NOTE: SAME REPORT AS SUBMITTED WITH PUDSP236 ON 3/11/24

Please be sure to address comments from the previous submission

A preliminary design report for the roundabout will need to be provided.

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Grandview Reserve Phases 2 & 3
Preliminary Plan & PUD
Traffic Impact Analysis
PUDSP-23-006 & 241
(LSC #S234340)
March 4, 2024

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.

COLORADO LICENSED
JEFFREY C. HODSDON
31684
3-4-24
PROFESSIONAL ENGINEER

update the analysis of the 25 acre non-residential site to include school or alternative uses depicted on PUD Plan

Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

_____ _____
Date

Grandview Reserve Phases 2 & 3

Traffic Impact Analysis

Prepared for:
Mr. Phil Stuepfert
HR Green
5619 DTC Parkway – Suite 1150
Greenwood Village, CO 80111

FEBRUARY 29, 2024

LSC Transportation Consultants, Inc.

Prepared by: Jeffrey C. Hodsdon, P.E. and Kirstin D. Ferrin, P.E.

LSC # S234340

CONTENTS

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February 29, 2024

Mr. Phil Stuepfert
HR Green
5619 DTC Parkway – Suite 1150
Greenwood Village, CO 80111

RE: Grandview Reserve Phases 2 & 3
El Paso County, Colorado
Traffic Impact Analysis
LSC # S234340

Dear Phil:

In response to your request, LSC Transportation Consultants, Inc. has prepared this traffic impact analysis for Phases 2 and 3 of the Grandview Reserve development in El Paso County, Colorado. As shown in Figure 1, the Phase 2 and 3 areas are located south of the future Rex Road and east of the approved Phase 1 area.

REPORT CONTENTS

This report is being submitted as part of a Preliminary Plan/PUD submittal for Phases 2 and 3.

The report contains the following:

- The traffic count data and street conditions;
- Short-term, intermediate-term and 2045 baseline/background traffic-volume estimates;
- The projected average weekday and peak-hour vehicle trips to be generated by the site;
- The assignment of the site's projected traffic volumes to the key area streets and intersections for the short, intermediate, and long term and the resulting total traffic volumes for the short, intermediate, and long term;
- The resulting traffic impacts including level of service analysis at key intersections; and
- Findings and recommendations.

PREVIOUS TRAFFIC REPORTS

LSC completed a Master Traffic Impact Study (TIS) for Grandview Reserve (Sketch Plan) dated December 15, 2020 (SKP201). That report assumed the initial development would occur on the parcels on the east end of the overall development with access to US Highway 24 (US Hwy 24) only. Initial development, Phase 1 (approved) and Phases 2 & 3 (current application), has since been shown to occur on the west side of the master plan area with access only to Eastonville Road and the initial segment of Rex Road east of Eastonville (i.e., the road connection to US Highway 24 will be implemented later with future phases beyond Phase 3). LSC also completed a traffic impact study for the first phase of the Grandview Reserve (PUDSP2110), dated May 9, 2022.

A list of other traffic studies in the area of study completed within the past five years (that LSC is aware of) is attached for reference. This study accounts for the land use, trip generation, and the roadway network included in these studies. The older previous area studies generally assumed Rex Road would not extend from Eastonville Road to US Hwy 24 in the 20-year horizon as is now planned. The older previous studies also assumed fewer dwelling units on this site.

A traffic report, entitled *Eastonville Road Project Conceptual Design Report* was also recently completed for Eastonville Road by Wilson & Company (for El Paso County).

LAND USE AND ACCESS

Approved Land Use – Phase 1

Figure 2a shows the approved site plan (Preliminary Plan and PUD) for Phase 1 of Grandview Reserve. This phase includes 565 lots for single-family homes, an 11.2-acre church site, and an "amenity center". Construction of the first homes within Phase 1 is anticipated in 2024. By 2026, the first two filings which include about 169 lots for single-family homes are anticipated to be completed and by 2033 it was assumed that Phase 1 would be built out.

Phases 2 and 3 - Currently Proposed Preliminary Plan and PUD/Site Plan

Figure 2a also shows the currently proposed site plan for Phases 2 and 3 of Grandview Reserve. Phase 2 is planned to include 224 townhomes and 194 duplexes and is anticipated to be completed by 2026. Phase 3 is planned to include 224 lots for single-family homes and is anticipated to be constructed between 2026 and 2033. The Phase 2 and 3 plans are consistent with the land uses assumed for this same area in the Master TIS.

Site Access

Three new public-street connections (Edenvale Place, Grange Trail, and Wishaw Place) are proposed to an extension of Rex Road as part of Phase 2 and 3. Figure 2b shows the proposed intersection spacing on Rex Road.

Based on the criteria contained in the El Paso County *Engineering Criteria Manual* (*ECM*), the required intersection spacing for Minor Arterial roadways is ¼ mile (1,320 feet). The proposed public-street access points to Eastonville Road meet the intersection spacing criteria. The Phase 1 TIS assumed a potential future access for parcels north of Rex Road about 650 feet east of Ivybridge Drive and 875 feet west of the first new proposed access point for Phase 1 (Ivybridge Boulevard). This future access would require a deviation to the *ECM* standards.

Figure 2c_shows the planned internal street connections between Phase 1 and Phases 2/3, the street connections to the portion of Rex Road to be constructed, and phasing/timing of connections to the Phase 1 street network. The master-planned road connection to US Highway 24 will be completed later with future phases (beyond Phase 3).

One change is proposed to the **Phase 1** street network as part of the current planning for Phases 2 and 3. As noted in the attached copy of Figure 13 from the *Grandview Reserve Phase 1 Updated Traffic Impact Analysis* (PUDSP-21-010) dated May 9, 2022, Dawlish Drive is now planned to be classified as an Urban Residential Collector from Eastonville Road to Ivybridge Drive. This change has been made as part of the site design and planning process to ensure interim Phases 2 and 3 trips/traffic volumes can be accommodated by the previously planned Phase 1 streets.

Pedestrian and Bicycle Accommodations

There are two existing school sites located within two miles of the site, Falcon High School and Meridian Ranch Elementary. A future K-8 school is planned just north of Falcon High School. These schools are located north of Londonderry Drive and west of Eastonville Road. There is also a regional park located just west of the site.

The likely pedestrian path to the school and park sites is Eastonville Road to Londonderry Drive. There are currently sidewalks and school crossings on Londonderry Drive. There are currently no sidewalks on Eastonville Road. However, the *2016 Major Transportation Corridors Plan* (*MTCP*) shows a proposed primary regional trail along this corridor. The cross section for Eastonville Road north of Stapleton Drive recommended in the *Eastonville Road Conceptual Design* Report dated April 2021 includes an 8-foot detached meandering sidewalk on both sides of the roadway. The Grandview Reserve site plan includes a trail located outside of the Eastonville right-of-way but within their 30-foot landscape buffer to meet the regional trail requirement. Figure 2a shows the location of the proposed regional trail and other proposed trails within the Grandview Reserve development. All of the internal streets within the Phases 1 through 3 area will have sidewalks.

Sight Distance Analysis

Figures 3a and 3b shows sight-distance analysis at the proposed Phase 2 intersections with Rex Road (#4 Rex/Edenvale and #5 Rex/Grange).

Intersection Sight Distance

Based on the planned design speed of 40 miles per hour (mph) for Rex Road and the criteria contained in Table 2-21 of the *ECM*, the required intersection sight distance at these access points is 445 feet.

Stopping Sight Distance at Intersections

Based on the criteria contained in Table 2-17 of the *ECM*, the required stopping sight distance approaching this intersection is 305 feet (for grades less than three percent). As shown in Figures 3a and 3b the *ECM* criteria can be met at both of the intersections analyzed.

The Phase 3 intersection (#6 Rex/Wishaw) was not analyzed for sight distance as it is planned to be constructed as a one-lane modern roundabout. Detailed roundabout design reports will be included in future submissions. The roundabout design report will include detailed intersection and stopping sight distance evaluation for the roundabout intersection and intersection approaches.

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

The major roadways in the site's vicinity are shown in Figure 1 and are described below. Copies of the 2016 El Paso *County Major Transportation Corridors Plan* (*MTCP*) *2040 Roadway Plan*, and 2016 *MTCP 2060 Corridor Preservation Plan* (CPP) with the site location identified on them have been attached to this report.

Eastonville Road extends northeast from Meridian Road to past Hodgen Road. It is shown as a two-lane Minor Arterial on the El Paso County *Major Transportation Corridors Plan* and the *Preserved Corridor Network Plan*. Eastonville Road has a three-lane cross-section (one through lane in each direction plus a center two-way, left-turn lane) from Woodmen Hills Drive to Snaffle Bit Road (approximately midway between Judge Orr Road and Stapleton Road). Eastonville Road is a two-lane roadway north and south of this section. Eastonville Road is currently unpaved north of Londonderry Drive. Pikes Peak Rural Transportation Authority (PPRTA)-funded improvements are anticipated in the future at the intersection of Eastonville Road and Stapleton Drive that would likely add northbound and southbound left-turn lanes. The posted speed limit north of Stapleton Drive is 35 mph.

Rex Road extends east from Goodson Road to Estate Ridge Drive within the Meridian Ranch development. Rex Road is classified as an Urban Minor Arterial in the *2016 El Paso County Major Transportation Corridors Plan* (*MTCP*) 2040 Roadway Plan. The posted speed limit on Rex Road is 45 mph between Meridian Road and Mount Gateway Drive and 35 mph east of Mount Gateway Drive. Rex Road is currently being constructed as a 2-lane Urban Minor Arterial from its existing terminus at Estate Ridge Drive to Eastonville Road. The new section is anticipated to be open to traffic by spring 2024.

A short section is also proposed to be constructed east of Eastonville Road in the short-term future as part of the approved Grandview Reserve Phase 1 development. A roundabout is constructed as part of the Grandview Reserve Phase 1 development. As part of Phases 2 and 3, Rex Road is planned to be extended farther to the southeast adjacent to and along with these phases. The master-planned, Rex Road connection to US Highway 24 will be completed later with future phases (beyond Phase 3).

This ultimate, master-planned, Rex Road connection and an associated new intersection with US Highway 24 has been approved and "Access-Permitted" by CDOT in coordination with El Paso County, the Colorado Department of Transportation (CDOT), and other local agencies. The CDOT access permit notice-to-proceed (NTP) has not yet been requested by the applicant and has not been issued. The permit will likely need to be extended (per CDOT requirements) given the proposed phasing of this Preliminary Plan/PUD.

US Highway 24 (US Hwy 24) is generally a two-lane State Highway extending east/west across Colorado connecting the Buena Vista, Colorado Springs, and Limon areas. US Hwy 24 is planned to be widened to four lanes through the Falcon area. The US Hwy 24 PEL identifies this widening as a high priority with a timeline of less than 10 years. US Hwy 24 in the vicinity is classified as an EX – Expressway/Major Bypass by the Colorado Department of Transportation (CDOT). US Hwy 24 is shown as a four-lane Principal Arterial on the *MTCP* and the *Preserved Corridor Network Plan*. The posted speed limit on US Hwy 24 adjacent to the site is 65 miles per hour (mph).

Stapleton Drive is shown as an Urban four-lane Principal Arterial on the El Paso County *Major Transportation Corridors Plan* and El Paso County *Corridor Preservation Plan (CPP)*. Stapleton Drive 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 Drive currently is a half-section of a four-lane, Principal Arterial street (one through lane in each direction) between Meridian Road and US Hwy 24. The posted speed limit between Eastonville Road and US Hwy 24 is 45 mph.

This paragraph appears to be repeated from the previous page. Please ensure all information is included in one paragraph and delete the second.

Rex Road extends east from Goodson Road to Estate Ridge Drive within the Meridian Ranch development. Rex Road is classified as an Urban Minor Arterial in the 2016 El Paso County *Major Transportation Corridors Plan* (*MTCP*) 2040 Roadway Plan. The posted speed limit on Rex Road is 45 mph between Meridian Road and Mount Gateway Drive and 35 mph east of Mount Gateway Drive. Rex Road is currently being constructed as a 2-lane Urban Minor Arterial from its existing terminus at Estate Ridge Drive to Eastonville Road. The new section is anticipated to be open to traffic by spring 2024. A short section is also proposed to be constructed east of Eastonville Road in the short-term future as part of the approved Grandview Reserve Phase 1 development and the currently proposed Grandview Reserve Phases 2 and 3. A graphic showing the proposed cross section has been attached. This cross section will require a deviation to the criteria contained in the *El Paso County Engineering Criteria Manual* (*ECM*) In the future, Rex Road is planned to be constructed southeast through Grandview Reserve and will intersect US Highway 24 as part of future development within the Grandview Reserve Sketch Plan area, coordination with El Paso County, the Colorado Department of Transportation (CDOT), and other local agencies and associated applications to CDOT.

Existing Traffic Volumes

Figure 4a shows the existing morning and afternoon peak-hour traffic volumes at the intersections of Stapleton/US 24, Stapleton/Eastonville, and Londonderry/Eastonville. These volumes are based on manual intersection turning-movement counts conducted by LSC in April 2021 (Eastonville/Londonderry), October 2021 (Stapleton/Eastonville), and January 2023 (Stapleton/US Hwy 24).

The morning peak hour at the intersection of Stapleton/US Hwy 24 and Stapleton/Eastonville occurred from 6:45 a.m. to 7:40 a.m. The morning peak hour at the intersection of Eastonville/Londonderry occurred from 7:00 a.m. to 8:00 a.m. The afternoon peak hour at all three intersections occurred from 4:00 p.m. to 5:00 p.m. The northbound left-turn and eastbound right-turn volume at the intersection of Eastonville/Londonderry were adjusted (increased) to account for the minor differences due to seasonal variations and/or the difference in the peak hour. The count-data sheets are attached for reference.

Existing Levels of Service

Level of service (LOS) is a quantitative measure of the level of delay at an intersection. Level of service is indicated on a scale from “A” to “F.” LOS A represents control delay of less than 10 seconds for unsignalized and signalized intersections. LOS F represents control delay of more than 50 seconds for unsignalized intersections and more than 80 seconds for signalized intersections. Table 1 shows the level of service delay ranges.

Table 1: Intersection Levels of Service Delay Ranges

Level of Service	Signalized Intersections Average Control Delay (seconds per vehicle)	Unsignalized Intersections Average Control Delay (seconds per vehicle)[(1)]
A	10 sec or less	10 sec or less
B	10-20 sec	10-15 sec
C	20-35 sec	15-25 sec
D	35-55 sec	25-35 sec
E	55-80 sec	35-50 sec
F	80 sec or more	50 sec or more

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

Figure 4b presents the results of the existing intersection level of service analysis based on the unsignalized method of analysis procedures from the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board. The peak-hour factors used for each approach are based on the traffic volumes for the peak fifteen minutes of the entire intersection. If the peak 15 minutes for an approach occurs during an interval other than the peak 15 minutes of the entire intersection, the suggested peak-hour value based on the total approach volume from Table 9-1 of the Synchro Studio 10 User Guide was used instead. The level of service reports are attached.

The eastbound and westbound left-turn and through lanes at the two-way, stop-sign-controlled intersection of US 24/Stapleton are currently operating at LOS E or LOS F during the peak hours.

The eastbound approach at the two-way, stop-sign-controlled intersection of Stapleton/Eastonville is currently operating at LOS F during the morning peak hour and LOS C during the afternoon peak hour.

The eastbound left-turn movement at the two-way, stop-sign-controlled intersection of Eastonville/Londonderry is currently operating at a LOS D during the morning peak hour and LOS B during the afternoon peak hour.

Safety Analysis

The Colorado State Patrol provided LSC with three years of vehicle-crash data for Eastonville Road between Stapleton Drive and Latigo Boulevard.

There were eight reported crashes at the intersection of Eastonville/Stapleton the past three years, three in 2021, three in 2022, and two in 2023. All of these crashes are likely susceptible to correction by a traffic-control signal. In order to meet a traffic-signal warrant based on crash experience, there needs to be at least five crashes susceptible to correction within a 12-month

period. However, there was no 12-month period in the past three years with more than four crashes reported, therefore this intersection does not currently meet this warrant.

One additional crash was reported along this corridor. The location of the accident is not clear. However, as the road surface code was reported as "dirt" it was assumed to have occurred at a location north of Londonderry Drive. This crash was a single-vehicle crash that lost control while traveling northbound.

It should be noted that the short-term improvements to Eastonville Road, currently in the planning and preliminary design stage, will likely improve the safety of the entire corridor.

The intersection sight distance analysis included within this report is also a component of the overall traffic safety analysis. Please refer to the sight distance analysis section for details.

SHORT-TERM (YEAR 2026) BACKGROUND TRAFFIC

Background traffic is the traffic estimated to be on the adjacent roadways and at adjacent intersections without the proposed development's trip generation of site-generated traffic volumes. Background traffic includes the through traffic and the traffic generated by nearby developments but assumes zero traffic generated by the site. Figure 5a shows the projected short-term (Year 2026) background traffic volumes.

The addition of new roadways, notably the future completion of Rex Road east to Eastonville Road, will greatly affect the existing traffic patterns. In lieu of a general/"blanket" growth rate, LSC has developed small-area traffic models for Meridian Ranch, Waterbury, and the Latigo Trails as part of previous work completed in the area. The results of these modeling efforts have been combined to estimate the background traffic volumes. These background traffic volumes have been based on the existing traffic volumes (from Figure 4a) plus increases in traffic due to regional growth, including buildout of the following subdivisions in the vicinity of the site:

- The existing and currently proposed subdivisions within Waterbury (located just south of the Grandview Reserve);
- Meridian Ranch Filings 1-3 and Filings 6-8;
- Meridian Ranch Estates Filings 2-3;
- Meridian Ranch Filing 11;
- Stonebridge at Meridian Ranch Filings 1, 2, and 3;
- Meridian Ranch Filing 9;
- The Vistas at Meridian Ranch Filing 1;
- WindingWalk at Meridian Ranch Filing 1;
- The Enclave at Stonebridge at Meridian Ranch;
- The Estates at Rolling Hills Ranch Filing Nos. 1 and 2;
- The Rolling Hills Ranch at Meridian Ranch PUD; and
- Grandview Reserve Phase 1 Filings 1 and 2 (considered background traffic for purposes of this report)

The **short-term** background traffic volumes assume Rex Road extended from its existing terminus in Meridian Ranch east to Eastonville (by Meridian Ranch) but **not** further east. The **short-**term background volumes also assume only the street connections within Filings 1 and 2 of Phase 1, as shown in Figure 2c, have been constructed by 2026.

Figure 5b shows the lane geometry, traffic control, and level of service at the key area intersections, based on the short-term background volumes, and laneage/traffic control needed to accommodate background traffic including Grandview Phase 1 Filings 1 and 2.

INTERMEDIATE-TERM (YEAR 2033) BACKGROUND TRAFFIC

Figure 6a shows the projected intermediate-term (Year 2033) background traffic volumes. These background traffic volumes have been based on the short-term (Year 2026) traffic volumes (from Figure 5a) plus increases in traffic due to general regional growth, including buildout of the following subdivisions in the vicinity of the site:

- Sanctuary at Meridian Ranch
- Rolling Hills Ranch North
- Latigo Trails Filing Nos. 1 and 2
- Grandview Reserve Phase 1

Figure 6b shows the lane geometry, traffic control, and level of service at the key area intersections, based on the intermediate-term background volumes.

2045 BACKGROUND TRAFFIC

Figure 7a shows the projected 2045 background-traffic volumes. The small-area model was also used to develop these volumes. In addition to the 2033 background traffic and developments assumed to be developed by 2033, the 2045 background traffic volumes assume trips generated by/traffic volumes estimated for buildout of:

- The Meridian Ranch development including buildout of the proposed school site located north of Falcon High School,
- Grandview Reserve (except trips to be generated by land uses within the Phases 2 and 3 area, as these trips are included in the “site-generated traffic.”) with the future school site located south of Rex Road, instead of north of Rex Road as assumed in the MTIS,
- The Waterbury Phase 1 and 2 developments to the southeast
- Latigo Trails and estimated buildout trips that may be generated by future development of the area generally north of Rex Road between Eastonville Road and US Hwy 24. This analysis assumes trip generation based on future development of 2 ½-acre residential lots.

The 2045 background-traffic scenario assumes Stapleton Drive extended west to connect with the Briargate Parkway extension and Rex Road extended east through the future phases of Grandview Reserve to US Hwy 24.

Figure 7b shows the lane geometry, traffic control, and level of service at the key area intersections, based on the 2045 background volumes.

TRIP GENERATION

The site-generated vehicle trips were estimated using the nationally published trip-generation rates from *Trip Generation, 11th Edition, 2021* by the Institute of Transportation Engineers (ITE). Table 2 shows the trip-generation estimates.

Grandview Reserve Phases 2 is expected to generate about 3,010 new external vehicle trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour of the adjacent street traffic, which occurs between 6:45 and 7:45 a.m., about 50 vehicles would enter and 150 vehicles would exit the site. During the afternoon peak hour of the adjacent street traffic, which occurs between 4:00 and 5:00 p.m., about 141 vehicles would enter and 98 vehicles would exit the site.

Grandview Reserve Phases 3 is expected to generate about 3,036 new external vehicle trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour of the adjacent street traffic, about 56 vehicles would enter and 169 vehicles would exit the site. During the afternoon peak hour of the adjacent street traffic, about 191 vehicles would enter and 112 vehicles would exit the site.

DIRECTIONAL DISTRIBUTION AND ASSIGNMENT

The directional distribution of the site-generated traffic volumes on the area roadways is an important factor in determining the site's traffic impacts. Figures 8 and 9 show the short-term and long-term directional-distribution estimates for the site-generated traffic volumes, respectively. The estimates have been based on the following factors: distribution estimates from the Master Study and the Phase 1 study (with adjustments, as needed), the recent traffic-count data; the site's proposed land use; the site's proposed access points; the phased interim and buildout Grandview internal street network; and the phasing of the existing and future area Collector and Arterial public roadway system serving the site.

The short-term directional-distribution estimate assumes Rex Road has been extended from its existing terminus to Wishaw Place but not further east. The long-term directional distribution assumes buildout of the area street network including the extension of Rex Road east to US Hwy 24 and Stapleton Drive/Briargate Parkway west to Black Forest Road.

When the distribution percentages (from Figures 8 and 9) were applied to the trip-generation estimates (from Table 2), the short-term and intermediate-term site-generated traffic volumes on the area roadways were determined. Figure 10 shows the short-term Phase-2-only generated traffic volumes. Figure 11 shows the intermediate-term Phases 2- and 3-generated traffic volumes. Figure 12 shows the long-term Phases 2- and 3-generated traffic volumes.

TOTAL TRAFFIC

Short-Term (Year 2026)

Figure 13a shows the projected short-term (Year 2026) total-traffic volumes. The short-term total-traffic volumes are the sum of the short-term background-traffic volumes (from Figure 5a) plus the short-term Phase 2-generated traffic volumes (from Figure 10). The 2026 total traffic volumes assume only filing 1 and 2 of Grandview Reserve Phase 1 and Grandview Reserve Phase 2 have been constructed by 2026.

Figure 13b shows the lane geometry, traffic control, and level of service at the key area intersections, based on the short-term (Year 2026) total volumes. The short-term scenario assumes Rex Road has been constructed only to Grange Trail (Intersection #5) and assumes only the internal streets within Grandview Phase 1 filings 1 and 2 have been constructed.

Intermediate-Term (Year 2033)

Figure 14a shows the projected intermediate-term (Year 2033) total-traffic volumes. The intermediate-term total-traffic volumes are the sum of the intermediate-term background-traffic volumes (from Figures 6a) plus the intermediate-term Phases 2- and 3-generated traffic volumes (from Figure 10). The 2033 total traffic volumes assume buildout of Grandview Reserve Phases 1 through 3 by 2033.

Figure 14b shows the lane geometry, traffic control, and level of service at the key area intersections, based on the intermediate-term (Year 2033) total volumes. The intermediate-term scenario assumes Rex Road has been constructed only to the Phase 3 access (Intersection #6) and assumes all the internal streets within Grandview Phase 1 and 2 have been constructed.

Long-Term (Year 2045)

Figure 15a show the projected 2045 total-traffic volumes. The 2045 total-traffic volumes are the sum of the 2045 background-traffic volumes (from Figures 7a) plus the long-term Phases 2- and 3-generated traffic volumes (from Figure 11).

Figure 15b shows the lane geometry, traffic control, and level of service at the key area intersections, based on the 2045 total volumes.

PROJECTED LEVELS OF SERVICE

The key area intersections and site-access points have been analyzed to determine the projected future levels of service based on the unsignalized method of analysis procedures from the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board and Synchro signalized intersection procedures. Based on the criteria contained in the *ECM*, a peak-hour factor of 0.85 was used for the short-term (Year 2026) and intermediate-term (Year 2033) analysis, except for those intersections whose existing peak-hour factor calculated from traffic counts conducted by LSC was higher than 0.85. In those cases, the existing peak-hour factor was used. A peak-hour factor of 0.95 was used for the long-term (Year 2045). Two percent heavy vehicles were assumed for the Year 2026, Year 2033, and Year 2045 analysis. The results of the analysis are contained in Figures 5b, 6b, 7b, 12b, 13b, 14b, and 15b. The level of service reports are attached.

Rex Road/Eastonville Road (Intersection #1)

The intersection of Rex/Eastonville Road is planned to be constructed as a modern one-lane roundabout as part of the approved Grandview Reserve Phase 1 development. All approaches at this intersection are projected to operate at LOS D or better through 2045.

Rex Road/Ivybridge Boulevard (Intersection #2)

The intersection of Rex Road/Ivybridge Boulevard is projected to operate at LOS C or better for all movements based on the projected 2045 total traffic volumes as a two-way, stop-sign-controlled "T" intersection. This access to Rex Road is intended to remain a "T" intersection in perpetuity. If future access is needed for the parcels north of Rex Road, it was assumed this access would occur via a second "T" intersection east of Ivybridge.

Rex Road/Potential Future North Access (Planned Public Street) (Intersection #3)

If future access is needed for parcels north of Rex Road, it was assumed that this intersection would be a stop-sign controlled "T" intersection. All movements at this intersection are projected to operate at LOS C or better through 2045.

Rex Road/Edenvale Place (Planned Public Street) (Intersection #4)

The intersection of Rex Road/Edenvale Place is proposed to operate at LOS B or better for all movements through 2045 as a stop-sign controlled intersection.

Rex Road/Grange Trail (Planned Public Street) (Intersection #5)

The intersection of Rex Road/Grange Trail is proposed to operate at LOS C or better for all movements through 2045 as a stop-sign controlled intersection.

Rex Road/Wishaw Place (Planned Public Street) (Intersection #6)

The intersection of Rex Road/Wishaw Place is planned to be constructed as a modern one-lane roundabout. All approaches are projected to operate at LOS D or better through 2045 if a bypass lane is provided for the westbound-to-northbound movement.

Rex Road Intersections #7 and #8

Intersections #7 and #8 were not analyzed as part of this report as they are not planned as part of the currently proposed Phases 2 and 3. Detailed analysis will be provided with future submissions.

US Highway 24/Rex Road (Intersection #9)

The intersection of US Highway 24/Rex Road is not planned to be constructed as part of Phases 1 through 3 and was therefore not analyzed in the 2026 and 2033 scenarios. By 2045, it was assumed that Rex Road would be constructed from Wishaw Place to US Hwy 24 as part of a future phase and that intersection with US Hwy 24 would be constructed as a signal-controlled, channelized “T” intersection. All movements are projected to operate at LOS D, based on the projected 2045 total traffic volumes.

Eastonville Road/Dawlish Drive (Intersection #10)

The intersection of Eastonville Road/Dawlish Drive is planned to be constructed as a one-lane modern roundabout as part of the Grandview Reserve Phase 1 development. All approaches are projected to operate at LOS C or better through 2045.

Eastonville Road/Brixham Drive (Intersection #11)

The future stop-sign-controlled intersection of Eastonville Road/Brixham Drive is projected to operate at LOS C or better for all movements during the peak hours as a stop-sign-controlled “T” intersection, based on the short-term (Year 2026) total traffic volumes. By 2045, the westbound left-turn movement is projected to operate at LOS D during the peak hours.

Londonderry Drive/Eastonville Road (Intersection #12)

It is our understanding that the intersection of Londonderry/Eastonville is planned to be reconstructed as a modern roundabout as part of a PPRTA project. The intersection is projected to operate at LOS D or better for all approaches through 2045 as a modern roundabout.

Stapleton Drive/Eastonville Road (Intersection #13)

The eastbound approach at the intersection of Stapleton/Eastonville is currently operating at LOS F during the morning peak hour. Improvements to Eastonville from Snaffle Bit north to Rex Road in the vicinity of the site are under design as part of the PPRTA Eastonville Phase 1 project. It is our understanding that the intersection is planned to be converted to a modern one-lane roundabout in the short term. All approaches are projected to operate at LOS D or better based on the projected 2026 total traffic volumes.

By 2033, it was assumed that Stapleton Drive would be constructed to its full Principal Arterial cross section and that the roundabout at the intersection of Stapleton/Eastonville would be expanded to two lanes. Based on the estimated roundabout lane geometry and projected volumes, all approaches are projected to operate at LOS D or better through 2045.

US Highway 24/Stapleton Drive (Intersection #14)

The intersection of US Hwy 24/Stapleton is currently stop-sign controlled. The northbound and southbound left-turn movements and the northbound through movements are currently operating at LOS F during the peak hours. This intersection is planned to be signalized in the (potentially near-term) future. Once signalized, all movements are projected to operate at LOS D or better during the peak hours, based on the projected short-term total, intermediate-term total and 2045 total traffic volumes.

Per the approved Sketch Plan TIS, the intersections of Eastonville/Meridian Ranch/Judge Orr Road & Eastonville/McLaughline are to be analyzed with each preliminary plan submittal determining need for traffic signal. Please include.

QUEUING ANALYSIS

A queuing analysis was performed using Synchro/SimTraffic for the two new full-movement intersections to Rex Road (Grange Trail and Edenvale Place) to determine the projected queue lengths, based on the 2045 total traffic volumes. The simulation was run five times. The queuing reports are attached. These queuing results have been used to develop auxiliary turn-lane recommendations.

The projected maximum westbound left-turn queue on Rex Road is 51-feet approaching Edenvale Place and 72-feet approaching Grange Trail.

FUNCTIONAL CLASSIFICATIONS AND LANEAGE

Figure 16 shows the recommended functional classifications for internal streets within Phases 1 through 3 and for the roadways in the vicinity of the site. The functional classifications for the major transportation corridors in the vicinity and number of through lanes are consistent with the current El Paso County *MTCP* and the Grandview Reserve Sketch Plan TIS report.

The projected average daily traffic on Eastonville Road north of Stapleton Drive is 20,000 vpd based on the projected 2045 total traffic volumes. The projected daily traffic volumes on this

section of Eastonville Road are at the design ADT of 20,000 vpd for an Urban Minor Arterial given in Table 2-6 of the El Paso County Engineering Criteria Manual (*ECM*).

The projected average daily traffic on Rex Road just east of Eastonville Road is 5,600 vpd based on the projected intermediate-term (Year 2033) total traffic and 10,750 vpd based on the projected 2045 total traffic volumes. The projected daily traffic volumes on this section of Rex Road are below the design ADT of 20,000 vpd for an Urban Minor Arterial given in Table 2-6 of the *ECM*.

The projected average daily traffic volumes on Ivybridge Drive just south of Rex Road is 1,430 vpd based on the projected intermediate-term (Year 2033) total traffic volumes and 2,180 vpd based on the projected 2045 total traffic volumes. The projected daily traffic volumes on Ivybridge Boulevard are below the design ADT of 10,000 vpd for an Urban Residential Collector given in Table 2-6 of the *ECM*.

The projected average daily traffic volumes on Dawlish Drive between Eastonville Road and Zelda Street is 5,050 vehicles per day (vpd) based on the projected intermediate-term (Year 2033) total traffic volumes and 3,740 vpd based on the projected 2045 total traffic volumes. The projected daily traffic volumes on this section of Dawlish Drive are below the design ADT of 10,000 vpd for an Urban Residential Collector given in Table 2-6 of the *ECM*.

The projected average daily traffic volumes on Dawlish Drive between Zelda Street and Ivybridge Boulevard is between 1,995 and 3,140 vpd based on the projected intermediate-term (Year 2033) total traffic and between 1,595 and 1,825 vpd based on the projected 2045 total traffic volumes. The projected daily traffic volumes on this section of Dawlish Drive are below the design ADT of 10,000 vpd for an Urban Residential Collector given in Table 2-6 of the *ECM*.

MULTI-MODAL AND PEDESTRIAN/BIKE TRANSPORTATION

- A park n' ride facility is planned for a site near Meridian Road and US Hwy 24.
- The Rock Island Regional Trail passes adjacent to the site.
- Many of the area County roads have been or will be upgraded to provide paved shoulders for cyclists. Stapleton and Elbert Road are shown as future "bike routes".
- The *MTCP* shows a future primary regional trail along Eastonville Road. Another future primary regional trail is shown extending west from Eastonville Road though Meridian Ranch.
- The US Hwy 24 PEL study also includes multi-modal elements.
- All of the internal streets within Grandview Reserve Phases 1 through 3 will have sidewalks that will connect to Rex Road and/or Eastonville Road. The proposed trail system shown in Figure 2 will also connect to the future Waterbury development to the south in addition to connections to Rex Road and Eastonville Road.

DEVIATONS TO ECM CRITERIA

Please provide Deviation Requests Associated with a PUD Modification from the ECM for each of these items for review.

The following deviations to the criteria contained in the El Paso County *Engineering Criteria Manual* (*ECM*) have been submitted as part of this application:

- Cross section of an Urban Minor Arterial for Rex Road adjacent to the site.
- Typical Urban Local cross section: The roadway where this modified section would be utilized will be an entry road for the subdivision. The increased right-of-way width will allow for a detached sidewalk which will allow for an enhancement of the landscaping along the entryway.
- Two waivers to the requirement for all "T" intersections to have a minimum of three access ramps.

TRANSPORTATION IMPROVEMENT FEE PROGRAM

Project Fees

This project will be required to participate in the El Paso County Road Improvement Fee Program. Grandview Reserve will join the ten-mil PID. The ten-mil PID building-permit fee portion associated with this option is $1,458 per multi-family dwelling unit and $1,221 per single-family dwelling unit. The total building-permit fee would be $609,944 for the 418 townhomes and duplexes within Phase 2 and $393,162 for the 322 single-family lots within Phase 3. It is likely that this amount would be paid incrementally with building permits associated with several individual final-plat applications.

Potentially Reimbursable Improvements Under the MTCP Fee Program

Nearby improvement projects potentially reimbursable under the Fee Program are (From MTCP Map No. 13):

- MTCP Project No. U19: Eastonville Road
- MTCP Project No. N4: Rex Road (extended between Eastonville & US Highway 24)
- MTCP Project No C12: Stapleton Road
- Also, potentially intersection improvements and traffic signals/roundabouts at major MTCP roadway intersections per fee program guidelines
- Also, potentially intersection improvements and traffic signals (or CDOT traffic signal escrows)/roundabouts at US 24 intersections with Rex Road and/or Stapleton Road per fee program guidelines

ROADWAY IMPROVEMENTS

The attached Table 3 presents the Phases 2 and 3 recommended roadway improvements.

- Based on the 2045 total traffic volumes shown in Figure 12a and the criteria contained in the El Paso County *Engineering Criteria Manual* (*ECM*), a westbound left-turn lane will be required on Rex Road approaching Edenvale Place (Intersection #4). This lane should be 205 feet long plus a 160-foot taper.
- Based on the 2045 total traffic volumes shown in Figure 12a and the criteria contained in the El Paso County *Engineering Criteria Manual* (*ECM*), a westbound left-turn lane will be required on Rex Road approaching Grange Trail (Intersection #5). This lane should be 255 feet long plus a 160-foot taper.
- The intersection of Rex Road and Wishaw Place (Intersection #6) should be constructed as a one-lane roundabout. A westbound right-turn bypass lane will likely be needed in the future when the north leg of the intersection is constructed.

* * * * *

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

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

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

JCH/KDF:jas

Enclosures: Tables 2-3
Figures 1-16
Traffic Count Reports
Level of Service Reports
Queuing Reports
Appendix Table 1
MTCP Maps
Map 15 Bicycle and Pedestrian Network Improvements
Rex Road Proposed Cross Section
Crash History Data
Figure 13 from the *Grandview Reserve Phase 1 Updated Traffic Impact Analysis*

Tables 2-3

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Table 2
Trip Generation Estimate
Grandview Reserve Phase 2 Preliminary Plan

Phase	Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates [1] Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out	Total Trips Generated Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out
Short-Term Trip Generation Estimate													
2	215	Single Family Attached Housing	418 DU[2]	7.20	0.12	0.36	0.34	0.23	3,010	50	150	141	98
Intermediate-Term and Long-Term Trip Generation Estimate													
2	215	Single Family Attached Housing	418 DU	7.20	0.12	0.36	0.34	0.23	3,010	50	150	141	98
3	210	Single-Family Detached Housing	322 DU	9.43	0.18	0.53	0.59	0.35	3,036	56	169	191	112
			740 DU						**6,046**	**106**	**319**	**332**	**210**

Notes:
(1) Source: "Trip Generation, 11th Edition, 2021" by the Institute of Transportation Engineers (ITE).
(2) DU = dwelling unit

Source: LSC Transportation Consultants, Inc. *Dec-23*

Table 3
Grandview Reserve Phases 2 and 3
Roadway Improvements

Item #	Improvement	Trigger	Timing	Responsibility
	Roadway Segment Improvements			
1	Eastonville Road: Stapleton to Londonderry final grading and paving	dependent on PPRTA funding priorities	TBD by EPC; PPRTA "A-List" Project	PPRTA
2	Eastonville Road: Londonderry to Rex final grading and paving	With Grandview Reserve development	With Grandview Reserve Phase 1	Grandview Reserve
3	Falcon Regional Trail: Construct east of Eastonville Road along the Phase 1 frontage	With Grandview Reserve development	With Grandview Reserve Phase 1	Grandview Reserve
4	Eastonville: Road Rex to Latigo initial grading and paving	Average Daily Traffic > 200 vehicles per day (ECM); Average Daily Traffic > 300 vehicles per day (fee study trigger)	Existing Deficiency; TBD by EPC; PPRTA list shows as an "A-List" project, however, this segment is shown as a future "Phase II" in the Wilson Eastonville Study	PPRT and/or with funds from developer escrows, and/or Fee Program funds or bonds
5	Eastonville Road: Rex to Latigo upgrade to an Urban Minor Arterial (per MTCP) (note: 2016 MTCP shows "Rural") Future phase of the PPRTA project	Average Daily Traffic > 600 vehicles per day(1)	TBD by EPC; PPRTA Phase II (Per Wilson Study)	PPRT and/or with funds from developer escrows, and/or Fee Program funds or bonds
6	Eastonville Road: Stapleton to Grandview Reserve south boundary upgrade to 4-Lane Rural Minor Arterial (per MTCP) (Project plan shows a three-lane cross section)	average daily traffic > 20,000 vehicles per day	dependent on PPRTA funding priorities	PPRTA
7	Rex Road: Construct-new road segment from Eastonville to first access point east of Eastonville Road (Ivybridge Boulevard)	With Grandview Reserve development	With Grandview Reserve Phase 1	Grandview Reserve
8	Rex Road: Construct new road segment from Eastonville to first access point Ivybridge Drive to Phase 3 access (Intersection #6)	With Grandview Reserve development	With Grandview Reserve Phases 2 and 3	Grandview Reserve
8	Rex Road: Construct new road segment from Intersection #6 to US Hwy 24 Adequate right-of-way should be reserved to allow for the construction of left-turn and right-turn deceleration lanes at all potential future access points	With Grandview Reserve development	With future Grandview Reserve filings	Grandview Reserve
9	Rex Road: Construct new segment from Estate Ridge to Eastonville	With adjacent Meridian Ranch development	Will be completed late 2023 and open to traffic by spring 2024	Meridian Ranch
10	Stapleton Drive: Meridian Road to Eastonville Road complete southern (eastbound) half	average daily traffic > 18,000 vehicles per day	Shown in 2040 MTCP	El Paso County
11	Stapleton Drive: Eastonville Road to US 24 complete southern (eastbound) half	average daily traffic > 18,000 vehicles per day	Shown in 2040 MTCP	Waterbury Metro District
	Intersections Improvements			
	Intersection #1 Eastonville Road/Rex Road			
12	Construct as modern one-lane roundabout	With Grandview Reserve Phase 1	With Grandview Reserve Phase 1	PPRTA/El Paso County(1)
	Intersection #2 Rex Road/Ivybridge Boulevard			
13	Construct an eastbound right-turn deceleration lane on Rex Road approaching Ivybridge	eastbound right-turn volume > 50 vph	With Grandview Reserve Phase 1	Grandview Reserve
14	Stripe the planned center median on Rex Road for a westbound left-turn deceleration lane-approaching Ivybridge	westbound left-turn volume > 25 vph	With Grandview Reserve Phase 1	Grandview Reserve
	Intersection #4 Rex Road/Edenvale Place			
15	Stripe the planned center median on Rex Road for a westbound left-turn deceleration lane-approaching Edenvale Place	westbound left-turn volume > 25 vph	With Grandview Reserve Phase 2	Grandview Reserve
	Intersection #5 Rex Road/Grange Trail			
16	Stripe the planned center median on Rex Road for a westbound left-turn deceleration lane on Rex Road approaching Grange Trail	westbound left-turn volume > 25 vph	With Grandview Reserve Phase 2	Grandview Reserve
	Intersection #6 Rex Road/Wishaw Place			
17	Construct as a modern one-lane roundabout	With the construction of Rex Road to the Grandview Reserve Phase 3 access	With Grandview Reserve Phase 3	Grandview Reserve
	Intersection #9 US Hwy 24/Rex Road Intersection (Per CDOT Access Permit No. 221088)			
18	Construct the intersection of US Hwy 24 as a channelized-T type intersection with a northeastbound left-turn deceleration lane and a northeastbound left-turn acceleration lane on US Hwy 24	With the opening of the access	With future Grandview Reserve filings	Grandview Reserve
19	Construct a second northeastbound left-turn deceleration lane on US Hwy 24 approaching Rex	Once the intersection is traffic signal controlled and level of service and/or queueing issues arrise	With future Grandview Reserve filings	Grandview Reserve
20	Construct a southwestbound right-turn deceleration lane on US Hwy 24 approaching Rex	southwestbound right-turn volume > 10 vph	With future Grandview Reserve filings	Grandview Reserve
21	Construct a southwestbound right-turn acceleration lane on US Hwy 24 at Rex	southeastbound right-turn volume >10 vph	With future Grandview Reserve filings	Grandview Reserve
22	Signalization of the intersection of US Hwy 24/Rex. The channelized-T configuration shall be retailed and the siganl would be a "directional signal"(2)	When Traffic Signal Warrant(s) are met. The decision on timing of traffic signal installation rests with the Colorado Department of Transportation	Long-Term Future (to be evaluated with each filing)	Grandview Reserve
	Intersection #10 Eastonville Road/Dawlish Drive			
23	Construct as a modern one-lane roundabout	With Grandview Reserve Phase 1	With Grandview Reserve Phase 1	Grandview Reserve
	Intersection #11 Eastonville Road/Brixham Drive			
24	Construct a northbound right-turn deceleration lane on Eastonville approaching Brixham (Not needed if constructed as a modern roundabout. Intersection control is to be determined with the final plat)	northbound right-turn volume > 50 vph	With Grandview Reserve Phase 1	Grandview Reserve
25	Construct a southbound left-turn deceleration lane on Eastonville approaching Brixham	southbound left-turn volume > 25 vph	With Grandview Reserve Phase 1	Grandview Reserve
	Intersection #12 Eastonville Road/Londonderry Drive			
26	Reconstruct as modern one-lane roundabout	Short-Term (under design as part of the Eastonville PPRTA Phase 1 project)		PPRTA Eastonville Phase 1 Project/El Paso County
	Intersection #13 Eastonville Road/Stapleton Drive			
27	Reconstruct as modern one-lane (expandable) roundabout	Short-Term (under design as part of the Eastonville PPRTA Phase 1 project)		PPRTA Eastonville Phase 1 Project/El Paso County
28	Expand to multi-lane modern roundabout	With Improvement #11: Stapleton Drive - US Hwy 24 to Eastonville Road complete southern (eastbound) half		El Paso County
	Intersection #14 Stapleton Drive/US Hwy 24 Intersection			
29	Convert from Two-Way, Stop-Sign Control to Signal Control	When Traffic Signal Warrant(s) are met. The decision on timing of traffic signal installation rests with the Colorado Department of Transportation	Anticipated in the short-term. It is our understanding that this is on the CDOT list of intersections planned for signalization.	CDOT; along with any available escrow collected from area developments through the access permitting process
30	Add northeast-bound dual left-turn lane	As needed with future developments (Will require Stapleton Drive to be widened to two westbound through lanes between US Hwy 24 and Dumont Dr)	Anticipated in the short-term	Area developments as required or potentially escrow participation toward future improvements.
31	Add other dual left-turn lanes	As needed with future developments (Will require Items Stapleton and US Hwy 24 widened to two through lanes in all directions)	Future	Area developments as required
32	Potential long-term capacity upgrades (jughandle, a Jr Interchange, etc.)	When level of service degrades below acceptable levels	Shown in US Highway 24 PEL Study;	CDOT; along with any available escrow collected from area developments-through the access permitting process.

