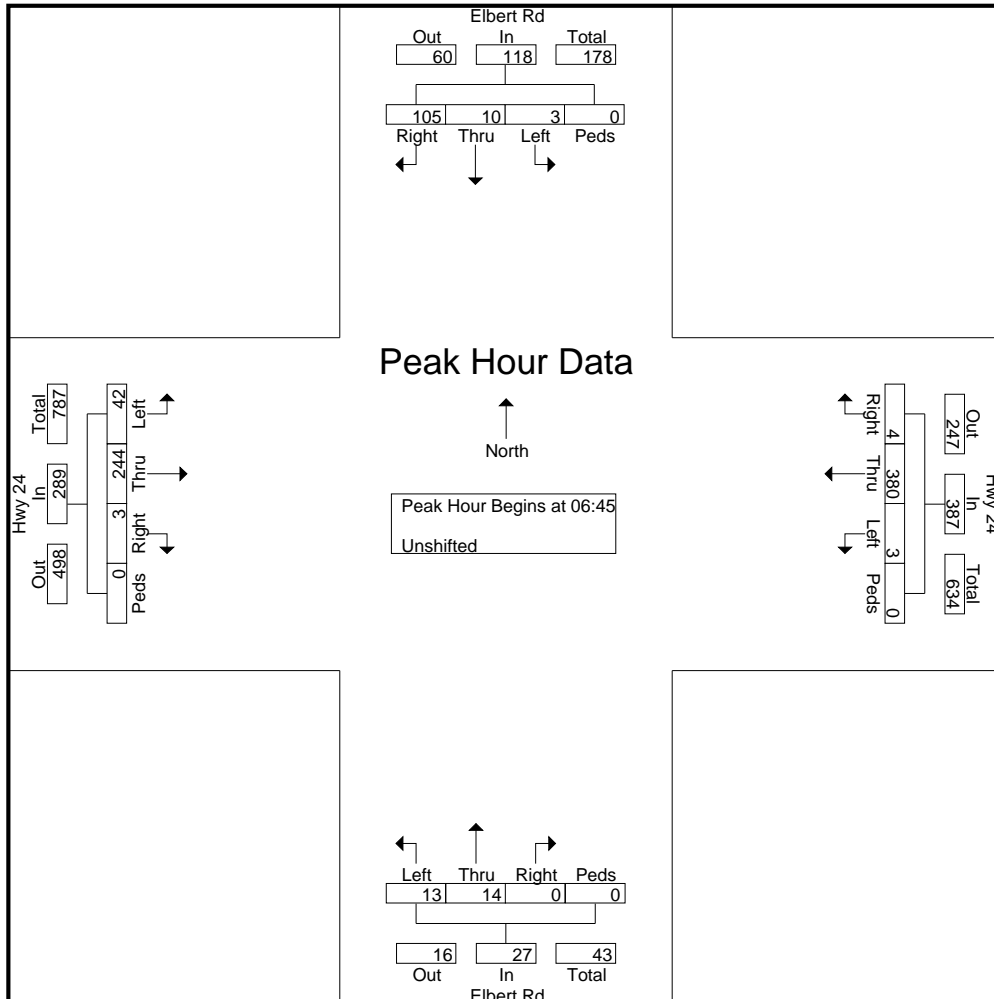
File Name : Elbert Rd - Hwy 24 AM

Site Code : S224640

Start Date : 1/17/2023

Page No : 2

Start Time	Elbert Rd Southbound					Hwy 24 Westbound					Elbert Rd Northbound					Hwy 24 Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 06:30 to 08:25 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:45																					
06:45	6	2	0	0	8	0	25	0	0	25	0	2	1	0	3	1	11	4	0	16	52
06:50	12	2	0	0	14	0	21	0	0	21	0	0	3	0	3	1	23	1	0	25	63
06:55	7	1	1	0	9	2	26	0	0	28	0	0	0	0	0	0	19	0	0	19	56
07:00	12	1	1	0	14	1	31	0	0	32	0	0	4	0	4	1	23	6	0	30	80
07:05	6	1	0	0	7	0	31	1	0	32	0	1	1	0	2	0	25	4	0	29	70
07:10	5	0	0	0	5	0	40	0	0	40	0	3	0	0	3	0	25	2	0	27	75
07:15	16	0	1	0	17	0	32	0	0	32	0	2	1	0	3	0	28	4	0	32	84
07:20	8	0	0	0	8	1	28	0	0	29	0	2	0	0	2	0	26	6	0	32	71
07:25	7	0	0	0	7	0	40	0	0	40	0	2	0	0	2	0	19	9	0	28	77
07:30	4	2	0	0	6	0	35	1	0	36	0	1	1	0	2	0	19	5	0	24	68
07:35	3	1	0	0	4	0	36	1	0	37	0	0	0	0	0	0	15	1	0	16	57
07:40	19	0	0	0	19	0	35	0	0	35	0	1	2	0	3	0	11	0	0	11	68
Total Volume	105	10	3	0	118	4	380	3	0	387	0	14	13	0	27	3	244	42	0	289	821
% App. Total	89	8.5	2.5	0		1	98.2	0.8	0		0	51.9	48.1	0		1	84.4	14.5	0		
PHF	.461	.417	.250	.000	.518	.167	.792	.250	.000	.806	.000	.389	.271	.000	.563	.250	.726	.389	.000	.753	.814

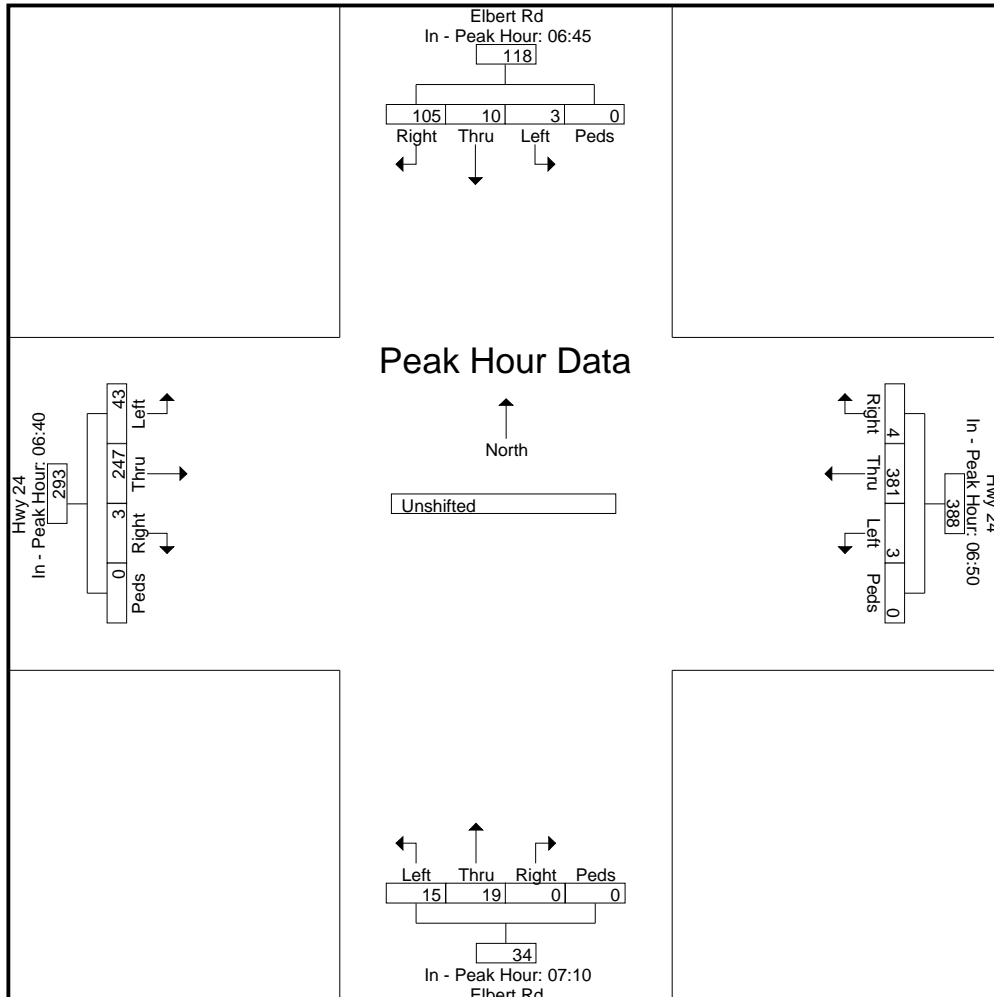


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2504 E. Pikes Peak Ave, Suite 304
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 719-633-2868

File Name : Elbert Rd - Hwy 24 AM
 Site Code : S224640
 Start Date : 1/17/2023
 Page No : 3

Start Time	Elbert Rd Southbound					Hwy 24 Westbound					Elbert Rd Northbound					Hwy 24 Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 06:30 to 08:25 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	06:45					06:50					07:10					06:40					
+0 mins.	6	2	0	0	8	0	21	0	0	21	0	3	0	0	3	0	14	1	0	15	
+5 mins.	12	2	0	0	14	2	26	0	0	28	0	2	1	0	3	1	11	4	0	16	
+10 mins.	7	1	1	0	9	1	31	0	0	32	0	2	0	0	2	1	23	1	0	25	
+15 mins.	12	1	1	0	14	0	31	1	0	32	0	2	0	0	2	0	19	0	0	19	
+20 mins.	6	1	0	0	7	0	40	0	0	40	0	1	1	0	2	1	23	6	0	30	
+25 mins.	5	0	0	0	5	0	32	0	0	32	0	0	0	0	0	0	25	4	0	29	
+30 mins.	16	0	1	0	17	1	28	0	0	29	0	1	2	0	3	0	25	2	0	27	
+35 mins.	8	0	0	0	8	0	40	0	0	40	0	1	1	0	2	0	28	4	0	32	
+40 mins.	7	0	0	0	7	0	35	1	0	36	0	2	2	0	4	0	26	6	0	32	
+45 mins.	4	2	0	0	6	0	36	1	0	37	0	1	4	0	5	0	19	9	0	28	
+50 mins.	3	1	0	0	4	0	35	0	0	35	0	2	1	0	3	0	19	5	0	24	
+55 mins.	19	0	0	0	19	0	26	0	0	26	0	2	3	0	5	0	15	1	0	16	
Total Volume	105	10	3	0	118	4	381	3	0	388	0	19	15	0	34	3	247	43	0	293	
% App. Total	89	8.5	2.5	0		1	98.2	0.8	0		0	55.9	44.1	0		1	84.3	14.7	0		
PHF	.461	.417	.250	.000	.518	.167	.794	.250	.000	.808	.000	.528	.313	.000	.567	.250	.735	.398	.000	.763	



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2504 E. Pikes Peak Ave, Suite 304

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Levels of Service



Lanes, Volumes, Timings
1: US 24 & Judge Orr

Short-Term Baseline
AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (vph)	19	71	204	149	74	4	84	345	78	7	585	19
Future Volume (vph)	19	71	204	149	74	4	84	345	78	7	585	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	870		0	695		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			300			280		
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		0.906			0.997			0.972			0.995	
Flt Protected		0.997			0.968		0.950			0.950		
Satd. Flow (prot)	0	1683	0	0	1798	0	1770	1811	0	1770	1853	0
Flt Permitted		0.997			0.968		0.113			0.476		
Satd. Flow (perm)	0	1683	0	0	1798	0	210	1811	0	887	1853	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		111			1			18				2
Link Speed (mph)		45			45			55				55
Link Distance (ft)		927			7314			1546				3606
Travel Time (s)		14.0			110.8			19.2				44.7
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)	21	77	222	171	85	5	91	375	85	8	629	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	320	0	0	261	0	91	460	0	8	649	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												
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)	60		60	60		60	60		60	60		60
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA		Split	NA		pm+pt	NA		Perm	NA	
Protected Phases	4	4		8	8		5	2				6
Permitted Phases							2			6		

Lanes, Volumes, Timings
1: US 24 & Judge Orr

Short-Term Baseline
AM

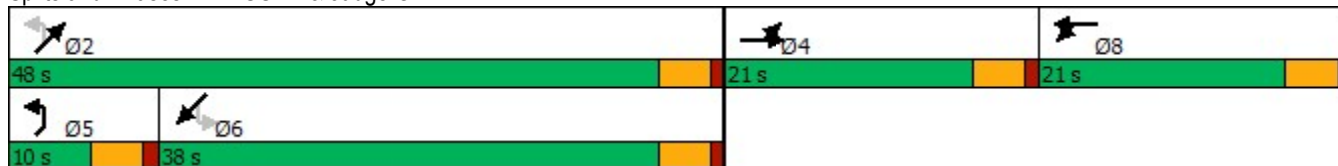


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	21.0	21.0		21.0	21.0		10.0	48.0		38.0	38.0	
Total Split (%)	23.3%	23.3%		23.3%	23.3%		11.1%	53.3%		42.2%	42.2%	
Maximum Green (s)	16.5	16.5		16.5	16.5		5.5	43.5		33.5	33.5	
Yellow Time (s)	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	
Lost Time Adjust (s)		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	
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)		14.6			15.3		43.6	43.6		35.8	35.8	
Actuated g/C Ratio		0.17			0.18		0.50	0.50		0.41	0.41	
v/c Ratio		0.86			0.82		0.45	0.50		0.02	0.85	
Control Delay		45.4			57.1		19.7	17.0		18.3	38.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		45.4			57.1		19.7	17.0		18.3	38.3	
LOS		D			E		B	B		B	D	
Approach Delay		45.4			57.1			17.4			38.1	
Approach LOS		D			E			B			D	
Queue Length 50th (ft)		115			143		27	166		3	349	
Queue Length 95th (ft)		#250			#249		53	253		12	#574	
Internal Link Dist (ft)		847			7234			1466			3526	
Turn Bay Length (ft)							870			695		
Base Capacity (vph)		409			342		203	916		365	763	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.78			0.76		0.45	0.50		0.02	0.85	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	87.1
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.86
Intersection Signal Delay:	35.8
Intersection LOS:	D
Intersection Capacity Utilization:	81.3%
ICU Level of Service:	D
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 1: US 24 & Judge Orr



Intersection												
Int Delay, s/veh	14.2											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↖	↗	↖	↖	↗	↖	↖	↗	↖	↖	↗	↖
Traffic Vol, veh/h	23	154	143	12	115	21	49	267	6	38	438	37
Future Vol, veh/h	23	154	143	12	115	21	49	267	6	38	438	37
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	190	-	325	215	-	215	890	-	1000	790	-	790
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	83	83	83	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	167	155	14	139	25	53	290	7	41	476	40

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1040	961	476	1135	994	290	516	0	0	297	0	0
Stage 1	558	558	-	396	396	-	-	-	-	-	-	-
Stage 2	482	403	-	739	598	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	208	256	589	179	245	749	1050	-	-	1264	-	-
Stage 1	514	512	-	629	604	-	-	-	-	-	-	-
Stage 2	565	600	-	409	491	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	97	236	589	53	225	749	1050	-	-	1264	-	-
Mov Cap-2 Maneuver	97	236	-	53	225	-	-	-	-	-	-	-
Stage 1	488	496	-	598	574	-	-	-	-	-	-	-
Stage 2	393	570	-	193	475	-	-	-	-	-	-	-

Approach	SE		NW		NE		SW			
HCM Control Delay, s	34.2		43.2		1.3		0.6			
HCM LOS	D		E							

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	NWLn2	NWLn3	SELn1	SELn2	SELn3	SWL	SWT	SWR	
Capacity (veh/h)	1050	-	-	53	225	749	97	236	589	1264	-	-
HCM Lane V/C Ratio	0.051	-	-	0.273	0.616	0.034	0.258	0.709	0.264	0.033	-	-
HCM Control Delay (s)	8.6	-	-	96.7	43.7	10	54.5	50.5	13.3	7.9	-	-
HCM Lane LOS	A	-	-	F	E	B	F	F	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.9	3.6	0.1	0.9	4.7	1.1	0.1	-	-

Intersection												
Int Delay, s/veh	2											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↘	↗	↗	↘	↗	↗	↘	↗	↗	↘	↗	↗
Traffic Vol, veh/h	5	12	110	17	15	4	45	251	5	9	383	5
Future Vol, veh/h	5	12	110	17	15	4	45	251	5	9	383	5
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	-	-	Free	-	-	Free	-	-	Yield	-	-	Yield
Storage Length	120	-	240	85	-	25	600	-	480	495	-	485
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	78	78	78	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	14	133	22	19	5	49	273	5	10	416	5

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	817	807	-	814	807	-	416	0	0	273	0	0
Stage 1	436	436	-	371	371	-	-	-	-	-	-	-
Stage 2	381	371	-	443	436	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	-	7.12	6.52	-	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	-	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	295	315	0	297	315	0	1143	-	-	1290	-	-
Stage 1	599	580	0	649	620	0	-	-	-	-	-	-
Stage 2	641	620	0	594	580	0	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	270	299	-	275	299	-	1143	-	-	1290	-	-
Mov Cap-2 Maneuver	270	299	-	275	299	-	-	-	-	-	-	-
Stage 1	573	575	-	621	593	-	-	-	-	-	-	-
Stage 2	594	593	-	575	575	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	18	18.6	1.2	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NERN	NWLn1	NWLn2	NWLn3	SELn1	SELn2	SELn3	SWL	SWT	SWR
Capacity (veh/h)	1143	-	-	275	299	-	270	299	-	1290	-	-
HCM Lane V/C Ratio	0.043	-	-	0.079	0.064	-	0.022	0.048	-	0.008	-	-
HCM Control Delay (s)	8.3	-	-	19.2	17.9	0	18.6	17.7	0	7.8	-	-
HCM Lane LOS	A	-	-	C	C	A	C	C	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	-	0.1	0.2	-	0	-	-

