LSC TRANSPORTATION CONSULTANTS, INC.
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Colorado Springs, CO 80903
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Waterbury Phase 2 Preliminary Plan
Traffic Impact Analysis
(LSC #174490)
August 3, 2017

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.

Jeffrey C. Hodsdon, P.E., #31684 — Date 8/3/17

COLORADO LICENSED
JEFFREY C. HODSDON
31684
PROFESSIONAL ENGINEER

Developer's Statement

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

Date 8/3/17

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August 3, 2017

Mr. Peter Martz
4 Way Ranch Joint Venture
P.O. Box 50223
Colorado Springs, Colorado 80949

RE: Waterbury Phase 2 Preliminary Plan
El Paso County, Colorado
Traffic Impact Analysis
LSC #174490

Dear Mr. Martz:

LSC Transportation Consultants, Inc. has prepared this traffic impact study for the Waterbury Phase 2 Preliminary Plan. The overall Waterbury PUD Development Plan was previously studied in a traffic impact study by LSC dated January 10, 2013. The site is located generally north of Stapleton Drive and east of Eastonville Road in El Paso County, Colorado as shown on Figure 1.

REPORT CONTENTS

This report is being prepared as part of a submittal to El Paso County. It identifies the traffic impacts of the Waterbury Phase 2 Preliminary Plan. The report contains the following:

- The traffic count data and street conditions.
- Short-term 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 term and the resulting total traffic volumes for the short term.
- The resulting traffic impacts including level of service analysis at key intersections.
- Short-term traffic signal warrant analysis at key intersections.
- The recommended street classifications for the internal streets within the proposed development.
- The project's obligations with respect to the PUD Development Plan conditions of approval.
- Short-term roadway improvement recommendations.
- The project's obligation to the County roadway improvement fee program.

LAND USE AND ACCESS

Figure 2 shows the location of the entire Waterbury PUD development as well as the locations of the approved Preliminary Plan No. 1 and the currently proposed Phase 2 Preliminary Plan. The first preliminary plan for the Waterbury development has been approved to contain 196 single-family residential dwelling units with access via a new full-movement intersection (Saybrook Drive) on Stapleton Drive east of Bandanero Drive.

The currently proposed Phase 2 Preliminary Plan includes 235 single-family residential dwelling units. Access for this preliminary plan would be via the approved Phase 1 access to Stapleton Drive and via a new full-movement intersection (Wading Brook Road) on Eastonville Road about 1,230 feet north of Londonderry Drive as previously shown on the PUD Development Plan.

Access to the future Dumont Drive is not proposed with this Preliminary Plan. This would be added with one of the future phases.

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

The major roadways in the site's vicinity are shown on Figure 1 and are described below.

- **Eastonville Road** is a two-lane roadway extending northeast from Meridian Road to past Hodgen Road. The Eastonville Road cross section south of Stapleton Drive is consistent with a two-lane Urban Collector cross section. The cross section of Eastonville Road north of Stapleton Drive is to be determined, but has been identified in the 2016 *El Paso County Major Transportation Corridors Plan (MTCP)* update as a two-lane Rural Minor Arterial.

- **Stapleton Drive** is shown as a four-lane Principal Arterial on the El Paso County MTCP and *El Paso County Corridor Preservation Plan (CPP)*. Stapleton Drive extends east from Towner Drive to US Highway (US) 24. Stapleton continues southeast, then south as Curtis Road. It is planned to ultimately be extended west to connect with the Briargate Parkway extension. Stapleton Drive currently has one through lane in each direction adjacent to the site and through the Eastonville Road intersection and the US 24 intersection.

- **Londonderry Drive** is a two-lane Urban Residential Collector extending east from the Falcon Hills neighborhood to Eastonville Road. East of Meridian Road within the Meridian Ranch development, Londonderry Drive has one through lane in each direction and a raised, landscaped center median with left-turn lanes. The posted speed limit is 35 miles per hour (mph)

- **US Highway 24** is a two-lane east/west State Highway extending locally from the City of Colorado Springs to Peyton in a northeasterly direction and then continuing east. US 24 is classified as an Expressway by CDOT in the vicinity of the site and is shown as an Expressway on the MTCP. US 24 is shown on the transportation plans as a future four-lane facility in the vicinity of the site. CDOT is currently conducting a Planning and Environmental Linkage (PEL) study. The posted speed limit on US 24 is 65 miles per hour (mph) in the vicinity of Stapleton.

Existing Traffic Volumes

Figure 3 shows the existing traffic volumes at key intersections along Stapleton Drive and Eastonville Road. These volumes are based on manual intersection turning movement counts conducted by LSC in 2016 and 2017. The traffic counts at Eastonville/Londonderry, which were conducted in January 2016, and the traffic counts at US 24/Stapleton have been adjusted (balanced) based on counts conducted at the intersection of Eastonville/Stapleton conducted in May 2017. The count data sheets are attached for reference.

Existing Levels of Service

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

Table 1
Intersection Levels of Service Delay Ranges

Level of Service	Signalized Intersections		Unsignalized Intersections
	Average Control Delay (seconds per vehicle)	V/C(1)	Average Control Delay (seconds per vehicle)(2)
A	10.0 sec or less	less than 0.60	10.0 sec or less
B	10.1-20.0 sec	0.60-0.69	10.1-15.0 sec
C	20.1-35.0 sec	0.70-0.79	15.1-25.0 sec
D	35.1-55.0 sec	0.80-0.89	25.1-35.0 sec
E	55.1-80.0 sec	0.90-0.99	35.1-50.0 sec
F	80.1 sec or more	1.00 and greater	50.1 sec or more

(1) Source: *Transportation Research Circular 212*
(2) For unsignalized intersections if V/C ratio is greater than 1.0 the level of service is LOS F regardless of the projected average control delay per vehicle.

Figure 3 presents the results of the existing intersection level of service analysis. Levels of service are based on the unsignalized method of analysis procedures from the *Highway Capacity Manual 6th Edition* by the Transportation Research Board. The level of service reports are attached.

The eastbound left-turn movement at the intersection of Londonderry/Eastonville is currently operating at LOS E during the morning peak hour. The eastbound approach at the intersection of Stapleton/Eastonville is currently operating at LOS F during the morning peak hour. All movements at the intersection of Londonderry/Eastonville and Londonderry/Stapleton are operating at LOS B or better during the afternoon peak hour. The operation at these intersections is greatly impacted by traffic to and from the nearby Falcon High School.

The intersection of Stapleton/Dumont is currently operating at an acceptable level of service (LOS D or better) for all movements during the peak hours as a two-way stop-sign-controlled intersection.

The southbound left-turn and northbound left-turn and through movements at the intersection of Stapleton/US 24 are currently operating at a LOS F during the afternoon peak hour.