Notes:
(1) These thresholds are utilized in the Fee Study for determination of inclusion of improvements in the Fee Program costs.
(2) Signal escrow amounts may be required in leu of signal installation with future residential filings and/or commercial development applications- this will determined by future TIS Reports and CDOT requirements from review of those future TIS reports.

Source: LSC Transportation Consultants, Inc. (February 2024)

Figures 1-16

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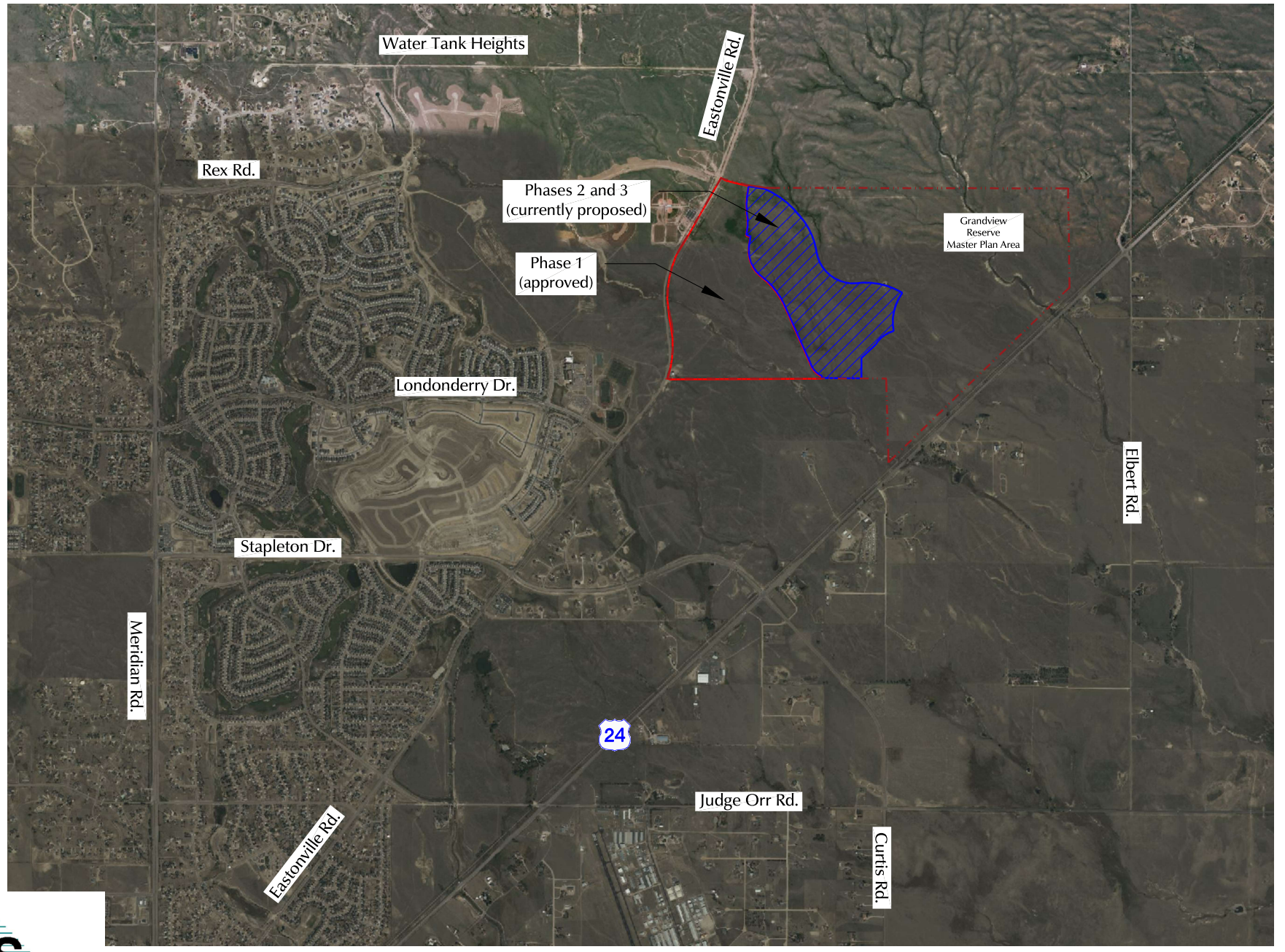

TRANSPORTATION CONSULTANTS, INC.

Figure 1

Vicinity Map

Grandview Reserve Phases 2 and 3 (LSC # S234340)

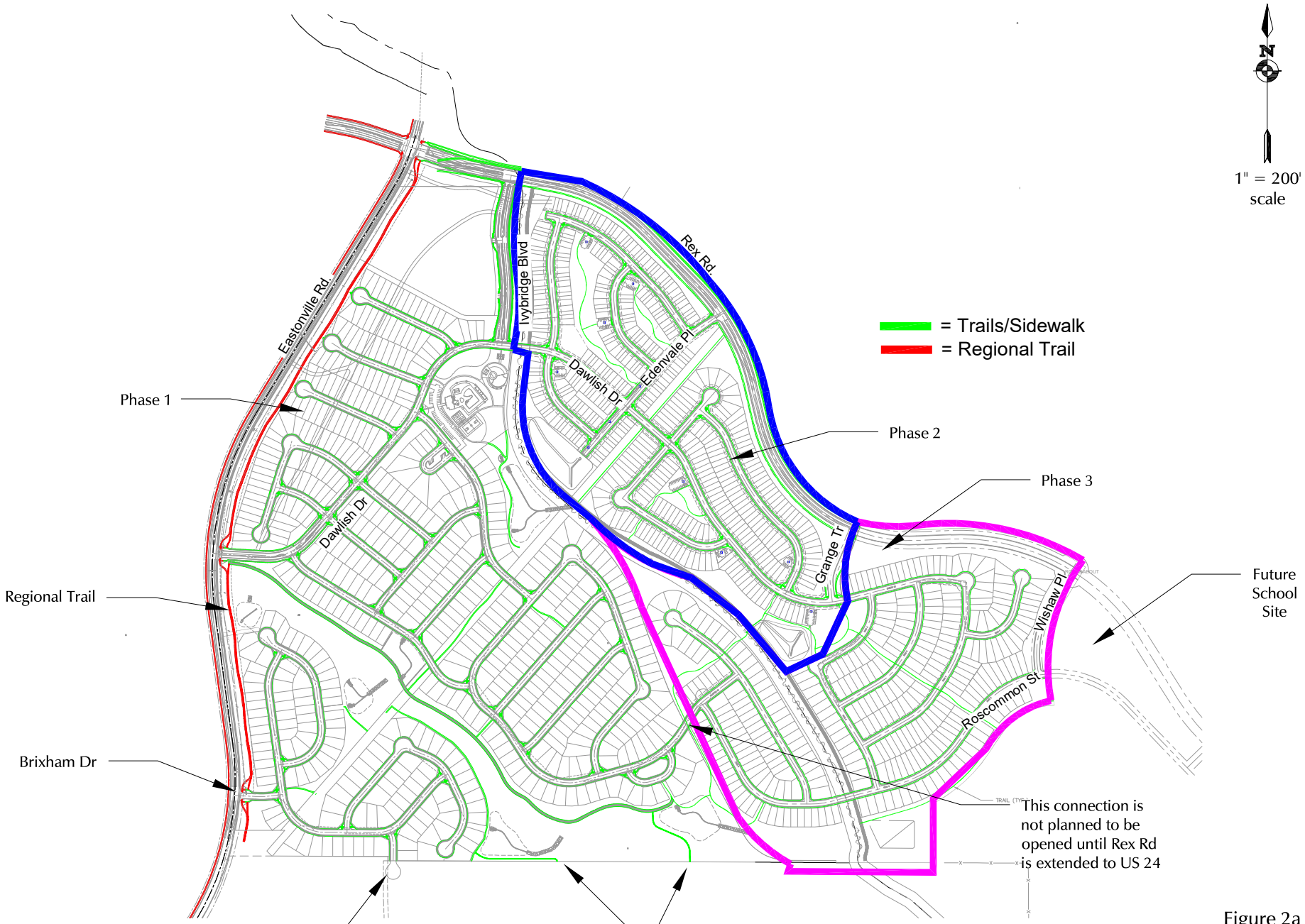

Figure 2a

Site Plan

Grandview Reserve Phases 2 and 3 (LSC # S234340)

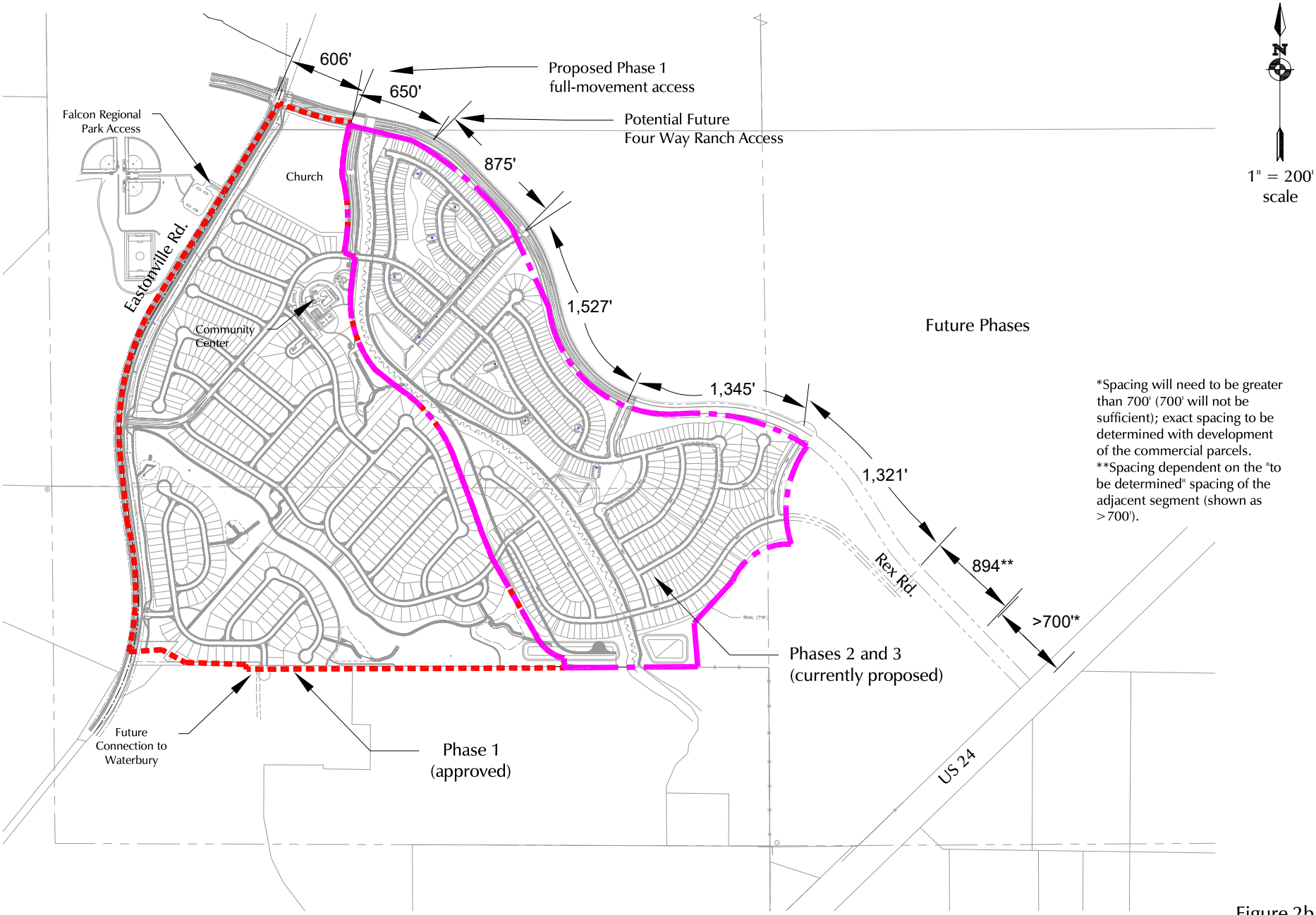

Figure 2b

Intersection Spacing

Grandview Reserve Phases 2 and 3 (LSC # S234340)

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Figure 2c

Proposed Phasing

Grandview Reserve Phases 2 and 3 (LSC # S234340)

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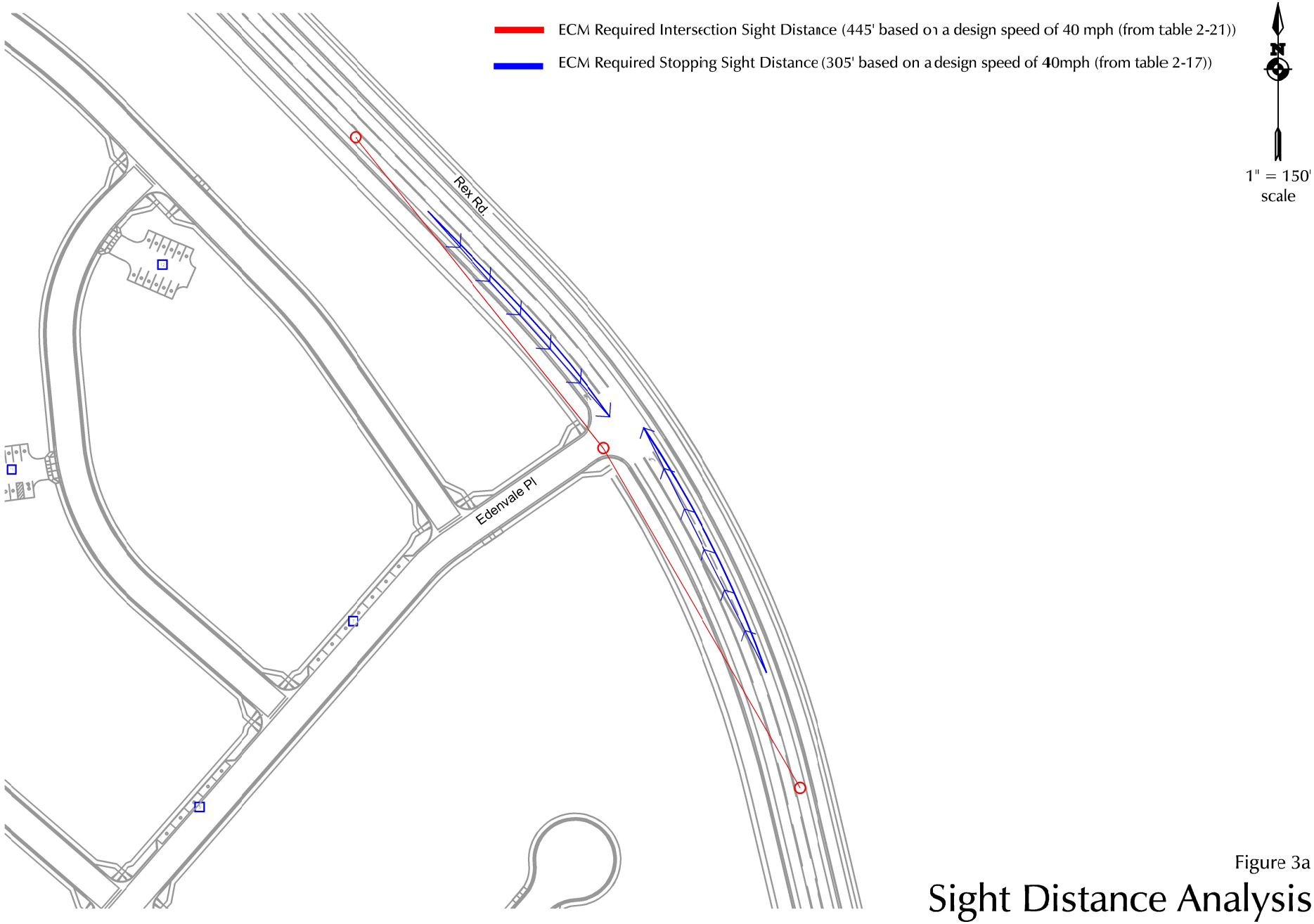

Figure 3a

Sight Distance Analysis
Rex Road/Edenvale Place

Grandview Reserve Phases 2 and 3 (LSC # S234340)

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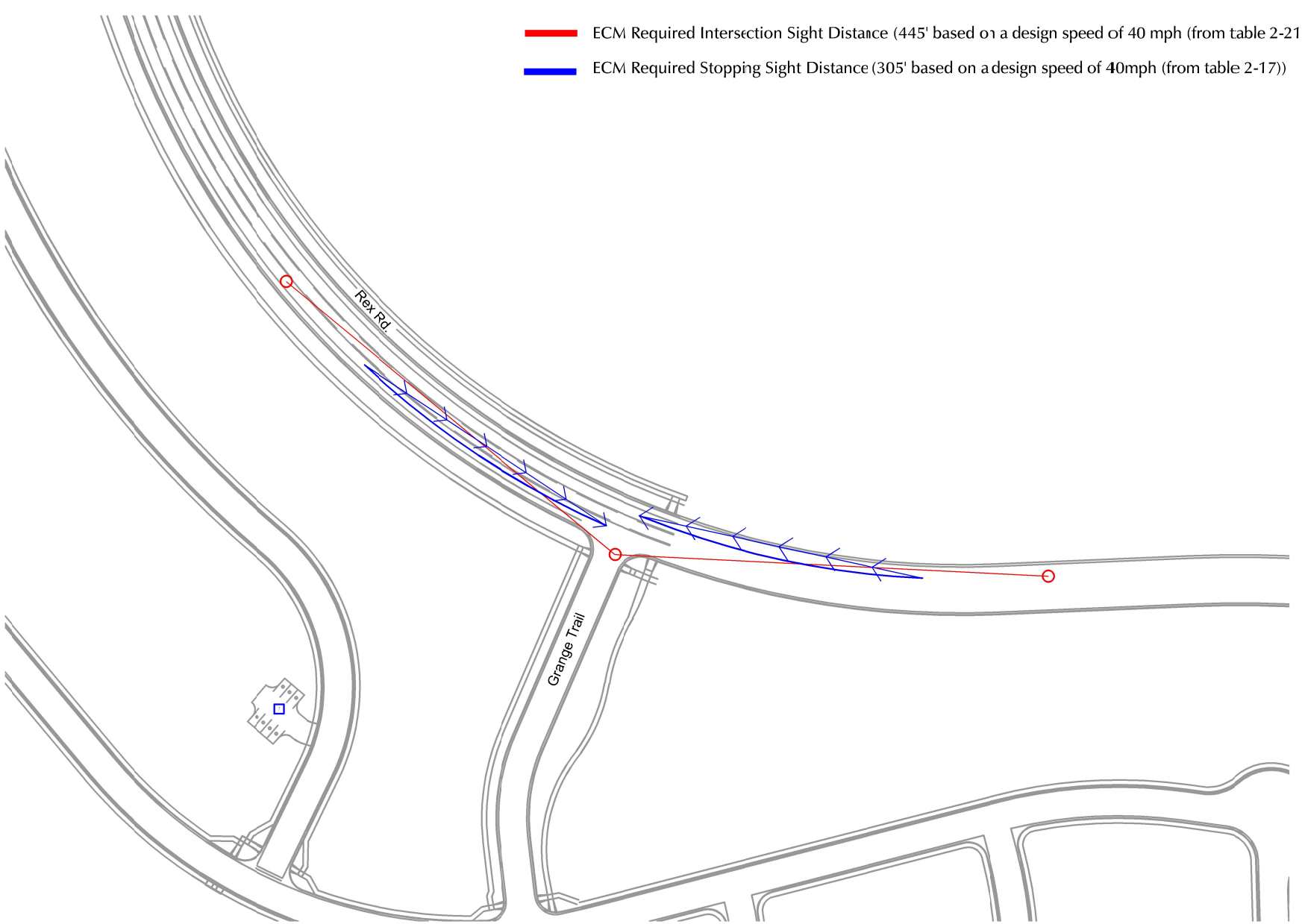

Figure 3b

Sight Distance Analysis
Rex Road/Grange Trail

Grandview Reserve Phases 2 and 3 (LSC # S234340)

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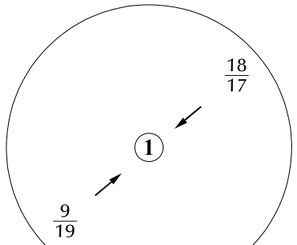

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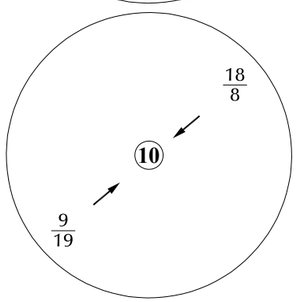
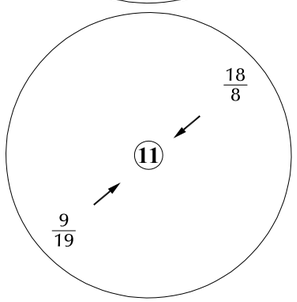
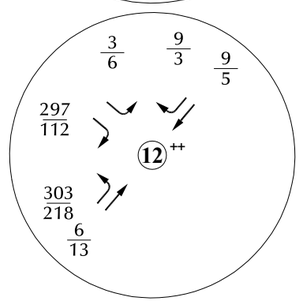
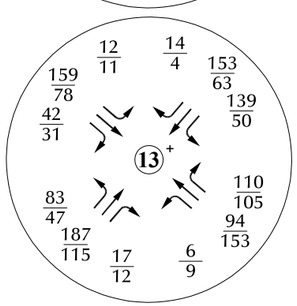
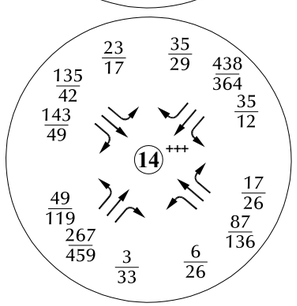










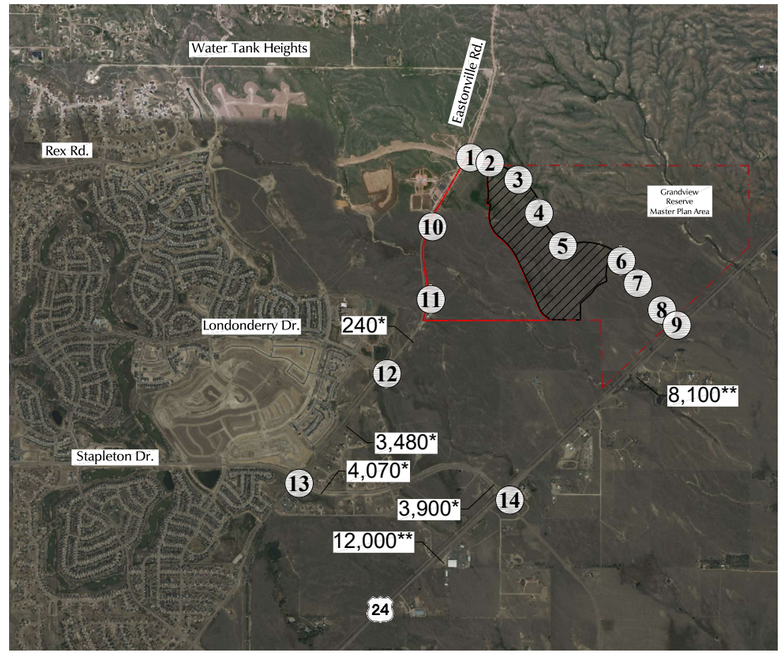
LEGEND:

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

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

N

NTS



* Estimate by LSC

** CDOT 2022 Average Annual Daily Traffic

+ Based on counts by LSC October 2021

++Based on counts by LSC April 2021. The northbound left-turn and eastbound right-turn volumes have been adjusted based on the more recent counts at Stapleton/Eastonville.

+++ Based on counts by LSC January 2023

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Figure 4a

Existing Traffic

Grandview Reserve Phases 2 and 3 (LSC # S234340)

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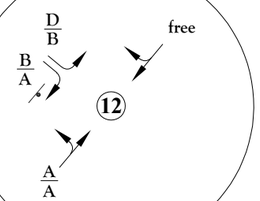
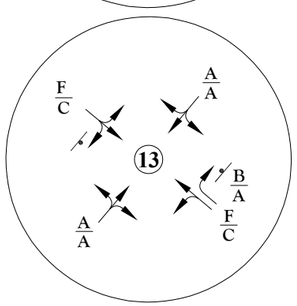
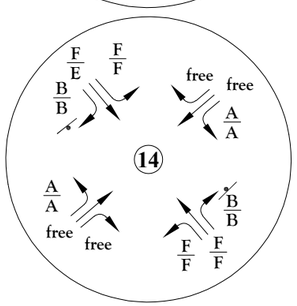






LEGEND:

Traffic Control Used in the Analysis:

= Stop Sign

= Traffic Signal

LOS Analysis Results:

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

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

N

NTS

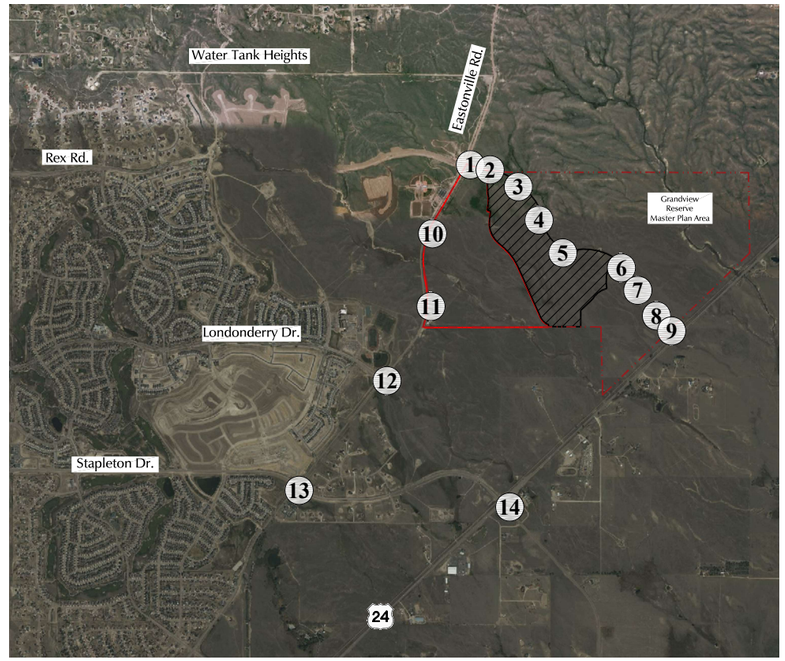
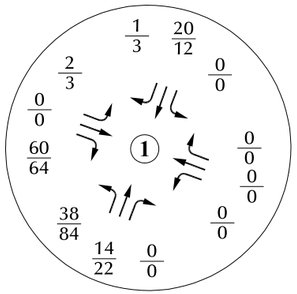


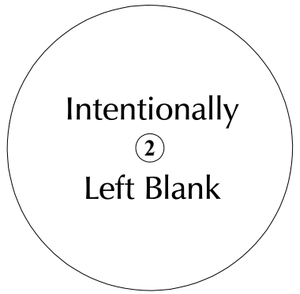
Figure 4b

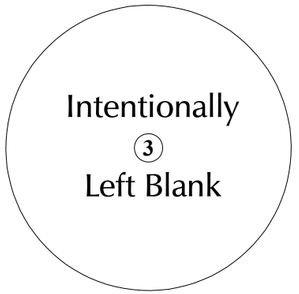
Existing Lane Geometry, Traffic Control, and Level of Service

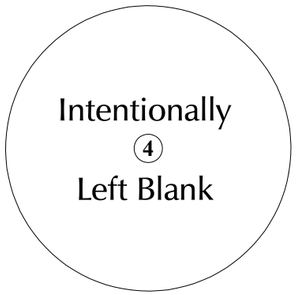
Grandview Reserve Phases 2 and 3 (LSC # S234340)

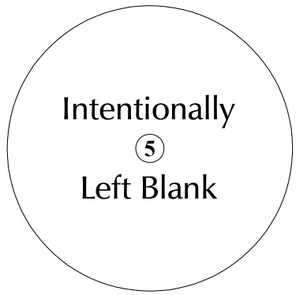
TRANSPORTATION CONSULTANTS, INC.

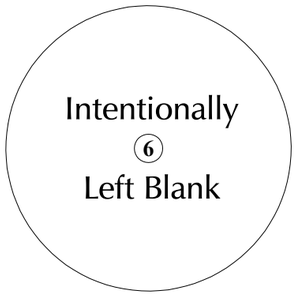


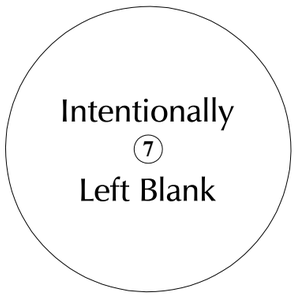


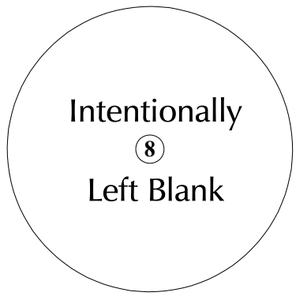


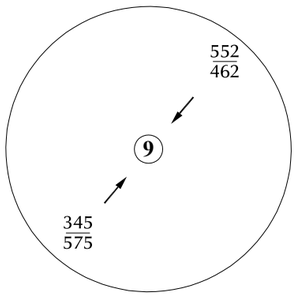


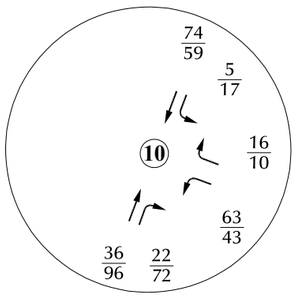


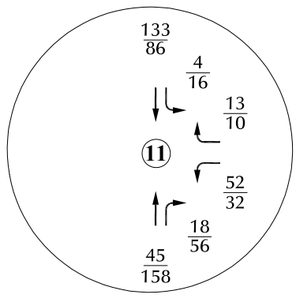


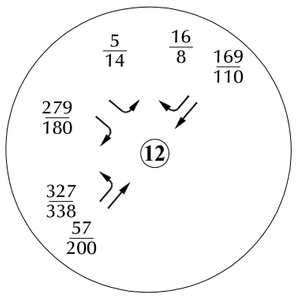


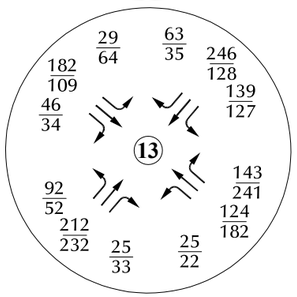


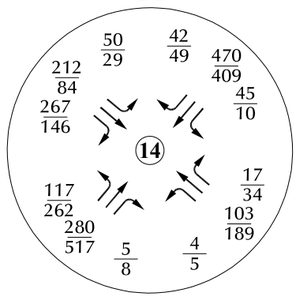








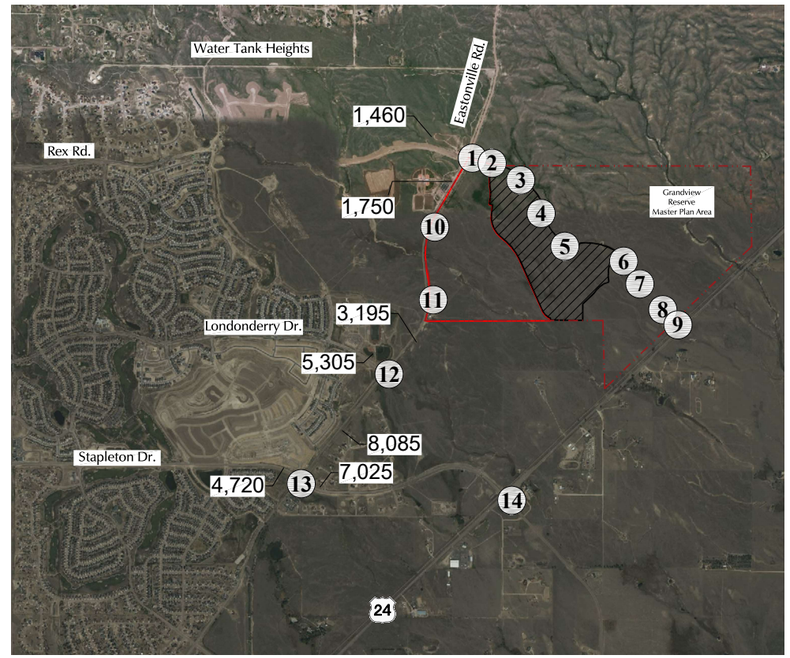


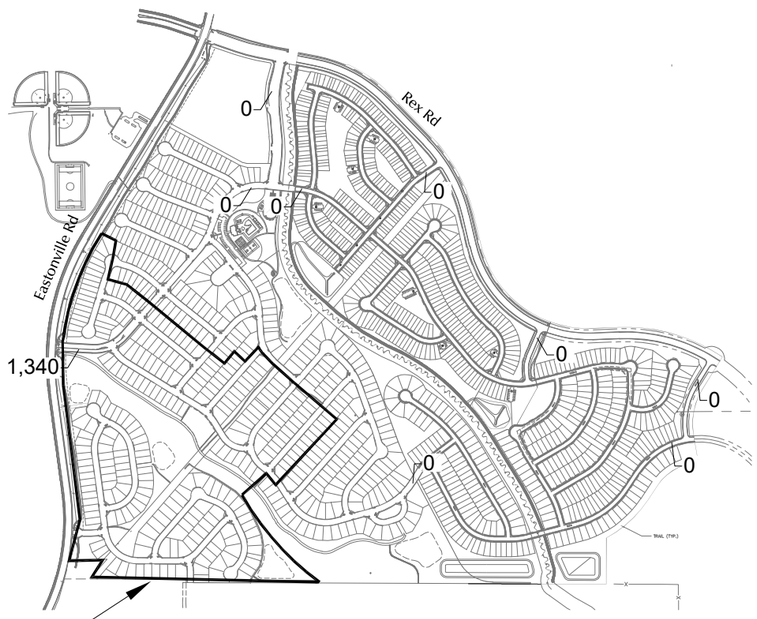


LEGEND:

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

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





Phase 1 Filings 1 and 2

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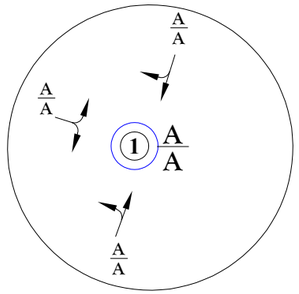
* Assumes buildout of Grandview Reserve Phase 1, filings 1 and 2 only.

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 5a

Year 2026 Background Traffic*

Grandview Reserve Phases 2 and 3 (LSC # S234340)



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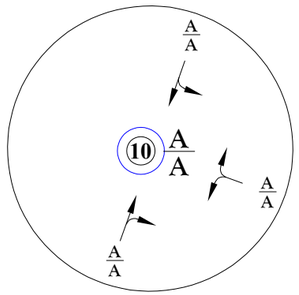
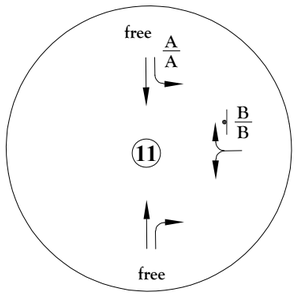
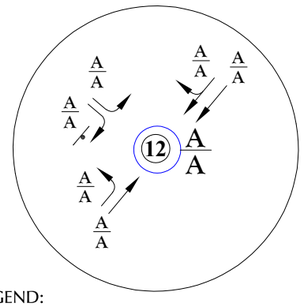
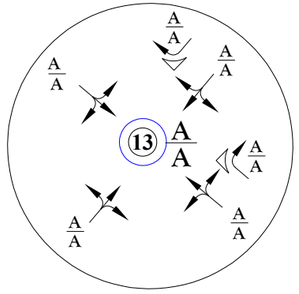
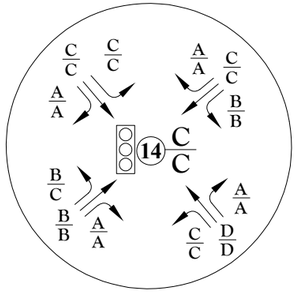










LEGEND:

Traffic Control Used in the Analysis:

= Stop Sign

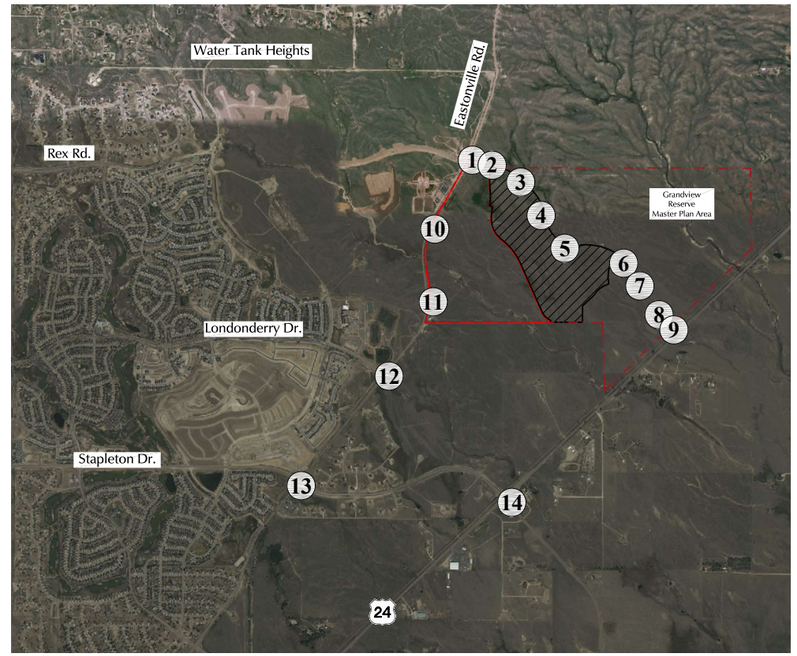
= Traffic Signal

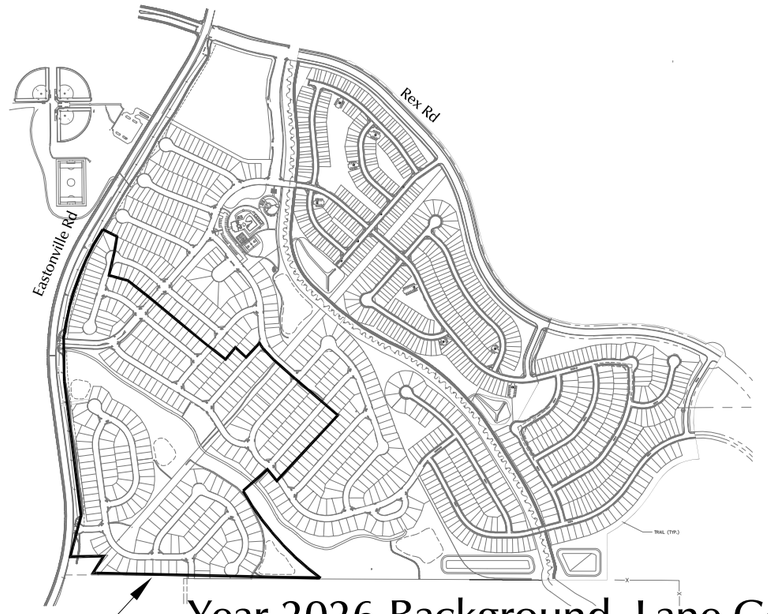
LOS Analysis Results:

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

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

= Modern Roundabout





Phase 1 Filings 1 and 2

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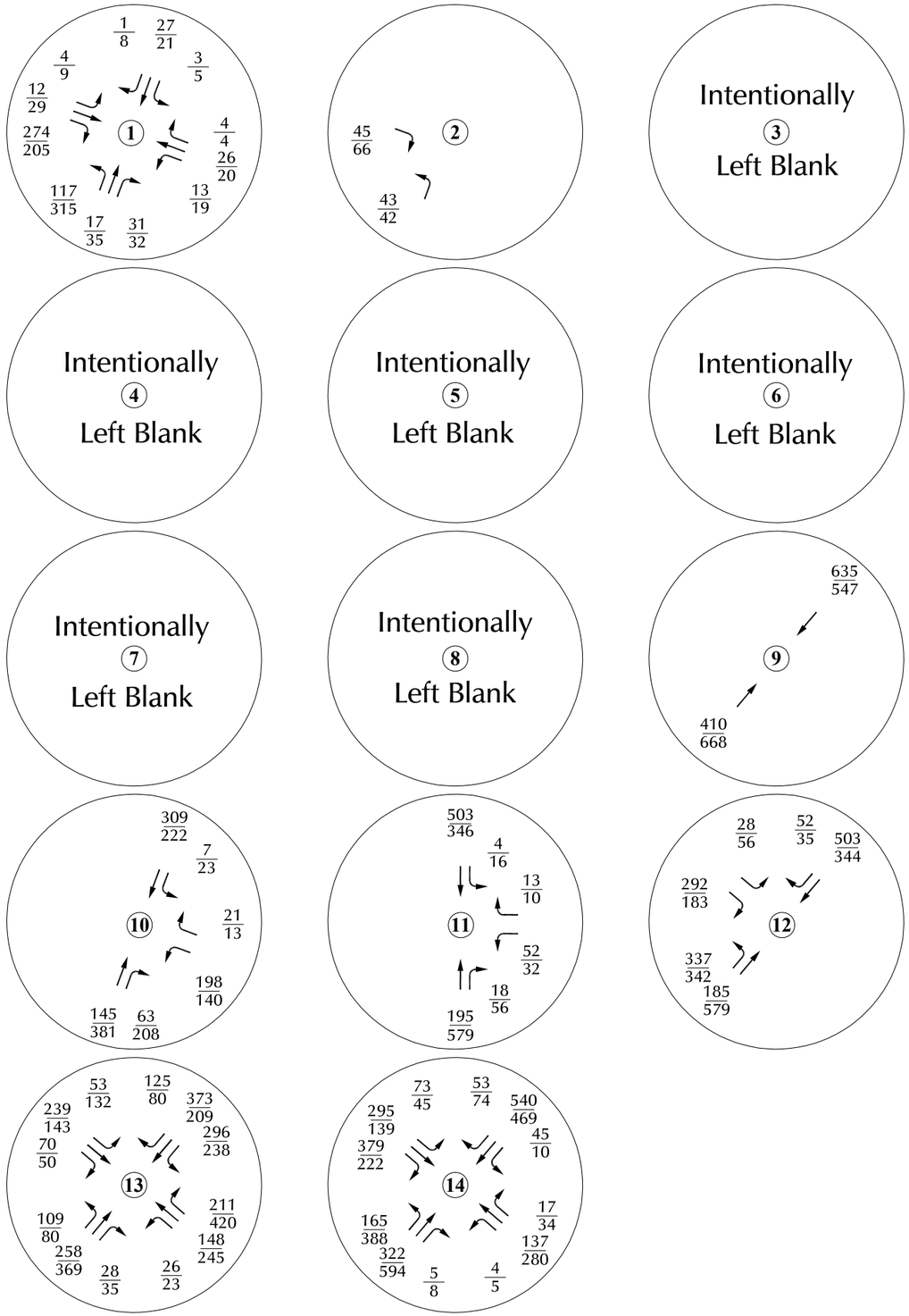
Figure 5b

Year 2026 Background Lane Geometry, Traffic Control, and Levels of Service*

Grandview Reserve Phases 2 and 3 (LSC # S234340)

* Assumes buildout of Grandview Reserve Phase 1, filings 1 and 2 only.

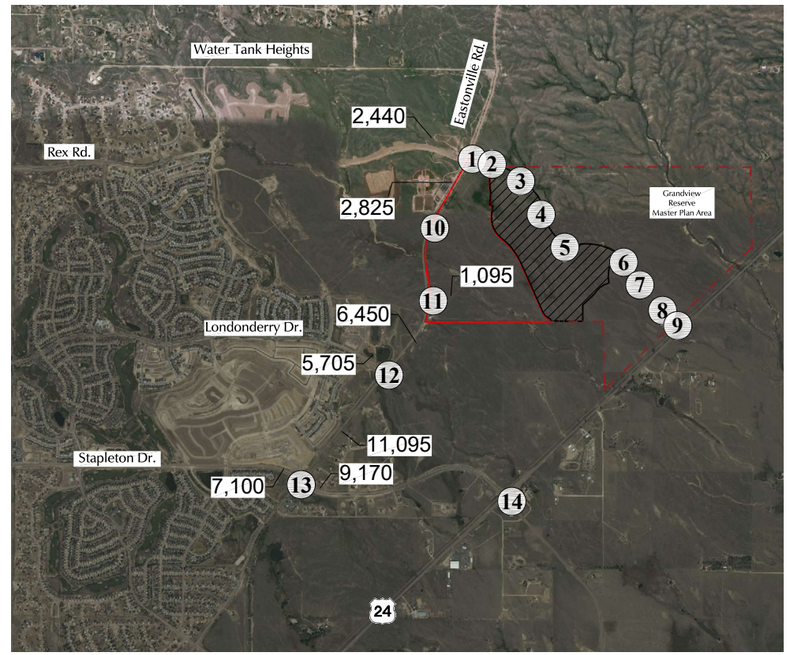
LSC TRANSPORTATION CONSULTANTS, INC.



