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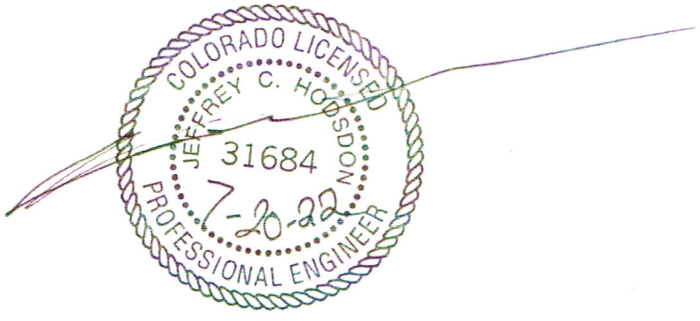
Waterbury Filing Nos. 1 and 2
Traffic Impact Analysis
PUDSP215
(LSC #204220)
July 20, 2022

Traffic Engineer's Statement

This traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.



Developer's Statement

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

7/21/22
Date

Waterbury Filing Nos. 1 and 2

Traffic Impact Analysis

Prepared for:
4 Way Ranch Joint Venture, LLC
P.O. Box 50223
Colorado Springs, CO 80949

Contact: Mr. Peter Martz

JULY 20, 2022

LSC Transportation Consultants, Inc.

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

LSC #204220
PUDSP215

CONTENTS

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July 20, 2022

ATTN: Peter Martz
4 Way Ranch Joint Venture, LLC
P.O. Box 50223
Colorado Springs, CO 80949

RE: Waterbury Filing Nos. 1 and 2
El Paso County, Colorado
Traffic Impact Analysis
PUDSP215
LSC #204220

Dear Peter:

In response to your request, LSC Transportation Consultants, Inc. has prepared this updated traffic impact analysis for the Waterbury Filings Nos. 1 and 2 residential development in El Paso County, Colorado. As shown in Figure 1, the overall Waterbury PUD Development is located generally north of Stapleton Drive and east Eastonville Road in El Paso County, Colorado.

REPORT CONTENTS

This report is being prepared as part of a submittal to El Paso County. It identifies the traffic impacts of the proposed residential development. The report contains the following:

- The traffic count data and street conditions;
- Short-term and 2040 baseline/background traffic volume estimates;
- The projected average weekday and peak-hour vehicle trips to be generated by the site;
- The assignment of the site's projected traffic volumes to the key area streets and intersections for the short and long term and the resulting total traffic volumes for the short and long term;
- The resulting traffic impacts including level of service analysis at key intersections; and
- Findings and recommendations.

PREVIOUS TRAFFIC REPORTS COMPLETED IN THE AREA

The overall Waterbury PUD Development Plan was previously studied in a traffic impact study by LSC dated January 10, 2013. This was essentially the "Master TIS" for the overall development. LSC has also completed the following site-specific traffic studies:

- *Waterbury Filing No. 1 Updated Traffic Impact Study,* January 6, 2014
- *Waterbury Phase 1Filing Nos. 2 and 3 Updated Traffic Impact Analysis,* October 16, 2017
- *Waterbury Phase 2 Preliminary Plan Traffic Impact Analysis*, August 3, 2017

This report is an update to the Preliminary Plan Phase 1 reports.

A list of other traffic studies in the area of study completed within the past five years (that LSC is aware of) is presented in Appendix Table 1. This study accounts for the land use, trip generation and the roadway network included in these studies.

LAND USE AND ACCESS

Site Plan

Figure 2 shows the location of the entire Waterbury PUD development as well as the location of the currently proposed Filing Nos. 1 and 2. The currently proposed filings are planned to include 198 lots for single-family homes. This is two more lots than was assumed in the 2013 traffic study for the same area (the Phase 1 Preliminary Plan area). Access for these filings will be to a new full-movement intersection (Saybrook Road) on Stapleton Road 1,150 east of Bandanero Drive. A deviation for a full-movement intersection at Stapleton/Saybrook was previously approved. A deviation for the southbound approach laneage on Saybrook was also approved. Per the request by Staff, both of these prior-approved deviations are being resubmitted on the current deviation request form. In the future, Filing Nos. 1 and 2 will have additional access through the remaining Waterbury PUD development area to Eastonville Road and the future Dumont Drive.

Sight Distance Analysis

Figure 3 shows sight-distance analysis at the proposed public street intersection to Stapleton Drive (Saybrook Road). Per the *El Paso County Engineering Criteria Manual ECM* Table 2-21, the required intersection sight distance at Saybrook Road is 555 feet, based on a design speed of 50 mph for Stapleton Drive. As shown in Figure 3, this requirement is met in both directions.

The required stopping sight distance from *ECM* Table 2-17 is 445 feet. As shown in Figure 3 this requirement is met in both directions.

Pedestrian and Bicycle Accommodations

There are two existing schools located within two miles of the site, Falcon High School and Meridian Ranch Elementary. A future K-8 school site is located 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 northwest of the site.

Figure 4 shows the school pedestrian routes. There are currently no sidewalks on Stapleton Drive and on Eastonville Road.

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

- A park n' ride facility is planned for a site near Meridian Road and US Highway 24.
- The Rock Island Regional Trail passes near to the site.
- Many of the area County roads have been or will be upgraded to provide paved shoulders for cyclists. Stapleton is shown as a future "bike route."
- The *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 Highway 24 PEL study also includes multi-modal elements.

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.

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).

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 for Eastonville Road. The *Conceptual Design Report Eastonville Road Project* prepared by Wilson & Company Inc. in April 2021 shows the section of Eastonville adjacent to the site as an urban 48-foot paved section with one through lane in each direction, a two-way, left-turn lane center median, and 6-foot paved shoulder. The posted speed limit north of Stapleton Drive is 35 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.

Existing (2017-2020) Traffic Volumes

Figure 5 shows the existing morning and afternoon peak-hour traffic volumes at key intersections in the vicinity of the site. The morning peak hour was assumed to occur for one hour between 6:30 a.m. and 8:30 a.m. The afternoon peak hour was assumed to occur for one hour between 4:00 p.m. and 6:00 p.m. These volumes are based on manual intersection turning-movement counts conducted by LSC in May 2017, November 2018, December 2018, and December 2020 and data provided by CDOT for the intersection of Stapleton/US Highway 24 from December 2019. The count data sheets are attached for reference.

Turning-movement counts were conducted at the intersection of US Hwy 24/Stapleton at the following times:

- Tuesday, December 3, 2019 – Thursday, December 5, 2019 – 6:00 am to 6:00 pm (by All Traffic Data Services, Inc.)
- Wednesday, December 16, 2020 – 7:00 to 9:00 a.m.
- Wednesday, December 16, 2020 – 4:00 to 6:00 p.m.

Figure 5 shows the results of both the December 2019 counts and the December 2020 counts as the more current counts were likely impacted by restrictions related the COVID-19 pandemic.

Turning movement counts were conducted at the intersection of Eastonville/Stapleton at the following times:

- Thursday, May 23, 2017 – 6:30 to 8:30 a.m.
- Thursday, May 11, 2017 – 4:00 to 6:00 p.m.

Turning movement counts were conducted at the intersection of Eastonville/Londonderry at the following times:

- Tuesday, December 11, 2018 – 6:30 to 8:30 a.m.
- Tuesday, December 11, 2018 – 4:00 to 6:00 p.m.

Figure 5 also shows the Colorado Department of Transportation Average Annual Daily Traffic volumes (AADT) on US Hwy 24 in the vicinity of the site and an estimate of the average weekday traffic volumes on key street segments, based on the peak-hour counts, assuming the afternoon peak hour represents 11 percent of the daily traffic volume. This is based on the design-hour volume on US Hwy 24 adjacent to the site. The design-hour volume is the 30th highest annual hourly traffic volume reported as a percentage of the average annual daily traffic volume. A copy of the CDOT data for US Hwy 24 adjacent to the site has been attached.

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

Figure 5 presents the results of the existing intersection level of service analysis. The intersections of US Hwy 24/Stapleton, Eastonville/Stapleton, and Londonderry/Eastonville were analyzed 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.

US Hwy 24/Stapleton

The existing level of service analysis for the intersection of US Hwy 24/Stapleton was based on the 2019 traffic count data as the volumes were generally higher than the more current

December 2020 count data which were likely impacted by restrictions related to the COVID-19 pandemic. The southeast-bound left-turn and through movements and the northwest-bound left-turn and through movements at the two-way, stop sign-controlled intersection of Stapleton/ US Hwy 24 are currently operating at LOS F during the morning peak hour. The southeast-bound left-turn movement and the northwest-bound through movement are currently operating at LOS F during the afternoon peak hour.

Eastonville/Stapleton

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. All other movements are currently operating at a LOS D or better during the peak hours.

Eastonville/Londonderry

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.

SHORT-TERM (YEAR 2021) 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 6 shows the projected background traffic volumes one year following the anticipated buildout of Phase 1 (2028).

In lieu of a general/"blanket" growth rate, LSC has developed small area traffic models for the Waterbury PUD, Meridian Ranch, Grandview Reserve and the 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 5) plus increases in traffic due to regional growth, including buildout of the following subdivisions in the vicinity of the site:

- 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; and
- The Rolling Hills Ranch at Meridian Ranch PUD Filings Nos. 1 and 2.

Increases in through traffic on US Hwy 24 were estimated based a yearly growth rate of 2 percent per year. This growth rate was calculated from the CDOT 20-year growth factor for US Hwy 24 adjacent to the site. The short-term background traffic volumes assume Rex Road has been extended from its existing terminus to the Rolling Hills Ranch at Meridian Ranch PUD access but **not** to Eastonville Road. The short-term background traffic volumes also do not include any projected traffic from the Grandview Reserve as the initial phases are not anticipated to begin construction until 2023.

2040 BACKGROUND TRAFFIC

Figure 7 shows the projected 20-year background traffic volumes for the year 2040. The 2040 background/baseline traffic volumes are based on the *Colorado Department of Transportation US Hwy 24 Planning and Environmental Linkages Study Final Corridor Conditions Report* dated December 2016 and on previous work completed by LSC in the area, including work done for the remainder of Waterbury, Meridian Ranch and Grandview Reserve developments. The 2040 traffic volumes shown in the PEL were based on the PPACG traffic demand model. The projected volume on US Hwy 24 adjacent to the site was shown to increase from 9,500 vehicles per day to 23,000 vehicles per day. This represents a 20-year growth rate of about 4.5 percent per year. The 2040 background traffic volumes do not include traffic from Waterbury Filings Nos. 1 and 2.

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.

Waterbury Filings Nos. 1 and 2 is expected to generate about 1,867 vehicle trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 36 vehicles would enter and 103 vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:15 and 6:15 p.m., about 117 vehicles would enter and 69 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. Figure 8 shows the directional distribution estimates for the site-generated traffic volumes. The estimates have been based on the following factors: the recent traffic count data; the Pikes Peak Area Council of Governments' (PPACG) 2040 traffic projections, the site's location with respect to the nearby employment, commercial and activity centers, and the balance of the Falcon and Colorado Springs metropolitan areas; the site's proposed land use; the site's proposed access points; and the

phasing of the existing and future roadway system serving the site. An initial trip distribution estimate based on data from the PPACG travel demand model was calculated by running a select zone analysis for the zone that includes this site (661) and then comparing those results to the 2040 model volumes. Engineering judgement and LSC estimates were then applied using the other factors listed to modify these percentages. The PPACG model output is attached.

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

TOTAL TRAFFIC

Figure 11 shows the projected short-term (Year 2021) total traffic volumes. The short-term total traffic volumes are the sum of the short-term background traffic volumes (from Figure 6) plus the short-term site-generated traffic volumes (from Figure 9).

Figure 12 shows the projected 2040 total traffic volumes. The 2040 total traffic volumes are the sum of the 2040 background traffic volumes (from Figure 7) plus the long-term site-generated traffic volumes (from Figure 10).

PROJECTED LEVELS OF SERVICE

The key area intersections 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 2021) 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 2040) analysis, except for the southbound through traffic on US Hwy 24 during the morning peak hour and the northbound through traffic on US Hwy 24 in the afternoon peak hour. Based on the existing peak hour factor and high traffic volumes projected for these movements, a future peak hour factor of 0.98 was used. The results of the analysis are contained in Figures 6, 7, 11, and 12. The level of service reports are attached.

Stapleton/Saybrook

The full-movement site access to Stapleton Drive (Saybrook Road) is projected to operate at a LOS C or better for all movements during the peak hours as a stop-sign controlled “T” intersection based on the projected short-term total traffic volumes. By 2040 it was assumed that Stapleton Drive would be constructed to its full cross section, a south leg would be added to the Stapleton/Saybrook Road to serve a future commercial development. Based on the 2040 total traffic volumes and the lane geometry shown in Figure 12 the minor approach movements are

projected to operate at LOS F during the afternoon peak hour if this intersection remains stop-sign controlled. If this intersection is converted to traffic signal control all movements at this intersection are projected to operate at LOS D or better during the peak hours.

Stapleton/Eastonville

The eastbound approach at the intersection of Stapleton/Eastonville is currently operating at LOS F during the morning peak hour. A PPRTA project is currently planned to improve Eastonville Road in the vicinity of the site. However, the timing of this project is unknown. The eastbound and westbound approaches at this intersection are projected to operate at LOS F during the morning and afternoon peak hour, based on the projected short-term total traffic volumes, even with the addition of northbound and southbound left-turn lanes. If the intersection is converted to all-way, stop-sign control as recommended in the *Conceptual Design Report Eastonville Road Project* prepared by Wilson & Company Inc., the northbound shared through and right-turn lane is projected to operate at LOS F during the morning peak hour and LOS C during the afternoon peak hour. All other movements would operate at LOS D or better during the peak hours. To maintain an acceptable level of service, these PPRTA improvements will need to be completed and the intersection will need to be converted to traffic-signal control.

By 2040, it was assumed that Stapleton Drive would be constructed to its full cross section. Based on the 2040 total traffic volumes and the lane geometry shown in Figure 12 all movements at this intersection are projected to operate at LOS D or better during the peak hours except for the eastbound left-turn movement which is projected to operate at LOS E. This movement has projected delays in the LOS E range simply because they arrive at the traffic signal at the beginning of the red phase at an intersection with many phases and a long cycle length. This movement would not be considered “failing” since the volume-to-capacity ratios are less than one. The justification is that to progress through traffic along an arterial corridor, the traffic signal offsets and left-turn phase times have been adjusted to favor the through band, which can result in higher delay for the left-turn movements even though there is sufficient capacity for them.

Stapleton/US Hwy 24

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 traffic volumes. By 2040, some movements at this intersection are projected to operate at LOS E or F during the peak hours. To maintain an overall LOS D or better as a “conventional” four-leg signalized intersection, it may be necessary to provide three approach through lanes in all directions. Alternate traffic-control options were presented in the US Hwy 24 PEL Study. Alternatives to a “conventional” four-leg signalized intersection may include a jug handle intersection, a continuous flow

intersection (or partial/half CFI), or a junior interchange. An alternate intersection design may be needed long-term to maintain an acceptable level of service.

Londonderry/Eastonville

All movements at the stop-sign-controlled intersection of Londonderry/Eastonville are projected to operate at LOS C or better during the peak hour, based on the projected short-term total traffic volumes. By 2040 the eastbound left-turn movement is projected to operate at LOS if it were to remain as a two-way, stop-sign-controlled intersection. All movements at this intersection are projected to operate at a satisfactory level of service, if it is reconstructed as a modern roundabout or traffic-signal controlled. The *Conceptual Design Report Eastonville Road Project* prepared by Wilson & Company Inc. recommends a three-lane cross section on Eastonville Road adjacent to the site. However, by 2040, it may be necessary to provide two northbound and southbound through lanes to achieve an acceptable level of service.

Rex/Eastonville

In the short term, it was assumed that a new section of Rex Road would be constructed from Eastonville Road through the Grandview Reserve sketch plan area to US Hwy 24. It was assumed that the section of Rex Road just west of Eastonville Road through the Meridian Ranch development was not yet constructed. The intersection of Rex/Eastonville is projected to operate at LOS B or better for all movements during the peak hours as a stop sign-controlled "T" intersection, based on the projected short-term total traffic volumes.

By 2040, it was assumed that Rex Road would be completed between Meridian Road and US Hwy 24. Based on the projected 2040 total traffic volumes, the intersection of Rex/Meridian is projected to operate at LOS F for some of the minor approach volumes, if it is stop-sign-controlled. If this intersection is constructed as a one-lane modern roundabout or if it is traffic-signal-controlled, all movements are projected to operate at LOS D or better during the peak hours.

TRAFFIC SIGNAL WARRANT ANALYSIS

The intersections of Stapleton/Eastonville and Stapleton/US Hwy 24 were analyzed to determine when Four-Hour Vehicular Volume Traffic-Signal Warrant thresholds would be reached or exceeded, based on the projected short-term peak-hour traffic volumes. The satisfaction of warrants does not indicate that a signal must be installed. The decision to require a signal to be installed rests with the County (or CDOT in the case of US Highway 24/Stapleton).

Stapleton/Eastonville

Table 3 shows the results of the analysis for the intersection of Stapleton/Eastonville. The minor approach volumes were assumed to include either the eastbound left-turn, through, and

right-turn movements or the westbound left-turn and through movements (the right-turn movements were excluded, as there is an exclusive right-turn lane). Even if the threshold is met, based on both the eastbound and westbound approaches, it would only be considered to be met once for that hour. As shown in the Table 3, the thresholds for a Four-Hour Vehicular Volume Traffic-Signal Warrant are **not** projected to be met, based on the projected short-term (Year 2021) total traffic volumes.

Stapleton/US Hwy 24

Table 4 shows the signal warrant analysis for the intersection of Stapleton/US Hwy 24, based on the existing (2019) traffic volumes. The analysis assumes the minor approach includes the higher of either the southbound (Stapleton Drive) left-turn and through movements or northbound (Curtis Road) left-turn and through movements. This intersection currently meets the thresholds for a Four-Hour Vehicular Volume Traffic Signal Warrant for two of the four hours. Three additional hours are projected to meet the thresholds based on the short-term (Year 2021) background traffic volumes.

FUNCTIONAL CLASSIFICATIONS AND LANEAGE

Figure 13 shows the recommended functional classifications for the roadways in the vicinity of the site. Figure 14 shows the anticipated future street connections and classifications. The functional classifications and number of through lanes are consistent with the current El Paso County *MTCP*. Figure 13 also shows a comparison of the projected average weekday traffic volume (ADT) and the design ADT from the *ECM* for the key street segments in the vicinity of the site.

ROUNDABOUT DESIGN EXHIBITS

A revised layout of the proposed Saybrook roundabout has been prepared. Please refer to the attached roundabout design exhibits which include a preliminary parameters summary table, dimensions and parameters figure, a fastest-path analysis, and truck-turning analysis. Per discussion with staff, upon review and approval of these exhibits by County staff, the completed roundabout design report will be submitted. The civil base drawing shown in grayscale on these exhibits has been revised based on the splitter islands, outer roundabout curb locations and center island shown on these exhibits.

TRANSPORTATION IMPROVEMENT FEE PROGRAM

The Waterbury Filing Nos. 1 and 2 will be required to participate in the Countywide Transportation Improvement Fee Program. They will join the ten-mil PID. The ten-mil PID building permit fee portion associated with this option is $1,221 per single-family dwelling unit. Based on 198 lots, the total building permit fee would be $241,758. Note: This is based on the current rate, which is subject to change. El Paso County updates this rate periodically.

PUD DEVELOPMENT PLAN CONDITIONS OF APPROVAL

The following is a list of the previous Waterbury conditions of approval. Table 5 shows the cost estimate and amount of money to be escrowed for each improvement. Each condition is represented by a line item or two in the table. The condition reference letters "a" through "g" are shown in the first column of the table.

a. <u>US Hwy 24/Stapleton Drive Intersection</u>: Additional design, construction, and/or deposit of funds for US Hwy 24/Stapleton Drive intersection per CDOT access permit conditions.

The Waterbury PUD study included escrow for the US Hwy 24/Stapleton Drive intersection per CDOT access permit conditions. This development will need to escrow funds as participation in a future traffic signal. The amount will be determined through the CDOT access-permit process. It is our understanding that this intersection is considered an "eligible intersection" with respect to a future traffic signal in the County Road Improvement Fee Program. Therefore, once a signal is installed, the applicant may be entitled to a credit and reimbursement for a portion of the amount escrowed to CDOT. The credit would be based on the Fee Program rules and would be based on the fee program signal-unit cost. As such any credit would likely be a pro-rated portion of the total amount escrowed.

b. <u>US Hwy 24/Judge Orr Road Intersection</u>: Additional design, construction, and/or deposit of funds for US Hwy 24/Judge Orr Road intersection per CDOT access permit conditions.

CDOT previously indicated that this project would not be required to complete any improvements or escrow any funds for future improvements at this intersection.

c. <u>Eastonville Road/Stapleton Drive Intersection</u>: Additional design, construction, and/or deposit of funds for Eastonville Road/Stapleton Drive intersection improvements and traffic signals, if warranted.

The traffic-signal warrant analysis indicates that a signal would not likely be warranted in the short term. The westbound half-section of Stapleton Drive has been constructed. The westbound left-turn lane, which has already been constructed as part of the northern half-section of Stapleton, will be able to be placed into service with the completion of the southern (eastbound) half of the intersection. The future construction of the eastbound left-turn lane will be completed with the south (eastbound) half of the intersection. The northbound and southbound auxiliary turn lanes will likely be constructed as part of the Eastonville PPRTA project. It is our understanding that this intersection is considered an "eligible intersection" with respect to a future traffic signal. Therefore, an escrow from this development would not be necessary.

d. <u>Eastonville Road:</u> Construction, contribution, and/or escrow of funds for final grading and asphalt paving from Latigo Boulevard to Stapleton Drive.

Filings 1 and 2 will add minimal traffic to Eastonville Road. Some site trips will travel between schools in Meridian Ranch and the site. Eastonville is a planned PPRTA project. The improvements will be constructed by the county as part of the PPRTA project. However, the exact scope and timing of the PPRTA project is unknown.

e. <u>Stapleton Drive/Bandanero Intersection:</u> Design and construction of intersection reconfiguration improvements at Stapleton Drive/Bandanero intersection.

LSC recommends that intersection reconfiguration improvements at Stapleton/Bandanero be deferred until traffic volumes on Stapleton increase to the point where restriction of the intersection to three-quarter movement or right-in/right-out become necessary. Currently, traffic volumes on Stapleton are sufficiently light to allow this intersection to remain unchanged. The need for reconfiguration of this intersection could be evaluated with future final plat applications and/or preliminary plans. Table 5 shows the percentage contribution by Filings 1 and 2 toward these improvements.

f. <u>Stapleton Drive/Dumont Drive (Future Intersection):</u> Design and construction of intersection reconfiguration improvements at Stapleton Drive/Dumont Drive intersection.

Improvements at Stapleton Drive/Dumont Drive will be completed later—either with 4 Way Ranch commercial development or future Waterbury subdivision filings—showing the completion of Dumont north of Stapleton and the connection to Stapleton on the north side.

g. <u>Stapleton Drive:</u> Design, construction, contribution, and/or escrow of funds for the second two lanes of Stapleton Drive from Eastonville Road to Highway 24.

Stapleton Drive expansion to four lanes would not be necessary with the currently proposed filings or overall PUD site-generated traffic alone. The expansion to four lanes would be needed with significant additional background traffic. There is an intergovernmental agreement in place which documents the responsibility of the 4 Way Ranch Metro District for the second two lanes of Stapleton Drive. This IGA essentially functions like a SIA. Table 5 presents the calculated percentage contribution for Filings 1 and 2toward the future Stapleton improvements.

DEVIATION REQUESTS

Current

- A deviation request to the criteria for the typical Urban Residential Collector Cross Section contained in the *El Paso County Engineering Criteria Manual* (*ECM*) criteria will be submitted for Saybrook Road as part of this application. The deviation request is to allow

partial turn movement direct access for lots adjacent to Saybrook Road. The proposed modified cross section will allow for needed access while preserving operation of through movements.
STATUS: SUBMITTED LAST YEAR-UNDER REVIEW; Resubmitted on Updated Form

Prior Approved

- A deviation for traffic is requested and approved for a modification of the Saybrook Road (Urban Residential Collector) to allow left- and right-turn bays on southbound Saybrook (approaching Stapleton) to be designed for required stacking/storage plus a compact bay taper design.
  STATUS: PRIOR APPROVED; Resubmitted on updated form per County request.

- A deviation to allow a proposed full-movement intersection on Stapleton Road about 2,200 feet from US Highway 24 and 1,345 feet from Dumont (future).
  STATUS: PRIOR APPROVED; Resubmitted on updated form per County request.

- Note: A prior deviation was approved to defer construction of a westbound right-turn deceleration lane on Stapleton at Saybrook. This deviation no longer applies and is no longer requested or included in the application.
  STATUS: PRIOR APPROVED BUT WITHDRAWN AS NO LONGER APPLICABLE.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

Waterbury Filing Nos. 1 and 2 is expected to generate about 1,867 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, about 36 vehicles would enter and 103 vehicles would exit the site. During the afternoon peak hour, about 117 vehicles would enter and 69 vehicles would exit the site.

Level of Service

The intersection of Saybrook/Stapleton is projected to operate at an acceptable level of service in the short-term as a stop-sign controlled “T” intersection. By 2040 it was assumed that Stapleton Drive would be constructed to its full cross section, a south leg would be added to the Stapleton/Saybrook Road to serve a future commercial development. Based on the 2040 total traffic volumes and the lane geometry shown in Figure 12 the minor approach movements are projected to operate at LOS F during the afternoon peak hour if this intersection remains stop-sign controlled. If this intersection is converted to traffic signal control all movements at this intersection are projected to operate at LOS D or better during the peak hours.

Please see the level of service section above for a discussion of the projected level of service of other key area intersections.

Required Improvements

Table 5 contains a summary of the recommended improvements.

* * * * *

Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

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

JCH/KDF:jas

Enclosures: Tables 2-6
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MTCP Maps
MTCP-Adopted-Report-12-6-2016
Map 15 Bicycle and Pedestrian Network Improvements
PPACG Model Output
Traffic Count Reports
Colorado Department of Transportation Straight Line Diagram
Level of Service Reports
Roundabout Exhibits

Tables 2-6

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Table 2
Waterbury Filing Nos. 1 and 2
Trip Generation Estimate

Filing	ITE Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates [1] Average Weekday Traffic	Trip Generation Rates [1] Morning Peak Hour In	Trip Generation Rates [1] Morning Peak Hour Out	Trip Generation Rates [1] Afternoon Peak Hour In	Trip Generation Rates [1] Afternoon Peak Hour Out	Total Trips Generated Average Weekday Traffic	Total Trips Generated Morning Peak Hour In	Total Trips Generated Morning Peak Hour Out	Total Trips Generated Afternoon Peak Hour In	Total Trips Generated Afternoon Peak Hour Out
1	210	Single-Family Detached Housing	115 DU [2]	9.43	0.18	0.52	0.59	0.35	1,084	21	60	68	40
2	210	Single-Family Detached Housing	83 DU	9.43	0.18	0.52	0.59	0.35	783	15	43	49	29
			198 DU						**1,867**	**36**	**103**	**117**	**69**

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

Source: LSC Transportation Consultants, Inc.

Jun-22

Table 3
Waterbury Filing Nos. 1 and 2
Traffic Signal Warrant Analysis of Eastonville/Stapleton
Peak-Hour Four-Hour Vehicular Volume Evaluation

	2017 Traffic Volumes						2021 Background Traffic						2021 Total Traffic					
	2017 Traffic Volumes[1]			Warrant 2, Four-Hour Vehicular Volume Evaluation(2)			2021 Background Traffic Volumes[3]			Warrant 2, Four-Hour Vehicular Volume Evaluation			2021 Total Traffic Volumes[3]			Warrant 2, Four-Hour Vehicular Volume Evaluation		
		Minor						Minor						Minor				
Time	Major[4]	EB[5]	WB[6]	Minor St Minimum	EB Met?	WB Met?	Major	EB	WB	Minor St Minimum	EB Met?	WB Met?	Major	EB	WB	Minor St Minimum	EB Met?	WB Met?
6:30 AM - 7:30 AM	536	101	39	322	No	No	789	320	143	206	Yes	No	797	327	180	202	Yes	No
7:30 AM - 8:30 AM	155	97	67	513	No	No	370	150	67	405	No	No	373	153	84	404	No	No
3:00 PM - 4:00 PM	- - -	- - -	- - -	- - -	- - -	- - -	466	159	174	357	No	No	487	178	194	347	No	No
4:00 PM - 5:00 PM	213	61	119	484	No	No	558	191	208	311	No	No	583	213	232	299	No	No
5:00 PM - 6:00 PM	215	56	82	483	No	No	505	172	188	338	No	No	527	192	209	327	No	No

Notes:

(1) The volumes are based on manual turning movements counts conducted by LSC in May 2017

(2) Based on 2 lanes on major approach and 1 lane on minor approach.

(3) The 6:30 AM - 7:30 AM and 7:30 AM - 8:30 AM volumes are based on the projected AM peak hour volumes times the ratio of the same time period from the 2017 count and the AM peak hour (6:35 AM -7:35 AM) from the 2017 count
The 4:00 PM - 5:00 PM and 5:00 P-M - 6:00 PM volumes are based on the projected PM peak hour volumes times the ratio of the same time period from the 2017 count and the PM peak hour (4:30 PM -5:30 PM) from the 2017 count
The 3:00 PM - 4:00 PM volumes are based on 80% of the projected PM peak hour volumes. This is an estimate by LSC based on the hourly distribution of entering and exiting vehicle trips by land use published by the Institute of Transportation Engineers (ITE) in August 2018 for Single-Family Detached Housing

(4) The major street volumes include all (left/through/right) movements on Eastonville Road.

(5) The EB minor street volumes include all easbound movements (left, through, and right) on Stapleton Drive.

(6) The WB minor street volumes include only the left and through westbound movements on Stapleton Dr. The right-turn movements have been excluded because there is an existing exclusive right-turn lane on this approach.

Source: LSC Transportation Consultants, Inc.

Table 4
Traffic Signal Warrant Analysis
US 24/Stapleton Dr
Waterbury Filing Nos. 1 & 2

Warrant Analysis[1]

Warrant 1: Eight Hour Vehicular Volume Evaluation

Hour	Major[2] (US 24)	Minor 1[3] (Stapleton)	Minor 2[4] (Curtis)	Warrant Thresholds: Condition A (70%) Major	Condition A (70%) Minor	Condition B (70%) Major	Condition B (70%) Minor	Condition A (56%) Major	Condition A (56%) Minor	Condition B (56%) Major	Condition B (56%) Minor	Warrant Threshold Met? Condition A (70%): Minor 1 (Stapleton)	Minor 2 (Curtis)	Minor 1 or Minor 2	Condition B (70%): Minor 1 (Stapleton)	Minor 2 (Curtis)	Minor 1 or Minor 2	Combination[5] Condition A (56%): Minor 1 (Stapleton)	Minor 2 (Curtis)	Minor 1 or Minor 2	Combination[5] Condition B (56%): Minor 1 (Stapleton)	Minor 2 (Curtis)	Minor 1 or Minor 2
Existing Traffic[6]																							
6:00 AM	650	134	38	420	140	630	70	336	112	504	56	No	No	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
7:00 AM	697	167	82	420	140	630	70	336	112	504	56	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
8:00 AM	648	73	34	420	140	630	70	336	112	504	56	No	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes
9:00 AM	566	40	25	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	No	No
10:00 AM	595	27	19	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	No	No
11:00 AM	582	40	22	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	No	No
12:00 PM	644	35	26	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	No	No
1:00 PM	632	32	27	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	No	No
2:00 PM	689	48	60	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	Yes	Yes
3:00 PM	800	77	89	420	140	630	70	336	112	504	56	No	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
4:00 PM	961	60	125	420	140	630	70	336	112	504	56	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
5:00 PM	915	50	88	420	140	630	70	336	112	504	56	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Yes	Yes
6:00 PM	639	35	38	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	No	No
														4			**6**			**3**			**7**
Short-Term Background Traffic																							
6:00 AM	871	175	55	420	140	630	70	336	112	504	56	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
7:00 AM	933	218	120	420	140	630	70	336	112	504	56	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8:00 AM	869	95	50	420	140	630	70	336	112	504	56	No	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes
9:00 AM	758	53	37	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	No	No
10:00 AM	797	35	28	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	No	No
11:00 AM	780	52	32	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	No	No
12:00 PM	842	41	27	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	No	No
1:00 PM	827	38	28	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	No	No
2:00 PM	902	56	63	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	Yes	Yes
3:00 PM	1046	90	94	420	140	630	70	336	112	504	56	No	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
4:00 PM	1257	71	131	420	140	630	70	336	112	504	56	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
5:00 PM	1197	58	93	420	140	630	70	336	112	504	56	No	Yes	Yes	No	Yes	Yes	No	No	No	Yes	Yes	Yes
6:00 PM	835	41	40	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	No	No
														5			**6**			**3**			**7**
Short-Term Total Traffic																							
6:00 AM	889	182	56	420	140	630	70	336	112	504	56	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
7:00 AM	953	226	121	420	140	630	70	336	112	504	56	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8:00 AM	887	98	51	420	140	630	70	336	112	504	56	No	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes
9:00 AM	774	55	38	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	No	No
10:00 AM	814	37	29	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	No	No
11:00 AM	796	54	33	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	No	No
12:00 PM	890	44	28	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	No	No
1:00 PM	875	41	29	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	No	No
2:00 PM	953	61	65	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes
3:00 PM	1106	98	98	420	140	630	70	336	112	504	56	No	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
4:00 PM	1330	77	136	420	140	630	70	336	112	504	56	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
5:00 PM	1266	63	96	420	140	630	70	336	112	504	56	No	Yes	Yes	No	Yes	Yes	No	No	No	Yes	Yes	Yes
6:00 PM	883	45	42	420	140	630	70	336	112	504	56	No	No	No	No	No	No	No	No	No	No	No	No
														5			**6**			**3**			**7**

Warrant 2: Four Hour Vehicular Volume Evaluation

Hour	70% Warrant Threshold Minor Minimum	Warrant Threshold Met? Minor 1 (Stapleton)	Minor 2 (Curtis)	Minor 1 or Minor 2
Existing Traffic[6]				
6:00 AM	175	No	No	No
7:00 AM	175	No	No	No
8:00 AM	175	No	No	No
9:00 AM	230	No	No	No
10:00 AM	230	No	No	No
11:00 AM	230	No	No	No
12:00 PM	175	No	No	No
1:00 PM	175	No	No	No
2:00 PM	175	No	No	No
3:00 PM	140	No	No	No
4:00 PM	80	No	Yes	Yes
5:00 PM	80	No	Yes	Yes
6:00 PM	175	No	No	No
				2
Short-Term Background Traffic				
6:00 AM	110	Yes	No	Yes
7:00 AM	80	Yes	Yes	Yes
8:00 AM	110	No	No	No
9:00 AM	140	No	No	No
10:00 AM	140	No	No	No
11:00 AM	140	No	No	No
12:00 PM	110	No	No	No
1:00 PM	110	No	No	No
2:00 PM	80	No	No	No
3:00 PM	80	Yes	Yes	Yes
4:00 PM	80	No	Yes	Yes
5:00 PM	80	No	Yes	Yes
6:00 PM	110	No	No	No
				5
Short-Term Total Traffic				
6:00 AM	110	Yes	No	Yes
7:00 AM	80	Yes	Yes	Yes
8:00 AM	110	No	No	No
9:00 AM	140	No	No	No
10:00 AM	110	No	No	No
11:00 AM	140	No	No	No
12:00 PM	110	No	No	No
1:00 PM	110	No	No	No
2:00 PM	80	No	No	No
3:00 PM	80	Yes	Yes	Yes
4:00 PM	80	No	Yes	Yes
5:00 PM	80	No	Yes	Yes
6:00 PM	110	No	No	No
				5

Notes:
(1) Thresholds are based on 2 or more lanes on the major approach and 2 or more lanes on the minor approach with the 70% factor applied for a posted speed limit above 40 mph
(2) The major street traffic includes all movements (left, through, and right) on US 24
(3) The minor 1 street traffic includes left and through movements southeast bound on Stapleton Drive. The right-turn movements have been excluded.
(4) The minor 2 street traffic includes left and through movements northwest bound on Curtis Road. The right-turn movements have been excluded.
(5) To meet a "Combination" warrant both Condition A (56%) **and** Condition B (56%) must be met for 8 hours of an average day
(6) Based on traffic counts conducted by All Traffic Data Services, Inc. December 3-5, 2019

Source: LSC Transportation Consultants, Inc. *Feb-21*

Table 5

Waterbury Filing Nos. 1 and 2

Waterbury Cost Estimate for Conditions of Approval

Prior Condition of Approval #	Improvement/Location	Type of Improvement	Quantity	Units	Unit Cost [1]	Total Estimated Cost	Percent for Filing Nos. 1&2	Filing Nos. 1&2 Amt.
a)	US Hwy 24 & Stapleton Dr.	Signal Escrow[2]	1	ea	$650,000	$650,000	6.22%	$40,430
b)	US 24 & Judge Orr Intersection	Intersection Improvements	NOT REQUIRED BY CDOT					
c)	Eastonville Road & Stapleton Dr.	Signal	This intersection is considered an "eligible intersection" under the free impact program					
c)	Eastonville Road & Stapleton Dr.	Northbound and Southbound Turn Lane Improvements	To be included in Eastonville Road PPRTA Project					
c)	Eastonville Road & Stapleton Dr.	Eastbound and Westbound Turn Lane Improvements	The westbound left-turn lane, which has already been constructed as part of the north half section of Stapleton, will be able to be placed into service with the completion of the southern (eastbound) half of the interesection. The future construction of the eastbound left-turn lane will be completed with the south (eastbound) half of the intersection.					
d)	Eastonville Road - Stapleton to Latigo	Final Grading and Paving	PPRTA Project					
e)	Stapleton/Bandanero Intersection	Intersection Reconfiguration Impr.	250	ft	$27	$6,750	**3.00%**	$203
f)	Stapleton/Dumont Intersection	Intersection Reconfiguration Impr.	To be completed with future phases of Waterbury or contributions to be collected with future Waterbury filings that connect to Dumont (if the 4 Way Ranch Commecial project constructs the road).					
g)	Stapleton Drive - US 24 to Eastonville	Roadway Segment 4-Lane Principal	800	ft	$496	$396,672	3.44%	$13,639
g)	Stapleton Drive - US 24 to Eastonville	Roadway Segment Half Principal Art.	4,965	ft	$248	$1,230,923	3.44%	$42,323
								$96,594

Notes:

(1) Source: CDOT Comment Letter dated November 19, 2021

(2) The Waterbury PUD study included escrow for the US Hwy 24/Stapleton Drive intersection per CDOT access permit conditions. This development will need to escrow funds as participation in a future traffic signal. The amount will be determined through the CDOT access permit process. It is our understanding that this intersection is considered an “eligible intersection” with respect to a future traffic signal in the County Road Improvement Fee Program. Therefore, once a signal is installed, the applicant may be entitled to a credit and reimbursement for a portion of the amount escrowed to CDOT. The credit would be based on the Fee Program rules and would be based on the fee program signal unit cost. As such any credit would likely be a prorated portion of the total amount escrowed.

Source: LSC Transportation Consultants, Inc. *Mar-22*

Table 6
Waterbury Filing Nos. 1 and 2
Roadway Improvements

Item #	Improvement	Trigger	Timing	Responsibility
		Roadway Segment Improvements		
1	Eastonville - Stapleton to Latigo final grading and paving	dependent on PPRTA funding priorities	TBD by EPC; PPRTA "A-List" Project	PPRTA
2	Eastonville - Stapleton to Londonderry upgrade to Rural Minor Arterial (per MUTCD)	average daily traffic > 6,000 vehicles per day	dependent on PPRTA funding priorities	PPRTA
3	Eastonville - Londonderry to future Waterbury access upgrade from unimproved roadway to Rural Minor Arterial (per MUTCD)	average daily traffic > 300 vehicles per day	With future Waterbury filings or Initial Grandview Reserve rilings or Construction of Rex to Eastonville	PPRTA or developers with fee reimbursement
4	Eastonville - Stapleton to Grandview Reserve south boundary upgrade to Rural Minor Arterial (per MUTCD)	average daily traffic > 20,000 vehicles per day	dependent on PPRTA funding priorities	PPRTA Grandview and other area developments if/as required
5	Stapleton Drive - US Hwy 24 to Eastonville Road complete southern (eastbound) half	average daily traffic > 18,000 vehicles per day	Shown in 2040 MTCP	El Paso County west of Eastonville Road; 4 Way Ranch Metro District east of Eastonville Road.
6	Widen US Hwy 24 to provide two lanes in each direction	dependent on CDOT funding priorities	Shown in US Highway 24 PEL Study; 2040 MTCP	CDOT
		Stapleton/US Hwy 24 Intersection		
7	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	CDOT; along with any available escrow collected from area developments through the access permitting process.
8	Add dual left-turn lanes	As needed with future developments (Will require Items 5, 6, and 7 to be completed)	Future	Area developments as required
9	Potential long-term capacity upgades (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, including this project, through the access permitting process.
		Eastonville/Stapleton		
10	Construct northbound and southbound left-turn lanes on Eastonville Rd. approaching Stapleton Dr.	- - -	Short-Term	PPRTA/El Paso County[1]
11	Signalization of the intersection of Stapleton/Eastonville.	Once warrants are met. The decision on timing of traffic signal installation rests with El Paso County Public Works.	anticipated in the short-term	eligible intersection under the fee impact program
		Stapleton/Saybrook Intersection		
12	Constructed an eastbound left-turn lane on Stapleton Dr approaching Saybrook. This lane should be 335 feet long plus a 200-foot taper.	eastbound left-turn volume > 10 vph	With Waterbury Filing Nos. 1 and 2	Waterbury
13	Constructed a westbound right-turn deceleraton lane on Stapleton Dr approaching Saybrook. This lane should be 235 feet long plus a 200-foot taper.	westbound right-turn volume > 25 vph	With Waterbury Filing Nos. 1 and 2	Waterbury
14	Constructed a westbound right-turn acceleraton lane on Stapleton Dr at Saybrook. This lane should be 760 feet long plus a 180-foot taper.	southbound right-turn volume > 50 vph	With Future Waterbury Filings	Waterbury
15	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 El Paso County	Future (Likely with commercial development on the south side of Stapleton)	Waterbury and/or other area developments

Notes:

(1) The design of Eastonville Road will be performed by the Meridian Ranch developer. LSC anticipates that these turn lanes will be included in the project design. The project will be constructed by El Paso County as PPRTA project.