SHORT-TERM BACKGROUND TRAFFIC

Figure 4 shows the projected background traffic volumes for the short term (2020). These background traffic volumes have been based on the existing traffic volumes (from Figure 3) plus buildout of Waterbury Preliminary Plan No. 1 (Filings 1, 2 and 3), Meridian Ranch Filings 1-3 and Filings 6-8, Meridian Ranch Estates Filings 2-3, Meridian Ranch Filing 11, Stonebridge Filings 1, 2, and 3, Meridian Ranch Filing 9, and the Vistas at Meridian Ranch Filing 1. The short-term background traffic volumes hypothetically assume the Phase 2 Preliminary Plan street network and access to Eastonville Road to be in-place, but assume no traffic generated by homes within the Phase 2 Preliminary Plan area. The background through traffic volumes on US 24 are based a growth rate calculated from the Colorado Department of Transportation twenty-year growth factor for this section of US 24.

TRIP GENERATION

The site-generated vehicle-trips were estimated using the nationally published trip generation rates from *Trip Generation, 9th Edition, 2012* by the Institute of Transportation Engineers (ITE). Table 2 shows the trip generation estimates for Waterbury Phase 2 Preliminary Plan.

Waterbury Phase 2 Preliminary Plan is expected to generate about 2,237 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 44 vehicles would enter and 132 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 148 vehicles would enter and 87 vehicles would exit the site.

DIRECTIONAL DISTRIBUTION

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 5 shows the short-term external directional distribution estimates for the site-generated traffic volumes. The estimates have been based on the distribution shown in the Phase 1 Preliminary Plan traffic report with some minor adjustments given the Eastonville access.

SITE-GENERATED TRAFFIC

Figure 6 shows the projected short-term site-generated traffic volumes. The site-generated traffic volumes were calculated by applying the directional distribution percentages (from Figure 5) to the daily and peak-hour trip estimates from Table 2.

SHORT-TERM TOTAL TRAFFIC

Figure 7 shows the projected short-term total traffic volumes. The short-term total traffic volumes are the sum of the short-term background traffic volumes (from Figure 4) plus the short-term site-generated traffic volumes from Figure 6.

LONG-TERM TRAFFIC

Please refer to the January 10, 2013 Waterbury PUD Development Plan traffic impact analysis for the long-term traffic volume projections and level of service analysis.

PROJECTED LEVELS OF SERVICE

The key intersections on Stapleton Drive and Eastonville Road have been analyzed to determine the projected future levels of service for the short-term background and total traffic volumes 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. Figures 4 and 7 show the level of service analysis results. The laneage and traffic control assumed in the analysis is depicted on the figures. The level of service reports are attached.

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. Figures 4 and 7 show the projected level of service based on the 2020 background traffic volumes and 2020 total traffic volumes assuming both the existing laneage and the laneage assumed following completion of the PPRTA project (with the addition of northbound and southbound auxiliary turn lanes). Based on the projected 2020 background and total traffic volumes the eastbound approach at this intersection is projected to operate at LOS F during both the morning and afternoon peak hours with or without the addition of southbound and northbound left-turn lanes. The westbound approach is projected to operate at LOS F during the morning peak hour and LOS E during the afternoon peak hour based on the projected 2020 background with or without the addition of southbound and northbound left-turn lanes . The westbound approach is projected to operate at LOS F during the afternoon peak hour based on the projected 2020 total traffic volumes with or without the addition of southbound and northbound left-turn lanes.

If this intersection were to be converted to all-way stop-sign control, the northbound and southbound through movements are projected to operate at LOS F and the southbound left-turn movement is projected to operate at LOS E during the morning peak peak. All movements are projected to operate at LOS C or better during the afternoon peak hour assuming all-way stop-sign control.

It is not uncommon for the minor approach volumes to operate at LOS E or LOS F during the peak hours as the volumes approach the thresholds for a traffic signal warrant. This intersection is planned to be signalized in the future, however a traffic signal warrant may not be met in the short term. If signalized, all movements at this intersection are projected to operate at a level of service C or better.

Londonderry/Eastonville

The eastbound left-turn movement at the stop-sign-controlled intersection of Londonderry/ Eastonville is projected to operate at a LOS F during the morning peak hour based on the projected short-term background and total morning peak-hour traffic volumes. The LOS F is due to the sharp peak of high school traffic and will likely only occur during the peak 15-minute period of the high school (7:15 to 7:30 a.m.). This turning movement is likely to remain relatively light, even with the addition of some Waterbury Phases 1 and 2 traffic resulting from the new connection of Eastonville Road to the north. As such, although this intersection is planned to be signalized in the future, it is unlikely that a traffic signal warrant would be met at this intersection in the short term.

Wading Brook/Eastonville

All movements at the full-movement site access to Eastonville Road (Wading Brook Drive) are projected to operate at a LOS A during the peak hours based on the projected short-term total traffic volumes.

Stapleton/Saybrook

All movements at the full-movement site access to Stapleton Drive (Saybrook Drive) are projected to operate at a LOS C or better during the peak hours based on the projected short-term total traffic volumes representing the buildout of Phase 2 and Filings 1, 2, and 3 (from Phase 1).

Stapleton/US 24

The southbound left-turn and northbound left-turn and through movements at the intersection of Stapleton/US 24 are currently operating at a LOS F during the afternoon peak hour. By 2020, these movements are projected to continue to operate at LOS F during the morning and afternoon peak hours with the current two-way, Stop-sign control based on the background and total traffic volumes. Once signalized, all movements are projected to operate at LOS D or better during the peak hours.

TRAFFIC SIGNAL WARRANT ANALYSIS

The intersections of Eastonville/Londonderry, Eastonville/Stapleton and Stapleton/US 24 were analyzed to determine if a Four-Hour Vehicular Volume Traffic Signal Warrant would be met or close to being met based on the projected short-term total peak-hour traffic volumes. This analysis using the peak hours is intended to provide an indication that a warrant may be met or is close to being met. In order for a Four-Hour Traffic Signal Warrant to be satisfied, the volume threshold would need to be met for two additional hours of the day. For example, the four-hour warrant would be satisfied with the volume thresholds met for one hour in the morning, two hours (instead of the one-hour peak) during the afternoon peak period, and an hour during the mid-afternoon school peak.

Figure 8 shows the signal warrant analysis for the intersection of Eastonville/Londonderry. The analysis assumes the minor approach includes the eastbound left-turn movements. The analysis

assumes a one-lane minor approach. The projected short-term total traffic volumes are projected to meet the hourly volume threshold during the morning peak hour but not the afternoon peak hour.