LEGEND:

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

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



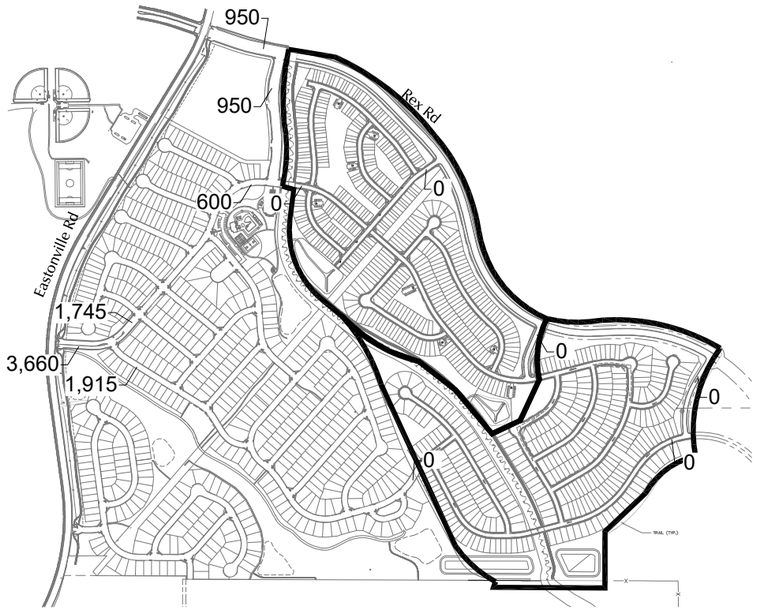


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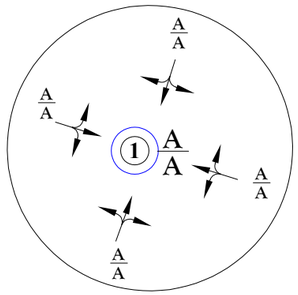
Figure 6a

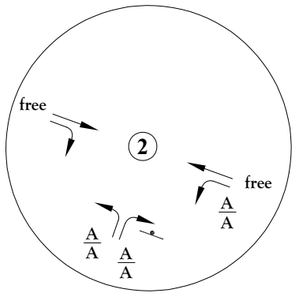
Year 2033 Background Traffic*

Grandview Reserve Phases 2 and 3 (LSC # S234340)

* Assumes buildout of Grandview Reserve Phase 1

LSC TRANSPORTATION CONSULTANTS, INC.





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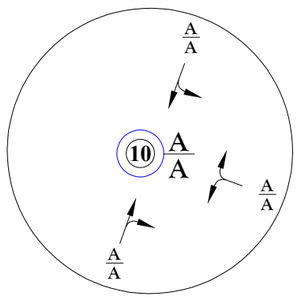

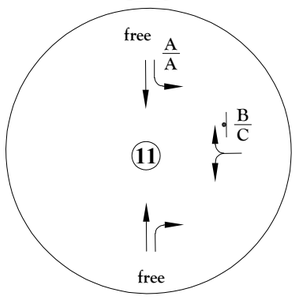

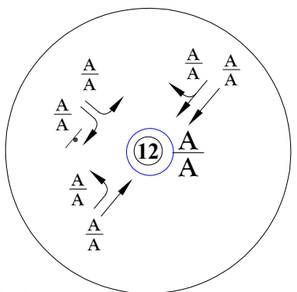

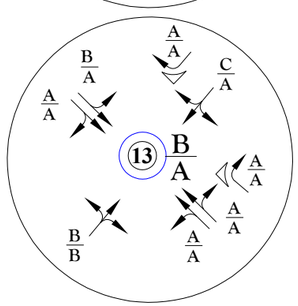

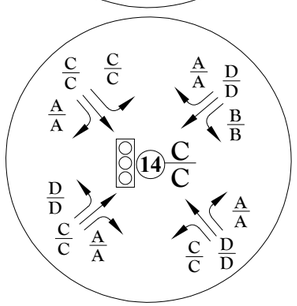

LEGEND:

Traffic Control Used in the Analysis:

= Stop Sign

= Traffic Signal

LOS Analysis Results:

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

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

= Modern Roundabout

* Assumes buildout of Grandview Reserve Phase 1

LEGEND:

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

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

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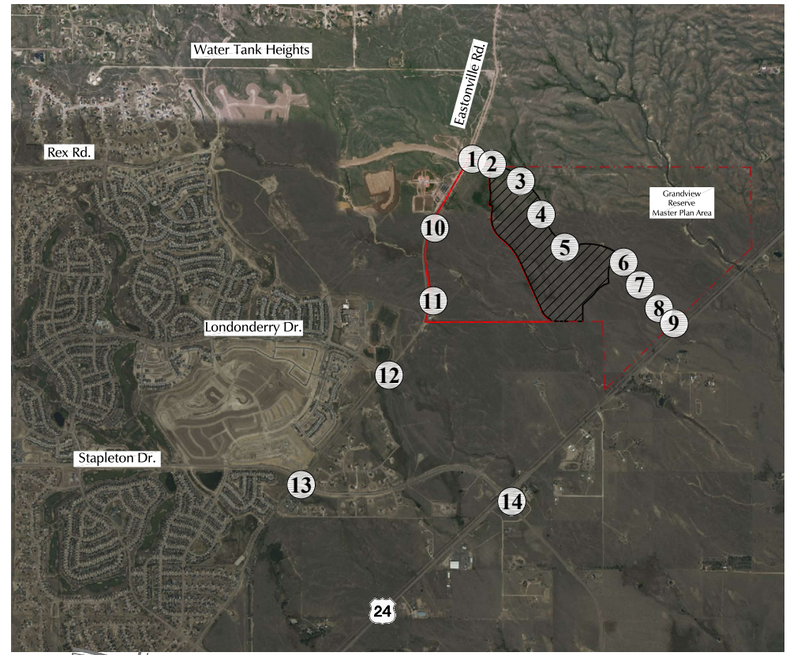


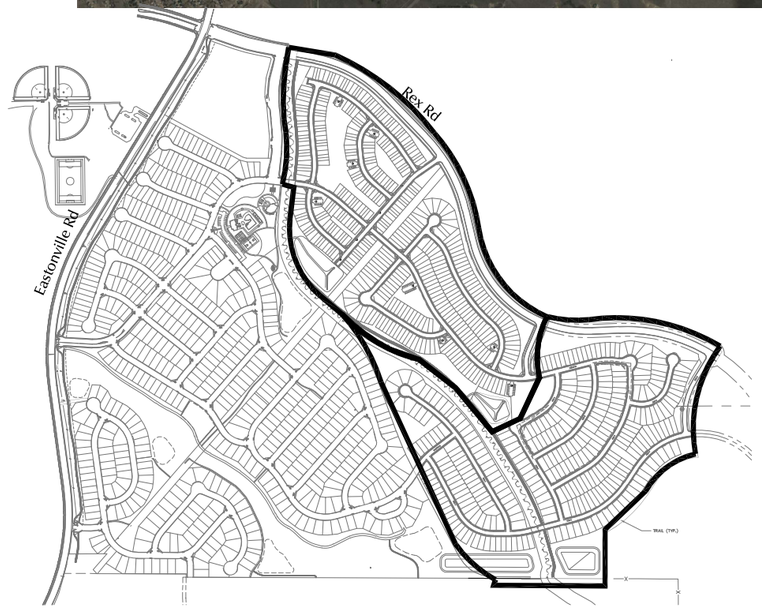
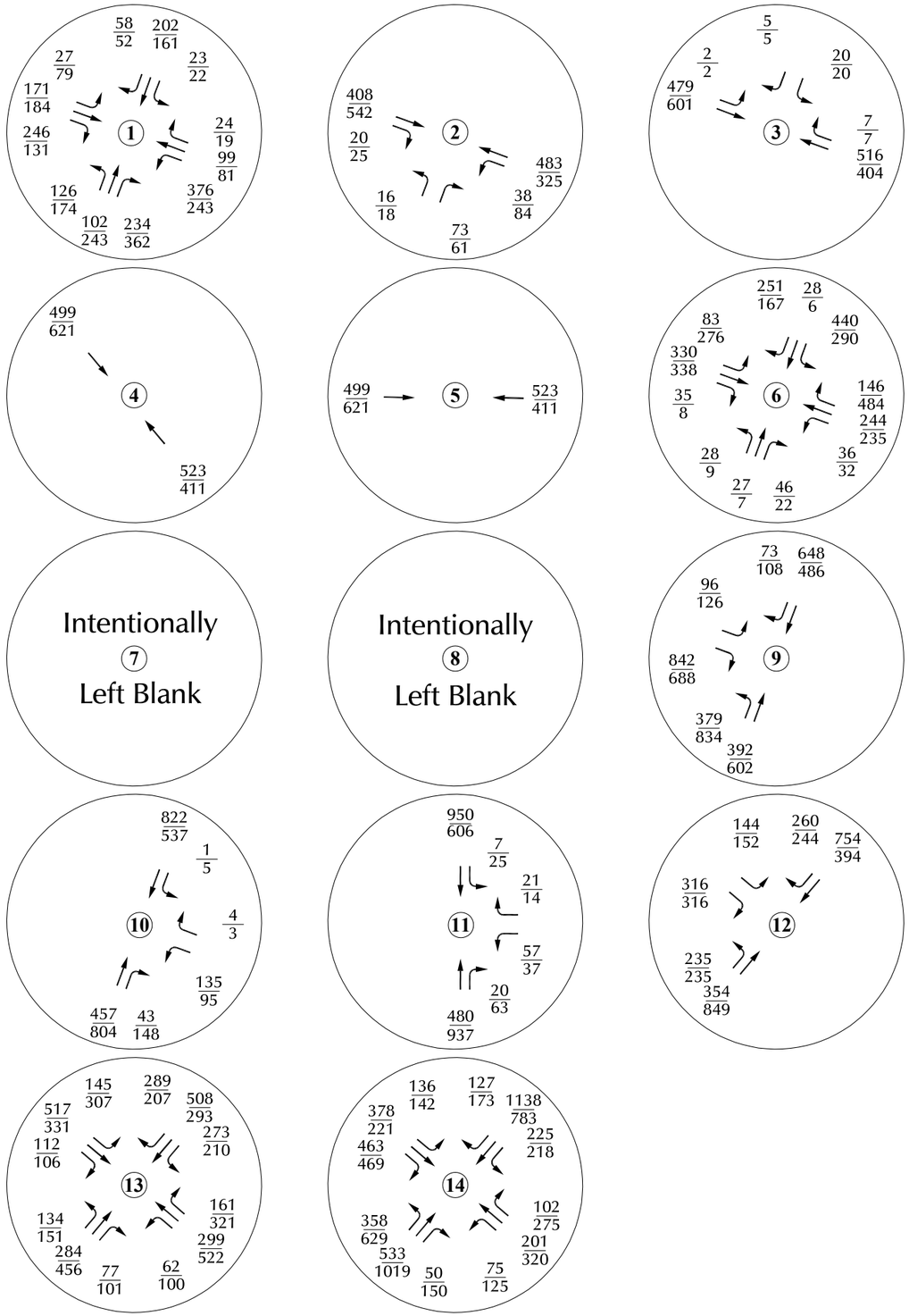


Figure 6b

2033 Background Traffic* Lane Geometry, Traffic Control, and Levels of Service

Grandview Reserve Phases 2 and 3 (LSC # S234340)

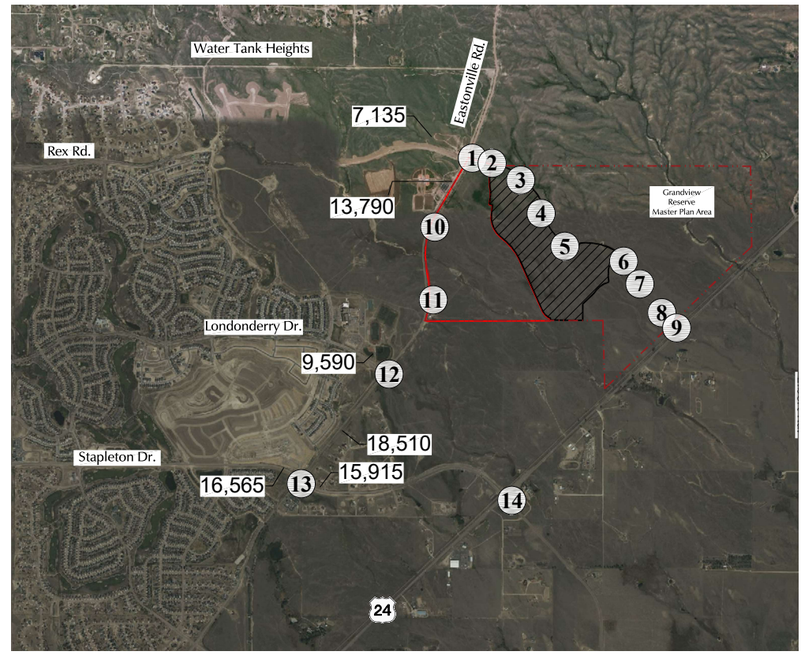
LSC TRANSPORTATION CONSULTANTS, INC.



LEGEND:

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

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



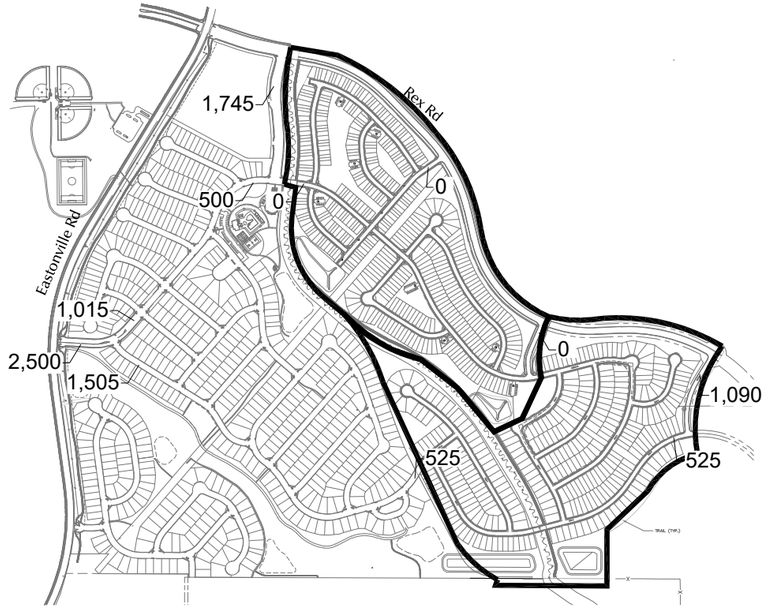


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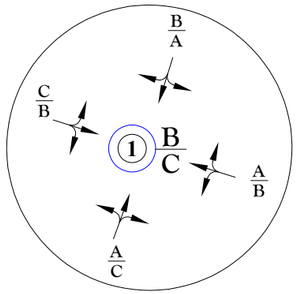
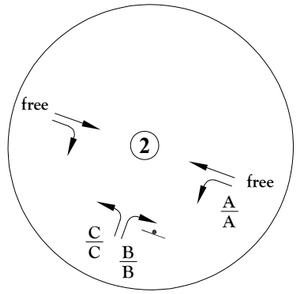
Figure 7a

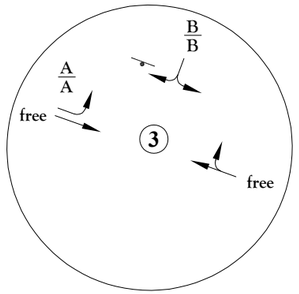
Year 2045 Background Traffic

Grandview Reserve Phases 2 and 3 (LSC # S234340)

LSC TRANSPORTATION CONSULTANTS, INC.







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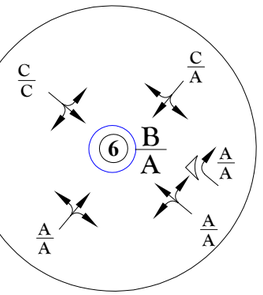

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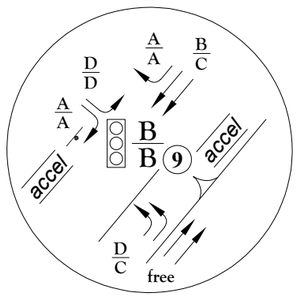
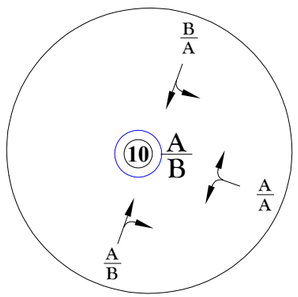
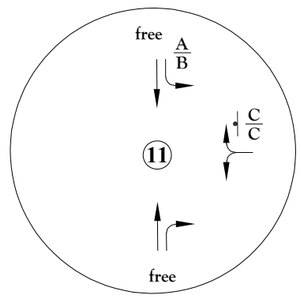
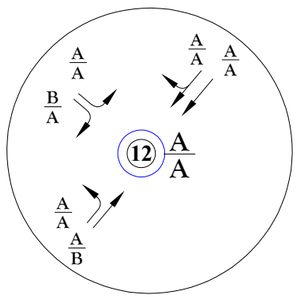
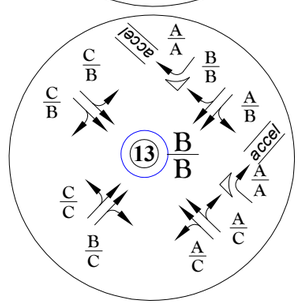
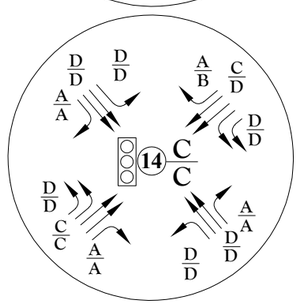












LEGEND:

Traffic Control Used in the Analysis:

= Stop Sign

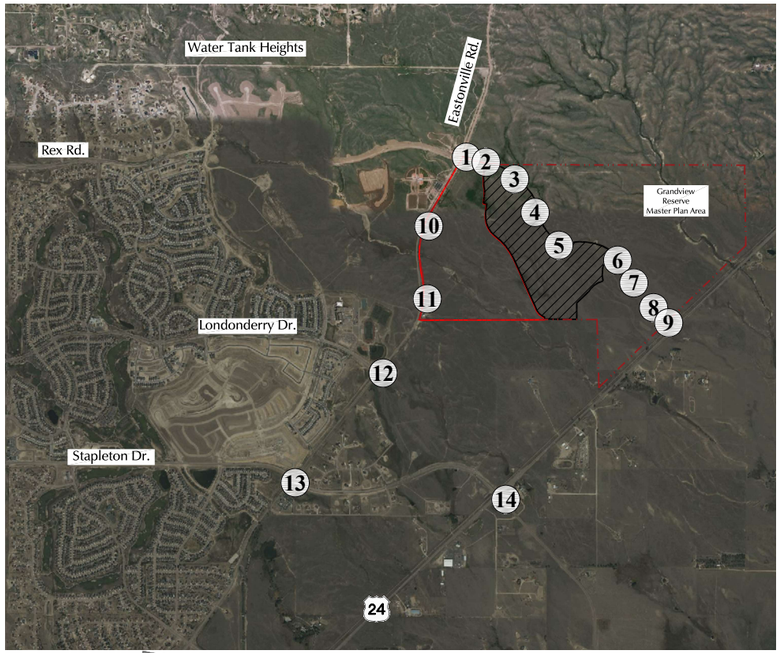
= Traffic Signal

LOS Analysis Results:

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

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

= Modern Roundabout



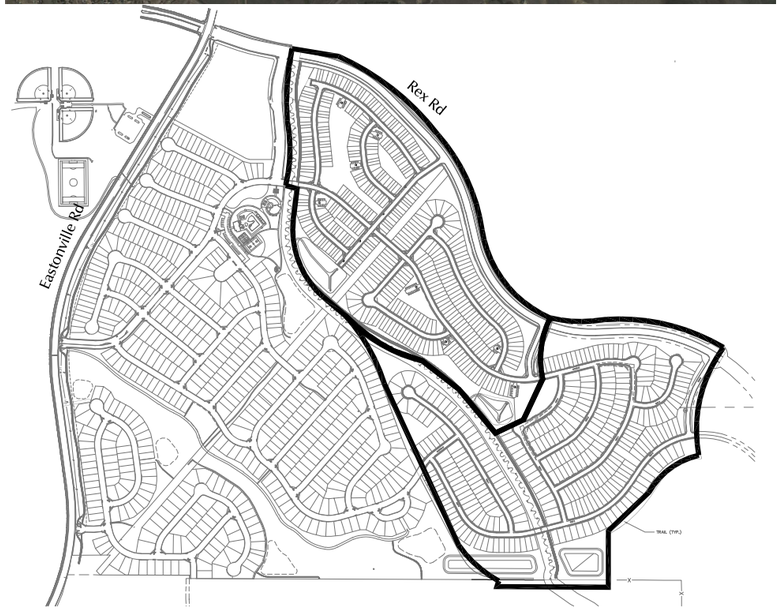


Figure 7b

2045 Background Lane Geometry, Traffic Control, and Levels of Service

Grandview Reserve Phases 2 and 3 (LSC # S234340)

LSC TRANSPORTATION CONSULTANTS, INC.

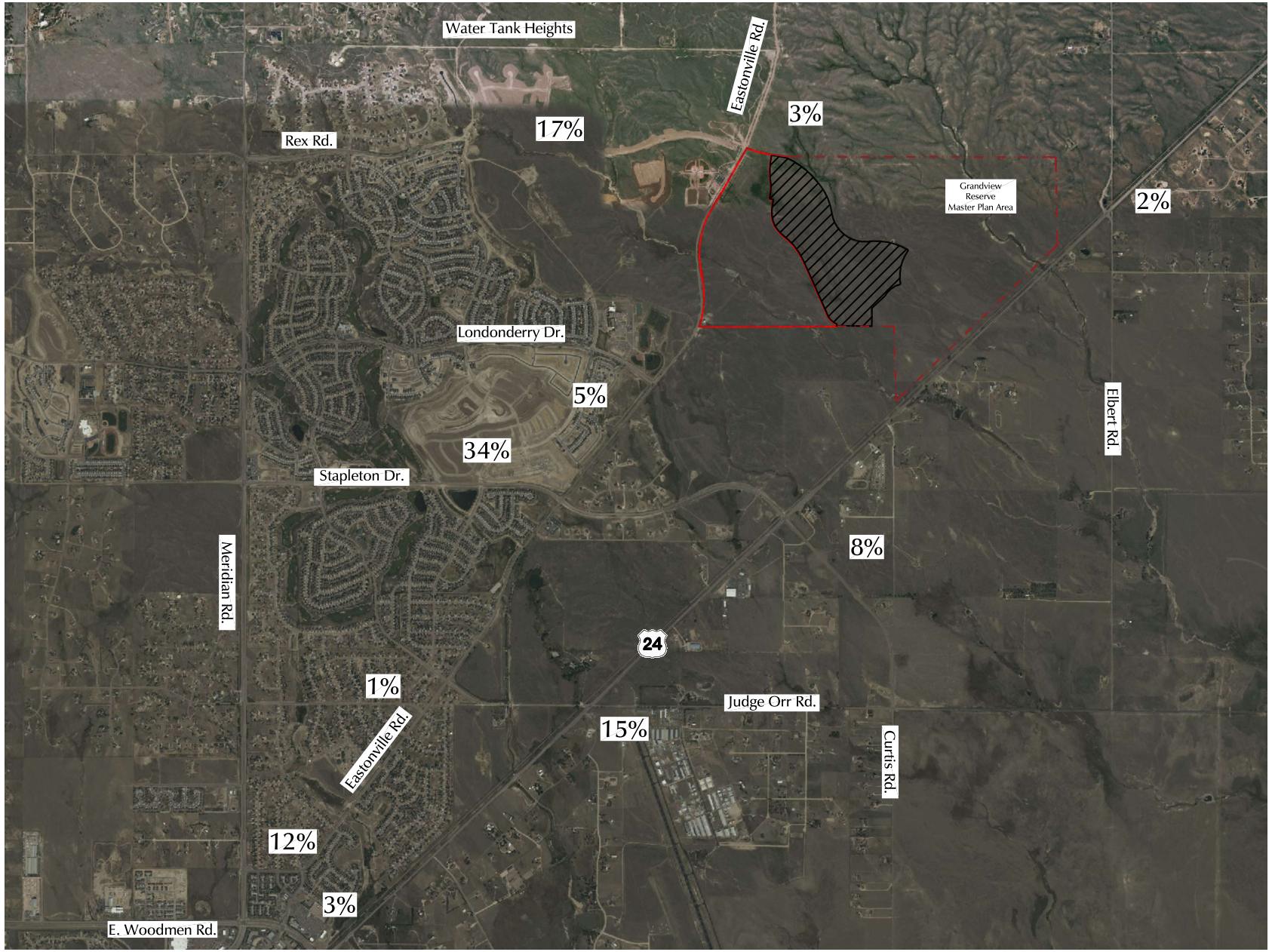


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Figure 8

Short-Term Directional Distribution of Site-Generated Traffic

Grandview Reserve Phases 2 and 3 (LSC # S234340)

LEGEND:

XX% = Percent Directional Distribution

LSC TRANSPORTATION CONSULTANTS, INC.

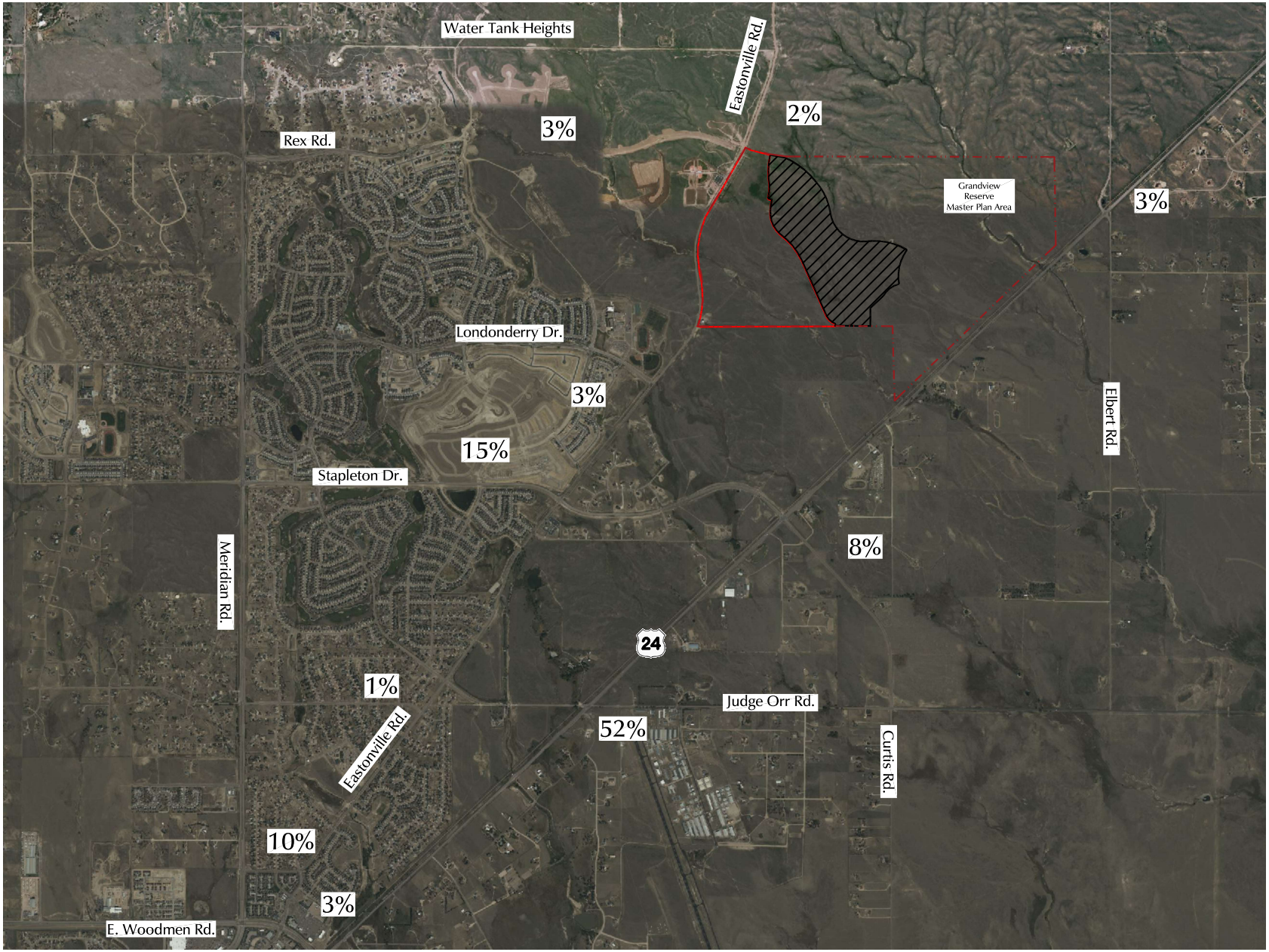

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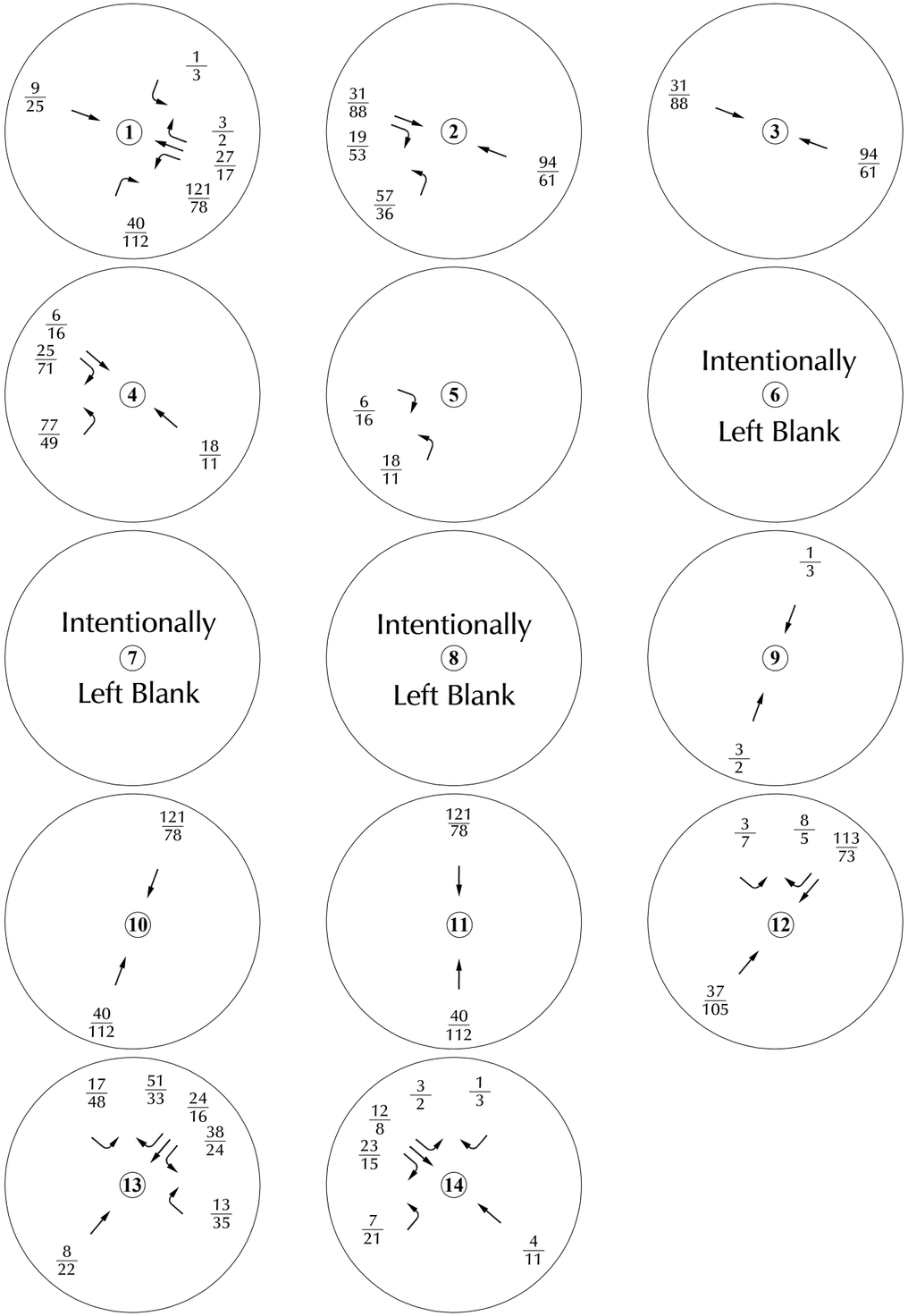
Figure 9

Long-Term Directional Distribution of Site-Generated Traffic

Grandview Reserve Phases 2 and 3 (LSC # S234340)

LEGEND:

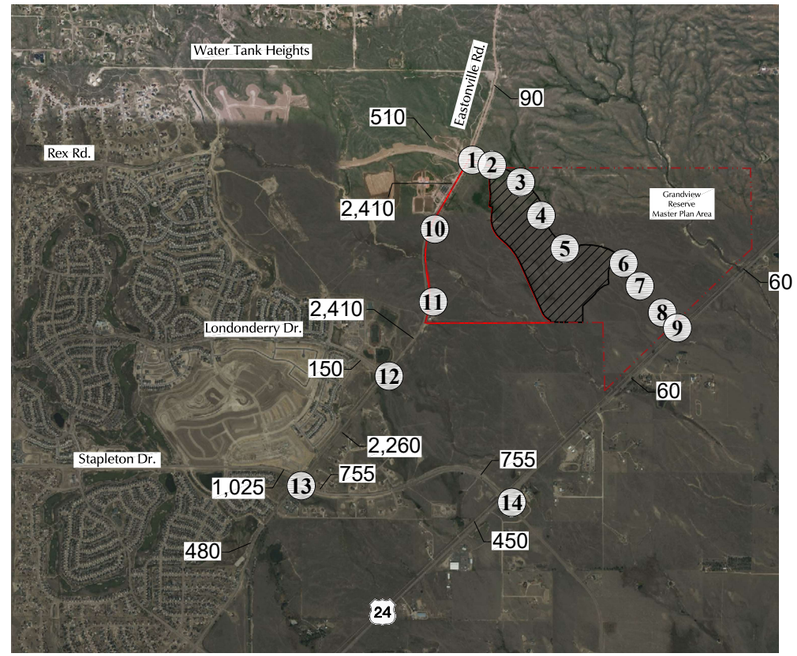
XX% = Percent Directional Distribution

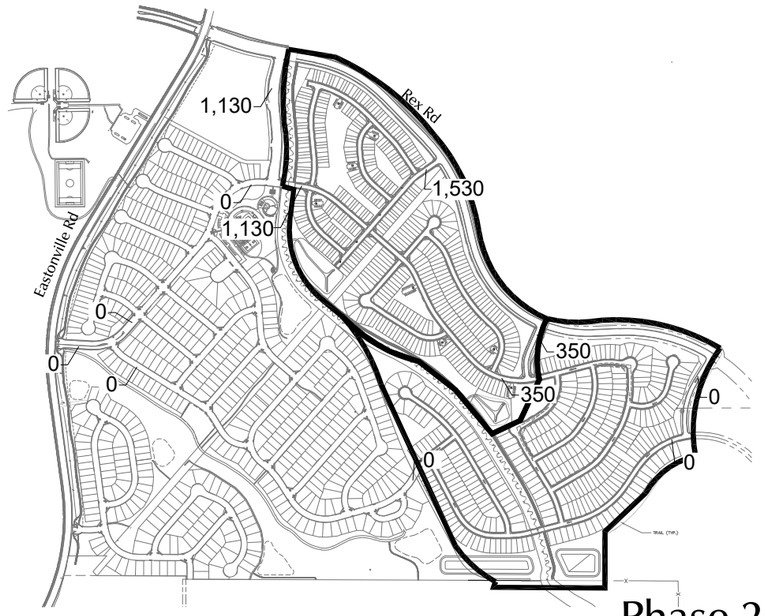


LEGEND:

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

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





N

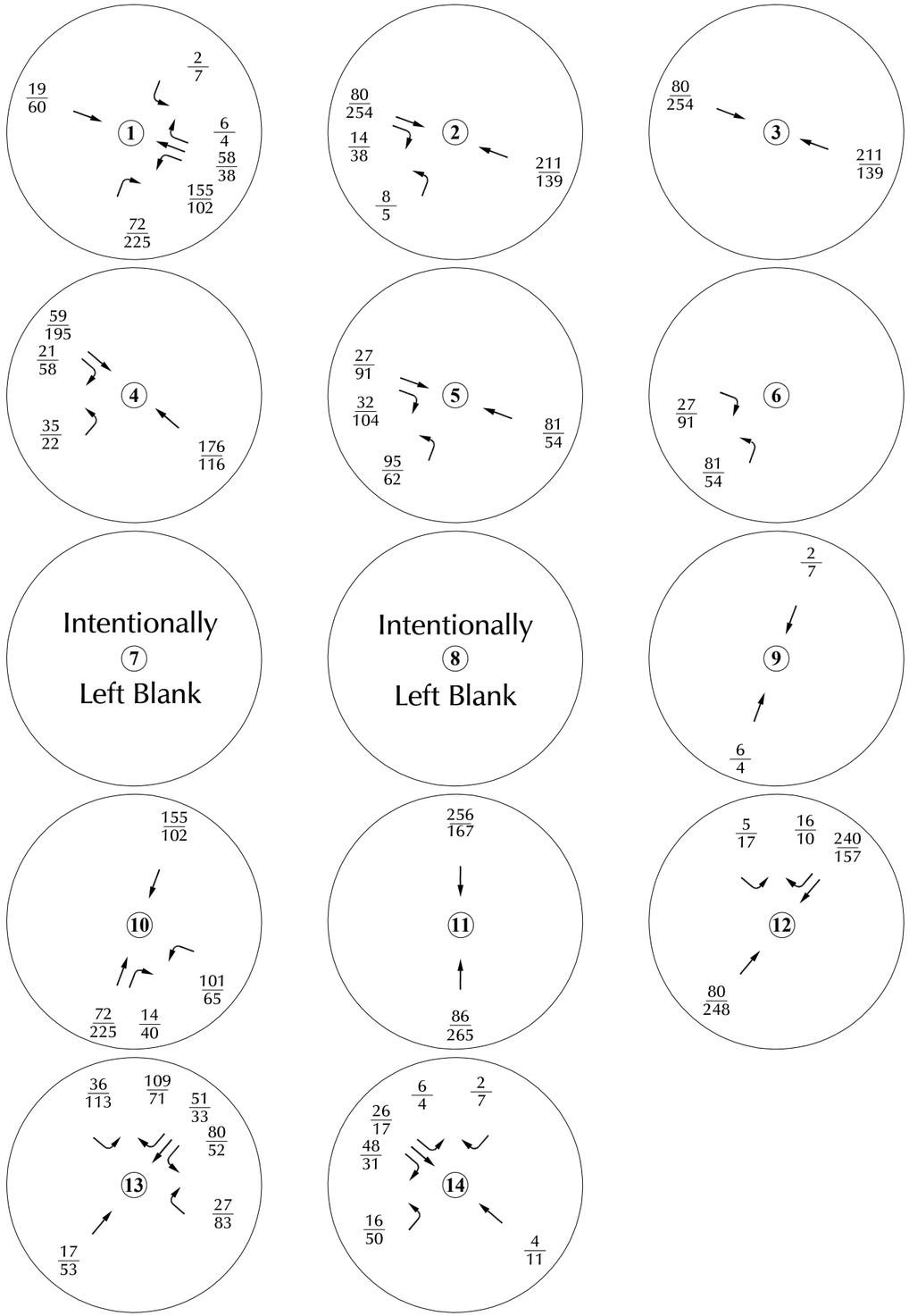
NTS

Figure 10

Phase 2 Short-Term Site-Generated Traffic

Grandview Reserve Phases 2 and 3 (LSC # S234340)

LSC TRANSPORTATION CONSULTANTS, INC.



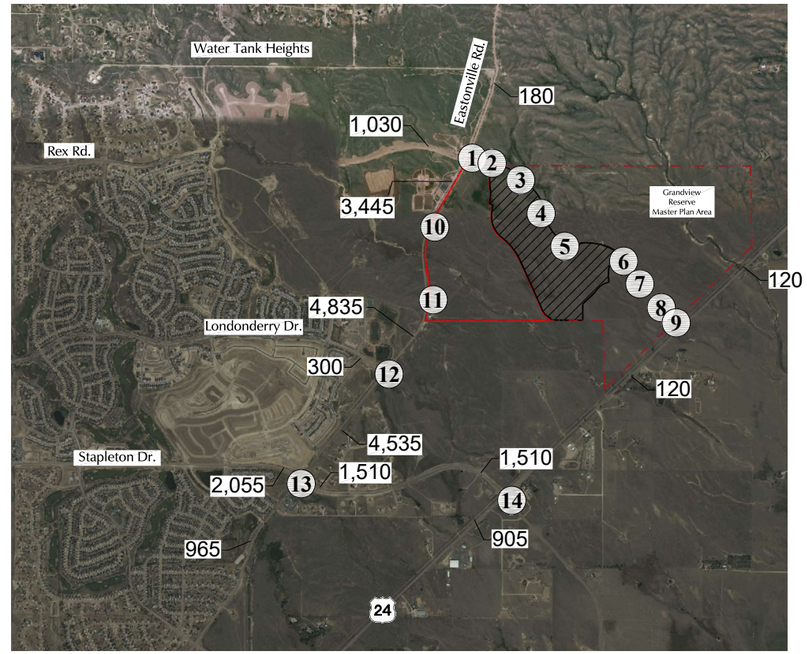
LEGEND:

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

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

N

NTS



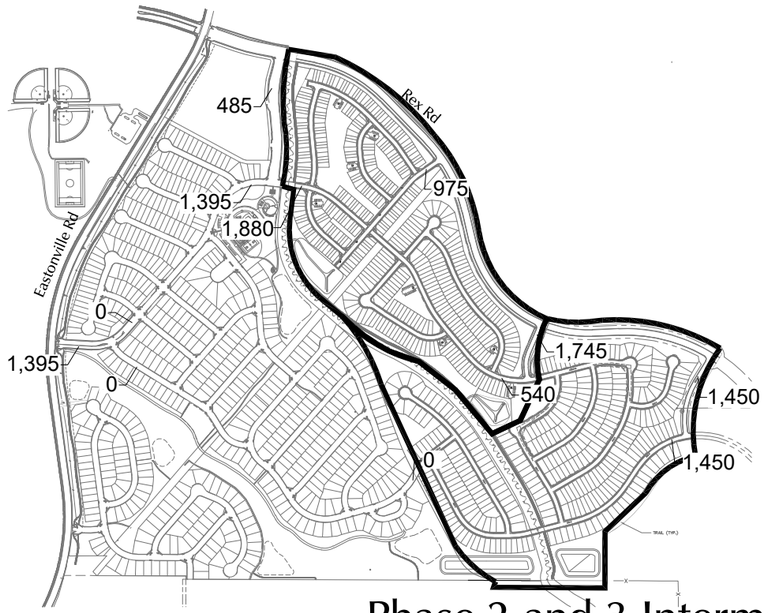
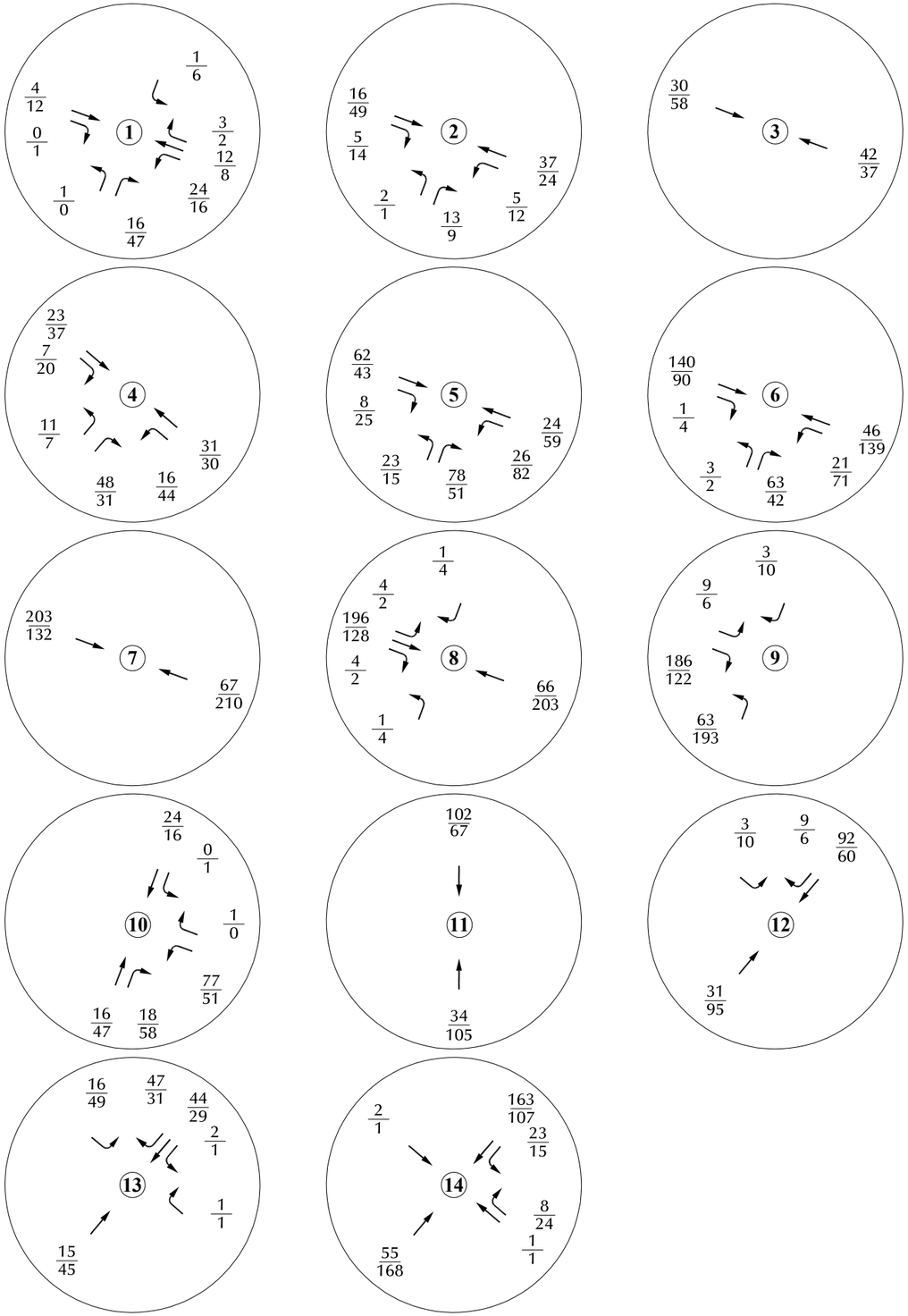


Figure 11

Phase 2 and 3 Intermediate-Term Site-Generated Traffic

Grandview Reserve Phases 2 and 3 (LSC # S234340)

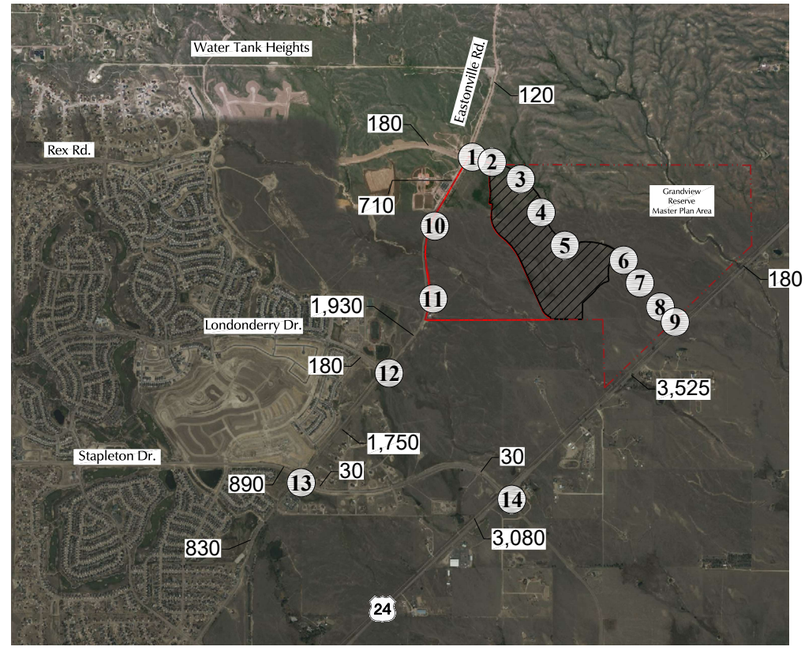
LSC TRANSPORTATION CONSULTANTS, INC.