Source: LSC Transportation Consultants, Inc. (September 2021)

Figures 1-14

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N

Approximate Scale
Scale: 1"= 4,000'

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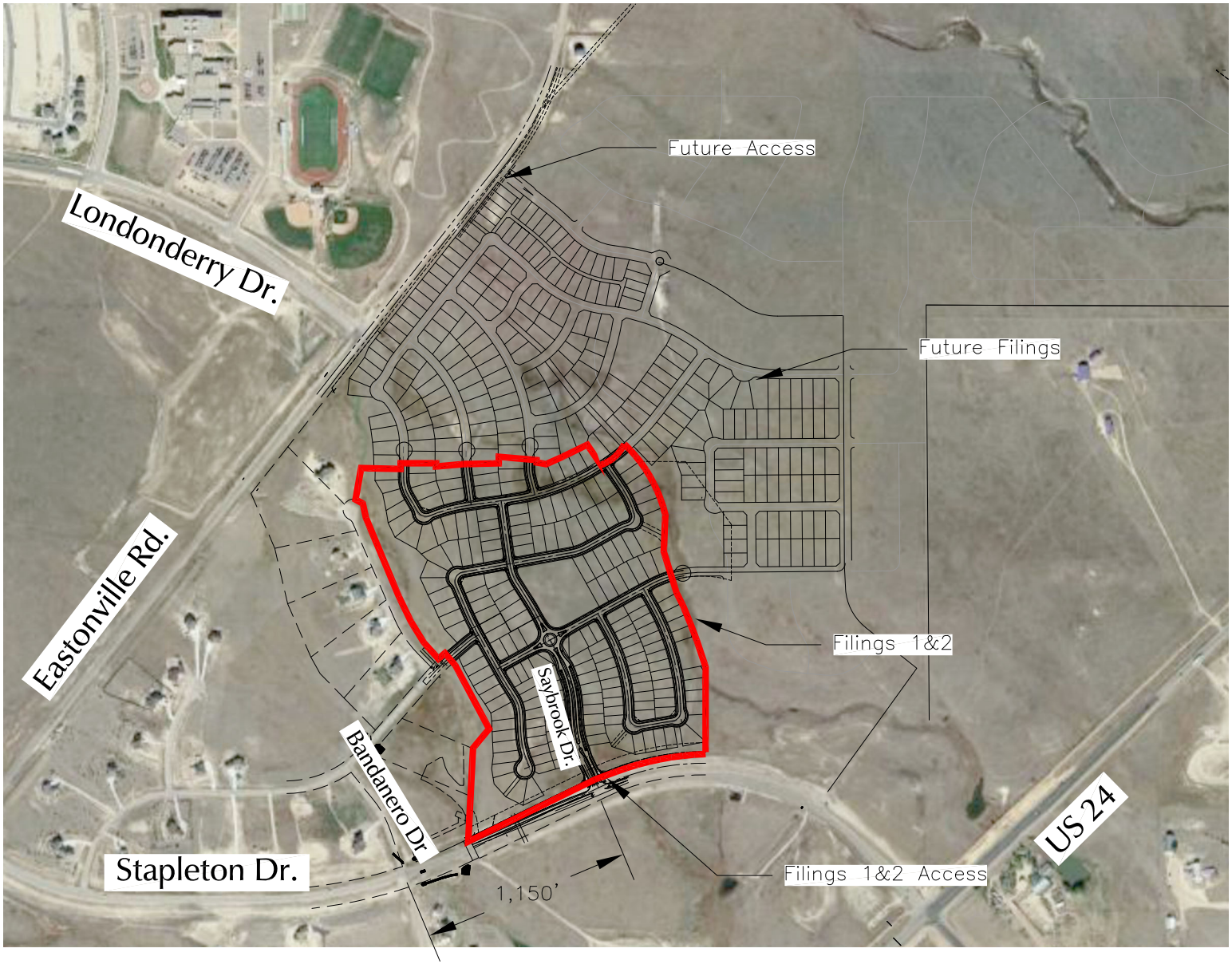
Figure 1

Vicinity Map

Waterbury Filing Nos 1 and 2 (LSC #204220)



Approximate Scale
Scale: NTS

Figure 2

Site Plan

Waterbury Filing Nos 1 and 2 (LSC #204220)

LSC TRANSPORTATION CONSULTANTS, INC.

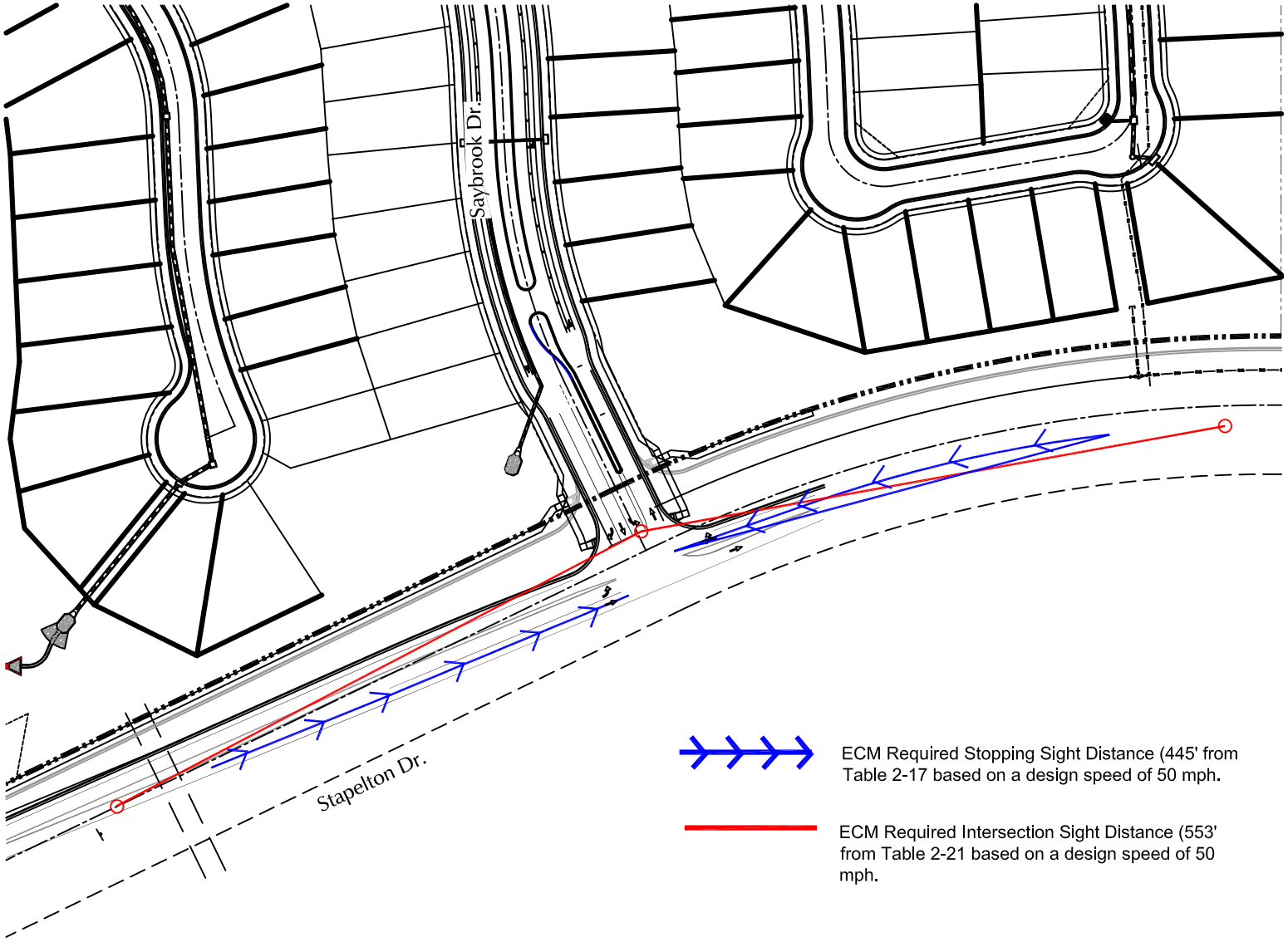


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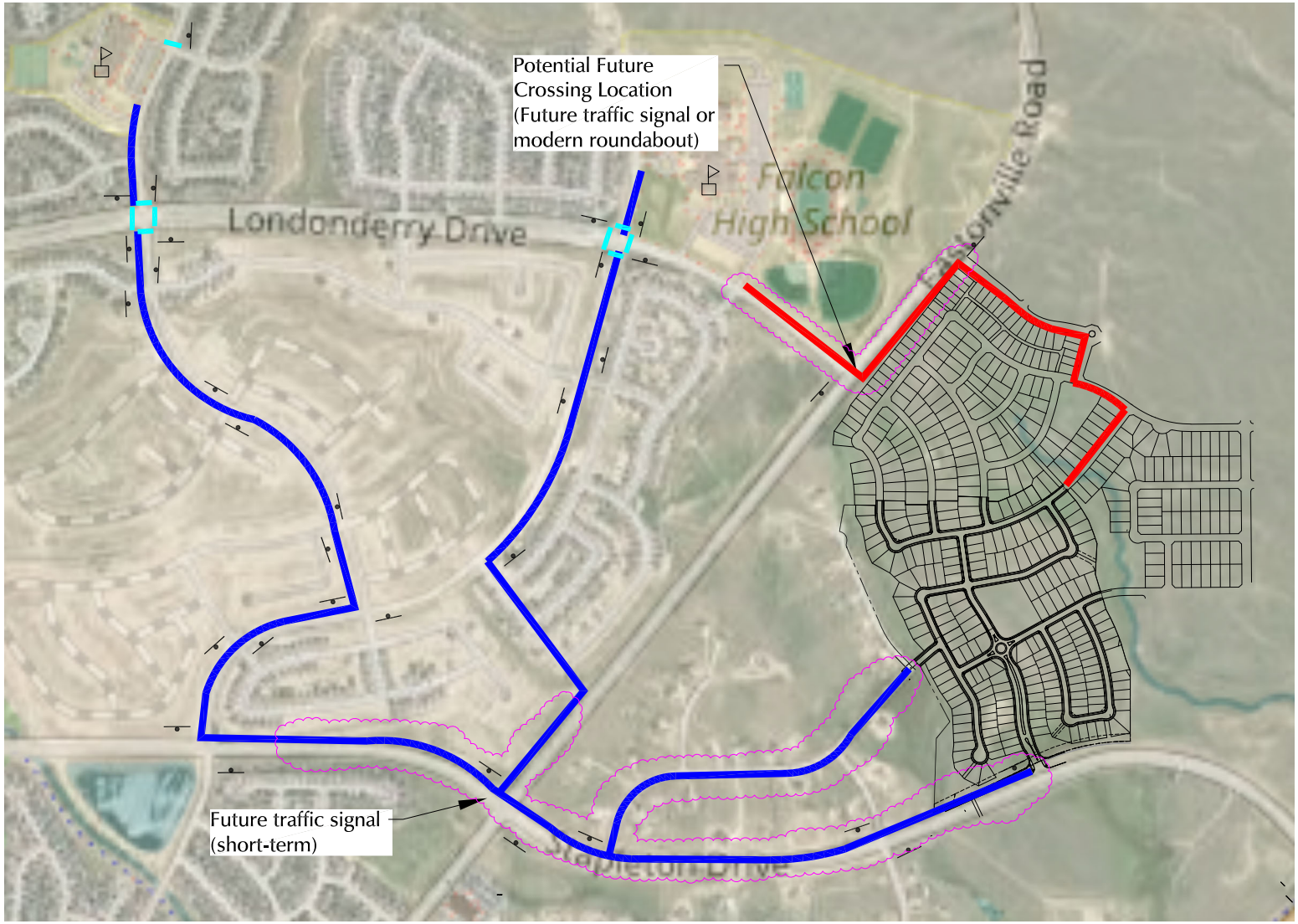
Figure 3

Sight Distance Analysis

Waterbury Filing Nos 1 and 2 (LSC #204220)



N

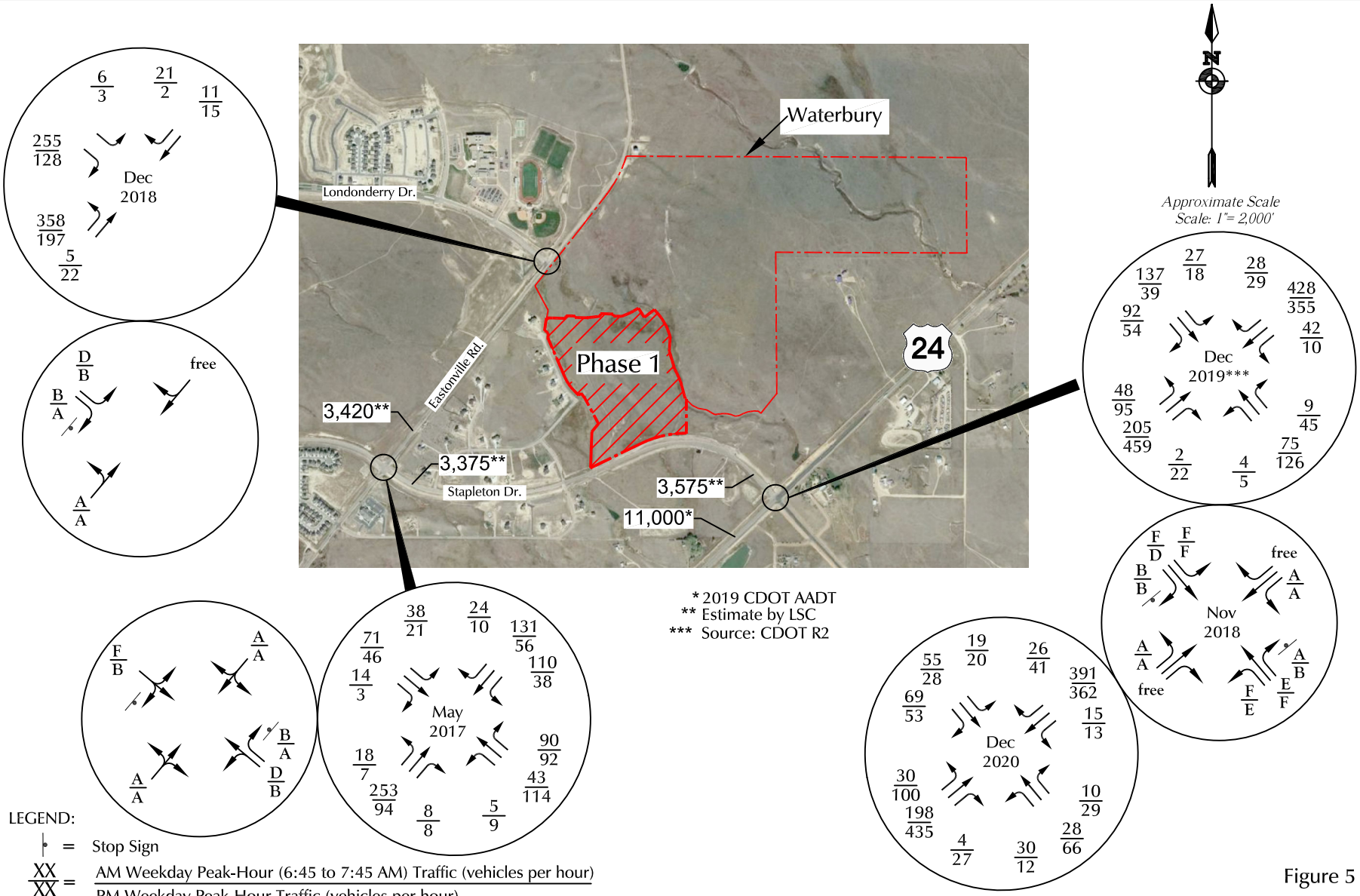
Approximate Scale
Scale: NTS

Figure 4

School Pedestrian Routes

Waterbury Filing Nos 1 and 2 (LSC #204220)

LSC TRANSPORTATION CONSULTANTS, INC.



* 2019 CDOT AADT
** Estimate by LSC
*** Source: CDOT R2

LEGEND:

| = Stop Sign

XX/XX = AM Weekday Peak-Hour (6:45 to 7:45 AM) Traffic (vehicles per hour) / PM Weekday Peak-Hour Traffic (vehicles per hour)

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

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

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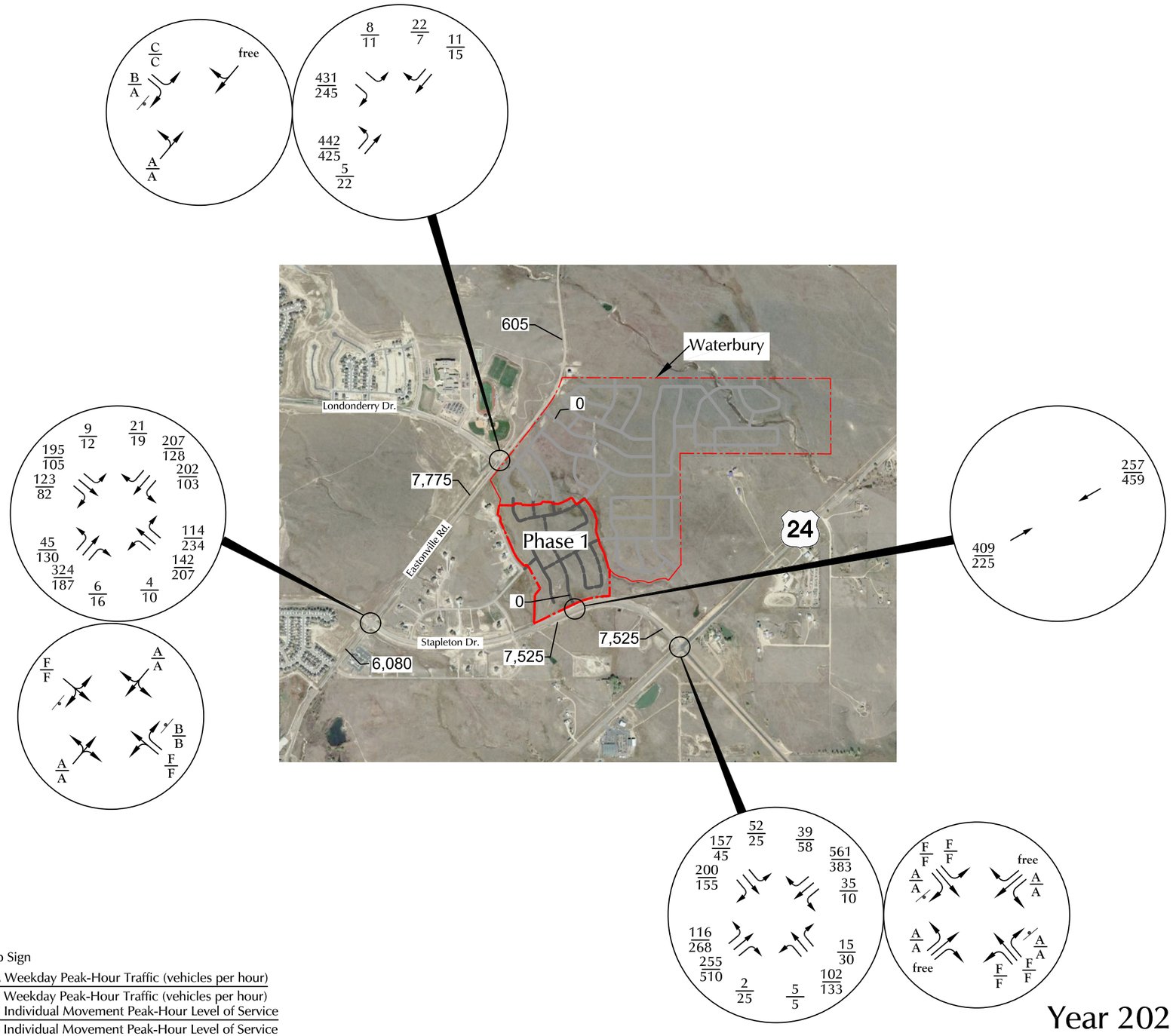
Figure 5

Existing Traffic, Lane Geometry and Traffic Control

Waterbury Filing Nos 1 and 2 (LSC #204220)



Approximate Scale
Scale: 1"= 2,000'

LEGEND:

= Stop Sign

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

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

X,XXX= Annual Average Daily Traffic (vehicles per day)=(CDOT 2016)

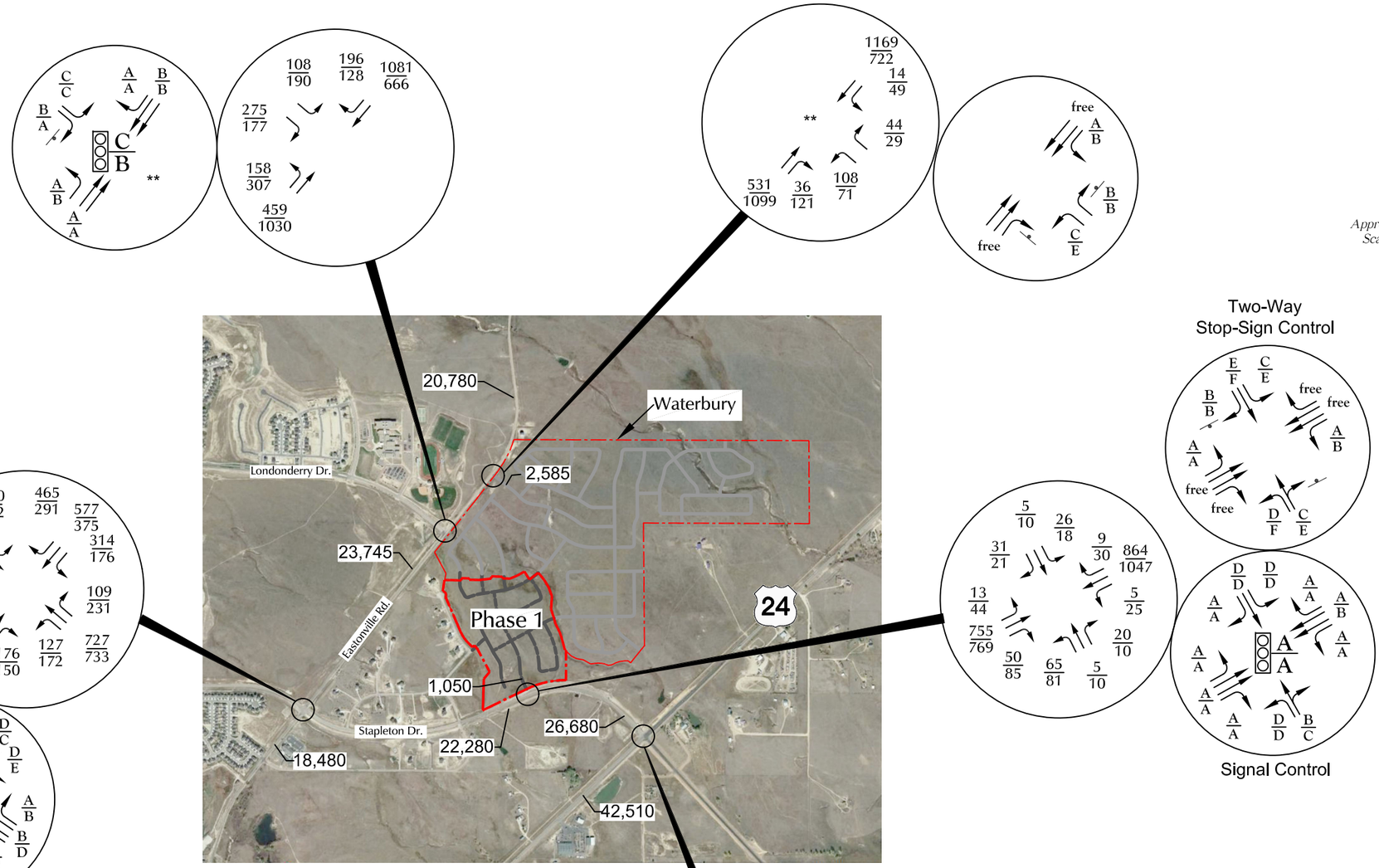
LSC TRANSPORTATION CONSULTANTS, INC.

Figure 6

Year 2021 Background Traffic, Lane Geometry and Traffic Control

Waterbury Filing Nos 1 and 2 (LSC #204220)

** The Conceptual Design Report Eastonville Road Project prepared by Wilson & Company Inc. recommends a three-lane cross section on Eastonville Road adjacent to the site, however based on potential future traffic volumes projected due to other area developments including the Grandview Reserve development located just north of Waterbury it may be necessary to provide two northbound and southbound through lanes to achieve an acceptable level of service.



*The US 24 Planning and Environmental Study (Oct 2017) identifies options for capacity improvements at this intersection, including a jug handle or jr. interchange.

LEGEND:

= Stop Sign

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

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

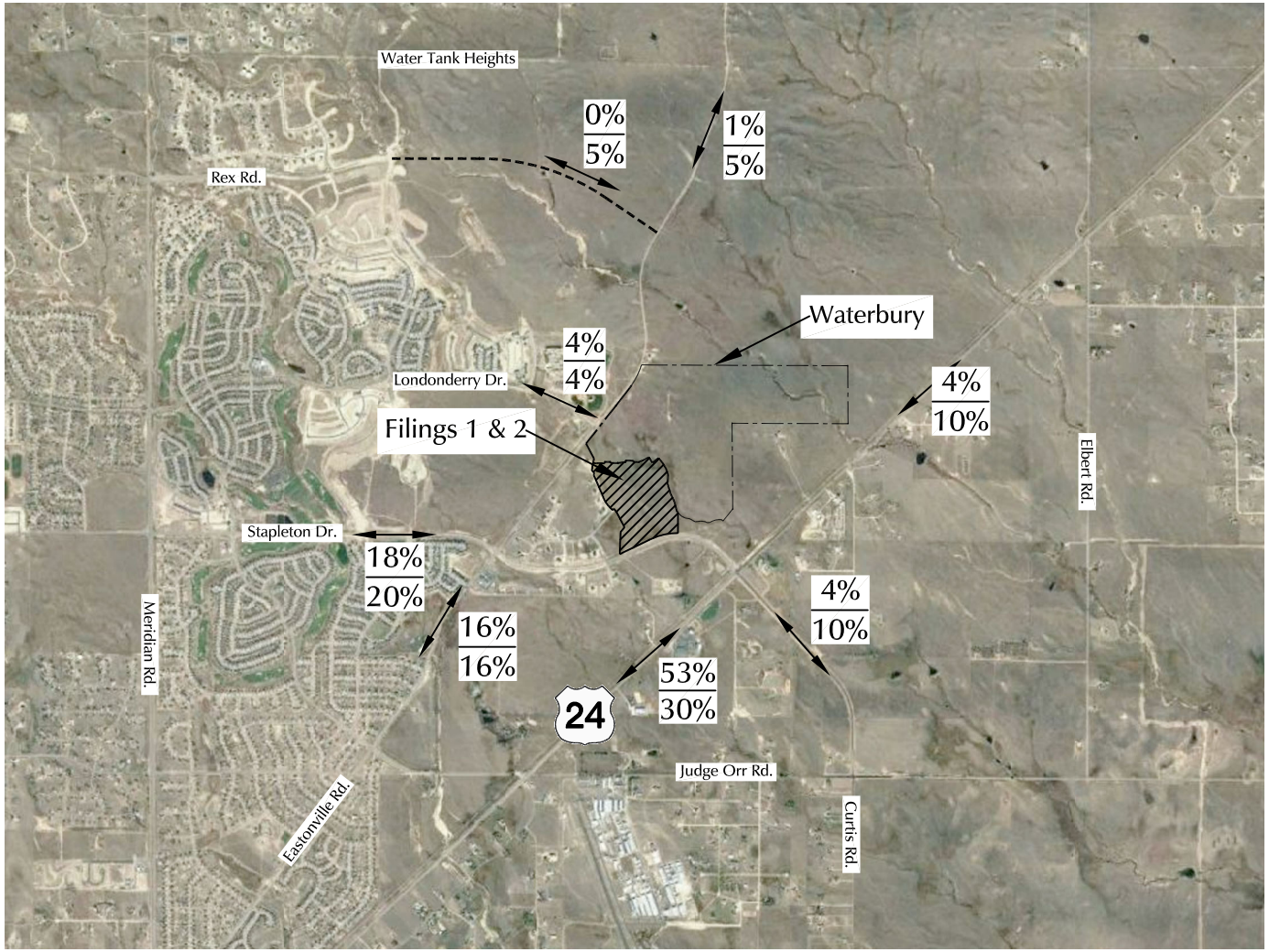
X,XXX= Annual Average Daily Traffic (vehicles per day)=(CDOT 2016)

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 7

Year 2040 Background Traffic, Lane Geometry and Traffic Control

Waterbury Filing Nos 1 and 2 (LSC #204220)



Approximate Scale
Scale: 1"= 4,000'

LEGEND:

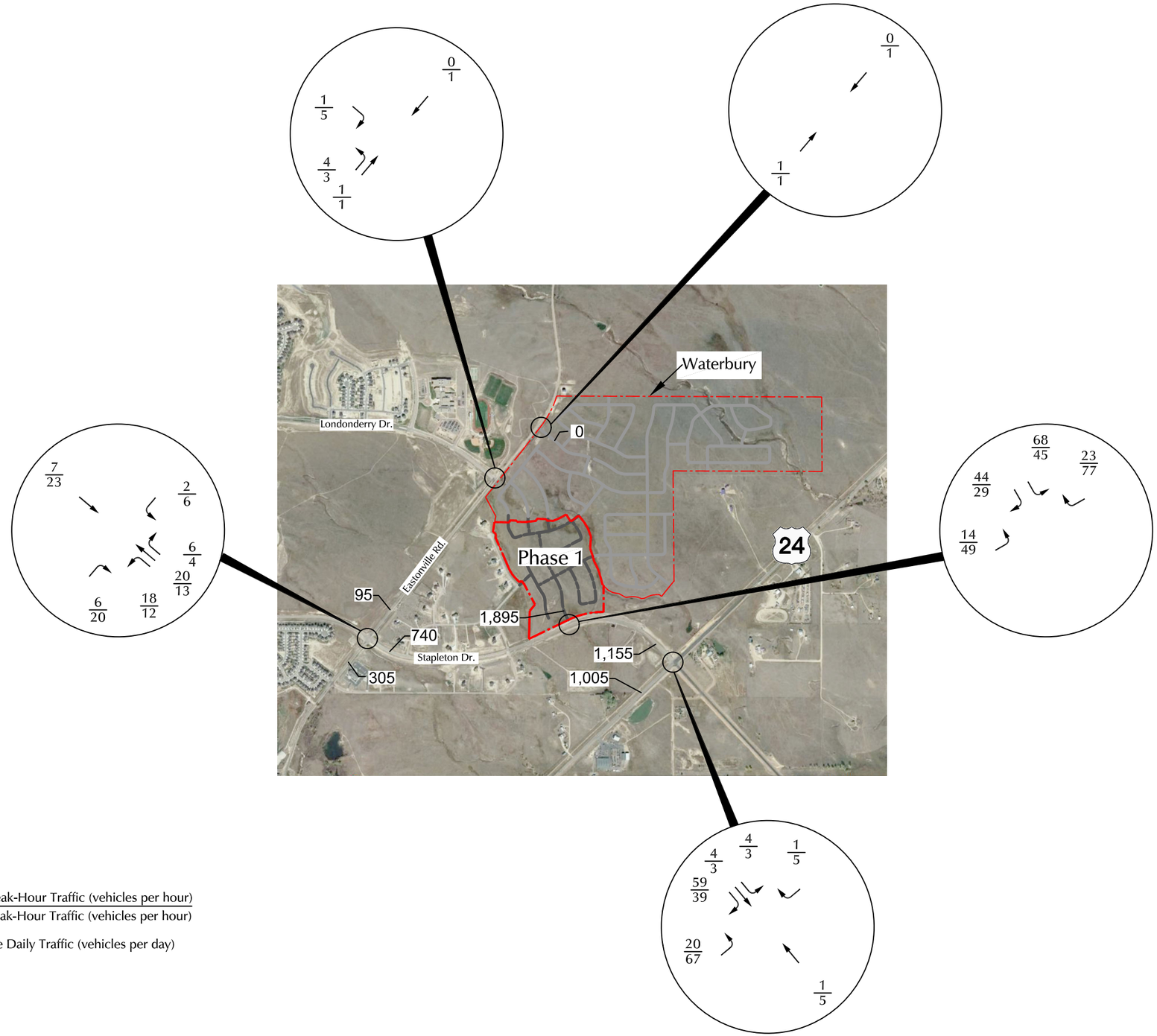
$$\frac{\text{XX\%}}{\text{XX\%}} = \frac{\text{Short-Term Percent Directional Distribution}}{\text{Long-Term Percent Directional Distribution}}$$

TRANSPORTATION CONSULTANTS, INC.

Figure 8

Directional Distribution of Site-Generated Traffic

Waterbury Filing Nos 1 and 2 (LSC #204220)



Approximate Scale
Scale: 1"= 2,000'

LEGEND:

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

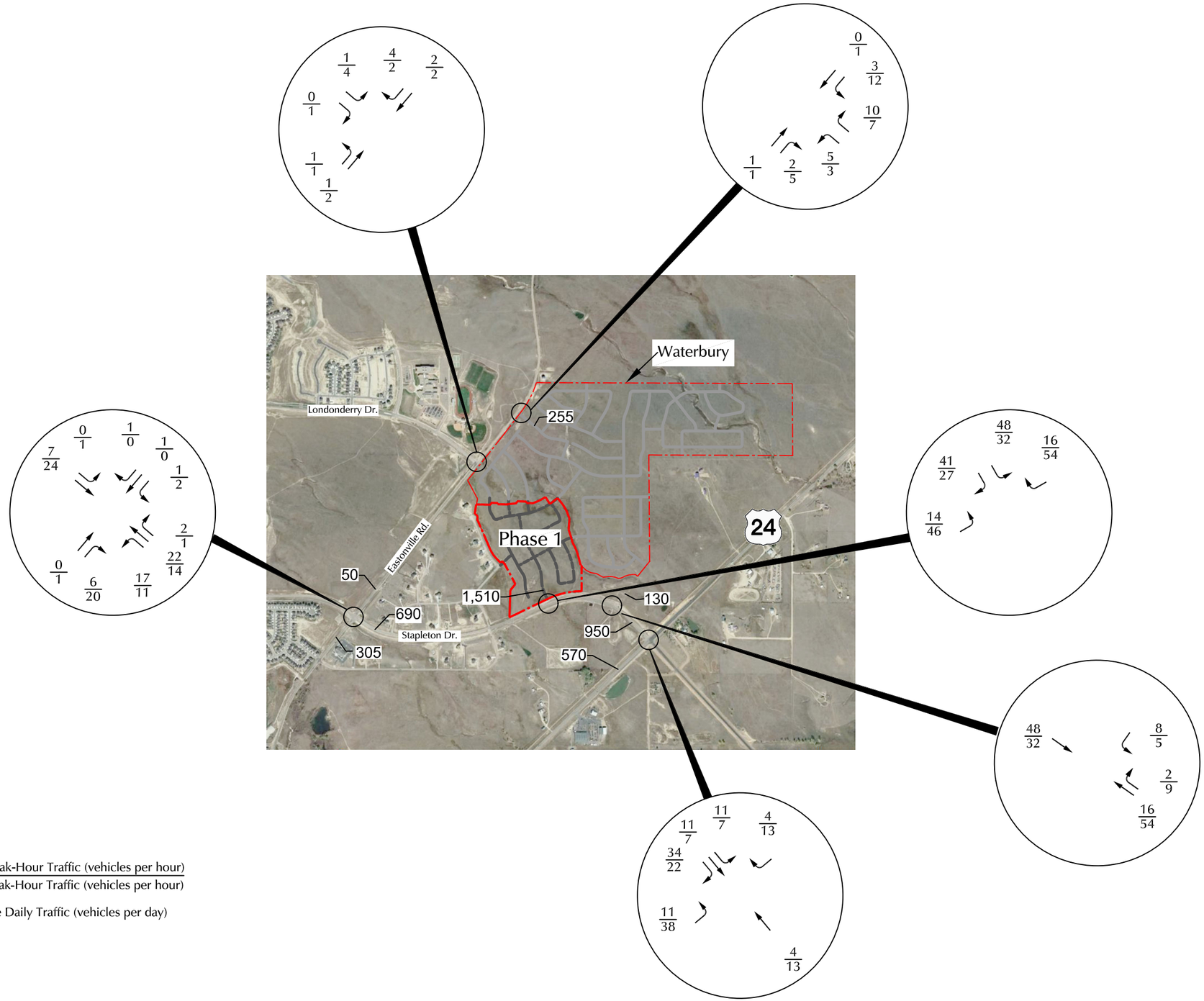
X,XXX= Average Daily Traffic (vehicles per day)

Figure 9

Assignment of Short-Term Site-Generated Traffic

Waterbury Filing Nos 1 and 2 (LSC #204220)

LSC TRANSPORTATION CONSULTANTS, INC.



Approximate Scale
Scale: 1"= 2,000'

LEGEND:

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

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

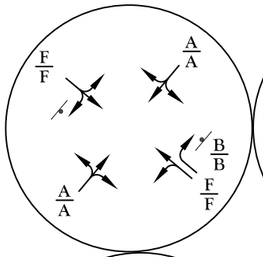
Figure 10

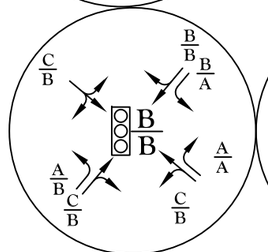
Assignment of Long-Term Site-Generated Traffic

Waterbury Filing Nos 1 and 2 (LSC #204220)

LSC TRANSPORTATION CONSULTANTS, INC.