Intersection												
Int Delay, s/veh	7.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	1	47	84	20	157	49	54	90	0	13	171	0
Future Vol, veh/h	1	47	84	20	157	49	54	90	0	13	171	0
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	245	-	0	235	-	-	265	-	-	265	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	87	87	87	83	83	83	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	57	101	23	180	56	65	108	0	15	197	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	236	0	0	158	0	0	412	341	57	418	414	208
Stage 1	-	-	-	-	-	-	59	59	-	254	254	-
Stage 2	-	-	-	-	-	-	353	282	-	164	160	-
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	1331	-	-	1422	-	-	550	581	1009	545	529	832
Stage 1	-	-	-	-	-	-	953	846	-	750	697	-
Stage 2	-	-	-	-	-	-	664	678	-	838	766	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1331	-	-	1422	-	-	383	571	1009	459	520	832
Mov Cap-2 Maneuver	-	-	-	-	-	-	383	571	-	459	520	-
Stage 1	-	-	-	-	-	-	952	845	-	749	686	-
Stage 2	-	-	-	-	-	-	466	667	-	730	765	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.7			14.1			15.9		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	383	571	1331	-	-	1422	-	-	459	520
HCM Lane V/C Ratio	0.17	0.19	0.001	-	-	0.016	-	-	0.033	0.378
HCM Control Delay (s)	16.3	12.8	7.7	0	-	7.6	-	-	13.1	16.1
HCM Lane LOS	C	B	A	A	-	A	-	-	B	C
HCM 95th %tile Q(veh)	0.6	0.7	0	-	-	0	-	-	0.1	1.7

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	3	42	156	15	5	15
Future Vol, veh/h	3	42	156	15	5	15
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	83	83	87	87	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	51	179	17	6	19

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	196	0	-	0	247 188
Stage 1	-	-	-	-	188 -
Stage 2	-	-	-	-	59 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1377	-	-	-	741 854
Stage 1	-	-	-	-	844 -
Stage 2	-	-	-	-	964 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1377	-	-	-	739 854
Mov Cap-2 Maneuver	-	-	-	-	739 -
Stage 1	-	-	-	-	841 -
Stage 2	-	-	-	-	964 -

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1377	-	-	-	822
HCM Lane V/C Ratio	0.003	-	-	-	0.031
HCM Control Delay (s)	7.6	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lanes, Volumes, Timings
1: US 24 & Judge Orr

Short-Term Baseline
PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Volume (vph)	39	46	72	150	130	15	159	571	181	5	424	22
Future Volume (vph)	39	46	72	150	130	15	159	571	181	5	424	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	870		0	695		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			300			280		
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		0.938			0.993			0.964			0.993	
Flt Protected		0.988			0.975		0.950			0.950		
Satd. Flow (prot)	0	1726	0	0	1803	0	1770	1796	0	1770	1850	0
Flt Permitted		0.988			0.975		0.230			0.153		
Satd. Flow (perm)	0	1726	0	0	1803	0	428	1796	0	285	1850	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		38			3			25			3	
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		927			7314			1546			3606	
Travel Time (s)		14.0			110.8			19.2			44.7	
Peak Hour Factor	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	45	53	83	163	141	16	171	614	195	5	461	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	181	0	0	320	0	171	809	0	5	485	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												
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)	60		60	60		60	60		60	60		60
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA		Split	NA		pm+pt	NA		Perm	NA	
Protected Phases	4	4		8	8		5	2			6	
Permitted Phases							2			6		

Lanes, Volumes, Timings
1: US 24 & Judge Orr

Short-Term Baseline
PM

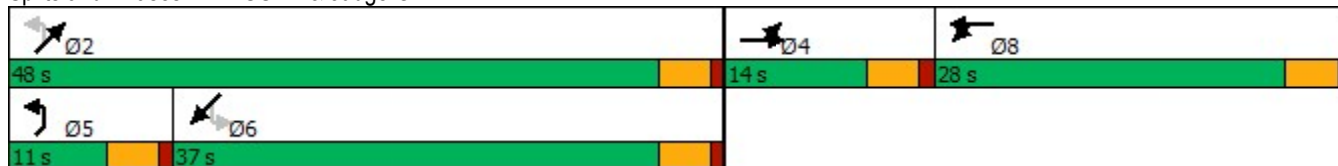


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	14.0	14.0		28.0	28.0		11.0	48.0		37.0	37.0	
Total Split (%)	15.6%	15.6%		31.1%	31.1%		12.2%	53.3%		41.1%	41.1%	
Maximum Green (s)	9.5	9.5		23.5	23.5		6.5	43.5		32.5	32.5	
Yellow Time (s)	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	
Lost Time Adjust (s)		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	
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)		9.3			19.2		43.6	43.6		32.6	32.6	
Actuated g/C Ratio		0.11			0.22		0.51	0.51		0.38	0.38	
v/c Ratio		0.82			0.79		0.54	0.87		0.05	0.69	
Control Delay		59.8			45.5		19.3	31.7		20.2	29.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		59.8			45.5		19.3	31.7		20.2	29.2	
LOS		E			D		B	C		C	C	
Approach Delay		59.8			45.5			29.5			29.1	
Approach LOS		E			D			C			C	
Queue Length 50th (ft)		77			162		49	368		2	219	
Queue Length 95th (ft)		#185			254		92	#658		10	350	
Internal Link Dist (ft)		847			7234			1466			3526	
Turn Bay Length (ft)							870			695		
Base Capacity (vph)		225			498		319	926		108	705	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.80			0.64		0.54	0.87		0.05	0.69	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 85.7
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 34.8
 Intersection LOS: C
 Intersection Capacity Utilization 79.2%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: US 24 & Judge Orr



Intersection												
Int Delay, s/veh	32.3											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↖	↗	↖	↖	↗	↖	↖	↗	↖	↖	↗	↖
Traffic Vol, veh/h	14	91	49	30	171	35	119	459	42	20	364	30
Future Vol, veh/h	14	91	49	30	171	35	119	459	42	20	364	30
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	190	-	325	215	-	215	890	-	1000	790	-	790
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	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	17	110	59	34	197	40	128	494	45	22	396	33

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1331	1235	396	1291	1223	494	429	0	0	539	0	0
Stage 1	440	440	-	750	750	-	-	-	-	-	-	-
Stage 2	891	795	-	541	473	-	-	-	-	-	-	-
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	132	176	653	140	~ 179	575	1130	-	-	1029	-	-
Stage 1	596	578	-	403	419	-	-	-	-	-	-	-
Stage 2	337	399	-	525	558	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	153	653	49	~ 155	575	1130	-	-	1029	-	-
Mov Cap-2 Maneuver	-	153	-	49	~ 155	-	-	-	-	-	-	-
Stage 1	529	566	-	357	372	-	-	-	-	-	-	-
Stage 2	131	354	-	377	546	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s		182.7	1.6	0.4
HCM LOS	-	F		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	NWLn2	NWLn3	SELn1	SELn2	SELn3	SWL	SWT	SWR	
Capacity (veh/h)	1130	-	-	49	155	575	-	153	653	1029	-	-
HCM Lane V/C Ratio	0.113	-	-	0.704	1.268	0.07	-	0.717	0.09	0.021	-	-
HCM Control Delay (s)	8.6	-	-	178.3	218.5	11.7	-	72.7	11.1	8.6	-	-
HCM Lane LOS	A	-	-	F	F	B	-	F	B	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	2.8	11.6	0.2	-	4.3	0.3	0.1	-	-

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

Intersection												
Int Delay, s/veh	2.1											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↖	↗	↖	↖	↗	↖	↖	↗	↖	↖	↗	↖
Traffic Vol, veh/h	5	13	81	11	8	15	91	431	20	14	389	5
Future Vol, veh/h	5	13	81	11	8	15	91	431	20	14	389	5
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	-	-	Free	-	-	Free	-	-	Yield	-	-	Yield
Storage Length	120	-	240	85	-	25	600	-	480	495	-	485
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	78	78	78	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	16	98	14	10	19	99	468	22	15	423	5

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1124	1119	-	1127	1119	-	423	0	0	468	0	0
Stage 1	453	453	-	666	666	-	-	-	-	-	-	-
Stage 2	671	666	-	461	453	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	-	7.12	6.52	-	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	-	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	183	207	0	182	207	0	1136	-	-	1094	-	-
Stage 1	586	570	0	449	457	0	-	-	-	-	-	-
Stage 2	446	457	0	581	570	0	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	162	186	-	157	186	-	1136	-	-	1094	-	-
Mov Cap-2 Maneuver	162	186	-	157	186	-	-	-	-	-	-	-
Stage 1	535	562	-	410	417	-	-	-	-	-	-	-
Stage 2	397	417	-	557	562	-	-	-	-	-	-	-

Approach	SE		NW		NE		SW	
HCM Control Delay, s	26.7		28.2		1.4		0.3	
HCM LOS	D		D					

Minor Lane/Major Mvmt	NEL	NET	NERN	NWLn1	NWLn2	NWLn3	SELn1	SELn2	SELn3	SWL	SWT	SWR
Capacity (veh/h)	1136	-	-	157	186	-	162	186	-	1094	-	-
HCM Lane V/C Ratio	0.087	-	-	0.09	0.055	-	0.037	0.084	-	0.014	-	-
HCM Control Delay (s)	8.5	-	-	30.2	25.5	0	28.1	26.1	0	8.3	-	-
HCM Lane LOS	A	-	-	D	D	A	D	D	A	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.3	0.2	-	0.1	0.3	-	0	-	-

Intersection												
Int Delay, s/veh	8.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	31	191	48	10	114	36	90	151	30	50	66	28
Future Vol, veh/h	31	191	48	10	114	36	90	151	30	50	66	28
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	245	-	0	235	-	-	265	-	-	265	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	83	83	83	92	92	92	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	220	55	12	137	43	98	164	33	60	80	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	180	0	0	275	0	0	532	496	220	601	530	159
Stage 1	-	-	-	-	-	-	292	292	-	183	183	-
Stage 2	-	-	-	-	-	-	240	204	-	418	347	-
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	1396	-	-	1288	-	-	458	475	820	412	455	886
Stage 1	-	-	-	-	-	-	716	671	-	819	748	-
Stage 2	-	-	-	-	-	-	763	733	-	612	635	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1396	-	-	1288	-	-	368	456	820	277	437	886
Mov Cap-2 Maneuver	-	-	-	-	-	-	368	456	-	277	437	-
Stage 1	-	-	-	-	-	-	694	650	-	794	741	-
Stage 2	-	-	-	-	-	-	649	726	-	426	615	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.5			17.5			16.6		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	368	492	1396	-	-	1288	-	-	277	515
HCM Lane V/C Ratio	0.266	0.4	0.026	-	-	0.009	-	-	0.217	0.22
HCM Control Delay (s)	18.3	17.1	7.6	0	-	7.8	-	-	21.6	14
HCM Lane LOS	C	C	A	A	-	A	-	-	C	B
HCM 95th %tile Q(veh)	1.1	1.9	0.1	-	-	0	-	-	0.8	0.8

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	20	163	55	6	11	11
Future Vol, veh/h	20	163	55	6	11	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	83	83	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	187	66	7	14	14

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	73	0	-	0	303 70
Stage 1	-	-	-	-	70 -
Stage 2	-	-	-	-	233 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1527	-	-	-	689 993
Stage 1	-	-	-	-	953 -
Stage 2	-	-	-	-	806 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1527	-	-	-	677 993
Mov Cap-2 Maneuver	-	-	-	-	677 -
Stage 1	-	-	-	-	937 -
Stage 2	-	-	-	-	806 -

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1527	-	-	-	805
HCM Lane V/C Ratio	0.015	-	-	-	0.035
HCM Control Delay (s)	7.4	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lanes, Volumes, Timings
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Short-Term Baseline + Site
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕		↗	↖		↗	↖	
Traffic Volume (vph)	19	77	204	203	80	4	84	345	107	7	585	19
Future Volume (vph)	19	77	204	203	80	4	84	345	107	7	585	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	870		0	695		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			300			280		
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		0.908			0.998			0.965			0.995	
Flt Protected		0.997			0.966		0.950			0.950		
Satd. Flow (prot)	0	1686	0	0	1796	0	1770	1798	0	1770	1853	0
Flt Permitted		0.997			0.966		0.100			0.433		
Satd. Flow (perm)	0	1686	0	0	1796	0	186	1798	0	807	1853	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		102			1			24				2
Link Speed (mph)		45			45			55				55
Link Distance (ft)		927			7314			1546				3606
Travel Time (s)		14.0			110.8			19.2				44.7
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)	21	84	222	233	92	5	91	375	116	8	629	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	327	0	0	330	0	91	491	0	8	649	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												
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)	60		60	60		60	60		60	60		60
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA		Split	NA		pm+pt	NA		Perm	NA	
Protected Phases	4	4		8	8		5	2				6
Permitted Phases							2			6		

Lanes, Volumes, Timings
1: US 24 & Judge Orr

Short-Term Baseline + Site
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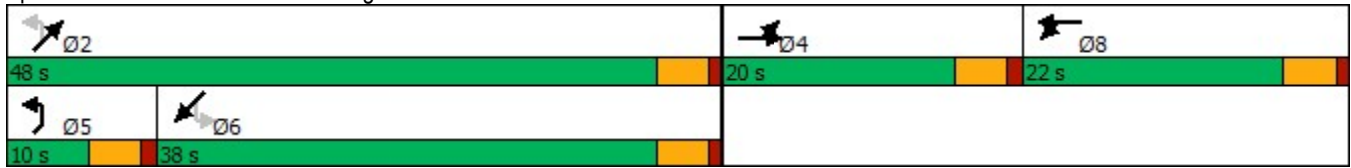


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	20.0	20.0		22.0	22.0		10.0	48.0		38.0	38.0	
Total Split (%)	22.2%	22.2%		24.4%	24.4%		11.1%	53.3%		42.2%	42.2%	
Maximum Green (s)	15.5	15.5		17.5	17.5		5.5	43.5		33.5	33.5	
Yellow Time (s)	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	
Lost Time Adjust (s)		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	
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)		14.7			17.5		43.5	43.5		35.6	35.6	
Actuated g/C Ratio		0.16			0.20		0.49	0.49		0.40	0.40	
v/c Ratio		0.90			0.93		0.48	0.55		0.02	0.88	
Control Delay		54.6			71.4		21.6	18.3		18.4	41.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		54.6			71.4		21.6	18.3		18.4	41.5	
LOS		D			E		C	B		B	D	
Approach Delay		54.6			71.4			18.8			41.3	
Approach LOS		D			E			B			D	
Queue Length 50th (ft)		128			186		27	179		3	349	
Queue Length 95th (ft)		#280			#333		53	274		12	#574	
Internal Link Dist (ft)		847			7234			1466			3526	
Turn Bay Length (ft)							870			695		
Base Capacity (vph)		376			353		188	889		321	739	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.87			0.93		0.48	0.55		0.02	0.88	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 89.2
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 41.9
 Intersection LOS: D
 Intersection Capacity Utilization 84.9%
 ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: US 24 & Judge Orr



Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑		↑	↑	
Traffic Vol, veh/h	44	25	3	171	28	1
Future Vol, veh/h	44	25	3	171	28	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	-	235	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	87	87	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	30	3	197	36	1

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	83	0	256 53
Stage 1	-	-	-	-	53 -
Stage 2	-	-	-	-	203 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1514	-	733 1014
Stage 1	-	-	-	-	970 -
Stage 2	-	-	-	-	831 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1514	-	732 1014
Mov Cap-2 Maneuver	-	-	-	-	732 -
Stage 1	-	-	-	-	970 -
Stage 2	-	-	-	-	829 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	739	-	-	1514	-
HCM Lane V/C Ratio	0.05	-	-	0.002	-
HCM Control Delay (s)	10.1	-	-	7.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕			↕			↕	
Traffic Vol, veh/h	3	63	34	6	178	17	64	4	2	8	4	15
Future Vol, veh/h	3	63	34	6	178	17	64	4	2	8	4	15
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	-	-	235	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	68	37	7	193	18	70	4	2	9	4	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	211	0	0	105	0	0	300	299	68	312	327	202
Stage 1	-	-	-	-	-	-	74	74	-	216	216	-
Stage 2	-	-	-	-	-	-	226	225	-	96	111	-
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	1360	-	-	1486	-	-	652	613	995	641	591	839
Stage 1	-	-	-	-	-	-	935	833	-	786	724	-
Stage 2	-	-	-	-	-	-	777	718	-	911	804	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1360	-	-	1486	-	-	632	609	995	633	587	839
Mov Cap-2 Maneuver	-	-	-	-	-	-	632	609	-	633	587	-
Stage 1	-	-	-	-	-	-	933	831	-	784	720	-
Stage 2	-	-	-	-	-	-	754	714	-	902	802	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.2			11.4			10.2		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	637	1360	-	-	1486	-	-	723
HCM Lane V/C Ratio	0.119	0.002	-	-	0.004	-	-	0.041
HCM Control Delay (s)	11.4	7.7	0	-	7.4	0	-	10.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.1

Intersection												
Int Delay, s/veh	18											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↖	↗	↖	↖	↗	↖	↖	↗	↖	↖	↗	↖
Traffic Vol, veh/h	23	169	143	12	136	21	49	267	6	38	438	37
Future Vol, veh/h	23	169	143	12	136	21	49	267	6	38	438	37
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	190	-	325	215	-	215	890	-	1000	790	-	790
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	83	83	83	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	184	155	14	164	25	53	290	7	41	476	40

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1052	961	476	1144	994	290	516	0	0	297	0	0
Stage 1	558	558	-	396	396	-	-	-	-	-	-	-
Stage 2	494	403	-	748	598	-	-	-	-	-	-	-
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	204	256	589	177	245	749	1050	-	-	1264	-	-
Stage 1	514	512	-	629	604	-	-	-	-	-	-	-
Stage 2	557	600	-	404	491	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	76	236	589	44	225	749	1050	-	-	1264	-	-
Mov Cap-2 Maneuver	76	236	-	44	225	-	-	-	-	-	-	-
Stage 1	488	496	-	598	574	-	-	-	-	-	-	-
Stage 2	365	570	-	181	475	-	-	-	-	-	-	-