Figure 9 shows the signal warrant analysis for the intersection of Eastonville/Stapleton. The analysis for the east leg assumes the minor approach includes all of the westbound left-turn and through movements and 25 percent of the westbound right-turn movements. The analysis for the west leg assumes all of the eastbound left, through, and right movements. The projected short-term total traffic volumes are projected to meet the hourly volume threshold for the morning and afternoon peak hours.

Figure 10 shows the signal warrant analysis for the intersection of Stapleton/US 24 based on the **existing**, 2020 background and 2020 total traffic volume scenarios. The analysis assumes the minor approach includes the southbound (Stapleton Drive) left-turn and through movements. This intersection currently meets the thresholds for a Four-Hour Vehicular Volume Traffic Signal Warrant during both the morning and the afternoon peak hours. Figure 11 shows the signal warrant analysis for this intersection assuming the eastbound left turn (US 24 to Stapleton Drive) as the minor approach and the westbound left, through, and right turns as the major approach.

PHASE 2 PRELIMINARY PLAN 2 STREET CLASSIFICATIONS

Figure 12 shows the recommended street classifications for streets within the Phase 2 Preliminary Plan. These recommendations have been based on the higher of the short-term average daily traffic volumes shown in Figure 7 and the Waterbury PUD Development Plan buildout average daily traffic volumes from the PUD Development Plan traffic impact study. The short-term traffic volumes assume buildout of Filings 1, 2, and 3 and the Phase 2 Preliminary Plan area and no street connection to the future Dumont Avenue.

INTERNAL RESIDENTIAL COLLECTOR STREETS

Wading Brook Way and Stellarton Trail were identified as Urban Residential Collector streets with the PUD Development Plan. Portions of these streets are shown to be constructed with this development of this Preliminary Plan. A deviation for modified design criteria for these streets was approved with the PUD Development Plan. A copy of this deviation is attached for reference. The Preliminary Plan shows some modifications to the street cross sections. These modifications include the removal of the raised center median except for the segment on the entry drive at Eastonville. Also, on-street parking has been removed from the north side of the street. These changes to the previous cross sections may require an updated deviation/PUD modification.

PUD DEVELOPMENT PLAN CONDITIONS OF APPROVAL

The following is a list of the previously adopted Waterbury PUD Development Plan conditions of approval. Table 3 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. US 24/Stapleton Drive: Additional design, construction, and/or deposit of funds for US 24/Stapleton Drive intersection per CDOT access permit conditions.

Based on the previous formula for calculation of the signal escrow for Waterbury Filing No. 1, the Waterbury Phase 2 Preliminary Plan fair share contribution/escrow amount toward a future signal at this intersection would be $28,767. This is based on a signal cost of $350,000. This is an initial estimate only and the amount will be finalized with the subdivision final plat(s) within the Phase 2 Preliminary Plan.

b. US 24/Judge Orr Road: Additional design, construction, and/or deposit of funds for US 24/Judge Orr Road inter-section 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. Eastonville Road/Stapleton Drive: 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 southern (eastbound) half of the intersection. The northbound and southbound auxiliary turn lanes will likely be constructed as part of the Eastonville PPRTA project. Table 3 shows the calculated percentage toward a future traffic signal at this intersection.

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

The completion of the Waterbury Phase 2 Preliminary Plan area, including the new access to Eastonville Road and street connections to Phase 1 is projected to result in about 220 additional vehicles per day (8,095 total vehicles per day) to Eastonville Road south of Londondery Drive and about 490 additional vehicles per day (775 total vehicles per day) on Eastonville Road north of Londonderry Drive. These volumes include traffic from Phases 1 and 2 combined. Some Waterbury-generated trips will travel to and from the schools located in Meridian Ranch and limited use of Londonderry Drive (via the new access to Eastonville) for travel to/from northern El Paso County and destinations north of El Paso County (the short-term traffic scenarios in this report do not assume completion of Rex Road east to Eastonville). 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. Stapleton Drive/Bandanero: Design and construction of intersection reconfiguration improvements at Stapleton Drive/Bandanero Intersection.

As with the Filing No. 1 report and recent Filing 2/3 report, 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 Phase 2 final plat applications and/or future Preliminary Plans. Table 3 shows the percentage contribution by the Phase 2 Preliminary Plan toward these improvements.

f. Stapleton Drive/Dumont Drive: 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 Preliminary Plans—showing the completion of Dumont north of Stapleton and the connection to Stapleton on the north side..

g. Stapleton Drive: 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 addition of the Phase 2 Preliminary Plan traffic 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 that 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 3 presents the calculated percentage contribution for Phase 2 Preliminary Plan development toward the future Stapleton improvements.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

- The site is expected to generate about 1,561 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 31 vehicles would enter and 92 vehicles would exit the site. During the afternoon peak hour about 103 vehicles would enter and 61 vehicles would exit the site.

Auxiliary Turn Lane Recommendations

- Based on the existing traffic volumes and the criteria contained in the ECM, a southbound left-turn lane is currently warranted on Eastonville Road approaching Stapleton Drive. Improvements to Eastonville Road will be constructed by El Paso County as a PPRTA project.

- Based on the existing traffic volumes and the criteria contained in the ECM, an eastbound left-turn lane is currently warranted on Stapleton Drive approaching Eastonville Road and a westbound left-turn lane is very close to being warranted. However, these approaches are

currently stop-sign controlled. 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.

- Based on the projected short-term total traffic volumes and the criteria contained in the *El Paso County Engineering Criteria Manual*, a northbound right-turn lane and a southbound left-turn lane would **not** be required on Eastonville Road approaching the full-movement site access (Wading Brook Drive) following development of Waterbury Phase 2 Preliminary Plan.

PUD Development Plan Conditions of Approval

- This report addresses the transportation impacts of this Preliminary Plan relative to the conditions of approval of the overall PUD Development Plan. The conditions are addressed in an itemized fashion in the above section of this report.

Transportation Improvement Fee Program

- This project will be required to participate in the Countywide Transportation Improvement Fee Program. This project will annex into the 10 mil PID. Based on a per-lot up-front building permit fee of $609 per dwelling unit, the total building permit fee amount for 235 lots would be $143,115.