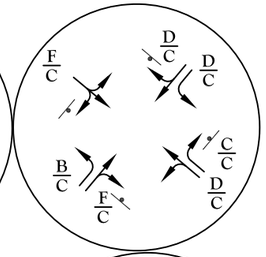
Assuming Current Laneage and two-way stop sign control

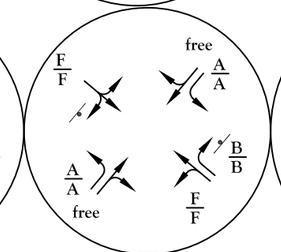




Signal Control (Assuming northbound and southbound turn lanes as part of PPRTA project (timing unknown))

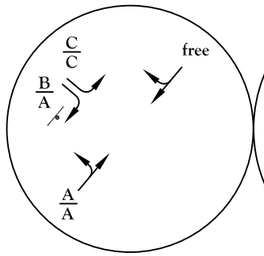
All-Way Stop Sign Control (Assuming northbound and southbound turn lanes as part of PPRTA project (timing unknown))

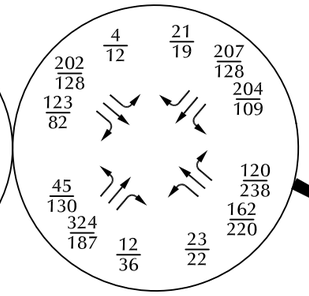


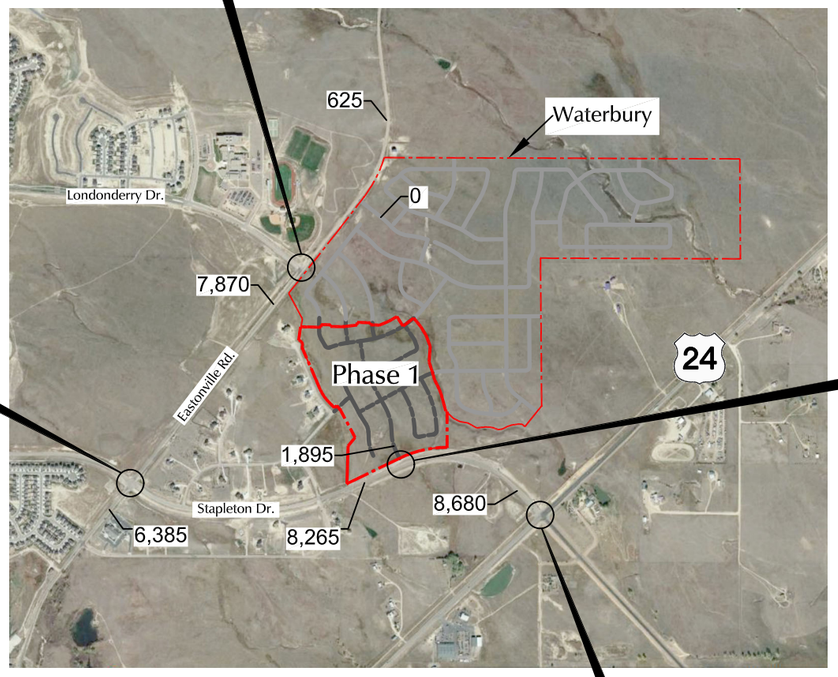


Two-Way Stop-Sign Control (Assuming northbound and southbound turn lanes as part of PPRTA project (timing unknown))

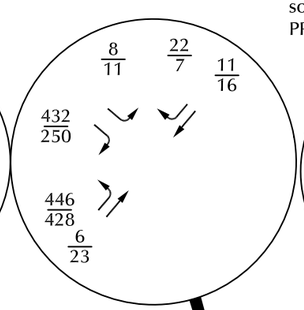
Assuming Current Laneage

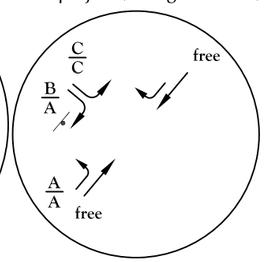


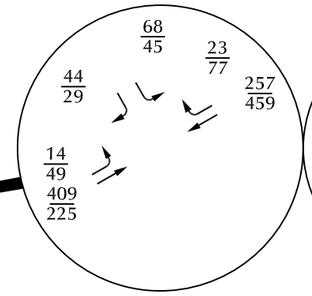


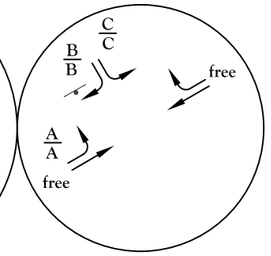


Assuming northbound and southbound turn lanes as part of PPRTA project (timing unknown)

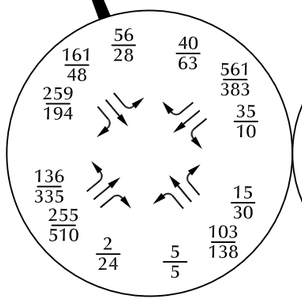


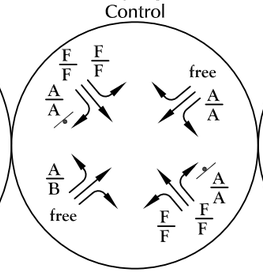




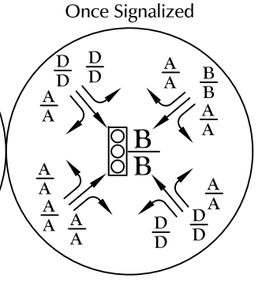


With Current Two-Way Stop-Sign Control





Once Signalized



LEGEND:

= Stop Sign

= Traffic Signal

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

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

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

X,XXX= Annual Average Daily Traffic (vehicles per day)=(CDOT 2016)

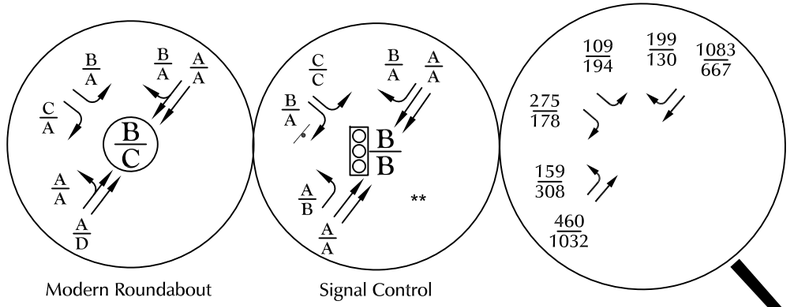
Approximate Scale
Scale: 1"= 2,000'

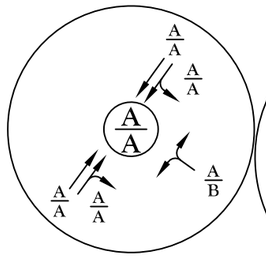
Figure 11

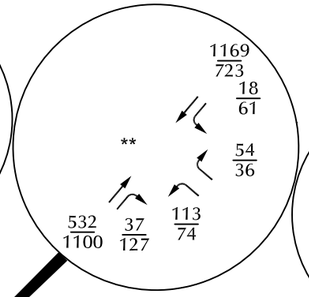
2021 Total Traffic, Lane Geometry and Traffic Control

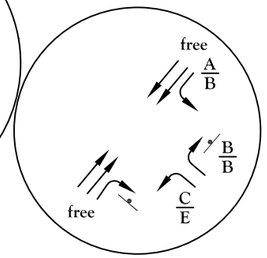
Waterbury Filing Nos 1 and 2 (LSC #204220)

LSC TRANSPORTATION CONSULTANTS, INC.

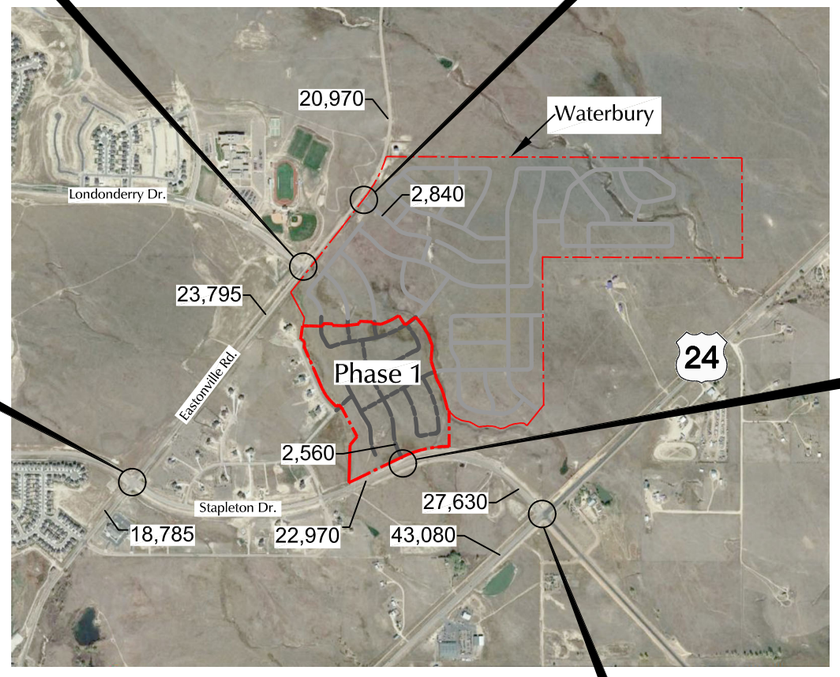


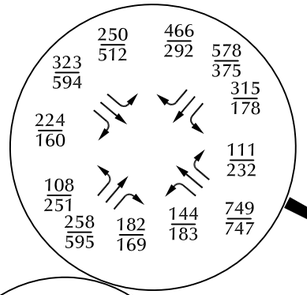


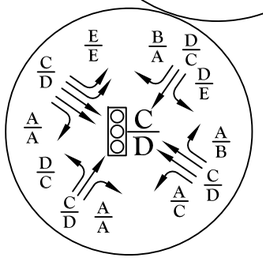


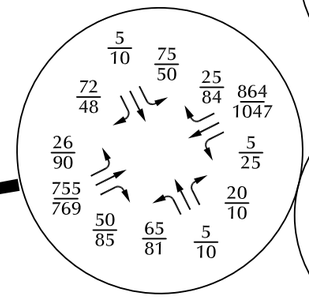


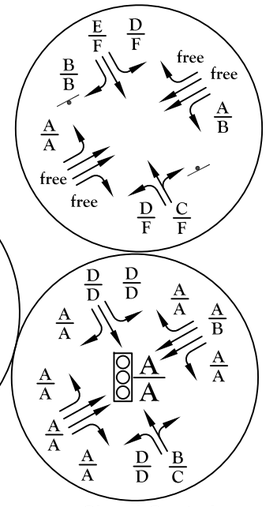
Approximate Scale
Scale: 1"= 2,000'

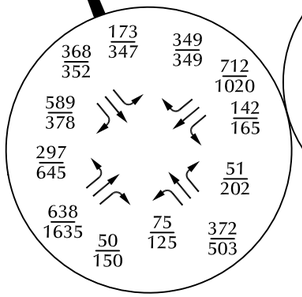


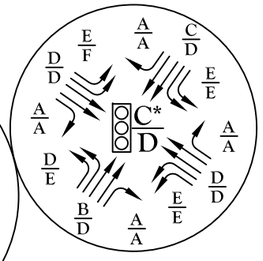












*The US 24 Planning and Environmental Study (Oct 2017) identifies options for capacity improvements at this intersection, including a jug handle or jr. interchange.

** The Conceptual Design Report Eastonville Road Project prepared by Wilson & Company Inc. recommends a three-lane cross section on Eastonville Road adjacent to the site, however based on potential future traffic volumes projected due to other area developments including the Grandview Reserve development located just north of Waterbury it may be necessary to provide two northbound and southbound through lanes to achieve an acceptable level of service.

LEGEND:

= Stop Sign

= Traffic Signal

= Roundabout

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

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

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

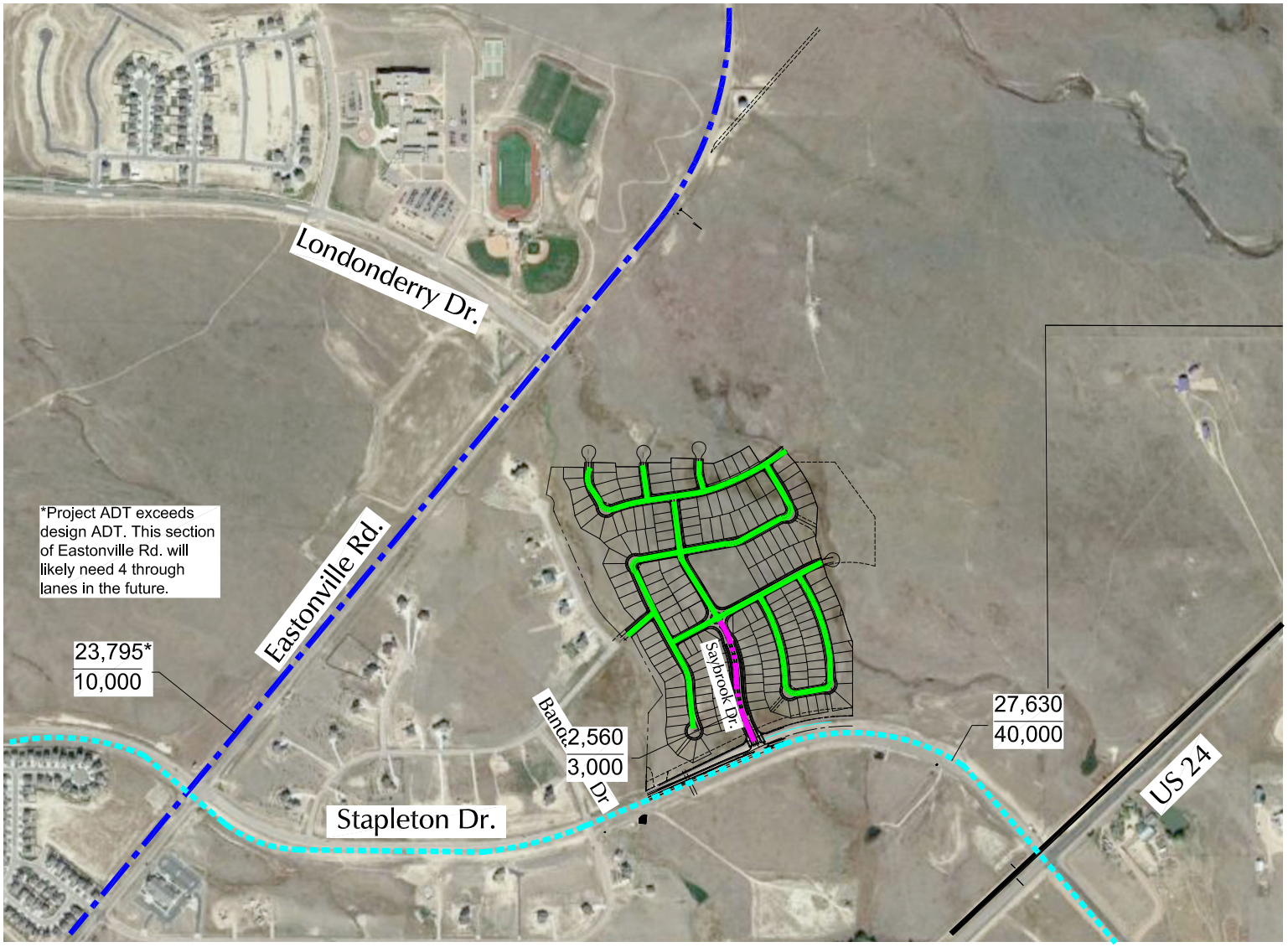
X,XXX= Annual Average Daily Traffic (vehicles per day)=(CDOT 2016)

TRANSPORTATION CONSULTANTS, INC.

Figure 12

2040 Total Traffic, Lane Geometry and Traffic Control

Waterbury Filing Nos 1 and 2 (LSC #204220)



N

Approximate Scale
Scale: NTS

Figure 13

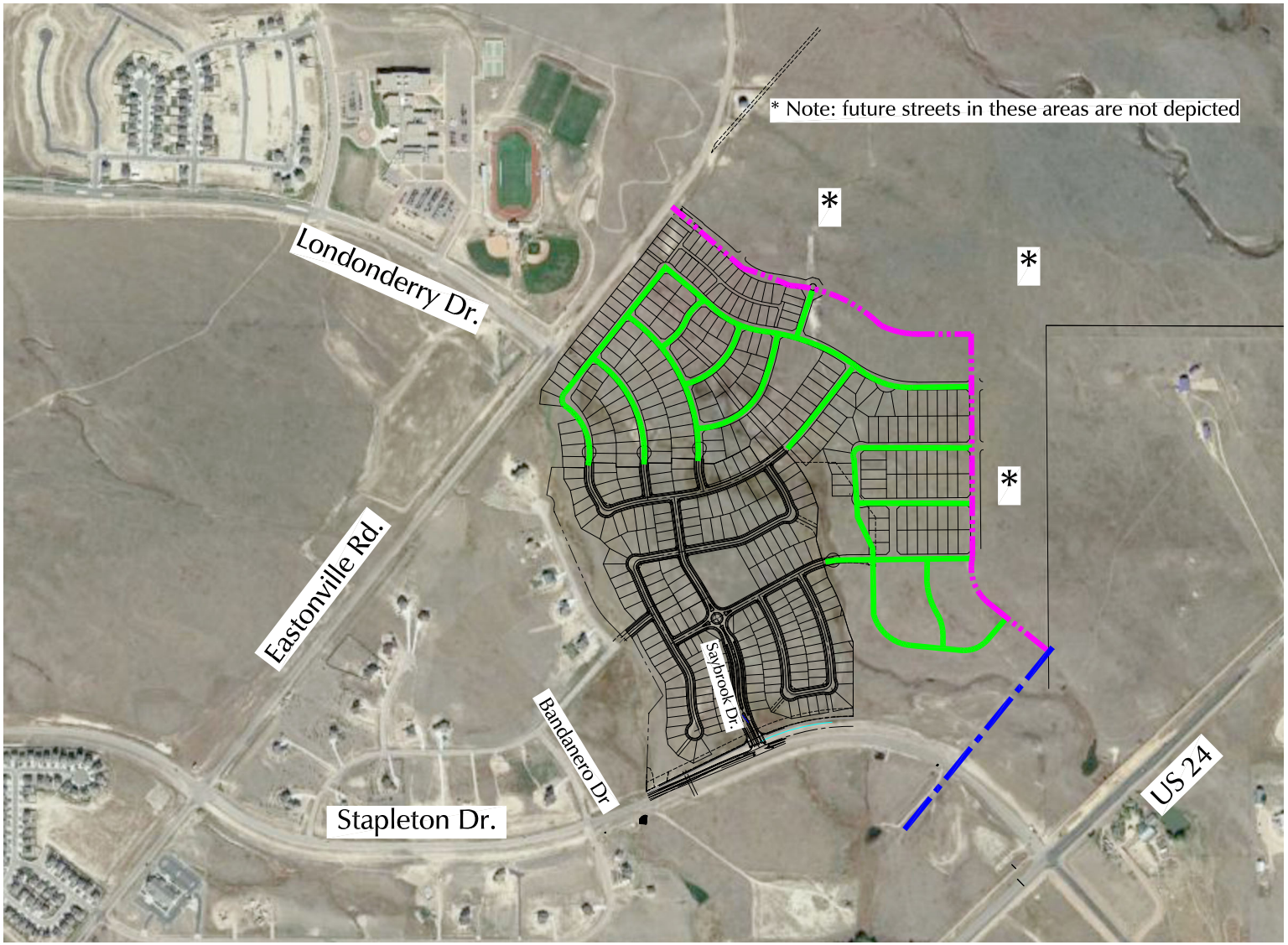
Recommended Street Classification

Waterbury Filing Nos 1 and 2 (LSC #204220)

= Ex-Expressway (CDOT)
= Urban Principal Arterial
= Rural Minor Arterial
= Urban Residential Collector
= Urban Local

$\frac{XX}{XX}$ = $\frac{\text{Projected 2040 Average Weekday Traffic (veh/day)}}{\text{ECM Design ADT (veh/day)}}$

LSC TRANSPORTATION CONSULTANTS, INC.



N

Approximate Scale
Scale: NTS

= Urban Non-Residential Collector
= Urban Residential Collector
= Urban Local

TRANSPORTATION CONSULTANTS, INC.

Figure 14

Future Anticipated Street Connections and Classification

Waterbury Filing Nos 1 and 2 (LSC #204220)

Appendix Table 1

TRANSPORTATION
CONSULTANTS, INC.

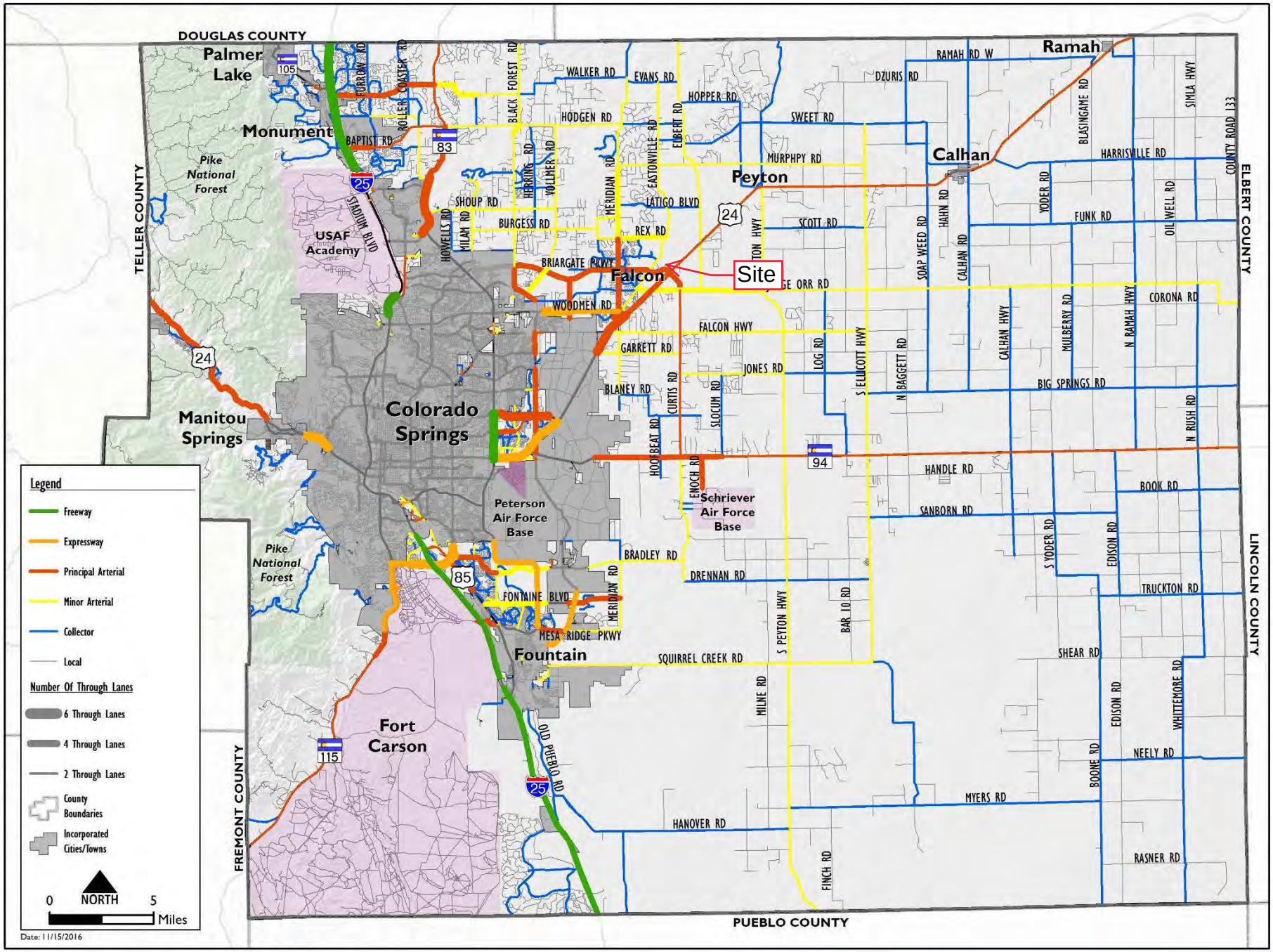
Appendix Table 1
Area Trafffic Impact Studies by LSC
Waterbury Filing Nos. 1 and 2

Study	Date
Meridian Ranch	
Meridian Ranch Sketch Plan TIA	April 11, 2011
Meridian Ranch Filing 11 Updated TIA	November 26, 2013
Stonebridge at Meridian Ranch Filing No. 1 Updated TIA	April 23, 2014
Stonebridge at Meridian Ranch Transportation Memorandum	July 28, 2015
Meridian Ranch Filing 8 Updated TIA	December 23, 2014
Meridian Ranch Filing 9 Updated TIA	May 21, 2015
Meridian Ranch Sketch Plan 2015 Amendment TIA	July 30, 2015
The Vistas at Meridian Ranch TIA	March 24, 2016
Meridian Ranch Estates Filing No. 2 Transportation Memorandum	August 27, 2015
The Vistas at Meridian Ranch Updated Transportation Memorandum	June 20, 2017
Londonderry Drive Pedestrian Operations and Safety Study	February 8, 2017
Stonebridge Filing 3 at Meridian Ranch Updated TIA	March 20, 2017
Meridian Ranch Sketch Plan 2017 Amendment TIA	October 3, 2017
WindingWalk at Meridian Ranch and The Enclave at Stonebridge at Meridian Ranch Updated Traffic Impact Analysis	May 10, 2018
Rolling Hills Ranch at Meridian Ranch PUDSP Traffic Impact Analysis	June 29, 2020
Rolling Hills Ranch at Meridian Ranch Filing No. 1 TIA	July 14, 2020
Rolling Hills Ranch at Meridian Ranch Filing No. 2 TIA	November 13, 2020
The Estates at Rolling Hills Ranch Filing No. 1 Traffic Impact Analysis	May 13, 2020
The Estates at Rolling Hills Ranch Filing No. 2 Traffic Impact Analysis	November 9, 2020
Grandview Reserve	
Grandview Reserve Updated Master TIA	December 15, 2020
Meadowlake Ranch	
Meadowlake Ranch Traffic Impact Analysis	May 29, 2019
Trails	
Trails Filing Nos. 9, 10 and 11	February 12, 2007

Source: LSC Transportation Consultants, Inc. (December 2020)

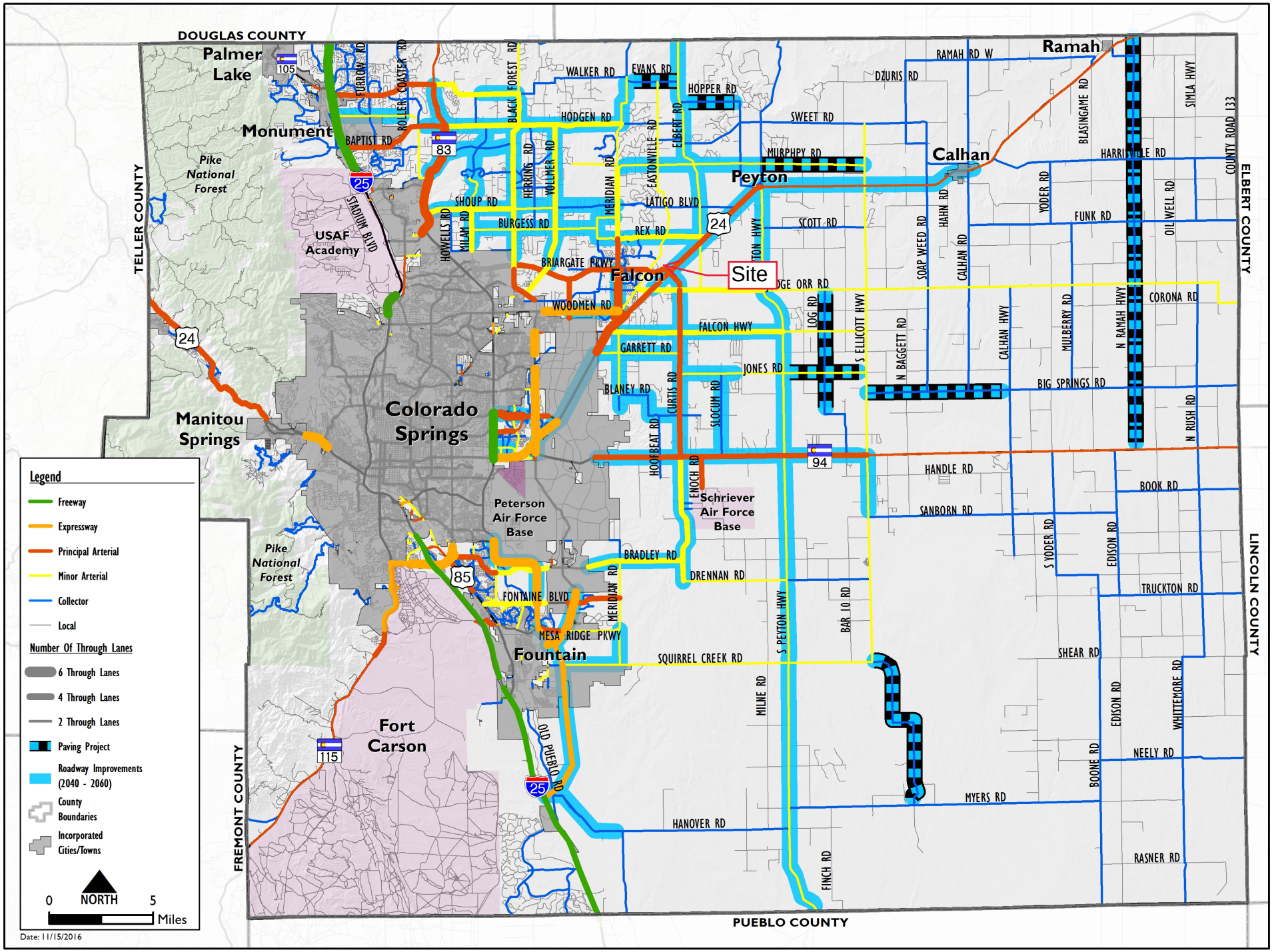
MTCP Maps

TRANSPORTATION
CONSULTANTS, INC.



Map 14: 2040 Roadway Plan (Classification and Lanes)

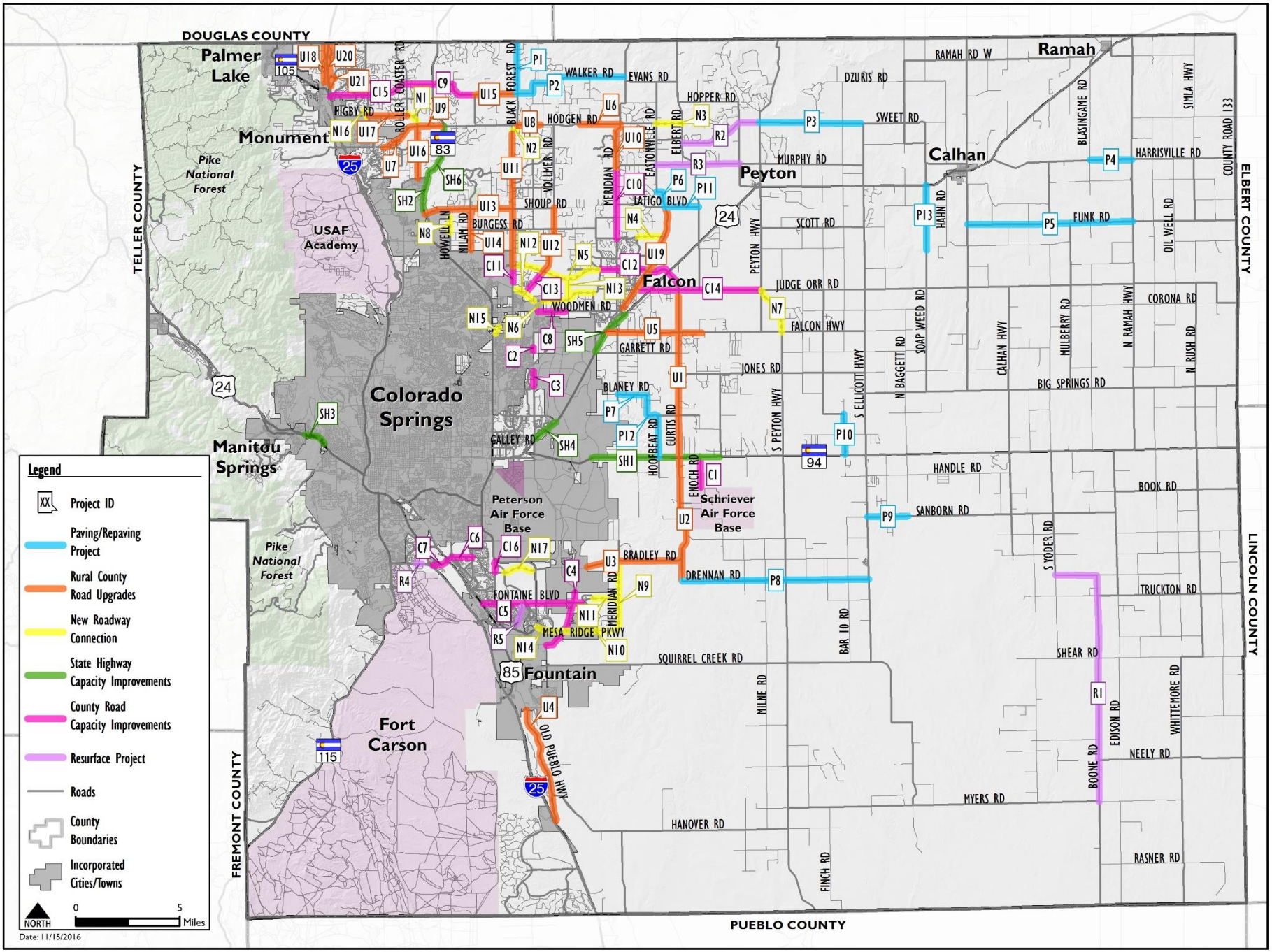
Map 17: 2060 Corridor Preservation



MTCP-Adopted-Report-12-6-2016

Map 15 Bicycle and Pedestrian Network Improvements

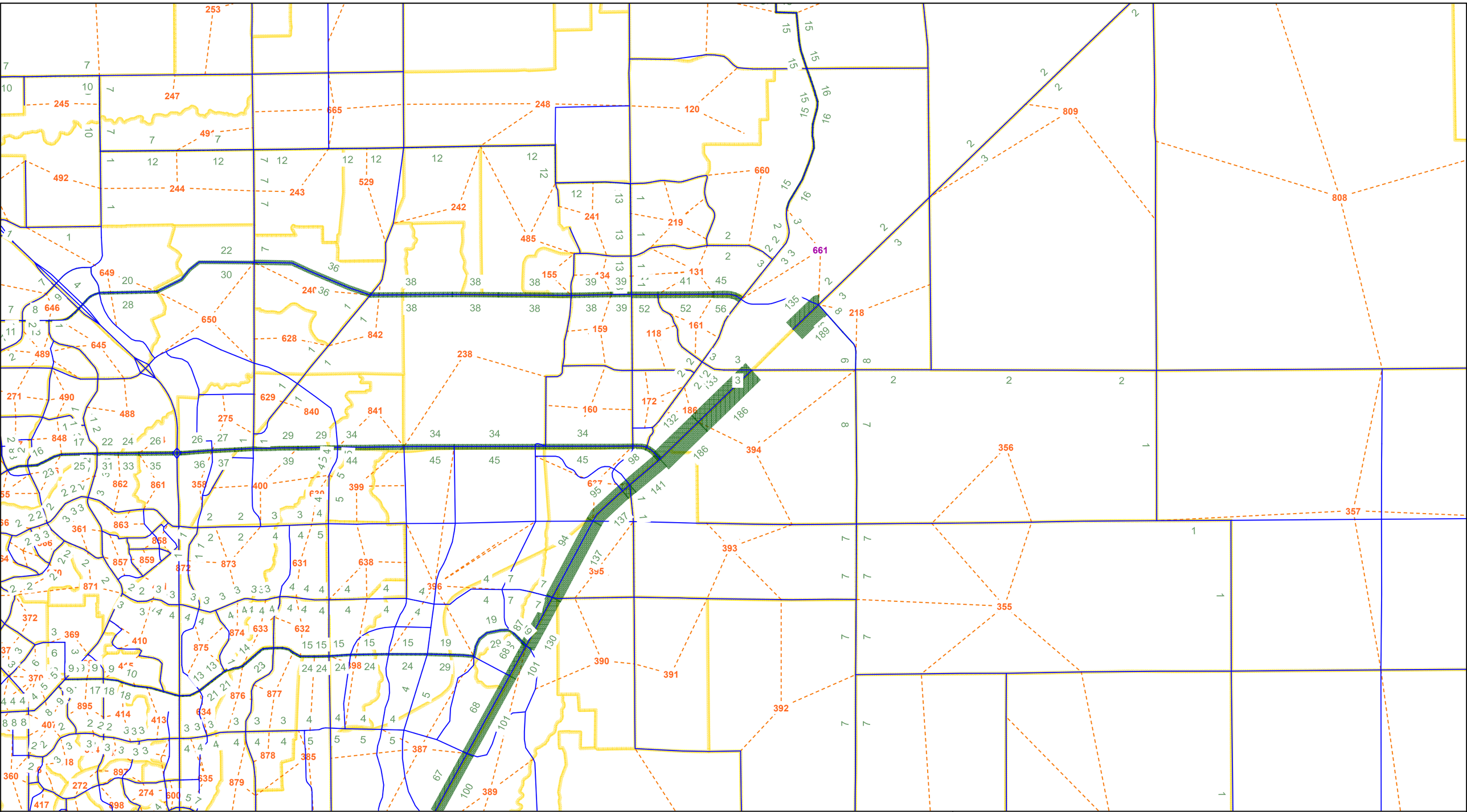
TRANSPORTATION
CONSULTANTS, INC.



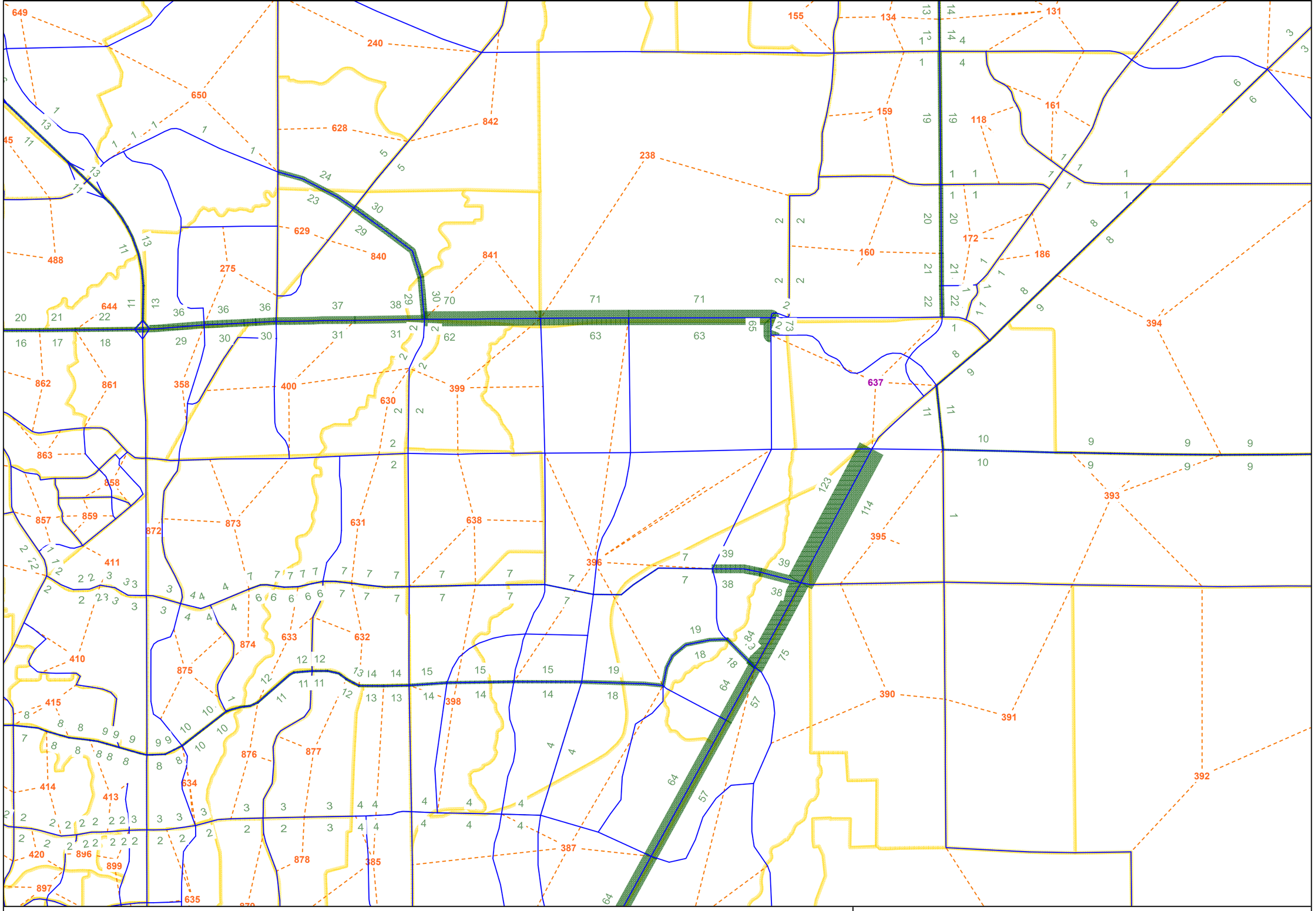
Map 13: Roadway Improvement Projects

PPACG Model Output

TRANSPORTATION
CONSULTANTS, INC.