Approach	SE		NW		NE		SW	
HCM Control Delay, s	40.5		53.9		1.3		0.6	
HCM LOS	E		F					

Minor Lane/Major Mvmt	NEL	NET	NERN	NWLn1	NWLn2	NWLn3	SELn1	SELn2	SELn3	SWL	SWT	SWR
Capacity (veh/h)	1050	-	-	44	225	749	76	236	589	1264	-	-
HCM Lane V/C Ratio	0.051	-	-	0.329	0.728	0.034	0.329	0.778	0.264	0.033	-	-
HCM Control Delay (s)	8.6	-	-	122.6	54.6	10	74	58.9	13.3	7.9	-	-
HCM Lane LOS	A	-	-	F	F	B	F	F	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.1	4.9	0.1	1.2	5.7	1.1	0.1	-	-

Intersection												
Int Delay, s/veh	2.1											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↖	↗	↖	↖	↗	↖	↖	↗	↖	↖	↗	↖
Traffic Vol, veh/h	5	14	110	17	17	8	45	251	5	14	383	5
Future Vol, veh/h	5	14	110	17	17	8	45	251	5	14	383	5
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	-	-	Free	-	-	Free	-	-	Yield	-	-	Yield
Storage Length	120	-	240	85	-	25	600	-	480	495	-	485
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	78	78	78	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	17	133	22	22	10	49	273	5	15	416	5

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	828	817	-	826	817	-	416	0	0	273	0	0
Stage 1	446	446	-	371	371	-	-	-	-	-	-	-
Stage 2	382	371	-	455	446	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	-	7.12	6.52	-	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	-	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	290	311	0	291	311	0	1143	-	-	1290	-	-
Stage 1	591	574	0	649	620	0	-	-	-	-	-	-
Stage 2	640	620	0	585	574	0	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	262	294	-	267	294	-	1143	-	-	1290	-	-
Mov Cap-2 Maneuver	262	294	-	267	294	-	-	-	-	-	-	-
Stage 1	566	567	-	621	593	-	-	-	-	-	-	-
Stage 2	590	593	-	561	567	-	-	-	-	-	-	-

Approach	SE		NW		NE		SW	
HCM Control Delay, s	18.3		19		1.2		0.3	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NEL	NET	NERN	NWLn1	NWLn2	NWLn3	SELn1	SELn2	SELn3	SWL	SWT	SWR
Capacity (veh/h)	1143	-	-	267	294	-	262	294	-	1290	-	-
HCM Lane V/C Ratio	0.043	-	-	0.082	0.074	-	0.023	0.057	-	0.012	-	-
HCM Control Delay (s)	8.3	-	-	19.7	18.2	0	19.1	18	0	7.8	-	-
HCM Lane LOS	A	-	-	C	C	A	C	C	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	-	0.1	0.2	-	0	-	-

Intersection												
Int Delay, s/veh	8.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	1	82	84	25	217	70	54	90	5	15	171	13
Future Vol, veh/h	1	82	84	25	217	70	54	90	5	15	171	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	245	-	0	235	-	-	265	-	-	265	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	87	87	87	83	83	83	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	99	101	29	249	80	65	108	6	17	197	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	329	0	0	200	0	0	554	488	99	556	549	289
Stage 1	-	-	-	-	-	-	101	101	-	347	347	-
Stage 2	-	-	-	-	-	-	453	387	-	209	202	-
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	1231	-	-	1372	-	-	443	480	957	442	443	750
Stage 1	-	-	-	-	-	-	905	811	-	669	635	-
Stage 2	-	-	-	-	-	-	586	610	-	793	734	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1231	-	-	1372	-	-	276	469	957	355	433	750
Mov Cap-2 Maneuver	-	-	-	-	-	-	276	469	-	355	433	-
Stage 1	-	-	-	-	-	-	904	810	-	668	622	-
Stage 2	-	-	-	-	-	-	385	597	-	682	733	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.6			17.4			19.8		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	276	482	1231	-	-	1372	-	-	355	446
HCM Lane V/C Ratio	0.236	0.237	0.001	-	-	0.021	-	-	0.049	0.474
HCM Control Delay (s)	22	14.8	7.9	0	-	7.7	-	-	15.7	20.1
HCM Lane LOS	C	B	A	A	-	A	-	-	C	C
HCM 95th %tile Q(veh)	0.9	0.9	0	-	-	0.1	-	-	0.2	2.5

Lanes, Volumes, Timings
1: US 24 & Judge Orr

Short-Term Baseline + Site
PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕		↗	↖		↗	↖	
Traffic Volume (vph)	39	58	72	196	140	15	159	571	245	5	424	22
Future Volume (vph)	39	58	72	196	140	15	159	571	245	5	424	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	870		0	695		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			300			280		
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		0.943			0.994			0.955			0.993	
Flt Protected		0.989			0.973		0.950			0.950		
Satd. Flow (prot)	0	1737	0	0	1802	0	1770	1779	0	1770	1850	0
Flt Permitted		0.989			0.973		0.215			0.123		
Satd. Flow (perm)	0	1737	0	0	1802	0	400	1779	0	229	1850	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		34			2			33			3	
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		927			7314			1546			3606	
Travel Time (s)		14.0			110.8			19.2			44.7	
Peak Hour Factor	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	45	67	83	213	152	16	171	614	263	5	461	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	195	0	0	381	0	171	877	0	5	485	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												
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)	60		60	60		60	60		60	60		60
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA		Split	NA		pm+pt	NA		Perm	NA	
Protected Phases	4	4		8	8		5	2			6	
Permitted Phases							2			6		

Lanes, Volumes, Timings
1: US 24 & Judge Orr

Short-Term Baseline + Site
PM



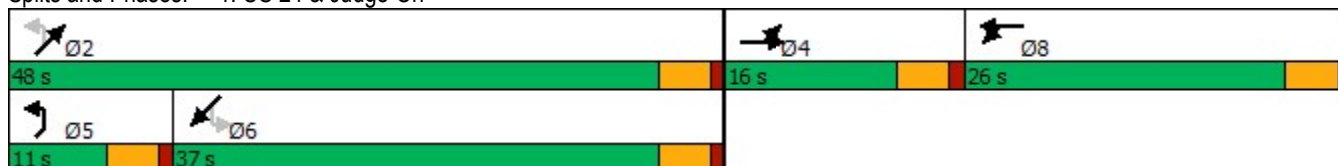
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	16.0	16.0		26.0	26.0		11.0	48.0		37.0	37.0	
Total Split (%)	17.8%	17.8%		28.9%	28.9%		12.2%	53.3%		41.1%	41.1%	
Maximum Green (s)	11.5	11.5		21.5	21.5		6.5	43.5		32.5	32.5	
Yellow Time (s)	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	
Lost Time Adjust (s)		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	
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)		10.9			20.6		43.6	43.6		32.6	32.6	
Actuated g/C Ratio		0.12			0.23		0.49	0.49		0.37	0.37	
v/c Ratio		0.81			0.90		0.58	0.98		0.06	0.71	
Control Delay		56.7			59.9		21.8	50.2		21.2	31.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		56.7			59.9		21.8	50.2		21.2	31.3	
LOS		E			E		C	D		C	C	
Approach Delay		56.7			59.9			45.6			31.2	
Approach LOS		E			E			D			C	
Queue Length 50th (ft)		90			209		53	~466		2	234	
Queue Length 95th (ft)		#186			#372		92	#746		10	350	
Internal Link Dist (ft)		847			7234			1466			3526	
Turn Bay Length (ft)							870			695		
Base Capacity (vph)		255			439		297	891		83	681	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.76			0.87		0.58	0.98		0.06	0.71	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 88.6
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 45.9
 Intersection LOS: D
 Intersection Capacity Utilization 92.9%
 ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: US 24 & Judge Orr



Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑		↑	↑	
Traffic Vol, veh/h	170	39	3	62	22	3
Future Vol, veh/h	170	39	3	62	22	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	235	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	83	83	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	195	45	4	75	28	4

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	240	0	278
Stage 1	-	-	-	-	195
Stage 2	-	-	-	-	83
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	-	-	1327	-	712
Stage 1	-	-	-	-	838
Stage 2	-	-	-	-	940
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1327	-	710
Mov Cap-2 Maneuver	-	-	-	-	710
Stage 1	-	-	-	-	838
Stage 2	-	-	-	-	937

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	724	-	-	1327	-
HCM Lane V/C Ratio	0.044	-	-	0.003	-
HCM Control Delay (s)	10.2	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔			↔			↔	
Traffic Vol, veh/h	20	192	77	6	73	7	69	11	10	13	9	11
Future Vol, veh/h	20	192	77	6	73	7	69	11	10	13	9	11
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	-	-	235	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	83	83	83	83	83	83	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	209	84	7	88	8	83	13	12	17	12	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	96	0	0	293	0	0	372	363	209	414	443	92
Stage 1	-	-	-	-	-	-	253	253	-	106	106	-
Stage 2	-	-	-	-	-	-	119	110	-	308	337	-
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	1498	-	-	1269	-	-	585	565	831	549	509	965
Stage 1	-	-	-	-	-	-	751	698	-	900	807	-
Stage 2	-	-	-	-	-	-	885	804	-	702	641	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1498	-	-	1269	-	-	556	551	831	522	497	965
Mov Cap-2 Maneuver	-	-	-	-	-	-	556	551	-	522	497	-
Stage 1	-	-	-	-	-	-	737	685	-	884	802	-
Stage 2	-	-	-	-	-	-	854	799	-	666	629	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.5			12.7			11.4		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	577	1498	-	-	1269	-	-	606
HCM Lane V/C Ratio	0.188	0.015	-	-	0.006	-	-	0.07
HCM Control Delay (s)	12.7	7.4	0	-	7.9	0	-	11.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.7	0	-	-	0	-	-	0.2

Intersection												
Int Delay, s/veh	50.3											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↖	↗	↖	↖	↗	↖	↖	↗	↖	↖	↗	↖
Traffic Vol, veh/h	14	114	49	30	193	35	119	459	42	20	364	30
Future Vol, veh/h	14	114	49	30	193	35	119	459	42	20	364	30
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	190	-	325	215	-	215	890	-	1000	790	-	790
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	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	17	137	59	34	222	40	128	494	45	22	396	33

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1344	1235	396	1305	1223	494	429	0	0	539	0	0
Stage 1	440	440	-	750	750	-	-	-	-	-	-	-
Stage 2	904	795	-	555	473	-	-	-	-	-	-	-
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	129	176	653	137	~ 179	575	1130	-	-	1029	-	-
Stage 1	596	578	-	403	419	-	-	-	-	-	-	-
Stage 2	331	399	-	516	558	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	153	653	~ 26	~ 155	575	1130	-	-	1029	-	-
Mov Cap-2 Maneuver	-	153	-	~ 26	~ 155	-	-	-	-	-	-	-
Stage 1	529	566	-	357	372	-	-	-	-	-	-	-
Stage 2	110	354	-	348	546	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s		271.8	1.6	0.4
HCM LOS	-	F		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	NWLn2	NWLn3	SELn1	SELn2	SELn3	SWL	SWT	SWR	
Capacity (veh/h)	1130	-	-	26	155	575	-	153	653	1029	-	-
HCM Lane V/C Ratio	0.113	-	-	1.326	1.431	0.07	-	0.898	0.09	0.021	-	-
HCM Control Delay (s)	8.6	-	-	\$ 513.6	281.4	11.7	-	105.7	11.1	8.6	-	-
HCM Lane LOS	A	-	-	F	F	B	-	F	B	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	4.2	14.2	0.2	-	6.3	0.3	0.1	-	-

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

Intersection												
Int Delay, s/veh	2.3											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑	↗	↘	↑	↗
Traffic Vol, veh/h	5	16	81	11	11	24	91	431	20	22	389	5
Future Vol, veh/h	5	16	81	11	11	24	91	431	20	22	389	5
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	-	-	Free	-	-	Free	-	-	Yield	-	-	Yield
Storage Length	120	-	240	85	-	25	600	-	480	495	-	485
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	78	78	78	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	19	98	14	14	31	99	468	22	24	423	5

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1144	1137	-	1147	1137	-	423	0	0	468	0	0
Stage 1	471	471	-	666	666	-	-	-	-	-	-	-
Stage 2	673	666	-	481	471	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	-	7.12	6.52	-	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	-	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	177	202	0	176	202	0	1136	-	-	1094	-	-
Stage 1	573	560	0	449	457	0	-	-	-	-	-	-
Stage 2	445	457	0	566	560	0	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	153	180	-	149	180	-	1136	-	-	1094	-	-
Mov Cap-2 Maneuver	153	180	-	149	180	-	-	-	-	-	-	-
Stage 1	523	548	-	410	417	-	-	-	-	-	-	-
Stage 2	392	417	-	534	548	-	-	-	-	-	-	-

Approach	SE		NW		NE		SW	
HCM Control Delay, s	27.9		29.2		1.4		0.4	
HCM LOS	D		D					

Minor Lane/Major Mvmt	NEL	NET	NERN	NWLn1	NWLn2	NWLn3	SELn1	SELn2	SELn3	SWL	SWT	SWR
Capacity (veh/h)	1136	-	-	149	180	-	153	180	-	1094	-	-
HCM Lane V/C Ratio	0.087	-	-	0.095	0.078	-	0.039	0.107	-	0.022	-	-
HCM Control Delay (s)	8.5	-	-	31.7	26.7	0	29.5	27.4	0	8.4	-	-
HCM Lane LOS	A	-	-	D	D	A	D	D	A	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.3	0.3	-	0.1	0.4	-	0.1	-	-

Intersection												
Int Delay, s/veh	10.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	31	267	48	17	172	58	90	151	37	73	66	28
Future Vol, veh/h	31	267	48	17	172	58	90	151	37	73	66	28
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	245	-	0	235	-	-	265	-	-	265	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	290	52	18	187	63	98	164	40	84	76	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	250	0	0	342	0	0	667	644	290	741	665	219
Stage 1	-	-	-	-	-	-	358	358	-	255	255	-
Stage 2	-	-	-	-	-	-	309	286	-	486	410	-
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	1316	-	-	1217	-	-	372	391	749	332	381	821
Stage 1	-	-	-	-	-	-	660	628	-	749	696	-
Stage 2	-	-	-	-	-	-	701	675	-	563	595	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1316	-	-	1217	-	-	290	373	749	199	363	821
Mov Cap-2 Maneuver	-	-	-	-	-	-	290	373	-	199	363	-
Stage 1	-	-	-	-	-	-	639	608	-	725	686	-
Stage 2	-	-	-	-	-	-	590	665	-	377	576	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.6			22.5			24.6		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	290	414	1316	-	-	1217	-	-	199	435
HCM Lane V/C Ratio	0.337	0.494	0.026	-	-	0.015	-	-	0.422	0.248
HCM Control Delay (s)	23.6	21.9	7.8	0	-	8	-	-	35.7	16
HCM Lane LOS	C	C	A	A	-	A	-	-	E	C
HCM 95th %tile Q(veh)	1.4	2.7	0.1	-	-	0	-	-	1.9	1

Intersection									
Intersection Delay, s/veh	6.8								
Intersection LOS	A								
Approach	EB		WB		NB		SB		
Entry Lanes	2		2		2		2		
Conflicting Circle Lanes	2		2		2		2		
Adj Approach Flow, veh/h	324		476		548		581		
Demand Flow Rate, veh/h	331		485		560		592		
Vehicles Circulating, veh/h	601		554		164		508		
Vehicles Exiting, veh/h	499		170		767		531		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	6.9		7.5		5.2		7.9		
Approach LOS	A		A		A		A		
Lane	Left	Right	Left	Right	Left	Right	Left	Right	
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR	
Assumed Moves	LT	R	LT	TR	LT	TR	LT	TR	
RT Channelized									
Lane Util	0.314	0.686	0.470	0.530	0.470	0.530	0.470	0.530	
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	104	227	228	257	263	297	278	314	
Cap Entry Lane, veh/h	777	852	811	887	1161	1235	846	922	
Entry HV Adj Factor	0.976	0.982	0.981	0.981	0.980	0.978	0.982	0.980	
Flow Entry, veh/h	101	223	224	252	258	291	273	308	
Cap Entry, veh/h	758	837	795	870	1137	1208	830	904	
V/C Ratio	0.134	0.266	0.281	0.290	0.227	0.240	0.329	0.341	
Control Delay, s/veh	6.2	7.2	7.7	7.3	5.2	5.1	8.1	7.7	
LOS	A	A	A	A	A	A	A	A	
95th %tile Queue, veh	0	1	1	1	1	1	1	2	

Lanes, Volumes, Timings
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	69	159	298	279	140	50	239	677	197	100	1206	102
Future Volume (vph)	69	159	298	279	140	50	239	677	197	100	1206	102
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	0.95	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	3539	1583	3433	3539	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.656			0.950			0.950			0.352		
Satd. Flow (perm)	1222	3539	1583	3433	3539	1583	3433	3539	1583	656	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			246			149			207			149
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		1222			928			1307			1572	
Travel Time (s)		18.5			14.1			16.2			19.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	75	173	324	303	152	54	252	713	207	105	1269	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	75	173	324	303	152	54	252	713	207	105	1269	107
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)	60		60	60		60	60		60	60		60
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
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	17.0	24.0	24.0	19.0	26.0	26.0	23.0	55.0	55.0	12.0	44.0	44.0
Total Split (%)	15.5%	21.8%	21.8%	17.3%	23.6%	23.6%	20.9%	50.0%	50.0%	10.9%	40.0%	40.0%
Maximum Green (s)	12.5	19.5	19.5	14.5	21.5	21.5	18.5	50.5	50.5	7.5	39.5	39.5
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)	21.1	12.5	12.5	13.0	19.3	19.3	12.8	50.7	50.7	52.1	45.0	45.0
Actuated g/C Ratio	0.21	0.12	0.12	0.13	0.19	0.19	0.13	0.50	0.50	0.51	0.44	0.44
v/c Ratio	0.25	0.40	0.79	0.69	0.23	0.13	0.58	0.40	0.23	0.25	0.81	0.14
Control Delay	28.1	43.5	26.2	51.7	36.9	0.6	48.1	17.7	3.1	11.7	31.3	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.1	43.5	26.2	51.7	36.9	0.6	48.1	17.7	3.1	11.7	31.3	1.8
LOS	C	D	C	D	D	A	D	B	A	B	C	A
Approach Delay		31.7			41.9			21.6			27.7	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	36	55	48	96	45	0	80	146	0	25	362	0
Queue Length 95th (ft)	69	88	147	153	76	0	125	225	40	58	#607	16
Internal Link Dist (ft)		1142			848			1227			1492	
Turn Bay Length (ft)	235			235		235	860		290	695		290
Base Capacity (vph)	369	683	504	492	762	458	628	1769	894	422	1572	786
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.25	0.64	0.62	0.20	0.12	0.40	0.40	0.23	0.25	0.81	0.14