* * * * *

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

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By _____
Jeffrey C. Hodsdon, P.E., PTOE
Principal

JCH:KDF:bjwb

Enclosures: Tables 2 and 3
Figures 1-12
Approved Deviation
Traffic Count Reports
Level of Service Reports

Table 2
Waterbury Phase 2
Trip Generation Estimate

ITE Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates [1]					Total Trips Generated				
			Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour	
				In	Out	In	Out		In	Out	In	Out
210	Single-Family Detached Housing	235 DU [2]	9.52	0.19	0.56	0.63	0.37	2,237	44	132	148	87

Notes:
(1) Source: "Trip Generation, 9th Edition, 2012" by the Institute of Transportation Engineers (ITE)
(2) DU = dwelling units

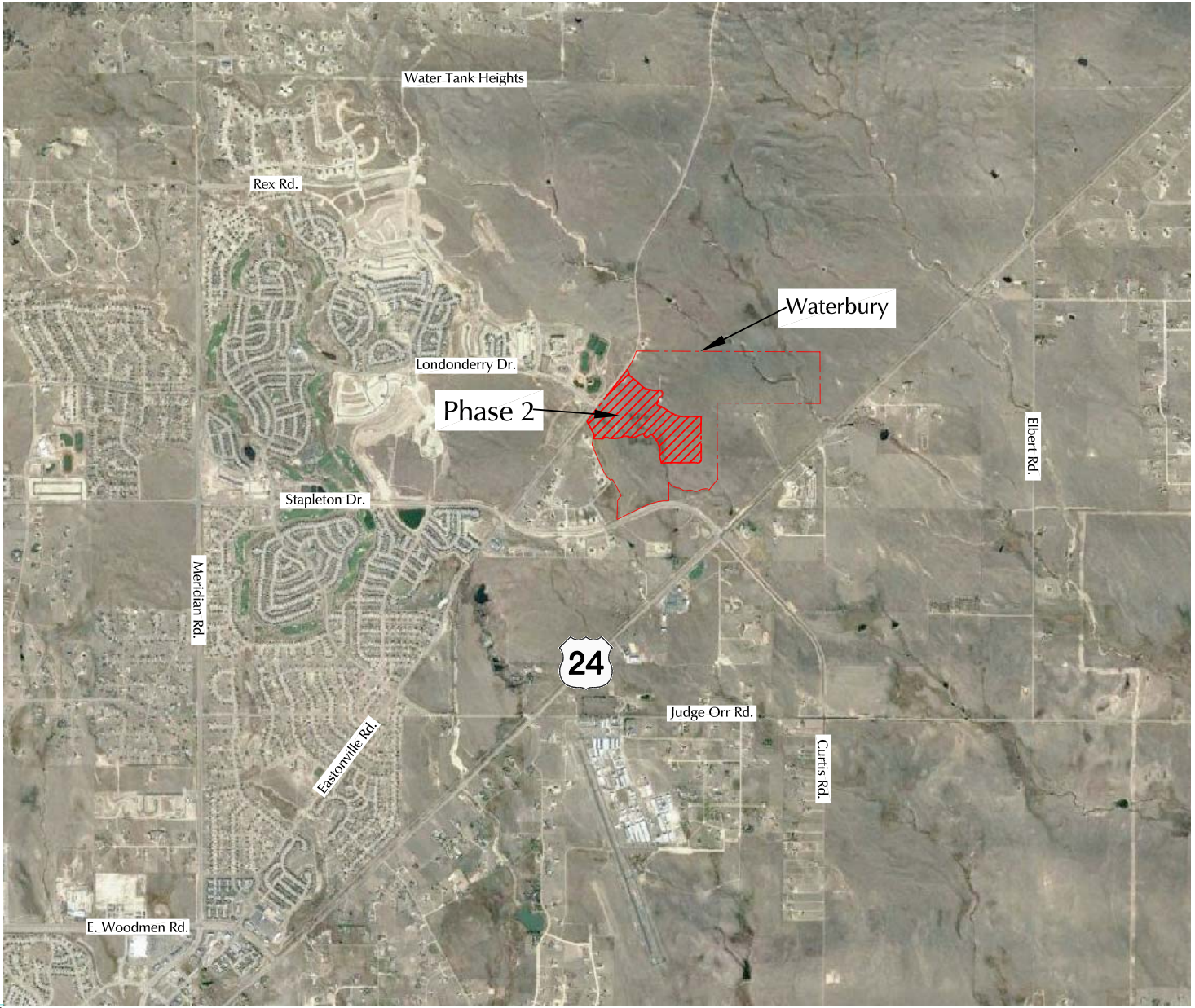
Source: LSC Transportation Consultants, Inc.

Table 3
Waterbury Cost Estimate for Conditions of Approval
Waterbury Phase 2

Condition of Approval #	Improvement/Location	Type of Improvement	Quantity	Units	Unit Cost	Total Estimated Cost	Percent for Phase 2	Phase 2 Amt.
a)	US Hwy 24 & Stapleton Dr.	Signal	1	ea	$350,000	$350,000	8.22%	$28,767
b)	US 24 & Judge Orr Intersection	Intersection Improvements	NOT REQUIRED BY CDOT					$0
c)	Eastonville Road & Stapleton Dr.	Signal	1	ea	$350,000	$350,000	**4.89%**	$17,114
c)	Eastonville Road & Stapleton Dr.	NB & SB Turn Lane Improvements	To be included in Eastonville Road PPRTA Project					
c)	Eastonville Road & Stapleton Dr.	EB & WB 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	**6.82%**	$461
f)	Stapleton/Dumont Intersection	Intersection Reconfiguration Impr.	To be completed with future phases of Waterbury or contributions to be collected with future Waterbury filings which connect to Dumont (if the 4-Way Ranch Commecial project constructs the roadt)					
g)	Stapleton Drive - US 24 to Eastonville	Roadway Segment 4-Lane Principal	800	ft	$496	$396,672	4.10%	$16,251
g)	Stapleton Drive - US 24 to Eastonville	Roadway Segment Half Principal Art.	4,965	ft	$248	$1,230,923	4.10%	$50,428
								$113,020

existing WB LT Lane and future construction of EB LT lane will become useable with

Source of Unit Costs - Countywide Fee Program Fee Study except CDOT provided the US Highway 24/Stapleton signal cost.



Approximate Scale
Scale: 1"= 4,000'

Figure 1

Vicinity Map

Waterbury Phase 2 Preliminary Plan (LSC #174490)

LSC TRANSPORTATION CONSULTANTS, INC.