Select Link 661	Created on: 10.04.2020
PPACGTR201507 2040_run on 10June2019.ver	1:72446



Select Link 637	Created on: 10.04.2020
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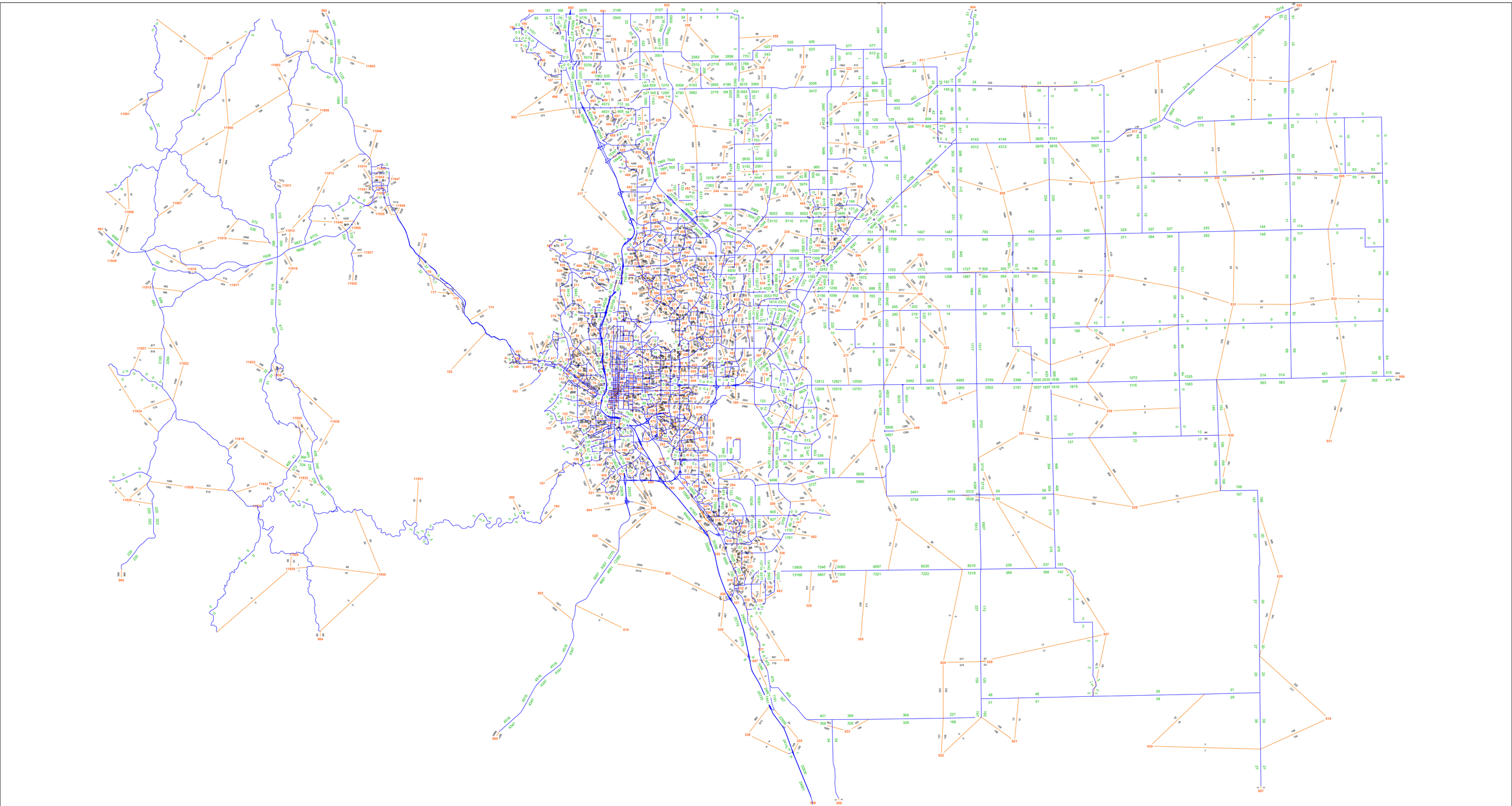


PPACGTR201507 2040_run on 10June2019.ver	1:107320

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 : Eastonville Rd - Londonderry Dr AM 12-18
Site Code : 184750
Start Date : 12/11/2018
Page No : 1

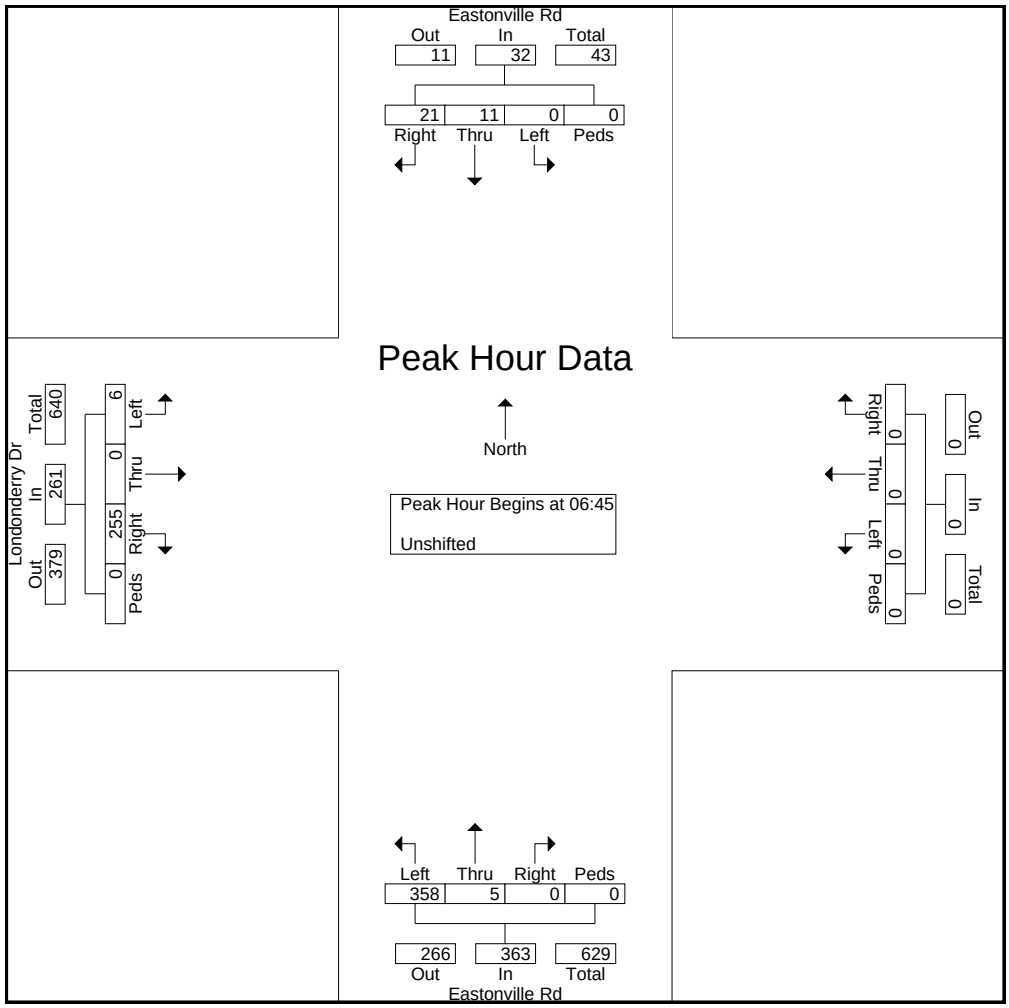
Groups Printed- Unshifted

	Eastonville Rd Southbound				Westbound				Eastonville Rd Northbound				Londonderry Dr Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:30	0	3	1	0	0	0	0	0	19	2	0	0	1	0	39	0	65
06:45	0	0	5	0	0	0	0	0	55	0	0	0	0	0	67	0	127
Total	0	3	6	0	0	0	0	0	74	2	0	0	1	0	106	0	192
07:00	0	5	7	0	0	0	0	0	142	3	0	0	1	0	72	0	230
07:15	0	4	8	0	0	0	0	0	132	1	0	0	3	0	85	0	233
07:30	0	2	1	0	0	0	0	0	29	1	0	0	2	0	31	0	66
07:45	0	4	1	0	0	0	0	0	26	0	0	0	0	0	26	0	57
Total	0	15	17	0	0	0	0	0	329	5	0	0	6	0	214	0	586
08:00	0	2	3	0	0	0	0	0	19	2	0	0	2	0	36	0	64
08:15	0	2	2	0	0	0	0	0	17	1	0	0	1	0	22	0	45
Grand Total	0	22	28	0	0	0	0	0	439	10	0	0	10	0	378	0	887
Apprch %	0	44	56	0	0	0	0	0	97.8	2.2	0	0	2.6	0	97.4	0	
Total %	0	2.5	3.2	0	0	0	0	0	49.5	1.1	0	0	1.1	0	42.6	0	

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 12-18
Site Code : 184750
Start Date : 12/11/2018

	Eastonville Rd Southbound					Westbound					Eastonville Rd Northbound					Londonderry Dr Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:30 to 08:15 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:45																					
06:45	0	0	5	0	5	0	0	0	0	0	55	0	0	0	55	0	0	67	0	67	127
07:00	0	**5**	7	0	**12**	0	0	0	0	0	**142**	**3**	0	0	**145**	1	0	72	0	73	230
07:15	0	4	**8**	0	12	0	0	0	0	0	132	1	0	0	133	**3**	0	**85**	0	**88**	**233**
07:30	0	2	1	0	3	0	0	0	0	0	29	1	0	0	30	2	0	31	0	33	66
Total Volume	0	11	21	0	32	0	0	0	0	0	358	5	0	0	363	6	0	255	0	261	656
% App. Total	0	34.4	65.6	0		0	0	0	0		98.6	1.4	0	0		2.3	0	97.7	0		
PHF	.000	.550	.656	.000	.667	.000	.000	.000	.000	.000	.630	.417	.000	.000	.626	.500	.000	.750	.000	.741	.704



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 12-18
Site Code : 184750
Start Date : 12/11/2018
Page No : 1

Groups Printed- Unshifted

	Eastonville Rd Southbound				Westbound				Eastonville Rd Northbound				Londonderry Dr Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
16:00	0	4	1	0	0	0	0	0	52	6	0	0	0	0	53	0	116
16:15	0	3	1	0	0	0	0	0	52	7	0	0	0	0	17	0	80
16:30	0	5	0	0	0	0	0	0	49	8	0	0	1	0	29	0	92
16:45	0	3	0	0	0	0	0	0	44	1	0	0	2	0	29	0	79
Total	0	15	2	0	0	0	0	0	197	22	0	0	3	0	128	0	367
17:00	0	1	1	0	0	0	0	0	37	7	0	0	0	0	21	0	67
17:15	0	1	1	0	0	0	0	0	68	5	0	0	0	0	23	0	98
17:30	0	7	1	0	0	0	0	0	53	2	0	0	1	0	11	0	75
17:45	0	3	1	0	0	0	0	0	46	2	0	0	1	0	13	0	66
Total	0	12	4	0	0	0	0	0	204	16	0	0	2	0	68	0	306
Grand Total	0	27	6	0	0	0	0	0	401	38	0	0	5	0	196	0	673
Apprch %	0	81.8	18.2	0	0	0	0	0	91.3	8.7	0	0	2.5	0	97.5	0	
Total %	0	4	0.9	0	0	0	0	0	59.6	5.6	0	0	0.7	0	29.1	0	

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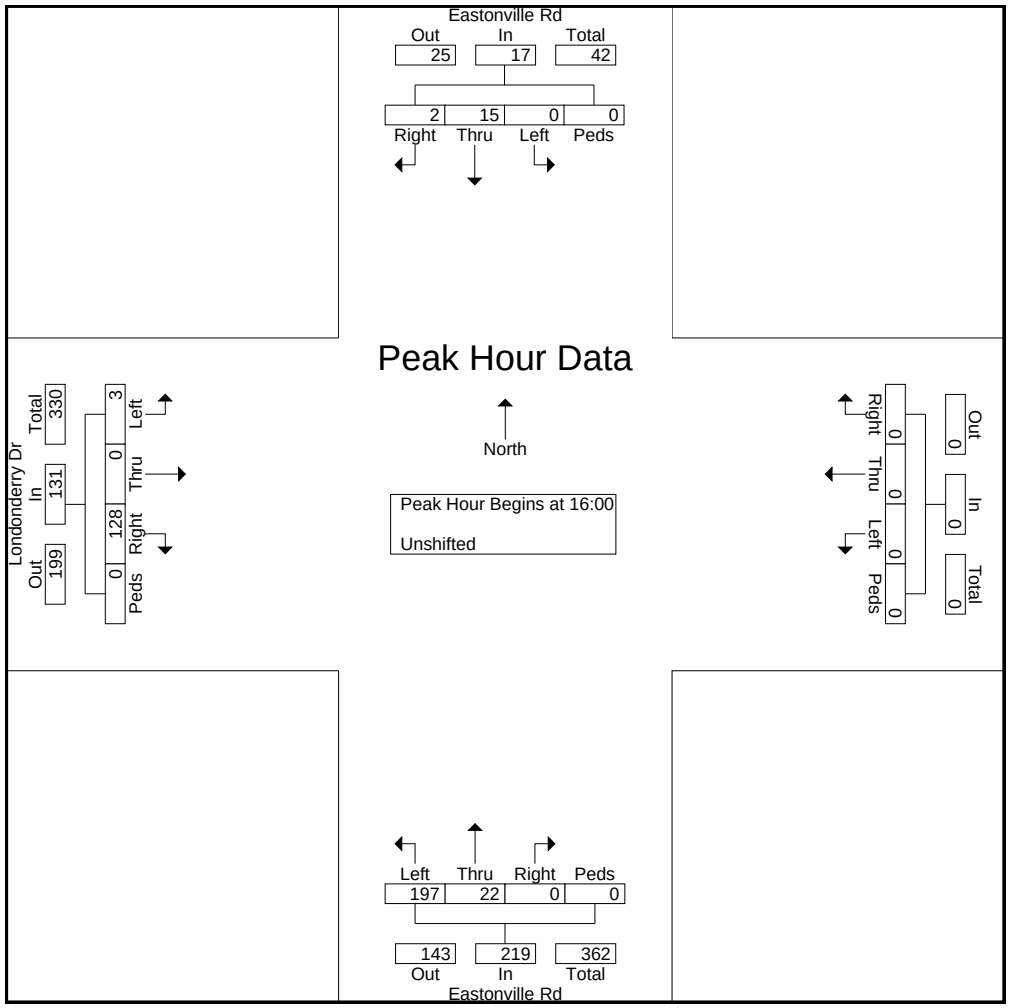
File Name : Eastonville Rd - Londonderry Dr PM 12-18
Site Code : 184750
Start Date : 12/11/2018

	Eastonville Rd Southbound					Westbound					Eastonville Rd Northbound					Londonderry Dr Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	4	**1**	0	**5**	0	0	0	0	0	**52**	6	0	0	58	0	0	**53**	0	**53**	**116**
16:15	0	3	1	0	4	0	0	0	0	0	52	7	0	0	**59**	0	0	17	0	17	80
16:30	0	**5**	0	0	5	0	0	0	0	0	49	**8**	0	0	57	1	0	29	0	30	92
16:45	0	3	0	0	3	0	0	0	0	0	44	1	0	0	45	**2**	0	29	0	31	79
Total Volume	0	15	2	0	17	0	0	0	0	0	197	22	0	0	219	3	0	128	0	131	367
% App. Total	0	88.2	11.8	0		0	0	0	0		90	10	0	0		2.3	0	97.7	0		
PHF	.000	.750	.500	.000	.850	.000	.000	.000	.000	.000	.947	.688	.000	.000	.928	.375	.000	.604	.000	.618	.791



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719-633-2868

LSC Transportation Consultants, Inc.

File Name : Eastonville Rd - Stapleton Dr 5-23-17 AM
Site Code : 00174350
Start Date : 05/23/2017
Page No : 1

Groups Printed- Unshifted

	Eastonville Rd From North				Stapleton Dr From East				Eastonville Rd From South				Stapleton Dr From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	1	11	18	0	9	1	0	0	0	30	1	0	1	12	5	0	89
06:45 AM	2	16	25	0	19	5	2	0	0	42	3	0	4	17	8	0	143
07:00 AM	10	46	24	0	35	9	1	0	0	111	6	0	6	19	18	0	285
07:15 AM	10	54	37	0	25	20	1	0	7	75	7	0	2	16	6	0	260
07:30 AM	2	14	19	0	7	25	2	0	2	3	3	0	2	21	5	0	105
07:45 AM	4	7	11	0	11	15	2	0	0	8	2	0	4	29	2	0	95
08:00 AM	0	11	11	0	14	11	1	0	0	9	0	1	0	25	2	0	85
08:15 AM	3	11	22	0	7	10	1	0	1	10	2	0	0	11	2	0	80
Grand Total	32	170	167	0	127	96	10	0	10	288	24	1	19	150	48	0	1142
Apprch %	8.7	46.1	45.3	0.0	54.5	41.2	4.3	0.0	3.1	89.2	7.4	0.3	8.8	69.1	22.1	0.0	
Total %	2.8	14.9	14.6	0.0	11.1	8.4	0.9	0.0	0.9	25.2	2.1	0.1	1.7	13.1	4.2	0.0	

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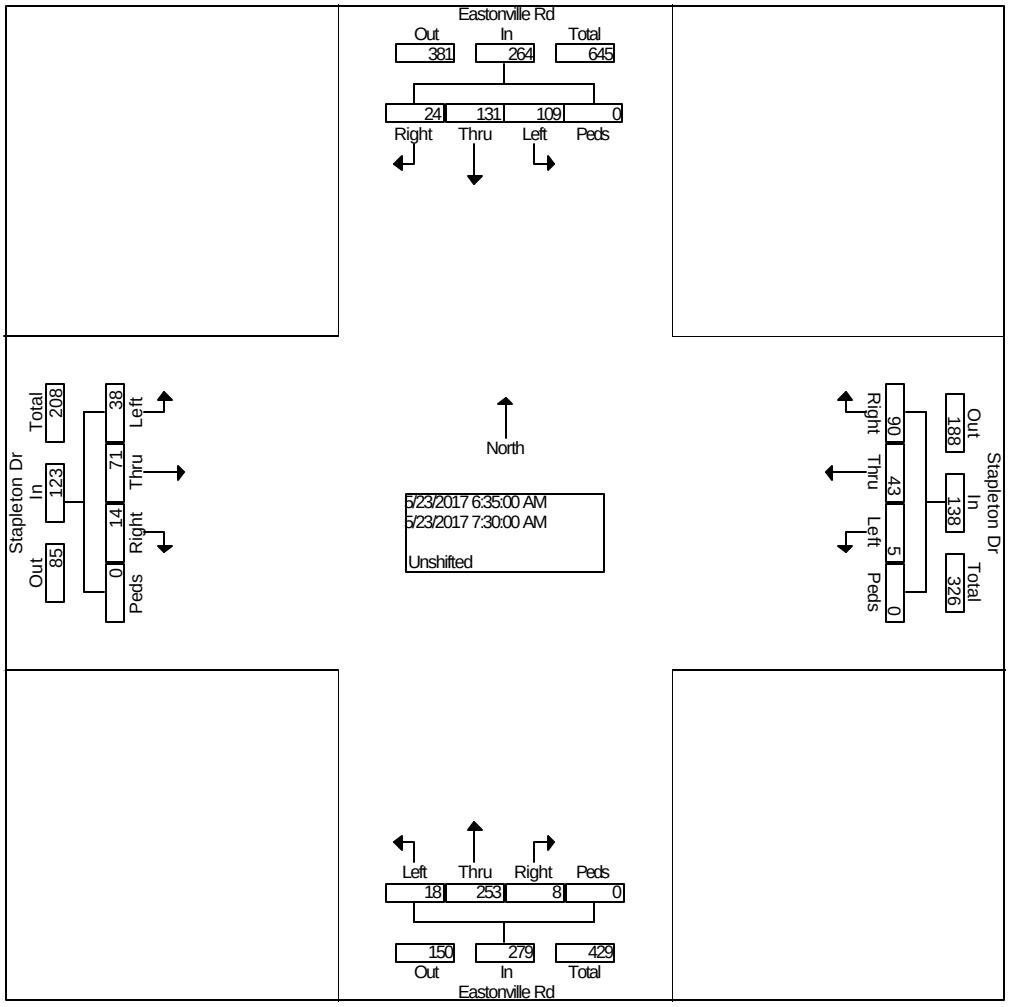
File Name : Eastonville Rd - Stapleton Dr 5-23-17 AM
Site Code : 00174350
Start Date : 05/23/2017

	Eastonville Rd From North					Stapleton Dr From East					Eastonville Rd From South					Stapleton Dr From West					
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 From 06:30 AM to 08:25 AM - Peak 1 of 1																					
Intersection	06:35 AM																				
Volume	24	131	109	0	264	90	43	5	0	138	8	253	18	0	279	14	71	38	0	123	804
Percent	9.1	49.6	41.3	0.0		65.2	31.2	3.6	0.0		2.9	90.7	6.5	0.0		11.4	57.7	30.9	0.0		
07:10 Volume	3	18	8	0	29	15	4	0	0	19	0	38	1	0	39	2	6	7	0	15	102
Peak Factor																					0.657
High Int.	07:25 AM					07:10 AM					07:05 AM					07:05 AM					
Volume	2	23	14	0	39	15	4	0	0	19	0	39	3	0	42	3	7	5	0	15	
Peak Factor					0.564					0.605					0.554					0.683	



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LSC Transportation Consultants, Inc.

File Name : Eastonville Rd - Stapleton Dr PM
Site Code : 00174350
Start Date : 05/11/2017
Page No : 1

Groups Printed- Unshifted

	Eastonville Rd From North				Stapleton Dr From East				Eastonville Rd From South				Stapleton Dr From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	2	19	12	0	16	19	1	0	1	23	1	0	1	13	2	0	110
04:15 PM	0	12	5	0	24	25	3	0	1	19	4	0	1	5	6	0	105
04:30 PM	3	16	12	0	16	35	5	0	2	19	3	0	2	9	9	0	131
04:45 PM	4	9	7	0	23	29	2	0	4	34	1	0	1	9	8	0	131
Total	9	56	36	0	79	108	11	0	8	95	9	0	5	36	25	0	477
05:00 PM	2	18	11	0	28	27	2	0	1	20	3	0	0	9	2	0	123
05:15 PM	1	13	8	0	25	23	0	0	1	21	0	0	0	19	2	0	113
05:30 PM	1	19	1	0	12	14	2	0	3	37	3	0	1	13	1	0	107
05:45 PM	1	16	1	0	11	13	1	0	2	31	1	0	1	9	1	0	88
Total	5	66	21	0	76	77	5	0	7	109	7	0	2	50	6	0	431
Grand Total	14	122	57	0	155	185	16	0	15	204	16	0	7	86	31	0	908
Apprch %	7.3	63.2	29.5	0.0	43.5	52.0	4.5	0.0	6.4	86.8	6.8	0.0	5.6	69.4	25.0	0.0	
Total %	1.5	13.4	6.3	0.0	17.1	20.4	1.8	0.0	1.7	22.5	1.8	0.0	0.8	9.5	3.4	0.0	

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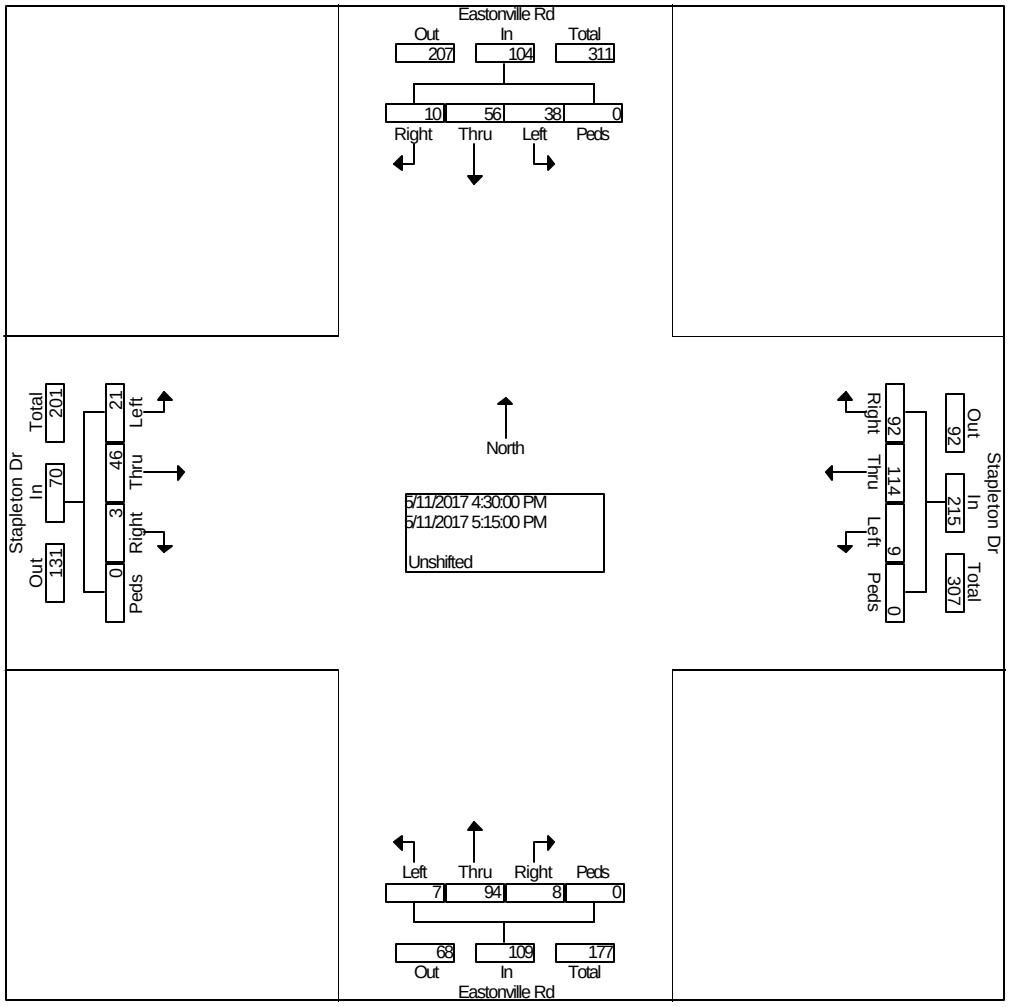
File Name : Eastonville Rd - Stapleton Dr PM
Site Code : 00174350
Start Date : 05/11/2017
Page No : 2

	Eastonville Rd From North					Stapleton Dr From East					Eastonville Rd From South					Stapleton Dr From West					
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 From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	10	56	38	0	104	92	114	9	0	215	8	94	7	0	109	3	46	21	0	70	498
Percent	9.6	53.8	36.5	0.0		42.8	53.0	4.2	0.0		7.3	86.2	6.4	0.0		4.3	65.7	30.0	0.0		
04:45 Volume	4	9	7	0	20	23	29	2	0	54	4	34	1	0	39	1	9	8	0	18	131
Peak Factor																					0.950
High Int.	04:30 PM					05:00 PM					04:45 PM					05:15 PM					
Volume	3	16	12	0	31	28	27	2	0	57	4	34	1	0	39	0	19	2	0	21	
Peak Factor					0.839					0.943					0.699					0.833	



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

File Name : Hwy 24 - Stapleton Rd AM 11-18
Site Code : 184750
Start Date : 11/15/2018
Page No : 1

Groups Printed- Unshifted

	Hwy 24 Southbound				Stapleton Dr Westbound				Hwy 24 Northbound				Stapleton Dr Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:30	4	120	3	0	0	11	3	0	5	39	0	0	2	30	26	0	243
06:45	7	123	7	0	0	12	4	0	13	55	0	0	11	25	33	0	290
Total	11	243	10	0	0	23	7	0	18	94	0	0	13	55	59	0	533
07:00	9	125	8	0	1	22	4	0	24	70	0	0	12	37	33	0	345
07:15	7	139	11	0	0	29	4	0	18	51	0	0	10	39	27	0	335
07:30	6	115	10	0	1	24	0	0	15	48	1	0	3	28	28	0	279
07:45	6	106	9	0	0	11	4	0	6	43	1	0	5	19	19	0	229
Total	28	485	38	0	2	86	12	0	63	212	2	0	30	123	107	0	1188
08:00	2	74	6	0	4	11	2	0	13	66	0	0	1	10	17	0	206
08:15	3	86	5	0	3	9	0	0	8	60	2	0	2	9	13	0	200
Grand Total	44	888	59	0	9	129	21	0	102	432	4	0	46	197	196	0	2127
Apprch %	4.4	89.6	6	0	5.7	81.1	13.2	0	19	80.3	0.7	0	10.5	44.9	44.6	0	
Total %	2.1	41.7	2.8	0	0.4	6.1	1	0	4.8	20.3	0.2	0	2.2	9.3	9.2	0	

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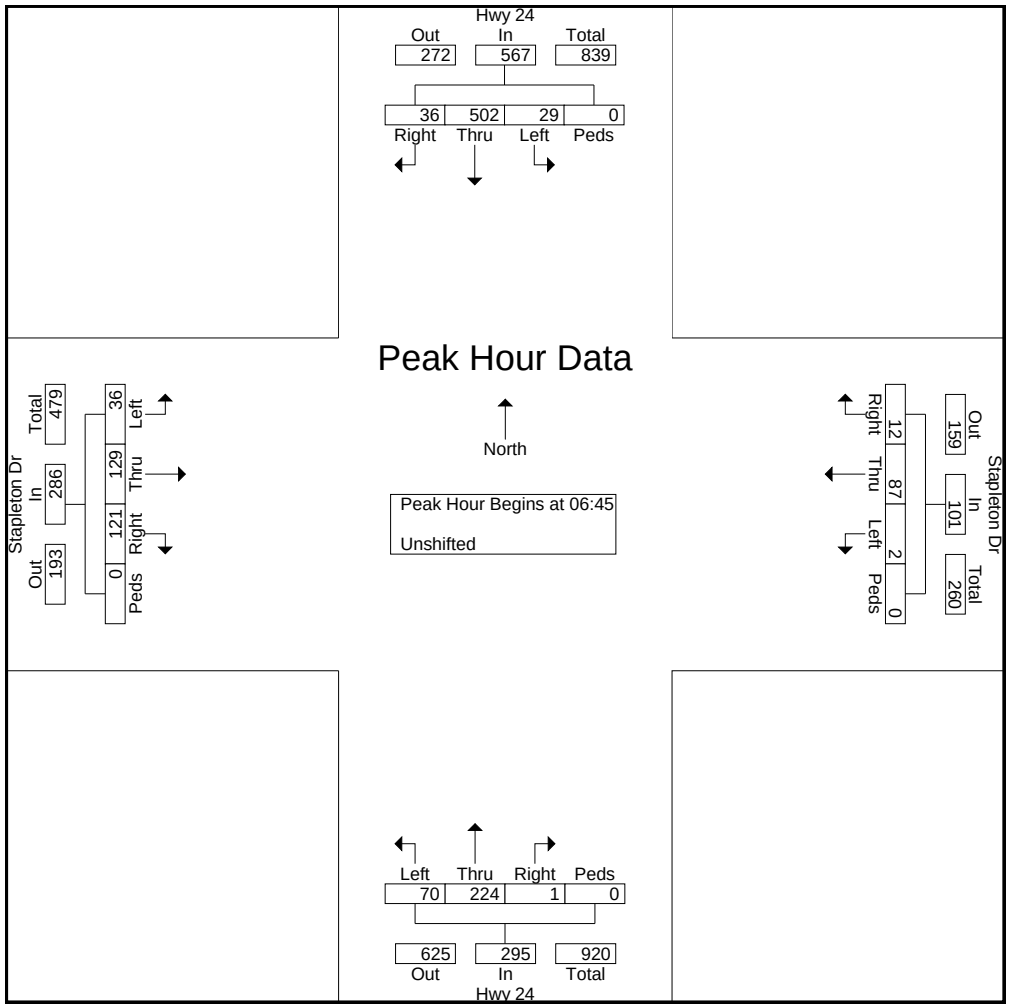
719-633-2868

File Name : Hwy 24 - Stapleton Rd AM 11-18
Site Code : 184750
Start Date : 11/15/2018
Page No : 2

	Hwy 24 Southbound					Stapleton Dr Westbound					Hwy 24 Northbound					Stapleton Dr Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:30 to 08:15 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:45																					
06:45	7	123	7	0	137	0	12	**4**	0	16	13	55	0	0	68	11	25	**33**	0	69	290
07:00	**9**	125	8	0	142	**1**	22	4	0	27	**24**	**70**	0	0	**94**	**12**	37	33	0	**82**	**345**
07:15	7	**139**	**11**	0	**157**	0	**29**	4	0	**33**	18	51	0	0	69	10	**39**	27	0	76	335
07:30	6	115	10	0	131	1	24	0	0	25	15	48	**1**	0	64	3	28	28	0	59	279
Total Volume	29	502	36	0	567	2	87	12	0	101	70	224	1	0	295	36	129	121	0	286	1249
% App. Total	5.1	88.5	6.3	0		2	86.1	11.9	0		23.7	75.9	0.3	0		12.6	45.1	42.3	0		
PHF	.806	.903	.818	.000	.903	.500	.750	.750	.000	.765	.729	.800	.250	.000	.785	.750	.827	.917	.000	.872	.905



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File Name : Hwy 24 - Stapleton Rd PM 11-18
Site Code : 00184750
Start Date : 11/28/2018
Page No : 1

Groups Printed- Unshifted

	Hwy 24 Southbound				Stapleton Rd Westbound				Hwy 24 Northbound				Stapleton Rd Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
16:00	4	73	11	0	1	20	6	0	20	127	5	0	5	6	11	0	289
16:15	1	73	9	0	3	31	5	0	13	100	5	1	7	5	9	0	262
16:30	3	85	3	0	1	23	7	0	28	96	4	0	2	6	13	0	271
16:45	4	73	9	0	1	29	7	0	32	98	6	0	5	7	14	0	285
Total	12	304	32	0	6	103	25	0	93	421	20	1	19	24	47	0	1107
17:00	2	94	2	0	0	22	5	0	18	138	4	0	0	10	16	0	311
17:15	1	74	7	0	2	23	9	0	29	109	7	0	7	15	13	0	296
17:30	1	63	4	0	1	23	6	0	20	133	4	0	5	8	7	0	275
17:45	4	55	4	0	1	15	6	0	18	136	5	0	4	8	6	0	262
Total	8	286	17	0	4	83	26	0	85	516	20	0	16	41	42	0	1144
Grand Total	20	590	49	0	10	186	51	0	178	937	40	1	35	65	89	0	2251
Apprch %	3	89.5	7.4	0	4	75.3	20.6	0	15.4	81.1	3.5	0.1	18.5	34.4	47.1	0	
Total %	0.9	26.2	2.2	0	0.4	8.3	2.3	0	7.9	41.6	1.8	0	1.6	2.9	4	0	

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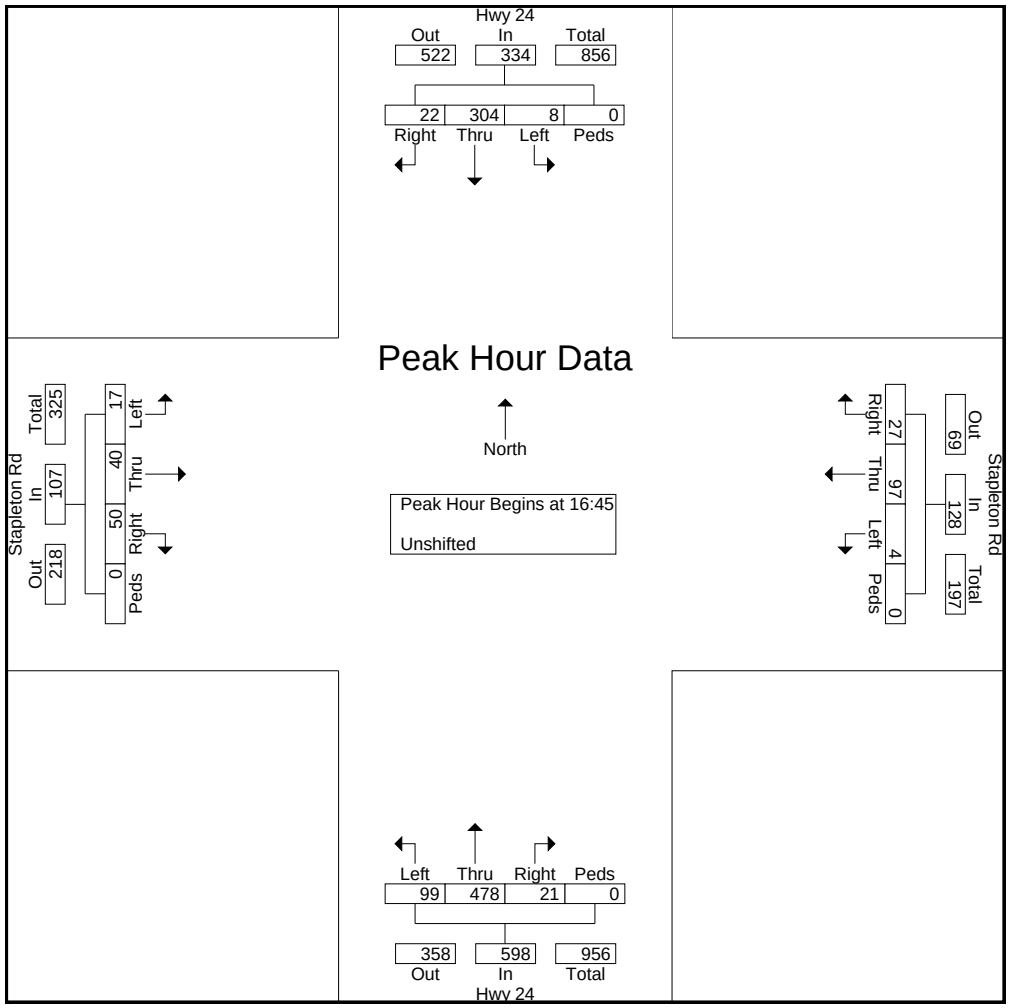
719-633-2868

File Name : Hwy 24 - Stapleton Rd PM 11-18
Site Code : 00184750
Start Date : 11/28/2018

	Hwy 24 Southbound					Stapleton Rd Westbound					Hwy 24 Northbound					Stapleton Rd Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	**4**	73	**9**	0	86	1	**29**	7	0	**37**	**32**	98	6	0	136	5	7	14	0	26	285
17:00	2	**94**	2	0	**98**	0	22	5	0	27	18	**138**	4	0	**160**	0	10	**16**	0	26	**311**
17:15	1	74	7	0	82	**2**	23	**9**	0	34	29	109	**7**	0	145	**7**	**15**	13	0	**35**	296
17:30	1	63	4	0	68	1	23	6	0	30	20	133	4	0	157	5	8	7	0	20	275
Total Volume	8	304	22	0	334	4	97	27	0	128	99	478	21	0	598	17	40	50	0	107	1167
% App. Total	2.4	91	6.6	0		3.1	75.8	21.1	0		16.6	79.9	3.5	0		15.9	37.4	46.7	0		
PHF	.500	.809	.611	.000	.852	.500	.836	.750	.000	.865	.773	.866	.750	.000	.934	.607	.667	.781	.000	.764	.938



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

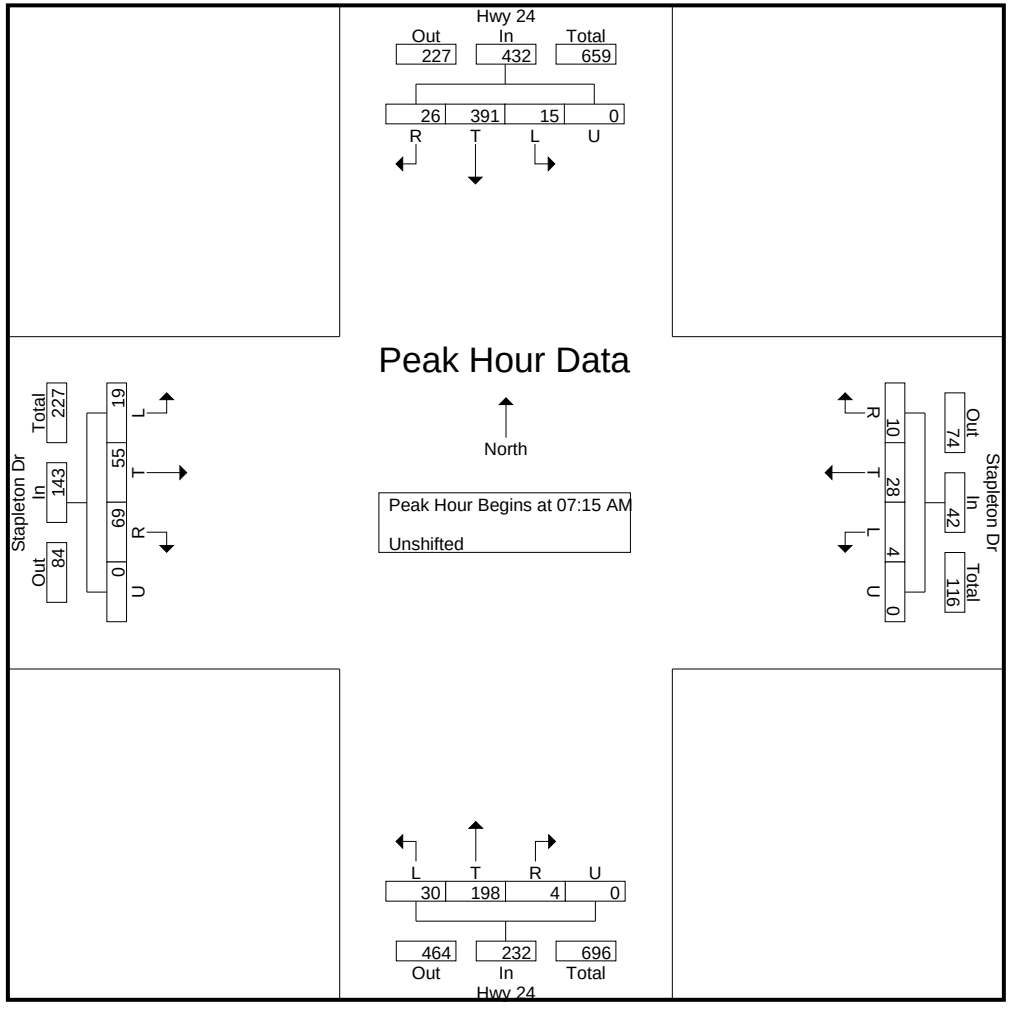
File Name : US Hwy 24 - Stapleton Dr AM 12-20
Site Code : 00204220
Start Date : 12/16/2020

Groups Printed- Unshifted

	Hwy 24 Southbound					Stapleton Dr Westbound					Hwy 24 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**
07:00 AM	3	63	3	0	69	1	13	1	0	15	8	60	1	0	69	10	17	20	0	47	200
07:15 AM	5	97	5	0	107	3	6	3	0	12	5	56	1	0	62	5	17	19	0	41	222
07:30 AM	6	101	9	0	116	0	9	5	0	14	7	40	0	0	47	6	18	20	0	44	221
07:45 AM	3	84	6	0	93	0	5	0	0	5	8	50	0	0	58	4	12	13	0	29	185
Total	17	345	23	0	385	4	33	9	0	46	28	206	2	0	236	25	64	72	0	161	828
08:00 AM	1	109	6	0	116	1	8	2	0	11	10	52	3	0	65	4	8	17	0	29	221
08:15 AM	1	77	4	0	82	1	13	3	0	17	12	52	2	0	66	3	8	17	0	28	193
08:30 AM	5	77	5	0	87	1	4	2	0	7	12	60	0	0	72	4	9	13	0	26	192
08:45 AM	1	66	1	0	68	0	5	0	0	5	9	66	1	0	76	2	11	8	0	21	170
Total	8	329	16	0	353	3	30	7	0	40	43	230	6	0	279	13	36	55	0	104	776
Grand Total	25	674	39	0	738	7	63	16	0	86	71	436	8	0	515	38	100	127	0	265	1604
Apprch %	3.4	91.3	5.3	0		8.1	73.3	18.6	0		13.8	84.7	1.6	0		14.3	37.7	47.9	0		
Total %	1.6	42	2.4	0	46	0.4	3.9	1	0	5.4	4.4	27.2	0.5	0	32.1	2.4	6.2	7.9	0	16.5	