Intersection Summary

























Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 101.4
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 28.3
 Intersection LOS: C
 Intersection Capacity Utilization 71.0%
 ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: US 24 & Judge Orr



Lanes, Volumes, Timings
2: US 24 & Stapleton

2043 Background
AM

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	175	405	600	81	398	56	30	540	53	126	800	352
Future Volume (vph)	175	405	600	81	398	56	30	540	53	126	800	352
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	190		325	215		215	890		1000	790		790
Storage Lanes	1		2	1		0	2		1	2		1
Taper Length (ft)	240			200			190			190		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	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	3539	1583	1770	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.401			0.490			0.950			0.950		
Satd. Flow (perm)	747	3539	1583	913	3539	1583	3433	3539	1583	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			479			136			95			371
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		1349			5480			1382			1435	
Travel Time (s)		20.4			83.0			17.1			17.8	
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)	188	435	645	87	428	60	32	568	56	133	842	371
Shared Lane Traffic (%)												
Lane Group Flow (vph)	188	435	645	87	428	60	32	568	56	133	842	371
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			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	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2			4			8

Lanes, Volumes, Timings
2: US 24 & Stapleton

2043 Background
AM

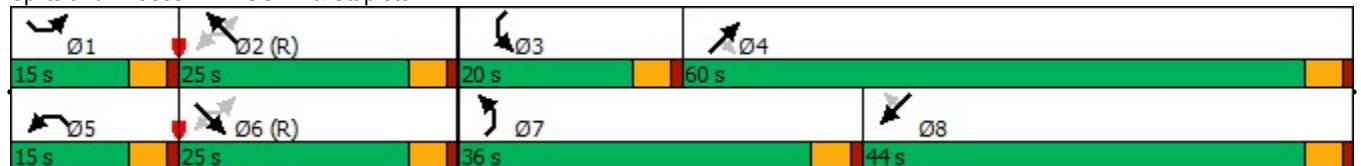


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	15.0	25.0	25.0	15.0	25.0	25.0	36.0	60.0	60.0	20.0	44.0	44.0
Total Split (%)	12.5%	20.8%	20.8%	12.5%	20.8%	20.8%	30.0%	50.0%	50.0%	16.7%	36.7%	36.7%
Maximum Green (s)	10.5	20.5	20.5	10.5	20.5	20.5	31.5	55.5	55.5	15.5	39.5	39.5
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	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Act Effct Green (s)	65.9	53.5	53.5	57.4	48.9	48.9	6.6	30.0	30.0	10.0	37.5	37.5
Actuated g/C Ratio	0.55	0.45	0.45	0.48	0.41	0.41	0.06	0.25	0.25	0.08	0.31	0.31
v/c Ratio	0.36	0.28	0.66	0.18	0.30	0.08	0.17	0.64	0.12	0.47	0.76	0.50
Control Delay	17.7	24.1	11.7	16.6	27.7	0.2	55.7	42.9	1.9	57.4	41.9	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.7	24.1	11.7	16.6	27.7	0.2	55.7	42.9	1.9	57.4	41.9	5.1
LOS	B	C	B	B	C	A	E	D	A	E	D	A
Approach Delay		16.8			23.2			40.0			33.3	
Approach LOS		B			C			D			C	
Queue Length 50th (ft)	74	115	90	32	121	0	12	200	0	51	312	0
Queue Length 95th (ft)	138	184	282	70	196	0	29	241	8	82	353	63
Internal Link Dist (ft)		1269			5400			1302			1355	
Turn Bay Length (ft)	190		325	215		215	890		1000	790		790
Base Capacity (vph)	528	1578	971	530	1441	725	901	1636	783	443	1192	779
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.28	0.66	0.16	0.30	0.08	0.04	0.35	0.07	0.30	0.71	0.48

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NWTL and 6:SETL, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 27.5
 Intersection LOS: C
 Intersection Capacity Utilization 75.0%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 2: US 24 & Stapleton



Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑↑	
Traffic Vol, veh/h	8	143	330	23	10	25
Future Vol, veh/h	8	143	330	23	10	25
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	92	92	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	164	359	25	13	32

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	384	0	0	472	192
Stage 1	-	-	-	372	-
Stage 2	-	-	-	100	-
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	1171	-	-	521	817
Stage 1	-	-	-	667	-
Stage 2	-	-	-	913	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1171	-	-	517	817
Mov Cap-2 Maneuver	-	-	-	517	-
Stage 1	-	-	-	662	-
Stage 2	-	-	-	913	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1171	-	-	-	701
HCM Lane V/C Ratio	0.008	-	-	-	0.064
HCM Control Delay (s)	8.1	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection									
Intersection Delay, s/veh	9.2								
Intersection LOS	A								
Approach	EB		WB		NB		SB		
Entry Lanes	2		2		2		2		
Conflicting Circle Lanes	2		2		2		2		
Adj Approach Flow, veh/h	494		257		898		590		
Demand Flow Rate, veh/h	504		262		916		601		
Vehicles Circulating, veh/h	587		908		516		441		
Vehicles Exiting, veh/h	455		524		575		729		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	7.9		8.5		11.3		7.3		
Approach LOS	A		A		B		A		
Lane	Left	Right	Left	Right	Left	Right	Left	Right	
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR	
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR	
RT Channelized									
Lane Util	0.470	0.530	0.469	0.531	0.471	0.529	0.469	0.531	
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	237	267	123	139	431	485	282	319	
Cap Entry Lane, veh/h	787	862	586	656	840	916	900	976	
Entry HV Adj Factor	0.980	0.981	0.981	0.979	0.979	0.981	0.983	0.980	
Flow Entry, veh/h	232	262	121	136	422	476	277	312	
Cap Entry, veh/h	771	846	574	642	822	899	884	956	
V/C Ratio	0.301	0.310	0.210	0.212	0.513	0.530	0.313	0.327	
Control Delay, s/veh	8.2	7.7	9.0	8.2	11.5	11.1	7.5	7.2	
LOS	A	A	A	A	B	B	A	A	
95th %tile Queue, veh	1	1	1	1	3	3	1	1	

Lanes, Volumes, Timings
1: US 24 & Judge Orr

2043 Background
PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	196	211	357	415	231	165	420	1240	464	150	794	159
Future Volume (vph)	196	211	357	415	231	165	420	1240	464	150	794	159
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	0.95	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	3539	1583	3433	3539	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.598			0.950			0.950			0.123		
Satd. Flow (perm)	1114	3539	1583	3433	3539	1583	3433	3539	1583	229	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			236			177			484			167
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		1222			928			1307			1572	
Travel Time (s)		18.5			14.1			16.2			19.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.95	0.99	0.95	0.95	0.95	0.95
Adj. Flow (vph)	211	227	384	446	248	177	442	1253	488	158	836	167
Shared Lane Traffic (%)												
Lane Group Flow (vph)	211	227	384	446	248	177	442	1253	488	158	836	167
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)	60		60	60		60	60		60	60		60
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
1: US 24 & Judge Orr

2043 Background
PM

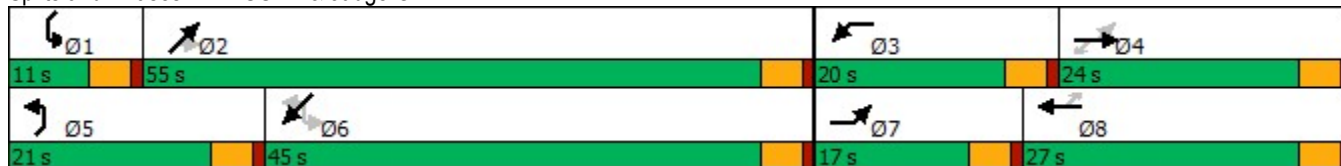


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	17.0	24.0	24.0	20.0	27.0	27.0	21.0	55.0	55.0	11.0	45.0	45.0
Total Split (%)	15.5%	21.8%	21.8%	18.2%	24.5%	24.5%	19.1%	50.0%	50.0%	10.0%	40.9%	40.9%
Maximum Green (s)	12.5	19.5	19.5	15.5	22.5	22.5	16.5	50.5	50.5	6.5	40.5	40.5
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)	27.8	15.8	15.8	15.5	19.4	19.4	16.0	50.6	50.6	47.6	41.1	41.1
Actuated g/C Ratio	0.26	0.15	0.15	0.15	0.18	0.18	0.15	0.48	0.48	0.45	0.39	0.39
v/c Ratio	0.58	0.43	0.88	0.89	0.39	0.41	0.86	0.75	0.49	0.81	0.61	0.23
Control Delay	34.0	43.5	39.0	67.0	40.0	8.7	61.5	26.7	3.5	48.7	29.4	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	43.5	39.0	67.0	40.0	8.7	61.5	26.7	3.5	48.7	29.4	4.5
LOS	C	D	D	E	D	A	E	C	A	D	C	A
Approach Delay		39.0			47.5			28.6			28.5	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	107	74	102	161	79	0	158	377	1	51	253	0
Queue Length 95th (ft)	170	113	#256	#257	117	57	#241	467	58	#163	322	44
Internal Link Dist (ft)		1142			848			1227			1492	
Turn Bay Length (ft)	235			235		235	860		290	695		290
Base Capacity (vph)	373	649	483	500	749	474	532	1681	1006	196	1365	713
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.35	0.80	0.89	0.33	0.37	0.83	0.75	0.49	0.81	0.61	0.23

Intersection Summary

























Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 106.5
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 33.5
 Intersection LOS: C
 Intersection Capacity Utilization 75.3%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: US 24 & Judge Orr
















Lanes, Volumes, Timings
2: US 24 & Stapleton

2043 Background
PM

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	350	302	700	125	405	179	650	850	125	145	600	350
Future Volume (vph)	350	302	700	125	405	179	650	850	125	145	600	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	190		325	215		215	890		1000	790		790
Storage Lanes	1		2	1		0	2		1	2		1
Taper Length (ft)	240			200			190			190		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	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	3539	1583	1770	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.250			0.419			0.950			0.950		
Satd. Flow (perm)	466	3539	1583	780	3539	1583	3433	3539	1583	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			477			192			132			225
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		1349			5480			1382			1435	
Travel Time (s)		20.4			83.0			17.1			17.8	
Peak Hour Factor	0.95	0.95	0.95	0.93	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	368	318	737	134	435	192	684	895	132	153	632	368
Shared Lane Traffic (%)												
Lane Group Flow (vph)	368	318	737	134	435	192	684	895	132	153	632	368
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			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	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2			4			8

Lanes, Volumes, Timings
2: US 24 & Stapleton

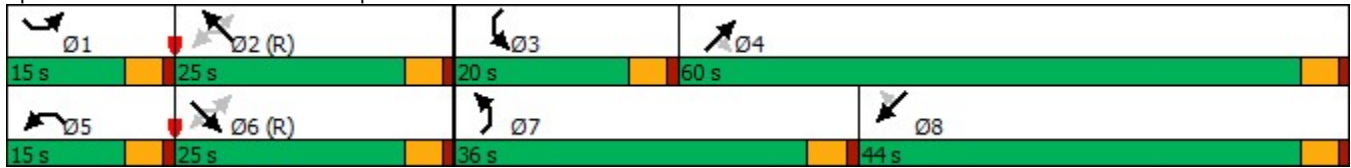
2043 Background
PM

													
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR	
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8	
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)	15.0	25.0	25.0	15.0	25.0	25.0	36.0	60.0	60.0	20.0	44.0	44.0	
Total Split (%)	12.5%	20.8%	20.8%	12.5%	20.8%	20.8%	30.0%	50.0%	50.0%	16.7%	36.7%	36.7%	
Maximum Green (s)	10.5	20.5	20.5	10.5	20.5	20.5	31.5	55.5	55.5	15.5	39.5	39.5	
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	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	Max	Max	
Act Effct Green (s)	31.5	21.0	21.0	30.5	20.5	20.5	28.2	60.3	60.3	10.7	42.8	42.8	
Actuated g/C Ratio	0.26	0.18	0.18	0.25	0.17	0.17	0.24	0.50	0.50	0.09	0.36	0.36	
v/c Ratio	1.56	0.51	1.10	0.48	0.72	0.45	0.85	0.50	0.15	0.50	0.50	0.52	
Control Delay	300.8	48.5	82.6	38.7	54.7	9.6	54.4	21.4	3.3	57.5	32.5	14.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	300.8	48.5	82.6	38.7	54.7	9.6	54.4	21.4	3.3	57.5	32.5	14.7	
LOS	F	D	F	D	D	A	D	C	A	E	C	B	
Approach Delay		131.4			40.5			33.2			30.2		
Approach LOS		F			D			C			C		
Queue Length 50th (ft)	~337	119	~324	79	169	0	260	235	0	59	202	81	
Queue Length 95th (ft)	#537	167	#565	133	227	64	322	308	33	91	269	183	
Internal Link Dist (ft)		1269			5400			1302			1355		
Turn Bay Length (ft)	190		325	215		215	890		1000	790		790	
Base Capacity (vph)	236	618	670	288	604	429	901	1779	861	443	1262	709	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.56	0.51	1.10	0.47	0.72	0.45	0.76	0.50	0.15	0.35	0.50	0.52	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NWTL and 6:SETL, Start of Green
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.56
Intersection Signal Delay:	61.3
Intersection LOS:	E
Intersection Capacity Utilization:	80.7%
ICU Level of Service:	D
Analysis Period (min):	15
~	Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Splits and Phases: 2: US 24 & Stapleton



Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑↑	
Traffic Vol, veh/h	27	354	284	15	51	21
Future Vol, veh/h	27	354	284	15	51	21
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	92	92	92	92	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	385	309	16	61	25

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	325	0	-	0	568
Stage 1	-	-	-	-	317
Stage 2	-	-	-	-	251
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	1231	-	-	-	453
Stage 1	-	-	-	-	711
Stage 2	-	-	-	-	768
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1231	-	-	-	439
Mov Cap-2 Maneuver	-	-	-	-	439
Stage 1	-	-	-	-	690
Stage 2	-	-	-	-	768

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1231	-	-	-	511
HCM Lane V/C Ratio	0.024	-	-	-	0.17
HCM Control Delay (s)	8	0.1	-	-	13.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection									
Intersection Delay, s/veh	7.4								
Intersection LOS	A								
Approach	EB		WB		NB		SB		
Entry Lanes	2		2		2		2		
Conflicting Circle Lanes	2		2		2		2		
Adj Approach Flow, veh/h	362		544		560		591		
Demand Flow Rate, veh/h	369		554		572		602		
Vehicles Circulating, veh/h	613		560		217		564		
Vehicles Exiting, veh/h	553		229		764		550		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	7.1		8.1		5.5		8.6		
Approach LOS	A		A		A		A		
Lane	Left	Right	Left	Right	Left	Right	Left	Right	
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR	
Assumed Moves	LT	R	LT	TR	LT	TR	LT	TR	
RT Channelized									
Lane Util	0.385	0.615	0.469	0.531	0.470	0.530	0.470	0.530	
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	142	227	260	294	269	303	283	319	
Cap Entry Lane, veh/h	768	843	806	882	1106	1181	803	879	
Entry HV Adj Factor	0.977	0.982	0.983	0.980	0.979	0.980	0.981	0.981	
Flow Entry, veh/h	139	223	256	288	263	297	278	313	
Cap Entry, veh/h	750	828	793	865	1082	1157	788	863	
V/C Ratio	0.185	0.269	0.322	0.333	0.243	0.257	0.352	0.363	
Control Delay, s/veh	6.8	7.3	8.3	7.9	5.6	5.5	8.8	8.3	
LOS	A	A	A	A	A	A	A	A	
95th %tile Queue, veh	1	1	1	1	1	1	2	2	

Lanes, Volumes, Timings
1: US 24 & Judge Orr

2043 Background + Site
AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	69	165	298	333	146	50	239	677	226	100	1206	102
Future Volume (vph)	69	165	298	333	146	50	239	677	226	100	1206	102
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	0.95	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	3539	1583	3433	3539	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.651			0.950			0.950			0.355		
Satd. Flow (perm)	1213	3539	1583	3433	3539	1583	3433	3539	1583	661	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			272			149			238			149
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		1222			928			1307			1572	
Travel Time (s)		18.5			14.1			16.2			19.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	75	179	324	362	159	54	252	713	238	105	1269	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	75	179	324	362	159	54	252	713	238	105	1269	107
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)	60		60	60		60	60		60	60		60
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
1: US 24 & Judge Orr