LEGEND:

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

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



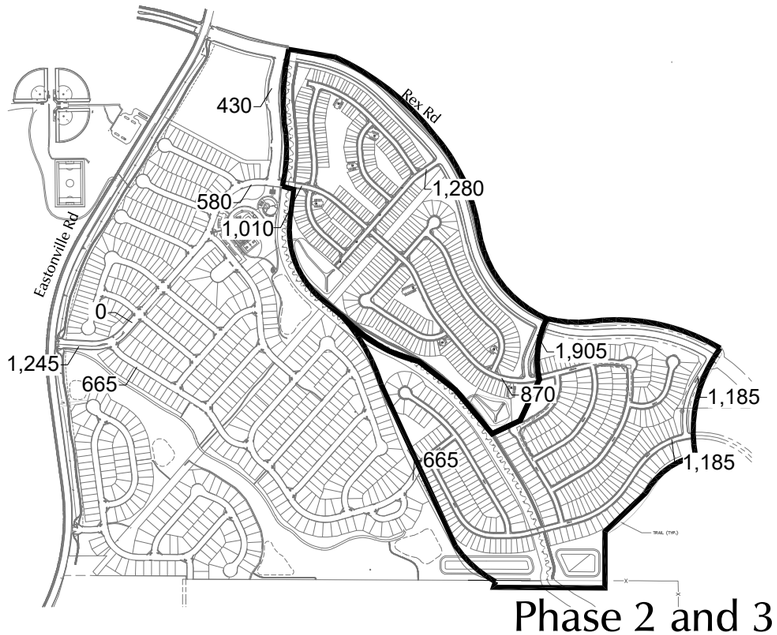
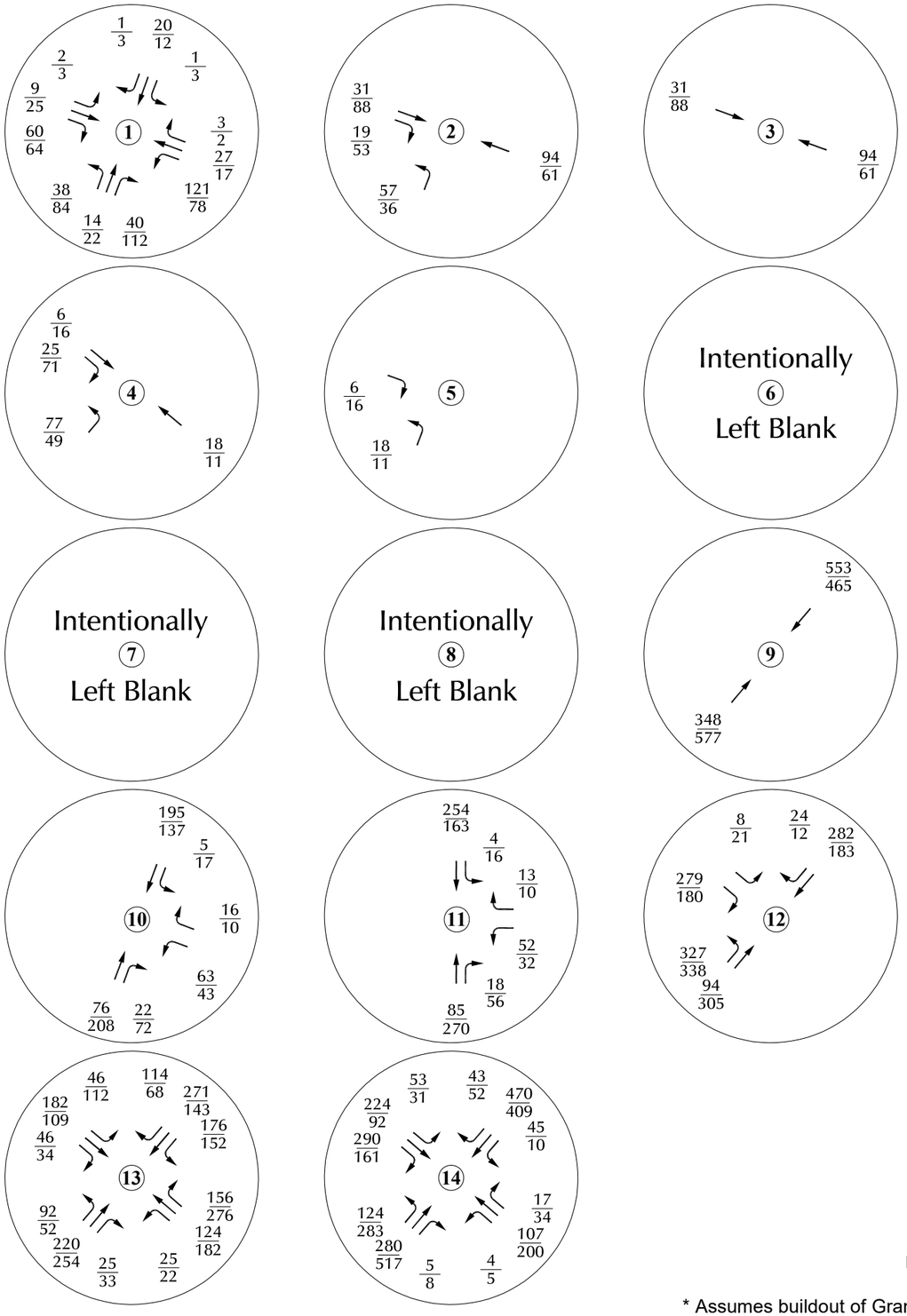


Figure 12

Phase 2 and 3 Long-Term Site-Generated Traffic

Grandview Reserve Phases 2 and 3 (LSC # S234340)

TRANSPORTATION CONSULTANTS, INC.

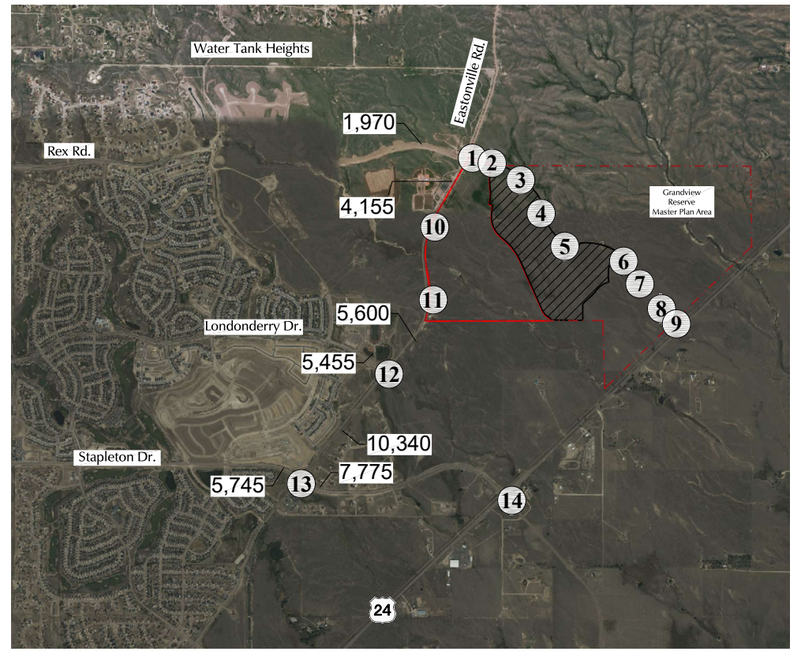


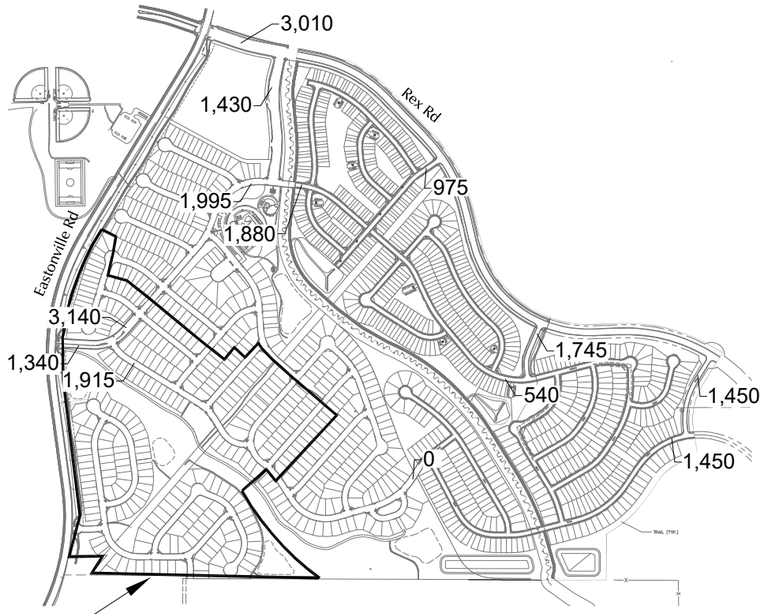
LEGEND:

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

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

NTS





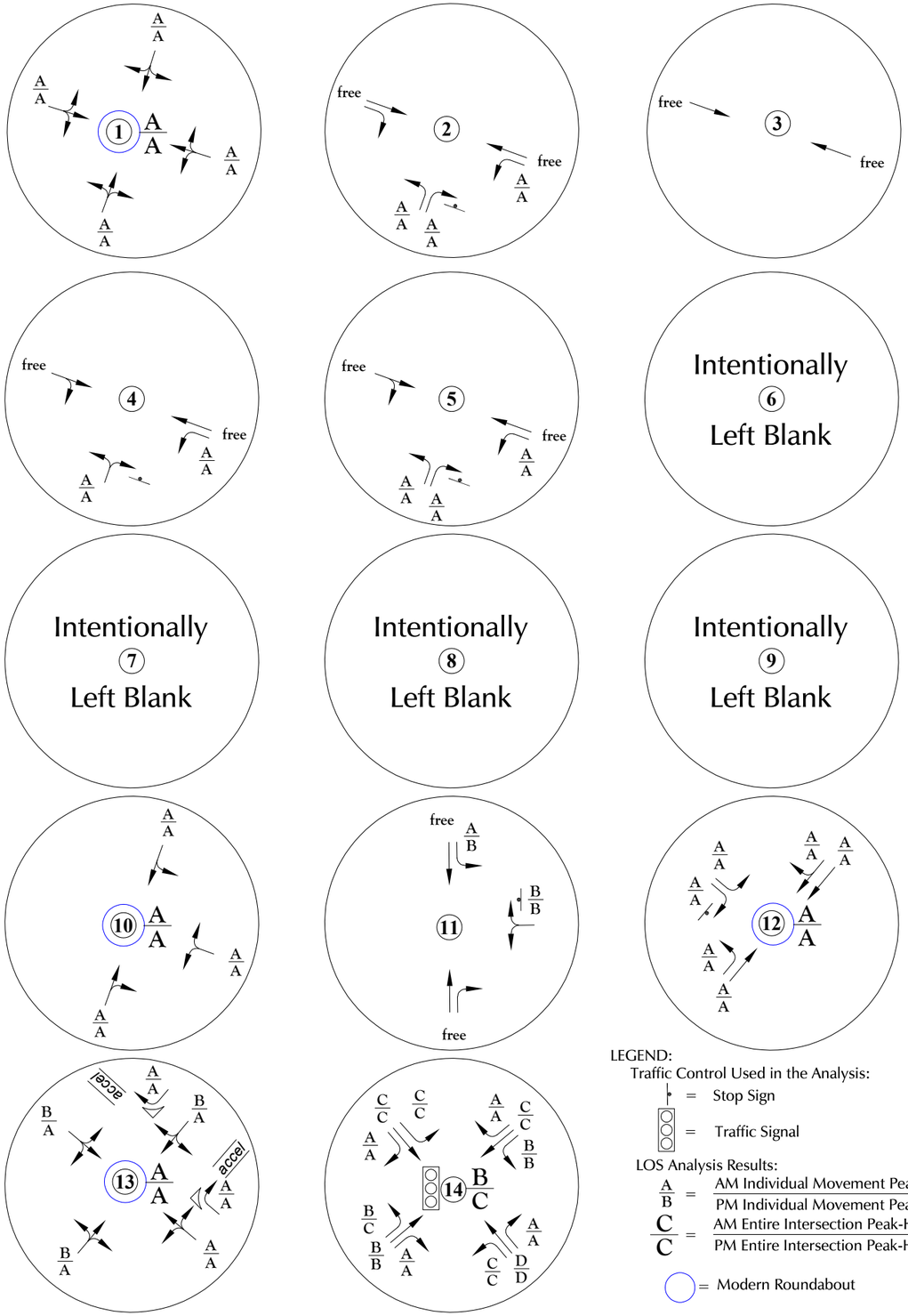
* Assumes buildout of Grandview Reserve Phase 1, filings 1 and 2 only, and Grandview Reserve Phase 2

Figure 13a

Year 2026 Total Traffic*

Grandview Reserve Phases 2 and 3 (LSC # S234340)

LSC TRANSPORTATION CONSULTANTS, INC.



LEGEND:

Traffic Control Used in the Analysis:

= Stop Sign

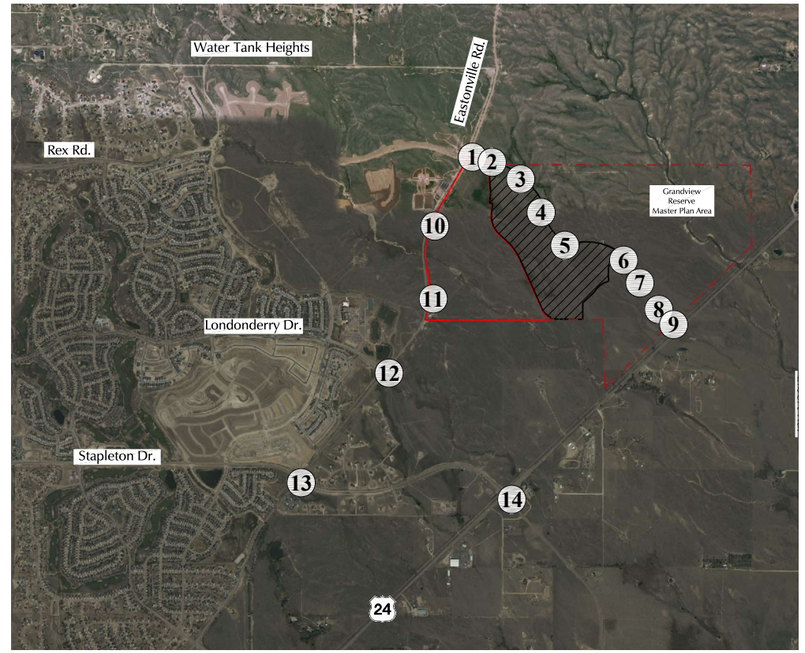
= Traffic Signal

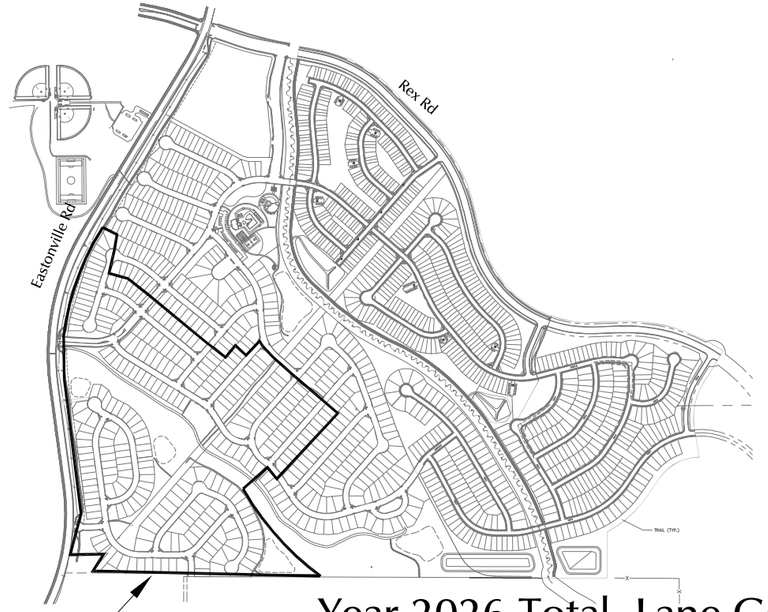
LOS Analysis Results:

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

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

= Modern Roundabout





* Assumes buildout of Grandview Reserve Phase 1, filings 1 and 2 only, and Grandview Reserve Phase 2.

N

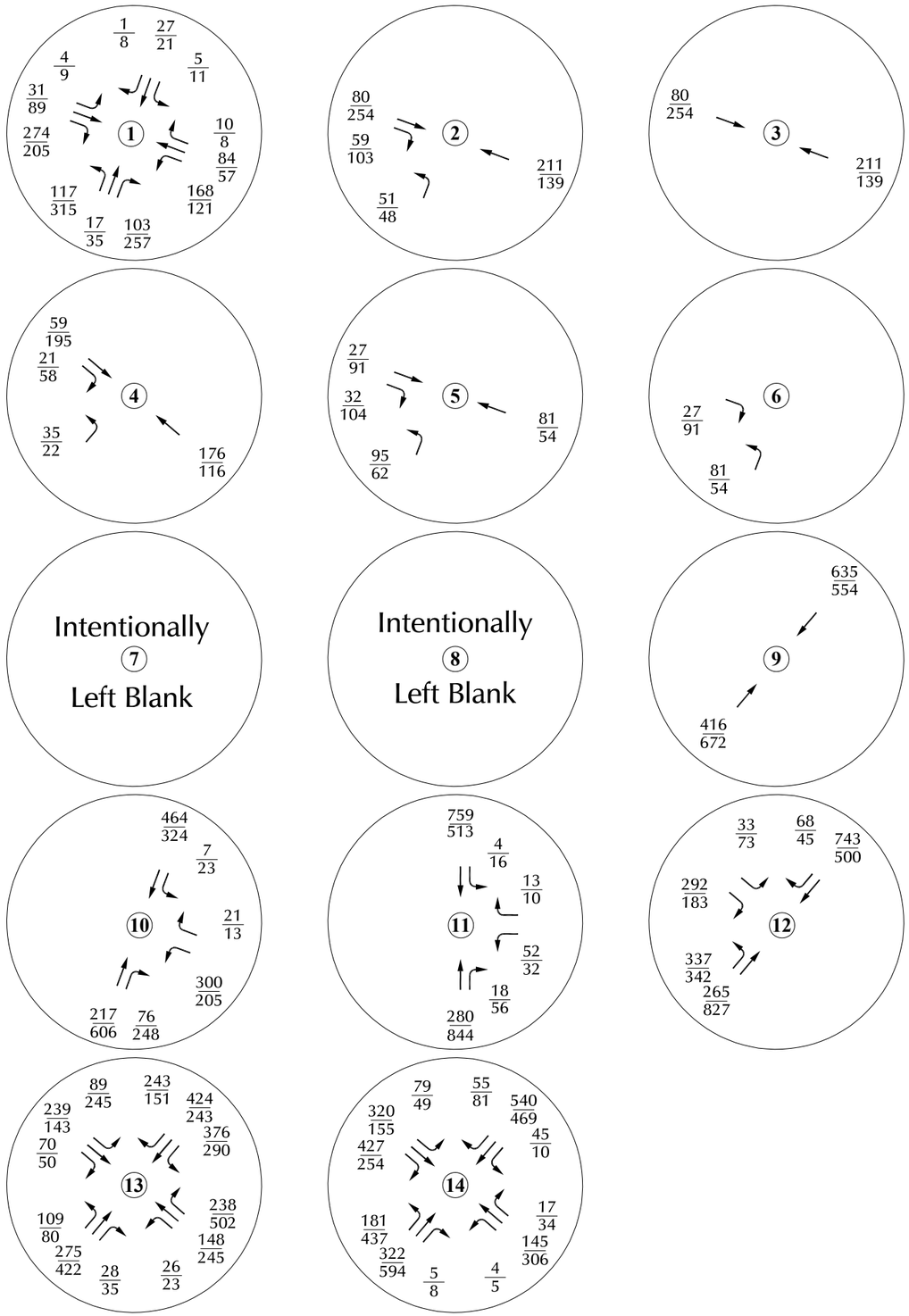
NTS

Figure 13b

Year 2026 Total Lane Geometry, Traffic Control, and Levels of Service*

Grandview Reserve Phases 2 and 3 (LSC # S234340)

LSC TRANSPORTATION CONSULTANTS, INC.

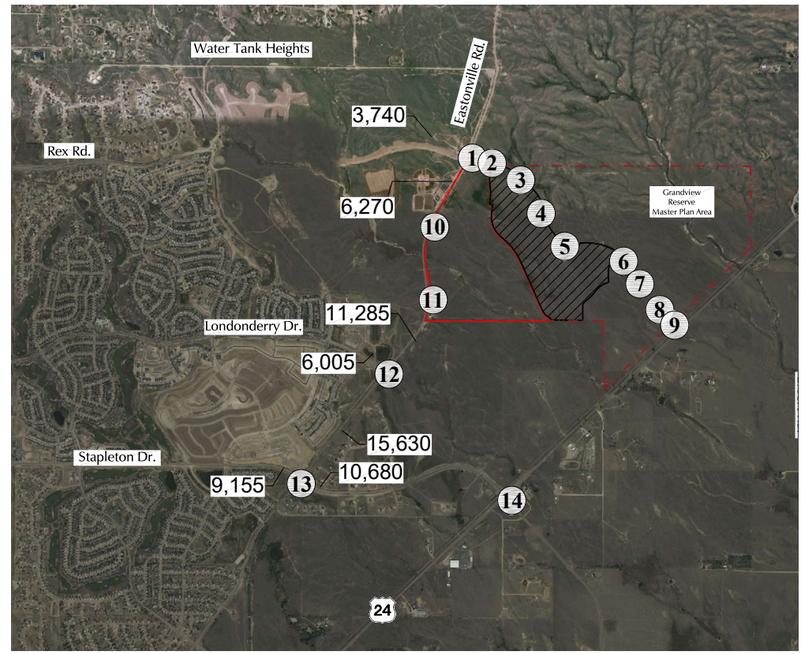


LEGEND:

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

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

NTS



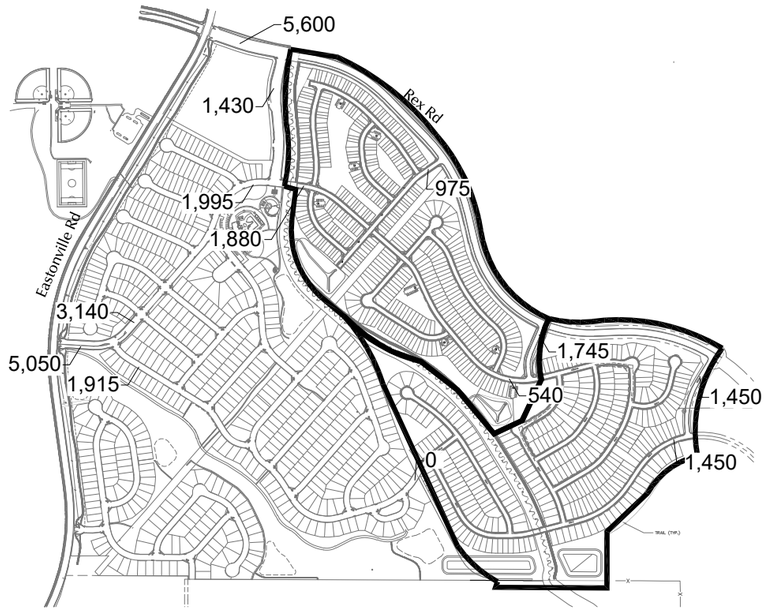


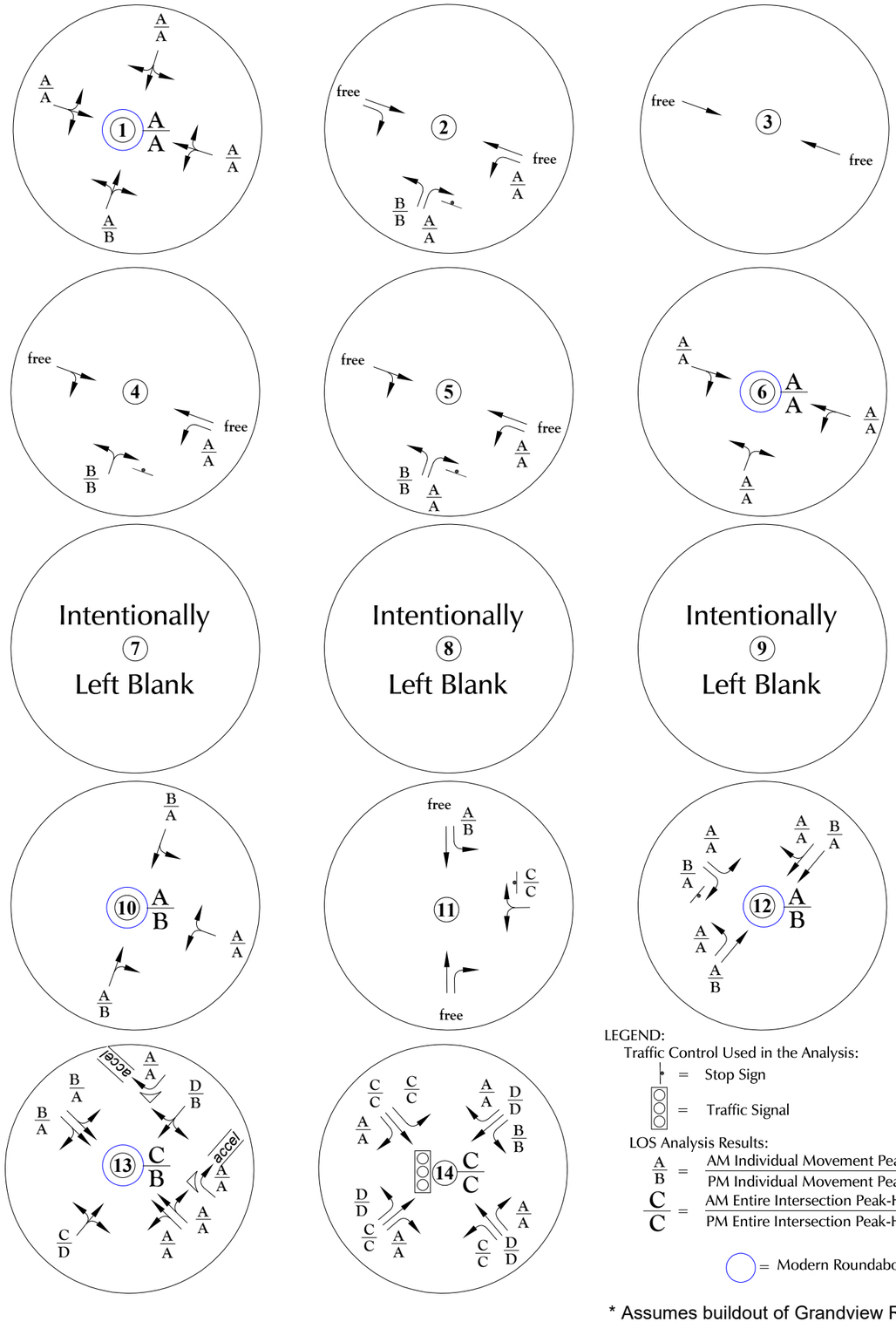
Figure 14a

Year 2033 Total Traffic*

Grandview Reserve Phases 2 and 3 (LSC # S234340)

* Assumes buildout of Grandview Reserve Phases 1, 2, and 3

TRANSPORTATION CONSULTANTS, INC.



LEGEND:

Traffic Control Used in the Analysis:

= Stop Sign

= Traffic Signal

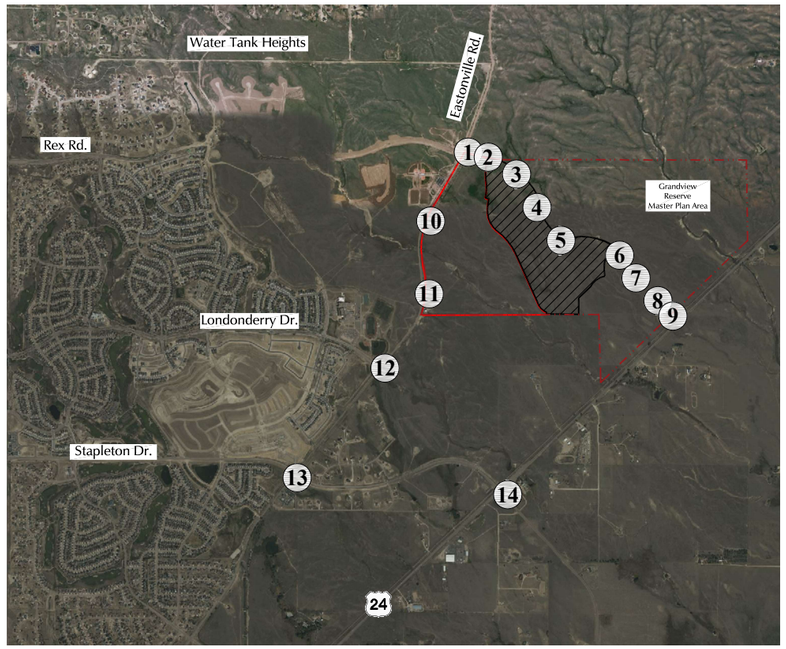
LOS Analysis Results:

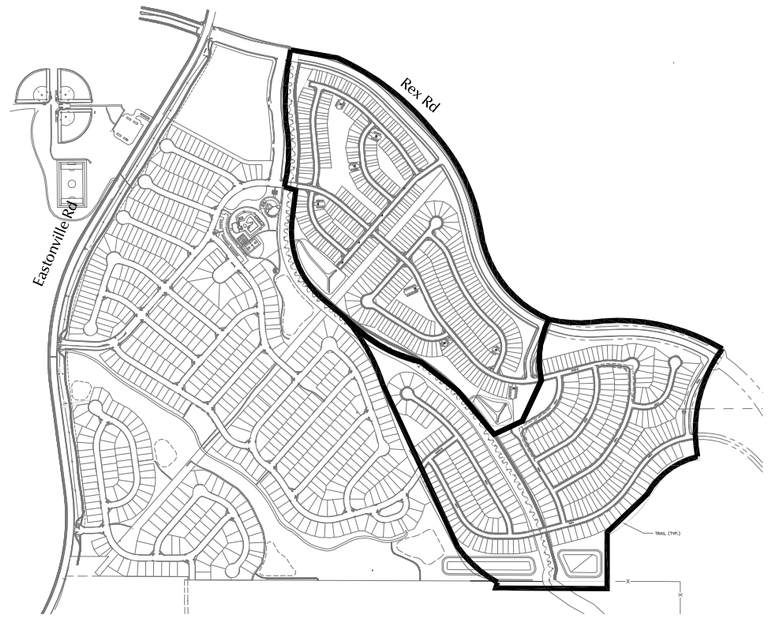
$\frac{A}{B}$ = AM Individual Movement Peak-Hour Level of Service / PM Individual Movement Peak-Hour Level of Service

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

= Modern Roundabout

* Assumes buildout of Grandview Reserve Phases 1, 2, and 3





N

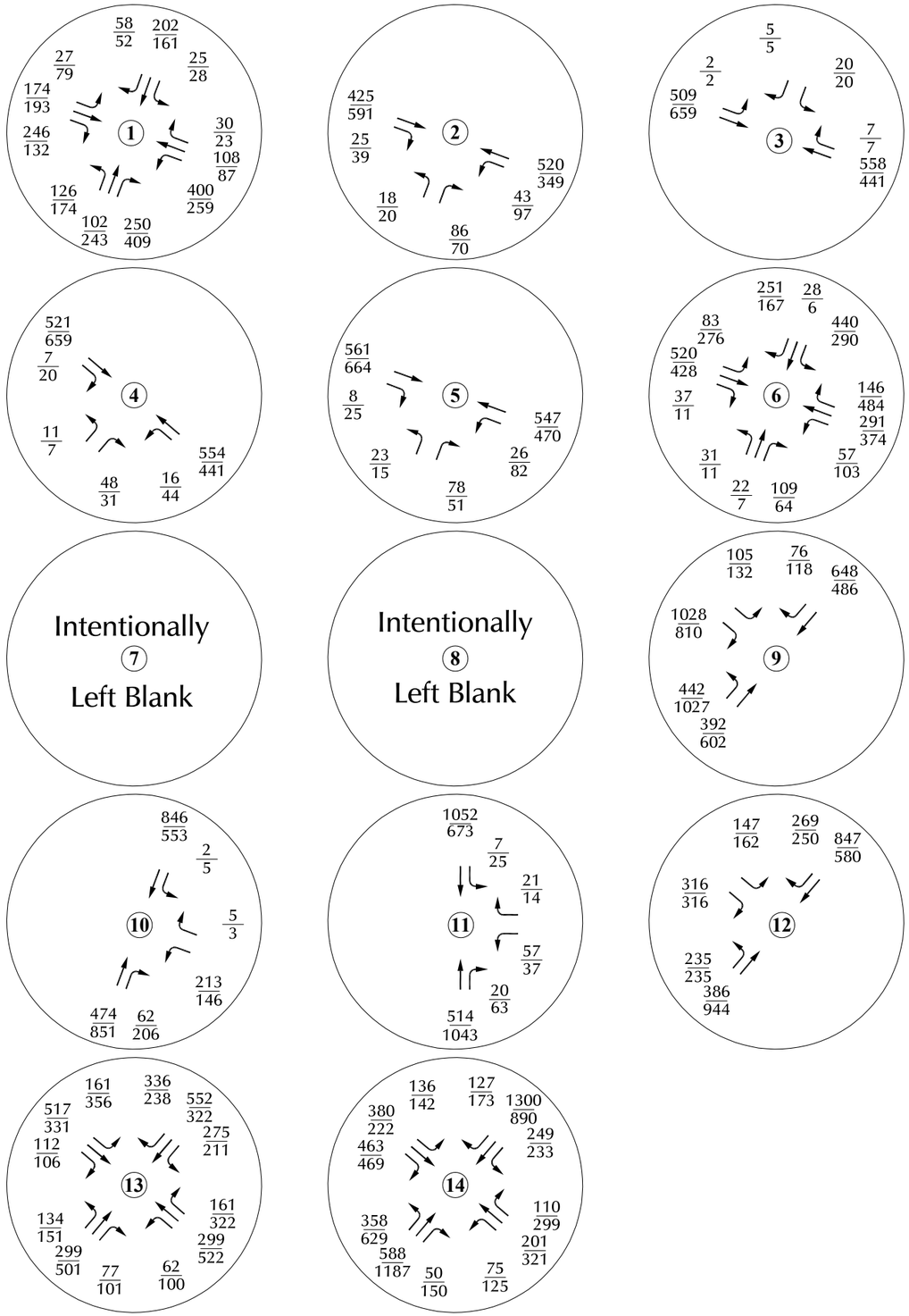
NTS

Figure 14b

Year 2033 Total Lane Geometry, Traffic Control, and Levels of Service*

Grandview Reserve Phases 2 and 3 (LSC # S234340)

LSC TRANSPORTATION CONSULTANTS, INC.

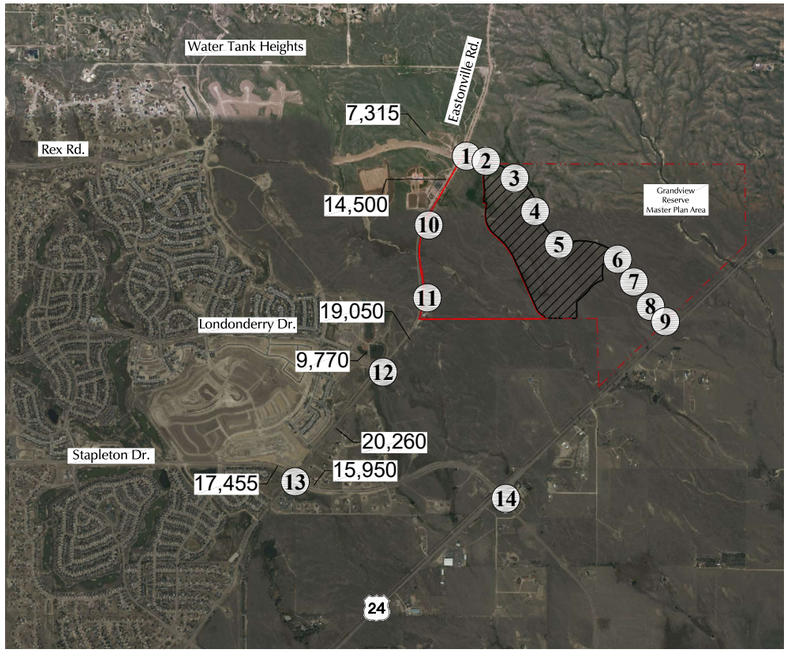


LEGEND:

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

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

NTS



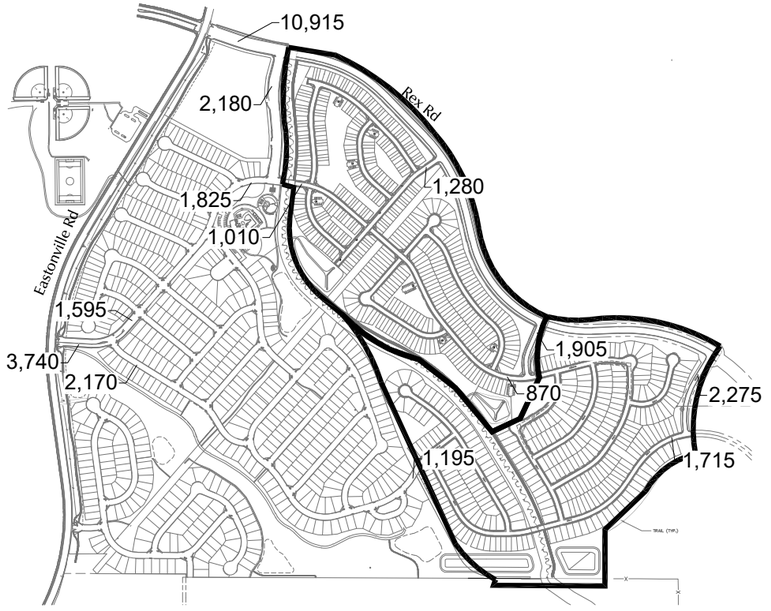
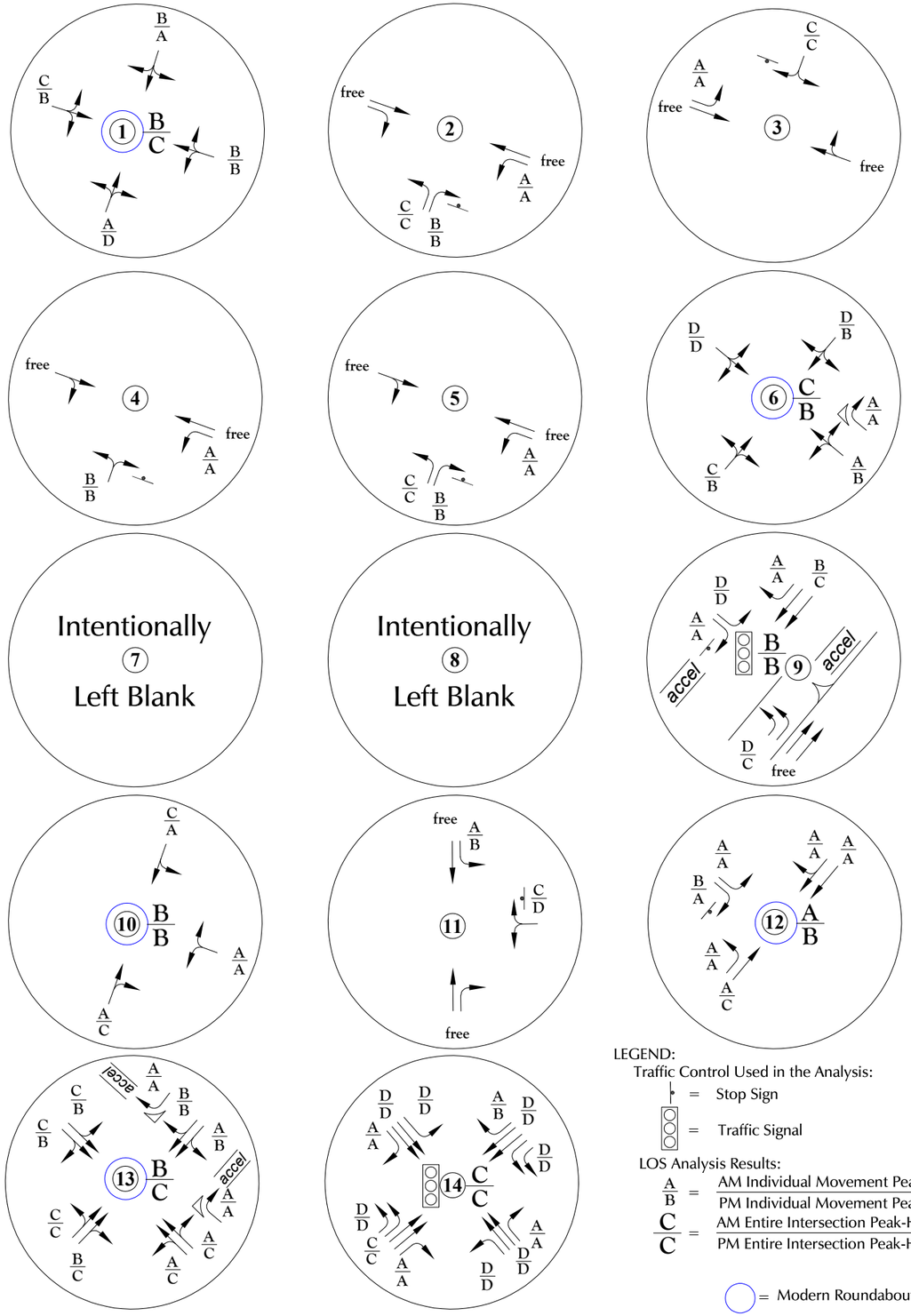


Figure 15a

Year 2045 Total Traffic

Grandview Reserve Phases 2 and 3 (LSC # S234340)

LSC TRANSPORTATION CONSULTANTS, INC.