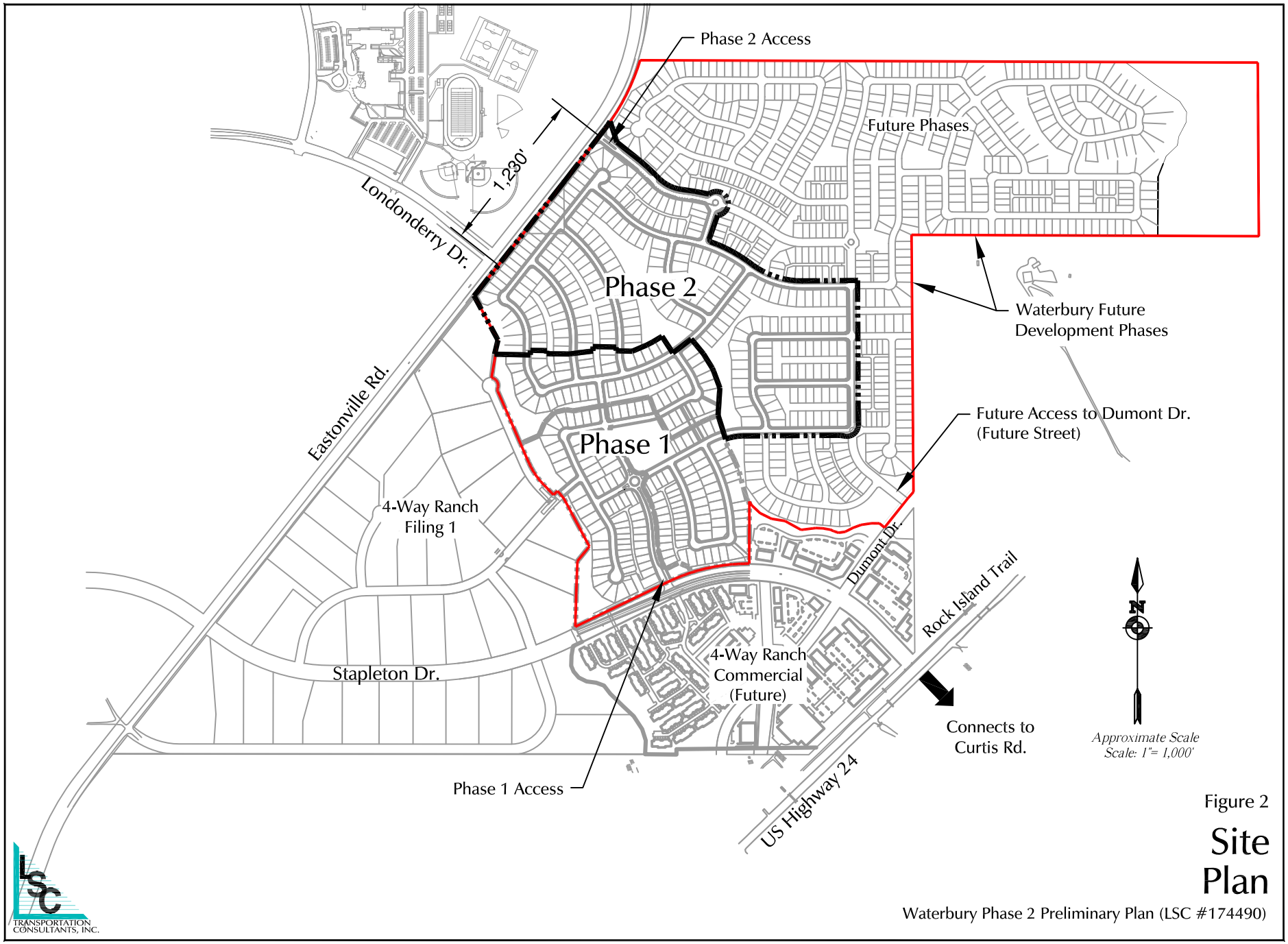
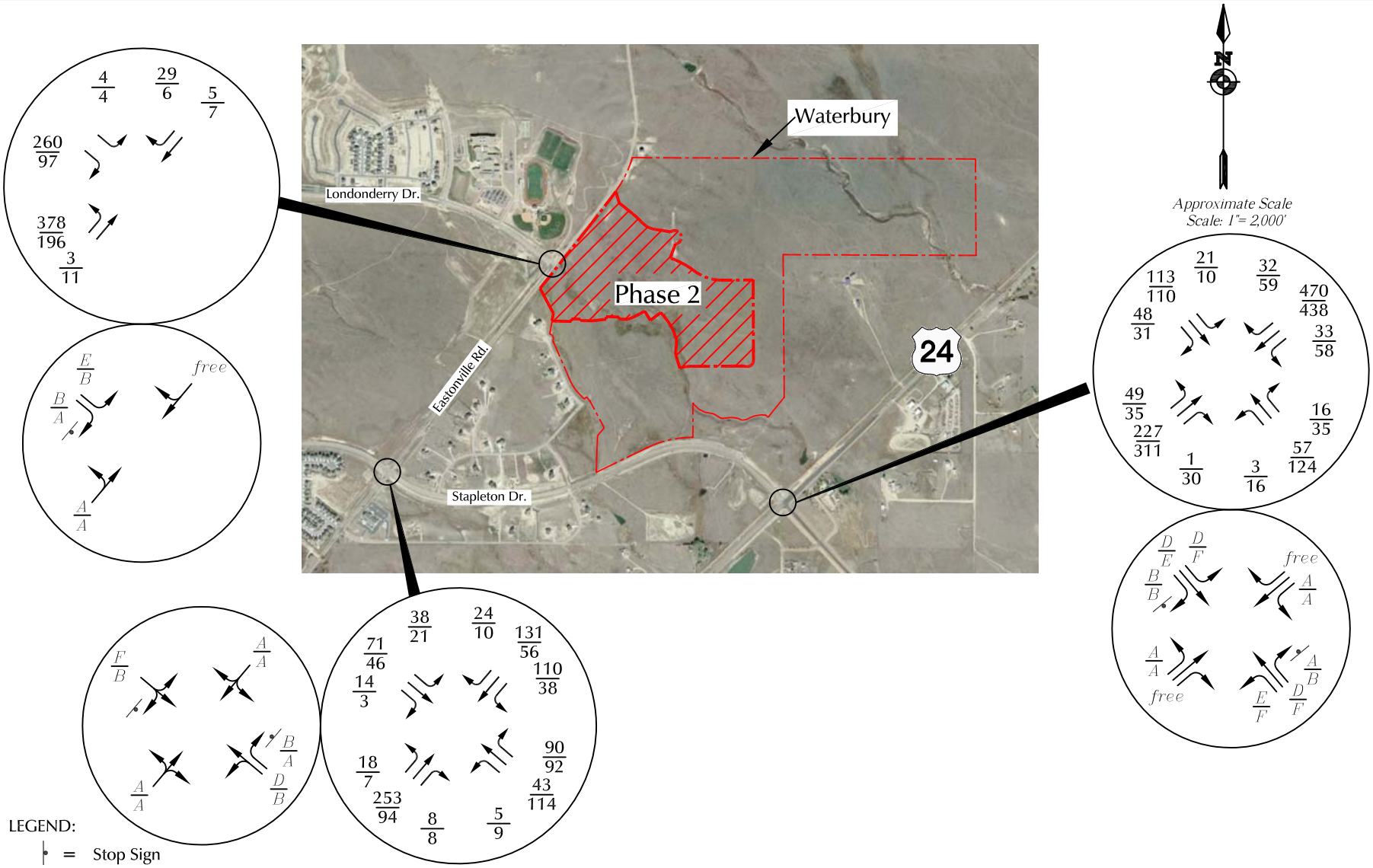