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

File Name : US Hwy 24 - Stapleton Dr AM 12-20
Site Code : 00204220
Start Date : 12/16/2020
Page No : 3



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

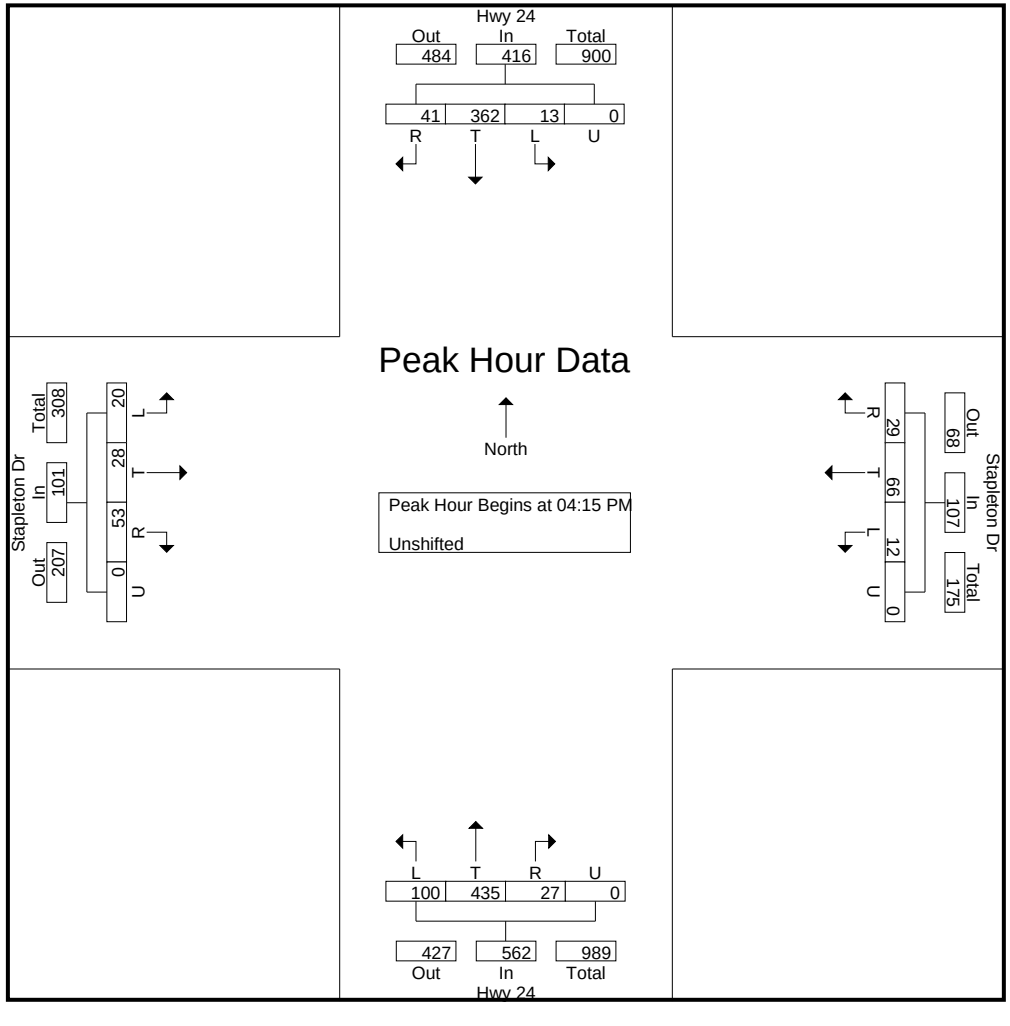
File Name : US Hwy 24 - Stapleton Dr PM 12-20
Site Code : 00204220
Start Date : 12/16/2020

Groups Printed- Unshifted

	Hwy 24 Southbound					Stapleton Dr Westbound					Hwy 24 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	5	72	9	0	86	0	11	5	0	16	31	102	3	0	136	6	15	12	0	33	271
04:15 PM	4	73	15	0	92	5	20	9	0	34	26	122	6	0	154	4	6	13	0	23	303
04:30 PM	3	76	12	0	91	2	17	6	0	25	23	102	8	0	133	7	8	18	0	33	282
04:45 PM	2	108	8	0	118	2	15	7	0	24	22	114	7	0	143	6	10	13	0	29	314
Total	14	329	44	0	387	9	63	27	0	99	102	440	24	0	566	23	39	56	0	118	1170
05:00 PM	4	105	6	0	115	3	14	7	0	24	29	97	6	0	132	3	4	9	0	16	287
05:15 PM	1	80	6	0	87	3	11	3	0	17	33	110	3	0	146	2	12	10	0	24	274
05:30 PM	1	71	3	0	75	2	14	6	0	22	28	130	4	0	162	6	5	8	0	19	278
05:45 PM	1	75	11	0	87	0	8	3	0	11	30	93	5	0	128	4	4	2	0	10	236
Total	7	331	26	0	364	8	47	19	0	74	120	430	18	0	568	15	25	29	0	69	1075
Grand Total	21	660	70	0	751	17	110	46	0	173	222	870	42	0	1134	38	64	85	0	187	2245
Apprch %	2.8	87.9	9.3	0		9.8	63.6	26.6	0		19.6	76.7	3.7	0		20.3	34.2	45.5	0		
Total %	0.9	29.4	3.1	0	33.5	0.8	4.9	2	0	7.7	9.9	38.8	1.9	0	50.5	1.7	2.9	3.8	0	8.3	

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

File Name : US Hwy 24 - Stapleton Dr PM 12-20
Site Code : 00204220
Start Date : 12/16/2020
Page No : 3

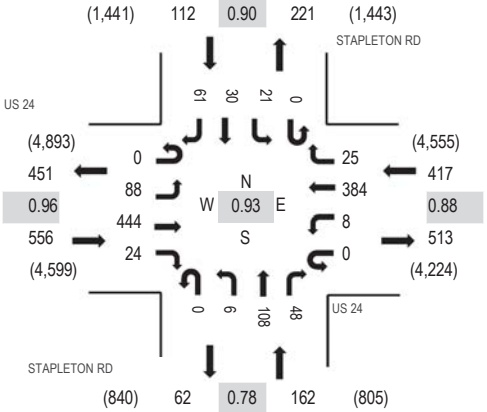


All Traffic Data Services Inc.

(303) 216-2439
www.alltrafficdata.net

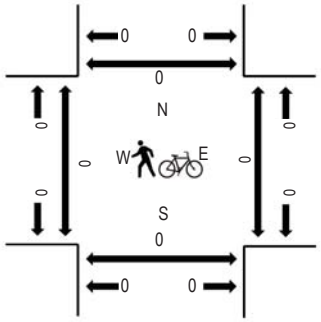
Location: 5 STAPLETON RD & US 24 AM
Date: Tuesday, December 3, 2019
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

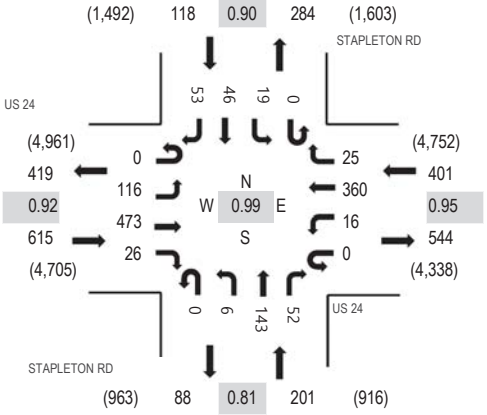
Interval Start Time	US 24 Eastbound				US 24 Westbound				STAPLETON RD Northbound				STAPLETON RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
6:00 AM	0	1	13	0	0	1	64	0	0	0	7	1	0	1	23	14	125	792	0	0	0	0
6:15 AM	0	2	31	0	0	9	95	0	0	0	4	1	0	6	26	21	195	895	0	0	0	0
6:30 AM	0	3	52	0	0	9	93	3	0	1	9	0	0	4	25	27	226	975	0	0	0	0
6:45 AM	0	11	57	0	0	8	104	6	0	0	11	3	0	5	30	11	246	969	0	0	0	0
7:00 AM	0	15	38	0	0	4	91	5	0	1	14	1	0	4	29	26	228	955	0	0	0	0
7:15 AM	0	14	39	0	0	6	119	3	0	0	23	1	0	4	39	27	275	923	0	0	0	0
7:30 AM	0	12	33	1	0	11	80	4	0	0	17	2	0	8	33	19	220	882	0	0	0	0
7:45 AM	0	14	41	2	0	5	86	3	0	1	13	3	0	3	36	25	232	860	0	0	0	0
8:00 AM	0	11	36	0	0	3	84	6	0	0	12	0	0	2	19	23	196	810	0	0	0	0
8:15 AM	0	14	55	0	0	2	90	11	0	2	14	1	0	2	13	30	234	755	0	0	0	0
8:30 AM	0	5	61	1	0	4	79	6	0	1	3	3	0	2	17	16	198	672	0	0	0	0
8:45 AM	0	9	56	4	0	2	82	3	0	1	3	0	0	2	6	14	182	653	0	0	0	0
9:00 AM	0	8	44	3	0	1	66	3	0	0	2	2	0	1	2	9	141	651	0	0	0	0
9:15 AM	0	6	52	1	0	1	69	4	0	0	3	1	0	3	6	5	151	702	0	0	0	0
9:30 AM	0	7	52	2	0	1	85	2	0	1	9	2	0	4	7	7	179	740	0	0	0	0
9:45 AM	0	9	59	1	0	3	76	4	0	2	3	1	0	3	8	11	180	753	0	0	0	0
10:00 AM	0	8	55	4	0	2	94	3	0	4	0	3	0	3	1	15	192	723	0	0	0	0
10:15 AM	0	6	54	4	0	4	99	3	0	0	4	1	0	4	5	5	189	697	0	0	0	0
10:30 AM	0	7	64	3	0	1	90	3	0	0	2	1	0	6	4	11	192	695	0	0	0	0
10:45 AM	0	9	45	3	0	1	69	6	0	1	4	1	0	3	2	6	150	674	0	0	0	0
11:00 AM	0	4	51	1	0	2	76	4	0	2	5	2	0	8	4	7	166	701	0	0	0	0
11:15 AM	0	8	66	2	0	1	78	3	0	1	6	0	0	4	8	10	187	722	0	0	0	0
11:30 AM	0	7	50	3	0	1	81	6	0	2	5	2	0	2	3	9	171	740	0	0	0	0
11:45 AM	0	5	54	0	0	1	84	6	0	2	6	1	0	3	9	6	177	766	0	0	0	0
12:00 PM	0	9	71	5	0	1	73	6	0	1	2	1	0	3	7	8	187	784	0	0	0	0
12:15 PM	0	10	78	4	0	0	77	4	0	1	8	3	0	2	8	10	205	802	0	0	0	0
12:30 PM	0	9	63	2	0	3	89	6	0	1	4	1	0	6	1	12	197	788	0	0	0	0
12:45 PM	0	11	71	3	0	1	72	4	0	0	11	1	0	5	6	10	195	796	0	0	0	0
1:00 PM	0	12	86	2	0	0	78	6	0	1	3	4	0	0	3	10	205	824	0	0	0	0
1:15 PM	0	10	75	4	0	1	68	3	0	2	7	4	0	5	5	7	191	829	0	0	0	0
1:30 PM	0	11	75	5	0	1	65	4	0	3	7	2	0	5	8	19	205	850	0	0	0	0
1:45 PM	0	10	107	3	0	1	71	2	0	1	9	1	0	3	5	10	223	879	0	0	0	0
2:00 PM	0	19	80	7	0	2	63	4	0	1	7	3	0	5	8	11	210	953	0	0	0	0
2:15 PM	0	15	80	3	0	0	82	5	0	0	17	0	0	2	6	2	212	1,001	0	0	0	0
2:30 PM	0	16	84	2	0	6	74	3	0	4	23	5	0	7	3	7	234	1,065	0	0	0	0

2:45 PM	1	23	108	3	0	5	78	8	0	3	16	3	0	8	16	25	297	1,121	0	0	0	0
3:00 PM	0	9	107	6	0	1	72	5	0	0	14	3	0	10	18	13	258	1,094	0	0	0	0
3:15 PM	0	16	111	2	0	2	78	1	0	0	23	6	0	7	15	15	276	1,124	0	0	0	0
3:30 PM	0	18	111	3	0	3	83	5	0	1	27	4	0	10	13	12	290	1,161	0	0	0	0
3:45 PM	0	20	104	4	0	2	73	7	0	3	25	5	0	7	11	9	270	1,205	0	0	0	0
4:00 PM	0	26	101	3	0	5	83	8	0	1	21	14	0	5	11	10	288	1,222	0	0	0	0
4:15 PM	0	21	109	5	0	2	88	7	0	3	38	11	0	9	9	11	313	1,247	0	0	0	0
4:30 PM	0	23	114	8	0	3	117	5	0	1	28	8	0	1	10	16	334	1,187	0	0	0	0
4:45 PM	0	30	100	6	0	1	87	7	0	2	21	13	0	5	2	13	287	1,163	0	0	0	0
5:00 PM	0	14	121	5	0	2	92	6	0	0	21	16	0	6	9	21	313	1,161	0	0	0	0
5:15 PM	0	15	106	5	0	0	82	3	0	0	17	7	0	5	4	9	253	1,071	0	0	0	0
5:30 PM	0	23	118	4	0	1	113	3	0	0	17	12	0	2	3	14	310	1,028	0	0	0	0
5:45 PM	0	18	117	6	0	4	88	10	0	2	8	6	0	6	11	9	285	879	0	0	0	0
6:00 PM	0	10	105	4	0	2	77	6	0	2	7	1	0	3	3	3	223	730	0	0	0	0
6:15 PM	0	13	117	3	0	2	45	4	0	1	12	1	0	5	4	3	210		0	0	0	0
6:30 PM	0	15	82	0	0	1	43	4	0	1	3	2	0	2	6	2	161		0	0	0	0
6:45 PM	0	10	66	0	0	1	39	2	0	1	2	0	0	8	2	5	136		0	0	0	0
Count Total	1	631	3,825	142	0	136	4,184	235	0	58	577	170	0	229	562	650	11,400		0	0	0	0
Peak Hour	0	88	444	24	0	8	384	25	0	6	108	48	0	21	30	61	1,247		0	0	0	0

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

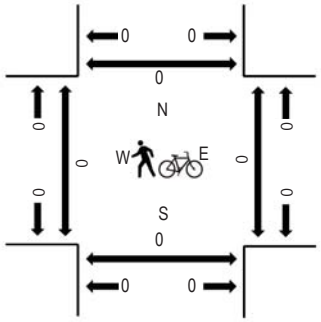
Location: 5 STAPLETON RD & US 24 AM
Date: Wednesday, December 4, 2019
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	US 24 Eastbound				US 24 Westbound				STAPLETON RD Northbound				STAPLETON RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
6:00 AM	0	2	31	0	0	5	88	3	0	0	8	3	0	1	31	15	187	995	0	0	0	0
6:15 AM	0	4	39	0	0	12	125	4	0	0	7	0	0	2	22	26	241	1,107	0	0	0	0
6:30 AM	0	4	49	0	0	7	123	6	0	2	8	4	0	7	38	16	264	1,181	0	0	0	0
6:45 AM	0	20	54	0	0	16	120	9	0	2	15	1	0	11	30	25	303	1,206	0	0	0	0
7:00 AM	0	14	58	0	0	6	115	9	0	2	24	6	0	10	33	22	299	1,134	0	0	0	0
7:15 AM	0	15	55	0	0	15	112	7	0	0	35	1	0	6	43	26	315	1,053	0	0	0	0
7:30 AM	0	8	50	5	0	12	106	9	0	2	17	1	0	6	47	26	289	951	0	0	0	0
7:45 AM	0	9	54	1	0	6	85	4	0	0	10	0	0	7	29	26	231	879	0	0	0	0
8:00 AM	0	9	46	0	0	4	82	4	0	2	12	1	0	6	29	23	218	851	0	0	0	0
8:15 AM	0	11	50	2	0	1	108	2	0	0	7	2	0	4	14	12	213	776	0	0	0	0
8:30 AM	0	9	59	3	0	4	91	6	0	2	7	0	0	1	19	16	217	751	0	0	0	0
8:45 AM	0	12	55	0	0	4	92	4	0	1	5	3	0	4	15	8	203	735	0	0	0	0
9:00 AM	0	4	42	1	0	2	54	5	0	2	8	3	0	9	4	9	143	742	0	0	0	0
9:15 AM	0	5	49	2	0	2	98	4	0	0	6	1	0	3	11	7	188	760	0	0	0	0
9:30 AM	0	13	50	5	0	3	95	5	0	1	6	4	0	5	7	7	201	735	0	0	0	0
9:45 AM	0	6	59	1	0	3	109	4	0	0	5	1	0	2	6	14	210	701	0	0	0	0
10:00 AM	1	6	52	3	0	1	80	0	0	2	4	0	0	5	3	4	161	664	0	0	0	0
10:15 AM	0	3	59	2	0	0	77	1	0	2	4	1	0	0	7	7	163	667	0	0	0	0
10:30 AM	0	10	58	1	0	3	75	3	0	2	1	3	0	3	4	4	167	703	0	0	0	0
10:45 AM	0	6	46	5	0	0	90	4	0	1	3	1	0	1	5	11	173	702	0	0	0	0
11:00 AM	0	11	59	3	0	1	65	2	0	0	5	1	0	5	8	4	164	714	0	0	0	0
11:15 AM	0	7	59	1	0	1	96	5	0	1	6	1	0	5	9	8	199	734	0	0	0	0
11:30 AM	0	7	51	2	0	2	82	0	0	2	3	2	0	1	6	8	166	720	0	0	0	0
11:45 AM	0	13	78	1	0	1	67	5	0	1	3	1	0	3	7	5	185	759	0	0	0	0
12:00 PM	0	12	65	1	0	0	80	3	0	1	5	4	0	5	4	4	184	800	0	0	0	0
12:15 PM	0	2	78	5	0	2	66	5	0	2	5	3	0	2	3	12	185	805	0	0	0	0
12:30 PM	0	9	81	5	0	1	81	8	0	0	3	1	0	4	2	10	205	820	0	0	0	0
12:45 PM	0	9	85	2	0	0	90	6	0	1	7	2	0	4	9	11	226	798	0	0	0	0
1:00 PM	0	12	75	4	0	6	67	4	0	3	2	1	0	3	6	6	189	753	0	0	0	0
1:15 PM	0	9	79	1	0	1	78	7	0	1	5	0	0	2	6	11	200	748	0	0	0	0
1:30 PM	0	12	72	1	0	4	69	4	0	1	4	2	0	5	4	5	183	745	0	0	0	1
1:45 PM	0	11	72	3	0	1	67	4	0	0	10	0	0	1	5	7	181	781	0	0	0	0
2:00 PM	0	10	83	2	0	0	52	3	0	0	11	1	0	7	4	11	184	837	0	0	0	0
2:15 PM	0	12	82	5	0	0	65	5	0	1	10	2	0	7	3	5	197	867	0	0	0	0
2:30 PM	0	12	94	1	0	0	69	3	0	2	15	2	0	3	7	11	219	945	0	0	0	0

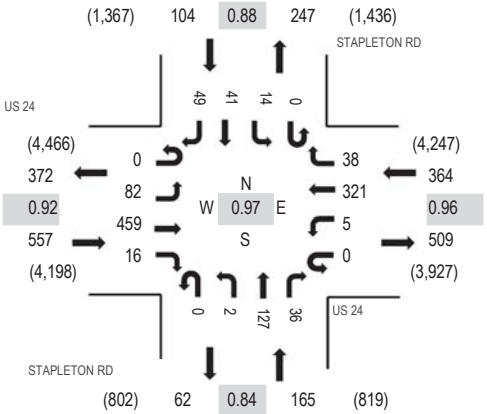
2:45 PM	0	10	88	2	0	1	63	7	0	2	24	2	0	6	9	23	237	991	0	0	0	0
3:00 PM	0	14	83	1	0	2	60	4	0	3	17	2	0	3	10	15	214	1,057	0	0	0	0
3:15 PM	0	19	111	4	0	2	68	5	0	3	21	7	0	7	14	14	275	1,141	0	0	0	1
3:30 PM	0	15	83	2	0	1	90	10	0	1	26	7	0	9	10	11	265	1,195	0	0	0	0
3:45 PM	0	14	124	7	0	6	81	12	0	2	17	6	0	5	11	18	303	1,261	0	0	0	0
4:00 PM	0	24	118	5	0	3	81	7	0	1	21	4	0	6	18	10	298	1,296	0	0	0	0
4:15 PM	0	33	122	12	0	5	86	3	0	2	33	8	0	6	8	11	329	1,335	0	0	0	0
4:30 PM	0	20	103	3	0	7	97	7	0	1	45	16	0	4	14	14	331	1,322	0	0	0	0
4:45 PM	0	28	125	3	0	2	101	9	0	1	26	7	0	4	14	18	338	1,298	0	0	0	0
5:00 PM	0	35	123	8	0	2	76	6	0	2	39	21	0	5	10	10	337	1,231	0	0	0	0
5:15 PM	0	21	110	7	0	2	89	18	0	0	28	13	0	7	9	12	316	1,135	0	0	0	0
5:30 PM	0	25	116	4	0	5	93	10	0	0	26	14	0	5	4	5	307	1,005	0	0	0	0
5:45 PM	0	20	118	1	0	4	64	6	0	0	21	14	0	5	7	11	271	898	0	0	0	0
6:00 PM	0	25	99	5	0	4	62	7	0	1	19	5	0	3	8	3	241	791	0	0	0	0
6:15 PM	0	15	73	1	0	6	57	3	0	0	12	1	0	4	10	4	186		0	0	0	0
6:30 PM	0	13	100	3	0	0	59	4	0	2	2	2	0	5	5	5	200		0	0	0	0
6:45 PM	0	9	84	2	0	4	46	3	0	0	4	1	0	7	2	2	164		0	0	0	0
Count Total	1	658	3,908	138	0	182	4,292	278	0	60	667	189	0	241	643	608	11,865		0	0	0	2
Peak Hour	0	116	473	26	0	16	360	25	0	6	143	52	0	19	46	53	1,335		0	0	0	0

All Traffic Data Services Inc.

(303) 216-2439
www.alltrafficdata.net

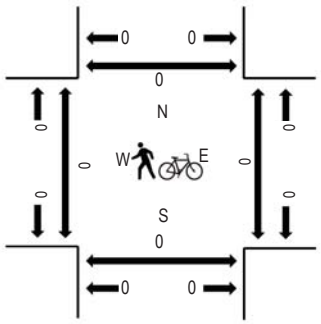
Location: 5 STAPLETON RD & US 24 AM
Date: Thursday, December 5, 2019
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

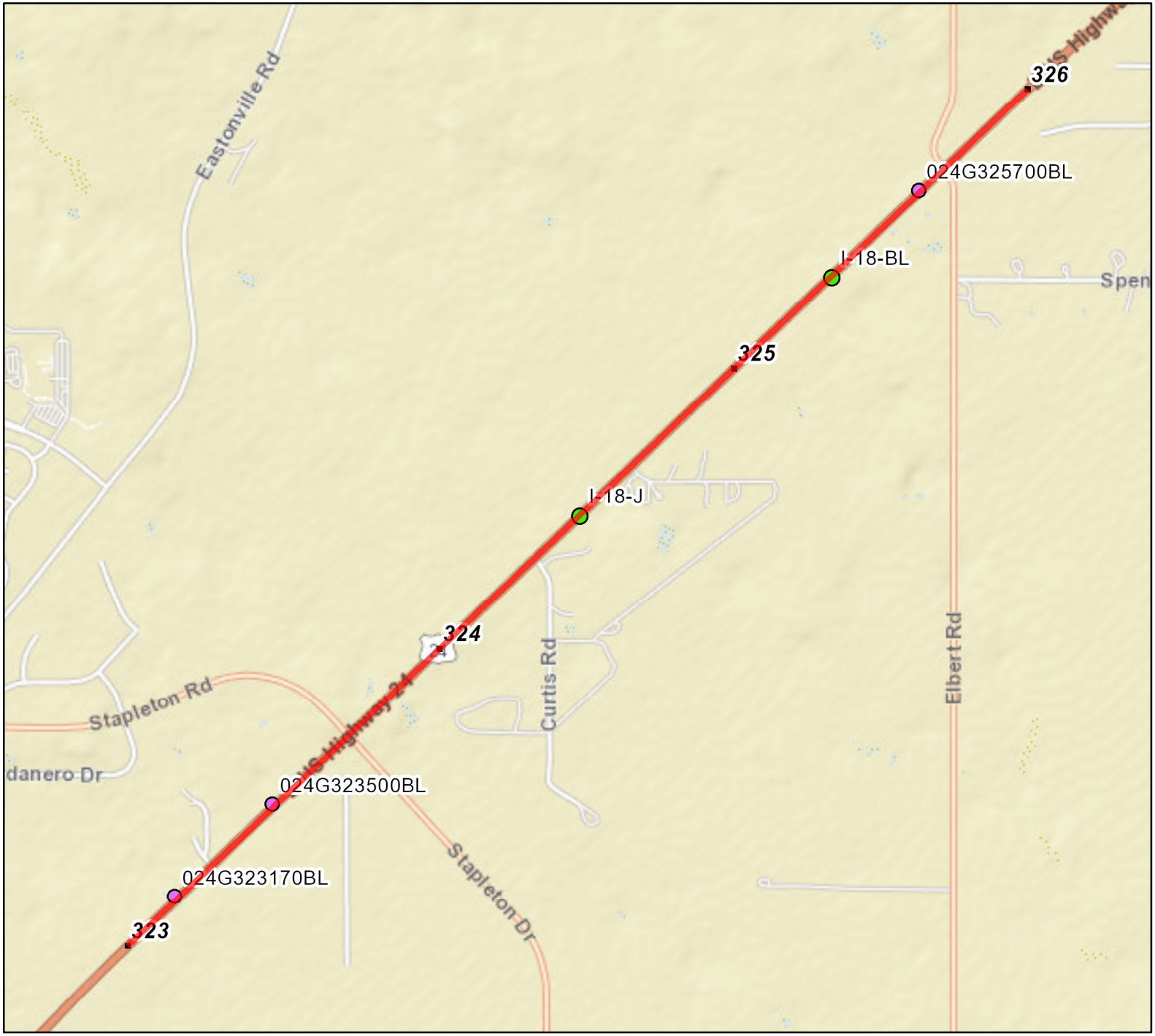
Interval Start Time	US 24 Eastbound				US 24 Westbound				STAPLETON RD Northbound				STAPLETON RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
6:00 AM	0	3	26	0	0	7	91	2	0	0	8	0	0	3	26	21	187	940	0	0	0	0
6:15 AM	0	6	34	0	0	9	116	3	0	0	10	2	0	3	32	20	235	1,048	0	0	0	0
6:30 AM	0	3	53	0	0	7	106	2	0	1	7	4	0	4	30	23	240	1,100	0	0	0	0
6:45 AM	0	12	56	0	0	6	116	10	0	2	11	2	0	10	33	20	278	1,112	0	0	0	0
7:00 AM	0	16	64	0	0	11	104	7	0	1	25	5	0	10	30	22	295	1,063	0	0	0	0
7:15 AM	0	13	54	0	0	22	94	7	0	1	23	1	0	8	38	26	287	969	0	0	0	0
7:30 AM	0	4	39	0	0	11	111	9	0	1	19	4	0	2	34	18	252	918	0	0	0	0
7:45 AM	0	10	44	0	0	1	82	6	0	0	16	4	0	5	38	23	229	866	0	0	0	0
8:00 AM	0	12	50	2	0	3	92	4	0	0	7	0	0	1	11	19	201	826	0	0	0	0
8:15 AM	0	7	62	3	0	4	113	2	0	0	4	1	0	2	15	23	236	759	0	0	0	0
8:30 AM	0	9	51	1	0	2	90	6	0	3	4	2	0	6	13	13	200	685	0	0	0	0
8:45 AM	0	7	50	0	0	1	87	5	0	1	11	1	0	4	11	11	189	650	0	0	0	0
9:00 AM	0	6	46	0	0	2	57	2	0	2	6	0	0	3	5	5	134	617	0	0	0	0
9:15 AM	0	3	42	3	0	1	84	3	0	1	3	1	0	2	9	10	162	675	0	0	0	0
9:30 AM	0	6	58	2	0	3	70	4	0	2	4	0	0	3	5	8	165	671	0	0	0	0
9:45 AM	0	7	42	4	0	0	72	0	0	3	7	1	0	6	7	7	156	647	0	0	0	0
10:00 AM	0	4	66	1	0	0	91	10	0	4	3	0	0	0	3	10	192	647	0	0	0	0
10:15 AM	0	2	63	1	0	1	66	1	0	3	3	3	0	7	1	7	158	626	0	0	0	0
10:30 AM	0	8	49	4	0	0	55	9	0	2	2	2	0	2	3	5	141	611	0	0	0	0
10:45 AM	0	7	47	3	0	0	71	3	0	1	6	0	0	3	6	9	156	625	0	0	0	0
11:00 AM	0	6	63	2	0	3	69	4	0	1	3	1	0	4	5	10	171	628	0	0	0	0
11:15 AM	0	6	41	0	0	1	72	2	0	0	4	0	0	3	4	10	143	595	0	0	0	0
11:30 AM	0	15	58	1	0	1	56	5	0	1	3	1	0	5	2	7	155	635	0	0	0	0
11:45 AM	0	3	62	1	0	0	60	3	0	1	3	2	0	8	4	12	159	656	0	0	0	0
12:00 PM	0	1	59	2	0	1	54	1	0	2	4	5	0	2	2	5	138	652	0	0	0	0
12:15 PM	0	10	57	3	0	3	85	0	0	1	7	1	0	5	3	8	183	650	0	0	0	0
12:30 PM	0	6	67	2	1	1	59	12	0	0	9	1	0	5	7	6	176	621	0	0	0	0
12:45 PM	0	11	57	3	0	3	60	5	0	0	3	0	0	6	3	4	155	616	0	0	0	0
1:00 PM	0	3	54	4	0	1	54	4	0	0	3	1	0	4	2	6	136	620	0	0	0	0
1:15 PM	0	6	63	3	0	2	52	3	0	0	5	1	0	2	6	11	154	642	0	0	0	0
1:30 PM	0	8	61	1	0	0	71	4	0	2	7	3	0	4	3	7	171	674	0	0	0	0
1:45 PM	0	7	68	2	0	3	57	3	0	1	3	0	0	5	4	6	159	692	0	0	0	0
2:00 PM	0	8	59	3	0	0	69	3	0	0	4	1	0	3	2	6	158	756	0	0	0	0
2:15 PM	0	9	64	4	0	2	69	4	0	0	16	3	0	5	2	8	186	821	0	0	0	0
2:30 PM	0	16	82	2	0	1	51	9	0	2	9	5	0	4	4	4	189	880	0	0	0	0

2:45 PM	0	17	75	2	0	2	69	8	0	0	12	3	0	7	15	13	223	932	0	0	0	0
3:00 PM	0	16	81	3	0	1	78	4	0	0	14	1	0	4	11	10	223	971	0	0	0	0
3:15 PM	0	11	87	1	0	2	73	2	0	0	30	10	0	8	9	12	245	1,031	0	0	0	0
3:30 PM	0	23	98	3	0	0	52	5	0	0	20	5	0	5	13	17	241	1,087	0	0	0	0
3:45 PM	0	16	93	0	0	5	68	16	0	2	19	5	0	7	14	17	262	1,146	0	0	0	0
4:00 PM	0	20	116	4	0	2	84	7	0	0	22	3	0	3	7	15	283	1,190	0	0	0	0
4:15 PM	0	13	113	5	0	0	85	8	0	0	41	10	0	3	13	10	301	1,168	0	0	0	0
4:30 PM	0	24	109	2	0	1	83	8	0	1	33	11	0	4	14	10	300	1,141	0	0	0	0
4:45 PM	0	25	121	5	0	2	69	15	0	1	31	12	0	4	7	14	306	1,098	0	0	0	0
5:00 PM	0	24	93	2	0	4	71	5	0	2	21	8	0	5	13	13	261	1,038	0	0	0	0
5:15 PM	0	21	109	2	0	0	83	4	0	0	21	14	0	5	7	8	274	988	0	0	0	0
5:30 PM	0	20	114	0	0	0	64	6	0	1	19	9	0	6	7	11	257	907	0	0	0	0
5:45 PM	0	21	125	3	0	3	50	3	0	2	18	2	0	4	4	11	246	800	0	0	0	0
6:00 PM	0	17	93	6	0	2	53	7	0	0	16	3	0	3	5	6	211	683	0	0	0	0
6:15 PM	0	11	86	2	0	3	52	7	0	1	12	2	0	3	9	5	193		0	0	0	0
6:30 PM	0	9	54	2	0	3	49	6	0	2	11	4	0	2	4	4	150		0	0	0	0
6:45 PM	0	10	63	0	0	4	38	4	0	0	4	2	0	1	1	2	129		0	0	0	0
Count Total	0	558	3,541	99	1	147	3,827	272	0	51	606	162	0	223	556	588	10,631		0	0	0	0
Peak Hour	0	82	459	16	0	5	321	38	0	2	127	36	0	14	41	49	1,190		0	0	0	0

CDOT Straight Line Diagram

TRANSPORTATION
CONSULTANTS, INC.

Route 024G From 323 to 326



Legend

- Route
- Milepoint

Structures

- Major Structure
- Minor Structure

Created:

Date: 7/8/2020

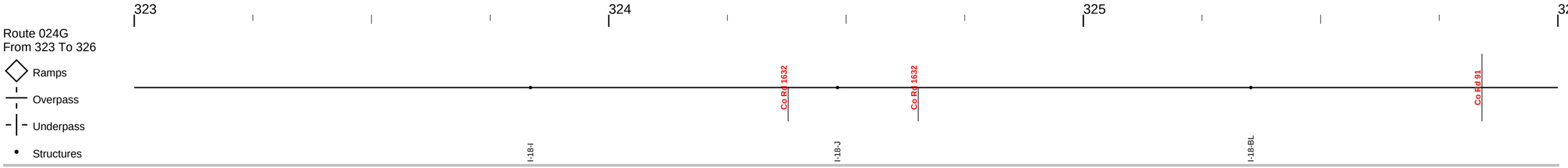
Time: 10:19:02 AM

0 0.15 0.3 0.45 0.6

Miles

N W E S

CDOT



CLASSIFICATION

Access Control	E-X: Expressway, Major Bypass

SAFETY

Primary Speed Limit	65	35

TRAFFIC

AADT	11000	8000
DHV	11.0	
Off Peak Truck Percentage	4.70	7.40
Peak Truck Percentage	0.39	0.44
Year 20 Factor	1.45	1.33

It may appear that information is missing from the straight line diagram. If so, reduce the number of miles/page and re-submit the request.

Levels of Service

TRANSPORTATION
CONSULTANTS, INC.