LEGEND:

Traffic Control Used in the Analysis:

= Stop Sign

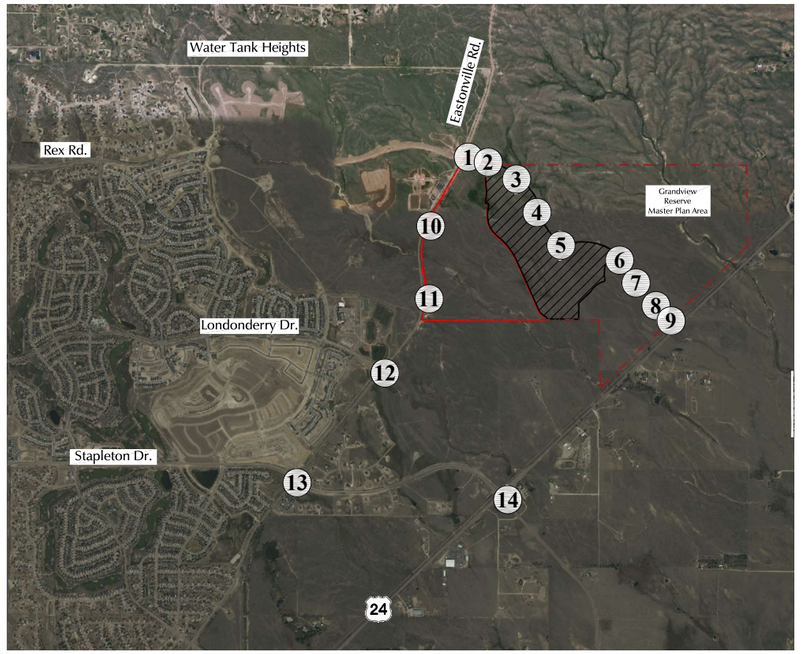
= Traffic Signal

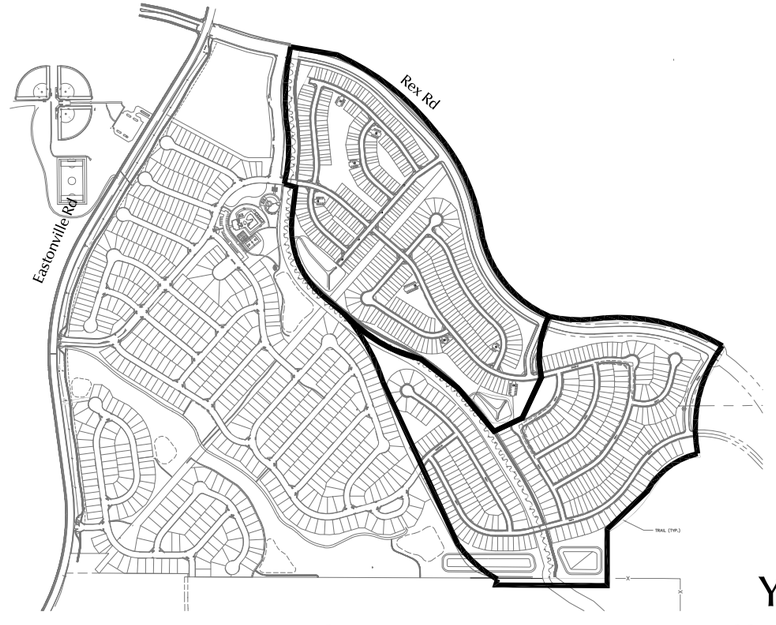
LOS Analysis Results:

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

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

= Modern Roundabout





N

NTS

TRANSPORTATION CONSULTANTS, INC.

Figure 15b

Year 2045 Total Lane Geometry, Traffic Control, and Levels of Service

Grandview Reserve Phases 2 and 3 (LSC # S234340)

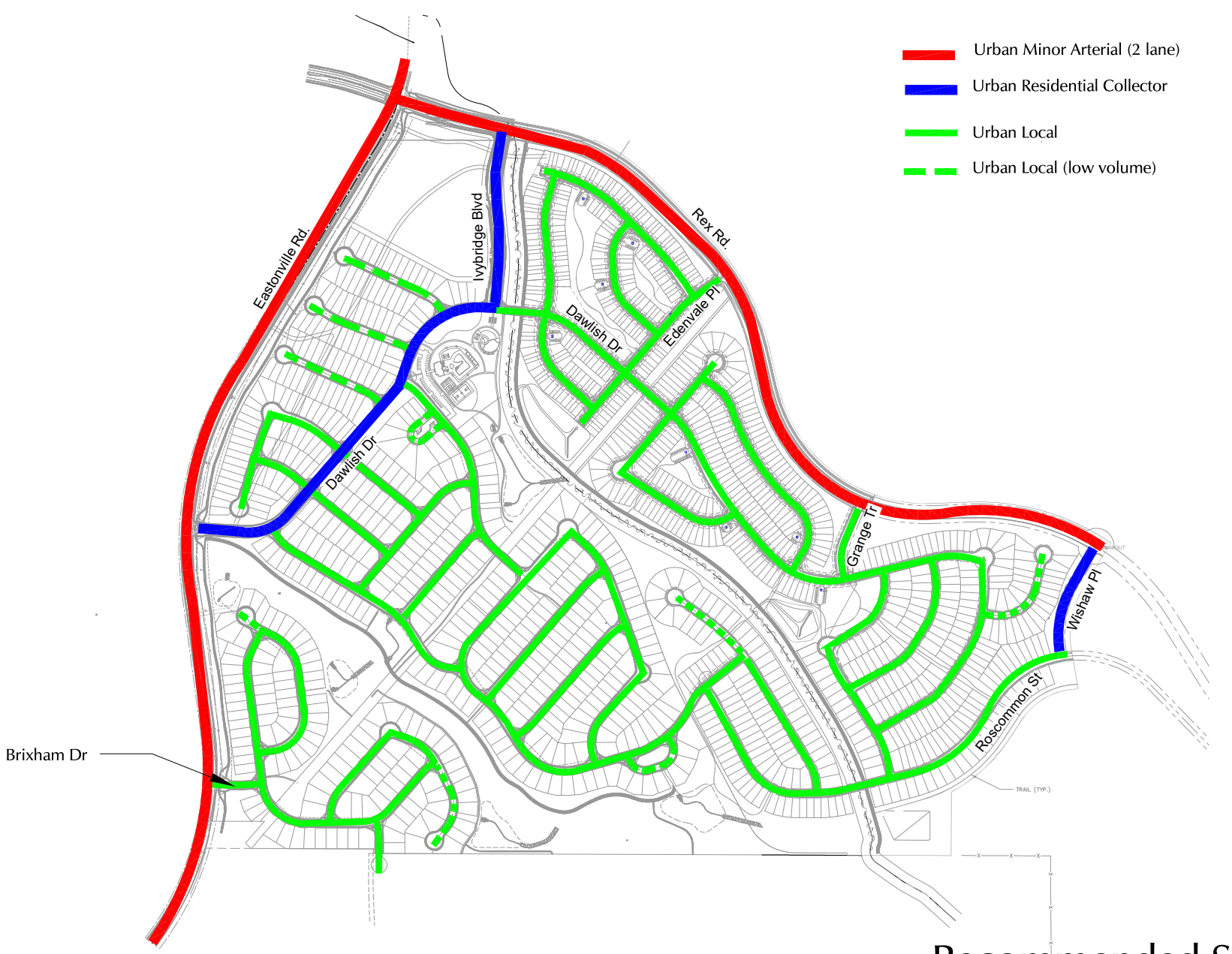


Figure 16

Recommended Street Classification

Grandview Reserve Phases 2 and 3 (LSC # S234340)

LSC TRANSPORTATION CONSULTANTS, INC.

Traffic Counts

TRANSPORTATION
CONSULTANTS, INC.

LSC Transportation Consultants, Inc.

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

File Name : Hwy 24 - Stapleton Dr AM PM
Site Code : S224640
Start Date : 1/10/2023

Groups Printed- Unshifted

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

LSC Transportation Consultants, Inc.

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

File Name : Hwy 24 - Stapleton Dr AM PM
Site Code : S224640
Start Date : 1/10/2023

Groups Printed- Unshifted

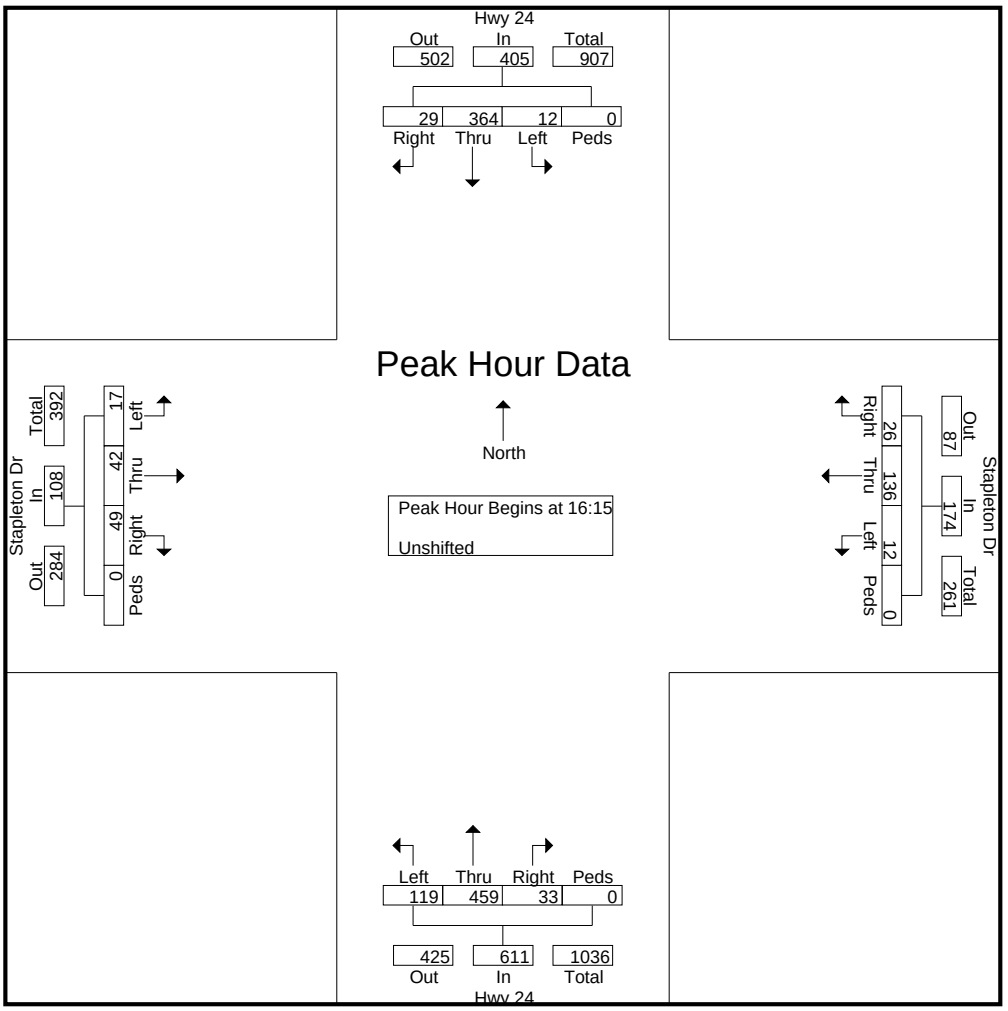
	Hwy 24 Southbound					Stapleton Dr Westbound					Hwy 24 Northbound					Stapleton Dr Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
16:55	5	29	1	0	35	3	15	2	0	20	3	31	15	0	49	2	4	2	0	8	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	

LSC Transportation Consultants, Inc.

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

File Name : Hwy 24 - Stapleton Dr AM PM
Site Code : S224640
Start Date : 1/10/2023
Page No : 3

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



LSC Transportation Consultants, Inc.

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

File Name : Eastonville Rd - Stapleton Dr AM
Site Code : S214870
Start Date : 10/7/2021
Page No : 1

Groups Printed- Unshifted

	Eastonville Rd Southbound					Stapleton Dr Westbound					Eastonville Rd Northbound					Stapleton Dr Eastbound					
Start Time	**L**	**T**	**R**	**U**	**App. Total**	**L**	**T**	**R**	**U**	**App. Total**	**L**	**T**	**R**	**U**	**App. Total**	**L**	**T**	**R**	**U**	**App. Total**	**Int. Total**
06:30 AM	29	8	0	0	37	0	18	8	0	26	2	14	0	0	16	3	32	2	0	37	116
06:45 AM	36	19	2	0	57	0	11	20	0	31	5	18	1	0	24	5	51	8	0	64	176
Total	65	27	2	0	94	0	29	28	0	57	7	32	1	0	40	8	83	10	0	101	292
07:00 AM	31	36	6	0	73	0	16	43	0	59	13	76	2	0	91	2	27	6	0	35	258
07:15 AM	48	67	4	0	119	3	25	34	0	62	33	69	3	0	105	3	36	13	0	52	338
07:30 AM	24	31	2	0	57	3	42	13	0	58	32	24	11	0	67	2	45	15	0	62	244
07:45 AM	15	17	0	0	32	0	20	8	0	28	16	14	1	1	32	0	36	15	0	51	143
Total	118	151	12	0	281	6	103	98	0	207	94	183	17	1	295	7	144	49	0	200	983
08:00 AM	11	14	1	1	27	2	20	11	0	33	8	10	1	0	19	1	24	12	0	37	116
08:15 AM	23	10	0	1	34	1	18	12	0	31	18	9	0	0	27	2	12	11	0	25	117
08:30 AM	12	8	2	0	22	0	18	6	0	24	4	6	2	0	12	3	21	3	0	27	85
Grand Total	229	210	17	2	458	9	188	155	0	352	131	240	21	1	393	21	284	85	0	390	1593
Apprch %	50	45.9	3.7	0.4		2.6	53.4	44	0		33.3	61.1	5.3	0.3		5.4	72.8	21.8	0		
Total %	14.4	13.2	1.1	0.1	28.8	0.6	11.8	9.7	0	22.1	8.2	15.1	1.3	0.1	24.7	1.3	17.8	5.3	0	24.5	

LSC Transportation Consultants, Inc.

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

File Name : Eastonville Rd - Stapleton Dr AM
Site Code : S214870
Start Date : 10/7/2021
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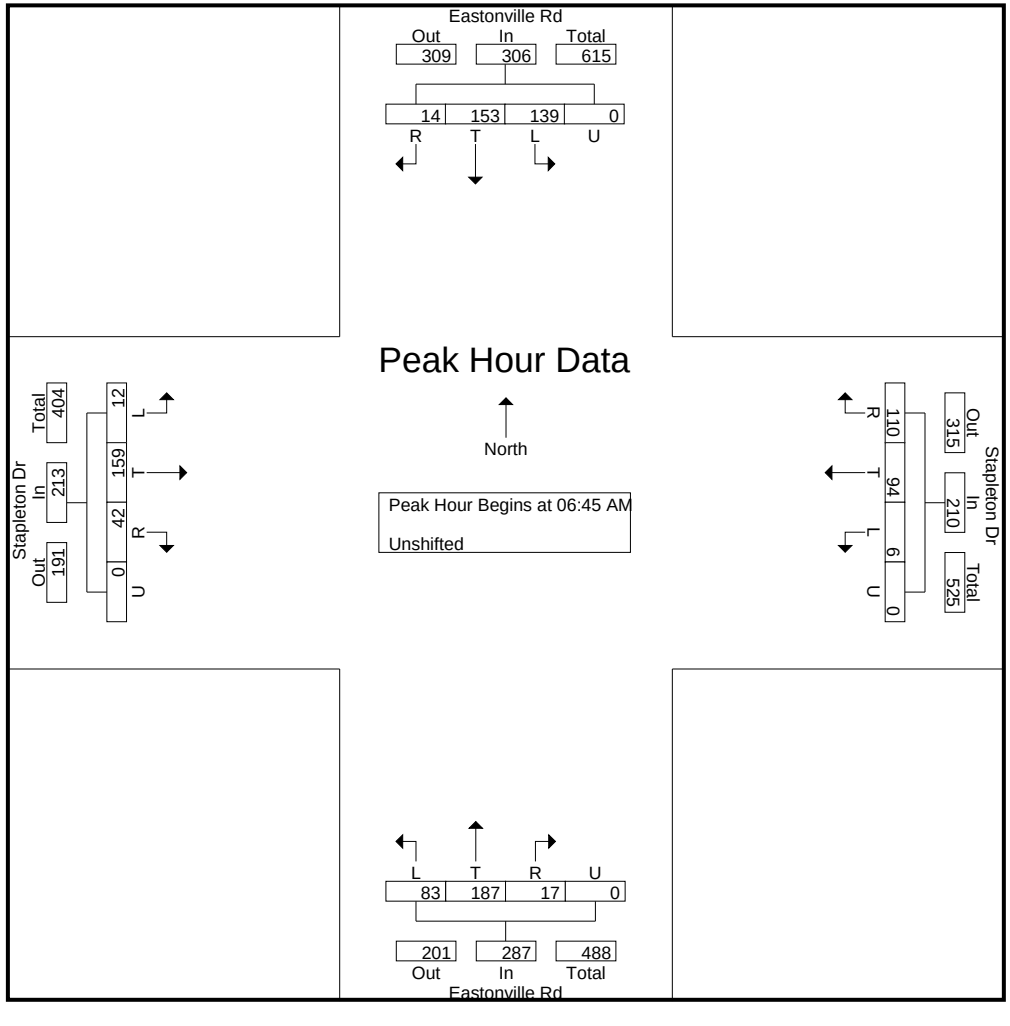

LSC Transportation Consultants, Inc.

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

File Name : Eastonville Rd - Stapleton Dr PM
Site Code : S214870
Start Date : 10/7/2021

Groups Printed- Unshifted

	Eastonville Rd Southbound					Stapleton Dr Westbound					Eastonville Rd Northbound					Stapleton Dr Eastbound					
Start Time	**L**	**T**	**R**	**U**	**App. Total**	**L**	**T**	**R**	**U**	**App. Total**	**L**	**T**	**R**	**U**	**App. Total**	**L**	**T**	**R**	**U**	**App. Total**	**Int. Total**
04:00 PM	9	15	2	0	26	1	42	25	0	68	11	23	3	0	37	1	25	8	0	34	165
04:15 PM	9	20	0	2	31	6	38	27	0	71	6	25	5	0	36	3	23	9	0	35	173
04:30 PM	11	12	0	0	23	1	39	31	0	71	17	40	2	1	60	2	16	8	0	26	180
04:45 PM	21	16	2	0	39	1	34	22	0	57	13	27	2	0	42	5	14	6	0	25	163
Total	50	63	4	2	119	9	153	105	0	267	47	115	12	1	175	11	78	31	0	120	681
05:00 PM	13	27	2	0	42	3	40	18	0	61	5	24	4	0	33	4	18	3	0	25	161
05:15 PM	11	27	2	0	40	2	28	29	0	59	11	25	2	0	38	2	21	3	0	26	163
05:30 PM	14	19	2	0	35	4	30	15	0	49	11	30	2	0	43	0	26	8	0	34	161
05:45 PM	14	15	1	0	30	3	32	13	0	48	10	32	0	0	42	3	26	5	0	34	154
Total	52	88	7	0	147	12	130	75	0	217	37	111	8	0	156	9	91	19	0	119	639
06:00 PM	12	23	5	0	40	2	31	19	0	52	9	22	3	0	34	5	15	1	0	21	147
Grand Total	114	174	16	2	306	23	314	199	0	536	93	248	23	1	365	25	184	51	0	260	1467
Apprch %	37.3	56.9	5.2	0.7		4.3	58.6	37.1	0		25.5	67.9	6.3	0.3		9.6	70.8	19.6	0		
Total %	7.8	11.9	1.1	0.1	20.9	1.6	21.4	13.6	0	36.5	6.3	16.9	1.6	0.1	24.9	1.7	12.5	3.5	0	17.7	

LSC Transportation Consultants, Inc.

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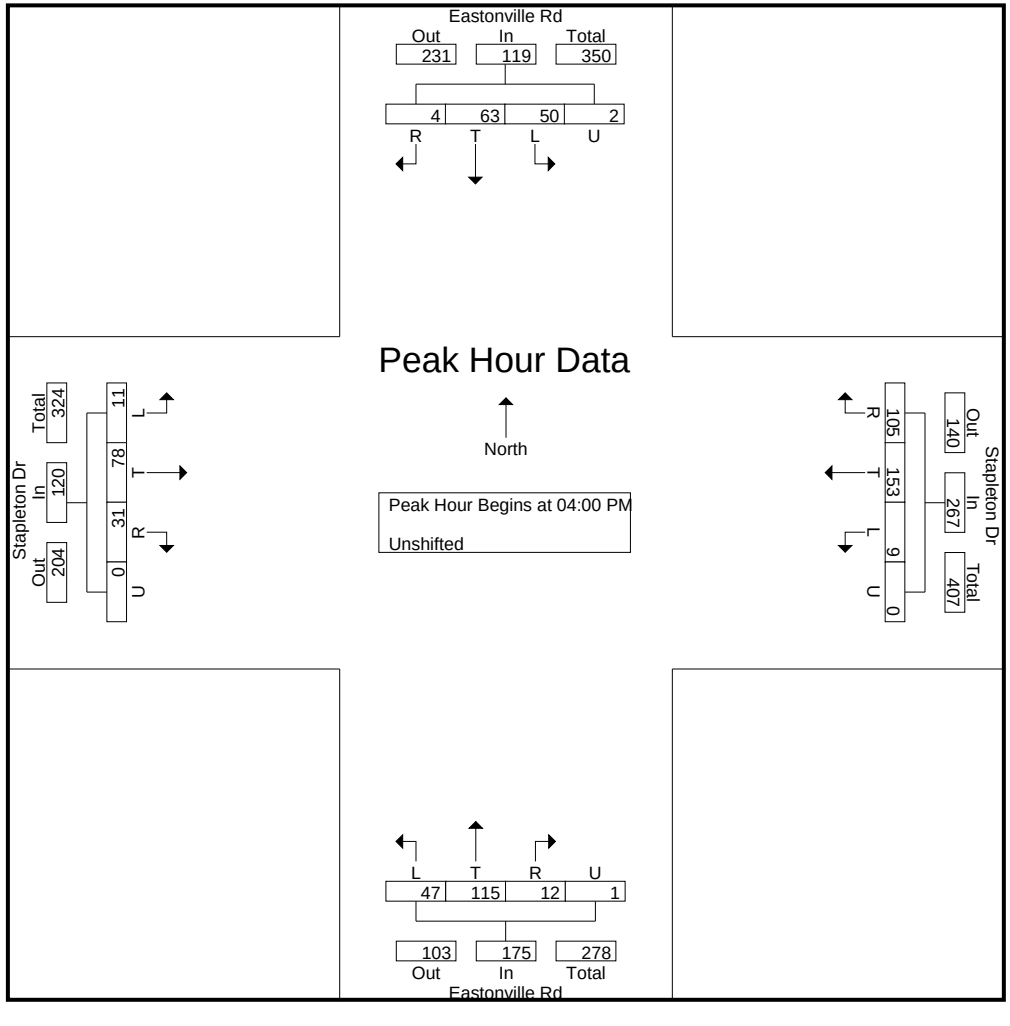
Page No : 3



LSC Transportation Consultants, Inc.

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

File Name : Eastonville Rd -Londonderry Dr AM
Site Code : S214250
Start Date : 4/15/2021
Page No : 1

Groups Printed- Unshifted

	Eastonville Rd Southbound					Westbound					Eastonville Rd Northbound					Londonderry Dr Eastbound					
Start Time	**L**	**T**	**R**	**U**	**App. Total**	**L**	**T**	**R**	**U**	**App. Total**	**L**	**T**	**R**	**U**	**App. Total**	**L**	**T**	**R**	**U**	**App. Total**	**Int. Total**
07:00 AM	0	2	2	0	4	0	0	0	0	0	44	2	0	0	46	0	0	31	0	31	81
07:15 AM	0	2	3	0	5	0	0	0	0	0	96	1	0	0	97	0	0	74	0	74	176
07:30 AM	0	2	2	0	4	0	0	0	0	0	22	2	0	0	24	0	0	54	0	54	82
07:45 AM	0	3	2	0	5	0	0	0	0	0	28	1	0	0	29	3	0	37	1	41	75
Total	0	9	9	0	18	0	0	0	0	0	190	6	0	0	196	3	0	196	1	200	414
08:00 AM	0	1	5	0	6	0	0	0	0	0	24	1	0	0	25	0	0	18	0	18	49
08:15 AM	0	0	2	0	2	0	0	0	0	0	24	2	0	0	26	2	0	37	1	40	68
08:30 AM	0	1	0	0	1	0	0	0	0	0	13	1	0	0	14	2	0	23	0	25	40
08:45 AM	0	7	2	0	9	0	0	0	0	0	13	5	0	0	18	0	0	12	0	12	39
Total	0	9	9	0	18	0	0	0	0	0	74	9	0	0	83	4	0	90	1	95	196
Grand Total	0	18	18	0	36	0	0	0	0	0	264	15	0	0	279	7	0	286	2	295	610
Apprch %	0	50	50	0		0	0	0	0		94.6	5.4	0	0		2.4	0	96.9	0.7		
Total %	0	3	3	0	5.9	0	0	0	0	0	43.3	2.5	0	0	45.7	1.1	0	46.9	0.3	48.4	

LSC Transportation Consultants, Inc.

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719-633-2868

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Start Date : 4/15/2021
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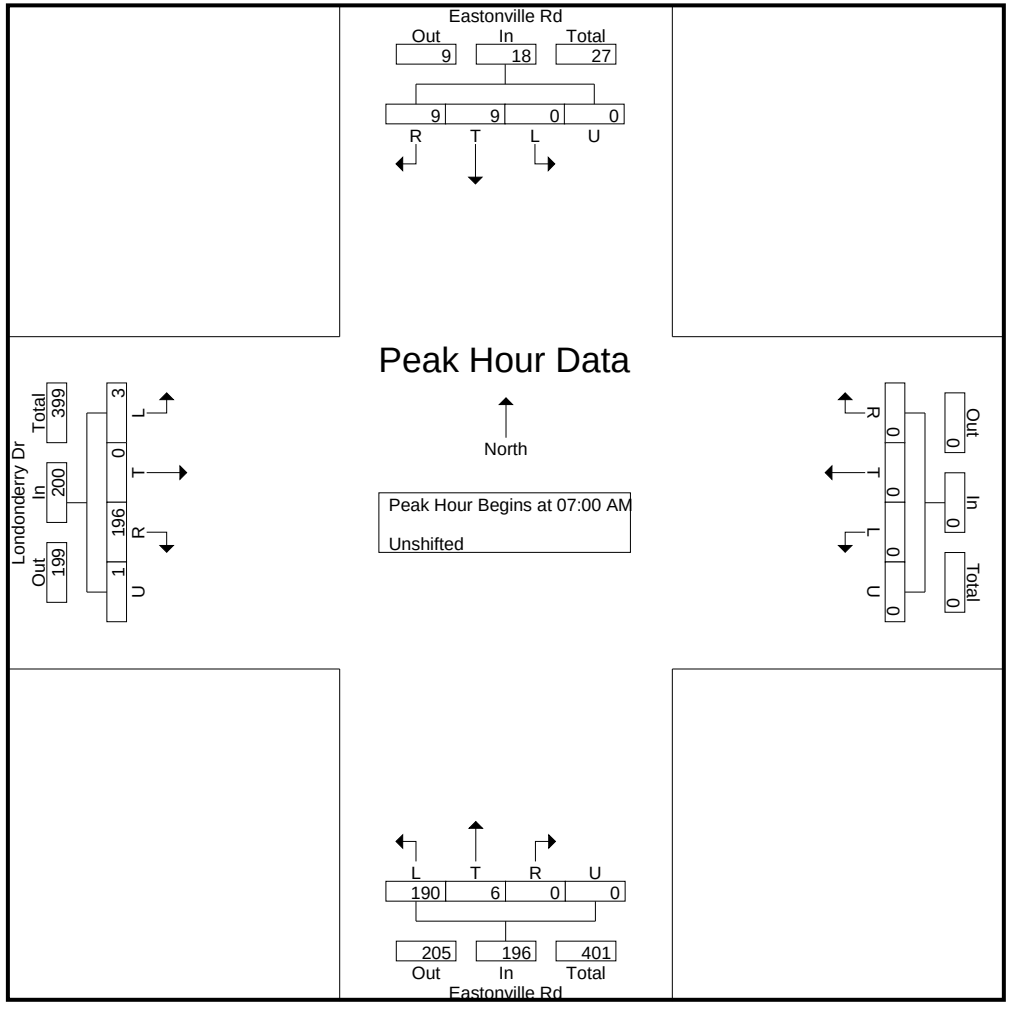

LSC Transportation Consultants, Inc.

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

File Name : Eastonville Rd -Londonderry Dr PM
Site Code : S214250
Start Date : 4/15/2021
Page No : 1

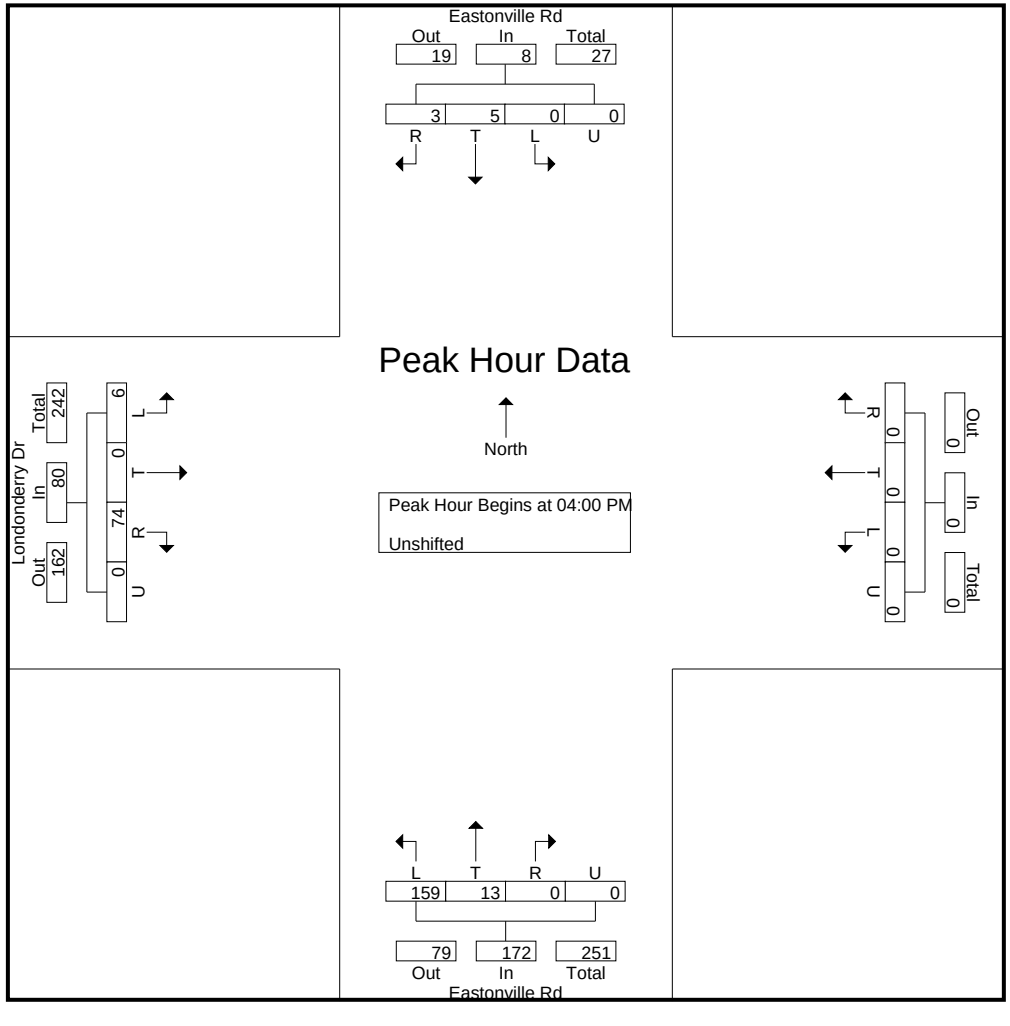
Groups Printed- Unshifted

	Eastonville Rd Southbound					Westbound					Eastonville Rd Northbound					Londonderry Dr Eastbound					
Start Time	**L**	**T**	**R**	**U**	**App. Total**	**L**	**T**	**R**	**U**	**App. Total**	**L**	**T**	**R**	**U**	**App. Total**	**L**	**T**	**R**	**U**	**App. Total**	**Int. Total**
04:00 PM	0	2	1	0	3	0	0	0	0	0	47	1	0	0	48	2	0	27	0	29	80
04:15 PM	0	1	0	0	1	0	0	0	0	0	36	3	0	0	39	2	0	19	0	21	61
04:30 PM	0	1	1	0	2	0	0	0	0	0	40	2	0	0	42	0	0	15	0	15	59
04:45 PM	0	1	1	0	2	0	0	0	0	0	36	7	0	0	43	2	0	13	0	15	60
Total	0	5	3	0	8	0	0	0	0	0	159	13	0	0	172	6	0	74	0	80	260
05:00 PM	0	2	2	0	4	0	0	0	0	0	36	1	0	0	37	0	0	12	0	12	53
05:15 PM	0	4	0	0	4	0	0	0	0	0	31	1	0	0	32	1	0	8	0	9	45
05:30 PM	0	1	0	0	1	0	0	0	0	0	35	3	0	1	39	0	0	7	0	7	47
05:45 PM	0	2	0	0	2	0	0	0	0	0	24	2	0	0	26	0	0	15	0	15	43
Total	0	9	2	0	11	0	0	0	0	0	126	7	0	1	134	1	0	42	0	43	188
Grand Total	0	14	5	0	19	0	0	0	0	0	285	20	0	1	306	7	0	116	0	123	448
Apprch %	0	73.7	26.3	0		0	0	0	0		93.1	6.5	0	0.3		5.7	0	94.3	0		
Total %	0	3.1	1.1	0	4.2	0	0	0	0	0	63.6	4.5	0	0.2	68.3	1.6	0	25.9	0	27.5	

LSC Transportation Consultants, Inc.

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

File Name : Eastonville Rd -Londonderry Dr PM
Site Code : S214250
Start Date : 4/15/2021
Page No : 3



Level of Service Reports

TRANSPORTATION
CONSULTANTS, INC.

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	297	303	6	9	9
Future Vol, veh/h	3	297	303	6	9	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	67	67	51	51	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	443	594	12	10	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1215	15	20	0	-	0
Stage 1	15	-	-	-	-	-
Stage 2	1200	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	200	1065	1596	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	285	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	125	1065	1596	-	-	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	630	-	-	-	-	-
Stage 2	285	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	8.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1596	-	125	1065	-	-
HCM Lane V/C Ratio	0.372	-	0.036	0.416	-	-
HCM Control Delay (s)	8.6	0	34.9	10.8	-	-
HCM Lane LOS	A	A	D	B	-	-
HCM 95th %tile Q(veh)	1.8	-	0.1	2.1	-	-

Intersection	
Int Delay, s/veh	108.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↰	↗		↕			↕	
Traffic Vol, veh/h	12	159	42	6	94	110	83	187	17	139	153	14
Future Vol, veh/h	12	159	42	6	94	110	83	187	17	139	153	14
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	-	-	-	-	-	250	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	85	85	85	68	68	68	64	64	64
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	183	48	7	111	129	122	275	25	217	239	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1336	1228	250	1332	1227	288	261	0	0	300	0	0
Stage 1	684	684	-	532	532	-	-	-	-	-	-	-
Stage 2	652	544	-	800	695	-	-	-	-	-	-	-
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	130	~ 178	789	131	178	751	1303	-	-	1261	-	-
Stage 1	439	449	-	531	526	-	-	-	-	-	-	-
Stage 2	457	519	-	379	444	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	22	~ 126	789	-	126	751	1303	-	-	1261	-	-
Mov Cap-2 Maneuver	22	~ 126	-	-	126	-	-	-	-	-	-	-
Stage 1	389	358	-	471	467	-	-	-	-	-	-	-
Stage 2	256	460	-	139	354	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 606.5		2.3	3.8
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1303	-	-	114	-	751	1261	-	-
HCM Lane V/C Ratio	0.094	-	-	2.148	-	0.172	0.172	-	-
HCM Control Delay (s)	8	0	-	$ 606.5	-	10.8	8.4	0	-
HCM Lane LOS	A	A	-	F	-	B	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	20.8	-	0.6	0.6	-	-

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

Intersection	
Int Delay, s/veh	14.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	135	143	6	87	17	49	267	3	35	438	35
Future Vol, veh/h	23	135	143	6	87	17	49	267	3	35	438	35
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	185	-	325	225	-	225	1000	-	0	785	-	785
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	65	65	65	76	76	76	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	152	161	9	134	26	64	351	4	38	476	38

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1113	1035	476	1207	1069	351	514	0	0	355	0	0
Stage 1	552	552	-	479	479	-	-	-	-	-	-	-
Stage 2	561	483	-	728	590	-	-	-	-	-	-	-
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	186	232	589	160	221	692	1052	-	-	1204	-	-
Stage 1	518	515	-	568	555	-	-	-	-	-	-	-
Stage 2	512	553	-	415	495	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	78	211	589	45	201	692	1052	-	-	1204	-	-
Mov Cap-2 Maneuver	78	211	-	45	201	-	-	-	-	-	-	-
Stage 1	486	499	-	533	521	-	-	-	-	-	-	-
Stage 2	344	519	-	203	479	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	37.2	49	1.3	0.6
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1052	-	-	78	211	589	45	201	692	1204	-	-
HCM Lane V/C Ratio	0.061	-	-	0.331	0.719	0.273	0.205	0.666	0.038	0.032	-	-
HCM Control Delay (s)	8.6	-	-	72.5	56.4	13.4	104.6	52.7	10.4	8.1	-	-
HCM Lane LOS	A	-	-	F	F	B	F	F	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.2	4.7	1.1	0.7	4	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	112	218	13	5	3
Future Vol, veh/h	6	112	218	13	5	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	79	79	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	135	276	16	6	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	576	8	10	0	-	0
Stage 1	8	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	479	1074	1610	-	-	-
Stage 1	1015	-	-	-	-	-
Stage 2	567	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	396	1074	1610	-	-	-
Mov Cap-2 Maneuver	396	-	-	-	-	-
Stage 1	839	-	-	-	-	-
Stage 2	567	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	7.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1610	-	396	1074	-	-
HCM Lane V/C Ratio	0.171	-	0.018	0.126	-	-
HCM Control Delay (s)	7.7	0	14.3	8.8	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.6	-	0.1	0.4	-	-

Intersection	
Int Delay, s/veh	9.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	78	31	9	153	105	47	115	12	50	63	4
Future Vol, veh/h	11	78	31	9	153	105	47	115	12	50	63	4
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	-	-	-	-	-	250	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	94	94	94	74	74	74	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	94	37	10	163	112	64	155	16	60	76	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	628	498	79	555	492	163	81	0	0	171	0	0
Stage 1	199	199	-	291	291	-	-	-	-	-	-	-
Stage 2	429	299	-	264	201	-	-	-	-	-	-	-
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	395	474	981	442	478	882	1517	-	-	1406	-	-
Stage 1	803	736	-	717	672	-	-	-	-	-	-	-
Stage 2	604	666	-	741	735	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	229	431	981	330	435	882	1517	-	-	1406	-	-
Mov Cap-2 Maneuver	229	431	-	330	435	-	-	-	-	-	-	-
Stage 1	765	703	-	683	640	-	-	-	-	-	-	-
Stage 2	375	635	-	590	702	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.4	15.3	2	3.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1517	-	-	460	427	882	1406	-	-
HCM Lane V/C Ratio	0.042	-	-	0.314	0.404	0.127	0.043	-	-
HCM Control Delay (s)	7.5	0	-	16.4	19	9.7	7.7	0	-
HCM Lane LOS	A	A	-	C	C	A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.3	1.9	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	22.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	42	49	26	136	26	119	459	33	12	364	29
Future Vol, veh/h	17	42	49	26	136	26	119	459	33	12	364	29
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	185	-	325	225	-	225	1000	-	0	785	-	785
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	83	83	83	86	86	86	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	50	58	31	164	31	138	534	38	14	418	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1373	1294	418	1327	1289	534	451	0	0	572	0	0
Stage 1	446	446	-	810	810	-	-	-	-	-	-	-
Stage 2	927	848	-	517	479	-	-	-	-	-	-	-
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	123	163	635	132	164	546	1109	-	-	1001	-	-
Stage 1	591	574	-	374	393	-	-	-	-	-	-	-
Stage 2	322	378	-	541	555	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	141	635	78	~ 142	546	1109	-	-	1001	-	-
Mov Cap-2 Maneuver	-	141	-	78	~ 142	-	-	-	-	-	-	-
Stage 1	518	566	-	328	344	-	-	-	-	-	-	-
Stage 2	139	331	-	442	547	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		146.3	1.7	0.3
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1109	-	-	-	141	635	78	142	546	1001	-	-
HCM Lane V/C Ratio	0.125	-	-	-	0.355	0.092	0.402	1.154	0.057	0.014	-	-
HCM Control Delay (s)	8.7	-	-	-	43.9	11.2	79.2	184.8	12	8.6	-	-
HCM Lane LOS	A	-	-	-	E	B	F	F	B	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	-	1.5	0.3	1.6	9.3	0.2	0	-	-

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

Intersection	
Intersection Delay, s/veh	3.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	73	0	61	25
Demand Flow Rate, veh/h	74	0	62	25
Vehicles Circulating, veh/h	24	64	2	46
Vehicles Exiting, veh/h	47	0	96	18
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.1	0.0	3.0	2.9
Approach LOS	A	-	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	74	0	62	25
Cap Entry Lane, veh/h	1346	1293	1377	1317
Entry HV Adj Factor	0.986	1.000	0.979	0.981
Flow Entry, veh/h	73	0	61	25
Cap Entry, veh/h	1328	1293	1348	1292
V/C Ratio	0.055	0.000	0.045	0.019
Control Delay, s/veh	3.1	2.8	3.0	2.9
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection	
Intersection Delay, s/veh	3.2
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	93	68	93
Demand Flow Rate, veh/h	94	70	95
Vehicles Circulating, veh/h	43	6	75
Vehicles Exiting, veh/h	33	164	62
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.2	3.0	3.3
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	94	70	95
Cap Entry Lane, veh/h	1369	1413	1332
Entry HV Adj Factor	0.989	0.974	0.982
Flow Entry, veh/h	93	68	93
Cap Entry, veh/h	1355	1376	1308
V/C Ratio	0.069	0.050	0.071
Control Delay, s/veh	3.2	3.0	3.3
LOS	A	A	A
95th %tile Queue, veh	0	0	0

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	13	45	18	4	133
Future Vol, veh/h	52	13	45	18	4	133
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	155	205	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	15	53	21	5	156

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	219	53	0	0	74	0
Stage 1	53	-	-	-	-	-
Stage 2	166	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	769	1014	-	-	1526	-
Stage 1	970	-	-	-	-	-
Stage 2	863	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	767	1014	-	-	1526	-
Mov Cap-2 Maneuver	758	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	860	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	798	1526	-
HCM Lane V/C Ratio	-	-	0.096	0.003	-
HCM Control Delay (s)	-	-	10	7.4	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Intersection Delay, s/veh	5.2
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	334	452	218
Demand Flow Rate, veh/h	341	461	222
Vehicles Circulating, veh/h	203	6	393
Vehicles Exiting, veh/h	412	538	74
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.6	5.0	4.8
Approach LOS	A	A	A

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	L	TR	LT	TR
Assumed Moves	L	TR	L	TR	LT	TR
RT Channelized						
Lane Util	0.018	0.982	0.852	0.148	0.468	0.532
Follow-Up Headway, s	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
Entry Flow, veh/h	6	335	393	68	104	118
Cap Entry Lane, veh/h	1120	1195	1342	1413	940	1017
Entry HV Adj Factor	1.000	0.979	0.980	0.980	0.985	0.979
Flow Entry, veh/h	6	328	385	67	102	116
Cap Entry, veh/h	1120	1170	1315	1385	926	996
V/C Ratio	0.005	0.280	0.293	0.048	0.111	0.116
Control Delay, s/veh	3.3	5.7	5.3	3.0	4.9	4.7
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	1	1	0	0	0

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

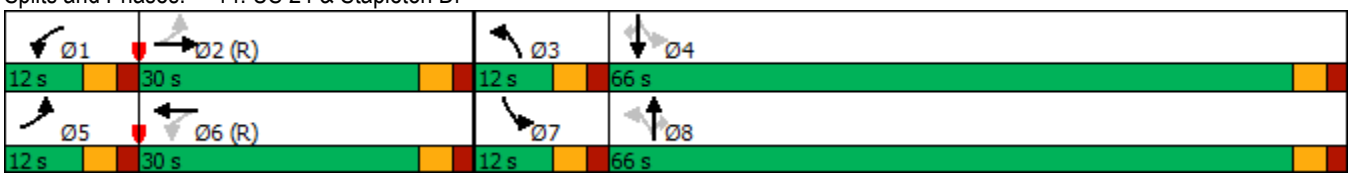
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	302	343	386	527
Demand Flow Rate, veh/h	308	350	394	537
Vehicles Circulating, veh/h	492	399	420	289
Vehicles Exiting, veh/h	259	415	380	289
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.8	3.0	9.4	7.5
Approach LOS	A	A	A	A