Figure 2

Site Plan

Waterbury Phase 2 Preliminary Plan (LSC #174490)



LEGEND:

| = Stop Sign

XX/XX = AM Weekday Peak-Hour (6:45-7:45am) 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

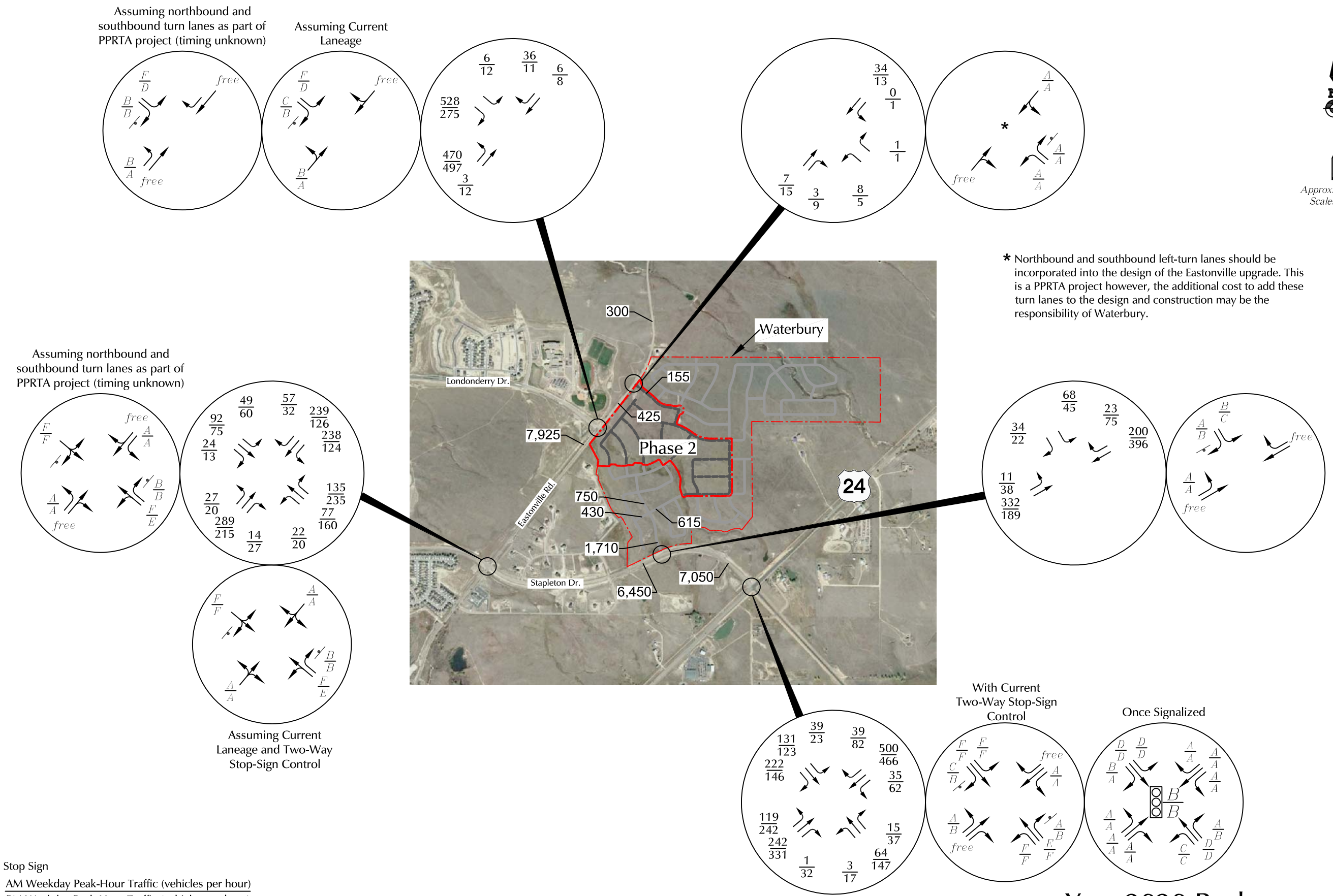
Figure 3

Existing Traffic, Lane Geometry and Traffic Control

Waterbury Phase 2 Preliminary Plan (LSC #174490)

Based on counts by LSC Jan. 2016, March 2017, May 2017 & June 2017.

LSC TRANSPORTATION CONSULTANTS, INC.



* Northbound and southbound left-turn lanes should be incorporated into the design of the Eastonville upgrade. This is a PPRTA project however, the additional cost to add these turn lanes to the design and construction may be the responsibility of Waterbury.

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

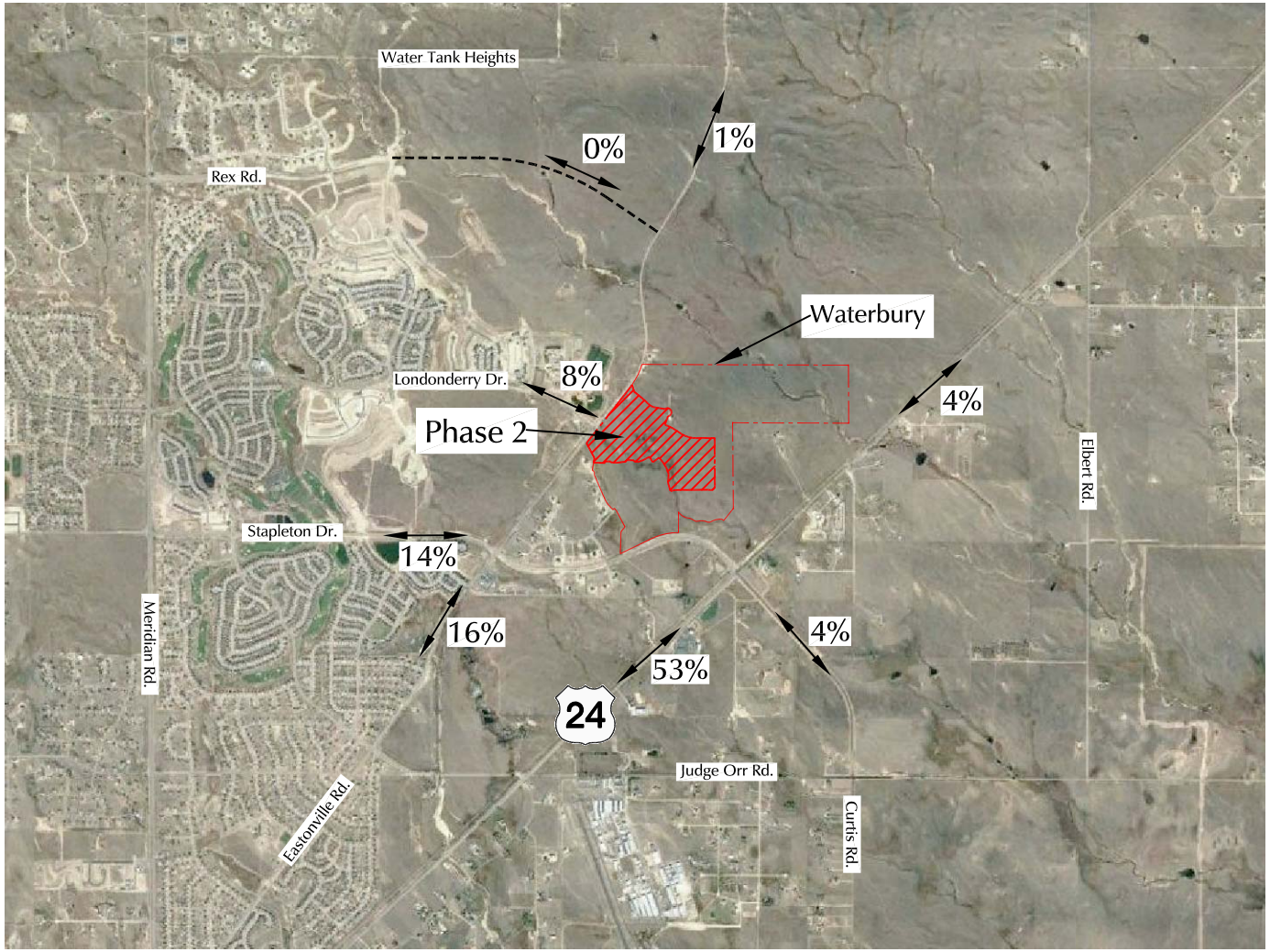
X,XXX= Annual Average Daily Traffic (vehicles per day)=(CDOT 2016)