Intersection	
Int Delay, s/veh	8.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	255	358	5	11	21
Future Vol, veh/h	6	255	358	5	11	21
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	74	74	68	68	67	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	345	526	7	16	31

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1091	32	47	0	-	0
Stage 1	32	-	-	-	-	-
Stage 2	1059	-	-	-	-	-
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	238	1042	1560	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	333	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	157	1042	1560	-	-	-
Mov Cap-2 Maneuver	157	-	-	-	-	-
Stage 1	655	-	-	-	-	-
Stage 2	333	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	8.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1560	-	157	1042	-	-
HCM Lane V/C Ratio	0.337	-	0.052	0.331	-	-
HCM Control Delay (s)	8.5	0	29.2	10.2	-	-
HCM Lane LOS	A	A	D	B	-	-
HCM 95th %tile Q(veh)	1.5	-	0.2	1.5	-	-

Intersection	
Int Delay, s/veh	24.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↰	↗		↕			↕	
Traffic Vol, veh/h	38	71	14	5	43	90	18	253	8	110	131	24
Future Vol, veh/h	38	71	14	5	43	90	18	253	8	110	131	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	250	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	66	66	71	71	71	60	60	60	79	76	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	108	21	7	61	127	30	422	13	139	172	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1048	960	187	1019	969	429	202	0	0	435	0	0
Stage 1	465	465	-	489	489	-	-	-	-	-	-	-
Stage 2	583	495	-	530	480	-	-	-	-	-	-	-
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	206	257	855	215	254	626	1370	-	-	1125	-	-
Stage 1	578	563	-	561	549	-	-	-	-	-	-	-
Stage 2	498	546	-	533	554	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	113	215	855	112	212	626	1370	-	-	1125	-	-
Mov Cap-2 Maneuver	113	215	-	112	212	-	-	-	-	-	-	-
Stage 1	561	484	-	545	533	-	-	-	-	-	-	-
Stage 2	342	530	-	348	476	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	129.8	19.5	0.5	3.5
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1370	-	-	180	194	626	1125	-	-
HCM Lane V/C Ratio	0.022	-	-	1.035	0.348	0.202	0.124	-	-
HCM Control Delay (s)	7.7	0	-	129.8	33.2	12.2	8.7	0	-
HCM Lane LOS	A	A	-	F	D	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	8.8	1.5	0.8	0.4	-	-

Intersection	
Int Delay, s/veh	13.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	129	121	2	87	12	70	224	1	29	502	36
Future Vol, veh/h	36	129	121	2	87	12	70	224	1	29	502	36
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	87	87	87	94	94	94	78	78	78	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	148	139	2	93	13	90	287	1	32	546	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1131	1078	546	1240	1116	287	585	0	0	288	0	0
Stage 1	610	610	-	467	467	-	-	-	-	-	-	-
Stage 2	521	468	-	773	649	-	-	-	-	-	-	-
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	181	219	538	152	208	752	990	-	-	1274	-	-
Stage 1	482	485	-	576	562	-	-	-	-	-	-	-
Stage 2	539	561	-	392	466	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	99	194	538	39	184	752	990	-	-	1274	-	-
Mov Cap-2 Maneuver	99	194	-	39	184	-	-	-	-	-	-	-
Stage 1	438	473	-	524	511	-	-	-	-	-	-	-
Stage 2	394	510	-	195	454	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	44.1	40.2	2.1	0.4
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	990	-	-	99	194	538	39	184	752	1274	-	-
HCM Lane V/C Ratio	0.091	-	-	0.418	0.764	0.259	0.055	0.503	0.017	0.025	-	-
HCM Control Delay (s)	9	-	-	65.3	66.4	14	102.6	42.9	9.9	7.9	-	-
HCM Lane LOS	A	-	-	F	F	B	F	E	A	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1.7	5.1	1	0.2	2.5	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	128	197	22	15	2
Future Vol, veh/h	3	128	197	22	15	2
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	62	62	94	94	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	206	210	23	18	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	462	19	20	0	-	0
Stage 1	19	-	-	-	-	-
Stage 2	443	-	-	-	-	-
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	558	1059	1596	-	-	-
Stage 1	1004	-	-	-	-	-
Stage 2	647	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	484	1059	1596	-	-	-
Mov Cap-2 Maneuver	484	-	-	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	647	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	6.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1596	-	484	1059	-	-
HCM Lane V/C Ratio	0.131	-	0.01	0.195	-	-
HCM Control Delay (s)	7.6	0	12.5	9.2	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.5	-	0	0.7	-	-

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↰	↗		↕			↕	
Traffic Vol, veh/h	21	46	3	9	114	92	7	94	8	38	56	10
Future Vol, veh/h	21	46	3	9	114	92	7	94	8	38	56	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	250	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	87	87	87	68	68	68	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	55	4	10	131	106	10	138	12	46	67	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	448	335	73	359	335	144	79	0	0	150	0	0
Stage 1	165	165	-	164	164	-	-	-	-	-	-	-
Stage 2	283	170	-	195	171	-	-	-	-	-	-	-
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	521	585	989	596	585	903	1519	-	-	1431	-	-
Stage 1	837	762	-	838	762	-	-	-	-	-	-	-
Stage 2	724	758	-	807	757	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	366	561	989	532	561	903	1519	-	-	1431	-	-
Mov Cap-2 Maneuver	366	561	-	532	561	-	-	-	-	-	-	-
Stage 1	831	736	-	832	757	-	-	-	-	-	-	-
Stage 2	525	753	-	718	731	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.8	11.8	0.5	2.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1519	-	-	492	559	903	1431	-	-
HCM Lane V/C Ratio	0.007	-	-	0.171	0.253	0.117	0.032	-	-
HCM Control Delay (s)	7.4	0	-	13.8	13.6	9.5	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	1	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	8.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	40	50	4	97	27	99	478	21	8	304	22
Future Vol, veh/h	17	40	50	4	97	27	99	478	21	8	304	22
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	83	83	83	83	83	83	93	93	93	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	48	60	5	117	33	106	514	23	9	358	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1189	1125	358	1169	1128	514	384	0	0	537	0	0
Stage 1	376	376	-	726	726	-	-	-	-	-	-	-
Stage 2	813	749	-	443	402	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	165	205	686	170	204	560	1174	-	-	1031	-	-
Stage 1	645	616	-	416	430	-	-	-	-	-	-	-
Stage 2	372	419	-	594	600	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	71	185	686	115	184	560	1174	-	-	1031	-	-
Mov Cap-2 Maneuver	71	185	-	115	184	-	-	-	-	-	-	-
Stage 1	587	610	-	379	391	-	-	-	-	-	-	-
Stage 2	223	381	-	495	595	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	28.6	44.2	1.4	0.2
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1174	-	-	71	185	686	115	184	560	1031	-	-
HCM Lane V/C Ratio	0.091	-	-	0.288	0.261	0.088	0.042	0.635	0.058	0.009	-	-
HCM Control Delay (s)	8.4	-	-	75.1	31.2	10.8	37.7	53.5	11.8	8.5	-	-
HCM Lane LOS	A	-	-	F	D	B	E	F	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1	1	0.3	0.1	3.6	0.2	0	-	-

Intersection	
Int Delay, s/veh	10.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	431	442	5	11	22
Future Vol, veh/h	8	431	442	5	11	22
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	74	74	68	85	85	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	582	650	6	13	33

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1336	30	46	0	-	0
Stage 1	30	-	-	-	-	-
Stage 2	1306	-	-	-	-	-
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	169	1044	1562	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	254	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	99	1044	1562	-	-	-
Mov Cap-2 Maneuver	197	-	-	-	-	-
Stage 1	579	-	-	-	-	-
Stage 2	254	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.9	8.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1562	-	197	1044	-	-
HCM Lane V/C Ratio	0.416	-	0.055	0.558	-	-
HCM Control Delay (s)	8.9	0	24.3	12.7	-	-
HCM Lane LOS	A	A	C	B	-	-
HCM 95th %tile Q(veh)	2.1	-	0.2	3.6	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	195	123	4	142	114	45	324	6	202	207	21
Future Vol, veh/h	4	195	123	4	142	114	45	324	6	202	207	21
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	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	229	145	5	167	134	53	381	7	238	244	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1374	1227	257	1411	1236	385	269	0	0	388	0	0
Stage 1	733	733	-	491	491	-	-	-	-	-	-	-
Stage 2	641	494	-	920	745	-	-	-	-	-	-	-
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	~ 178	782	116	176	663	1295	-	-	1170	-	-
Stage 1	412	426	-	559	548	-	-	-	-	-	-	-
Stage 2	463	546	-	325	421	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 128	782	-	~ 127	663	1295	-	-	1170	-	-
Mov Cap-2 Maneuver	-	~ 128	-	-	~ 127	-	-	-	-	-	-	-
Stage 1	391	324	-	530	520	-	-	-	-	-	-	-
Stage 2	238	518	-	59	320	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.9	4.2
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1295	-	-	-	-	663	1170	-	-
HCM Lane V/C Ratio	0.041	-	-	-	-	0.202	0.203	-	-
HCM Control Delay (s)	7.9	0	-	-	-	11.8	8.9	0	-
HCM Lane LOS	A	A	-	-	-	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0.8	0.8	-	-

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

Intersection	
Int Delay, s/veh	70.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	157	200	3	102	15	116	255	2	35	561	39
Future Vol, veh/h	52	157	200	3	102	15	116	255	2	35	561	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Free	-	-	Free	-	-	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	87	87	87	94	94	94	78	78	78	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	180	230	3	109	16	149	327	3	38	610	42

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1367	1314	-	1422	1353	-	652	0	0	330	0	0
Stage 1	686	686	-	625	625	-	-	-	-	-	-	-
Stage 2	681	628	-	797	728	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	-	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	124	~ 158	0	114	150	0	935	-	-	1229	-	-
Stage 1	438	448	0	473	477	0	-	-	-	-	-	-
Stage 2	440	476	0	380	429	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 26	~ 129	-	-	122	-	935	-	-	1229	-	-
Mov Cap-2 Maneuver	~ 26	~ 129	-	-	122	-	-	-	-	-	-	-
Stage 1	368	434	-	398	401	-	-	-	-	-	-	-
Stage 2	270	400	-	215	416	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 439.7		3	0.4
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	935	-	-	26	129	-	-	122	-	1229	-	-
HCM Lane V/C Ratio	0.159	-	-	2.299	1.399	-	-	0.889	-	0.031	-	-
HCM Control Delay (s)	9.6	-	-	$ 913.9	282.7	0	-	121.1	0	8	-	-
HCM Lane LOS	A	-	-	F	F	A	-	F	A	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	7.3	12	-	-	5.6	-	0.1	-	-

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

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	245	425	22	15	7
Future Vol, veh/h	11	245	425	22	15	7
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	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	288	500	26	18	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1048	22	26	0	-	0
Stage 1	22	-	-	-	-	-
Stage 2	1026	-	-	-	-	-
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	252	1055	1588	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	346	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	172	1055	1588	-	-	-
Mov Cap-2 Maneuver	275	-	-	-	-	-
Stage 1	682	-	-	-	-	-
Stage 2	346	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	7.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1588	-	275	1055	-	-
HCM Lane V/C Ratio	0.315	-	0.047	0.273	-	-
HCM Control Delay (s)	8.3	0	18.7	9.7	-	-
HCM Lane LOS	A	A	C	A	-	-
HCM 95th %tile Q(veh)	1.4	-	0.1	1.1	-	-

Intersection	
Int Delay, s/veh	44.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↰	↗		↕			↕	
Traffic Vol, veh/h	12	105	82	10	207	234	130	187	16	103	128	19
Future Vol, veh/h	12	105	82	10	207	234	130	187	16	103	128	19
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	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	124	96	12	244	275	153	220	19	121	151	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1199	949	162	1050	951	230	173	0	0	239	0	0
Stage 1	404	404	-	536	536	-	-	-	-	-	-	-
Stage 2	795	545	-	514	415	-	-	-	-	-	-	-
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	162	260	883	205	260	809	1404	-	-	1328	-	-
Stage 1	623	599	-	529	523	-	-	-	-	-	-	-
Stage 2	381	519	-	543	592	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	204	883	81	~ 204	809	1404	-	-	1328	-	-
Mov Cap-2 Maneuver	-	204	-	81	~ 204	-	-	-	-	-	-	-
Stage 1	545	539	-	462	457	-	-	-	-	-	-	-
Stage 2	103	454	-	335	532	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		116.9	3.1	3.3
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1404	-	-	-	191	809	1328	-	-
HCM Lane V/C Ratio	0.109	-	-	-	1.337	0.34	0.091	-	-
HCM Control Delay (s)	7.9	0	-	-	230.3	11.7	8	0	-
HCM Lane LOS	A	A	-	-	F	B	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	-	14.6	1.5	0.3	-	-

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

Intersection	
Int Delay, s/veh	73.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	45	155	5	133	30	268	510	25	10	383	58
Future Vol, veh/h	25	45	155	5	133	30	268	510	25	10	383	58
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Free	-	-	Free	-	-	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	83	83	83	83	83	83	93	93	93	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	54	187	6	160	36	288	548	27	12	451	68

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1693	1626	-	1660	1667	-	519	0	0	575	0	0
Stage 1	475	475	-	1124	1124	-	-	-	-	-	-	-
Stage 2	1218	1151	-	536	543	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	-	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	74	102	0	78	~ 96	0	1047	-	-	998	-	-
Stage 1	570	557	0	249	281	0	-	-	-	-	-	-
Stage 2	221	272	0	529	520	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	73	-	25	~ 69	-	1047	-	-	998	-	-
Mov Cap-2 Maneuver	-	73	-	25	~ 69	-	-	-	-	-	-	-
Stage 1	413	550	-	181	204	-	-	-	-	-	-	-
Stage 2	34	197	-	471	514	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 713.2	3.3	0.2
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1047	-	-	-	73	-	25	69	-	998	-	-
HCM Lane V/C Ratio	0.275	-	-	-	0.743	-	0.241	2.322	-	0.012	-	-
HCM Control Delay (s)	9.7	-	-	-	137.3	0	189.8	$ 732.9	0	8.7	-	-
HCM Lane LOS	A	-	-	-	F	A	F	F	A	A	-	-
HCM 95th %tile Q(veh)	1.1	-	-	-	3.5	-	0.7	15.3	-	0	-	-

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

Intersection	
Int Delay, s/veh	10.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	432	446	6	11	22
Future Vol, veh/h	8	432	446	6	11	22
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	74	74	68	85	85	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	584	656	7	13	33

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1349	30	46	0	-	0
Stage 1	30	-	-	-	-	-
Stage 2	1319	-	-	-	-	-
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	166	1044	1562	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	250	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	96	1044	1562	-	-	-
Mov Cap-2 Maneuver	194	-	-	-	-	-
Stage 1	574	-	-	-	-	-
Stage 2	250	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.9	8.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1562	-	194	1044	-	-
HCM Lane V/C Ratio	0.42	-	0.056	0.559	-	-
HCM Control Delay (s)	9	0	24.6	12.7	-	-
HCM Lane LOS	A	A	C	B	-	-
HCM 95th %tile Q(veh)	2.1	-	0.2	3.6	-	-

Intersection	
Int Delay, s/veh	10.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	432	446	6	11	22
Future Vol, veh/h	8	432	446	6	11	22
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	400	-	-	155
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	68	85	85	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	584	656	7	13	33

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1332	13	46	0	-	0
Stage 1	13	-	-	-	-	-
Stage 2	1319	-	-	-	-	-
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	170	1067	1562	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	250	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	99	1067	1562	-	-	-
Mov Cap-2 Maneuver	196	-	-	-	-	-
Stage 1	586	-	-	-	-	-
Stage 2	250	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.6	8.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1562	-	196	1067	-	-
HCM Lane V/C Ratio	0.42	-	0.055	0.547	-	-
HCM Control Delay (s)	9	-	24.4	12.4	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	2.1	-	0.2	3.4	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↰	↗		↕			↕	
Traffic Vol, veh/h	4	202	123	22	162	120	45	324	12	204	207	21
Future Vol, veh/h	4	202	123	22	162	120	45	324	12	204	207	21
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	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	238	145	26	191	141	53	381	14	240	244	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1397	1238	257	1422	1243	388	269	0	0	395	0	0
Stage 1	737	737	-	494	494	-	-	-	-	-	-	-
Stage 2	660	501	-	928	749	-	-	-	-	-	-	-
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	118	~ 176	782	114	~ 174	660	1295	-	-	1164	-	-
Stage 1	410	425	-	557	546	-	-	-	-	-	-	-
Stage 2	452	543	-	321	419	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 126	782	-	~ 125	660	1295	-	-	1164	-	-
Mov Cap-2 Maneuver	-	~ 126	-	-	~ 125	-	-	-	-	-	-	-
Stage 1	388	322	-	527	517	-	-	-	-	-	-	-
Stage 2	212	514	-	52	317	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.9	4.2
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1295	-	-	-	-	660	1164	-	-
HCM Lane V/C Ratio	0.041	-	-	-	-	0.214	0.206	-	-
HCM Control Delay (s)	7.9	0	-	-	-	11.9	8.9	0	-
HCM Lane LOS	A	A	-	-	-	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0.8	0.8	-	-

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

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	202	123	22	162	120	45	324	12	204	207	21
Future Vol, veh/h	4	202	123	22	162	120	45	324	12	204	207	21
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	0	-	-	400	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	238	145	26	191	141	53	381	14	240	244	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1397	1238	257	1422	1243	388	269	0	0	395	0	0
Stage 1	737	737	-	494	494	-	-	-	-	-	-	-
Stage 2	660	501	-	928	749	-	-	-	-	-	-	-
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	118	~ 176	782	114	~ 174	660	1295	-	-	1164	-	-
Stage 1	410	425	-	557	546	-	-	-	-	-	-	-
Stage 2	452	543	-	321	419	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 134	782	-	~ 132	660	1295	-	-	1164	-	-
Mov Cap-2 Maneuver	-	~ 134	-	-	~ 132	-	-	-	-	-	-	-
Stage 1	393	337	-	534	524	-	-	-	-	-	-	-
Stage 2	217	521	-	61	333	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.9	4.2
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1295	-	-	-	-	660	1164	-	-
HCM Lane V/C Ratio	0.041	-	-	-	-	0.214	0.206	-	-
HCM Control Delay (s)	7.9	-	-	-	-	11.9	8.9	-	-
HCM Lane LOS	A	-	-	-	-	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0.8	0.8	-	-

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

Intersection	
Intersection Delay, s/veh	49.9
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	202	123	22	162	120	45	324	12	204	207	21
Future Vol, veh/h	4	202	123	22	162	120	45	324	12	204	207	21
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	238	145	26	191	141	53	381	14	240	244	25
Number of Lanes	0	1	0	0	1	1	1	1	0	1	1	0

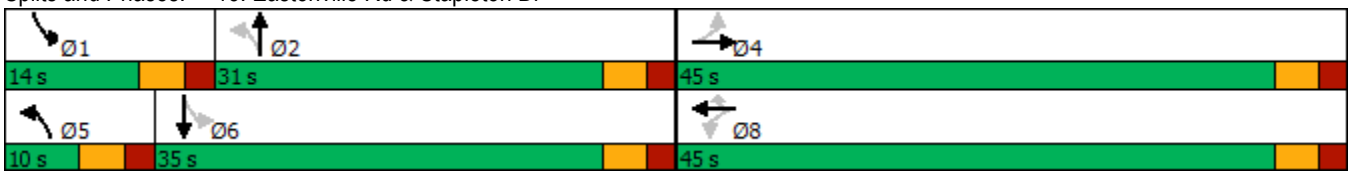
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	76.2	22.1	71.6	30.4
HCM LOS	F	C	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	1%	12%	0%	100%	0%
Vol Thru, %	0%	96%	61%	88%	0%	0%	91%
Vol Right, %	0%	4%	37%	0%	100%	0%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	336	329	184	120	204	228
LT Vol	45	0	4	22	0	204	0
Through Vol	0	324	202	162	0	0	207
RT Vol	0	12	123	0	120	0	21
Lane Flow Rate	53	395	387	216	141	240	268
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.143	1.011	0.997	0.588	0.352	0.66	0.694
Departure Headway (Hd)	9.756	9.206	9.269	9.783	8.986	9.901	9.308
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	369	395	395	368	400	365	389
Service Time	7.484	6.933	7.295	7.547	6.75	7.667	7.074
HCM Lane V/C Ratio	0.144	1	0.98	0.587	0.352	0.658	0.689
HCM Control Delay	14.1	79.3	76.2	25.7	16.6	30	30.8
HCM Lane LOS	B	F	F	D	C	D	D
HCM 95th-tile Q	0.5	12.4	12	3.6	1.6	4.5	5.1

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	4	202	22	162	120	45	324	204	207
Future Volume (vph)	4	202	22	162	120	45	324	204	207
Turn Type	Perm	NA	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4		8		5	2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	45.0	45.0	45.0	45.0	45.0	10.0	31.0	14.0	35.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	11.1%	34.4%	15.6%	38.9%
Yellow Time (s)	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
Lost Time Adjust (s)		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
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)		18.1		18.1	18.1	23.2	18.0	31.6	26.8
Actuated g/C Ratio		0.30		0.30	0.30	0.38	0.30	0.52	0.44
v/c Ratio		0.70		0.42	0.25	0.11	0.72	0.52	0.33
Control Delay		24.5		20.4	4.8	9.5	28.1	13.5	15.2
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		24.5		20.4	4.8	9.5	28.1	13.5	15.2
LOS		C		C	A	A	C	B	B
Approach Delay		24.5		14.3			25.9		14.4
Approach LOS		C		B			C		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 60.7	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 19.7	Intersection LOS: B
Intersection Capacity Utilization 64.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 13: Eastonville Rd & Stapleton Dr



Intersection	
Int Delay, s/veh	397.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	161	259	3	103	15	136	255	2	35	561	40
Future Vol, veh/h	56	161	259	3	103	15	136	255	2	35	561	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Free	-	-	Free	-	-	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	87	87	87	94	94	94	78	78	78	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	185	298	3	110	16	174	327	3	38	610	43

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1418	1364	-	1475	1404	-	653	0	0	330	0	0
Stage 1	686	686	-	675	675	-	-	-	-	-	-	-
Stage 2	732	678	-	800	729	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	-	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	114	~ 148	0	104	140	0	934	-	-	1229	-	-
Stage 1	438	448	0	444	453	0	-	-	-	-	-	-
Stage 2	413	452	0	379	428	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 4	~ 117	-	-	110	-	934	-	-	1229	-	-
Mov Cap-2 Maneuver	~ 4	~ 117	-	-	110	-	-	-	-	-	-	-
Stage 1	357	434	-	361	369	-	-	-	-	-	-	-
Stage 2	236	368	-	211	415	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, $	2476.4		3.4	0.4
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	934	-	-	4	117	-	-	110	-	1229	-	-
HCM Lane V/C Ratio	0.187	-	-	16.092	1.582	-	-	0.996	-	0.031	-	-
HCM Control Delay (s)	9.7	-	-	$ 8549	$ 364.2	0	-	158	0	8	-	-
HCM Lane LOS	A	-	-	F	F	A	-	F	A	A	-	-
HCM 95th %tile Q(veh)	0.7	-	-	10	13.6	-	-	6.4	-	0.1	-	-

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	161	259	3	103	15	136	255	2	35	561	40
Future Volume (vph)	56	161	259	3	103	15	136	255	2	35	561	40
Turn Type	Perm	NA	Free	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		Free	8		8	2		2	6		6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	6.0	6.0		6.0	6.0	6.0	10.0	20.0	20.0	10.0	20.0	20.0
Total Split (s)	35.0	35.0		35.0	35.0	35.0	13.0	75.0	75.0	10.0	72.0	72.0
Total Split (%)	29.2%	29.2%		29.2%	29.2%	29.2%	10.8%	62.5%	62.5%	8.3%	60.0%	60.0%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	15.7	15.7	105.6	15.7	15.7	15.7	78.7	73.1	73.1	72.1	66.1	66.1
Actuated g/C Ratio	0.15	0.15	1.00	0.15	0.15	0.15	0.75	0.69	0.69	0.68	0.63	0.63
v/c Ratio	0.36	0.67	0.19	0.03	0.40	0.05	0.33	0.25	0.00	0.05	0.52	0.04
Control Delay	46.0	54.8	0.3	37.7	44.8	0.3	5.7	8.0	0.0	4.4	13.7	1.2
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	46.0	54.8	0.3	37.7	44.8	0.3	5.7	8.0	0.0	4.4	13.7	1.2
LOS	D	D	A	D	D	A	A	A	A	A	B	A
Approach Delay		24.1			39.1			7.2			12.4	
Approach LOS		C			D			A			B	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 105.6		
Natural Cycle: 60		
Control Type: Semi Act-Uncoord		
Maximum v/c Ratio: 0.67		
Intersection Signal Delay: 16.2	Intersection LOS: B	
Intersection Capacity Utilization 60.2%	ICU Level of Service B	
Analysis Period (min) 15		

Splits and Phases: 14: US 24 & Stapleton Dr

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	409	257	23	68	44
Future Vol, veh/h	14	409	257	23	68	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	235	-	-	235	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	16	481	302	27	80	52

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	329	0	-	0	815	302			
Stage 1	-	-	-	-	302	-			
Stage 2	-	-	-	-	513	-			
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	1231	-	-	-	347	738			
Stage 1	-	-	-	-	750	-			
Stage 2	-	-	-	-	601	-			
Platoon blocked, %		-	-	-					
Mov Cap-1 Maneuver	1231	-	-	-	342	738			
Mov Cap-2 Maneuver	-	-	-	-	342	-			
Stage 1	-	-	-	-	740	-			
Stage 2	-	-	-	-	601	-			

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	15.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1231	-	-	-	342	738
HCM Lane V/C Ratio	0.013	-	-	-	0.234	0.07
HCM Control Delay (s)	8	-	-	-	18.7	10.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	0.9	0.2

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	250	428	23	16	7
Future Vol, veh/h	11	250	428	23	16	7
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	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	294	504	27	19	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1058	23	27	0	-	0
Stage 1	23	-	-	-	-	-
Stage 2	1035	-	-	-	-	-
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	249	1054	1587	-	-	-
Stage 1	1000	-	-	-	-	-
Stage 2	342	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	169	1054	1587	-	-	-
Mov Cap-2 Maneuver	272	-	-	-	-	-
Stage 1	678	-	-	-	-	-
Stage 2	342	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	7.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1587	-	272	1054	-	-
HCM Lane V/C Ratio	0.317	-	0.048	0.279	-	-
HCM Control Delay (s)	8.3	0	18.9	9.7	-	-
HCM Lane LOS	A	A	C	A	-	-
HCM 95th %tile Q(veh)	1.4	-	0.1	1.1	-	-

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	250	428	23	16	7
Future Vol, veh/h	11	250	428	23	16	7
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	400	-	-	155
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	13	294	504	27	19	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1054	19	27	0	-	0
Stage 1	19	-	-	-	-	-
Stage 2	1035	-	-	-	-	-
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	250	1059	1587	-	-	-
Stage 1	1004	-	-	-	-	-
Stage 2	342	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	171	1059	1587	-	-	-
Mov Cap-2 Maneuver	273	-	-	-	-	-
Stage 1	685	-	-	-	-	-
Stage 2	342	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	7.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1587	-	273	1059	-	-
HCM Lane V/C Ratio	0.317	-	0.047	0.278	-	-
HCM Control Delay (s)	8.3	-	18.8	9.7	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	1.4	-	0.1	1.1	-	-

Intersection	
Int Delay, s/veh	85.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↰	↗		↕			↕	
Traffic Vol, veh/h	12	128	82	22	220	238	130	187	36	109	128	19
Future Vol, veh/h	12	128	82	22	220	238	130	187	36	109	128	19
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	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	151	96	26	259	280	153	220	42	128	151	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1235	986	162	1089	976	241	173	0	0	262	0	0
Stage 1	418	418	-	547	547	-	-	-	-	-	-	-
Stage 2	817	568	-	542	429	-	-	-	-	-	-	-
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	153	248	883	193	~ 251	798	1404	-	-	1302	-	-
Stage 1	612	591	-	521	517	-	-	-	-	-	-	-
Stage 2	370	506	-	525	584	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	193	883	52	~ 195	798	1404	-	-	1302	-	-
Mov Cap-2 Maneuver	-	193	-	52	~ 195	-	-	-	-	-	-	-
Stage 1	534	527	-	454	451	-	-	-	-	-	-	-
Stage 2	89	441	-	298	520	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		230.2	2.9	3.4
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1404	-	-	-	156	798	1302	-	-
HCM Lane V/C Ratio	0.109	-	-	-	1.825	0.351	0.098	-	-
HCM Control Delay (s)	7.9	0	-	-	$ 444.8	11.9	8.1	0	-
HCM Lane LOS	A	A	-	-	F	B	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	-	21.1	1.6	0.3	-	-

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

Intersection	
Int Delay, s/veh	78.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	128	82	22	220	238	130	187	36	109	128	19
Future Vol, veh/h	12	128	82	22	220	238	130	187	36	109	128	19
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	0	-	-	400	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	151	96	26	259	280	153	220	42	128	151	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1235	986	162	1089	976	241	173	0	0	262	0	0
Stage 1	418	418	-	547	547	-	-	-	-	-	-	-
Stage 2	817	568	-	542	429	-	-	-	-	-	-	-
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	153	248	883	193	~ 251	798	1404	-	-	1302	-	-
Stage 1	612	591	-	521	517	-	-	-	-	-	-	-
Stage 2	370	506	-	525	584	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	199	883	57	~ 202	798	1404	-	-	1302	-	-
Mov Cap-2 Maneuver	-	199	-	57	~ 202	-	-	-	-	-	-	-
Stage 1	545	533	-	464	461	-	-	-	-	-	-	-
Stage 2	94	451	-	303	527	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		209.4	2.9	3.4
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1404	-	-	-	164	798	1302	-	-
HCM Lane V/C Ratio	0.109	-	-	-	1.736	0.351	0.098	-	-
HCM Control Delay (s)	7.9	-	-	-$	403.7	11.9	8.1	-	-
HCM Lane LOS	A	-	-	-	F	B	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	-	20.3	1.6	0.3	-	-

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

Intersection	
Intersection Delay, s/veh	19.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	128	82	22	220	238	130	187	36	109	128	19
Future Vol, veh/h	12	128	82	22	220	238	130	187	36	109	128	19
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	151	96	26	259	280	153	220	42	128	151	22
Number of Lanes	0	1	0	0	1	1	1	1	0	1	1	0

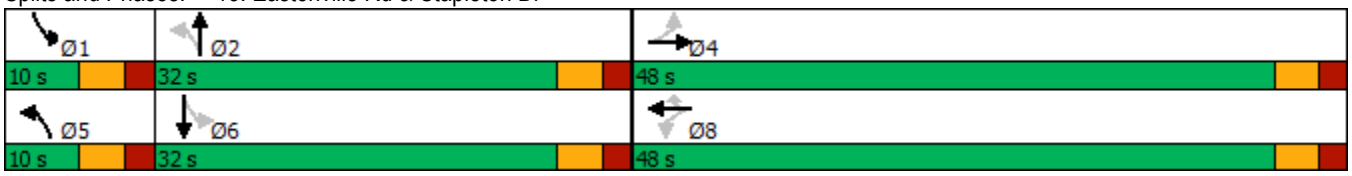
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	21.7	20.2	19.1	15.9
HCM LOS	C	C	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	5%	9%	0%	100%	0%
Vol Thru, %	0%	84%	58%	91%	0%	0%	87%
Vol Right, %	0%	16%	37%	0%	100%	0%	13%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	130	223	222	242	238	109	147
LT Vol	130	0	12	22	0	109	0
Through Vol	0	187	128	220	0	0	128
RT Vol	0	36	82	0	238	0	19
Lane Flow Rate	153	262	261	285	280	128	173
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.361	0.574	0.581	0.615	0.545	0.312	0.392
Departure Headway (Hd)	8.508	7.874	8.008	7.776	7.009	8.764	8.151
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	422	456	449	461	512	409	439
Service Time	6.29	5.655	6.093	5.555	4.788	6.551	5.938
HCM Lane V/C Ratio	0.363	0.575	0.581	0.618	0.547	0.313	0.394
HCM Control Delay	16.1	20.8	21.7	22.3	18	15.5	16.2
HCM Lane LOS	C	C	C	C	C	C	C
HCM 95th-tile Q	1.6	3.5	3.6	4	3.2	1.3	1.8

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	12	128	22	220	238	130	187	109	128
Future Volume (vph)	12	128	22	220	238	130	187	109	128
Turn Type	Perm	NA	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4		8		5	2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	48.0	48.0	48.0	48.0	48.0	10.0	32.0	10.0	32.0
Total Split (%)	53.3%	53.3%	53.3%	53.3%	53.3%	11.1%	35.6%	11.1%	35.6%
Yellow Time (s)	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
Lost Time Adjust (s)		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
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)		13.9		13.9	13.9	15.8	12.1	15.8	12.1
Actuated g/C Ratio		0.31		0.31	0.31	0.36	0.27	0.36	0.27
v/c Ratio		0.45		0.51	0.41	0.31	0.52	0.28	0.34
Control Delay		13.9		17.2	4.1	10.2	18.9	9.8	16.3
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		13.9		17.2	4.1	10.2	18.9	9.8	16.3
LOS		B		B	A	B	B	A	B
Approach Delay		13.9		10.7			15.7		13.5
Approach LOS		B		B			B		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 44.2	
Natural Cycle: 40	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.52	
Intersection Signal Delay: 13.1	Intersection LOS: B
Intersection Capacity Utilization 52.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 13: Eastonville Rd & Stapleton Dr



Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	48	194	5	138	30	335	510	25	10	383	63
Future Vol, veh/h	28	48	194	5	138	30	335	510	25	10	383	63
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Free	-	-	Free	-	-	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	83	83	83	83	83	83	93	93	93	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	58	234	6	166	36	360	548	27	12	451	74

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1840	1770	-	1809	1817	-	525	0	0	575	0	0
Stage 1	475	475	-	1268	1268	-	-	-	-	-	-	-
Stage 2	1365	1295	-	541	549	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	-	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	58	83	0	61	~ 78	0	1042	-	-	998	-	-
Stage 1	570	557	0	207	240	0	-	-	-	-	-	-
Stage 2	182	233	0	525	516	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 54	-	-	~ 50	-	1042	-	-	998	-	-
Mov Cap-2 Maneuver	-	~ 54	-	-	~ 50	-	-	-	-	-	-	-
Stage 1	373	550	-	136	~ 157	-	-	-	-	-	-	-
Stage 2	-	153	-	464	510	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			4	0.2
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1042	-	-	-	54	-	-	50	-	998	-	-
HCM Lane V/C Ratio	0.346	-	-	-	1.071	-	-	3.325	-	0.012	-	-
HCM Control Delay (s)	10.3	-	-	-	267.6	0	$	1217.8	0	8.7	-	-
HCM Lane LOS	B	-	-	-	F	A	-	F	A	A	-	-
HCM 95th %tile Q(veh)	1.6	-	-	-	4.9	-	-	18	-	0	-	-

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	48	194	5	138	30	335	510	25	10	383	63
Future Volume (vph)	28	48	194	5	138	30	335	510	25	10	383	63
Turn Type	Perm	NA	Free	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		Free	8		8	2		2	6		6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0		20.0	20.0	20.0	10.0	20.0	20.0	10.0	20.0	20.0
Total Split (s)	33.0	33.0		33.0	33.0	33.0	34.0	77.0	77.0	10.0	53.0	53.0
Total Split (%)	27.5%	27.5%		27.5%	27.5%	27.5%	28.3%	64.2%	64.2%	8.3%	44.2%	44.2%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	14.2	14.2	98.4	14.2	14.2	14.2	74.2	71.4	71.4	61.5	55.4	55.4
Actuated g/C Ratio	0.14	0.14	1.00	0.14	0.14	0.14	0.75	0.73	0.73	0.62	0.56	0.56
v/c Ratio	0.27	0.22	0.15	0.03	0.62	0.11	0.52	0.41	0.02	0.02	0.43	0.08
Control Delay	43.6	39.4	0.2	37.0	50.3	0.7	7.0	7.5	0.1	5.2	15.4	1.1
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	43.6	39.4	0.2	37.0	50.3	0.7	7.0	7.5	0.1	5.2	15.4	1.1
LOS	D	D	A	D	D	A	A	A	A	A	B	A
Approach Delay		11.7			41.4			7.1			13.2	
Approach LOS		B			D			A			B	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 98.4		
Natural Cycle: 60		
Control Type: Semi Act-Uncoord		
Maximum v/c Ratio: 0.62		
Intersection Signal Delay: 13.0	Intersection LOS: B	
Intersection Capacity Utilization 67.6%	ICU Level of Service C	
Analysis Period (min) 15		

Splits and Phases: 14: US 24 & Stapleton Dr

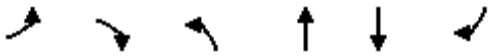
Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	49	225	459	77	45	29
Future Vol, veh/h	49	225	459	77	45	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	235	-	-	235	0	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	53	245	499	84	49	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	583	0	-	0	850	499
Stage 1	-	-	-	-	499	-
Stage 2	-	-	-	-	351	-
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	991	-	-	-	331	572
Stage 1	-	-	-	-	610	-
Stage 2	-	-	-	-	713	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	991	-	-	-	313	572
Mov Cap-2 Maneuver	-	-	-	-	313	-
Stage 1	-	-	-	-	578	-
Stage 2	-	-	-	-	713	-

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	15.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	991	-	-	-	313	572
HCM Lane V/C Ratio	0.054	-	-	-	0.156	0.055
HCM Control Delay (s)	8.8	-	-	-	18.6	11.7
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5	0.2



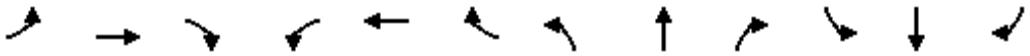
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	108	275	158	459	1081	196
Future Volume (vph)	108	275	158	459	1081	196
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	114	289	166	483	1138	206
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	289	166	483	1138	206

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	108	275	158	459	1081	196
Future Volume (vph)	108	275	158	459	1081	196
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	10.0	20.0	20.0	20.0
Total Split (s)	25.0	25.0	15.0	95.0	80.0	80.0
Total Split (%)	20.8%	20.8%	12.5%	79.2%	66.7%	66.7%
Yellow Time (s)	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
Lost Time Adjust (s)	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
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	10.6	10.6	46.2	46.2	31.3	31.3
Actuated g/C Ratio	0.16	0.16	0.69	0.69	0.47	0.47
v/c Ratio	0.41	0.67	0.43	0.20	0.69	0.24
Control Delay	32.9	17.8	8.8	4.2	16.6	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	17.8	8.8	4.2	16.6	2.8
LOS	C	B	A	A	B	A
Approach Delay	22.1			5.3	14.5	
Approach LOS	C			A	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 67.2	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 13.3	Intersection LOS: B
Intersection Capacity Utilization 57.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 12: Eastonville Rd & Londonderry Dr



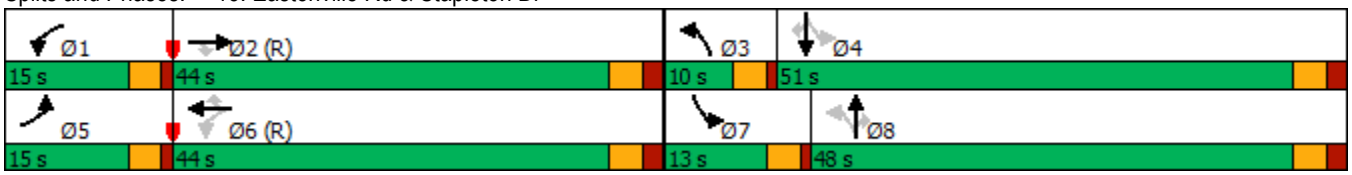
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	250	316	224	127	727	109	108	258	176	314	577	465
Future Volume (vph)	250	316	224	127	727	109	108	258	176	314	577	465
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	263	333	236	134	765	115	114	272	185	331	607	489
Shared Lane Traffic (%)												
Lane Group Flow (vph)	263	333	236	134	765	115	114	272	185	331	607	489

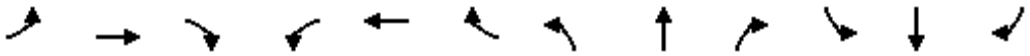
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	316	224	127	727	109	108	258	176	314	577	465
Future Volume (vph)	250	316	224	127	727	109	108	258	176	314	577	465
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	15.0	44.0	44.0	15.0	44.0	44.0	10.0	48.0	48.0	13.0	51.0	51.0
Total Split (%)	12.5%	36.7%	36.7%	12.5%	36.7%	36.7%	8.3%	40.0%	40.0%	10.8%	42.5%	42.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	11.0	42.6	42.6	52.3	41.4	41.4	47.6	40.6	40.6	53.6	43.6	43.6
Actuated g/C Ratio	0.09	0.36	0.36	0.44	0.34	0.34	0.40	0.34	0.34	0.45	0.36	0.36
v/c Ratio	0.84	0.27	0.33	0.27	0.63	0.18	0.74	0.43	0.28	0.77	0.90	0.66
Control Delay	76.5	29.3	5.0	8.5	19.3	2.2	47.9	32.7	4.9	37.5	53.3	17.8
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	76.5	29.3	5.0	8.5	19.3	2.2	47.9	32.7	4.9	37.5	53.3	17.8
LOS	E	C	A	A	B	A	D	C	A	D	D	B
Approach Delay		37.3			16.0			26.7			37.5	
Approach LOS		D			B			C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 80 (67%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 30.2	Intersection LOS: C
Intersection Capacity Utilization 78.6%	ICU Level of Service D
Analysis Period (min) 15	

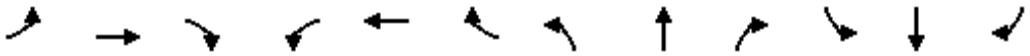
Splits and Phases: 13: Eastonville Rd & Stapleton Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	162	357	555	75	368	51	286	638	50	142	712	346
Future Volume (vph)	162	357	555	75	368	51	286	638	50	142	712	346
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.98	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	171	376	584	79	387	54	301	672	53	149	727	364
Shared Lane Traffic (%)												
Lane Group Flow (vph)	171	376	584	79	387	54	301	672	53	149	727	364

Intersection Summary



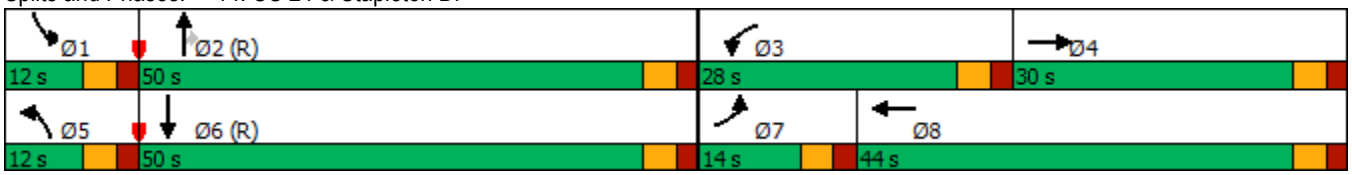
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	13	755	50	5	864	9	65	5	20	26	5	31
Future Volume (vph)	13	755	50	5	864	9	65	5	20	26	5	31
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	14	821	54	5	939	10	71	5	22	28	5	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	821	54	5	939	10	71	27	0	28	5	34

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	357	555	75	368	51	286	638	50	142	712	346
Future Volume (vph)	162	357	555	75	368	51	286	638	50	142	712	346
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			2			Free
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.0	10.0		10.0	10.0		10.0	11.0	11.0	10.0	11.0	
Total Split (s)	14.0	30.0		28.0	44.0		12.0	50.0	50.0	12.0	50.0	
Total Split (%)	11.7%	25.0%		23.3%	36.7%		10.0%	41.7%	41.7%	10.0%	41.7%	
Yellow Time (s)	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	
Lost Time Adjust (s)	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	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	8.8	21.5	120.0	8.2	18.6	120.0	22.2	61.8	61.8	10.7	50.3	120.0
Actuated g/C Ratio	0.07	0.18	1.00	0.07	0.16	1.00	0.18	0.52	0.52	0.09	0.42	1.00
v/c Ratio	0.68	0.59	0.37	0.34	0.70	0.03	0.47	0.37	0.06	0.49	0.49	0.23
Control Delay	71.3	55.2	1.1	56.9	55.0	0.0	47.5	19.1	0.1	57.0	26.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.3	55.2	1.1	56.9	55.0	0.0	47.5	19.1	0.1	57.0	26.9	0.3
LOS	E	E	A	E	E	A	D	B	A	E	C	A
Approach Delay		29.7			49.6			26.5			22.7	
Approach LOS		C			D			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 110 (92%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 29.3	Intersection LOS: C
Intersection Capacity Utilization 59.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 14: US 24 & Stapleton Dr



Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	108	44	531	36	14	1169
Future Vol, veh/h	108	44	531	36	14	1169
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	-	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	114	46	559	38	15	1231

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1205	280	0	0	597	0
Stage 1	559	-	-	-	-	-
Stage 2	646	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	176	717	-	-	976	-
Stage 1	536	-	-	-	-	-
Stage 2	484	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	173	717	-	-	976	-
Mov Cap-2 Maneuver	309	-	-	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	477	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.6	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	309	717	976	-
HCM Lane V/C Ratio	-	-	0.368	0.065	0.015	-
HCM Control Delay (s)	-	-	23.3	10.4	8.7	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	1.6	0.2	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	13	755	50	5	864	9	65	5	26	5	31
Future Volume (vph)	13	755	50	5	864	9	65	5	26	5	31
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		1	6			8		4	
Permitted Phases	2		2	6		6	8		4		4
Detector Phase	5	2	2	1	6	6	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	20.0	20.0	10.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	15.0	75.0	75.0	15.0	75.0	75.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	12.5%	62.5%	62.5%	12.5%	62.5%	62.5%	25.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	Max	Max	Max	Max	Max
Act Effct Green (s)	84.1	82.8	82.8	82.9	80.5	80.5	25.0	25.0	25.0	25.0	25.0
Actuated g/C Ratio	0.70	0.69	0.69	0.69	0.67	0.67	0.21	0.21	0.21	0.21	0.21
v/c Ratio	0.04	0.34	0.05	0.01	0.40	0.01	0.24	0.08	0.10	0.01	0.09
Control Delay	4.8	6.1	1.1	4.6	6.4	0.0	42.3	18.0	39.6	38.0	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.8	6.1	1.1	4.6	6.4	0.0	42.3	18.0	39.6	38.0	2.8
LOS	A	A	A	A	A	A	D	B	D	D	A
Approach Delay		5.7			6.3			35.6		20.8	
Approach LOS		A			A			D		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.40	
Intersection Signal Delay: 8.0	Intersection LOS: A
Intersection Capacity Utilization 44.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1010: Stapleton Dr & Saybrook Dr