Lane	Left	Left	Bypass	Left	Left	Bypass
Designated Moves	LTR	LT	R	LTR	LT	R
Assumed Moves	LTR	LT	R	LTR	LT	R
RT Channelized			Free			Free
Lane Util	1.000	1.000		1.000	1.000	
Follow-Up Headway, s	2.609	2.609		2.609	2.609	
Critical Headway, s	4.976	4.976	171	4.976	4.976	75
Entry Flow, veh/h	308	179	1938	394	462	1938
Cap Entry Lane, veh/h	835	919	0.980	899	1028	0.980
Entry HV Adj Factor	0.980	0.978	168	0.980	0.981	74
Flow Entry, veh/h	302	175	1900	386	453	1900
Cap Entry, veh/h	818	898	0.088	881	1008	0.039
V/C Ratio	0.369	0.195	0.0	0.438	0.450	0.0
Control Delay, s/veh	8.8	5.9	A	9.4	8.7	A
LOS	A	A	0	A	A	0
95th %tile Queue, veh	2	1		2	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	212	267	4	103	17	117	280	5	45	470	42
Future Volume (vph)	50	212	267	4	103	17	117	280	5	45	470	42
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free	8		8	4		4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	15.0	15.0
Minimum Split (s)	10.0	10.0		10.0	10.0		10.0	10.0	10.0	10.0	20.0	20.0
Total Split (s)	12.0	30.0		12.0	30.0		12.0	66.0	66.0	12.0	66.0	66.0
Total Split (%)	10.0%	25.0%		10.0%	25.0%		10.0%	55.0%	55.0%	10.0%	55.0%	55.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Act Effct Green (s)	36.1	34.7	120.0	32.1	27.4	120.0	69.2	63.6	63.6	67.5	61.0	61.0
Actuated g/C Ratio	0.30	0.29	1.00	0.27	0.23	1.00	0.58	0.53	0.53	0.56	0.51	0.51
v/c Ratio	0.16	0.44	0.19	0.02	0.28	0.01	0.33	0.33	0.01	0.09	0.54	0.05
Control Delay	23.2	29.0	0.2	29.2	41.8	0.0	12.3	18.0	0.0	10.2	23.0	0.1
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	23.2	29.0	0.2	29.2	41.8	0.0	12.3	18.0	0.0	10.2	23.0	0.1
LOS	C	C	A	C	D	A	B	B	A	B	C	A
Approach Delay		13.9			35.6			16.1			20.2	
Approach LOS		B			D			B			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 18.3	Intersection LOS: B
Intersection Capacity Utilization 54.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 14: US 24 & Stapleton Dr



Intersection	
Intersection Delay, s/veh	3.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	79	0	125	18
Demand Flow Rate, veh/h	80	0	128	18
Vehicles Circulating, veh/h	14	132	4	101
Vehicles Exiting, veh/h	105	0	90	31
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.1	0.0	3.4	3.1
Approach LOS	A	-	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	80	0	128	18
Cap Entry Lane, veh/h	1360	1206	1374	1245
Entry HV Adj Factor	0.988	1.000	0.980	0.985
Flow Entry, veh/h	79	0	125	18
Cap Entry, veh/h	1343	1206	1347	1226
V/C Ratio	0.059	0.000	0.093	0.014
Control Delay, s/veh	3.1	3.0	3.4	3.1
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection	
Intersection Delay, s/veh	3.6
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	64	203	91
Demand Flow Rate, veh/h	65	207	92
Vehicles Circulating, veh/h	118	20	53
Vehicles Exiting, veh/h	109	125	130
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.3	3.8	3.2
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	65	207	92
Cap Entry Lane, veh/h	1285	1396	1358
Entry HV Adj Factor	0.985	0.979	0.985
Flow Entry, veh/h	64	203	91
Cap Entry, veh/h	1265	1367	1337
V/C Ratio	0.051	0.148	0.068
Control Delay, s/veh	3.3	3.8	3.2
LOS	A	A	A
95th %tile Queue, veh	0	1	0

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	10	158	56	16	86
Future Vol, veh/h	32	10	158	56	16	86
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	155	205	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	12	190	67	19	104

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	332	190	0	0	257	0
Stage 1	190	-	-	-	-	-
Stage 2	142	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	663	852	-	-	1308	-
Stage 1	842	-	-	-	-	-
Stage 2	885	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	653	852	-	-	1308	-
Mov Cap-2 Maneuver	689	-	-	-	-	-
Stage 1	842	-	-	-	-	-
Stage 2	872	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	1.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	722	1308	-
HCM Lane V/C Ratio	-	-	0.07	0.015	-
HCM Control Delay (s)	-	-	10.4	7.8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Intersection Delay, s/veh	4.7
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	228	633	138
Demand Flow Rate, veh/h	232	646	141
Vehicles Circulating, veh/h	132	16	406
Vehicles Exiting, veh/h	415	348	256
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.2	4.9	4.4
Approach LOS	A	A	A

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	L	TR	LT	TR
Assumed Moves	L	TR	L	TR	LT	TR
RT Channelized						
Lane Util	0.069	0.931	0.628	0.372	0.468	0.532
Follow-Up Headway, s	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
Entry Flow, veh/h	16	216	406	240	66	75
Cap Entry Lane, veh/h	1195	1269	1330	1401	929	1006
Entry HV Adj Factor	1.000	0.981	0.980	0.980	0.986	0.978
Flow Entry, veh/h	16	212	398	235	65	73
Cap Entry, veh/h	1195	1246	1304	1373	916	984
V/C Ratio	0.013	0.170	0.305	0.171	0.071	0.075
Control Delay, s/veh	3.1	4.3	5.5	4.0	4.6	4.3
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	1	1	1	0	0

Intersection	
Intersection Delay, s/veh	5.2
Intersection LOS	A

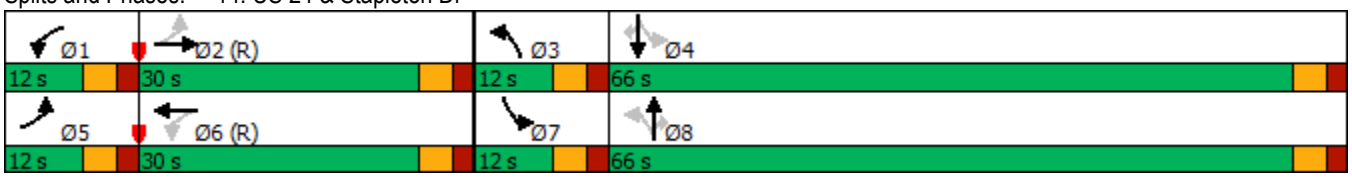
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	238	484	345	315
Demand Flow Rate, veh/h	243	493	352	322
Vehicles Circulating, veh/h	307	390	343	284
Vehicles Exiting, veh/h	260	305	206	332
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.0	3.0	7.7	5.5
Approach LOS	A	A	A	A

Lane	Left	Left	Bypass	Left	Left	Bypass
Designated Moves	LTR	LT	R	LTR	LT	R
Assumed Moves	LTR	LT	R	LTR	LT	R
RT Channelized			Free			Free
Lane Util	1.000	1.000		1.000	1.000	
Follow-Up Headway, s	2.609	2.609		2.609	2.609	
Critical Headway, s	4.976	4.976	267	4.976	4.976	39
Entry Flow, veh/h	243	226	1938	352	283	1938
Cap Entry Lane, veh/h	1009	927	0.980	973	1033	0.980
Entry HV Adj Factor	0.981	0.982	262	0.980	0.980	38
Flow Entry, veh/h	238	222	1900	345	277	1900
Cap Entry, veh/h	990	911	0.138	953	1012	0.020
V/C Ratio	0.241	0.244	0.0	0.362	0.274	0.0
Control Delay, s/veh	6.0	6.4	A	7.7	6.3	A
LOS	A	A	0	A	A	0
95th %tile Queue, veh	1	1		2	1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	84	146	5	189	34	262	517	8	10	409	49
Future Volume (vph)	29	84	146	5	189	34	262	517	8	10	409	49
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free	8		8	4		4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	15.0	15.0
Minimum Split (s)	10.0	10.0		10.0	10.0		10.0	10.0	10.0	10.0	20.0	20.0
Total Split (s)	12.0	30.0		12.0	30.0		12.0	66.0	66.0	12.0	66.0	66.0
Total Split (%)	10.0%	25.0%		10.0%	25.0%		10.0%	55.0%	55.0%	10.0%	55.0%	55.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Act Effct Green (s)	36.1	34.7	120.0	33.5	29.8	120.0	72.1	70.7	70.7	66.8	61.0	61.0
Actuated g/C Ratio	0.30	0.29	1.00	0.28	0.25	1.00	0.60	0.59	0.59	0.56	0.51	0.51
v/c Ratio	0.14	0.19	0.11	0.02	0.49	0.03	0.66	0.55	0.01	0.03	0.50	0.07
Control Delay	25.0	28.0	0.1	29.2	44.6	0.0	20.7	18.1	0.0	10.1	22.1	0.1
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	25.0	28.0	0.1	29.2	44.6	0.0	20.7	18.1	0.0	10.1	22.1	0.1
LOS	C	C	A	C	D	A	C	B	A	B	C	A
Approach Delay		12.0			37.6			18.8			19.6	
Approach LOS		B			D			B			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 20.5	Intersection LOS: C
Intersection Capacity Utilization 66.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 14: US 24 & Stapleton Dr



Intersection	
Intersection Delay, s/veh	4.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	341	51	194	37
Demand Flow Rate, veh/h	347	52	198	38
Vehicles Circulating, veh/h	52	166	23	188
Vehicles Exiting, veh/h	174	55	376	30
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.1	3.5	3.9	3.5
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	347	52	198	38
Cap Entry Lane, veh/h	1309	1165	1348	1139
Entry HV Adj Factor	0.982	0.988	0.978	0.983
Flow Entry, veh/h	341	51	194	37
Cap Entry, veh/h	1285	1151	1318	1120
V/C Ratio	0.265	0.045	0.147	0.033
Control Delay, s/veh	5.1	3.5	3.9	3.5
LOS	A	A	A	A
95th %tile Queue, veh	1	0	1	0

Intersection	
Int Delay, s/veh	4.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	45	0	0	43	0
Future Vol, veh/h	0	45	0	0	43	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	155	-	205	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	53	0	0	51	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	53	0	28	27
Stage 1	-	-	-	-	27	-
Stage 2	-	-	-	-	1	-
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	-	-	1553	-	987	1048
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1553	-	987	1048
Mov Cap-2 Maneuver	-	-	-	-	907	-
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	1022	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	907	-	-	-	1553	-
HCM Lane V/C Ratio	0.056	-	-	-	-	-
HCM Control Delay (s)	9.2	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	5.3
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	258	245	372
Demand Flow Rate, veh/h	264	249	379
Vehicles Circulating, veh/h	174	8	238
Vehicles Exiting, veh/h	83	609	199
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.9	4.0	6.3
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	264	249	379
Cap Entry Lane, veh/h	1225	1410	1160
Entry HV Adj Factor	0.977	0.982	0.981
Flow Entry, veh/h	258	245	372
Cap Entry, veh/h	1197	1386	1138
V/C Ratio	0.216	0.177	0.327
Control Delay, s/veh	4.9	4.0	6.3
LOS	A	A	A
95th %tile Queue, veh	1	1	1

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	13	195	18	4	503
Future Vol, veh/h	52	13	195	18	4	503
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	155	205	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	15	229	21	5	592

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	831	229	0	0	250	0
Stage 1	229	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	340	810	-	-	1316	-
Stage 1	809	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	339	810	-	-	1316	-
Mov Cap-2 Maneuver	440	-	-	-	-	-
Stage 1	809	-	-	-	-	-
Stage 2	545	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.8	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	484	1316	-
HCM Lane V/C Ratio	-	-	0.158	0.004	-
HCM Control Delay (s)	-	-	13.8	7.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0	-

Intersection	
Intersection Delay, s/veh	6.9
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	377	614	653
Demand Flow Rate, veh/h	385	626	666
Vehicles Circulating, veh/h	604	34	404
Vehicles Exiting, veh/h	466	955	256
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	9.0	5.0	7.5
Approach LOS	A	A	A

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	L	TR	LT	TR
Assumed Moves	L	TR	L	TR	LT	TR
RT Channelized						
Lane Util	0.088	0.912	0.645	0.355	0.470	0.530
Follow-Up Headway, s	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
Entry Flow, veh/h	34	351	404	222	313	353
Cap Entry Lane, veh/h	774	850	1308	1380	931	1007
Entry HV Adj Factor	0.971	0.980	0.980	0.980	0.981	0.981
Flow Entry, veh/h	33	344	396	218	307	346
Cap Entry, veh/h	752	833	1282	1353	913	988
V/C Ratio	0.044	0.413	0.309	0.161	0.336	0.350
Control Delay, s/veh	5.2	9.4	5.6	4.0	7.6	7.3
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	2	1	1	1	2

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

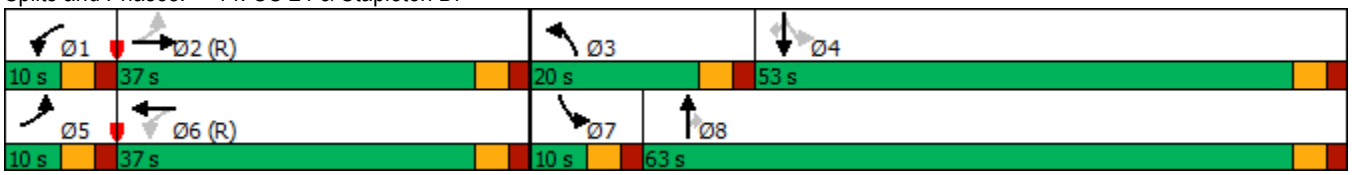
Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	425	453	465	934
Demand Flow Rate, veh/h	434	462	475	953
Vehicles Circulating, veh/h	835	504	705	340
Vehicles Exiting, veh/h	308	676	564	373
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.9	2.4	14.8	14.3
Approach LOS	A	A	B	B

Lane	Left	Right	Left	Right	Bypass	Left	Left	Bypass
Designated Moves	LT	TR	LT	TR	R	LTR	LT	R
Assumed Moves	LT	TR	LT	TR	R	LTR	LT	R
RT Channelized					Free			Free
Lane Util	0.470	0.530	0.469	0.531		1.000	1.000	
Follow-Up Headway, s	2.667	2.535	2.667	2.535		2.535	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	253	4.328	4.328	150
Entry Flow, veh/h	204	230	98	111	1938	475	803	1938
Cap Entry Lane, veh/h	626	698	849	925	0.980	780	1064	0.980
Entry HV Adj Factor	0.980	0.980	0.981	0.977	248	0.979	0.980	147
Flow Entry, veh/h	200	225	96	108	1900	465	787	1900
Cap Entry, veh/h	614	684	833	904	0.131	763	1043	0.077
V/C Ratio	0.326	0.329	0.115	0.120	0.0	0.609	0.755	0.0
Control Delay, s/veh	10.3	9.5	5.5	5.1	A	14.8	17.0	A
LOS	B	A	A	A	0	B	C	0
95th %tile Queue, veh	1	1	0	0		4	7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	295	379	4	137	17	165	322	5	45	540	53
Future Volume (vph)	73	295	379	4	137	17	165	322	5	45	540	53
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			8	4		4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	5.0		15.0	5.0	5.0	5.0	15.0	15.0
Minimum Split (s)	10.0	15.0		10.0	10.0		20.0	10.0	10.0	10.0	20.0	20.0
Total Split (s)	10.0	37.0		10.0	37.0		20.0	63.0	63.0	10.0	53.0	53.0
Total Split (%)	8.3%	30.8%		8.3%	30.8%		16.7%	52.5%	52.5%	8.3%	44.2%	44.2%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Act Effct Green (s)	41.0	40.0	120.0	38.0	34.0	120.0	15.0	60.0	60.0	53.0	48.0	48.0
Actuated g/C Ratio	0.34	0.33	1.00	0.32	0.28	1.00	0.12	0.50	0.50	0.44	0.40	0.40
v/c Ratio	0.22	0.53	0.27	0.02	0.31	0.01	0.45	0.41	0.01	0.10	0.79	0.08
Control Delay	20.7	27.3	0.4	25.8	36.7	0.0	52.4	21.1	0.0	13.3	37.9	0.2
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	20.7	27.3	0.4	25.8	36.7	0.0	52.4	21.1	0.0	13.3	37.9	0.2
LOS	C	C	A	C	D	A	D	C	A	B	D	A
Approach Delay		13.0			32.4			31.4			33.0	
Approach LOS		B			C			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 25.2	Intersection LOS: C
Intersection Capacity Utilization 77.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 14: US 24 & Stapleton Dr



Intersection	
Intersection Delay, s/veh	5.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	286	51	450	40
Demand Flow Rate, veh/h	292	51	459	41
Vehicles Circulating, veh/h	53	431	52	424
Vehicles Exiting, veh/h	411	80	293	58
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.7	4.6	6.1	4.5
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	292	51	459	41
Cap Entry Lane, veh/h	1307	889	1309	895
Entry HV Adj Factor	0.981	0.991	0.981	0.988
Flow Entry, veh/h	286	51	450	40
Cap Entry, veh/h	1282	881	1283	884
V/C Ratio	0.223	0.057	0.351	0.046
Control Delay, s/veh	4.7	4.6	6.1	4.5
LOS	A	A	A	A
95th %tile Queue, veh	1	0	2	0

Intersection	
Int Delay, s/veh	3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	66	0	0	42	0
Future Vol, veh/h	0	66	0	0	42	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	155	-	205	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	80	0	0	51	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	80	0	41	40
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	1	-
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	-	-	1518	-	970	1031
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1518	-	970	1031
Mov Cap-2 Maneuver	-	-	-	-	894	-
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	1022	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	894	-	-	-	1518	-
HCM Lane V/C Ratio	0.057	-	-	-	-	-
HCM Control Delay (s)	9.3	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	7.0
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	185	710	295
Demand Flow Rate, veh/h	188	724	301
Vehicles Circulating, veh/h	468	29	172
Vehicles Exiting, veh/h	285	444	484
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.8	8.1	5.2
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	188	724	301
Cap Entry Lane, veh/h	954	1386	1227
Entry HV Adj Factor	0.984	0.980	0.979
Flow Entry, veh/h	185	710	295
Cap Entry, veh/h	939	1358	1201
V/C Ratio	0.197	0.523	0.245
Control Delay, s/veh	5.8	8.1	5.2
LOS	A	A	A
95th %tile Queue, veh	1	3	1

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	10	579	56	16	346
Future Vol, veh/h	32	10	579	56	16	346
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	155	205	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	12	698	67	19	417

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1153	698	0	0	765	0
Stage 1	698	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	218	440	-	-	848	-
Stage 1	494	-	-	-	-	-
Stage 2	639	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	213	440	-	-	848	-
Mov Cap-2 Maneuver	347	-	-	-	-	-
Stage 1	494	-	-	-	-	-
Stage 2	625	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.4	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	365	848	-
HCM Lane V/C Ratio	-	-	0.139	0.023	-
HCM Control Delay (s)	-	-	16.4	9.3	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Intersection	
Intersection Delay, s/veh	6.8
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	281	1083	446
Demand Flow Rate, veh/h	286	1105	455
Vehicles Circulating, veh/h	413	67	410
Vehicles Exiting, veh/h	452	632	762
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.5	7.4	6.2
Approach LOS	A	A	A

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	L	TR	LT	TR
Assumed Moves	L	TR	L	TR	LT	TR
RT Channelized						
Lane Util	0.234	0.766	0.371	0.629	0.470	0.530
Follow-Up Headway, s	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
Entry Flow, veh/h	67	219	410	695	214	241
Cap Entry Lane, veh/h	923	1000	1269	1341	926	1002
Entry HV Adj Factor	0.985	0.982	0.980	0.980	0.979	0.981
Flow Entry, veh/h	66	215	402	681	210	236
Cap Entry, veh/h	909	981	1244	1315	907	983
V/C Ratio	0.073	0.219	0.323	0.518	0.231	0.240
Control Delay, s/veh	4.6	5.8	5.9	8.2	6.3	6.0
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	1	1	3	1	1

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

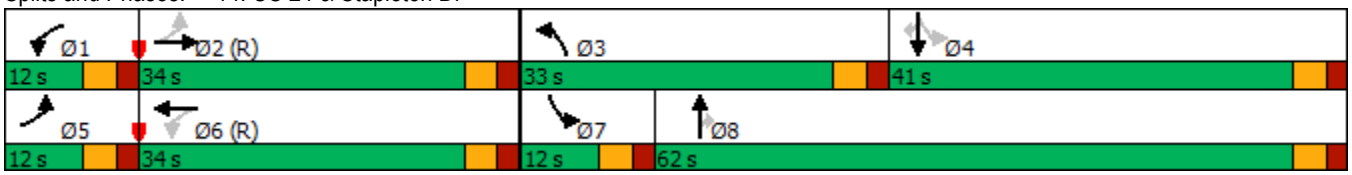
Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	373	748	526	573
Demand Flow Rate, veh/h	380	763	537	585
Vehicles Circulating, veh/h	521	653	586	385
Vehicles Exiting, veh/h	360	470	315	564
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.4	2.6	14.1	7.9
Approach LOS	A	A	B	A

Lane	Left	Right	Left	Right	Bypass	Left	Left	Bypass
Designated Moves	LT	TR	LT	TR	R	LTR	LT	R
Assumed Moves	LT	TR	LT	TR	R	LTR	LT	R
RT Channelized					Free			Free
Lane Util	0.471	0.529	0.471	0.529		1.000	1.000	
Follow-Up Headway, s	2.667	2.535	2.667	2.535		2.535	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	466	4.328	4.328	89
Entry Flow, veh/h	179	201	140	157	1938	537	496	1938
Cap Entry Lane, veh/h	836	912	740	815	0.980	863	1024	0.980
Entry HV Adj Factor	0.979	0.983	0.976	0.981	457	0.979	0.981	87
Flow Entry, veh/h	175	198	137	154	1900	526	486	1900
Cap Entry, veh/h	818	896	722	800	0.241	845	1004	0.046
V/C Ratio	0.214	0.220	0.189	0.193	0.0	0.622	0.485	0.0
Control Delay, s/veh	6.7	6.3	7.1	6.5	A	14.1	9.3	A
LOS	A	A	A	A	1	B	A	0
95th %tile Queue, veh	1	1	1	1		4	3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	139	222	5	280	34	388	594	8	10	469	74
Future Volume (vph)	45	139	222	5	280	34	388	594	8	10	469	74
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			8	4		4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		20.0	5.0	5.0	5.0	16.0	16.0
Minimum Split (s)	10.0	10.0		10.0	10.0		25.0	10.0	10.0	10.0	21.0	21.0
Total Split (s)	12.0	34.0		12.0	34.0		33.0	62.0	62.0	12.0	41.0	41.0
Total Split (%)	10.0%	28.3%		10.0%	28.3%		27.5%	51.7%	51.7%	10.0%	34.2%	34.2%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Act Effct Green (s)	40.1	38.7	120.0	36.1	31.4	120.0	22.0	66.7	66.7	47.8	42.0	42.0
Actuated g/C Ratio	0.33	0.32	1.00	0.30	0.26	1.00	0.18	0.56	0.56	0.40	0.35	0.35
v/c Ratio	0.28	0.28	0.17	0.02	0.69	0.03	0.72	0.67	0.01	0.04	0.83	0.13
Control Delay	25.8	27.4	0.2	26.4	49.5	0.0	52.8	23.8	0.0	13.8	45.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.8	27.4	0.2	26.4	49.5	0.0	52.8	23.8	0.0	13.8	45.6	0.4
LOS	C	C	A	C	D	A	D	C	A	B	D	A
Approach Delay		12.4			43.9			34.9			39.0	
Approach LOS		B			D			C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 33.1	Intersection LOS: C
Intersection Capacity Utilization 76.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 14: US 24 & Stapleton Dr



Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	467	525	486	298
Demand Flow Rate, veh/h	477	536	496	303
Vehicles Circulating, veh/h	645	274	237	646
Vehicles Exiting, veh/h	304	459	885	163
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	18.2	9.8	8.5	11.0
Approach LOS	C	A	A	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	477	536	496	303
Cap Entry Lane, veh/h	715	1043	1084	714
Entry HV Adj Factor	0.980	0.979	0.980	0.983
Flow Entry, veh/h	467	525	486	298
Cap Entry, veh/h	700	1022	1061	702
V/C Ratio	0.667	0.514	0.458	0.424
Control Delay, s/veh	18.2	9.8	8.5	11.0
LOS	C	A	A	B
95th %tile Queue, veh	5	3	2	2

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	408	20	38	483	16	73
Future Vol, veh/h	408	20	38	483	16	73
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	155	-	205	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	443	22	41	525	17	79

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	465	0	1061	454
Stage 1	-	-	-	-	454	-
Stage 2	-	-	-	-	607	-
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	-	-	1096	-	248	606
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	544	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1096	-	239	606
Mov Cap-2 Maneuver	-	-	-	-	370	-
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	524	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	370	606	-	-	1096	-
HCM Lane V/C Ratio	0.047	0.131	-	-	0.038	-
HCM Control Delay (s)	15.2	11.8	-	-	8.4	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	479	516	7	20	5
Future Vol, veh/h	2	479	516	7	20	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	155	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	521	561	8	22	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	569	0	-	0	1090	565
Stage 1	-	-	-	-	565	-
Stage 2	-	-	-	-	525	-
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	1003	-	-	-	238	524
Stage 1	-	-	-	-	569	-
Stage 2	-	-	-	-	593	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1003	-	-	-	238	524
Mov Cap-2 Maneuver	-	-	-	-	373	-
Stage 1	-	-	-	-	568	-
Stage 2	-	-	-	-	593	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1003	-	-	-	396
HCM Lane V/C Ratio	0.002	-	-	-	0.069
HCM Control Delay (s)	8.6	-	-	-	14.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Intersection Delay, s/veh	14.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	524	449	100	756
Demand Flow Rate, veh/h	535	458	102	771
Vehicles Circulating, veh/h	541	142	969	331
Vehicles Exiting, veh/h	561	929	107	112
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	17.0	3.5	9.9	19.6
Approach LOS	C	A	A	C

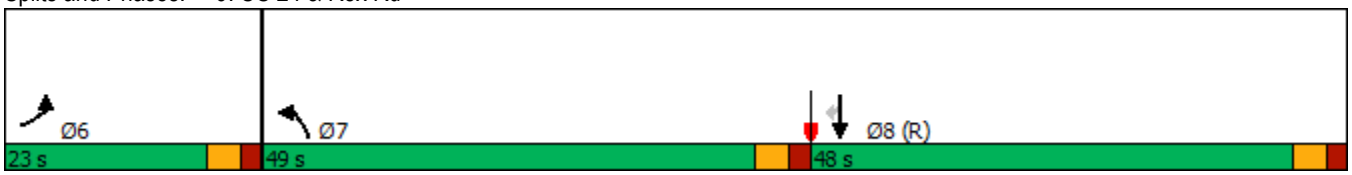
Lane	Left	Left	Bypass	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized			Free		
Lane Util	1.000	1.000		1.000	1.000
Follow-Up Headway, s	2.609	2.609		2.609	2.609
Critical Headway, s	4.976	4.976	157	4.976	4.976
Entry Flow, veh/h	535	301	1938	102	771
Cap Entry Lane, veh/h	795	1194	0.980	514	985
Entry HV Adj Factor	0.979	0.980	154	0.976	0.981
Flow Entry, veh/h	524	295	1900	100	756
Cap Entry, veh/h	778	1169	0.081	501	966
V/C Ratio	0.673	0.252	0.0	0.199	0.783
Control Delay, s/veh	17.0	5.4	A	9.9	19.6
LOS	C	A	0	A	C
95th %tile Queue, veh	5	1		1	8

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	96	842	379	392	648	73
Future Volume (vph)	96	842	379	392	648	73
Turn Type	Prot	Free	Prot	NA	NA	Perm
Protected Phases	6!		7	Free!	8	
Permitted Phases		Free				8
Detector Phase	6		7		8	8
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	20.0		10.0		20.0	20.0
Total Split (s)	23.0		49.0		48.0	48.0
Total Split (%)	19.2%		40.8%		40.0%	40.0%
Yellow Time (s)	3.0		3.0		3.0	3.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	5.0		5.0		5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	Max		None		C-Max	C-Max
Act Effct Green (s)	18.0	120.0	19.5	120.0	67.5	67.5
Actuated g/C Ratio	0.15	1.00	0.16	1.00	0.56	0.56
v/c Ratio	0.38	0.56	0.72	0.11	0.34	0.08
Control Delay	50.8	1.4	54.9	0.1	15.3	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.8	1.4	54.9	0.1	15.3	3.3
LOS	D	A	D	A	B	A
Approach Delay	6.5			27.5	14.1	
Approach LOS	A			C	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 50 (42%), Referenced to phase 8:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 15.3	Intersection LOS: B
Intersection Capacity Utilization 45.7%	ICU Level of Service A
Analysis Period (min) 15	

! Phase conflict between lane groups.

Splits and Phases: 9: US 24 & Rex Rd



Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	146	526	866
Demand Flow Rate, veh/h	149	537	883
Vehicles Circulating, veh/h	491	1	145
Vehicles Exiting, veh/h	47	1027	495
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.5	6.0	13.0
Approach LOS	A	A	B

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	149	537	883
Cap Entry Lane, veh/h	935	1419	1255
Entry HV Adj Factor	0.980	0.980	0.980
Flow Entry, veh/h	146	526	866
Cap Entry, veh/h	917	1391	1231
V/C Ratio	0.159	0.378	0.703
Control Delay, s/veh	5.5	6.0	13.0
LOS	A	A	B
95th %tile Queue, veh	1	2	6

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	21	480	20	7	950
Future Vol, veh/h	57	21	480	20	7	950
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	155	205	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	22	505	21	7	1000

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1519	505	0	0	526	0
Stage 1	505	-	-	-	-	-
Stage 2	1014	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	131	567	-	-	1041	-
Stage 1	606	-	-	-	-	-
Stage 2	350	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	130	567	-	-	1041	-
Mov Cap-2 Maneuver	255	-	-	-	-	-
Stage 1	606	-	-	-	-	-
Stage 2	348	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.5	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	299	1041	-
HCM Lane V/C Ratio	-	-	0.275	0.007	-
HCM Control Delay (s)	-	-	21.5	8.5	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.1	0	-

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	485	620	1068
Demand Flow Rate, veh/h	495	632	1089
Vehicles Circulating, veh/h	810	155	252
Vehicles Exiting, veh/h	531	1150	535
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	11.1	5.5	8.9
Approach LOS	B	A	A

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	L	TR	LT	TR
Assumed Moves	L	TR	L	TR	LT	TR
RT Channelized						
Lane Util	0.313	0.687	0.399	0.601	0.470	0.530
Follow-Up Headway, s	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
Entry Flow, veh/h	155	340	252	380	512	577
Cap Entry Lane, veh/h	641	713	1170	1245	1071	1146
Entry HV Adj Factor	0.981	0.979	0.980	0.980	0.980	0.981
Flow Entry, veh/h	152	333	247	373	502	566
Cap Entry, veh/h	628	699	1147	1220	1050	1125
V/C Ratio	0.242	0.477	0.215	0.305	0.478	0.503
Control Delay, s/veh	8.8	12.1	5.1	5.8	8.9	8.9
LOS	A	B	A	A	A	A
95th %tile Queue, veh	1	3	1	1	3	3

Intersection	
Intersection Delay, s/veh	12.0
Intersection LOS	B

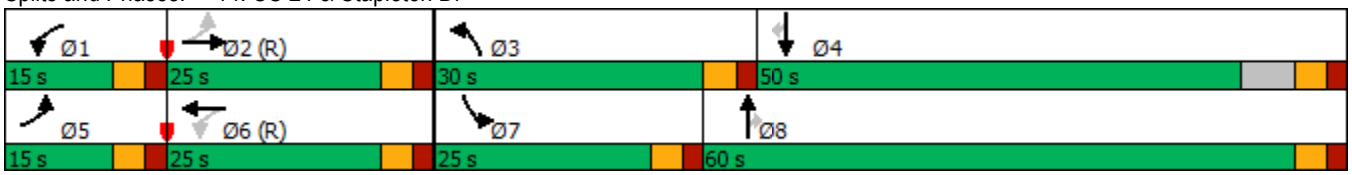
Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	815	549	521	1126
Demand Flow Rate, veh/h	831	559	532	1149
Vehicles Circulating, veh/h	905	605	1004	531
Vehicles Exiting, veh/h	465	931	732	461
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	20.2	4.9	14.3	8.4
Approach LOS	C	A	B	A

Lane	Left	Right	Left	Right	Bypass	Left	Right	Left	Right	Bypass
Designated Moves	LT	TR	LT	TR	R	LT	TR	L	LTR	R
Assumed Moves	LT	TR	LT	TR	R	LT	TR	L	TR	R
RT Channelized					Free					Free
Lane Util	0.471	0.529	0.470	0.530		0.470	0.530	0.349	0.651	
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	172	4.645	4.328	4.645	4.328	310
Entry Flow, veh/h	391	440	182	205	1938	250	282	293	546	1938
Cap Entry Lane, veh/h	587	658	774	849	0.980	536	605	828	904	0.980
Entry HV Adj Factor	0.980	0.982	0.981	0.982	169	0.980	0.979	0.980	0.980	304
Flow Entry, veh/h	383	432	178	201	1900	245	276	287	535	1900
Cap Entry, veh/h	575	646	759	834	0.089	525	592	811	886	0.160
V/C Ratio	0.666	0.669	0.235	0.241	0.0	0.466	0.466	0.354	0.604	0.0
Control Delay, s/veh	21.2	19.4	7.4	6.9	A	15.0	13.6	8.6	13.1	A
LOS	C	C	A	A	0	C	B	A	B	1
95th %tile Queue, veh	5	5	1	1		2	2	2	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	378	463	75	201	102	358	533	50	225	1138	127
Future Volume (vph)	136	378	463	75	201	102	358	533	50	225	1138	127
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		8.0	5.0		20.0	5.0	5.0	20.0	15.0	15.0
Minimum Split (s)	10.0	15.0		13.0	10.0		25.0	10.0	10.0	25.0	20.0	20.0
Total Split (s)	15.0	25.0		15.0	25.0		30.0	60.0	60.0	25.0	50.0	50.0
Total Split (%)	12.0%	20.0%		12.0%	20.0%		24.0%	48.0%	48.0%	20.0%	40.0%	40.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Act Effct Green (s)	31.4	23.4	125.0	29.5	20.3	125.0	20.9	55.0	55.0	20.0	54.1	54.1
Actuated g/C Ratio	0.25	0.19	1.00	0.24	0.16	1.00	0.17	0.44	0.44	0.16	0.43	0.43
v/c Ratio	0.48	0.60	0.31	0.33	0.37	0.07	0.66	0.36	0.07	0.43	0.76	0.18
Control Delay	41.6	52.1	0.5	38.3	48.9	0.1	54.5	24.1	0.2	50.2	34.1	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.6	52.1	0.5	38.3	48.9	0.1	54.5	24.1	0.2	50.2	34.1	4.3
LOS	D	D	A	D	D	A	D	C	A	D	C	A
Approach Delay		26.2			33.7			34.4			34.0	
Approach LOS		C			C			C			C	

Intersection Summary	
Cycle Length: 125	
Actuated Cycle Length: 125	
Offset: 64 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 32.0	Intersection LOS: C
Intersection Capacity Utilization 78.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 14: US 24 & Stapleton Dr



Intersection	
Intersection Delay, s/veh	15.6
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	415	361	820	247
Demand Flow Rate, veh/h	424	368	837	251
Vehicles Circulating, veh/h	456	533	306	535
Vehicles Exiting, veh/h	330	610	574	366
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	10.7	10.7	22.6	8.2
Approach LOS	B	B	C	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	424	368	837	251
Cap Entry Lane, veh/h	867	801	1010	800
Entry HV Adj Factor	0.979	0.982	0.980	0.983
Flow Entry, veh/h	415	361	820	247
Cap Entry, veh/h	849	787	989	786
V/C Ratio	0.489	0.459	0.829	0.314
Control Delay, s/veh	10.7	10.7	22.6	8.2
LOS	B	B	C	A
95th %tile Queue, veh	3	2	10	1

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	542	25	84	325	18	61
Future Vol, veh/h	542	25	84	325	18	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	155	-	205	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	589	27	91	353	20	66

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	616	0	1138	603
Stage 1	-	-	-	-	603	-
Stage 2	-	-	-	-	535	-
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	-	-	964	-	223	499
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	587	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	964	-	202	499
Mov Cap-2 Maneuver	-	-	-	-	338	-
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	532	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	14
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	338	499	-	-	964	-
HCM Lane V/C Ratio	0.058	0.133	-	-	0.095	-
HCM Control Delay (s)	16.3	13.3	-	-	9.1	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.5	-	-	0.3	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	601	404	7	20	5
Future Vol, veh/h	2	601	404	7	20	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	155	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	653	439	8	22	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	447	0	-	0	1100	443
Stage 1	-	-	-	-	443	-
Stage 2	-	-	-	-	657	-
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	1113	-	-	-	235	615
Stage 1	-	-	-	-	647	-
Stage 2	-	-	-	-	516	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1113	-	-	-	235	615
Mov Cap-2 Maneuver	-	-	-	-	367	-
Stage 1	-	-	-	-	646	-
Stage 2	-	-	-	-	516	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1113	-	-	-	399
HCM Lane V/C Ratio	0.002	-	-	-	0.068
HCM Control Delay (s)	8.2	-	-	-	14.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	655	790	39	487
Demand Flow Rate, veh/h	668	806	39	497
Vehicles Circulating, veh/h	352	313	971	296
Vehicles Exiting, veh/h	441	697	49	304
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	15.4	2.3	8.0	9.4
Approach LOS	C	A	A	A

Lane	Left	Left	Bypass	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized			Free		
Lane Util	1.000	1.000		1.000	1.000
Follow-Up Headway, s	2.609	2.609		2.609	2.609
Critical Headway, s	4.976	4.976	519	4.976	4.976
Entry Flow, veh/h	668	287	1938	39	497
Cap Entry Lane, veh/h	964	1003	0.980	513	1020
Entry HV Adj Factor	0.980	0.979	509	0.996	0.980
Flow Entry, veh/h	655	281	1900	39	487
Cap Entry, veh/h	945	982	0.268	511	1000
V/C Ratio	0.693	0.286	0.0	0.076	0.487
Control Delay, s/veh	15.4	6.6	A	8.0	9.4
LOS	C	A	1	A	A
95th %tile Queue, veh	6	1		0	3

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	126	688	834	602	486	108
Future Volume (vph)	126	688	834	602	486	108
Turn Type	Prot	Free	Prot	NA	NA	Perm
Protected Phases	6!		7	Free!	8	
Permitted Phases		Free				8
Detector Phase	6		7		8	8
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	20.0		10.0		20.0	20.0
Total Split (s)	24.0		52.0		44.0	44.0
Total Split (%)	20.0%		43.3%		36.7%	36.7%
Yellow Time (s)	3.0		3.0		3.0	3.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	5.0		5.0		5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	Max		None		C-Max	C-Max
Act Effct Green (s)	19.0	120.0	37.2	120.0	48.8	48.8
Actuated g/C Ratio	0.16	1.00	0.31	1.00	0.41	0.41
v/c Ratio	0.47	0.46	0.83	0.17	0.36	0.16
Control Delay	52.3	1.0	31.4	0.1	26.6	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.3	1.0	31.4	0.1	26.6	5.3
LOS	D	A	C	A	C	A
Approach Delay	8.9			18.5	22.7	
Approach LOS	A			B	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 50 (42%), Referenced to phase 8:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 16.6	Intersection LOS: B
Intersection Capacity Utilization 55.9%	ICU Level of Service B
Analysis Period (min) 15	

! Phase conflict between lane groups.