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 4

Year 2020 Background Traffic, Lane Geometry and Traffic Control

Waterbury Phase 2 Preliminary Plan (LSC #174490)



Approximate Scale
Scale: 1"= 4,000'

Figure 5

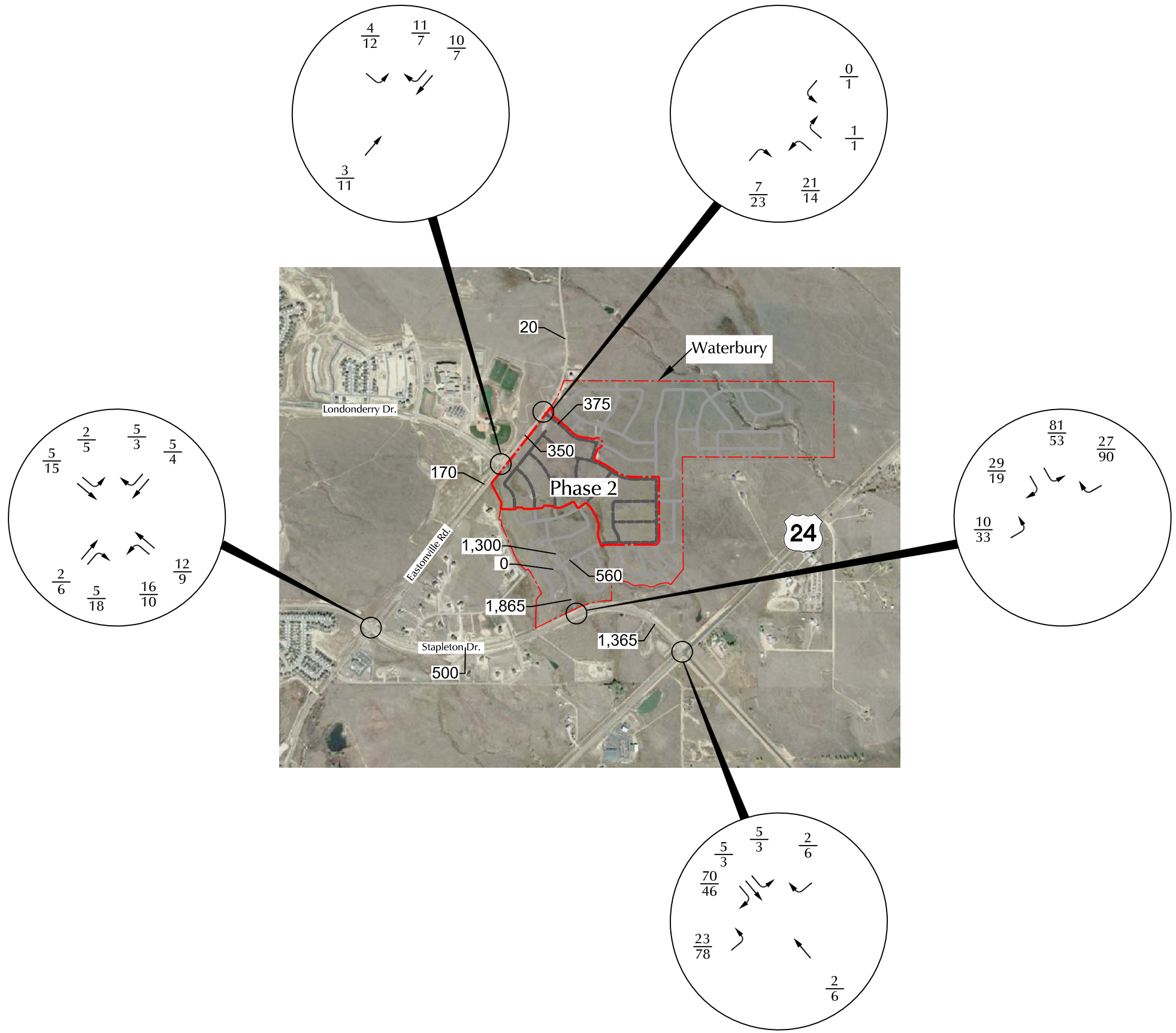
Directional Distribution of Site-Generated Traffic

Waterbury Phase 2 Preliminary Plan (LSC #174490)

LSC TRANSPORTATION CONSULTANTS, INC.