2043 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)	15.0	24.0	24.0	17.0	26.0	26.0	25.0	57.0	57.0	12.0	44.0	44.0
Total Split (%)	13.6%	21.8%	21.8%	15.5%	23.6%	23.6%	22.7%	51.8%	51.8%	10.9%	40.0%	40.0%
Maximum Green (s)	10.5	19.5	19.5	12.5	21.5	21.5	20.5	52.5	52.5	7.5	39.5	39.5
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)	20.5	12.1	12.1	12.5	18.4	18.4	12.8	52.6	52.6	54.0	46.9	46.9
Actuated g/C Ratio	0.20	0.12	0.12	0.12	0.18	0.18	0.12	0.51	0.51	0.53	0.46	0.46
v/c Ratio	0.26	0.43	0.76	0.86	0.25	0.13	0.59	0.39	0.26	0.25	0.78	0.13
Control Delay	29.7	44.8	21.1	65.7	38.6	0.7	48.4	16.6	2.8	10.7	29.1	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.7	44.8	21.1	65.7	38.6	0.7	48.4	16.6	2.8	10.7	29.1	1.7
LOS	C	D	C	E	D	A	D	B	A	B	C	A
Approach Delay		29.6			52.1			20.5			25.8	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	37	58	32	119	48	0	79	138	0	24	344	0
Queue Length 95th (ft)	71	92	125	#221	81	0	125	216	41	55	#583	15
Internal Link Dist (ft)		1142			848			1227			1492	
Turn Bay Length (ft)	235			235		235	860		290	695		290
Base Capacity (vph)	325	675	522	420	767	460	688	1818	928	433	1622	806
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.27	0.62	0.86	0.21	0.12	0.37	0.39	0.26	0.24	0.78	0.13

Intersection Summary

























Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 102.4
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 28.6
 Intersection LOS: C
 Intersection Capacity Utilization 72.5%
 ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: US 24 & Judge Orr



Lanes, Volumes, Timings
2: US 24 & Stapleton

2043 Background + Site
AM

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	175	420	600	81	419	56	300	540	53	126	800	352
Future Volume (vph)	175	420	600	81	419	56	300	540	53	126	800	352
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	190		325	215		215	890		1000	790		790
Storage Lanes	1		2	1		0	2		1	2		1
Taper Length (ft)	240			200			190			190		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	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	3539	1583	1770	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.324			0.445			0.950			0.950		
Satd. Flow (perm)	604	3539	1583	829	3539	1583	3433	3539	1583	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			373			136			95			289
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		1349			5480			1382			1435	
Travel Time (s)		20.4			83.0			17.1			17.8	
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	188	452	645	88	455	61	316	568	56	133	842	371
Shared Lane Traffic (%)												
Lane Group Flow (vph)	188	452	645	88	455	61	316	568	56	133	842	371
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			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	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2			4			8

Lanes, Volumes, Timings
2: US 24 & Stapleton

2043 Background + Site
AM



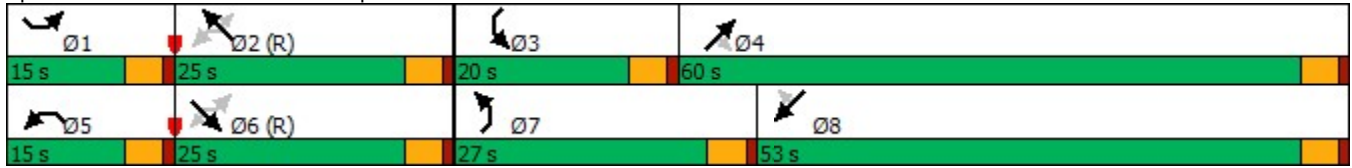
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	15.0	25.0	25.0	15.0	25.0	25.0	27.0	60.0	60.0	20.0	53.0	53.0
Total Split (%)	12.5%	20.8%	20.8%	12.5%	20.8%	20.8%	22.5%	50.0%	50.0%	16.7%	44.2%	44.2%
Maximum Green (s)	10.5	20.5	20.5	10.5	20.5	20.5	22.5	55.5	55.5	15.5	48.5	48.5
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	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
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)	52.2	39.0	39.0	43.6	34.4	34.4	16.3	43.7	43.7	10.0	37.4	37.4
Actuated g/C Ratio	0.44	0.32	0.32	0.36	0.29	0.29	0.14	0.36	0.36	0.08	0.31	0.31
v/c Ratio	0.47	0.39	0.84	0.24	0.45	0.11	0.68	0.44	0.09	0.47	0.76	0.54
Control Delay	27.8	35.3	28.4	25.0	39.6	0.4	56.8	29.3	1.2	57.4	41.8	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.8	35.3	28.4	25.0	39.6	0.4	56.8	29.3	1.2	57.4	41.8	10.2
LOS	C	D	C	C	D	A	E	C	A	E	D	B
Approach Delay		30.7			33.5			36.8			34.6	
Approach LOS		C			C			D			C	
Queue Length 50th (ft)	89	141	212	40	153	0	121	173	0	51	308	46
Queue Length 95th (ft)	171	231	#535	87	237	0	163	195	7	82	345	122
Internal Link Dist (ft)		1269			5400			1302			1355	
Turn Bay Length (ft)	190		325	215		215	890		1000	790		790
Base Capacity (vph)	400	1151	766	399	1013	550	643	1636	783	443	1430	811
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.39	0.84	0.22	0.45	0.11	0.49	0.35	0.07	0.30	0.59	0.46

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NWTL and 6:SETL, Start of Green
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	33.8
Intersection LOS:	C
Intersection Capacity Utilization:	75.0%
ICU Level of Service:	D
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	

Queue shown is maximum after two cycles.

Splits and Phases: 2: US 24 & Stapleton



Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	152	25	3	354	28	1
Future Vol, veh/h	152	25	3	354	28	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	92	92	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	175	29	3	385	36	1

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	204	0	581
Stage 1	-	-	-	-	190
Stage 2	-	-	-	-	391
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	-	-	1368	-	476
Stage 1	-	-	-	-	842
Stage 2	-	-	-	-	683
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1368	-	475
Mov Cap-2 Maneuver	-	-	-	-	475
Stage 1	-	-	-	-	842
Stage 2	-	-	-	-	681

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	13.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	482	-	-	1368	-
HCM Lane V/C Ratio	0.077	-	-	0.002	-
HCM Control Delay (s)	13.1	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

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	8	164	34	6	352	25	64	4	2	13	4	25
Future Vol, veh/h	8	164	34	6	352	25	64	4	2	13	4	25
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	-	-	0	-	-	235	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	92	92	92	83	83	83	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	189	39	7	383	27	77	5	2	17	5	32

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	410	0	0	228	0	0	415	631	95	512	643	192
Stage 1	-	-	-	-	-	-	207	207	-	397	397	-
Stage 2	-	-	-	-	-	-	208	424	-	115	246	-
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	1145	-	-	1337	-	-	522	397	943	445	390	817
Stage 1	-	-	-	-	-	-	776	729	-	600	602	-
Stage 2	-	-	-	-	-	-	775	585	-	877	701	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1145	-	-	1337	-	-	490	391	943	434	384	817
Mov Cap-2 Maneuver	-	-	-	-	-	-	490	391	-	434	384	-
Stage 1	-	-	-	-	-	-	769	722	-	595	598	-
Stage 2	-	-	-	-	-	-	733	581	-	861	695	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	13.9	11.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	490	1145	-	-	1337	-	-	592
HCM Lane V/C Ratio	0.172	0.008	-	-	0.005	-	-	0.091
HCM Control Delay (s)	13.9	8.2	0	-	7.7	0	-	11.7
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.6	0	-	-	0	-	-	0.3

Intersection									
Intersection Delay, s/veh	10.7								
Intersection LOS	B								
Approach	EB		WB		NB		SB		
Entry Lanes	2		2		2		2		
Conflicting Circle Lanes	2		2		2		2		
Adj Approach Flow, veh/h	576		372		905		614		
Demand Flow Rate, veh/h	587		380		923		626		
Vehicles Circulating, veh/h	622		908		624		527		
Vehicles Exiting, veh/h	531		639		585		761		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	9.1		10.0		13.6		8.4		
Approach LOS	A		B		B		A		
Lane	Left	Right	Left	Right	Left	Right	Left	Right	
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR	
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR	
RT Channelized									
Lane Util	0.470	0.530	0.471	0.529	0.470	0.530	0.470	0.530	
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	276	311	179	201	434	489	294	332	
Cap Entry Lane, veh/h	762	837	586	656	760	835	831	907	
Entry HV Adj Factor	0.980	0.981	0.977	0.981	0.980	0.981	0.981	0.979	
Flow Entry, veh/h	271	305	175	197	425	480	288	325	
Cap Entry, veh/h	747	821	572	644	745	819	815	889	
V/C Ratio	0.362	0.372	0.306	0.306	0.571	0.585	0.354	0.366	
Control Delay, s/veh	9.3	8.8	10.6	9.6	13.9	13.3	8.6	8.2	
LOS	A	A	B	A	B	B	A	A	
95th %tile Queue, veh	2	2	1	1	4	4	2	2	

Lanes, Volumes, Timings
1: US 24 & Judge Orr

2043 Background + Site
PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	196	223	357	463	241	165	420	1240	528	150	794	159
Future Volume (vph)	196	223	357	463	241	165	420	1240	528	150	794	159
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	0.95	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	3539	1583	3433	3539	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.592			0.950			0.950			0.115		
Satd. Flow (perm)	1103	3539	1583	3433	3539	1583	3433	3539	1583	214	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			249			170			476			167
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		1222			928			1307			1572	
Travel Time (s)		18.5			14.1			16.2			19.5	
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)	211	240	384	498	259	177	442	1305	556	158	836	167
Shared Lane Traffic (%)												
Lane Group Flow (vph)	211	240	384	498	259	177	442	1305	556	158	836	167
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
1: US 24 & Judge Orr

2043 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	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	17.0	23.0	23.0	21.0	27.0	27.0	22.0	56.0	56.0	10.0	44.0	44.0
Total Split (%)	15.5%	20.9%	20.9%	19.1%	24.5%	24.5%	20.0%	50.9%	50.9%	9.1%	40.0%	40.0%
Maximum Green (s)	12.5	18.5	18.5	16.5	22.5	22.5	17.5	51.5	51.5	5.5	39.5	39.5
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)	27.1	15.2	15.2	16.5	19.7	19.7	16.7	51.6	51.6	45.9	40.4	40.4
Actuated g/C Ratio	0.25	0.14	0.14	0.15	0.18	0.18	0.16	0.48	0.48	0.43	0.38	0.38
v/c Ratio	0.60	0.48	0.88	0.94	0.40	0.41	0.83	0.76	0.55	0.92	0.62	0.24
Control Delay	34.7	45.2	37.3	72.4	40.1	9.6	58.0	26.9	5.5	73.2	30.3	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	45.2	37.3	72.4	40.1	9.6	58.0	26.9	5.5	73.2	30.3	4.7
LOS	C	D	D	E	D	A	E	C	A	E	C	A
Approach Delay		38.9			51.5			27.7			32.4	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	107	80	92	181	83	4	156	395	31	54	257	0
Queue Length 95th (ft)	170	120	#247	#288	122	62	#229	488	111	#187	327	44
Internal Link Dist (ft)		1142			848			1227			1492	
Turn Bay Length (ft)	235			235		235	860		290	695		290
Base Capacity (vph)	364	614	480	530	746	468	563	1708	1010	172	1339	703
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.39	0.80	0.94	0.35	0.38	0.79	0.76	0.55	0.92	0.62	0.24

Intersection Summary

























Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 106.8
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 34.8
 Intersection LOS: C
 Intersection Capacity Utilization 77.0%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: US 24 & Judge Orr

 Ø1	 Ø2	 Ø3	 Ø4
10 s	56 s	21 s	23 s
 Ø5	 Ø6	 Ø7	 Ø8
22 s	44 s	17 s	27 s

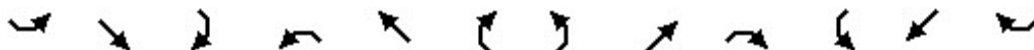
Lanes, Volumes, Timings
2: US 24 & Stapleton

2043 Background + Site
PM

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	350	349	700	129	431	186	650	850	134	150	600	351
Future Volume (vph)	350	349	700	129	431	186	650	850	134	150	600	351
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	190		325	215		215	890		1000	790		790
Storage Lanes	1		2	1		0	2		1	2		1
Taper Length (ft)	240			200			190			190		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	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	3539	1583	1770	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.183			0.533			0.950			0.950		
Satd. Flow (perm)	341	3539	1583	993	3539	1583	3433	3539	1583	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			482			200			141			222
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		1349			5480			1382			1435	
Travel Time (s)		20.4			83.0			17.1			17.8	
Peak Hour Factor	0.95	0.95	0.95	0.93	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	368	367	737	139	463	200	684	895	141	158	632	369
Shared Lane Traffic (%)												
Lane Group Flow (vph)	368	367	737	139	463	200	684	895	141	158	632	369
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			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	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2			4			8

Lanes, Volumes, Timings
2: US 24 & Stapleton

2043 Background + Site
PM



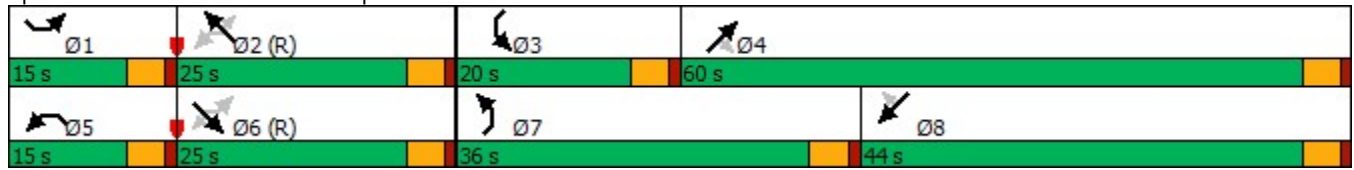
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	15.0	25.0	25.0	15.0	25.0	25.0	36.0	60.0	60.0	20.0	44.0	44.0
Total Split (%)	12.5%	20.8%	20.8%	12.5%	20.8%	20.8%	30.0%	50.0%	50.0%	16.7%	36.7%	36.7%
Maximum Green (s)	10.5	20.5	20.5	10.5	20.5	20.5	31.5	55.5	55.5	15.5	39.5	39.5
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	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
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)	48.4	33.6	33.6	31.7	20.5	20.5	28.2	46.4	46.4	10.8	29.0	29.0
Actuated g/C Ratio	0.40	0.28	0.28	0.26	0.17	0.17	0.24	0.39	0.39	0.09	0.24	0.24
v/c Ratio	0.86	0.37	0.93	0.42	0.77	0.46	0.85	0.65	0.20	0.51	0.74	0.67
Control Delay	52.6	38.9	35.5	30.5	56.9	9.6	54.4	32.1	3.9	57.6	47.1	21.4
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	52.6	38.9	35.5	30.5	56.9	9.6	54.4	32.1	3.9	57.6	47.1	21.4
LOS	D	D	D	C	E	A	D	C	A	E	D	C
Approach Delay		40.6			40.5			38.7			40.3	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	218	122	234	69	182	0	260	291	0	61	238	101
Queue Length 95th (ft)	#534	192	#558	132	242	65	322	326	36	94	280	194
Internal Link Dist (ft)		1269			5400			1302			1355	
Turn Bay Length (ft)	190		325	215		215	890		1000	790		790
Base Capacity (vph)	426	990	790	346	604	436	901	1636	807	443	1164	669
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.37	0.93	0.40	0.77	0.46	0.76	0.55	0.17	0.36	0.54	0.55

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NWTL and 6:SETL, Start of Green
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.93
Intersection Signal Delay:	39.9
Intersection LOS:	D
Intersection Capacity Utilization:	81.4%
ICU Level of Service:	D
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	

Queue shown is maximum after two cycles.