Splits and Phases: 9: US 24 & Rex Rd

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	103	1002	570
Demand Flow Rate, veh/h	105	1022	581
Vehicles Circulating, veh/h	863	5	102
Vehicles Exiting, veh/h	164	678	866
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	7.1	12.6	7.3
Approach LOS	A	B	A

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	105	1022	581
Cap Entry Lane, veh/h	682	1414	1302
Entry HV Adj Factor	0.981	0.981	0.981
Flow Entry, veh/h	103	1002	570
Cap Entry, veh/h	669	1387	1277
V/C Ratio	0.154	0.723	0.446
Control Delay, s/veh	7.1	12.6	7.3
LOS	A	B	A
95th %tile Queue, veh	1	7	2

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	37	14	937	63	25	606
Future Vol, veh/h	37	14	937	63	25	606
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	155	205	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	15	986	66	26	638

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1676	986	0	0	1052	0
Stage 1	986	-	-	-	-	-
Stage 2	690	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	105	301	-	-	662	-
Stage 1	361	-	-	-	-	-
Stage 2	498	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	101	301	-	-	662	-
Mov Cap-2 Maneuver	233	-	-	-	-	-
Stage 1	361	-	-	-	-	-
Stage 2	479	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.5	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	248	662	-
HCM Lane V/C Ratio	-	-	0.216	0.04	-
HCM Control Delay (s)	-	-	23.5	10.7	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	493	1141	672
Demand Flow Rate, veh/h	503	1164	685
Vehicles Circulating, veh/h	423	163	252
Vehicles Exiting, veh/h	514	763	1075
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.8	12.5	6.3
Approach LOS	A	B	A

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	L	TR	LT	TR
Assumed Moves	L	TR	L	TR	LT	TR
RT Channelized						
Lane Util	0.324	0.676	0.216	0.784	0.470	0.530
Follow-Up Headway, s	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
Entry Flow, veh/h	163	340	252	912	322	363
Cap Entry Lane, veh/h	915	991	1162	1236	1071	1146
Entry HV Adj Factor	0.982	0.979	0.980	0.980	0.980	0.981
Flow Entry, veh/h	160	333	247	894	316	356
Cap Entry, veh/h	898	971	1139	1212	1050	1124
V/C Ratio	0.178	0.343	0.217	0.738	0.301	0.317
Control Delay, s/veh	5.8	7.3	5.1	14.5	6.4	6.3
LOS	A	A	A	B	A	A
95th %tile Queue, veh	1	2	1	7	1	1

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

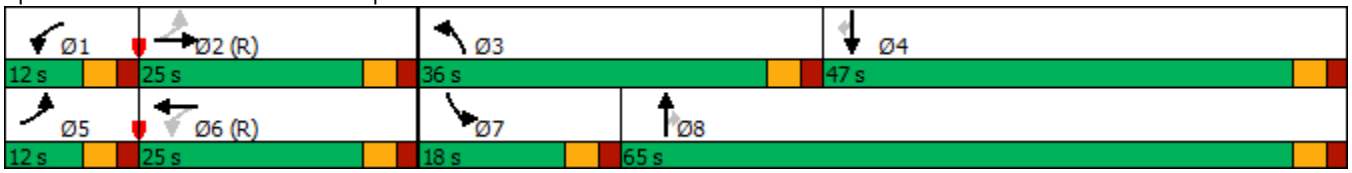
Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	773	976	745	747
Demand Flow Rate, veh/h	788	996	760	761
Vehicles Circulating, veh/h	646	971	899	813
Vehicles Exiting, veh/h	706	688	535	809
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	11.9	10.8	17.5	7.8
Approach LOS	B	B	C	A

Lane	Left	Right	Left	Right	Bypass	Left	Right	Left	Right	Bypass
Designated Moves	LT	TR	LT	TR	R	LT	TR	L	LTR	R
Assumed Moves	LT	TR	LT	TR	R	LT	TR	L	TR	R
RT Channelized					Free					Free
Lane Util	0.470	0.530	0.470	0.530		0.470	0.530	0.417	0.583	
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	345	4.645	4.328	4.645	4.328	222
Entry Flow, veh/h	370	418	306	345	1938	357	403	225	314	1938
Cap Entry Lane, veh/h	745	820	553	622	0.980	590	661	639	711	0.980
Entry HV Adj Factor	0.982	0.980	0.980	0.981	338	0.981	0.980	0.982	0.980	218
Flow Entry, veh/h	363	410	300	338	1900	350	395	221	308	1900
Cap Entry, veh/h	732	804	542	610	0.178	579	648	628	698	0.115
V/C Ratio	0.497	0.510	0.554	0.555	0.0	0.605	0.609	0.352	0.441	0.0
Control Delay, s/veh	12.2	11.6	17.3	15.8	A	18.3	16.9	10.6	11.4	A
LOS	B	B	C	C	1	C	C	B	B	0
95th %tile Queue, veh	3	3	3	3		4	4	2	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	221	469	125	320	275	629	1019	150	218	783	173
Future Volume (vph)	142	221	469	125	320	275	629	1019	150	218	783	173
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		4.0	5.0		8.0	5.0	5.0	10.0	15.0	15.0
Minimum Split (s)	10.0	15.0		9.0	10.0		13.0	10.0	10.0	15.0	20.0	20.0
Total Split (s)	12.0	25.0		12.0	25.0		36.0	65.0	65.0	18.0	47.0	47.0
Total Split (%)	10.0%	20.8%		10.0%	20.8%		30.0%	54.2%	54.2%	15.0%	39.2%	39.2%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Act Effct Green (s)	27.0	20.0	120.0	27.0	20.0	120.0	27.5	60.8	60.8	12.2	45.5	45.5
Actuated g/C Ratio	0.22	0.17	1.00	0.22	0.17	1.00	0.23	0.51	0.51	0.10	0.38	0.38
v/c Ratio	0.67	0.40	0.31	0.49	0.57	0.18	0.84	0.60	0.18	0.66	0.60	0.26
Control Delay	43.6	38.3	0.6	43.0	50.4	0.3	54.5	22.8	2.9	50.0	41.3	12.9
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	43.6	38.3	0.6	43.0	50.4	0.3	54.5	22.8	2.9	50.0	41.3	12.9
LOS	D	D	A	D	D	A	D	C	A	D	D	B
Approach Delay		17.9			30.0			32.2			38.6	
Approach LOS		B			C			C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 30.9	Intersection LOS: C
Intersection Capacity Utilization 73.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 14: US 24 & Stapleton Dr



Intersection	
Intersection Delay, s/veh	3.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	84	178	108	26
Demand Flow Rate, veh/h	85	182	110	26
Vehicles Circulating, veh/h	170	64	14	224
Vehicles Exiting, veh/h	80	60	241	22
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.8	4.0	3.3	3.5
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	85	182	110	26
Cap Entry Lane, veh/h	1160	1293	1360	1098
Entry HV Adj Factor	0.986	0.980	0.979	0.982
Flow Entry, veh/h	84	178	108	26
Cap Entry, veh/h	1144	1267	1332	1078
V/C Ratio	0.073	0.141	0.081	0.024
Control Delay, s/veh	3.8	4.0	3.3	3.5
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection	
Int Delay, s/veh	2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	31	19	0	94	57	0
Future Vol, veh/h	31	19	0	94	57	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	155	-	205	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	22	0	111	67	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	58	0	158	47
Stage 1	-	-	-	-	47	-
Stage 2	-	-	-	-	111	-
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	-	-	1546	-	833	1022
Stage 1	-	-	-	-	975	-
Stage 2	-	-	-	-	914	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1546	-	833	1022
Mov Cap-2 Maneuver	-	-	-	-	807	-
Stage 1	-	-	-	-	975	-
Stage 2	-	-	-	-	914	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	807	-	-	-	1546	-
HCM Lane V/C Ratio	0.083	-	-	-	-	-
HCM Control Delay (s)	9.9	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	-	0	-

Intersection	
Int Delay, s/veh	5.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	6	25	0	18	77	0
Future Vol, veh/h	6	25	0	18	77	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	155	305	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	29	0	21	91	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	36	0	28	7
Stage 1	-	-	-	-	7	-
Stage 2	-	-	-	-	21	-
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	-	-	1575	-	987	1075
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	1002	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1575	-	987	1075
Mov Cap-2 Maneuver	-	-	-	-	910	-
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	1002	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	910	-	-	1575	-
HCM Lane V/C Ratio	0.1	-	-	-	-
HCM Control Delay (s)	9.4	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	6.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	6	0	0	18	0
Future Vol, veh/h	0	6	0	0	18	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	305	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	0	0	21	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	7	0	5	4
Stage 1	-	-	-	-	4	-
Stage 2	-	-	-	-	1	-
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	-	-	1614	-	1017	1080
Stage 1	-	-	-	-	1019	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1614	-	1017	1080
Mov Cap-2 Maneuver	-	-	-	-	930	-
Stage 1	-	-	-	-	1019	-
Stage 2	-	-	-	-	1022	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	930	-	-	-	1614	-
HCM Lane V/C Ratio	0.023	-	-	-	-	-
HCM Control Delay (s)	9	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	3.8
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	93	115	235
Demand Flow Rate, veh/h	94	118	240
Vehicles Circulating, veh/h	91	6	75
Vehicles Exiting, veh/h	33	309	110
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.3	3.3	4.3
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	94	118	240
Cap Entry Lane, veh/h	1314	1413	1332
Entry HV Adj Factor	0.989	0.976	0.981
Flow Entry, veh/h	93	115	235
Cap Entry, veh/h	1300	1380	1307
V/C Ratio	0.072	0.084	0.180
Control Delay, s/veh	3.3	3.3	4.3
LOS	A	A	A
95th %tile Queue, veh	0	0	1

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	13	85	18	4	254
Future Vol, veh/h	52	13	85	18	4	254
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	155	205	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	15	100	21	5	299

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	409	100	0	0	121	0
Stage 1	100	-	-	-	-	-
Stage 2	309	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	599	956	-	-	1467	-
Stage 1	924	-	-	-	-	-
Stage 2	745	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	597	956	-	-	1467	-
Mov Cap-2 Maneuver	637	-	-	-	-	-
Stage 1	924	-	-	-	-	-
Stage 2	743	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	683	1467	-
HCM Lane V/C Ratio	-	-	0.112	0.003	-
HCM Control Delay (s)	-	-	10.9	7.5	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Intersection Delay, s/veh	5.6
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	337	496	360
Demand Flow Rate, veh/h	344	506	368
Vehicles Circulating, veh/h	339	9	393
Vehicles Exiting, veh/h	422	674	122
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.5	4.9	5.6
Approach LOS	A	A	A

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	L	TR	LT	TR
Assumed Moves	L	TR	L	TR	LT	TR
RT Channelized						
Lane Util	0.026	0.974	0.777	0.223	0.470	0.530
Follow-Up Headway, s	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
Entry Flow, veh/h	9	335	393	113	173	195
Cap Entry Lane, veh/h	988	1065	1339	1409	940	1017
Entry HV Adj Factor	1.000	0.979	0.980	0.980	0.979	0.979
Flow Entry, veh/h	9	328	385	111	169	191
Cap Entry, veh/h	988	1042	1311	1382	921	996
V/C Ratio	0.009	0.315	0.294	0.080	0.184	0.192
Control Delay, s/veh	3.7	6.6	5.3	3.2	5.7	5.4
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	1	1	0	1	1

Intersection	
Intersection Delay, s/veh	8.0
Intersection LOS	A

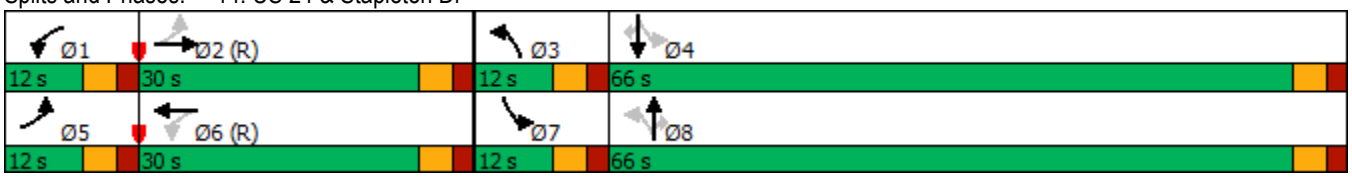
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	322	359	396	660
Demand Flow Rate, veh/h	328	367	404	673
Vehicles Circulating, veh/h	566	429	484	289
Vehicles Exiting, veh/h	259	459	410	319
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	10.3	3.0	10.7	8.0
Approach LOS	B	A	B	A

Lane	Left	Left	Bypass	Left	Left	Bypass
Designated Moves	LTR	LT	R	LTR	LT	R
Assumed Moves	LTR	LT	R	LTR	LT	R
RT Channelized			Free			Free
Lane Util	1.000	1.000		1.000	1.000	
Follow-Up Headway, s	2.609	2.609		2.609	2.609	
Critical Headway, s	4.976	4.976	188	4.976	4.976	137
Entry Flow, veh/h	328	179	1938	404	536	1938
Cap Entry Lane, veh/h	775	891	0.980	842	1028	0.980
Entry HV Adj Factor	0.981	0.978	184	0.980	0.981	134
Flow Entry, veh/h	322	175	1900	396	526	1900
Cap Entry, veh/h	760	871	0.097	825	1008	0.071
V/C Ratio	0.423	0.201	0.0	0.480	0.522	0.0
Control Delay, s/veh	10.3	6.2	A	10.7	10.0	A
LOS	B	A	0	B	B	0
95th %tile Queue, veh	2	1		3	3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	224	290	4	107	17	124	280	5	45	470	43
Future Volume (vph)	53	224	290	4	107	17	124	280	5	45	470	43
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free	8		8	4		4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	5.0		5.0	5.0	5.0	5.0	15.0	15.0
Minimum Split (s)	10.0	15.0		13.0	10.0		25.0	10.0	10.0	25.0	20.0	20.0
Total Split (s)	12.0	30.0		12.0	30.0		12.0	66.0	66.0	12.0	66.0	66.0
Total Split (%)	10.0%	25.0%		10.0%	25.0%		10.0%	55.0%	55.0%	10.0%	55.0%	55.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Act Effct Green (s)	36.1	34.7	120.0	32.1	27.4	120.0	69.2	63.6	63.6	67.5	61.0	61.0
Actuated g/C Ratio	0.30	0.29	1.00	0.27	0.23	1.00	0.58	0.53	0.53	0.56	0.51	0.51
v/c Ratio	0.18	0.47	0.21	0.02	0.30	0.01	0.35	0.33	0.01	0.09	0.54	0.05
Control Delay	23.4	29.5	0.3	29.2	42.0	0.0	12.6	18.0	0.0	10.1	23.0	0.1
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	23.4	29.5	0.3	29.2	42.0	0.0	12.6	18.0	0.0	10.1	23.0	0.1
LOS	C	C	A	C	D	A	B	B	A	B	C	A
Approach Delay		14.0			36.0			16.1			20.2	
Approach LOS		B			D			B			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 18.3	Intersection LOS: B
Intersection Capacity Utilization 55.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 14: US 24 & Stapleton Dr



Intersection	
Intersection Delay, s/veh	4.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	108	114	257	22
Demand Flow Rate, veh/h	110	116	263	22
Vehicles Circulating, veh/h	112	132	38	215
Vehicles Exiting, veh/h	125	169	184	33
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.7	3.9	4.4	3.5
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	110	116	263	22
Cap Entry Lane, veh/h	1231	1206	1327	1108
Entry HV Adj Factor	0.986	0.979	0.979	0.988
Flow Entry, veh/h	108	114	257	22
Cap Entry, veh/h	1213	1181	1299	1094
V/C Ratio	0.089	0.096	0.198	0.020
Control Delay, s/veh	3.7	3.9	4.4	3.5
LOS	A	A	A	A
95th %tile Queue, veh	0	0	1	0

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	88	53	0	61	36	0
Future Vol, veh/h	88	53	0	61	36	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	155	-	205	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	106	64	0	73	43	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	170	0	211	138
Stage 1	-	-	-	-	138	-
Stage 2	-	-	-	-	73	-
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	-	-	1407	-	777	910
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	950	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1407	-	777	910
Mov Cap-2 Maneuver	-	-	-	-	771	-
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	950	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	771	-	-	-	1407	-
HCM Lane V/C Ratio	0.056	-	-	-	-	-
HCM Control Delay (s)	9.9	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	-	0	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	16	71	0	11	49	0
Future Vol, veh/h	16	71	0	11	49	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	155	305	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	86	0	13	59	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	105	0	32	19
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	13	-
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	-	-	1486	-	982	1059
Stage 1	-	-	-	-	1004	-
Stage 2	-	-	-	-	1010	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1486	-	982	1059
Mov Cap-2 Maneuver	-	-	-	-	908	-
Stage 1	-	-	-	-	1004	-
Stage 2	-	-	-	-	1010	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	908	-	-	1486	-
HCM Lane V/C Ratio	0.065	-	-	-	-
HCM Control Delay (s)	9.2	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	16	0	0	11	0
Future Vol, veh/h	0	16	0	0	11	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	305	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	19	0	0	13	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	19	0	11	10
Stage 1	-	-	-	-	10	-
Stage 2	-	-	-	-	1	-
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	-	-	1597	-	1009	1071
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1597	-	1009	1071
Mov Cap-2 Maneuver	-	-	-	-	924	-
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	1022	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	924	-	-	-	1597	-
HCM Lane V/C Ratio	0.014	-	-	-	-	-
HCM Control Delay (s)	9	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	4.3
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	64	338	185
Demand Flow Rate, veh/h	65	345	188
Vehicles Circulating, veh/h	256	20	53
Vehicles Exiting, veh/h	109	221	268
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.7	4.7	3.8
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	65	345	188
Cap Entry Lane, veh/h	1142	1396	1358
Entry HV Adj Factor	0.985	0.980	0.982
Flow Entry, veh/h	64	338	185
Cap Entry, veh/h	1125	1368	1334
V/C Ratio	0.057	0.247	0.138
Control Delay, s/veh	3.7	4.7	3.8
LOS	A	A	A
95th %tile Queue, veh	0	1	0

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	10	270	56	16	163
Future Vol, veh/h	32	10	270	56	16	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	155	205	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	12	325	67	19	196

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	559	325	0	0	392	0
Stage 1	325	-	-	-	-	-
Stage 2	234	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	490	716	-	-	1167	-
Stage 1	732	-	-	-	-	-
Stage 2	805	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	482	716	-	-	1167	-
Mov Cap-2 Maneuver	566	-	-	-	-	-
Stage 1	732	-	-	-	-	-
Stage 2	792	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	596	1167	-
HCM Lane V/C Ratio	-	-	0.085	0.017	-
HCM Control Delay (s)	-	-	11.6	8.1	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Intersection Delay, s/veh	5.1
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	237	757	229
Demand Flow Rate, veh/h	242	772	233
Vehicles Circulating, veh/h	219	25	406
Vehicles Exiting, veh/h	420	435	391
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.6	5.2	4.9
Approach LOS	A	A	A

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	L	TR	LT	TR
Assumed Moves	L	TR	L	TR	LT	TR
RT Channelized						
Lane Util	0.107	0.893	0.526	0.474	0.472	0.528
Follow-Up Headway, s	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
Entry Flow, veh/h	26	216	406	366	110	123
Cap Entry Lane, veh/h	1104	1179	1319	1390	929	1006
Entry HV Adj Factor	0.962	0.981	0.980	0.980	0.977	0.985
Flow Entry, veh/h	25	212	398	359	107	121
Cap Entry, veh/h	1061	1157	1293	1363	908	991
V/C Ratio	0.024	0.183	0.308	0.263	0.118	0.122
Control Delay, s/veh	3.6	4.7	5.6	4.9	5.1	4.7
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	1	1	1	0	0

Intersection	
Intersection Delay, s/veh	5.8
Intersection LOS	A

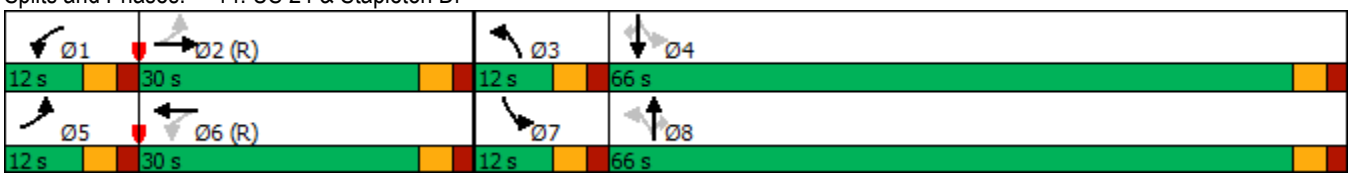
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	293	522	369	394
Demand Flow Rate, veh/h	300	532	377	401
Vehicles Circulating, veh/h	350	472	427	284
Vehicles Exiting, veh/h	260	332	222	414
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.1	3.0	9.2	5.5
Approach LOS	A	A	A	A

Lane	Left	Left	Bypass	Left	Left	Bypass
Designated Moves	LTR	LT	R	LTR	LT	R
Assumed Moves	LTR	LT	R	LTR	LT	R
RT Channelized			Free			Free
Lane Util	1.000	1.000		1.000	1.000	
Follow-Up Headway, s	2.609	2.609		2.609	2.609	
Critical Headway, s	4.976	4.976	306	4.976	4.976	75
Entry Flow, veh/h	300	226	1938	377	326	1938
Cap Entry Lane, veh/h	966	853	0.980	893	1033	0.980
Entry HV Adj Factor	0.978	0.982	300	0.980	0.981	74
Flow Entry, veh/h	293	222	1900	369	320	1900
Cap Entry, veh/h	945	838	0.158	875	1014	0.039
V/C Ratio	0.311	0.265	0.0	0.422	0.316	0.0
Control Delay, s/veh	7.1	7.2	A	9.2	6.8	A
LOS	A	A	1	A	A	0
95th %tile Queue, veh	1	1		2	1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	92	161	5	200	34	283	517	8	10	409	52
Future Volume (vph)	31	92	161	5	200	34	283	517	8	10	409	52
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free	8		8	4		4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	15.0	15.0
Minimum Split (s)	10.0	10.0		10.0	10.0		10.0	10.0	10.0	10.0	20.0	20.0
Total Split (s)	12.0	30.0		12.0	30.0		12.0	66.0	66.0	12.0	66.0	66.0
Total Split (%)	10.0%	25.0%		10.0%	25.0%		10.0%	55.0%	55.0%	10.0%	55.0%	55.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Act Effct Green (s)	36.1	34.7	120.0	33.5	29.8	120.0	72.1	70.7	70.7	66.8	61.0	61.0
Actuated g/C Ratio	0.30	0.29	1.00	0.28	0.25	1.00	0.60	0.59	0.59	0.56	0.51	0.51
v/c Ratio	0.15	0.20	0.12	0.02	0.52	0.03	0.71	0.55	0.01	0.03	0.50	0.07
Control Delay	25.2	28.2	0.1	29.2	45.4	0.0	23.5	18.1	0.0	10.1	22.1	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	28.2	0.1	29.2	45.4	0.0	23.5	18.1	0.0	10.1	22.1	0.4
LOS	C	C	A	C	D	A	C	B	A	B	C	A
Approach Delay		12.0			38.6			19.8			19.4	
Approach LOS		B			D			B			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 21.0	Intersection LOS: C
Intersection Capacity Utilization 68.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 14: US 24 & Stapleton Dr



Intersection	
Intersection Delay, s/veh	5.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	363	309	279	39
Demand Flow Rate, veh/h	370	315	284	40
Vehicles Circulating, veh/h	241	166	48	444
Vehicles Exiting, veh/h	243	166	563	37
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	5.7	4.6	4.6
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	370	315	284	40
Cap Entry Lane, veh/h	1079	1165	1314	877
Entry HV Adj Factor	0.982	0.981	0.981	0.984
Flow Entry, veh/h	363	309	279	39
Cap Entry, veh/h	1060	1143	1289	863
V/C Ratio	0.343	0.270	0.216	0.046
Control Delay, s/veh	6.9	5.7	4.6	4.6
LOS	A	A	A	A
95th %tile Queue, veh	2	1	1	0

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	80	59	0	211	51	0
Future Vol, veh/h	80	59	0	211	51	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	155	-	205	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	94	69	0	248	60	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	163	0	377	129
Stage 1	-	-	-	-	129	-
Stage 2	-	-	-	-	248	-
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	-	-	1416	-	625	921
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	793	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1416	-	625	921
Mov Cap-2 Maneuver	-	-	-	-	665	-
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	793	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	665	-	-	-	1416	-
HCM Lane V/C Ratio	0.09	-	-	-	-	-
HCM Control Delay (s)	11	0	-	-	0	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	-	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	59	21	0	176	35	0
Future Vol, veh/h	59	21	0	176	35	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	155	305	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	69	25	0	207	41	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	94	0	276	69
Stage 1	-	-	-	-	69	-
Stage 2	-	-	-	-	207	-
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	-	-	1500	-	714	994
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	828	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1500	-	714	994
Mov Cap-2 Maneuver	-	-	-	-	722	-
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	828	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	722	-	-	1500	-
HCM Lane V/C Ratio	0.057	-	-	-	-
HCM Control Delay (s)	10.3	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	27	32	0	81	95	0
Future Vol, veh/h	27	32	0	81	95	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	305	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	38	0	95	112	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	70	0	146	51
Stage 1	-	-	-	-	51	-
Stage 2	-	-	-	-	95	-
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	-	-	1531	-	846	1017
Stage 1	-	-	-	-	971	-
Stage 2	-	-	-	-	929	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1531	-	846	1017
Mov Cap-2 Maneuver	-	-	-	-	818	-
Stage 1	-	-	-	-	971	-
Stage 2	-	-	-	-	929	-

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

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	818	-	-	-	1531	-
HCM Lane V/C Ratio	0.137	-	-	-	-	-
HCM Control Delay (s)	10.1	0	-	-	0	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	2.9
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	0	0
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	32	0	0
Demand Flow Rate, veh/h	33	0	0
Vehicles Circulating, veh/h	0	97	0
Vehicles Exiting, veh/h	97	0	33
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	2.9	0.0	0.0
Approach LOS	A	-	-

Lane	Left	Bypass
Designated Moves	TR	R
Assumed Moves	TR	R
RT Channelized		Yield
Lane Util	1.000	
Follow-Up Headway, s	2.609	
Critical Headway, s	4.976	0
Entry Flow, veh/h	33	0
Cap Entry Lane, veh/h	1380	0.980
Entry HV Adj Factor	0.970	0
Flow Entry, veh/h	32	0
Cap Entry, veh/h	1338	0.000
V/C Ratio	0.024	0.0
Control Delay, s/veh	2.9	-
LOS	A	0
95th %tile Queue, veh	0	

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	378	344	554
Demand Flow Rate, veh/h	386	351	565
Vehicles Circulating, veh/h	260	8	360
Vehicles Exiting, veh/h	99	917	285
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.6	4.7	10.3
Approach LOS	A	A	B

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	386	351	565
Cap Entry Lane, veh/h	1138	1410	1046
Entry HV Adj Factor	0.979	0.980	0.981
Flow Entry, veh/h	378	344	554
Cap Entry, veh/h	1115	1382	1025
V/C Ratio	0.339	0.249	0.540
Control Delay, s/veh	6.6	4.7	10.3
LOS	A	A	B
95th %tile Queue, veh	2	1	3

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	13	280	18	4	759
Future Vol, veh/h	52	13	280	18	4	759
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	155	205	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	15	329	21	5	893

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1232	329	0	0	350	0
Stage 1	329	-	-	-	-	-
Stage 2	903	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	196	712	-	-	1209	-
Stage 1	729	-	-	-	-	-
Stage 2	396	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	195	712	-	-	1209	-
Mov Cap-2 Maneuver	310	-	-	-	-	-
Stage 1	729	-	-	-	-	-
Stage 2	394	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	349	1209	-
HCM Lane V/C Ratio	-	-	0.219	0.004	-
HCM Control Delay (s)	-	-	18.2	8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0	-

Intersection	
Intersection Delay, s/veh	9.0
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	383	708	954
Demand Flow Rate, veh/h	391	722	973
Vehicles Circulating, veh/h	891	40	404
Vehicles Exiting, veh/h	486	1242	358
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	13.4	5.2	10.1
Approach LOS	B	A	B

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	L	TR	LT	TR
Assumed Moves	L	TR	L	TR	LT	TR
RT Channelized						
Lane Util	0.102	0.898	0.560	0.440	0.470	0.530
Follow-Up Headway, s	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
Entry Flow, veh/h	40	351	404	318	457	516
Cap Entry Lane, veh/h	595	666	1301	1373	931	1007
Entry HV Adj Factor	0.975	0.980	0.980	0.980	0.981	0.979
Flow Entry, veh/h	39	344	396	312	448	505
Cap Entry, veh/h	580	653	1275	1346	913	987
V/C Ratio	0.067	0.527	0.311	0.232	0.491	0.512
Control Delay, s/veh	7.0	14.1	5.6	4.6	10.1	10.0
LOS	A	B	A	A	B	A
95th %tile Queue, veh	0	3	1	1	3	3

Intersection	
Intersection Delay, s/veh	17.0
Intersection LOS	C

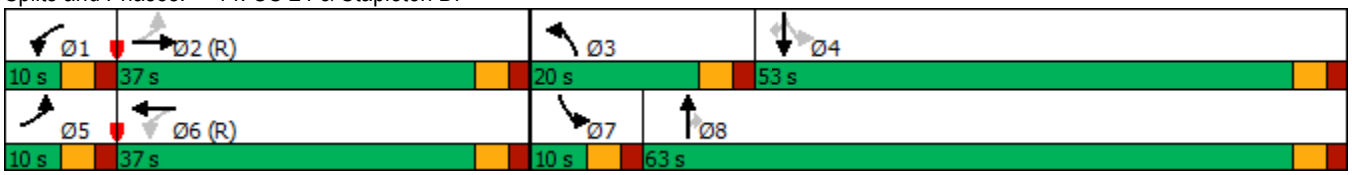
Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	468	485	485	1216
Demand Flow Rate, veh/h	478	495	495	1240
Vehicles Circulating, veh/h	992	568	845	340
Vehicles Exiting, veh/h	308	772	625	437
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.9	2.4	21.1	22.8
Approach LOS	B	A	C	C

Lane	Left	Right	Left	Right	Bypass	Left	Left	Bypass
Designated Moves	LT	TR	LT	TR	R	LTR	LT	R
Assumed Moves	LT	TR	LT	TR	R	LTR	LT	R
RT Channelized					Free			Free
Lane Util	0.471	0.529	0.469	0.531		1.000	1.000	
Follow-Up Headway, s	2.667	2.535	2.667	2.535		2.535	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	286	4.328	4.328	280
Entry Flow, veh/h	225	253	98	111	1938	495	960	1938
Cap Entry Lane, veh/h	542	611	801	876	0.980	692	1064	0.980
Entry HV Adj Factor	0.978	0.981	0.981	0.977	280	0.979	0.980	275
Flow Entry, veh/h	220	248	96	108	1900	485	941	1900
Cap Entry, veh/h	530	600	785	856	0.147	678	1043	0.145
V/C Ratio	0.415	0.414	0.122	0.127	0.0	0.715	0.903	0.0
Control Delay, s/veh	13.6	12.3	5.8	5.4	A	21.1	29.4	A
LOS	B	B	A	A	1	C	D	1
95th %tile Queue, veh	2	2	0	0		6	13	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	320	427	4	145	17	181	322	5	45	540	55
Future Volume (vph)	79	320	427	4	145	17	181	322	5	45	540	55
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			8	4		4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	5.0		15.0	5.0	5.0	5.0	15.0	15.0
Minimum Split (s)	10.0	15.0		10.0	10.0		20.0	10.0	10.0	10.0	20.0	20.0
Total Split (s)	10.0	37.0		10.0	37.0		20.0	63.0	63.0	10.0	53.0	53.0
Total Split (%)	8.3%	30.8%		8.3%	30.8%		16.7%	52.5%	52.5%	8.3%	44.2%	44.2%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Act Effct Green (s)	41.0	40.0	120.0	37.0	32.0	120.0	15.0	60.0	60.0	53.0	48.0	48.0
Actuated g/C Ratio	0.34	0.33	1.00	0.31	0.27	1.00	0.12	0.50	0.50	0.44	0.40	0.40
v/c Ratio	0.26	0.58	0.30	0.02	0.34	0.01	0.50	0.41	0.01	0.10	0.79	0.08
Control Delay	21.1	28.3	0.4	25.8	37.9	0.0	53.4	21.1	0.0	13.3	37.9	0.2
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	21.1	28.3	0.4	25.8	37.9	0.0	53.4	21.1	0.0	13.3	37.9	0.2
LOS	C	C	A	C	D	A	D	C	A	B	D	A
Approach Delay		13.2			33.8			32.4			32.9	
Approach LOS		B			C			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 25.3	Intersection LOS: C
Intersection Capacity Utilization 78.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 14: US 24 & Stapleton Dr



Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	357	218	714	47
Demand Flow Rate, veh/h	364	222	728	48
Vehicles Circulating, veh/h	183	431	131	591
Vehicles Exiting, veh/h	455	428	416	62
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.3	6.7	10.6	5.5
Approach LOS	A	A	B	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	364	222	728	48
Cap Entry Lane, veh/h	1145	889	1207	755
Entry HV Adj Factor	0.980	0.980	0.981	0.989
Flow Entry, veh/h	357	218	714	47
Cap Entry, veh/h	1123	872	1184	747
V/C Ratio	0.318	0.250	0.603	0.064
Control Delay, s/veh	6.3	6.7	10.6	5.5
LOS	A	A	B	A
95th %tile Queue, veh	1	1	4	0

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	254	103	0	139	48	0
Future Vol, veh/h	254	103	0	139	48	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	155	-	205	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	306	124	0	167	58	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	430	0	535	368
Stage 1	-	-	-	-	368	-
Stage 2	-	-	-	-	167	-
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	-	-	1129	-	506	677
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	863	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1129	-	506	677
Mov Cap-2 Maneuver	-	-	-	-	577	-
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	863	-

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

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	577	-	-	-	1129	-
HCM Lane V/C Ratio	0.1	-	-	-	-	-
HCM Control Delay (s)	11.9	0	-	-	0	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	195	58	0	116	22	0
Future Vol, veh/h	195	58	0	116	22	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	155	305	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	235	70	0	140	27	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	305	0	375	235
Stage 1	-	-	-	-	235	-
Stage 2	-	-	-	-	140	-
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	-	-	1256	-	626	804
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	887	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1256	-	626	804
Mov Cap-2 Maneuver	-	-	-	-	668	-
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	887	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	668	-	-	1256	-
HCM Lane V/C Ratio	0.04	-	-	-	-
HCM Control Delay (s)	10.6	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	91	104	0	54	62	0
Future Vol, veh/h	91	104	0	54	62	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	305	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	125	0	65	75	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	235	0	238	173
Stage 1	-	-	-	-	173	-
Stage 2	-	-	-	-	65	-
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	-	-	1332	-	750	871
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	958	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1332	-	750	871
Mov Cap-2 Maneuver	-	-	-	-	749	-
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	958	-

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

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	749	-	-	-	1332	-
HCM Lane V/C Ratio	0.1	-	-	-	-	-
HCM Control Delay (s)	10.3	0	-	-	0	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	3.3
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	0	0
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	110	0	0
Demand Flow Rate, veh/h	112	0	0
Vehicles Circulating, veh/h	0	66	0
Vehicles Exiting, veh/h	66	0	112
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.3	0.0	0.0
Approach LOS	A	-	-

Lane	Left	Bypass
Designated Moves	TR	R
Assumed Moves	TR	R
RT Channelized		Yield
Lane Util	1.000	
Follow-Up Headway, s	2.609	
Critical Headway, s	4.976	0
Entry Flow, veh/h	112	0
Cap Entry Lane, veh/h	1380	0.980
Entry HV Adj Factor	0.982	0
Flow Entry, veh/h	110	0
Cap Entry, veh/h	1355	0.000
V/C Ratio	0.081	0.0
Control Delay, s/veh	3.3	-
LOS	A	0
95th %tile Queue, veh	0	

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	263	1029	418
Demand Flow Rate, veh/h	268	1050	427
Vehicles Circulating, veh/h	745	29	252
Vehicles Exiting, veh/h	334	650	761
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	9.3	14.2	7.0
Approach LOS	A	B	A

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	268	1050	427
Cap Entry Lane, veh/h	754	1386	1146
Entry HV Adj Factor	0.981	0.980	0.979
Flow Entry, veh/h	263	1029	418
Cap Entry, veh/h	740	1358	1123
V/C Ratio	0.356	0.758	0.373
Control Delay, s/veh	9.3	14.2	7.0
LOS	A	B	A
95th %tile Queue, veh	2	8	2

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	10	844	56	16	513
Future Vol, veh/h	32	10	844	56	16	513
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	155	205	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	12	1017	67	19	618

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1673	1017	0	0	1084	0
Stage 1	1017	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	105	288	-	-	643	-
Stage 1	349	-	-	-	-	-
Stage 2	516	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	102	288	-	-	643	-
Mov Cap-2 Maneuver	232	-	-	-	-	-
Stage 1	349	-	-	-	-	-
Stage 2	501	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.7	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	243	643	-
HCM Lane V/C Ratio	-	-	0.208	0.03	-
HCM Control Delay (s)	-	-	23.7	10.8	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Approach	EB	NB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	301	1375	641
Demand Flow Rate, veh/h	307	1402	654
Vehicles Circulating, veh/h	600	88	410
Vehicles Exiting, veh/h	464	819	1080
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.7	12.0	7.4
Approach LOS	A	B	A

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	L	TR	LT	TR
Assumed Moves	L	TR	L	TR	LT	TR
RT Channelized						
Lane Util	0.287	0.713	0.292	0.708	0.469	0.531
Follow-Up Headway, s	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
Entry Flow, veh/h	88	219	410	992	307	347
Cap Entry Lane, veh/h	777	853	1245	1318	926	1002
Entry HV Adj Factor	0.977	0.982	0.980	0.980	0.982	0.979
Flow Entry, veh/h	86	215	402	973	301	340
Cap Entry, veh/h	760	837	1221	1292	909	982
V/C Ratio	0.113	0.257	0.329	0.753	0.332	0.346
Control Delay, s/veh	5.9	7.1	6.0	14.5	7.6	7.3
LOS	A	A	A	B	A	A
95th %tile Queue, veh	0	1	1	8	1	2

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

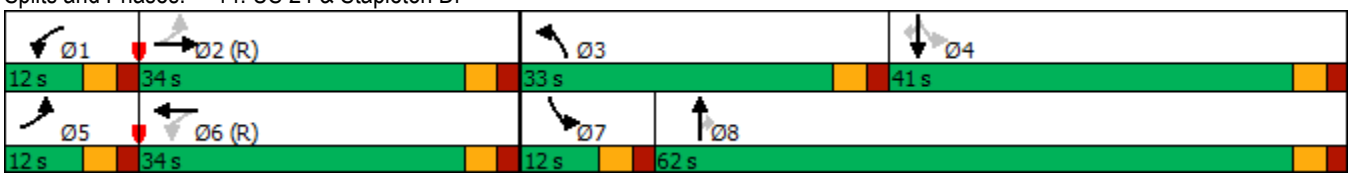
Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	503	837	584	743
Demand Flow Rate, veh/h	513	854	596	757
Vehicles Circulating, veh/h	615	845	776	385
Vehicles Exiting, veh/h	360	527	352	756
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.5	2.9	26.9	8.7
Approach LOS	A	A	D	A

Lane	Left	Right	Left	Right	Bypass	Left	Left	Bypass
Designated Moves	LT	TR	LT	TR	R	LTR	LT	R
Assumed Moves	L	TR	LT	TR	R	LTR	LT	R
RT Channelized					Free			Free
Lane Util	0.561	0.439	0.471	0.529		1.000	1.000	
Follow-Up Headway, s	2.667	2.535	2.667	2.535		2.535	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	557	4.328	4.328	167
Entry Flow, veh/h	288	225	140	157	1938	596	590	1938
Cap Entry Lane, veh/h	767	842	620	692	0.980	734	1024	0.980
Entry HV Adj Factor	0.979	0.981	0.976	0.981	546	0.980	0.981	164
Flow Entry, veh/h	282	221	137	154	1900	584	579	1900
Cap Entry, veh/h	751	826	605	679	0.287	719	1004	0.086
V/C Ratio	0.376	0.267	0.226	0.227	0.0	0.812	0.576	0.0
Control Delay, s/veh	9.5	7.3	8.8	8.0	A	26.9	11.2	A
LOS	A	A	A	A	1	D	B	0
95th %tile Queue, veh	2	1	1	1		9	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	155	254	5	306	34	437	594	8	10	469	81
Future Volume (vph)	49	155	254	5	306	34	437	594	8	10	469	81
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			8	4		4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	15.0	15.0
Minimum Split (s)	10.0	10.0		10.0	10.0		10.0	10.0	10.0	10.0	20.0	20.0
Total Split (s)	12.0	34.0		12.0	34.0		33.0	62.0	62.0	12.0	41.0	41.0
Total Split (%)	10.0%	28.3%		10.0%	28.3%		27.5%	51.7%	51.7%	10.0%	34.2%	34.2%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Act Effct Green (s)	40.1	38.7	120.0	36.1	31.4	120.0	22.8	66.7	66.7	47.0	41.2	41.2
Actuated g/C Ratio	0.33	0.32	1.00	0.30	0.26	1.00	0.19	0.56	0.56	0.39	0.34	0.34
v/c Ratio	0.35	0.31	0.19	0.02	0.76	0.03	0.78	0.67	0.01	0.04	0.84	0.14
Control Delay	27.9	27.9	0.2	26.4	53.1	0.0	54.6	23.8	0.0	14.3	47.9	0.8
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	27.9	27.9	0.2	26.4	53.1	0.0	54.6	23.8	0.0	14.3	47.9	0.8
LOS	C	C	A	C	D	A	D	C	A	B	D	A
Approach Delay		12.6			47.4			36.6			40.5	
Approach LOS		B			D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 34.4	Intersection LOS: C
Intersection Capacity Utilization 74.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 14: US 24 & Stapleton Dr



Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	470	567	503	300
Demand Flow Rate, veh/h	480	578	513	306
Vehicles Circulating, veh/h	673	274	243	681
Vehicles Exiting, veh/h	314	482	910	171
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	19.7	10.6	8.9	11.7
Approach LOS	C	B	A	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	480	578	513	306
Cap Entry Lane, veh/h	695	1043	1077	689
Entry HV Adj Factor	0.980	0.980	0.980	0.980
Flow Entry, veh/h	470	567	503	300
Cap Entry, veh/h	681	1023	1056	675
V/C Ratio	0.691	0.554	0.476	0.444
Control Delay, s/veh	19.7	10.6	8.9	11.7
LOS	C	B	A	B
95th %tile Queue, veh	6	4	3	2

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	425	25	43	520	18	86
Future Vol, veh/h	425	25	43	520	18	86
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	155	-	205	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	462	27	47	565	20	93

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	489	0	1135	476
Stage 1	-	-	-	-	476	-
Stage 2	-	-	-	-	659	-
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	-	-	1074	-	224	589
Stage 1	-	-	-	-	625	-
Stage 2	-	-	-	-	515	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1074	-	214	589
Mov Cap-2 Maneuver	-	-	-	-	347	-
Stage 1	-	-	-	-	625	-
Stage 2	-	-	-	-	492	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	12.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	347	589	-	-	1074	-
HCM Lane V/C Ratio	0.056	0.159	-	-	0.044	-
HCM Control Delay (s)	16	12.3	-	-	8.5	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.6	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	509	558	7	20	5
Future Vol, veh/h	2	509	558	7	20	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	155	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	553	607	8	22	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	615	0	-	0	1168	611
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	557	-
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	965	-	-	-	214	494
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	574	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	965	-	-	-	214	494
Mov Cap-2 Maneuver	-	-	-	-	352	-
Stage 1	-	-	-	-	541	-
Stage 2	-	-	-	-	574	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	965	-	-	-	373
HCM Lane V/C Ratio	0.002	-	-	-	0.073
HCM Control Delay (s)	8.7	-	-	-	15.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	521	7	16	554	11	48
Future Vol, veh/h	521	7	16	554	11	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	155	305	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	548	7	17	583	12	51

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	555	0	1165	548
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	617	-
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	-	-	1015	-	215	536
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	538	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1015	-	211	536
Mov Cap-2 Maneuver	-	-	-	-	348	-
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	529	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	13.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	487	-	-	1015	-
HCM Lane V/C Ratio	0.128	-	-	0.017	-
HCM Control Delay (s)	13.5	-	-	8.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	561	8	26	547	23	78
Future Vol, veh/h	561	8	26	547	23	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	305	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	591	8	27	576	24	82

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	599	0	1225	595
Stage 1	-	-	-	-	595	-
Stage 2	-	-	-	-	630	-
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	-	-	978	-	198	504
Stage 1	-	-	-	-	551	-
Stage 2	-	-	-	-	531	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	978	-	192	504
Mov Cap-2 Maneuver	-	-	-	-	331	-
Stage 1	-	-	-	-	551	-
Stage 2	-	-	-	-	516	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	331	504	-	-	978	-
HCM Lane V/C Ratio	0.073	0.163	-	-	0.028	-
HCM Control Delay (s)	16.7	13.5	-	-	8.8	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.6	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	22.2
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	673	520	171	756
Demand Flow Rate, veh/h	687	530	174	771
Vehicles Circulating, veh/h	563	146	1119	407
Vehicles Exiting, veh/h	615	1147	131	112
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	33.7	4.3	15.6	25.9
Approach LOS	D	A	C	D

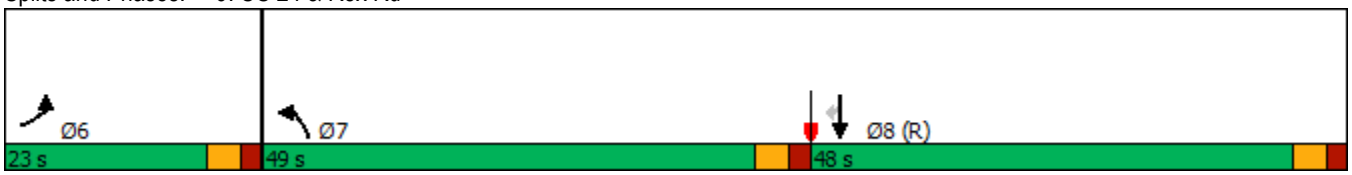
Lane	Left	Left	Bypass	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized			Free		
Lane Util	1.000	1.000		1.000	1.000
Follow-Up Headway, s	2.609	2.609		2.609	2.609
Critical Headway, s	4.976	4.976	157	4.976	4.976
Entry Flow, veh/h	687	373	1938	174	771
Cap Entry Lane, veh/h	777	1189	0.980	441	911
Entry HV Adj Factor	0.980	0.981	154	0.980	0.981
Flow Entry, veh/h	673	366	1900	171	756
Cap Entry, veh/h	761	1166	0.081	432	894
V/C Ratio	0.884	0.314	0.0	0.395	0.846
Control Delay, s/veh	33.7	6.1	A	15.6	25.9
LOS	D	A	0	C	D
95th %tile Queue, veh	11	1		2	10

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	105	1028	442	392	648	76
Future Volume (vph)	105	1028	442	392	648	76
Turn Type	Prot	Free	Prot	NA	NA	Perm
Protected Phases	6!		7	Free!	8	
Permitted Phases		Free				8
Detector Phase	6		7		8	8
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	20.0		10.0		20.0	20.0
Total Split (s)	23.0		49.0		48.0	48.0
Total Split (%)	19.2%		40.8%		40.0%	40.0%
Yellow Time (s)	3.0		3.0		3.0	3.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	5.0		5.0		5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	Max		None		C-Max	C-Max
Act Effct Green (s)	18.0	120.0	21.9	120.0	65.1	65.1
Actuated g/C Ratio	0.15	1.00	0.18	1.00	0.54	0.54
v/c Ratio	0.42	0.68	0.74	0.11	0.36	0.09
Control Delay	51.7	2.4	53.8	0.1	16.8	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	2.4	53.8	0.1	16.8	3.6
LOS	D	A	D	A	B	A
Approach Delay	7.0			29.0	15.4	
Approach LOS	A			C	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 50 (42%), Referenced to phase 8:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 16.0	Intersection LOS: B
Intersection Capacity Utilization 48.0%	ICU Level of Service A
Analysis Period (min) 15	

! Phase conflict between lane groups.