Intersection	
Int Delay, s/veh	1.8

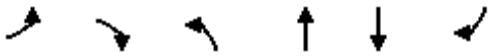
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	755	50	5	864	9	65	5	20	26	5	31
Future Vol, veh/h	13	755	50	5	864	9	65	5	20	26	5	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	235	-	155	205	-	235	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	821	54	5	939	10	71	5	22	28	5	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	949	0	0	875	0	0	1331	1808	411	1390	1852	470
Stage 1	-	-	-	-	-	-	849	849	-	949	949	-
Stage 2	-	-	-	-	-	-	482	959	-	441	903	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1096	-	-	767	-	-	*275	115	590	239	105	*746
Stage 1	-	-	-	-	-	-	*322	375	-	683	603	-
Stage 2	-	-	-	-	-	-	*703	595	-	565	354	-
Platoon blocked, %	1	-	-		-	-	1	1		1	1	1
Mov Cap-1 Maneuver	1096	-	-	767	-	-	*248	113	590	218	103	*746
Mov Cap-2 Maneuver	-	-	-	-	-	-	*248	113	-	218	103	-
Stage 1	-	-	-	-	-	-	*318	370	-	675	599	-
Stage 2	-	-	-	-	-	-	*661	590	-	529	349	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	23	18.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	248	320	1096	-	-	767	-	-	218	103	746
HCM Lane V/C Ratio	0.285	0.085	0.013	-	-	0.007	-	-	0.13	0.053	0.045
HCM Control Delay (s)	25.2	17.3	8.3	-	-	9.7	-	-	24	41.9	10.1
HCM Lane LOS	D	C	A	-	-	A	-	-	C	E	B
HCM 95th %tile Q(veh)	1.1	0.3	0	-	-	0	-	-	0.4	0.2	0.1

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



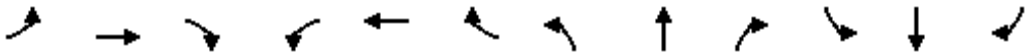
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	190	177	307	1030	666	128
Future Volume (vph)	190	177	307	1030	666	128
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	200	186	323	1084	701	135
Shared Lane Traffic (%)						
Lane Group Flow (vph)	200	186	323	1084	701	135

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	190	177	307	1030	666	128
Future Volume (vph)	190	177	307	1030	666	128
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	10.0	20.0	20.0	20.0
Total Split (s)	25.0	25.0	15.0	95.0	80.0	80.0
Total Split (%)	20.8%	20.8%	12.5%	79.2%	66.7%	66.7%
Yellow Time (s)	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
Lost Time Adjust (s)	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
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	11.6	11.6	34.1	34.1	18.9	18.9
Actuated g/C Ratio	0.21	0.21	0.61	0.61	0.34	0.34
v/c Ratio	0.54	0.39	0.64	0.50	0.59	0.22
Control Delay	26.7	6.6	13.1	7.4	17.6	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.7	6.6	13.1	7.4	17.6	4.0
LOS	C	A	B	A	B	A
Approach Delay	17.0			8.7	15.4	
Approach LOS	B			A	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 55.9	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 12.1	Intersection LOS: B
Intersection Capacity Utilization 58.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 12: Eastonville Rd & Londonderry Dr



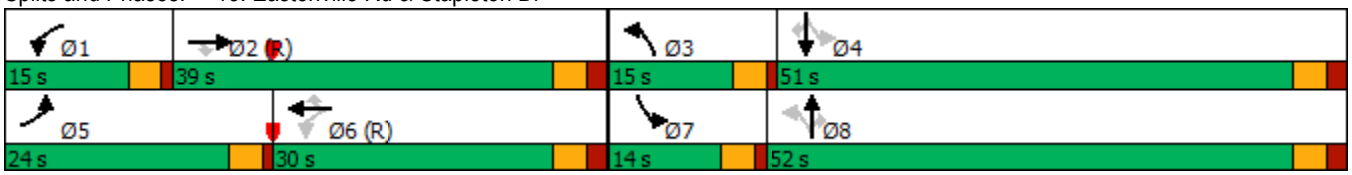
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	512	569	160	172	733	231	251	594	150	176	375	291
Future Volume (vph)	512	569	160	172	733	231	251	594	150	176	375	291
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	539	599	168	181	772	243	264	625	158	185	395	306
Shared Lane Traffic (%)												
Lane Group Flow (vph)	539	599	168	181	772	243	264	625	158	185	395	306

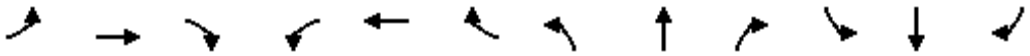
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	512	569	160	172	733	231	251	594	150	176	375	291
Future Volume (vph)	512	569	160	172	733	231	251	594	150	176	375	291
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	24.0	39.0	39.0	15.0	30.0	30.0	15.0	52.0	52.0	14.0	51.0	51.0
Total Split (%)	20.0%	32.5%	32.5%	12.5%	25.0%	25.0%	12.5%	43.3%	43.3%	11.7%	42.5%	42.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	20.0	37.3	37.3	39.3	27.8	27.8	56.2	44.2	44.2	54.2	43.2	43.2
Actuated g/C Ratio	0.17	0.31	0.31	0.33	0.23	0.23	0.47	0.37	0.37	0.45	0.36	0.36
v/c Ratio	0.94	0.55	0.28	0.56	0.94	0.45	0.69	0.91	0.24	0.88	0.59	0.40
Control Delay	75.5	37.5	6.1	25.8	51.3	10.2	28.4	54.5	7.3	63.7	34.8	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.5	37.5	6.1	25.8	51.3	10.2	28.4	54.5	7.3	63.7	34.8	4.4
LOS	E	D	A	C	D	B	C	D	A	E	C	A
Approach Delay		49.1			39.1			40.8			30.3	
Approach LOS		D			D			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 80 (67%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 40.7	Intersection LOS: D
Intersection Capacity Utilization 90.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 13: Eastonville Rd & Stapleton Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	339	345	356	125	490	202	607	1635	150	165	1020	336
Future Volume (vph)	339	345	356	125	490	202	607	1635	150	165	1020	336
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.98	0.98	0.95	0.95	0.98	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	357	363	375	132	516	213	619	1668	158	174	1041	354
Shared Lane Traffic (%)												
Lane Group Flow (vph)	357	363	375	132	516	213	619	1668	158	174	1041	354

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	339	345	356	125	490	202	607	1635	150	165	1020	336
Future Volume (vph)	339	345	356	125	490	202	607	1635	150	165	1020	336
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			2			Free
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.0	10.0		10.0	10.0		10.0	11.0	11.0	10.0	11.0	
Total Split (s)	16.0	34.0		14.0	32.0		25.0	60.0	60.0	12.0	47.0	
Total Split (%)	13.3%	28.3%		11.7%	26.7%		20.8%	50.0%	50.0%	10.0%	39.2%	
Yellow Time (s)	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	
Lost Time Adjust (s)	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	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	11.0	25.0	120.0	8.6	22.6	120.0	24.4	57.0	57.0	9.4	42.0	120.0
Actuated g/C Ratio	0.09	0.21	1.00	0.07	0.19	1.00	0.20	0.48	0.48	0.08	0.35	1.00
v/c Ratio	1.14	0.49	0.24	0.54	0.77	0.13	0.89	0.99	0.20	0.65	0.84	0.22
Control Delay	143.3	48.8	0.3	62.1	54.4	0.2	63.0	52.2	7.2	65.9	43.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	143.3	48.8	0.3	62.1	54.4	0.2	63.0	52.2	7.2	65.9	43.4	0.3
LOS	F	D	A	E	D	A	E	D	A	E	D	A
Approach Delay		63.0			42.2			52.0			36.2	
Approach LOS		E			D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 110 (92%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.14	
Intersection Signal Delay: 48.5	Intersection LOS: D
Intersection Capacity Utilization 89.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 14: US 24 & Stapleton Dr

Intersection	
Int Delay, s/veh	3.7

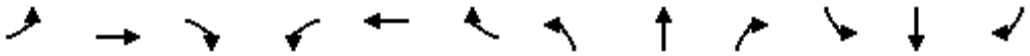
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	769	85	25	1047	30	81	10	10	18	10	21
Future Vol, veh/h	44	769	85	25	1047	30	81	10	10	18	10	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	235	-	155	205	-	235	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	836	92	27	1138	33	88	11	11	20	11	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1171	0	0	928	0	0	1561	2157	418	1712	2216	569
Stage 1	-	-	-	-	-	-	932	932	-	1192	1192	-
Stage 2	-	-	-	-	-	-	629	1225	-	520	1024	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	968	-	-	733	-	-	*211	62	584	140	54	*669
Stage 1	-	-	-	-	-	-	*287	343	-	572	514	-
Stage 2	-	-	-	-	-	-	*631	488	-	507	311	-
Platoon blocked, %	1	-	-		-	-	1	1		1	1	1
Mov Cap-1 Maneuver	968	-	-	733	-	-	*158	57	584	110	49	*669
Mov Cap-2 Maneuver	-	-	-	-	-	-	*158	57	-	110	49	-
Stage 1	-	-	-	-	-	-	*273	326	-	543	495	-
Stage 2	-	-	-	-	-	-	*574	470	-	457	295	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.2	52.3	41
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	158	104	968	-	-	733	-	-	110	49	669
HCM Lane V/C Ratio	0.557	0.209	0.049	-	-	0.037	-	-	0.178	0.222	0.034
HCM Control Delay (s)	53.2	48.5	8.9	-	-	10.1	-	-	44.7	98.3	10.6
HCM Lane LOS	F	E	A	-	-	B	-	-	E	F	B
HCM 95th %tile Q(veh)	2.8	0.7	0.2	-	-	0.1	-	-	0.6	0.7	0.1

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	44	769	85	25	1047	30	81	10	10	18	10	21
Future Volume (vph)	44	769	85	25	1047	30	81	10	10	18	10	21
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	48	836	92	27	1138	33	88	11	11	20	11	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	836	92	27	1138	33	88	22	0	20	11	23

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	44	769	85	25	1047	30	81	10	18	10	21
Future Volume (vph)	44	769	85	25	1047	30	81	10	18	10	21
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		1	6			8		4	
Permitted Phases	2		2	6		6	8		4		4
Detector Phase	5	2	2	1	6	6	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	20.0	20.0	10.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	15.0	75.0	75.0	15.0	75.0	75.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	12.5%	62.5%	62.5%	12.5%	62.5%	62.5%	25.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	Max	Max	Max	Max	Max
Act Effct Green (s)	82.3	78.2	78.2	80.6	75.7	75.7	25.0	25.0	25.0	25.0	25.0
Actuated g/C Ratio	0.69	0.65	0.65	0.67	0.63	0.63	0.21	0.21	0.21	0.21	0.21
v/c Ratio	0.15	0.36	0.09	0.06	0.51	0.03	0.30	0.06	0.07	0.03	0.06
Control Delay	2.9	4.7	0.2	6.2	10.4	1.0	43.5	25.4	39.1	38.2	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.9	4.7	0.2	6.2	10.4	1.0	43.5	25.4	39.1	38.2	0.3
LOS	A	A	A	A	B	A	D	C	D	D	A
Approach Delay		4.2			10.0			39.9		22.4	
Approach LOS		A			B			D		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 9.3	Intersection LOS: A
Intersection Capacity Utilization 56.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1010: Stapleton Dr & Saybrook Dr

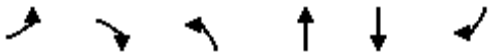
Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	71	29	1099	121	49	722
Future Vol, veh/h	71	29	1099	121	49	722
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	-	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	75	31	1157	127	52	760

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1641	579	0	0	1284	0
Stage 1	1157	-	-	-	-	-
Stage 2	484	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	91	458	-	-	536	-
Stage 1	261	-	-	-	-	-
Stage 2	585	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	82	458	-	-	536	-
Mov Cap-2 Maneuver	191	-	-	-	-	-
Stage 1	261	-	-	-	-	-
Stage 2	528	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29.1	0	0.8
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	191	458	536	-
HCM Lane V/C Ratio	-	-	0.391	0.067	0.096	-
HCM Control Delay (s)	-	-	35.5	13.4	12.4	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	1.7	0.2	0.3	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	109	275	159	460	1083	199
Future Volume (vph)	109	275	159	460	1083	199
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	115	289	167	484	1140	209
Shared Lane Traffic (%)						
Lane Group Flow (vph)	115	289	167	484	1140	209

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	109	275	159	460	1083	199
Future Volume (vph)	109	275	159	460	1083	199
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	10.0	20.0	20.0	20.0
Total Split (s)	25.0	25.0	15.0	95.0	80.0	80.0
Total Split (%)	20.8%	20.8%	12.5%	79.2%	66.7%	66.7%
Yellow Time (s)	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
Lost Time Adjust (s)	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
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	10.6	10.6	46.3	46.3	31.3	31.3
Actuated g/C Ratio	0.16	0.16	0.69	0.69	0.47	0.47
v/c Ratio	0.41	0.67	0.43	0.20	0.69	0.25
Control Delay	33.1	17.8	8.9	4.2	16.6	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	17.8	8.9	4.2	16.6	2.8
LOS	C	B	A	A	B	A
Approach Delay	22.1			5.4	14.5	
Approach LOS	C			A	B	

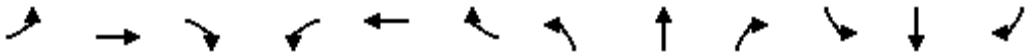
Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 67.3			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 13.3		Intersection LOS: B	
Intersection Capacity Utilization 57.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 12: Eastonville Rd & Londonderry Dr

Intersection	
Intersection Delay, s/veh	10.0
Intersection LOS	B

Approach	EB	NB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	404	651	1349
Demand Flow Rate, veh/h	412	664	1376
Vehicles Circulating, veh/h	1163	117	170
Vehicles Exiting, veh/h	383	1458	611
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	16.4	6.0	10.1
Approach LOS	C	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	0.284	0.716	0.256	0.744	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	117	295	170	494	647	729
Cap Entry Lane, veh/h	463	528	1212	1286	1154	1229
Entry HV Adj Factor	0.983	0.980	0.982	0.980	0.980	0.981
Flow Entry, veh/h	115	289	167	484	634	715
Cap Entry, veh/h	455	518	1191	1260	1131	1206
V/C Ratio	0.253	0.558	0.140	0.384	0.560	0.593
Control Delay, s/veh	11.8	18.2	4.2	6.5	10.0	10.2
LOS	B	C	A	A	A	B
95th %tile Queue, veh	1	3	0	2	4	4



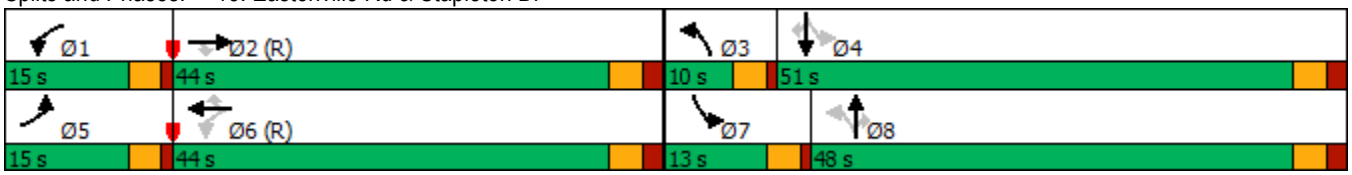
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	250	323	224	144	749	111	108	258	182	315	578	466
Future Volume (vph)	250	323	224	144	749	111	108	258	182	315	578	466
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	263	340	236	152	788	117	114	272	192	332	608	491
Shared Lane Traffic (%)												
Lane Group Flow (vph)	263	340	236	152	788	117	114	272	192	332	608	491

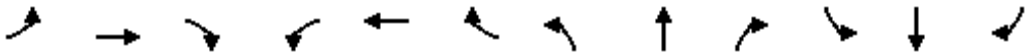
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	323	224	144	749	111	108	258	182	315	578	466
Future Volume (vph)	250	323	224	144	749	111	108	258	182	315	578	466
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	15.0	44.0	44.0	15.0	44.0	44.0	10.0	48.0	48.0	13.0	51.0	51.0
Total Split (%)	12.5%	36.7%	36.7%	12.5%	36.7%	36.7%	8.3%	40.0%	40.0%	10.8%	42.5%	42.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	11.0	42.3	42.3	52.5	41.4	41.4	47.6	40.6	40.6	53.6	43.6	43.6
Actuated g/C Ratio	0.09	0.35	0.35	0.44	0.34	0.34	0.40	0.34	0.34	0.45	0.36	0.36
v/c Ratio	0.84	0.27	0.33	0.31	0.65	0.19	0.74	0.43	0.29	0.78	0.90	0.66
Control Delay	76.5	29.5	5.0	9.2	20.3	2.3	48.3	32.7	4.8	37.6	53.4	18.3
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	76.5	29.5	5.0	9.2	20.3	2.3	48.3	32.7	4.8	37.6	53.4	18.3
LOS	E	C	A	A	C	A	D	C	A	D	D	B
Approach Delay		37.4			16.7			26.5			37.7	
Approach LOS		D			B			C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 80 (67%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 30.3	Intersection LOS: C
Intersection Capacity Utilization 79.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 13: Eastonville Rd & Stapleton Dr





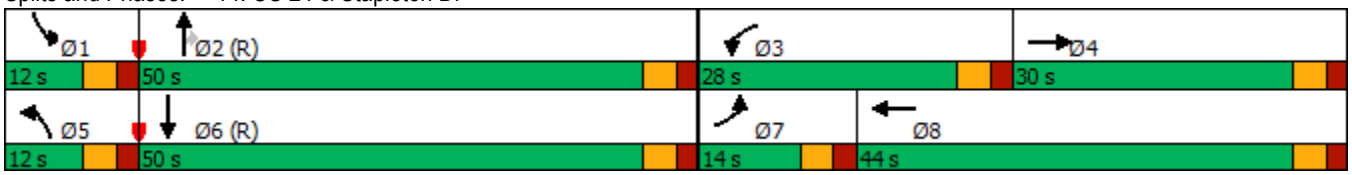
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	173	368	589	75	372	51	297	638	50	142	712	349
Future Volume (vph)	173	368	589	75	372	51	297	638	50	142	712	349
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.98	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	182	387	620	79	392	54	313	672	53	149	727	367
Shared Lane Traffic (%)												
Lane Group Flow (vph)	182	387	620	79	392	54	313	672	53	149	727	367

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	173	368	589	75	372	51	297	638	50	142	712	349
Future Volume (vph)	173	368	589	75	372	51	297	638	50	142	712	349
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			2			Free
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.0	10.0		10.0	10.0		10.0	11.0	11.0	10.0	11.0	
Total Split (s)	14.0	30.0		28.0	44.0		12.0	50.0	50.0	12.0	50.0	
Total Split (%)	11.7%	25.0%		23.3%	36.7%		10.0%	41.7%	41.7%	10.0%	41.7%	
Yellow Time (s)	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	
Lost Time Adjust (s)	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	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	8.9	21.8	120.0	8.2	18.8	120.0	23.1	61.5	61.5	10.7	49.1	120.0
Actuated g/C Ratio	0.07	0.18	1.00	0.07	0.16	1.00	0.19	0.51	0.51	0.09	0.41	1.00
v/c Ratio	0.71	0.60	0.39	0.34	0.71	0.03	0.47	0.37	0.06	0.49	0.50	0.23
Control Delay	72.1	54.5	1.2	56.9	54.9	0.0	46.8	19.3	0.1	57.0	27.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.1	54.5	1.2	56.9	54.9	0.0	46.8	19.3	0.1	57.0	27.9	0.3
LOS	E	D	A	E	D	A	D	B	A	E	C	A
Approach Delay		29.4			49.5			26.6			23.2	
Approach LOS		C			D			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 110 (92%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 29.4	Intersection LOS: C
Intersection Capacity Utilization 60.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 14: US 24 & Stapleton Dr



Intersection	
Int Delay, s/veh	3.2

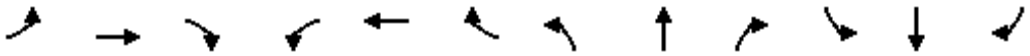
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	755	50	5	864	25	65	5	20	75	5	72
Future Vol, veh/h	26	755	50	5	864	25	65	5	20	75	5	72
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	235	-	155	205	-	235	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	821	54	5	939	27	71	5	22	82	5	78

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	966	0	0	875	0	0	1359	1853	411	1418	1880	470
Stage 1	-	-	-	-	-	-	877	877	-	949	949	-
Stage 2	-	-	-	-	-	-	482	976	-	469	931	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1073	-	-	767	-	-	*257	105	590	223	99	*746
Stage 1	-	-	-	-	-	-	*310	364	-	683	603	-
Stage 2	-	-	-	-	-	-	*703	581	-	544	344	-
Platoon blocked, %	1	-	-		-	-	1	1		1	1	1
Mov Cap-1 Maneuver	1073	-	-	767	-	-	*215	101	590	201	96	*746
Mov Cap-2 Maneuver	-	-	-	-	-	-	*215	101	-	201	96	-
Stage 1	-	-	-	-	-	-	*302	355	-	666	599	-
Stage 2	-	-	-	-	-	-	*620	577	-	502	335	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	26.5	23.5
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	215	300	1073	-	-	767	-	-	201	96	746
HCM Lane V/C Ratio	0.329	0.091	0.026	-	-	0.007	-	-	0.406	0.057	0.105
HCM Control Delay (s)	29.7	18.2	8.4	-	-	9.7	-	-	34.6	44.7	10.4
HCM Lane LOS	D	C	A	-	-	A	-	-	D	E	B
HCM 95th %tile Q(veh)	1.4	0.3	0.1	-	-	0	-	-	1.8	0.2	0.3

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	26	755	50	5	864	25	65	5	20	75	5	72
Future Volume (vph)	26	755	50	5	864	25	65	5	20	75	5	72
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	28	821	54	5	939	27	71	5	22	82	5	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	821	54	5	939	27	71	27	0	82	5	78

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	26	755	50	5	864	25	65	5	75	5	72
Future Volume (vph)	26	755	50	5	864	25	65	5	75	5	72
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		1	6			8		4	
Permitted Phases	2		2	6		6	8		4		4
Detector Phase	5	2	2	1	6	6	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	20.0	20.0	10.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	15.0	75.0	75.0	15.0	75.0	75.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	12.5%	62.5%	62.5%	12.5%	62.5%	62.5%	25.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	Max	Max	Max	Max	Max
Act Effct Green (s)	84.2	82.8	82.8	81.6	78.2	78.2	25.0	25.0	25.0	25.0	25.0
Actuated g/C Ratio	0.70	0.69	0.69	0.68	0.65	0.65	0.21	0.21	0.21	0.21	0.21
v/c Ratio	0.07	0.34	0.05	0.01	0.41	0.03	0.24	0.08	0.29	0.01	0.20
Control Delay	4.9	6.0	1.1	4.6	6.7	0.2	42.3	18.0	43.2	38.0	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.9	6.0	1.1	4.6	6.7	0.2	42.3	18.0	43.2	38.0	9.8
LOS	A	A	A	A	A	A	D	B	D	D	A
Approach Delay		5.7			6.5			35.6		27.3	
Approach LOS		A			A			D		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.41	
Intersection Signal Delay: 9.1	Intersection LOS: A
Intersection Capacity Utilization 45.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1010: Stapleton Dr & Saybrook Dr

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	113	54	532	37	18	1169
Future Vol, veh/h	113	54	532	37	18	1169
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	-	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	119	57	560	39	19	1231

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1214	280	0	0	599	0
Stage 1	560	-	-	-	-	-
Stage 2	654	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	174	717	-	-	974	-
Stage 1	535	-	-	-	-	-
Stage 2	479	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	171	717	-	-	974	-
Mov Cap-2 Maneuver	306	-	-	-	-	-
Stage 1	535	-	-	-	-	-
Stage 2	469	-	-	-	-	-

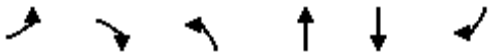
Approach	WB	NB	SB
HCM Control Delay, s	19.7	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	306	717	974	-
HCM Lane V/C Ratio	-	-	0.389	0.079	0.019	-
HCM Control Delay (s)	-	-	24.1	10.5	8.8	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	1.8	0.3	0.1	-

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	176	599	1250
Demand Flow Rate, veh/h	179	611	1275
Vehicles Circulating, veh/h	571	19	121
Vehicles Exiting, veh/h	59	1377	629
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.3	4.6	8.6
Approach LOS	A	A	A

Lane	Left	Left	Right	Left	Right
Designated Moves	LR	LT	TR	LT	TR
Assumed Moves	LR	LT	TR	LT	TR
RT Channelized					
Lane Util	1.000	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	179	287	324	599	676
Cap Entry Lane, veh/h	874	1326	1397	1208	1281
Entry HV Adj Factor	0.983	0.981	0.980	0.981	0.980
Flow Entry, veh/h	176	281	317	588	663
Cap Entry, veh/h	859	1301	1369	1185	1256
V/C Ratio	0.205	0.216	0.232	0.496	0.528
Control Delay, s/veh	6.3	4.6	4.6	8.5	8.7
LOS	A	A	A	A	A
95th %tile Queue, veh	1	1	1	3	3



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	194	178	308	1032	667	130
Future Volume (vph)	194	178	308	1032	667	130
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	204	187	324	1086	702	137
Shared Lane Traffic (%)						
Lane Group Flow (vph)	204	187	324	1086	702	137

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	194	178	308	1032	667	130
Future Volume (vph)	194	178	308	1032	667	130
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	10.0	20.0	20.0	20.0
Total Split (s)	25.0	25.0	15.0	95.0	80.0	80.0
Total Split (%)	20.8%	20.8%	12.5%	79.2%	66.7%	66.7%
Yellow Time (s)	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
Lost Time Adjust (s)	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
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	11.8	11.8	34.2	34.2	19.0	19.0
Actuated g/C Ratio	0.21	0.21	0.61	0.61	0.34	0.34
v/c Ratio	0.55	0.39	0.64	0.50	0.59	0.22
Control Delay	26.7	6.5	13.4	7.4	17.7	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.7	6.5	13.4	7.4	17.7	4.0
LOS	C	A	B	A	B	A
Approach Delay	17.1			8.8	15.5	
Approach LOS	B			A	B	

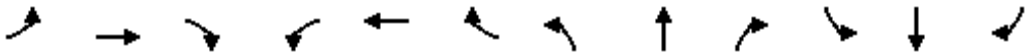
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 56.2	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 12.2	Intersection LOS: B
Intersection Capacity Utilization 58.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 12: Eastonville Rd & Londonderry Dr

Intersection	
Intersection Delay, s/veh	17.5
Intersection LOS	C

Approach	EB	NB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	391	1410	839
Demand Flow Rate, veh/h	399	1438	856
Vehicles Circulating, veh/h	716	208	330
Vehicles Exiting, veh/h	470	907	1316
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	8.3	25.6	8.1
Approach LOS	A	D	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	0.521	0.479	0.229	0.771	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	208	191	330	1108	402	454
Cap Entry Lane, veh/h	699	773	1115	1190	996	1073
Entry HV Adj Factor	0.981	0.979	0.982	0.980	0.981	0.979
Flow Entry, veh/h	204	187	324	1086	394	445
Cap Entry, veh/h	685	756	1095	1167	977	1051
V/C Ratio	0.298	0.247	0.296	0.931	0.403	0.423
Control Delay, s/veh	9.0	7.6	6.1	31.4	8.2	8.0
LOS	A	A	A	D	A	A
95th %tile Queue, veh	1	1	1	16	2	2



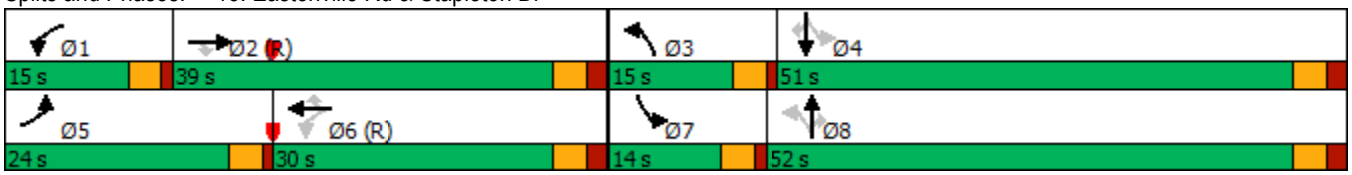
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	512	594	160	183	747	232	251	595	169	178	375	292
Future Volume (vph)	512	594	160	183	747	232	251	595	169	178	375	292
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	539	625	168	193	786	244	264	626	178	187	395	307
Shared Lane Traffic (%)												
Lane Group Flow (vph)	539	625	168	193	786	244	264	626	178	187	395	307

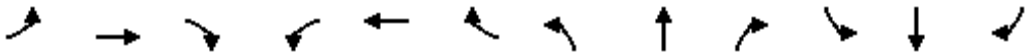
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	512	594	160	183	747	232	251	595	169	178	375	292
Future Volume (vph)	512	594	160	183	747	232	251	595	169	178	375	292
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	24.0	39.0	39.0	15.0	30.0	30.0	15.0	52.0	52.0	14.0	51.0	51.0
Total Split (%)	20.0%	32.5%	32.5%	12.5%	25.0%	25.0%	12.5%	43.3%	43.3%	11.7%	42.5%	42.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	20.0	37.2	37.2	39.3	27.7	27.7	56.3	44.3	44.3	54.3	43.3	43.3
Actuated g/C Ratio	0.17	0.31	0.31	0.33	0.23	0.23	0.47	0.37	0.37	0.45	0.36	0.36
v/c Ratio	0.94	0.57	0.28	0.62	0.96	0.45	0.68	0.91	0.26	0.89	0.59	0.40
Control Delay	75.5	38.1	6.1	29.9	54.4	10.8	28.3	54.5	7.6	66.4	34.7	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.5	38.1	6.1	29.9	54.4	10.8	28.3	54.5	7.6	66.4	34.7	4.4
LOS	E	D	A	C	D	B	C	D	A	E	C	A
Approach Delay		49.2			41.8			40.2			30.9	
Approach LOS		D			D			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 80 (67%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 41.5	Intersection LOS: D
Intersection Capacity Utilization 91.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 13: Eastonville Rd & Stapleton Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	347	352	378	125	503	202	645	1635	150	165	1020	349
Future Volume (vph)	347	352	378	125	503	202	645	1635	150	165	1020	349
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.98	0.98	0.95	0.95	0.98	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	365	371	398	132	529	213	658	1668	158	174	1041	367
Shared Lane Traffic (%)												
Lane Group Flow (vph)	365	371	398	132	529	213	658	1668	158	174	1041	367

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	347	352	378	125	503	202	645	1635	150	165	1020	349
Future Volume (vph)	347	352	378	125	503	202	645	1635	150	165	1020	349
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			2			Free
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.0	10.0		10.0	10.0		10.0	11.0	11.0	10.0	11.0	
Total Split (s)	16.0	34.0		14.0	32.0		25.0	60.0	60.0	12.0	47.0	
Total Split (%)	13.3%	28.3%		11.7%	26.7%		20.8%	50.0%	50.0%	10.0%	39.2%	
Yellow Time (s)	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	
Lost Time Adjust (s)	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	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	11.0	25.3	120.0	8.6	22.9	120.0	24.1	56.9	56.9	9.2	42.0	120.0
Actuated g/C Ratio	0.09	0.21	1.00	0.07	0.19	1.00	0.20	0.47	0.47	0.08	0.35	1.00
v/c Ratio	1.16	0.50	0.25	0.54	0.78	0.13	0.96	0.99	0.20	0.66	0.84	0.23
Control Delay	151.0	48.3	0.3	62.1	54.6	0.2	73.3	52.9	7.2	67.0	43.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	151.0	48.3	0.3	62.1	54.6	0.2	73.3	52.9	7.2	67.0	43.4	0.3
LOS	F	D	A	E	D	A	E	D	A	E	D	A
Approach Delay		64.5			42.5			55.4			36.0	
Approach LOS		E			D			E			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 110 (92%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.16	
Intersection Signal Delay: 50.2	Intersection LOS: D
Intersection Capacity Utilization 90.4%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 14: US 24 & Stapleton Dr

Intersection	
Int Delay, s/veh	9.4

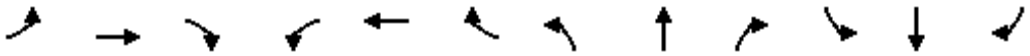
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	769	85	25	1047	84	81	10	10	50	10	48
Future Vol, veh/h	90	769	85	25	1047	84	81	10	10	50	10	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	235	-	155	205	-	235	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	836	92	27	1138	91	88	11	11	54	11	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1229	0	0	928	0	0	1661	2315	418	1812	2316	569
Stage 1	-	-	-	-	-	-	1032	1032	-	1192	1192	-
Stage 2	-	-	-	-	-	-	629	1283	-	620	1124	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	895	-	-	733	-	-	*161	43	584	107	43	*669
Stage 1	-	-	-	-	-	-	*249	308	-	572	514	-
Stage 2	-	-	-	-	-	-	*631	444	-	442	279	-
Platoon blocked, %	1	-	-		-	-	1	1		1	1	1
Mov Cap-1 Maneuver	895	-	-	733	-	-	*103	37	584	73	37	*669
Mov Cap-2 Maneuver	-	-	-	-	-	-	*103	37	-	73	37	-
Stage 1	-	-	-	-	-	-	*222	274	-	509	495	-
Stage 2	-	-	-	-	-	-	*548	427	-	371	249	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.2	117.9	81.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	103	70	895	-	-	733	-	-	73	37	669
HCM Lane V/C Ratio	0.855	0.311	0.109	-	-	0.037	-	-	0.744	0.294	0.078
HCM Control Delay (s)	127.7	78.1	9.5	-	-	10.1	-	-	137.6	138.6	10.8
HCM Lane LOS	F	F	A	-	-	B	-	-	F	F	B
HCM 95th %tile Q(veh)	4.9	1.1	0.4	-	-	0.1	-	-	3.5	1	0.3

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	90	769	85	25	1047	84	81	10	10	50	10	48
Future Volume (vph)	90	769	85	25	1047	84	81	10	10	50	10	48
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	98	836	92	27	1138	91	88	11	11	54	11	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	836	92	27	1138	91	88	22	0	54	11	52

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	90	769	85	25	1047	84	81	10	50	10	48
Future Volume (vph)	90	769	85	25	1047	84	81	10	50	10	48
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		1	6			8		4	
Permitted Phases	2		2	6		6	8		4		4
Detector Phase	5	2	2	1	6	6	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	20.0	20.0	10.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	15.0	75.0	75.0	15.0	75.0	75.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	12.5%	62.5%	62.5%	12.5%	62.5%	62.5%	25.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	Max	Max	Max	Max	Max
Act Effct Green (s)	83.1	78.2	78.2	78.5	72.5	72.5	25.0	25.0	25.0	25.0	25.0
Actuated g/C Ratio	0.69	0.65	0.65	0.65	0.60	0.60	0.21	0.21	0.21	0.21	0.21
v/c Ratio	0.31	0.36	0.09	0.06	0.53	0.09	0.30	0.06	0.19	0.03	0.14
Control Delay	6.7	4.5	0.2	5.9	10.9	2.3	43.5	25.4	41.3	38.2	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.7	4.5	0.2	5.9	10.9	2.3	43.5	25.4	41.3	38.2	7.9
LOS	A	A	A	A	B	A	D	C	D	D	A
Approach Delay		4.3			10.2			39.9		26.1	
Approach LOS		A			B			D		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 9.9	Intersection LOS: A
Intersection Capacity Utilization 57.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1010: Stapleton Dr & Saybrook Dr

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	74	36	1100	127	61	723
Future Vol, veh/h	74	36	1100	127	61	723
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	-	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	78	38	1158	134	64	761

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1667	579	0	0	1292	0
Stage 1	1158	-	-	-	-	-
Stage 2	509	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	87	458	-	-	532	-
Stage 1	261	-	-	-	-	-
Stage 2	569	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 77	458	-	-	532	-
Mov Cap-2 Maneuver	187	-	-	-	-	-
Stage 1	261	-	-	-	-	-
Stage 2	501	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29.5	0	1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	187	458	532	-
HCM Lane V/C Ratio	-	-	0.417	0.083	0.121	-
HCM Control Delay (s)	-	-	37.3	13.6	12.7	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	1.9	0.3	0.4	-

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

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	116	1292	825
Demand Flow Rate, veh/h	119	1318	841
Vehicles Circulating, veh/h	1181	65	80
Vehicles Exiting, veh/h	202	856	1220
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	10.3	8.2	5.8
Approach LOS	B	A	A

Lane	Left	Left	Right	Left	Right
Designated Moves	LR	LT	TR	LT	TR
Assumed Moves	LR	LT	TR	LT	TR
RT Channelized					
Lane Util	1.000	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	119	619	699	395	446
Cap Entry Lane, veh/h	520	1271	1344	1254	1327
Entry HV Adj Factor	0.975	0.981	0.980	0.981	0.980
Flow Entry, veh/h	116	607	685	388	437
Cap Entry, veh/h	507	1247	1316	1231	1300
V/C Ratio	0.229	0.487	0.520	0.315	0.336
Control Delay, s/veh	10.3	8.0	8.3	5.8	5.8
LOS	B	A	A	A	A
95th %tile Queue, veh	1	3	3	1	1

Roundabout Exhibits

TRANSPORTATION
CONSULTANTS, INC.

PCD File No.: PUDSP215
Waterbury Filings Nos. 1 and 2 PUD Preliminary Plan
(LSC#204220)
Saybrook & Sunken Meadow Rd. Roundabout
County: El Paso

ROUNDABOUT CRITICAL DESIGN PARAMETERS

DESIGN PARAMETERS	LEG 1	LEG 2	LEG 3	LEG 4	LEG 5	LEG 6
Approach Width, FT	17.0	17.0	16.0	17.0		
Entry Width, FT	20.3	19.5	20.4	19.5		
Entry Angle, PHI Φ, DEG	47.0	47.0	49.0	47.0		
Inscribed Circle Diameter, FT	120.0	120.0	120.0	120.0		
Exit Width, FT	18.0	18.0	18.0	18.0		
Circulating Roadway Width Upstream of Entry, FT	20.3	20.3	20.3	20.3		

FASTEST SPEED PATH

R_1, Radius/Speed, FT/MPH	102	20	150	23	138	23	156	24				
R_2, Radius/Speed, FT/MPH	87	19	97	20	94	20	92	19				
R_3, Radius/Speed, FT/MPH	350	30	1025	>40	620	39	460	35				
R_4, Radius/Speed, FT/MPH	50	16	50	16	50	16	50	16				
R_5, Radius/Speed, FT/MPH	102	20	97	20	90	19	108	21				
Bypass R_5, Radius/Speed, FT/MPH												

MINIMUM SIGHT PARAMETERS To be completed once the above parameters are confirmed acceptable by staff

Approach Design Speed, MPH						
Horizontal **S**topping **S**ight **D**istance, FT						
Circulating **I**ntersection **S**ight **D**istance, FT/MPH						
Entering **I**ntersection **S**ight **D**istance, FT/MPH						

Design Vehicle: WB-50

Truck Apron Width: 22'

OSOW Accommodations:

Circulating Roadway Cross-Slope: TBD

Access Control:

Parking Control:

Bicycle & Pedestrian Accommodations: Ped ramps and sidewalks

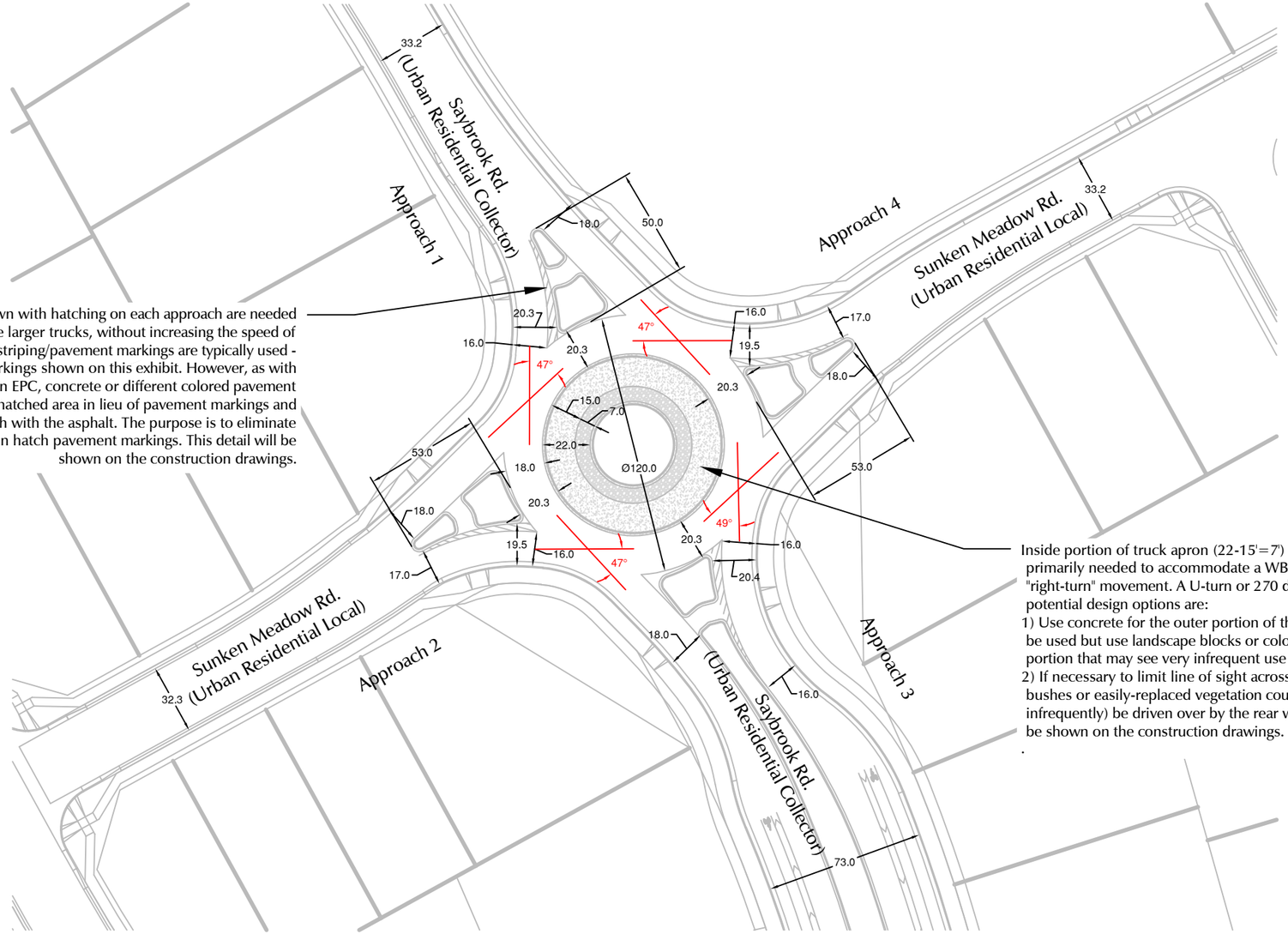
Designer: *M. Romero*
Reviewer: *C. McGranahan, P.E., PTOE*

Preliminary

SIGNATURE: _____ DATE: 7/15/2022

NAME: Christopher S. McGranahan, P.E., PTOE

The reviewer's signature on this document indicates that the design has been reviewed and is in general compliance with good roundabout principals. The critical design elements have been addressed. The project design engineer in responsible charge of final plan development will stamp the plans when applicable.