Splits and Phases: 2: US 24 & Stapleton



Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	440	39	3	402	22	3
Future Vol, veh/h	440	39	3	402	22	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	478	42	3	437	28	4

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	520	0	942 499
Stage 1	-	-	-	-	499 -
Stage 2	-	-	-	-	443 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1046	-	292 572
Stage 1	-	-	-	-	610 -
Stage 2	-	-	-	-	647 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1046	-	291 572
Mov Cap-2 Maneuver	-	-	-	-	291 -
Stage 1	-	-	-	-	610 -
Stage 2	-	-	-	-	644 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	18
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	309	-	-	1046	-
HCM Lane V/C Ratio	0.104	-	-	0.003	-
HCM Control Delay (s)	18	-	-	8.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔	↔		↔↔	↔		↔			↔↔	
Traffic Vol, veh/h	27	383	77	6	302	16	69	11	10	53	9	21
Future Vol, veh/h	27	383	77	6	302	16	69	11	10	53	9	21
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	-	-	0	-	-	235	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	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	29	416	84	7	328	17	83	13	12	64	11	25

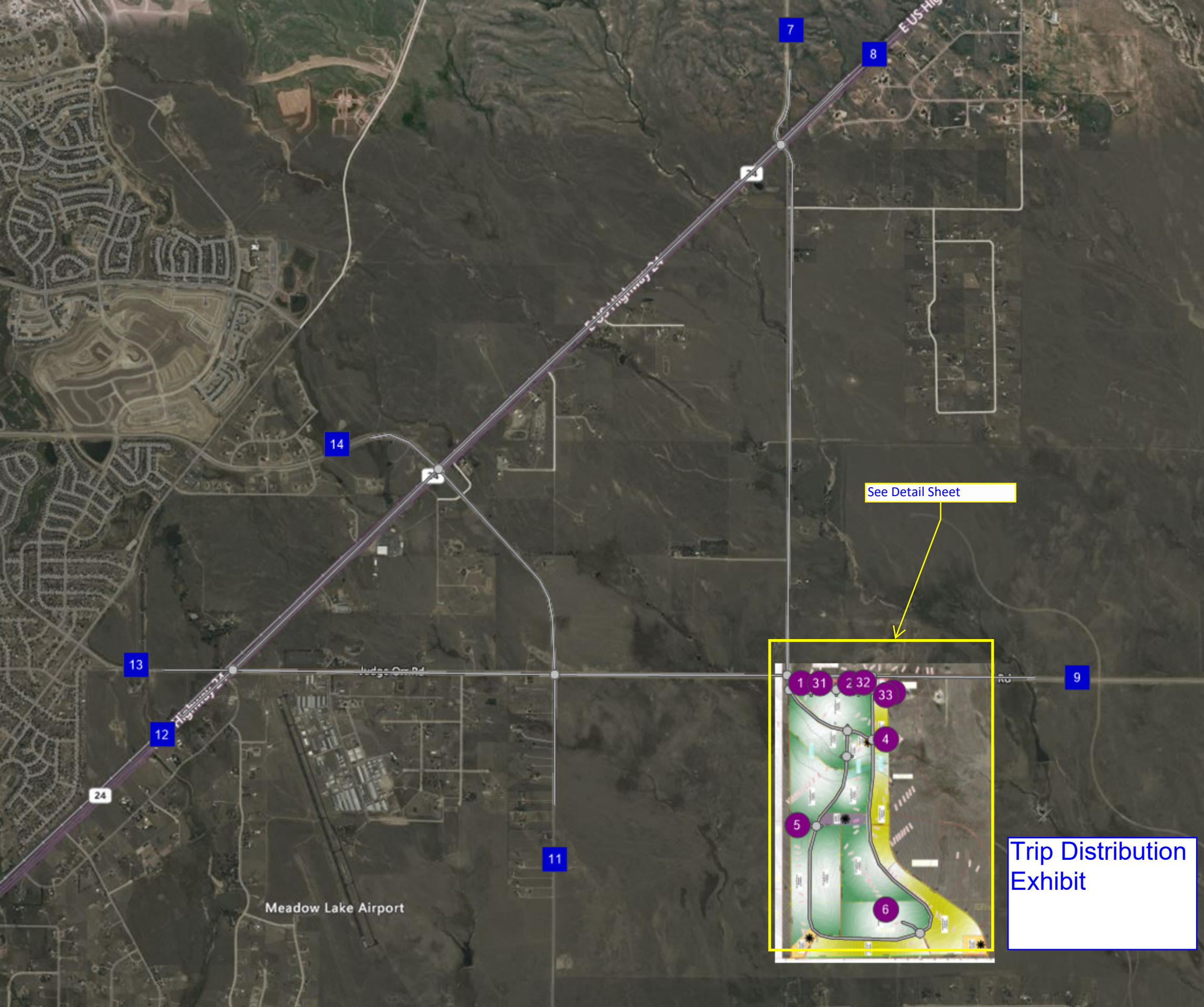
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	345	0	0	500	0	0	658	833	208	615	900	164
Stage 1	-	-	-	-	-	-	474	474	-	342	342	-
Stage 2	-	-	-	-	-	-	184	359	-	273	558	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
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	1211	-	-	1060	-	-	350	303	798	375	277	852
Stage 1	-	-	-	-	-	-	540	556	-	646	637	-
Stage 2	-	-	-	-	-	-	800	626	-	710	510	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1211	-	-	1060	-	-	319	290	798	345	265	852
Mov Cap-2 Maneuver	-	-	-	-	-	-	319	290	-	345	265	-
Stage 1	-	-	-	-	-	-	522	537	-	624	632	-
Stage 2	-	-	-	-	-	-	757	621	-	659	493	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.2			20.7			17.3		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	337	1211	-	-	1060	-	-	391
HCM Lane V/C Ratio	0.322	0.024	-	-	0.006	-	-	0.256
HCM Control Delay (s)	20.7	8	0.1	-	8.4	0	-	17.3
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	1.4	0.1	-	-	0	-	-	1

Distribution Exhibit and Vistro Distribution Tables





See Detail Sheet

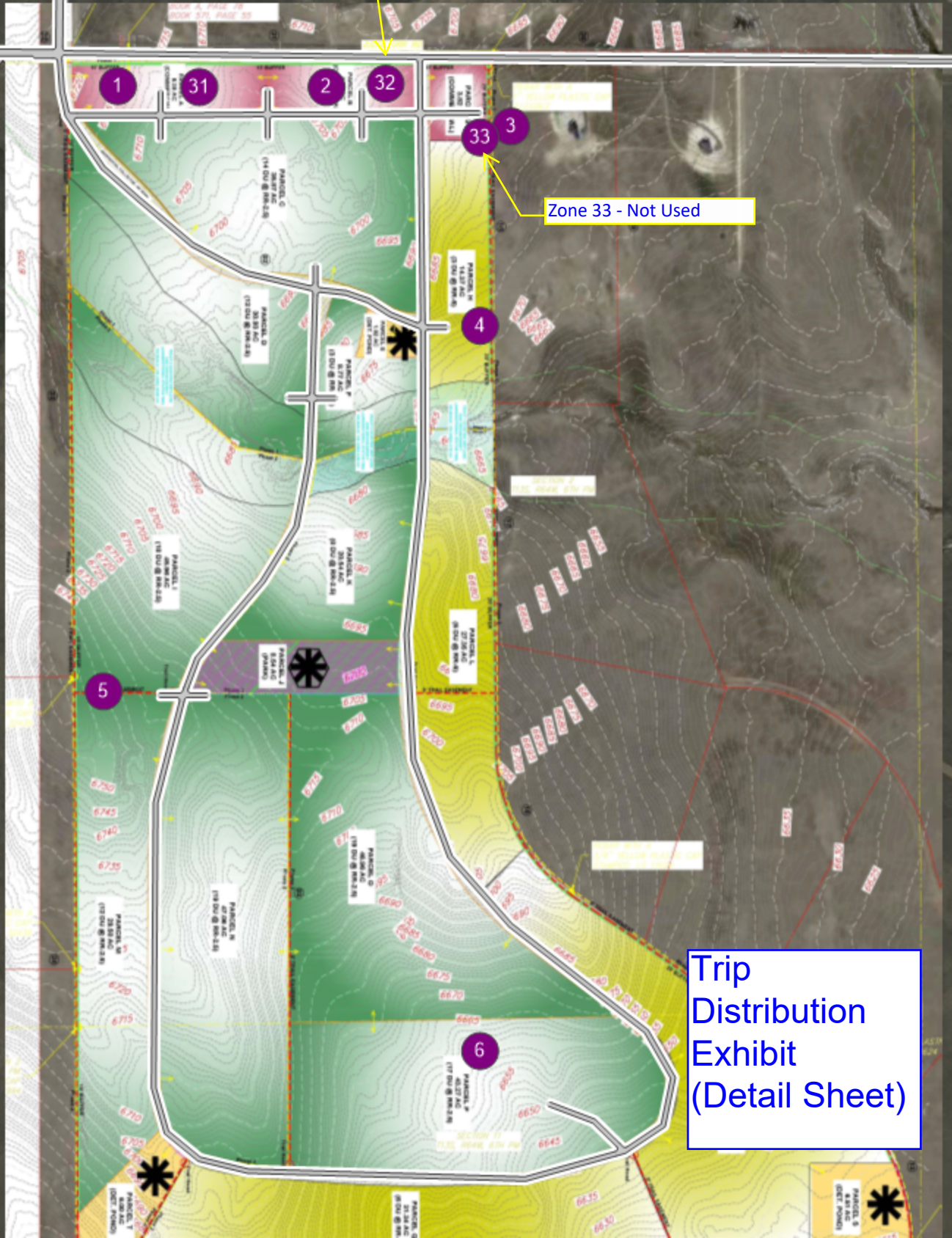


Trip Distribution Exhibit

Zone 32 - Not Used

Zone 33 - Not Used

Trip
Distribution
Exhibit
(Detail Sheet)



Esteban Rodriguez

Vistro File: G:\...\Esteban Rodriguez -- Vistro.vistro

Scenario 1 Short-Term AM

Report File: G:\...\IAM Distribution.pdf

8/15/2023

Trip Distribution summary

Zone / Gate	Zone 1: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
2: Zone	0.00	0	0.00	0
3: Zone	0.00	0	0.00	0
4: Zone	0.00	0	0.00	0
5: Zone	0.00	0	0.00	0
6: Zone	0.00	0	0.00	0
31: Zone	0.00	0	0.00	0
32: Zone	0.00	0	0.00	0
33: Zone	0.00	0	0.00	0
7: Gate	5.00	0	5.00	0
8: Gate	16.00	1	16.00	0
9: Gate	12.00	1	12.00	0
11: Gate	12.00	1	12.00	0
12: Gate	7.00	0	7.00	0
13: Gate	23.00	1	23.00	1
14: Gate	25.00	1	25.00	2
Total	100.00	5	100.00	3

Zone / Gate	Zone 2: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
1: Zone	0.00	0	0.00	0
3: Zone	0.00	0	0.00	0
4: Zone	0.00	0	0.00	0
5: Zone	0.00	0	0.00	0
6: Zone	0.00	0	0.00	0
31: Zone	0.00	0	0.00	0
32: Zone	0.00	0	0.00	0
33: Zone	0.00	0	0.00	0
7: Gate	4.00	1	4.00	0
8: Gate	10.00	2	10.00	1
9: Gate	7.00	2	7.00	0
11: Gate	9.00	2	9.00	1
12: Gate	34.00	8	34.00	2
13: Gate	11.00	3	11.00	1
14: Gate	25.00	6	25.00	2
Total	100.00	24	100.00	7

Zone / Gate	Zone 3: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
1: Zone	0.00	0	0.00	0
2: Zone	0.00	0	0.00	0
4: Zone	0.00	0	0.00	0
5: Zone	0.00	0	0.00	0
6: Zone	0.00	0	0.00	0
31: Zone	0.00	0	0.00	0
32: Zone	0.00	0	0.00	0
33: Zone	0.00	0	0.00	0
7: Gate	4.00	1	4.00	0
8: Gate	10.00	1	10.00	0
9: Gate	7.00	1	7.00	0
11: Gate	9.00	1	9.00	0
12: Gate	34.00	4	34.00	3
13: Gate	11.00	1	11.00	0
14: Gate	25.00	3	25.00	1
Total	100.00	12	100.00	4

Zone / Gate	Zone 4: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
1: Zone	0.00	0	0.00	0
2: Zone	0.00	0	0.00	0
3: Zone	0.00	0	0.00	0
5: Zone	0.00	0	0.00	0
6: Zone	0.00	0	0.00	0
31: Zone	0.00	0	0.00	0
32: Zone	0.00	0	0.00	0
33: Zone	0.00	0	0.00	0
7: Gate	2.00	0	2.00	0
8: Gate	3.00	0	3.00	1
9: Gate	2.00	0	2.00	0
11: Gate	5.00	0	5.00	1
12: Gate	63.00	4	63.00	11
13: Gate	5.00	0	5.00	1
14: Gate	20.00	1	20.00	4
Total	100.00	5	100.00	18

Zone / Gate	Zone 5: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
1: Zone	0.00	0	0.00	0
2: Zone	0.00	0	0.00	0
3: Zone	0.00	0	0.00	0
4: Zone	0.00	0	0.00	0
6: Zone	0.00	0	0.00	0
31: Zone	0.00	0	0.00	0
32: Zone	0.00	0	0.00	0

Zone / Gate	Zone 6: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
1: Zone	0.00	0	0.00	0
2: Zone	0.00	0	0.00	0
3: Zone	0.00	0	0.00	0
4: Zone	0.00	0	0.00	0
5: Zone	0.00	0	0.00	0
31: Zone	0.00	0	0.00	0
32: Zone	0.00	0	0.00	0

Version 2023 (SP 0-7)

33: Zone	0.00	0	0.00	0
7: Gate	2.00	0	2.00	1
8: Gate	3.00	0	3.00	1
9: Gate	2.00	0	2.00	1
11: Gate	5.00	1	5.00	2
12: Gate	63.00	7	63.00	19
13: Gate	5.00	1	5.00	2
14: Gate	20.00	2	20.00	7
Total	100.00	11	100.00	33

33: Zone	0.00	0	0.00	0
7: Gate	2.00	0	2.00	1
8: Gate	3.00	0	3.00	1
9: Gate	2.00	0	2.00	1
11: Gate	5.00	0	5.00	1
12: Gate	63.00	6	63.00	17
13: Gate	5.00	0	5.00	1
14: Gate	20.00	2	20.00	5
Total	100.00	8	100.00	27

Zone / Gate	Zone 31: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
1: Zone	0.00	0	0.00	0
2: Zone	0.00	0	0.00	0
3: Zone	0.00	0	0.00	0
4: Zone	0.00	0	0.00	0
5: Zone	0.00	0	0.00	0
6: Zone	0.00	0	0.00	0
32: Zone	0.00	0	0.00	0
33: Zone	0.00	0	0.00	0
7: Gate	15.00	0	5.00	0
8: Gate	25.00	1	10.00	0
9: Gate	30.00	1	10.00	0
11: Gate	10.00	0	15.00	0
12: Gate	5.00	0	50.00	2
13: Gate	0.00	0	0.00	0
14: Gate	15.00	0	10.00	0
Total	100.00	2	100.00	2

Esteban Rodriguez

Vistro File: G:\...\Esteban Rodriguez -- Vistro.vistro

Scenario 2 Short-Term PM

Report File: G:\...\PM Distribution.pdf

8/15/2023

Trip Distribution summary

Zone / Gate	Zone 1: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
2: Zone	0.00	0	0.00	0
3: Zone	0.00	0	0.00	0
4: Zone	0.00	0	0.00	0
5: Zone	0.00	0	0.00	0
6: Zone	0.00	0	0.00	0
31: Zone	0.00	0	0.00	0
32: Zone	0.00	0	0.00	0
33: Zone	0.00	0	0.00	0
7: Gate	5.00	1	5.00	1
8: Gate	16.00	2	16.00	2
9: Gate	12.00	1	12.00	1
11: Gate	12.00	1	12.00	1
12: Gate	7.00	1	7.00	1
13: Gate	23.00	3	23.00	3
14: Gate	25.00	3	25.00	2
Total	100.00	12	100.00	11

Zone / Gate	Zone 2: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
1: Zone	0.00	0	0.00	0
3: Zone	0.00	0	0.00	0
4: Zone	0.00	0	0.00	0
5: Zone	0.00	0	0.00	0
6: Zone	0.00	0	0.00	0
31: Zone	0.00	0	0.00	0
32: Zone	0.00	0	0.00	0
33: Zone	0.00	0	0.00	0
7: Gate	4.00	0	4.00	1
8: Gate	10.00	1	10.00	2
9: Gate	7.00	1	7.00	2
11: Gate	9.00	1	9.00	2
12: Gate	34.00	3	34.00	7
13: Gate	11.00	1	11.00	2
14: Gate	25.00	2	25.00	6
Total	100.00	9	100.00	22

Zone / Gate	Zone 3: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
1: Zone	0.00	0	0.00	0
2: Zone	0.00	0	0.00	0
4: Zone	0.00	0	0.00	0
5: Zone	0.00	0	0.00	0
6: Zone	0.00	0	0.00	0
31: Zone	0.00	0	0.00	0
32: Zone	0.00	0	0.00	0
33: Zone	0.00	0	0.00	0
7: Gate	4.00	0	4.00	1
8: Gate	10.00	1	10.00	1
9: Gate	7.00	0	7.00	1
11: Gate	9.00	0	9.00	1
12: Gate	34.00	2	34.00	5
13: Gate	11.00	1	11.00	1
14: Gate	25.00	1	25.00	3
Total	100.00	5	100.00	13

Zone / Gate	Zone 4: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
1: Zone	0.00	0	0.00	0
2: Zone	0.00	0	0.00	0
3: Zone	0.00	0	0.00	0
5: Zone	0.00	0	0.00	0
6: Zone	0.00	0	0.00	0
31: Zone	0.00	0	0.00	0
32: Zone	0.00	0	0.00	0
33: Zone	0.00	0	0.00	0
7: Gate	2.00	0	2.00	0
8: Gate	3.00	1	3.00	0
9: Gate	2.00	0	2.00	0
11: Gate	5.00	1	5.00	1
12: Gate	63.00	13	63.00	8
13: Gate	5.00	1	5.00	1
14: Gate	20.00	4	20.00	2
Total	100.00	20	100.00	12

Zone / Gate	Zone 5: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
1: Zone	0.00	0	0.00	0
2: Zone	0.00	0	0.00	0
3: Zone	0.00	0	0.00	0
4: Zone	0.00	0	0.00	0
6: Zone	0.00	0	0.00	0
31: Zone	0.00	0	0.00	0
32: Zone	0.00	0	0.00	0

Zone / Gate	Zone 6: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
1: Zone	0.00	0	0.00	0
2: Zone	0.00	0	0.00	0
3: Zone	0.00	0	0.00	0
4: Zone	0.00	0	0.00	0
5: Zone	0.00	0	0.00	0
31: Zone	0.00	0	0.00	0
32: Zone	0.00	0	0.00	0

Version 2023 (SP 0-7)

33: Zone	0.00	0	0.00	0
7: Gate	2.00	1	2.00	0
8: Gate	3.00	1	3.00	1
9: Gate	2.00	1	2.00	0
11: Gate	5.00	2	5.00	1
12: Gate	63.00	23	63.00	15
13: Gate	5.00	2	5.00	1
14: Gate	20.00	7	20.00	4
Total	100.00	37	100.00	22

33: Zone	0.00	0	0.00	0
7: Gate	2.00	1	2.00	0
8: Gate	3.00	1	3.00	1
9: Gate	2.00	1	2.00	0
11: Gate	5.00	2	5.00	1
12: Gate	63.00	20	63.00	11
13: Gate	5.00	2	5.00	1
14: Gate	20.00	6	20.00	4
Total	100.00	33	100.00	18

Zone / Gate	Zone 31: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
1: Zone	0.00	0	0.00	0
2: Zone	0.00	0	0.00	0
3: Zone	0.00	0	0.00	0
4: Zone	0.00	0	0.00	0
5: Zone	0.00	0	0.00	0
6: Zone	0.00	0	0.00	0
32: Zone	0.00	0	0.00	0
33: Zone	0.00	0	0.00	0
7: Gate	2.00	0	5.00	0
8: Gate	10.00	1	25.00	2
9: Gate	20.00	1	30.00	1
11: Gate	0.00	0	0.00	0
12: Gate	28.00	2	15.00	1
13: Gate	35.00	2	15.00	1
14: Gate	5.00	0	10.00	1
Total	100.00	6	100.00	6