Splits and Phases: 9: US 24 & Rex Rd



Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	229	564	893
Demand Flow Rate, veh/h	233	575	911
Vehicles Circulating, veh/h	509	2	228
Vehicles Exiting, veh/h	68	1137	514
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.6	6.4	17.1
Approach LOS	A	A	C

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	233	575	911
Cap Entry Lane, veh/h	921	1418	1170
Entry HV Adj Factor	0.983	0.981	0.980
Flow Entry, veh/h	229	564	893
Cap Entry, veh/h	905	1391	1147
V/C Ratio	0.253	0.406	0.779
Control Delay, s/veh	6.6	6.4	17.1
LOS	A	A	C
95th %tile Queue, veh	1	2	8

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	21	514	20	7	1052
Future Vol, veh/h	57	21	514	20	7	1052
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	155	205	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	22	541	21	7	1107

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1662	541	0	0	562	0
Stage 1	541	-	-	-	-	-
Stage 2	1121	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	107	541	-	-	1009	-
Stage 1	583	-	-	-	-	-
Stage 2	311	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	106	541	-	-	1009	-
Mov Cap-2 Maneuver	227	-	-	-	-	-
Stage 1	583	-	-	-	-	-
Stage 2	309	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.2	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	269	1009	-
HCM Lane V/C Ratio	-	-	0.305	0.007	-
HCM Control Delay (s)	-	-	24.2	8.6	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.3	0	-

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	488	653	1175
Demand Flow Rate, veh/h	498	666	1199
Vehicles Circulating, veh/h	910	158	252
Vehicles Exiting, veh/h	541	1250	572
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	12.8	5.7	9.9
Approach LOS	B	A	A

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	L	TR	LT	TR
Assumed Moves	L	TR	L	TR	LT	TR
RT Channelized						
Lane Util	0.317	0.683	0.378	0.622	0.470	0.530
Follow-Up Headway, s	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
Entry Flow, veh/h	158	340	252	414	564	635
Cap Entry Lane, veh/h	584	655	1167	1242	1071	1146
Entry HV Adj Factor	0.981	0.979	0.980	0.980	0.979	0.981
Flow Entry, veh/h	155	333	247	406	552	623
Cap Entry, veh/h	573	642	1144	1217	1048	1124
V/C Ratio	0.270	0.519	0.216	0.333	0.527	0.554
Control Delay, s/veh	9.9	14.1	5.1	6.1	9.8	9.9
LOS	A	B	A	A	A	A
95th %tile Queue, veh	1	3	1	1	3	4

Intersection	
Intersection Delay, s/veh	13.2
Intersection LOS	B

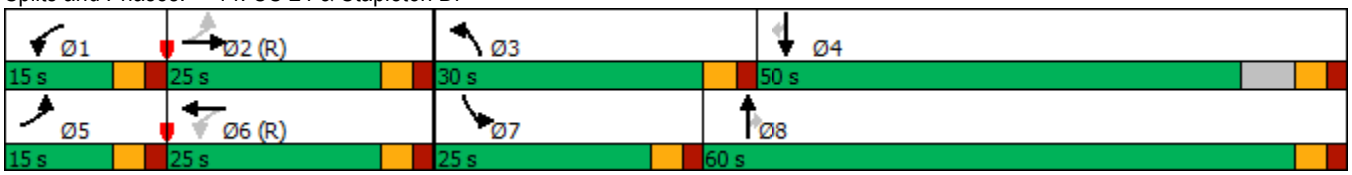
Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	831	549	537	1224
Demand Flow Rate, veh/h	847	559	548	1249
Vehicles Circulating, veh/h	954	637	1022	531
Vehicles Exiting, veh/h	465	933	779	493
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	23.4	5.1	15.1	9.0
Approach LOS	C	A	C	A

Lane	Left	Right	Left	Right	Bypass	Left	Right	Left	Right	Bypass
Designated Moves	LT	TR	LT	TR	R	LT	TR	L	LTR	R
Assumed Moves	LT	TR	LT	TR	R	LT	TR	L	TR	R
RT Channelized					Free					Free
Lane Util	0.470	0.530	0.470	0.530		0.471	0.529	0.332	0.668	
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	172	4.645	4.328	4.645	4.328	361
Entry Flow, veh/h	398	449	182	205	1938	258	290	295	593	1938
Cap Entry Lane, veh/h	561	631	751	826	0.980	527	596	828	904	0.980
Entry HV Adj Factor	0.981	0.981	0.981	0.982	169	0.978	0.981	0.980	0.980	354
Flow Entry, veh/h	391	440	178	201	1900	252	284	289	581	1900
Cap Entry, veh/h	551	619	737	811	0.089	515	584	811	886	0.186
V/C Ratio	0.709	0.711	0.242	0.248	0.0	0.489	0.487	0.356	0.656	0.0
Control Delay, s/veh	24.4	22.4	7.7	7.1	A	15.9	14.3	8.7	14.7	A
LOS	C	C	A	A	0	C	B	A	B	1
95th %tile Queue, veh	6	6	1	1		3	3	2	5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	380	463	75	201	110	358	588	50	249	1300	127
Future Volume (vph)	136	380	463	75	201	110	358	588	50	249	1300	127
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		8.0	5.0		20.0	5.0	5.0	20.0	15.0	15.0
Minimum Split (s)	10.0	15.0		13.0	10.0		25.0	10.0	10.0	25.0	20.0	20.0
Total Split (s)	15.0	25.0		15.0	25.0		30.0	60.0	60.0	25.0	50.0	50.0
Total Split (%)	12.0%	20.0%		12.0%	20.0%		24.0%	48.0%	48.0%	20.0%	40.0%	40.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Act Effct Green (s)	31.4	23.4	125.0	29.5	20.3	125.0	20.9	55.0	55.0	20.0	54.1	54.1
Actuated g/C Ratio	0.25	0.19	1.00	0.24	0.16	1.00	0.17	0.44	0.44	0.16	0.43	0.43
v/c Ratio	0.48	0.60	0.31	0.33	0.37	0.07	0.66	0.40	0.07	0.48	0.87	0.18
Control Delay	41.6	52.2	0.5	38.3	48.9	0.1	54.5	24.7	0.2	51.0	39.7	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.6	52.2	0.5	38.3	48.9	0.1	54.5	24.7	0.2	51.0	39.7	4.3
LOS	D	D	A	D	D	A	D	C	A	D	D	A
Approach Delay		26.3			32.9			34.2			38.7	
Approach LOS		C			C			C			D	

Intersection Summary	
Cycle Length: 125	
Actuated Cycle Length: 125	
Offset: 64 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 34.0	Intersection LOS: C
Intersection Capacity Utilization 84.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 14: US 24 & Stapleton Dr



Intersection	
Intersection Delay, s/veh	19.2
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	425	389	870	253
Demand Flow Rate, veh/h	434	396	888	258
Vehicles Circulating, veh/h	480	533	322	559
Vehicles Exiting, veh/h	337	677	592	370
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	11.4	11.4	29.6	8.7
Approach LOS	B	B	D	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	434	396	888	258
Cap Entry Lane, veh/h	846	801	994	780
Entry HV Adj Factor	0.979	0.983	0.980	0.979
Flow Entry, veh/h	425	389	870	253
Cap Entry, veh/h	828	787	973	764
V/C Ratio	0.513	0.494	0.894	0.331
Control Delay, s/veh	11.4	11.4	29.6	8.7
LOS	B	B	D	A
95th %tile Queue, veh	3	3	13	1

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	591	39	97	349	20	70
Future Vol, veh/h	591	39	97	349	20	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	155	-	205	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	642	42	105	379	22	76

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	684	0	1252	663
Stage 1	-	-	-	-	663	-
Stage 2	-	-	-	-	589	-
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	-	-	909	-	190	461
Stage 1	-	-	-	-	512	-
Stage 2	-	-	-	-	554	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	909	-	168	461
Mov Cap-2 Maneuver	-	-	-	-	305	-
Stage 1	-	-	-	-	512	-
Stage 2	-	-	-	-	490	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	15.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	305	461	-	-	909	-
HCM Lane V/C Ratio	0.071	0.165	-	-	0.116	-
HCM Control Delay (s)	17.7	14.3	-	-	9.5	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.6	-	-	0.4	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	659	441	7	20	5
Future Vol, veh/h	2	659	441	7	20	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	155	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	716	479	8	22	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	487	0	-	0	1203	483
Stage 1	-	-	-	-	483	-
Stage 2	-	-	-	-	720	-
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	1076	-	-	-	204	584
Stage 1	-	-	-	-	620	-
Stage 2	-	-	-	-	482	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1076	-	-	-	204	584
Mov Cap-2 Maneuver	-	-	-	-	338	-
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	482	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1076	-	-	-	369
HCM Lane V/C Ratio	0.002	-	-	-	0.074
HCM Control Delay (s)	8.4	-	-	-	15.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	659	20	44	441	7	31
Future Vol, veh/h	659	20	44	441	7	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	155	305	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	694	21	46	464	7	33

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	715	0	1250	694
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	556	-
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	-	-	885	-	191	443
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	574	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	885	-	181	443
Mov Cap-2 Maneuver	-	-	-	-	319	-
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	544	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	14.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	413	-	-	885	-
HCM Lane V/C Ratio	0.097	-	-	0.052	-
HCM Control Delay (s)	14.6	-	-	9.3	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	664	25	82	470	15	51
Future Vol, veh/h	664	25	82	470	15	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	305	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	699	26	86	495	16	54

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	725	0	1379	712
Stage 1	-	-	-	-	712	-
Stage 2	-	-	-	-	667	-
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	-	-	878	-	159	432
Stage 1	-	-	-	-	486	-
Stage 2	-	-	-	-	510	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	878	-	143	432
Mov Cap-2 Maneuver	-	-	-	-	281	-
Stage 1	-	-	-	-	486	-
Stage 2	-	-	-	-	460	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	15.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	281	432	-	-	878	-
HCM Lane V/C Ratio	0.056	0.124	-	-	0.098	-
HCM Control Delay (s)	18.6	14.5	-	-	9.5	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.4	-	-	0.3	-

Intersection	
Intersection Delay, s/veh	14.6
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	754	1011	86	487
Demand Flow Rate, veh/h	769	1031	87	497
Vehicles Circulating, veh/h	427	316	1068	524
Vehicles Exiting, veh/h	594	839	128	304
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	27.9	5.0	10.6	14.6
Approach LOS	D	A	B	B

Lane	Left	Left	Bypass	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized			Free		
Lane Util	1.000	1.000		1.000	1.000
Follow-Up Headway, s	2.609	2.609		2.609	2.609
Critical Headway, s	4.976	4.976	519	4.976	4.976
Entry Flow, veh/h	769	512	1938	87	497
Cap Entry Lane, veh/h	893	1000	0.980	464	809
Entry HV Adj Factor	0.980	0.981	509	0.987	0.980
Flow Entry, veh/h	754	502	1900	86	487
Cap Entry, veh/h	875	980	0.268	458	792
V/C Ratio	0.861	0.512	0.0	0.187	0.615
Control Delay, s/veh	27.9	10.0	A	10.6	14.6
LOS	D	B	1	B	B
95th %tile Queue, veh	11	3		1	4

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	132	810	1027	602	486	118
Future Volume (vph)	132	810	1027	602	486	118
Turn Type	Prot	Free	Prot	NA	NA	Perm
Protected Phases	6!		7	Free!	8	
Permitted Phases		Free				8
Detector Phase	6		7		8	8
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	20.0		10.0		20.0	20.0
Total Split (s)	24.0		52.0		44.0	44.0
Total Split (%)	20.0%		43.3%		36.7%	36.7%
Yellow Time (s)	3.0		3.0		3.0	3.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	5.0		5.0		5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	Max		None		C-Max	C-Max
Act Effct Green (s)	19.0	120.0	43.0	120.0	43.0	43.0
Actuated g/C Ratio	0.16	1.00	0.36	1.00	0.36	0.36
v/c Ratio	0.50	0.54	0.88	0.17	0.40	0.19
Control Delay	53.0	1.3	30.5	0.1	30.9	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.0	1.3	30.5	0.1	30.9	5.7
LOS	D	A	C	A	C	A
Approach Delay	8.6			19.5	26.0	
Approach LOS	A			B	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 50 (42%), Referenced to phase 8:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 17.5	Intersection LOS: B
Intersection Capacity Utilization 61.7%	ICU Level of Service B
Analysis Period (min) 15	

! Phase conflict between lane groups.

Splits and Phases: 9: US 24 & Rex Rd

Intersection	
Intersection Delay, s/veh	13.0
Intersection LOS	B

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	157	1113	587
Demand Flow Rate, veh/h	160	1135	599
Vehicles Circulating, veh/h	914	5	157
Vehicles Exiting, veh/h	226	751	917
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	8.7	16.1	8.1
Approach LOS	A	C	A

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535
Critical Headway, s	4.328	4.328	4.328
Entry Flow, veh/h	160	1135	599
Cap Entry Lane, veh/h	653	1414	1243
Entry HV Adj Factor	0.981	0.981	0.981
Flow Entry, veh/h	157	1113	587
Cap Entry, veh/h	641	1387	1219
V/C Ratio	0.245	0.803	0.482
Control Delay, s/veh	8.7	16.1	8.1
LOS	A	C	A
95th %tile Queue, veh	1	10	3

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	37	14	1043	63	25	673
Future Vol, veh/h	37	14	1043	63	25	673
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	155	205	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	15	1098	66	26	708

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1858	1098	0	0	1164	0
Stage 1	1098	-	-	-	-	-
Stage 2	760	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	81	259	-	-	600	-
Stage 1	319	-	-	-	-	-
Stage 2	462	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	78	259	-	-	600	-
Mov Cap-2 Maneuver	204	-	-	-	-	-
Stage 1	319	-	-	-	-	-
Stage 2	442	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27	0	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	217	600	-
HCM Lane V/C Ratio	-	-	0.247	0.044	-
HCM Control Delay (s)	-	-	27	11.3	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	0.9	0.1	-

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Approach	EB	NB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	504	1241	742
Demand Flow Rate, veh/h	514	1266	757
Vehicles Circulating, veh/h	489	174	252
Vehicles Exiting, veh/h	520	829	1188
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	7.4	16.7	6.7
Approach LOS	A	C	A

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	L	TR	LT	TR
Assumed Moves	L	TR	L	TR	LT	TR
RT Channelized						
Lane Util	0.339	0.661	0.199	0.801	0.470	0.530
Follow-Up Headway, s	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
Entry Flow, veh/h	174	340	252	1014	356	401
Cap Entry Lane, veh/h	861	937	1150	1225	1071	1146
Entry HV Adj Factor	0.983	0.979	0.980	0.980	0.980	0.981
Flow Entry, veh/h	171	333	247	994	349	393
Cap Entry, veh/h	846	918	1127	1201	1049	1125
V/C Ratio	0.202	0.363	0.219	0.828	0.333	0.350
Control Delay, s/veh	6.3	8.0	5.2	19.6	6.8	6.7
LOS	A	A	A	C	A	A
95th %tile Queue, veh	1	2	1	10	1	2

Intersection	
Intersection Delay, s/veh	13.8
Intersection LOS	B

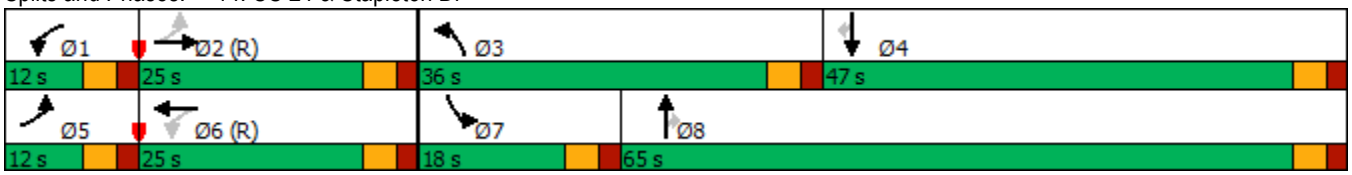
Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	823	977	792	812
Demand Flow Rate, veh/h	839	997	808	828
Vehicles Circulating, veh/h	679	1070	951	813
Vehicles Exiting, veh/h	706	689	567	908
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	13.4	12.9	21.4	8.1
Approach LOS	B	B	C	A

Lane	Left	Right	Left	Right	Bypass	Left	Right	Left	Right	Bypass
Designated Moves	LT	TR	LT	TR	R	LT	TR	L	LTR	R
Assumed Moves	LT	TR	LT	TR	R	LT	TR	L	TR	R
RT Channelized					Free					Free
Lane Util	0.470	0.530	0.470	0.530		0.470	0.530	0.395	0.605	
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	346	4.645	4.328	4.645	4.328	256
Entry Flow, veh/h	394	445	306	345	1938	380	428	226	346	1938
Cap Entry Lane, veh/h	723	797	504	572	0.980	563	633	639	711	0.980
Entry HV Adj Factor	0.982	0.980	0.980	0.981	339	0.980	0.981	0.982	0.980	251
Flow Entry, veh/h	387	436	300	338	1900	372	420	222	339	1900
Cap Entry, veh/h	710	782	495	561	0.178	552	621	628	698	0.132
V/C Ratio	0.545	0.558	0.607	0.603	0.0	0.675	0.676	0.354	0.486	0.0
Control Delay, s/veh	13.7	13.1	20.9	18.7	A	22.4	20.4	10.6	12.4	A
LOS	B	B	C	C	1	C	C	B	B	0
95th %tile Queue, veh	3	4	4	4		5	5	2	3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	222	469	125	321	299	629	1187	150	233	890	173
Future Volume (vph)	142	222	469	125	321	299	629	1187	150	233	890	173
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		4.0	5.0		8.0	5.0	5.0	10.0	15.0	15.0
Minimum Split (s)	10.0	15.0		9.0	10.0		13.0	10.0	10.0	15.0	20.0	20.0
Total Split (s)	12.0	25.0		12.0	25.0		36.0	65.0	65.0	18.0	47.0	47.0
Total Split (%)	10.0%	20.8%		10.0%	20.8%		30.0%	54.2%	54.2%	15.0%	39.2%	39.2%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Act Effct Green (s)	27.0	20.0	120.0	27.0	20.0	120.0	27.5	60.7	60.7	12.3	45.5	45.5
Actuated g/C Ratio	0.22	0.17	1.00	0.22	0.17	1.00	0.23	0.51	0.51	0.10	0.38	0.38
v/c Ratio	0.67	0.40	0.31	0.49	0.57	0.20	0.84	0.70	0.18	0.70	0.68	0.26
Control Delay	43.8	38.4	0.6	43.0	50.4	0.3	54.5	25.4	2.9	50.8	41.1	11.1
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	43.8	38.4	0.6	43.0	50.4	0.3	54.5	25.4	2.9	50.8	41.1	11.1
LOS	D	D	A	D	D	A	D	C	A	D	D	B
Approach Delay		18.0			29.1			33.0			38.8	
Approach LOS		B			C			C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 31.3	Intersection LOS: C
Intersection Capacity Utilization 76.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 14: US 24 & Stapleton Dr



Queuing Reports

TRANSPORTATION
CONSULTANTS, INC.

Intersection: 4: Edenvale Pl & Rex Rd

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	35	59
Average Queue (ft)	6	25
95th Queue (ft)	26	48
Link Distance (ft)		190
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	305	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Grange Tr & Rex Rd

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	31	52	82
Average Queue (ft)	10	17	36
95th Queue (ft)	33	46	67
Link Distance (ft)		250	250
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	305		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 0

Intersection: 4: Edenvale Pl & Rex Rd

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	51	48
Average Queue (ft)	16	19
95th Queue (ft)	43	42
Link Distance (ft)		190
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	305	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Grange Tr & Rex Rd

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	72	44	69
Average Queue (ft)	24	14	28
95th Queue (ft)	56	40	56
Link Distance (ft)		250	250
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	305		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 0

Appendix Table 1

TRANSPORTATION
CONSULTANTS, INC.

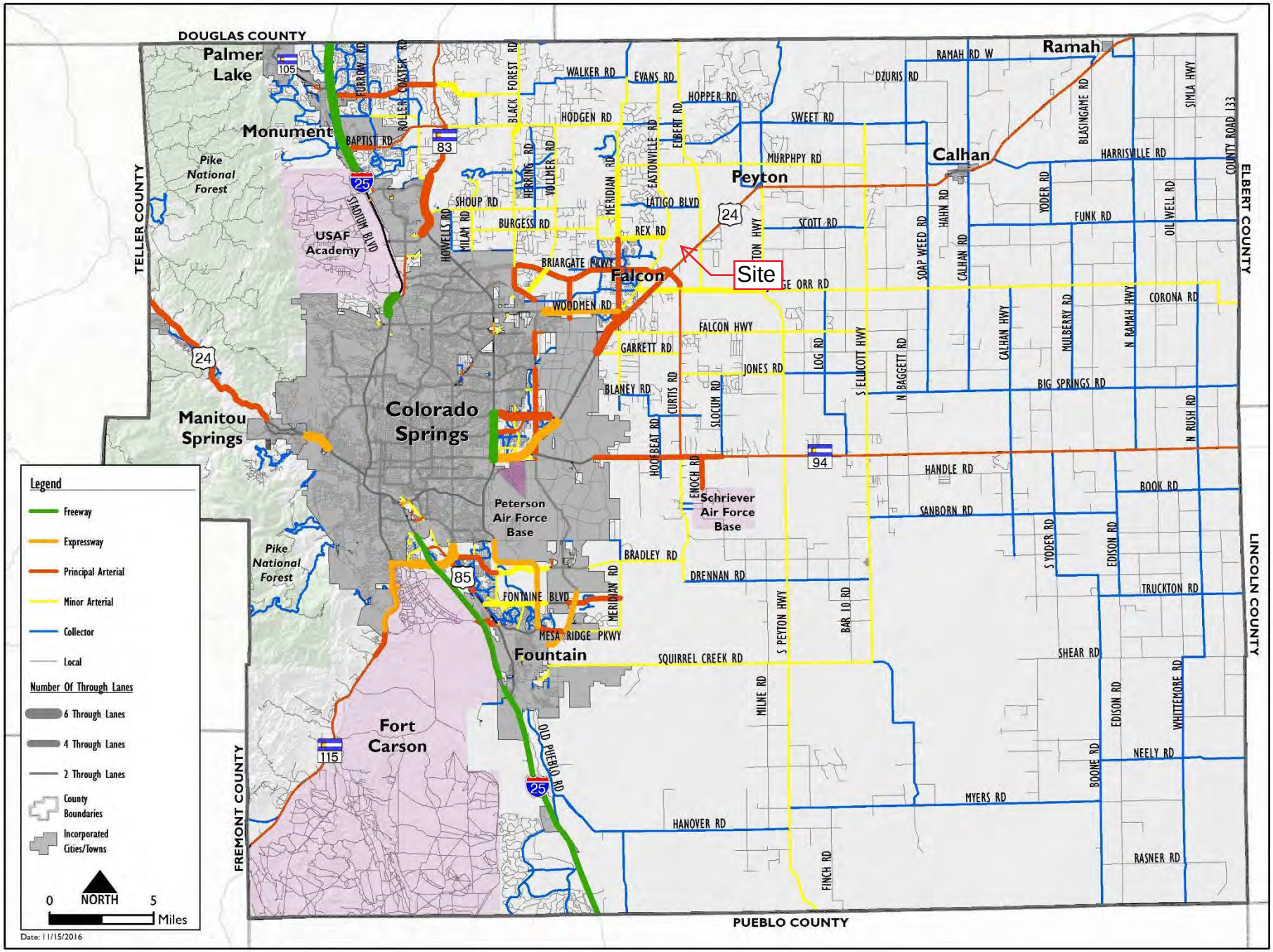
Appendix Table 1
Area Trafffic Impact Studies by LSC
Grandview Reserve Phases 2 and 3

Study	Date
4-Way Ranch/Waterbury	
4-Way Ranch Updated TIA	January 29, 2009
Waterbury PUD Development Plan Updated TIA	January 10, 2013
Waterbury Filing Nos. 1 and 2 TIA	December 18, 2020
4-Way Ranch Commercial Master Traffic Impact Analysis	December 20, 2022
4-Way Ranch Commercial Phase 1 Traffic Technical Memorandum	November 30, 2023
Meridian Ranch	
Meridian Ranch Sketch Plan TIA	April 11, 2011
Meridian Ranch Filing 11 Updated TIA	November 26, 2013
Stonebridge at Meridian Ranch Filing No. 1 Updated TIA	April 23, 2014
Stonebridge at Meridian Ranch Transportation Memorandum	July 28, 2015
Meridian Ranch Filing 8 Updated TIA	December 23, 2014
Meridian Ranch Filing 9 Updated TIA	May 21, 2015
Meridian Ranch Sketch Plan 2015 Amendment TIA	July 30, 2015
The Vistas at Meridian Ranch TIA	March 24, 2016
Meridian Ranch Estates Filing No. 2 Transportation Memorandum	August 27, 2015
The Vistas at Meridian Ranch Updated Transportation Memorandum	June 20, 2017
Londonderry Drive Pedestrian Operations and Safety Study	February 8, 2017
Stonebridge Filing 3 at Meridian Ranch Updated TIA	March 20, 2017
Meridian Ranch Sketch Plan 2017 Amendment TIA	October 3, 2017
WindingWalk at Meridian Ranch and The Enclave at Stonebridge at Meridian Ranch Updated Traffic Impact Analysis	May 10, 2018
Rolling Hills Ranch at Meridian Ranch PUDSP Traffic Impact Analysis	June 29, 2020
The Estates at Rolling Hills Ranch Filing No. 1 Traffic Impact Analysis	May 13, 2020
Rolling Hills Ranch at Meridian Ranch Filing No. 1 Traffic Impact Analysis	July 14, 2020
The Estates at Rolling Hills Ranch Filing No. 2 Traffic Impact Study	October 8, 2020
Rolling Hills Ranch at Meridian Ranch Filing No. 2 Transportation Memorandum	December 29, 2020
Rolling Hills Ranch at Meridian Ranch Filing No. 3 Transportation Memorandum	June 29, 2021
Meridian Ranch 2021 Sketch Plan Amendment Traffic Impact Study	June 25, 2021
The Sanctuary at Meridian Ranch Transportation Memorandum	May 3, 2022
Rolling Hills Ranch North PUD Transportation Memorandum	October 30, 2023
Grandview Reserve	
Grandview Reserve Updated Master TIA	December 5, 2020
Grandview Reserve Phase 1 TIA	March 8, 2022
Meadowlake Ranch	
Meadowlake Ranch Traffic Impact Analysis	May 29, 2019
Latigo Preserve	
Latigo Preserve Filing No. 10	March 31, 2022

Source: LSC Transportation Consultants, Inc. *Dec-23*

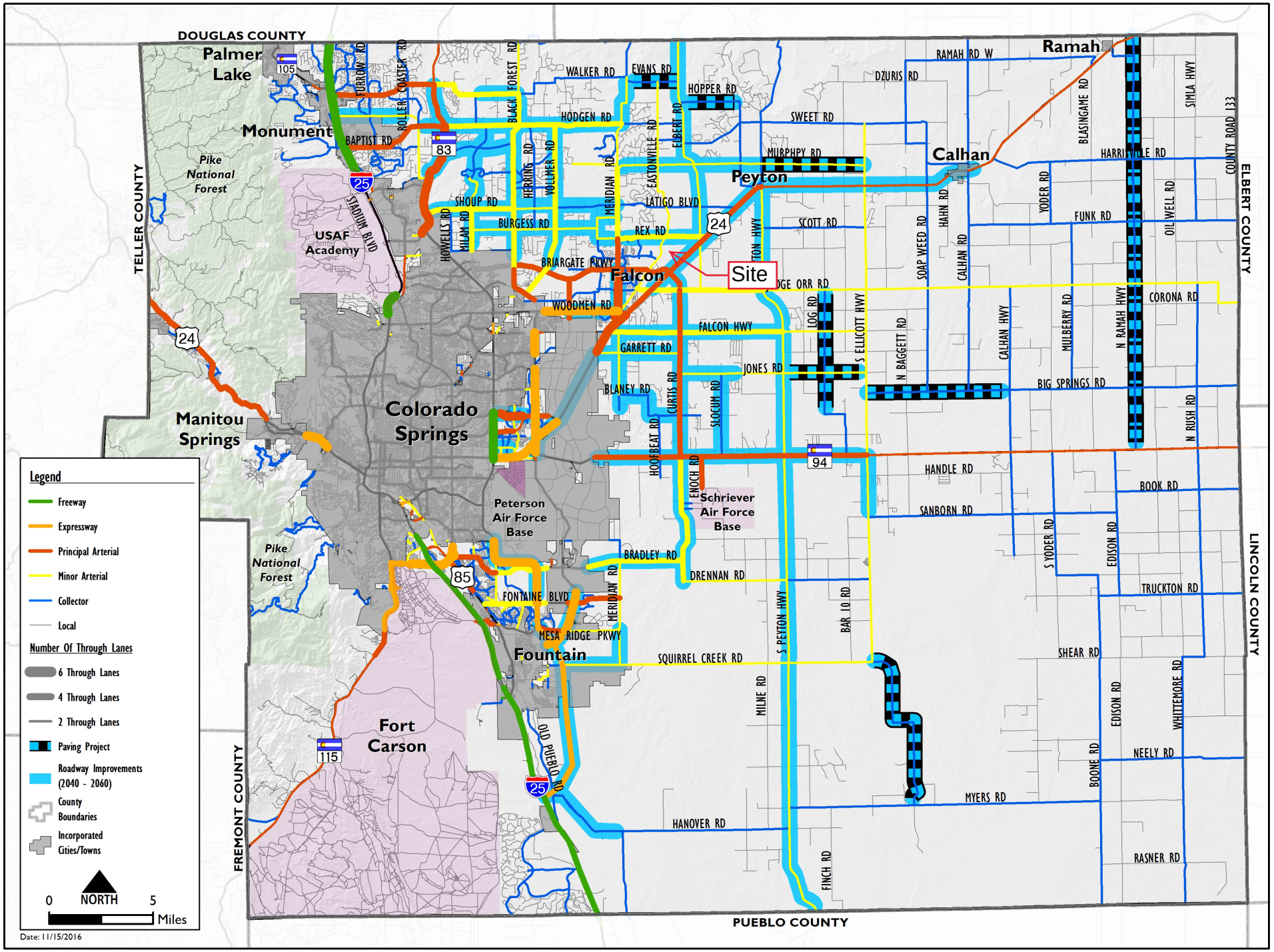
MTCP Maps

TRANSPORTATION
CONSULTANTS, INC.



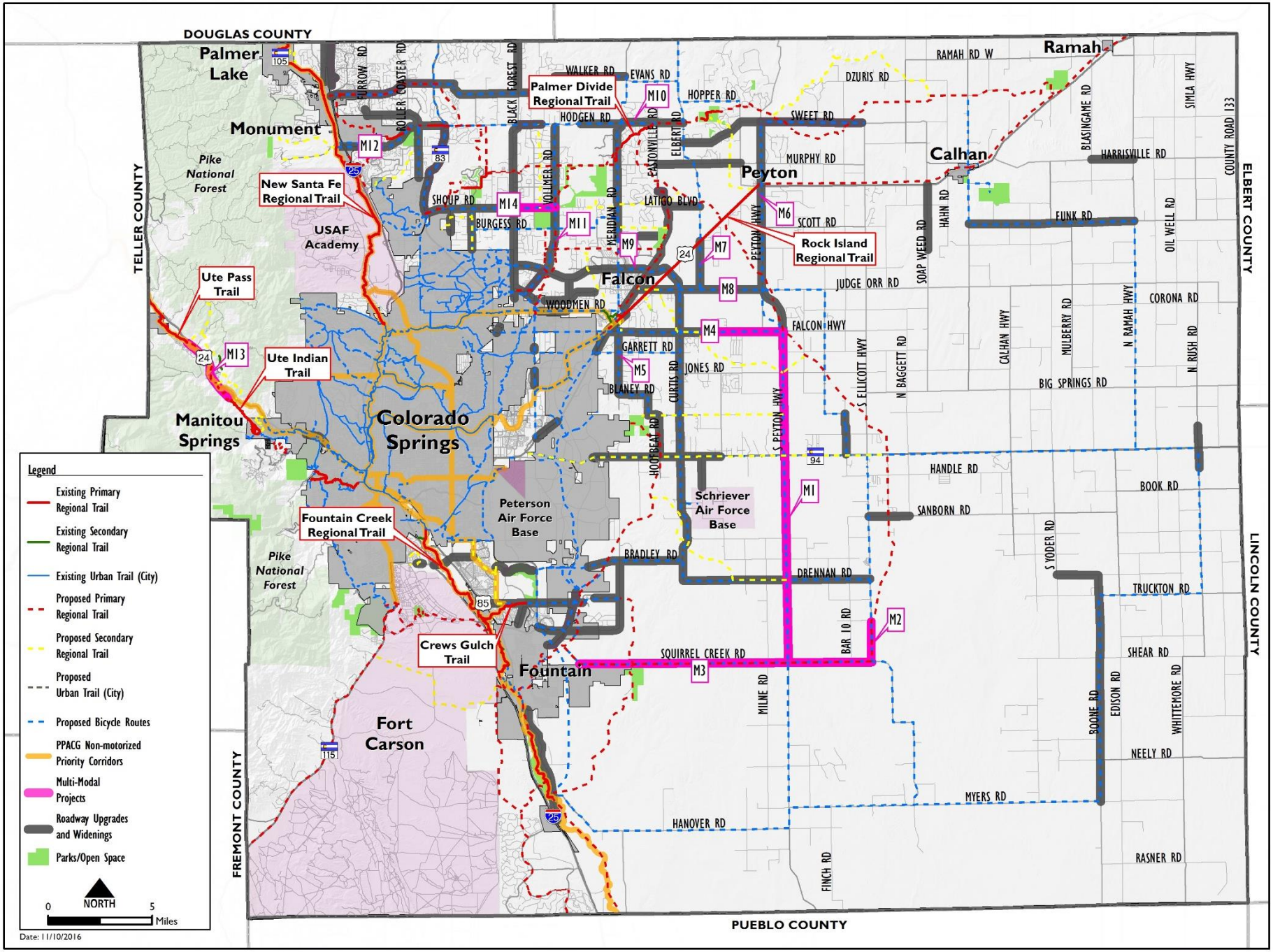
Map 14: 2040 Roadway Plan (Classification and Lanes)

Map 17: 2060 Corridor Preservation



Map 15 Bicycle and Pedestrian Network Improvements

TRANSPORTATION
CONSULTANTS, INC.



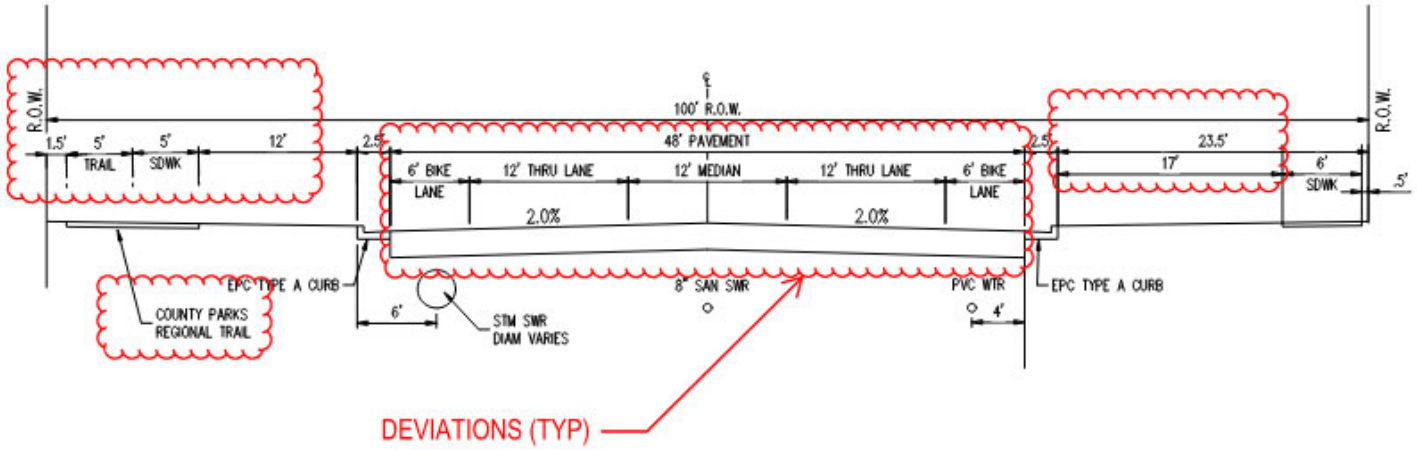
Map 15: Bicycle and Pedestrian Network and Improvements

Rex Road Proposed Cross Section

TRANSPORTATION
CONSULTANTS, INC.

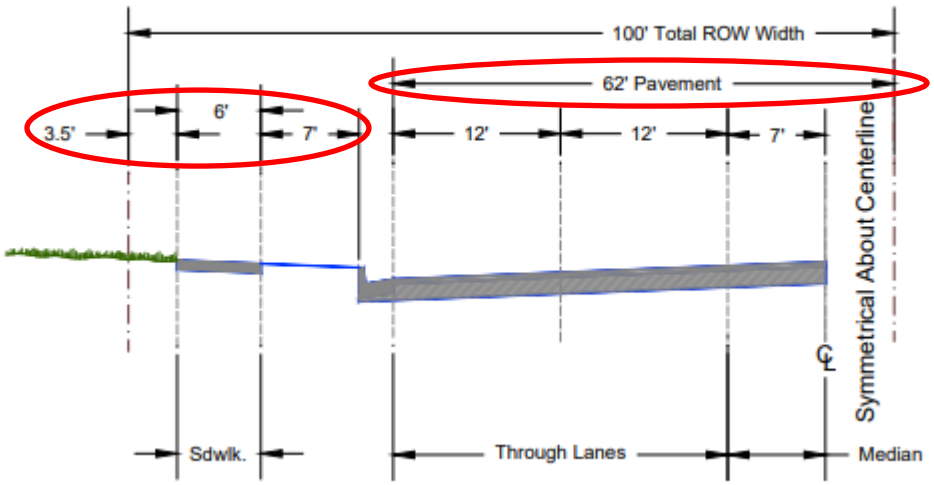
Explain the proposed alternative and compare to the ECM standards (May provide applicable regional or national standards used as basis):

Proposed alternative cross section below:



ECM standard:

Figure 2-13. Typical Urban Minor Arterial Cross Section



PCD File No. _____

Crash History

TRANSPORTATION
CONSULTANTS, INC.

AccidentDate	AccidentTime	TotalVehicles	LocationRoadName	NumberInjured	FIP	ReferencePointAtName	AccidentNarrative
2021-01-29	18:25	2	EASTONVILLE	0	Property	STAPLETON DR	Vehicle 1 was westbound on Stapleton Drive at the stop sign of Eastonville Road. Vehicle 2 was southbound on Eastonville Drive approaching the intersection. The intersection has a stop sign for eastbound and westbound traffic on Stapleton Drive. Vehicle 1 proceeded from the stop sign into the intersection. The front end of Vehicle 2 collided with the right side of Vehicle 1 in the
2021-05-07	11:30	2	EASTONVILLE	1	Injury	STAPLETON DR	Vehicle 1 was westbound on Stapleton Dr at Eastonville Rd. Vehicle 2 was southbound on Eastonville Rd at Stapleton Dr. Vehicle 1 failed to yield right of way and proceeded from a stop sign. Vehicle 1 collided its front with the side of vehicle 2. Both vehicles were
2021-11-04	22:40	1	EASTONVILLE	0	Property		Vehicle #1 was traveling northbound on Eastonville road approaching a left turn. Vehicle #1 lost control on the dirt road and rotated counterclockwise before rolling 3/4 time, then coming to rest on its left side off the left side of the roadway facing south.
2021-12-17	10:55	2	EASTONVILLE	0	Property	STAPLETON DR	Vehicle 1 was westbound on Stapleton Dr at Eastonville Rd. Vehicle 2 was northbound on Eastonville Rd at Stapleton Dr. Vehicle 1 failed to stop at a stop sign and entered the intersection. Vehicle 1 collided its front with the side of vehicle 2. Both vehicles were
2022-02-03	13:25	2	EASTONVILLE	0	Property	STAPLETON DR	Vehicle 1 was westbound on Stapleton Dr at Eastonville Rd. Vehicle 2 was northbound on Eastonville Rd at Stapleton Dr. Vehicle 1 failed to stop at a stop sign and entered the intersection in front of vehicle 2. Vehicle 2 collided its front with the side of vehicle 1. Vehicle 2 began to rotate counter clockwise and collided its side with the side of vehicle 1's trailer. Vehicle 2 came to a rest facing
2022-07-15	17:09	2	EASTONVILLE	0	Property	STAPLETON DR	Vehicle 1 was stopped at a controlled stop sign facing southeast on Stapleton Dr. at the intersection of Eastonville Rd. Vehicle 2 was traveling southwest on Eastonville Rd near Stapleton Dr. Vehicle 1 proceeded straight through the intersection. Vehicle 2 struck the
2022-12-05	16:07	2	EASTONVILLE	0	Property	STAPLETON DR	Vehicle #2 was traveling northbound on Eastonville Road in the #1 lane and was stopped at the stop sign at Stapleton Drive and Eastonville Road. Vehicle #1 was traveling northbound on Eastonville in the #1 lane and was stopped at the stop sign behind Vehicle #2 at Stapleton Drive and Eastonville. Vehicle #1 started to advance forward, but Vehicle #2 was still stopped. Vehicle #1 struck it's
2023-03-22	19:10	2	EASTONVILLE	0	Property	STAPLETON DR	Vehicle #1 was traveling east on Stapleton Dr approaching Eastonville Rd. Vehicle #2 was traveling southwest on Eastonville Rd approaching Stapleton Dr. Vehicle #1 failed to stop at the stop sign on Stapleton Dr at Eastonville Rd and failed to yield the right of way to Vehicle #2. Vehicle #1 entered the intersection of Stapleton Dr at Eastonville Rd in front of Vehicle #2, at which point the driver
2023-07-02	13:29	2	EASTONVILLE	0	Property	STAPLETON DR	Vehicle 1 was west bound on Stapleton Drive, stopped at the intersection with Eastonville Road in El Paso County, Colorado. Vehicle 2 was south bound on Eastonville Road, approaching the same intersection. Vehicle 1 entered the intersection to proceed straight. Vehicle 2 swerved to the right and the front right corner of Vehicle 1 hit the front left corner of Vehicle 2, in the intersection. Both

Additional Attachment

Figure 13 from the *Grandview Reserve Phase 1 Updated Traffic Impact* Analysis

TRANSPORTATION
CONSULTANTS, INC.

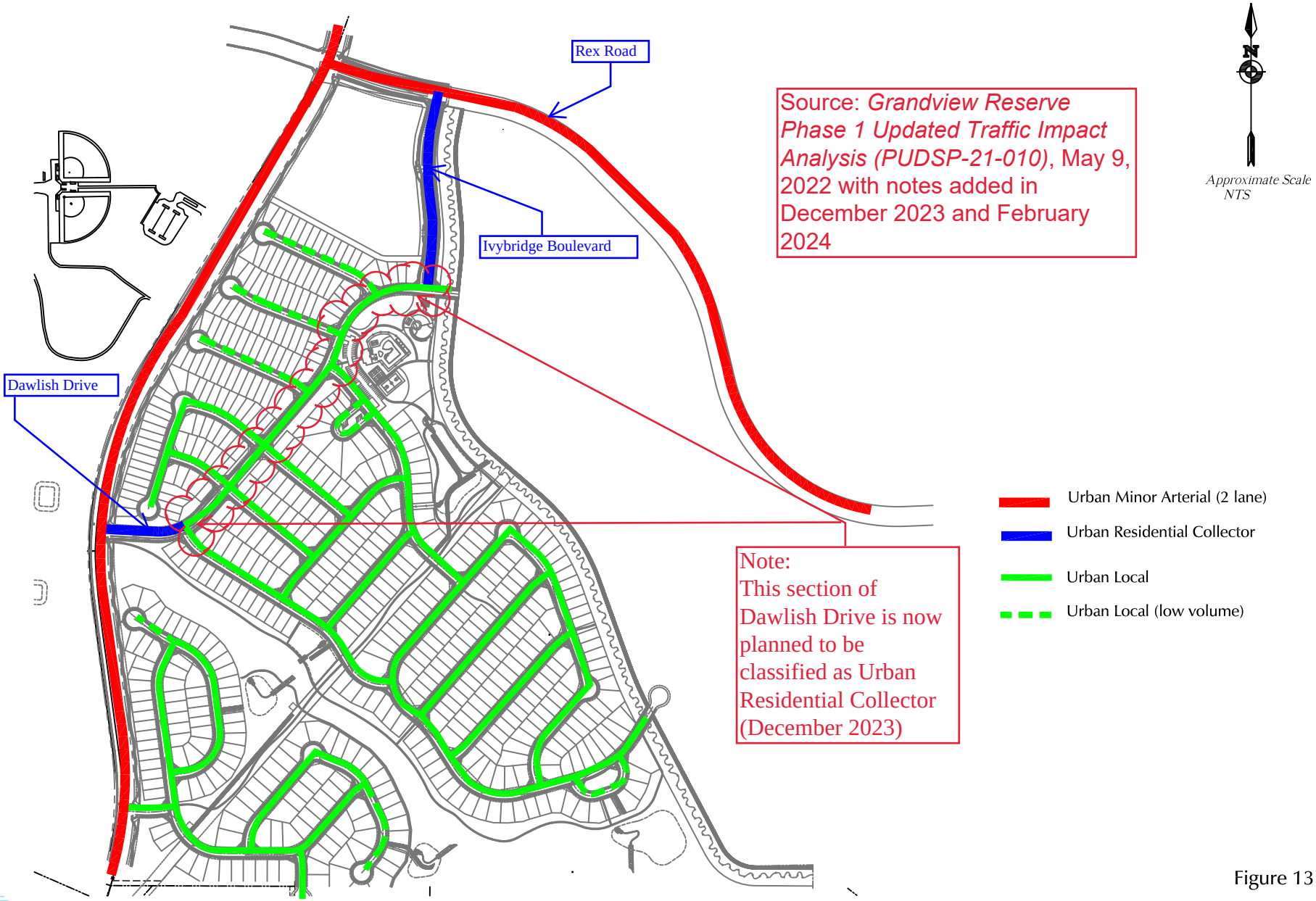


Figure 13

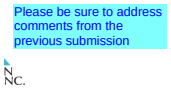
Recommended Street Classification

Grandview Reserve Phase 1 (LSC #S214240)

LSC TRANSPORTATION CONSULTANTS, INC.

V1_ Traffic Impact Study.pdf Markup Summary

Bret (3)



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Please be sure to address comments from the previous submission

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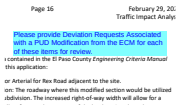

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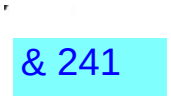
Please provide Deviation Requests Associated with a PUD Modification from the ECM for each of these items for review.

CDurham (3)



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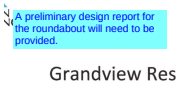

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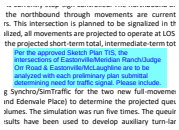
A preliminary design report for the roundabout will need to be provided.



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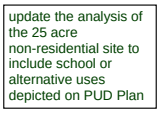
Per the approved Sketch Plan TIS, the intersections of Eastonville/Meridian Ranch/Judge Orr Road & Eastonville/McLaughline are to be analyzed with each preliminary plan submittal determining need for traffic signal. Please include.

dsdparsons (1)



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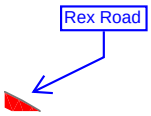
update the analysis of the 25 acre non-residential site to include school or alternative uses depicted on PUD Plan

kdfer (3)



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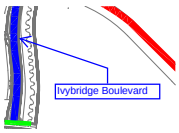
Rex Road



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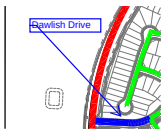
Ivybridge Boulevard



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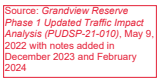
Dawlish Drive

kdferrin (4)



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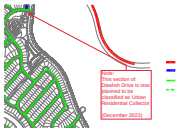

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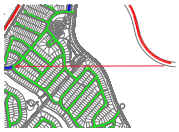
Note:
This section of Dawlish Drive is now planned to be classified as Urban Residential Collector (December 2023).



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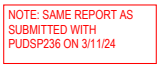
khuhn (1)



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NOTE: SAME REPORT AS SUBMITTED WITH PUDSP236 ON 3/11/24

Kirstin (2)

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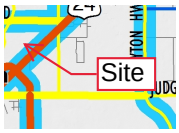

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