Approximate Scale
Scale: 1"= 60'

Note: These areas shown with hatching on each approach are needed to accommodate the larger trucks, without increasing the speed of passenger vehicles, and striping/pavement markings are typically used - similar to the hatch markings shown on this exhibit. However, as with other roundabouts in EPC, concrete or different colored pavement should be used for this hatched area in lieu of pavement markings and should be designed flush with the asphalt. The purpose is to eliminate the need to maintain hatch pavement markings. This detail will be shown on the construction drawings.

Inside portion of truck apron (22-15'=7') This portion of the apron is primarily needed to accommodate a WB-67 U turn or a 270-degree "right-turn" movement. A U-turn or 270 degree turn is very unlikely. Two potential design options are:

1) Use concrete for the outer portion of the truck apron most likely to be used but use landscape blocks or colored concrete for the inner portion that may see very infrequent use by a turning WB-67.
2) If necessary to limit line of sight across the center circle, potentially bushes or easily-replaced vegetation could be used that may (very infrequently) be driven over by the rear wheels of a WB-67. Details will be shown on the construction drawings.

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Note: The departure widths are shown as 18 feet wide to lessen the impacts to the adjacent lots - the typical El Paso standard is a width of 20 feet.

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 1

Conceptual 120' ICD Roundabout Parameters

Waterbury Roundabout (LSC #204220)

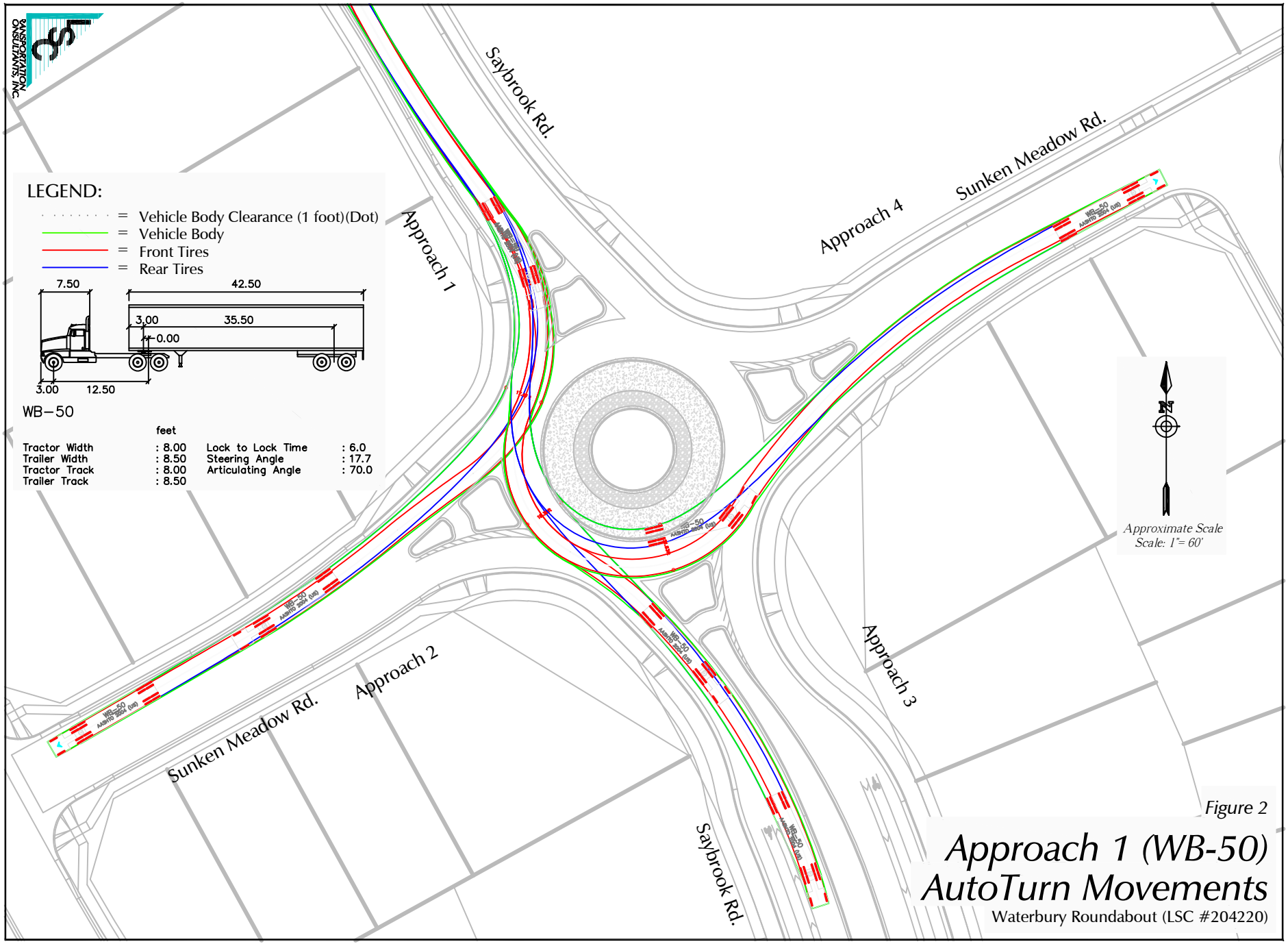

Figure 2

Approach 1 (WB-50) AutoTurn Movements

Waterbury Roundabout (LSC #204220)

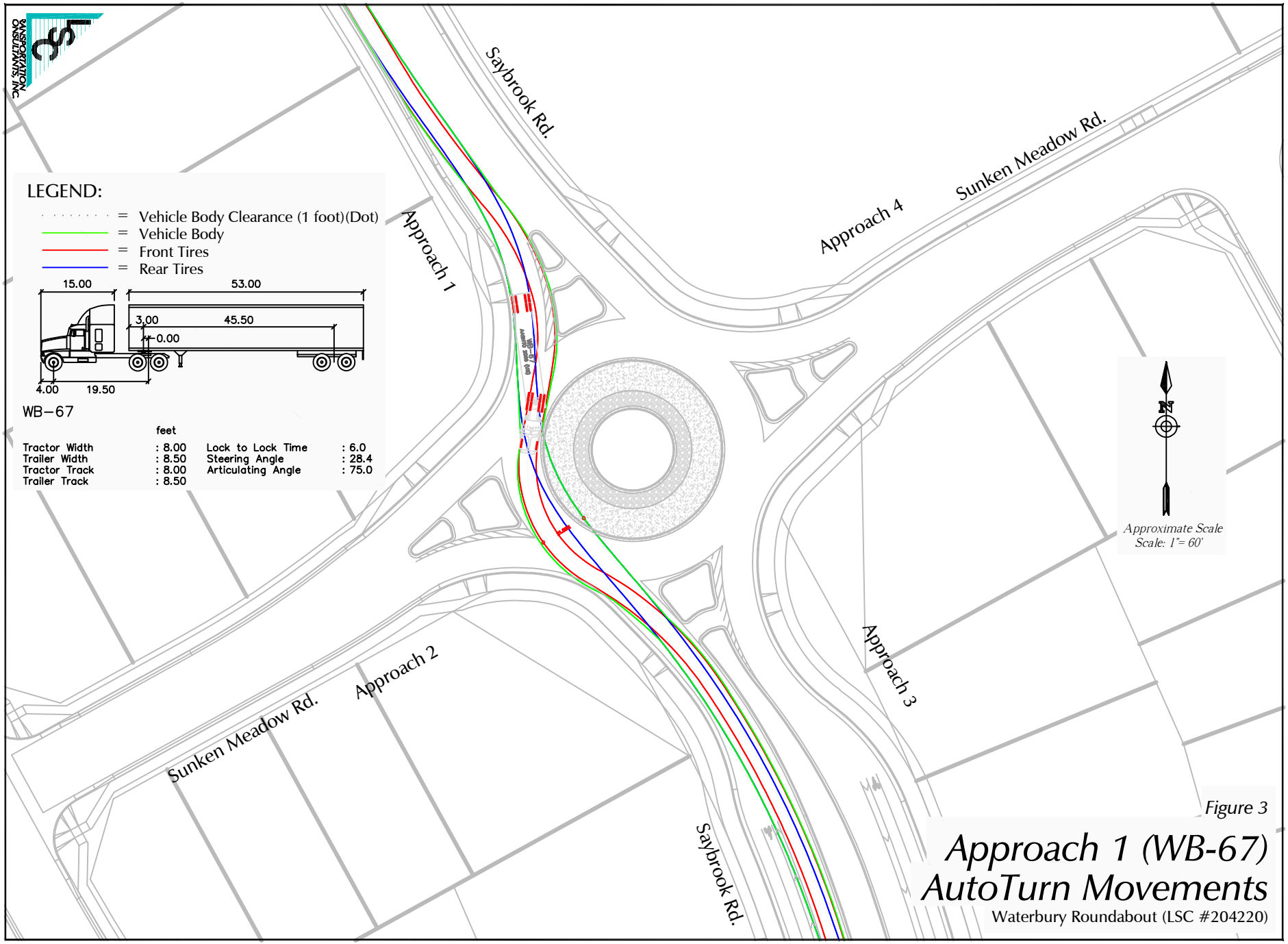

Figure 3

Approach 1 (WB-67) AutoTurn Movements

Waterbury Roundabout (LSC #204220)

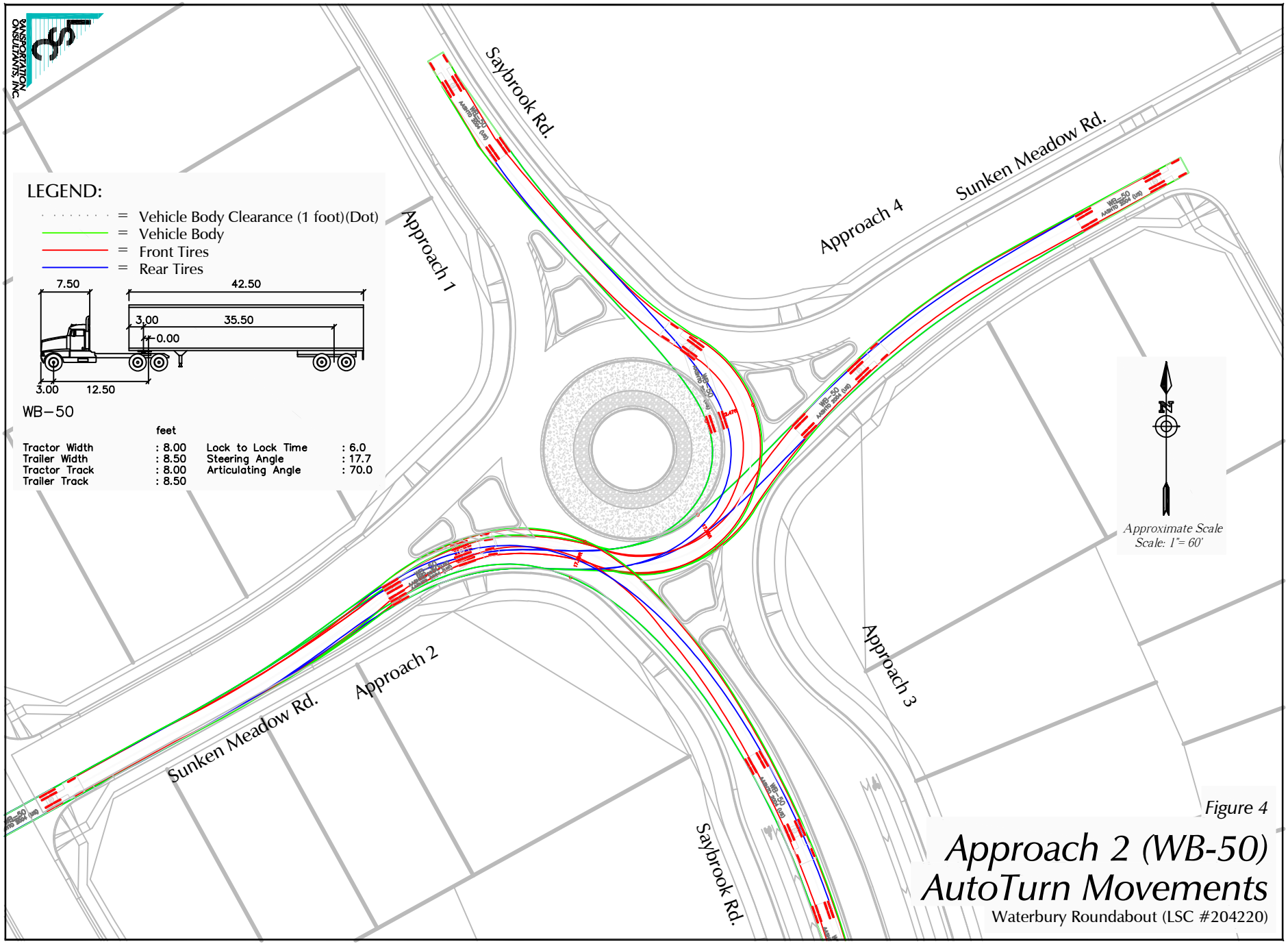

Figure 4

Approach 2 (WB-50) AutoTurn Movements

Waterbury Roundabout (LSC #204220)

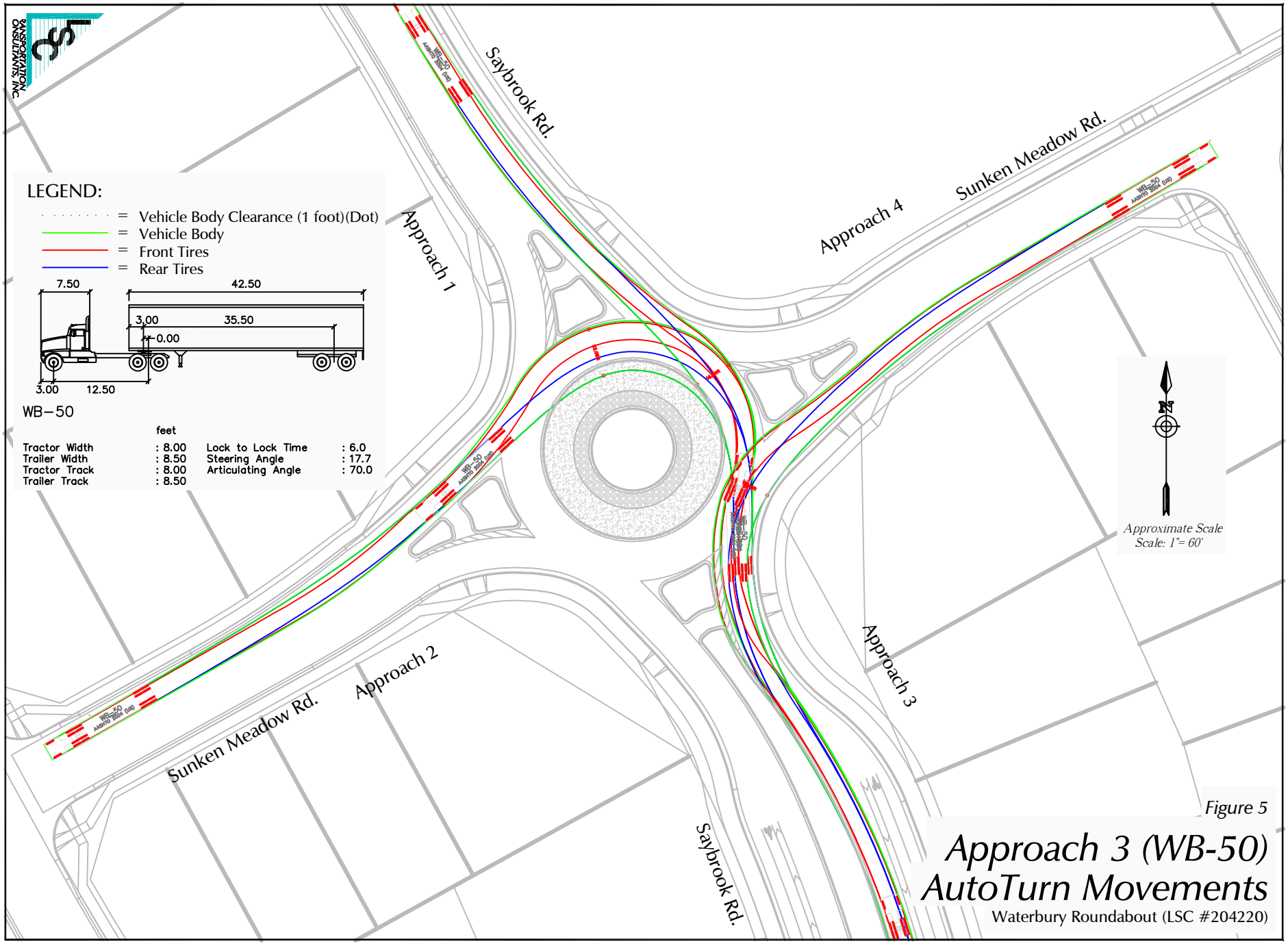

Figure 5

Approach 3 (WB-50) AutoTurn Movements

Waterbury Roundabout (LSC #204220)

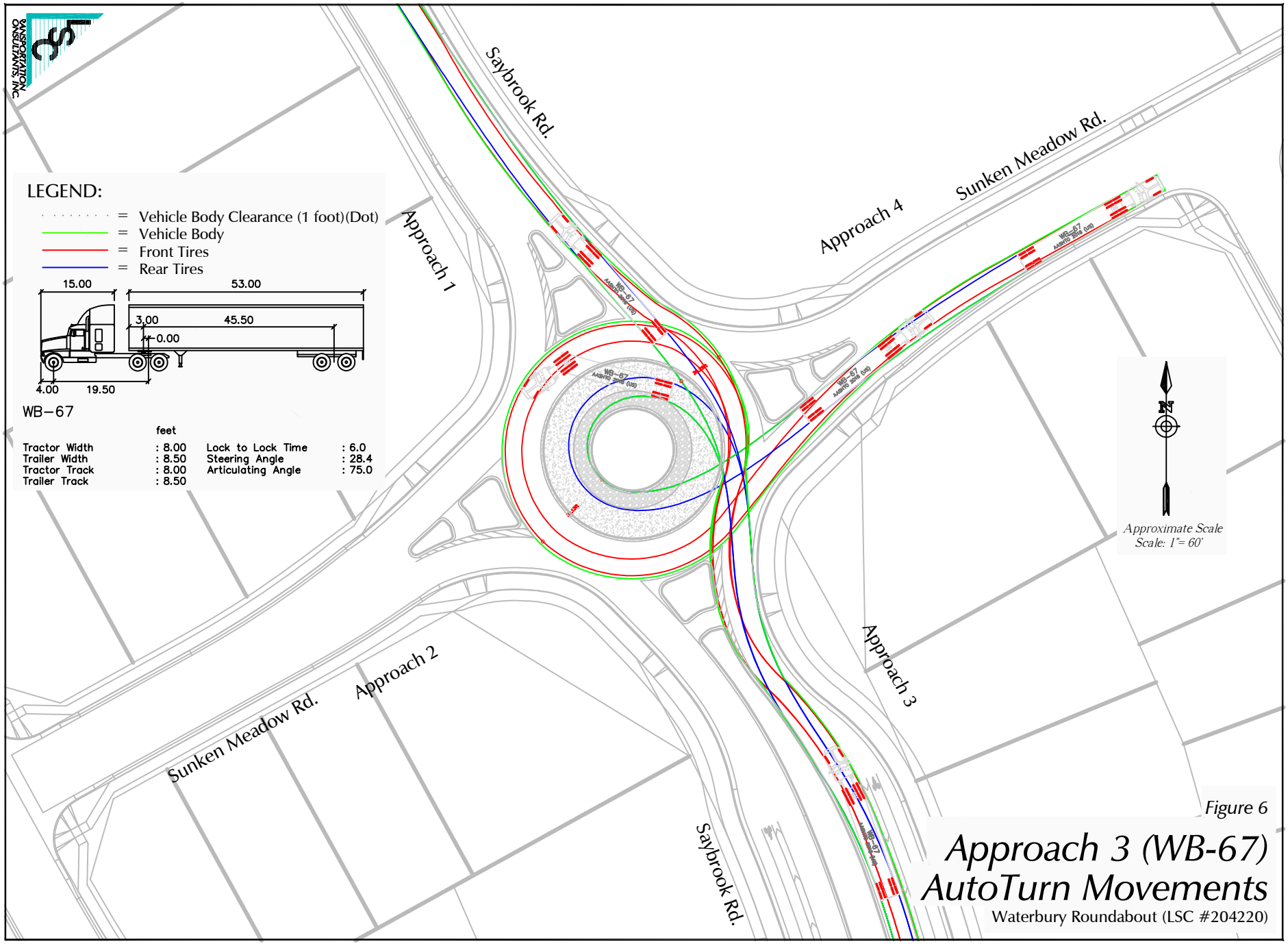

Figure 6

Approach 3 (WB-67) AutoTurn Movements

Waterbury Roundabout (LSC #204220)

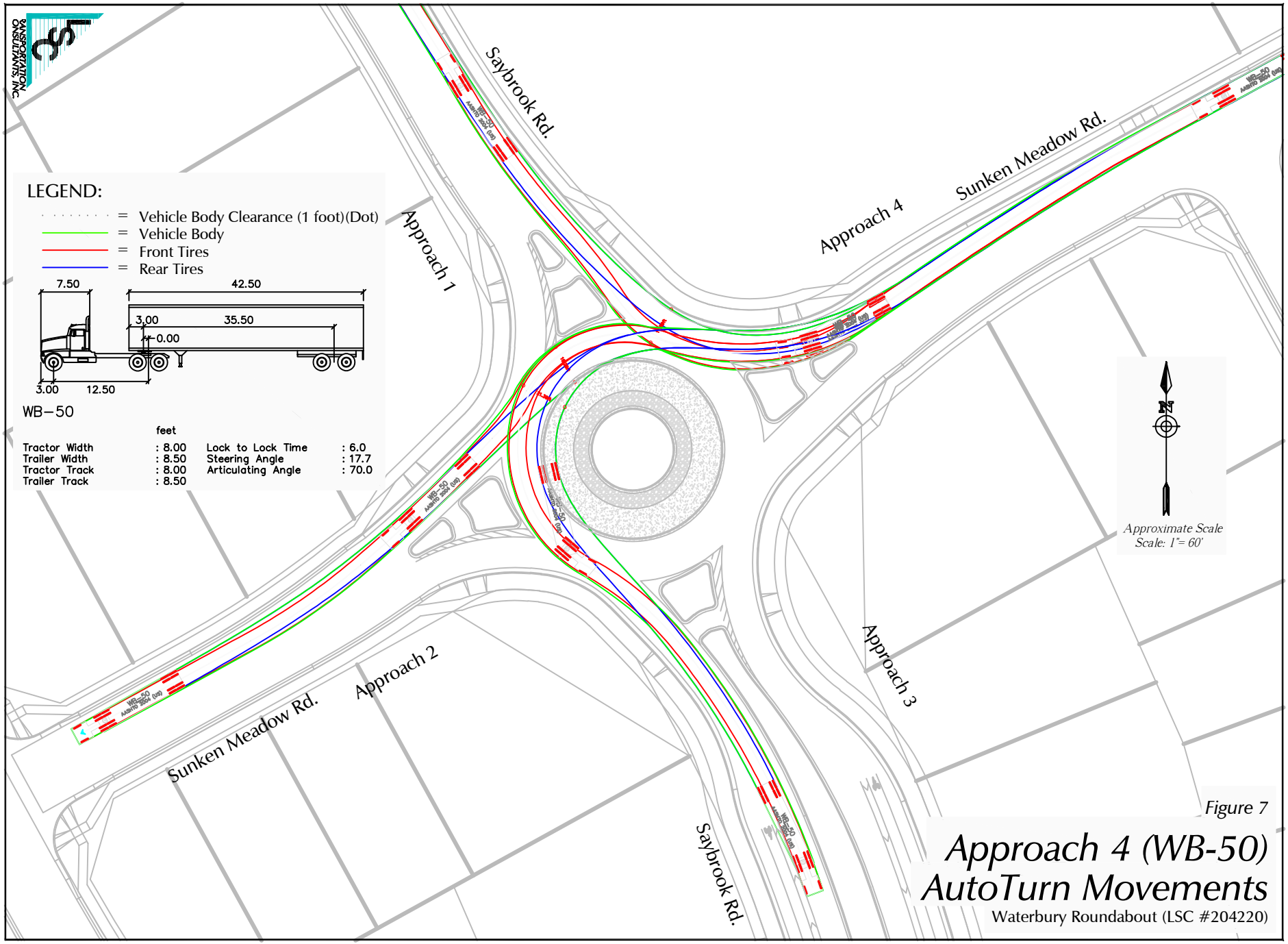

Figure 7

Approach 4 (WB-50) AutoTurn Movements

Waterbury Roundabout (LSC #204220)

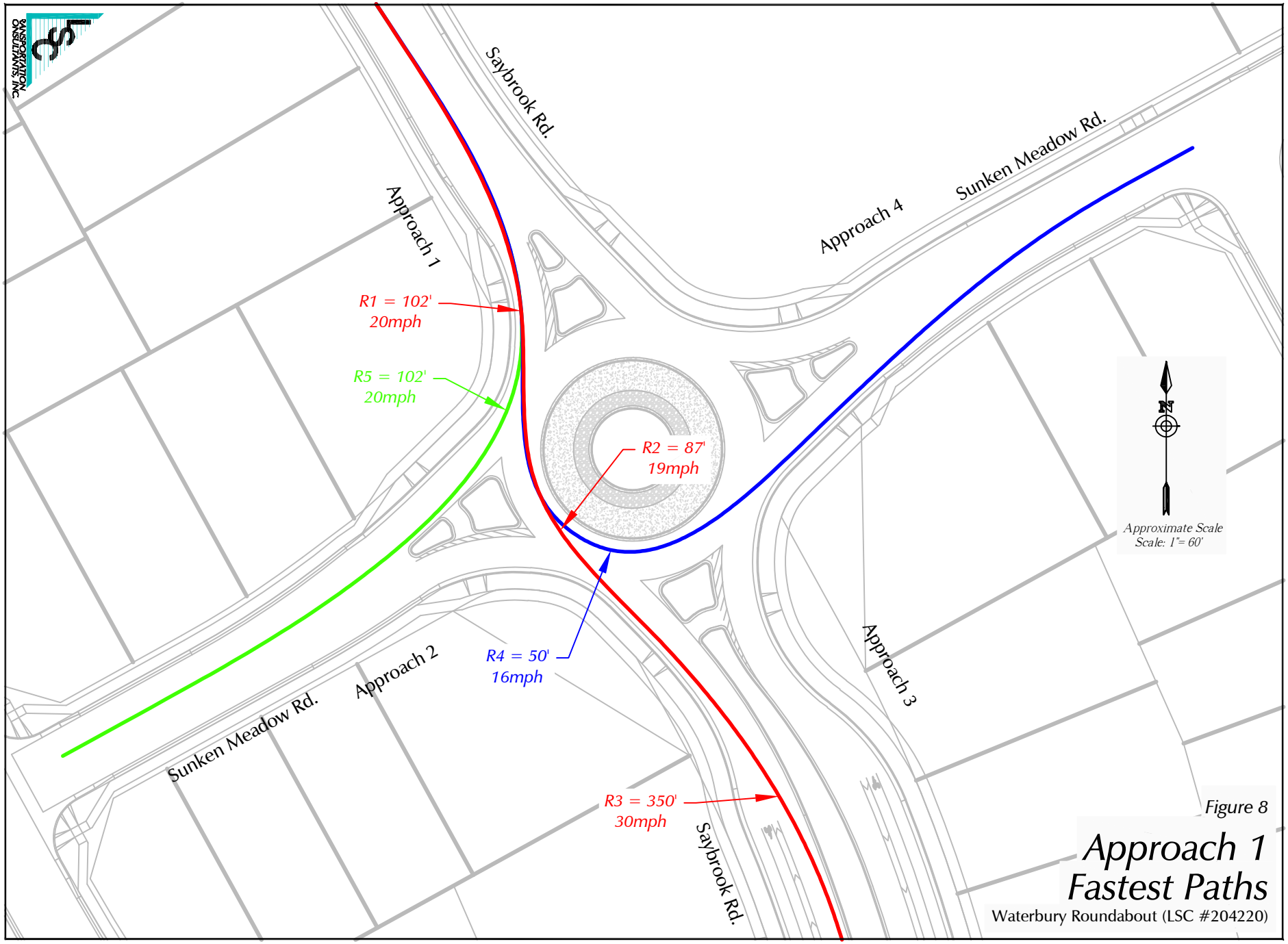

Figure 8

Approach 1 Fastest Paths

Waterbury Roundabout (LSC #204220)

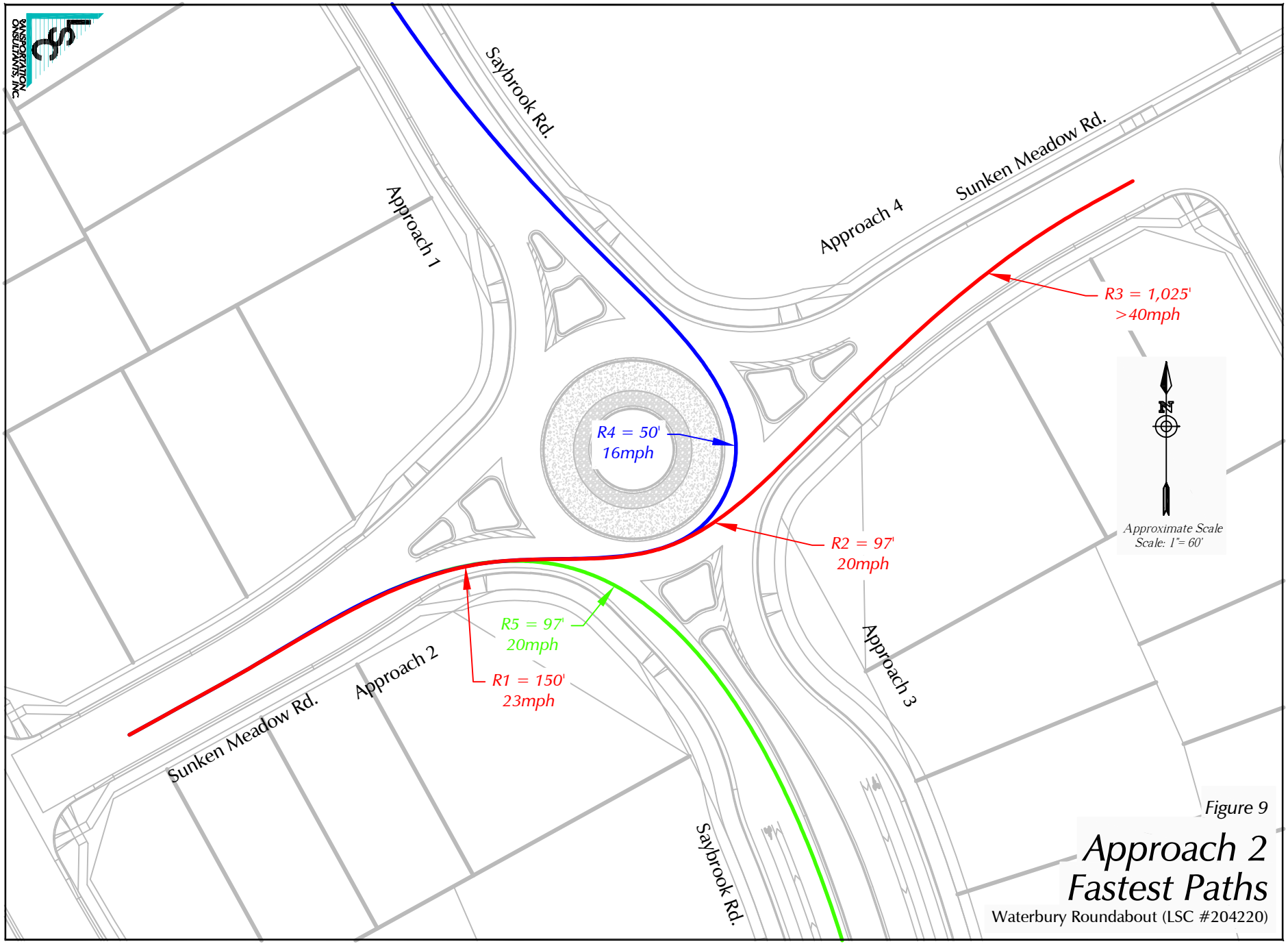

Figure 9

Approach 2 Fastest Paths

Waterbury Roundabout (LSC #204220)

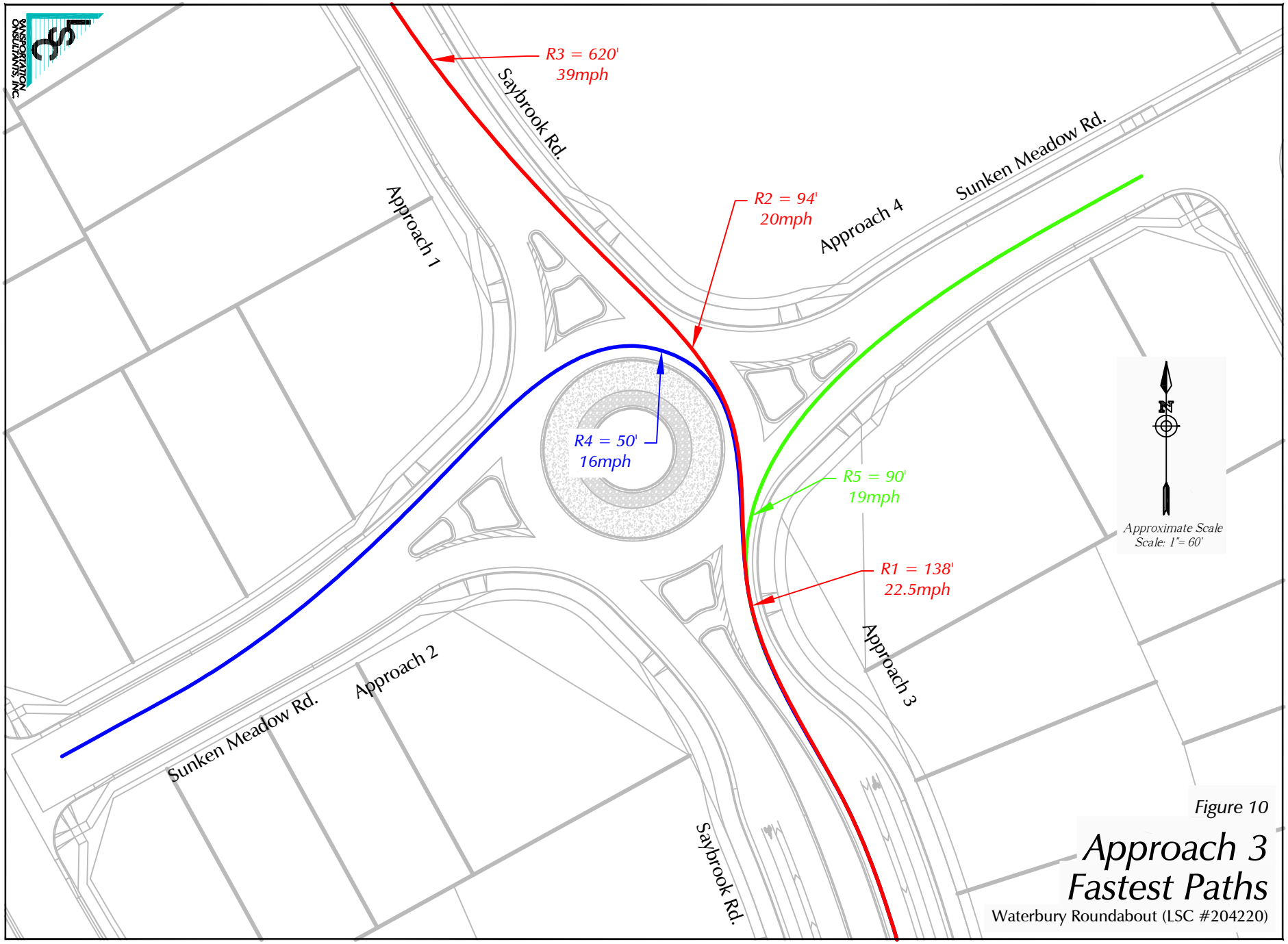

Figure 10

Approach 3 Fastest Paths

Waterbury Roundabout (LSC #204220)

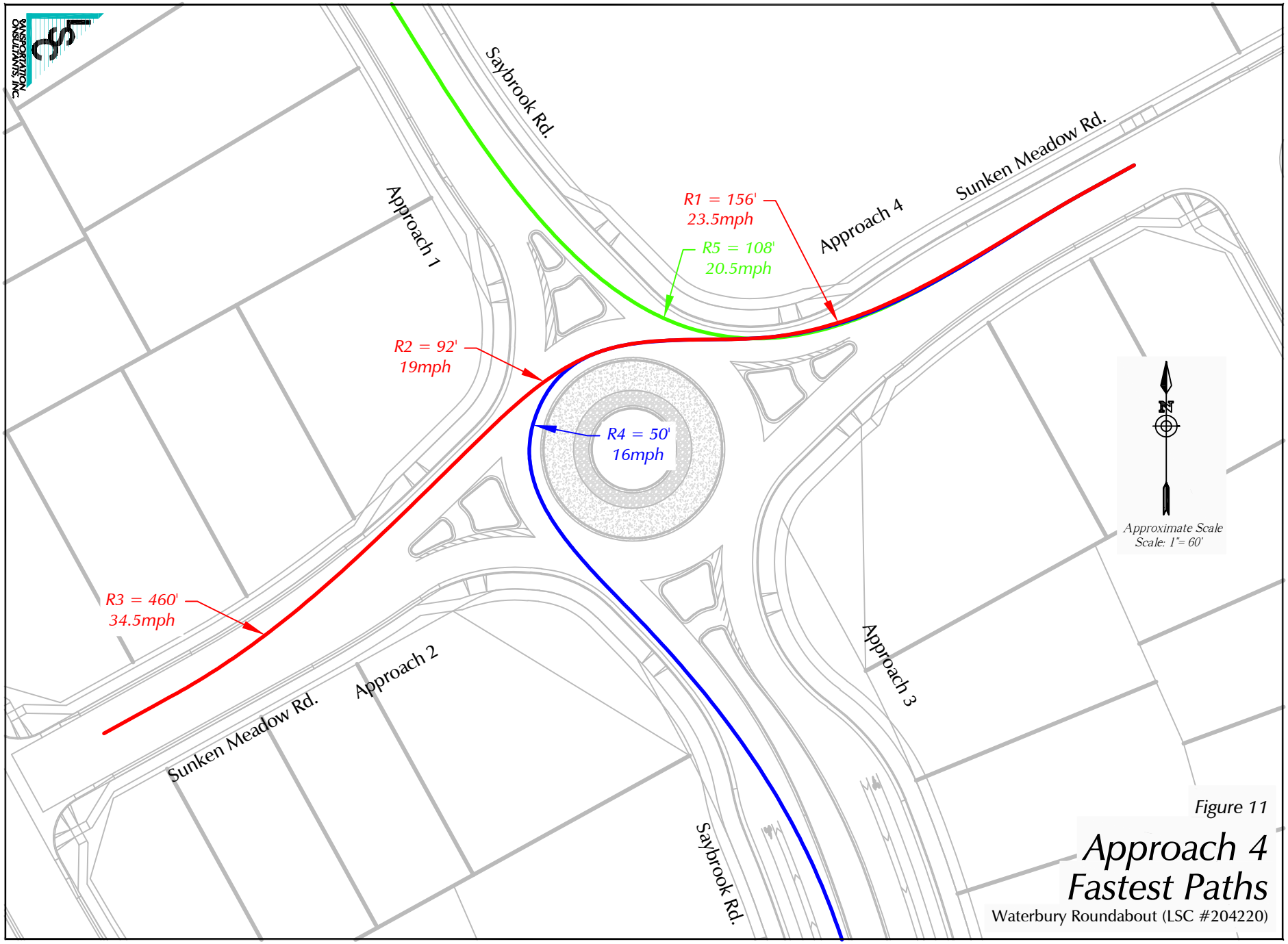

Figure 11

Approach 4 Fastest Paths

Waterbury Roundabout (LSC #204220)