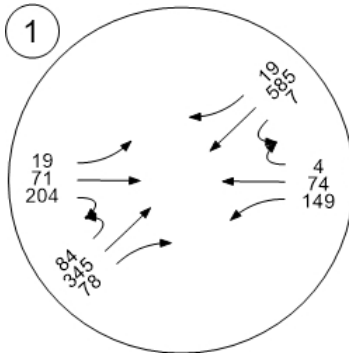
Vistro Traffic Volume Reports



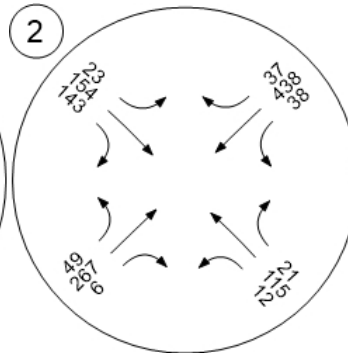
Traffic Volume - Base Volume



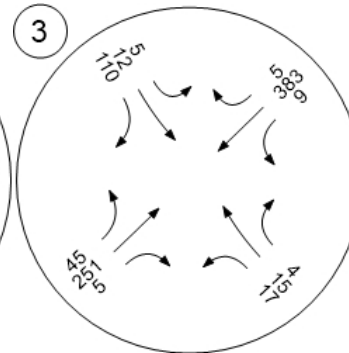
US 24 + Judge Orr



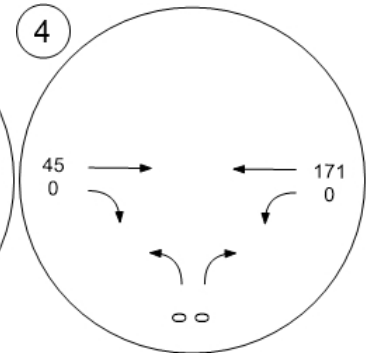
US 24 + Stapleton



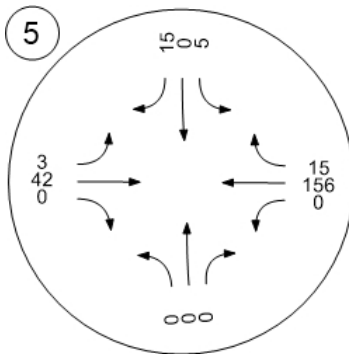
US 24 + Elbert



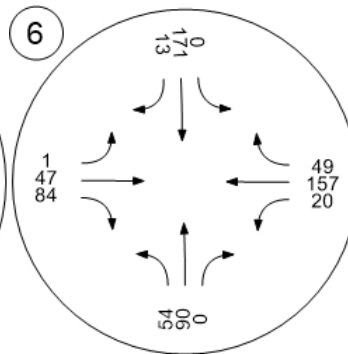
Judge Orr + E Access



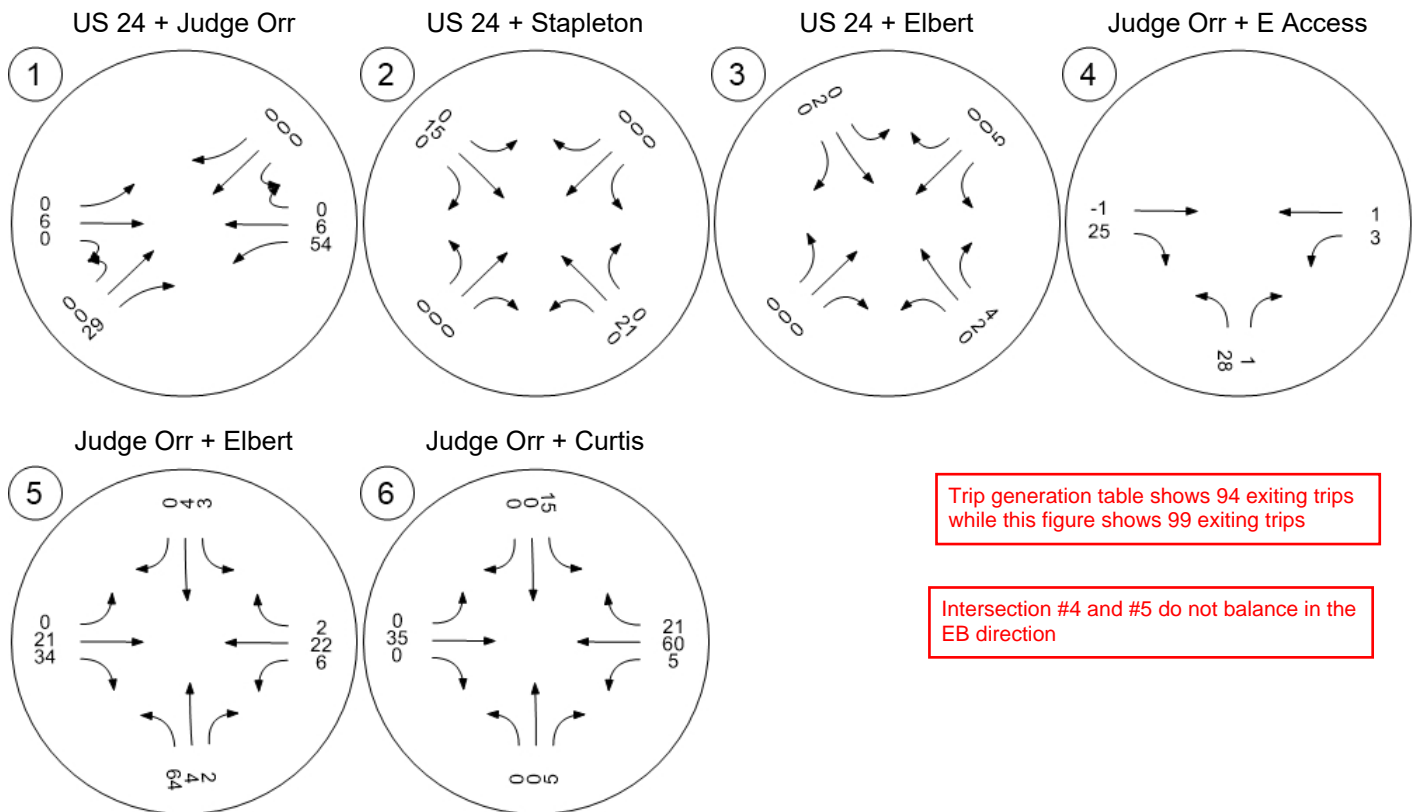
Judge Orr + Elbert



Judge Orr + Curtis



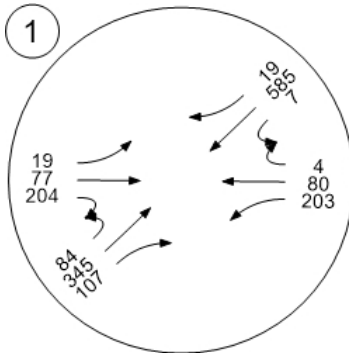
Traffic Volume - Net New Site Trips



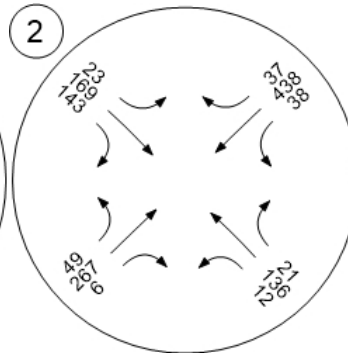
Traffic Volume - Future Total Volume



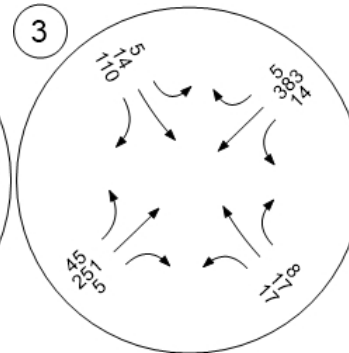
US 24 + Judge Orr



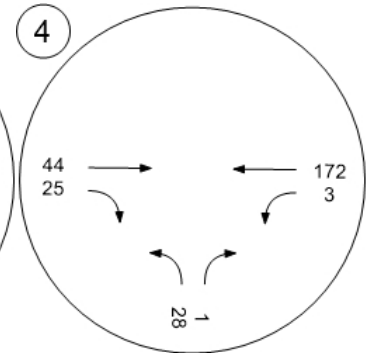
US 24 + Stapleton



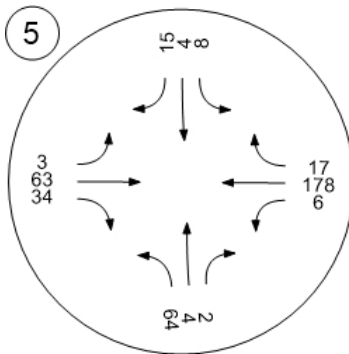
US 24 + Elbert



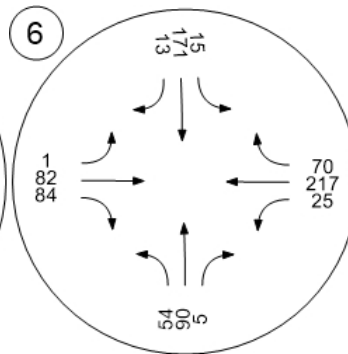
Judge Orr + E Access



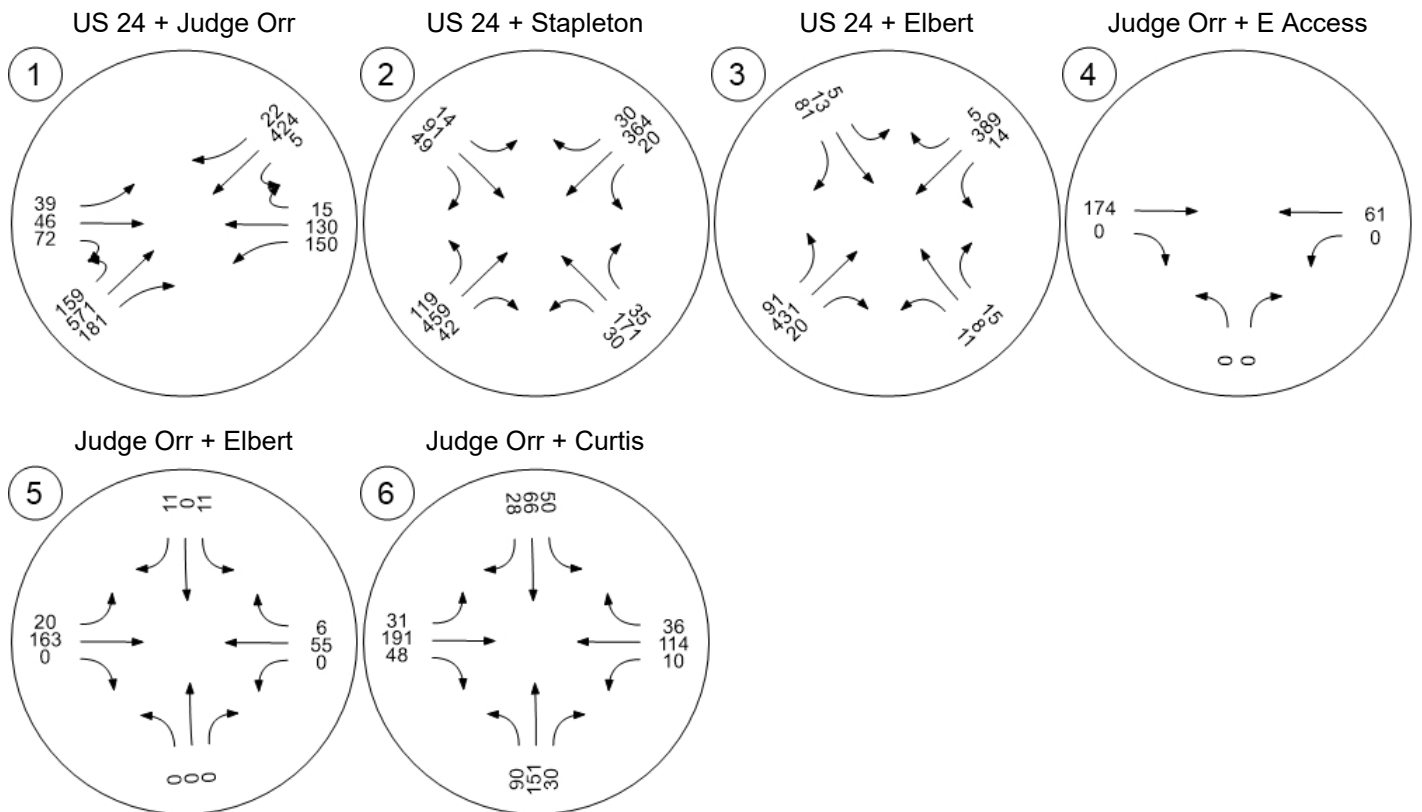
Judge Orr + Elbert



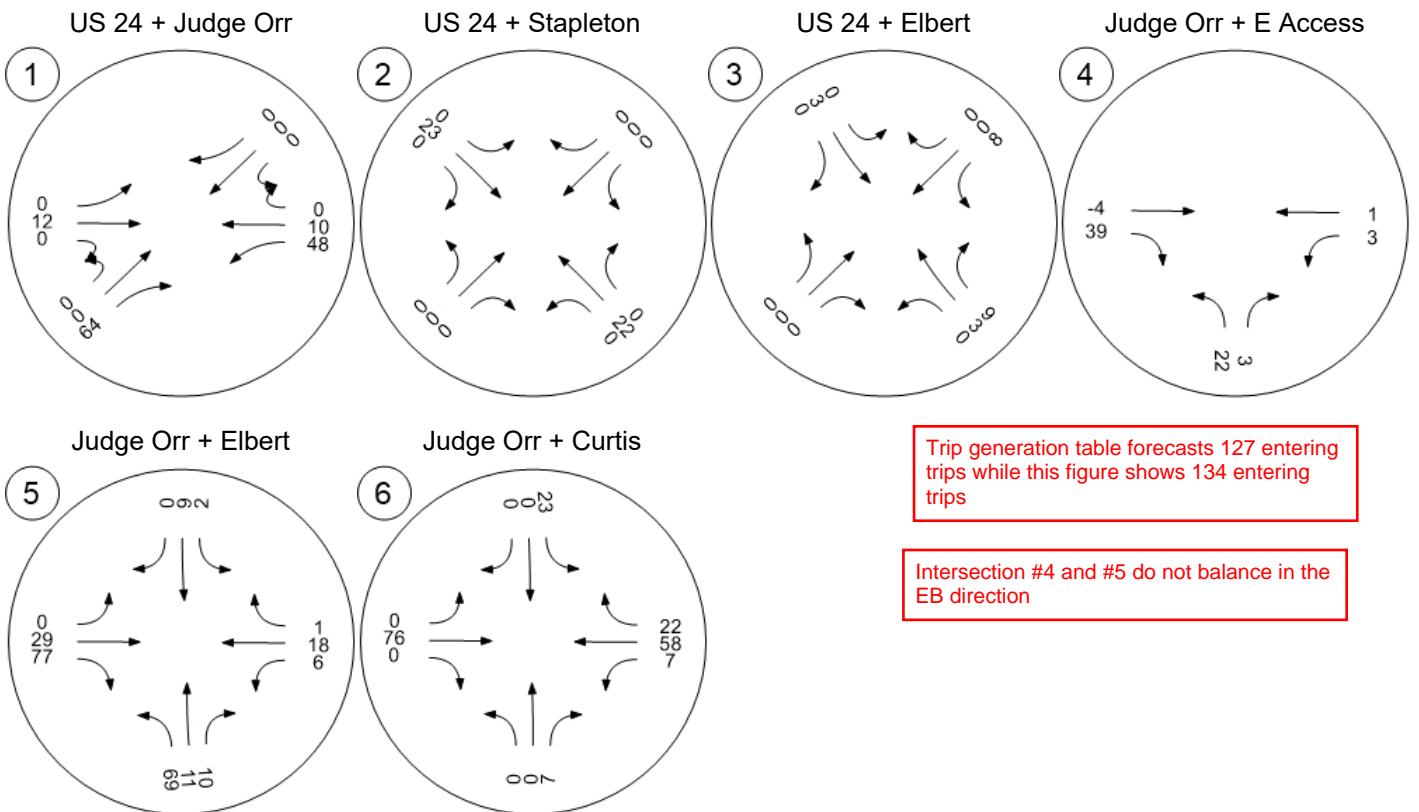
Judge Orr + Curtis



Traffic Volume - Base Volume



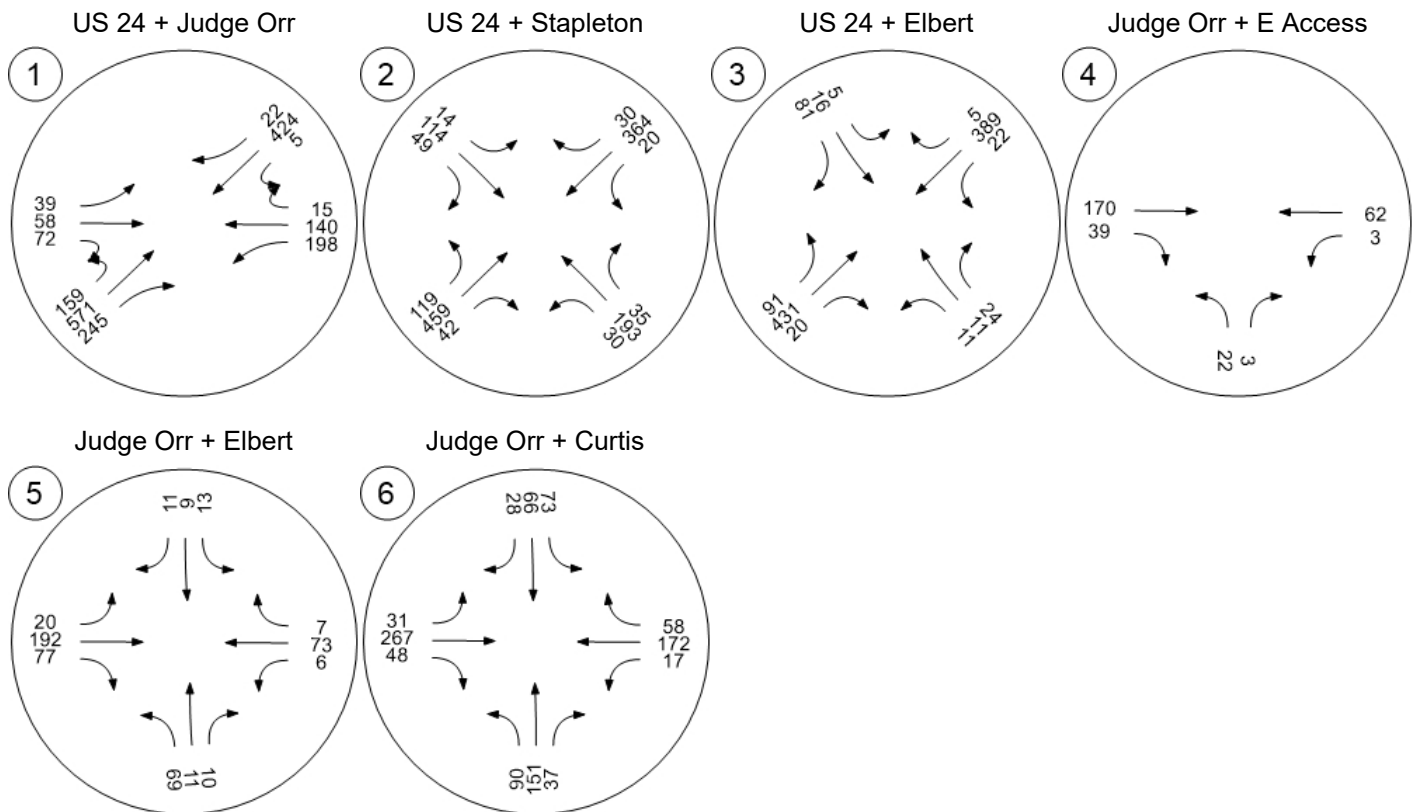
Traffic Volume - Net New Site Trips



Trip generation table forecasts 127 entering trips while this figure shows 134 entering trips

Intersection #4 and #5 do not balance in the EB direction

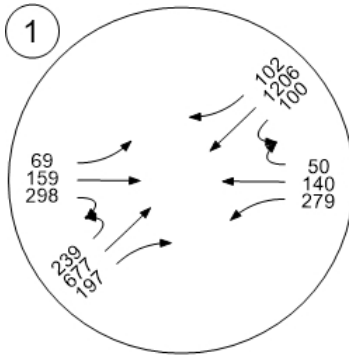
Traffic Volume - Future Total Volume



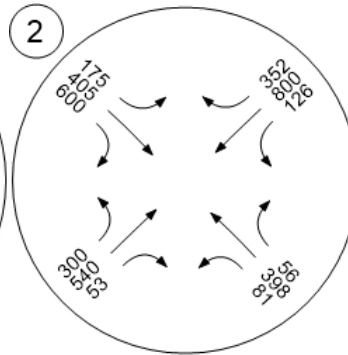
Traffic Volume - Base Volume



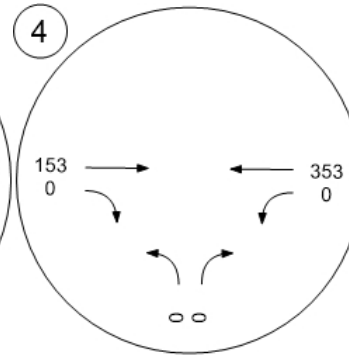
US 24 + Judge Orr



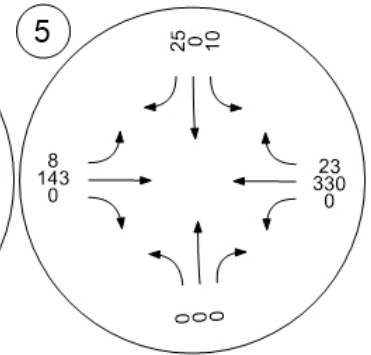
US 24 + Stapleton



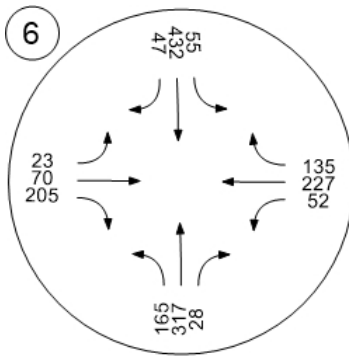
Judge Orr + E Access



Judge Orr + Elbert



Judge Orr + Curtis

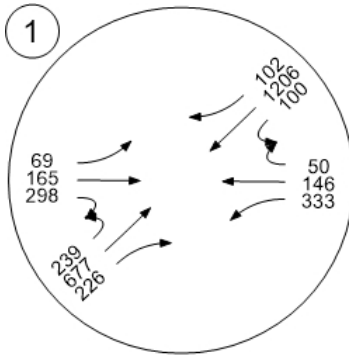


Why is intersection #3 not shown?

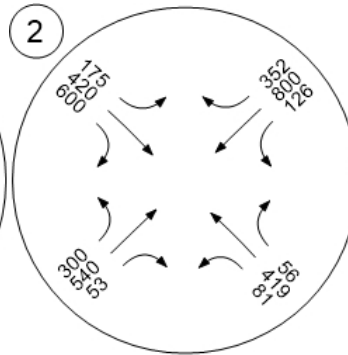
Traffic Volume - Future Total Volume



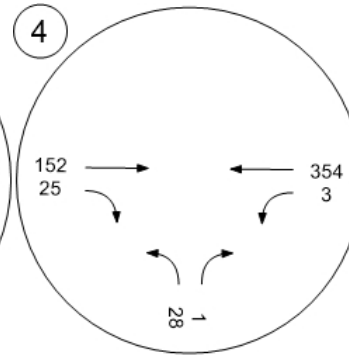
US 24 + Judge Orr



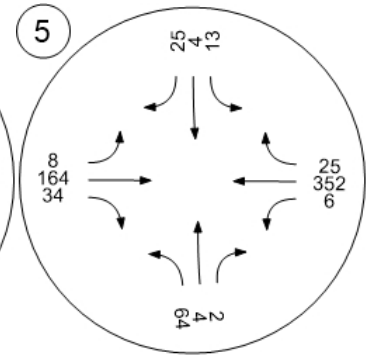
US 24 + Stapleton



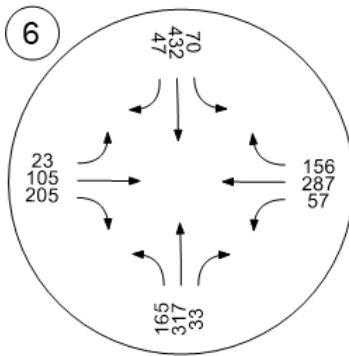
Judge Orr + E Access



Judge Orr + Elbert



Judge Orr + Curtis

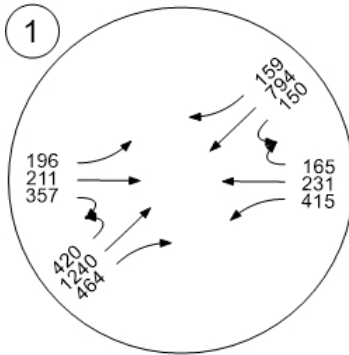


Why is intersection #3 not shown?

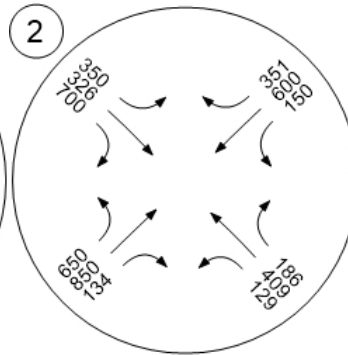
Traffic Volume - Base Volume



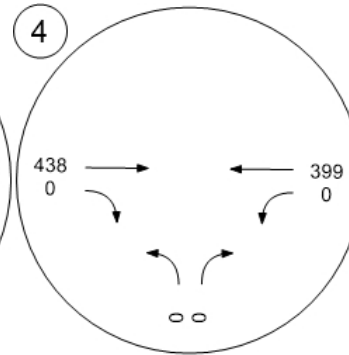
US 24 + Judge Orr



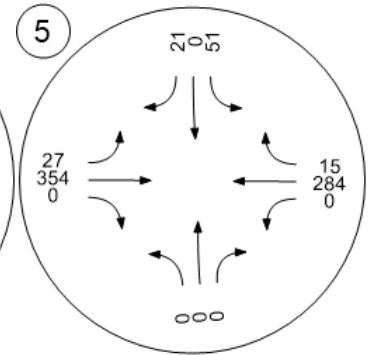
US 24 + Stapleton



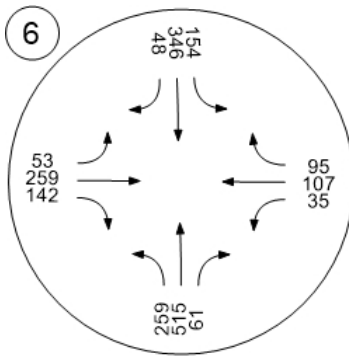
Judge Orr + E Access



Judge Orr + Elbert



Judge Orr + Curtis

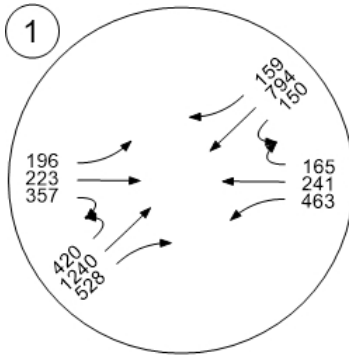


Why is intersection #3 not shown?

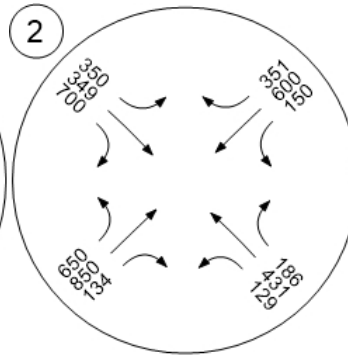
Traffic Volume - Future Total Volume



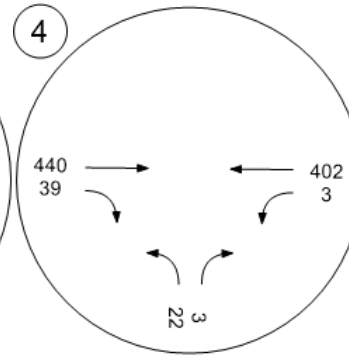
US 24 + Judge Orr



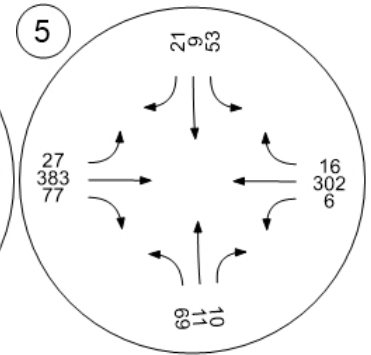
US 24 + Stapleton



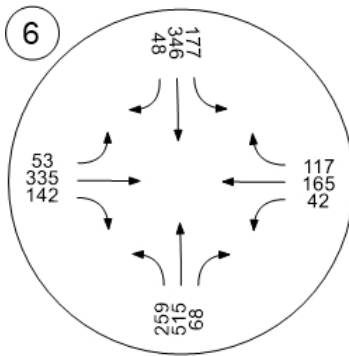
Judge Orr + E Access



Judge Orr + Elbert



Judge Orr + Curtis

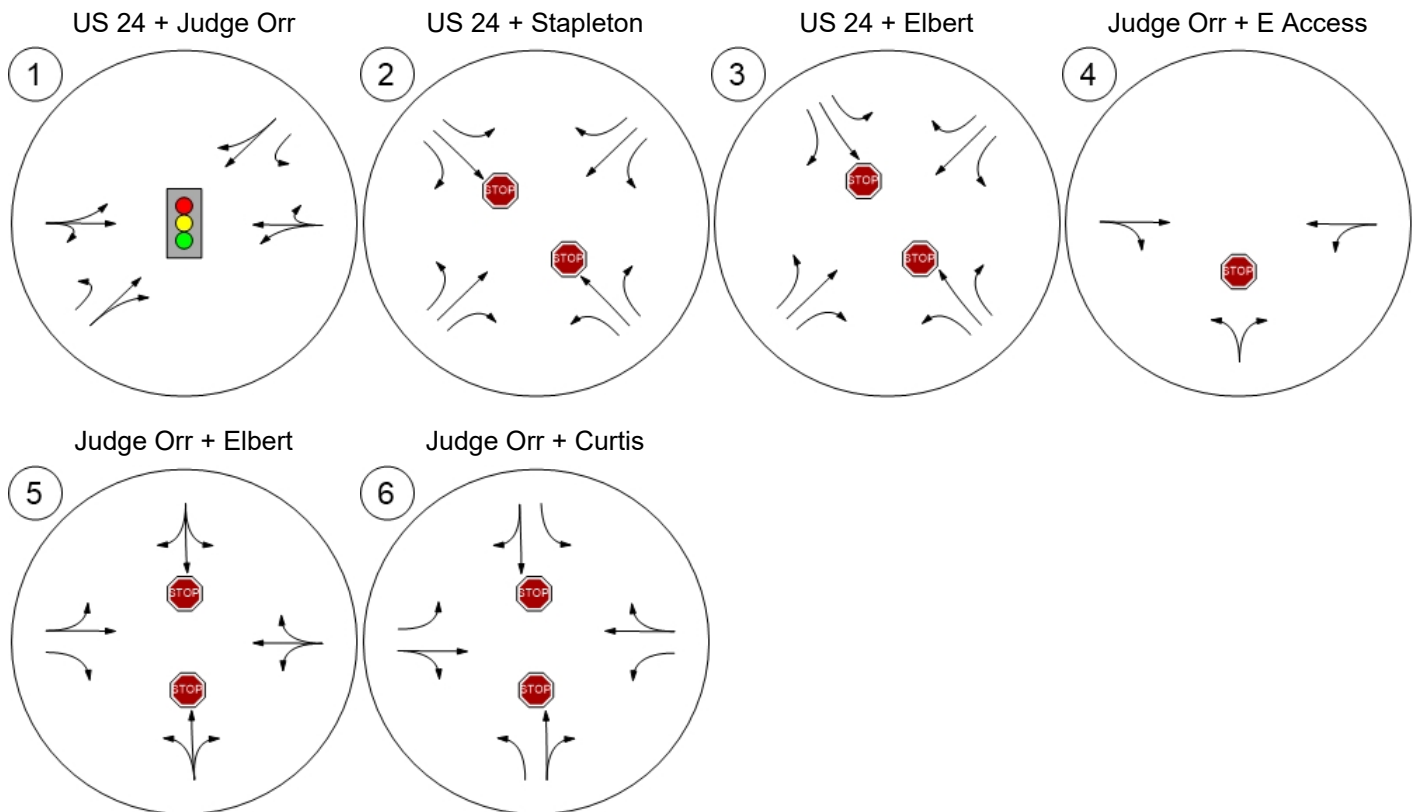


Why is intersection #3 not shown?

Vistro Lane Configuration and Traffic Control Reports



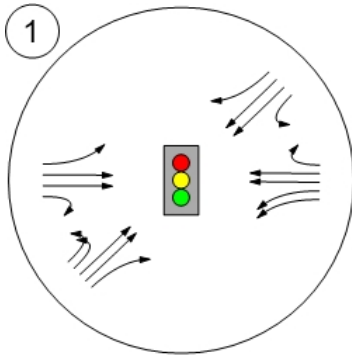
Lane Configuration and Traffic Control



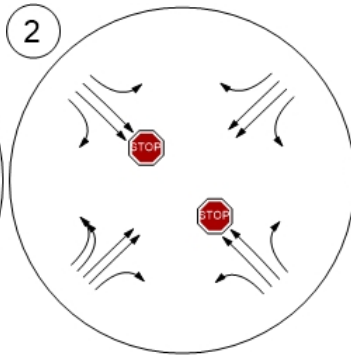
Lane Configuration and Traffic Control



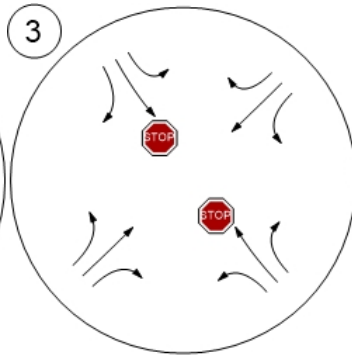
US 24 + Judge Orr



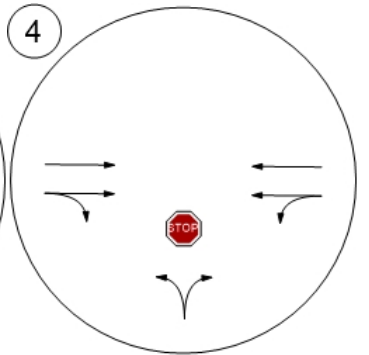
US 24 + Stapleton



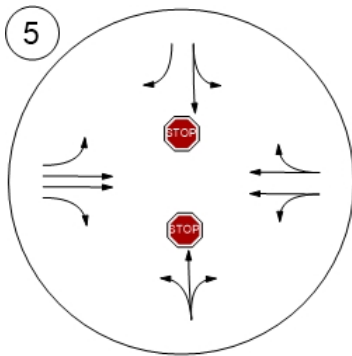
US 24 + Elbert



Judge Orr + E Access



Judge Orr + Elbert



Judge Orr + Curtis