LEGEND:

XX% = Percent Directional Distribution



Approximate Scale
Scale: 1"= 2,000'

LEGEND:

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

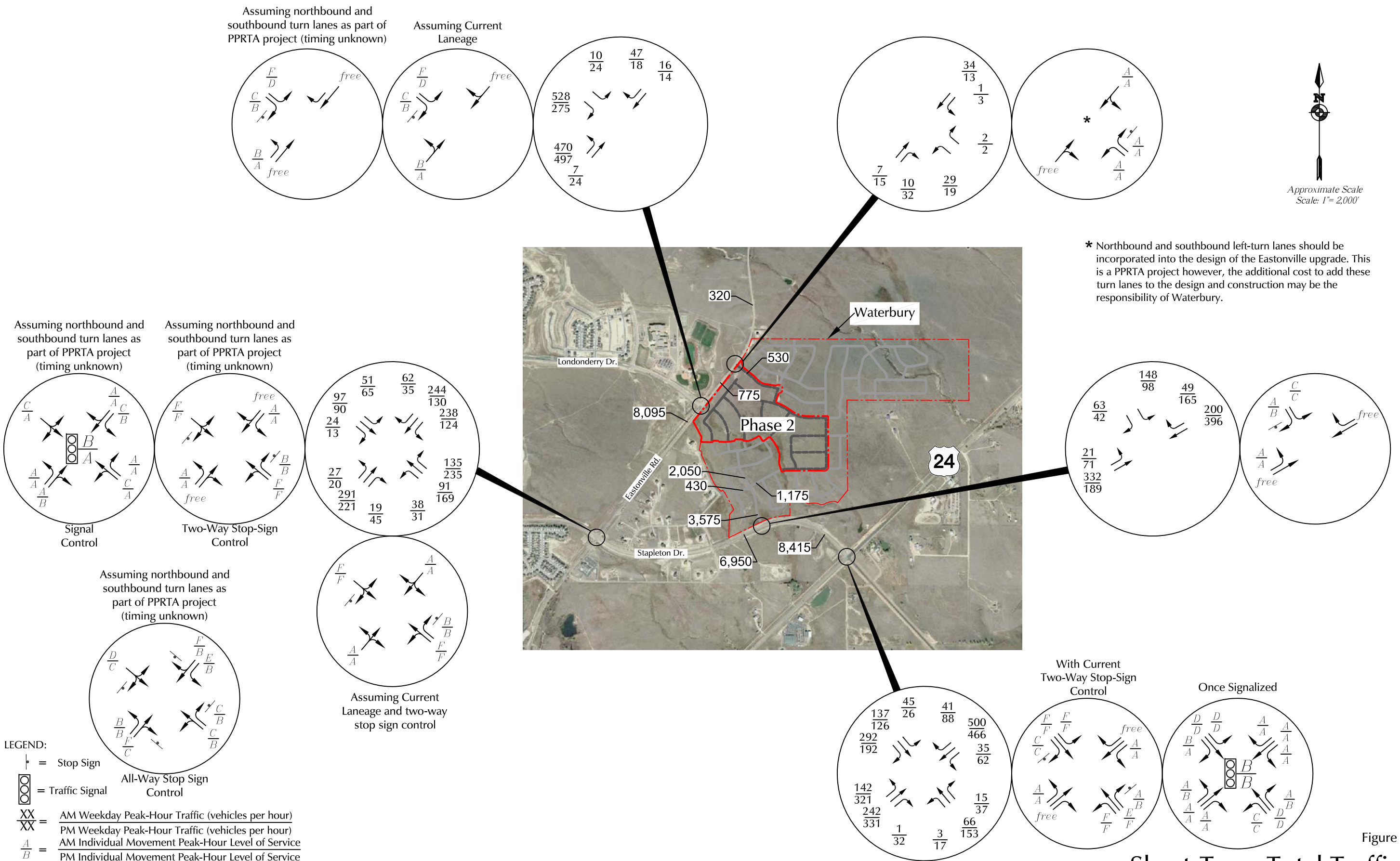
X,XXX= Annual Average Daily Traffic (vehicles per day)=(CDOT 2016)

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 6

Phase 2 Assignment of Site-Generated Traffic

Waterbury Phase 2 Preliminary Plan (LSC #174490)



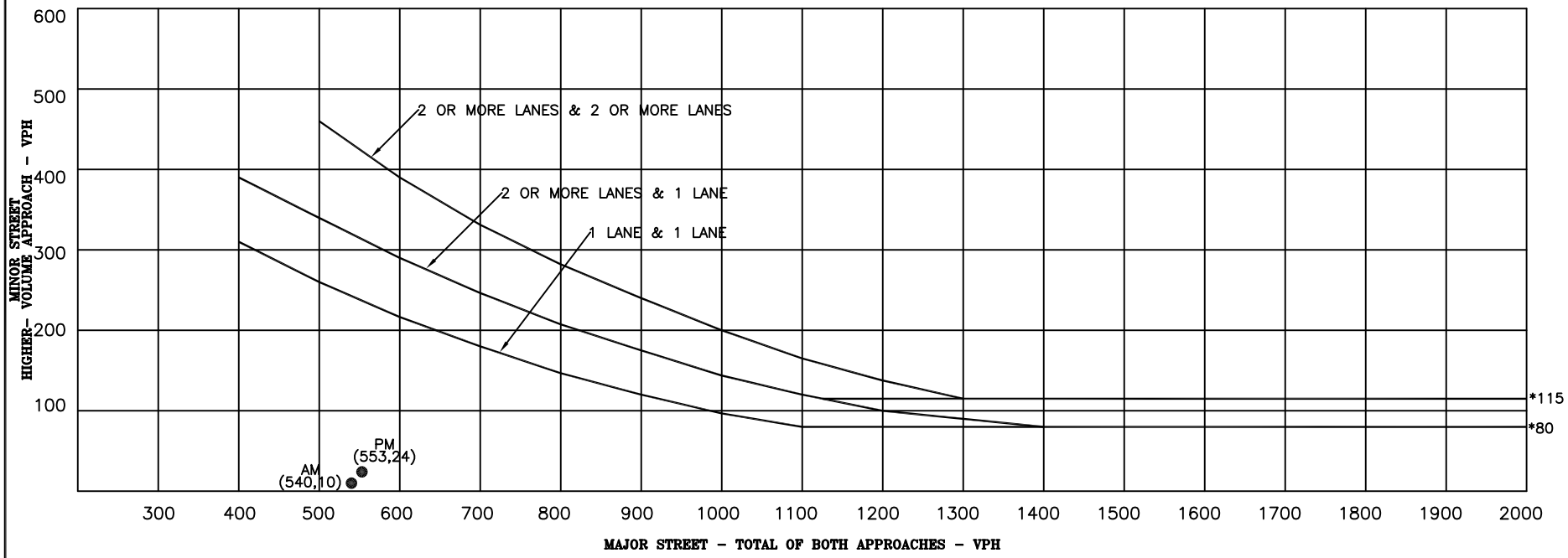
* Northbound and southbound left-turn lanes should be incorporated into the design of the Eastonville upgrade. This is a PPRTA project however, the additional cost to add these turn lanes to the design and construction may be the responsibility of Waterbury.

Figure 7

Short-Term Total Traffic, Lane Geometry and Traffic Control

Waterbury Phase 2 Preliminary Plan (LSC #174490)

Short-Term Total Traffic
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



* Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

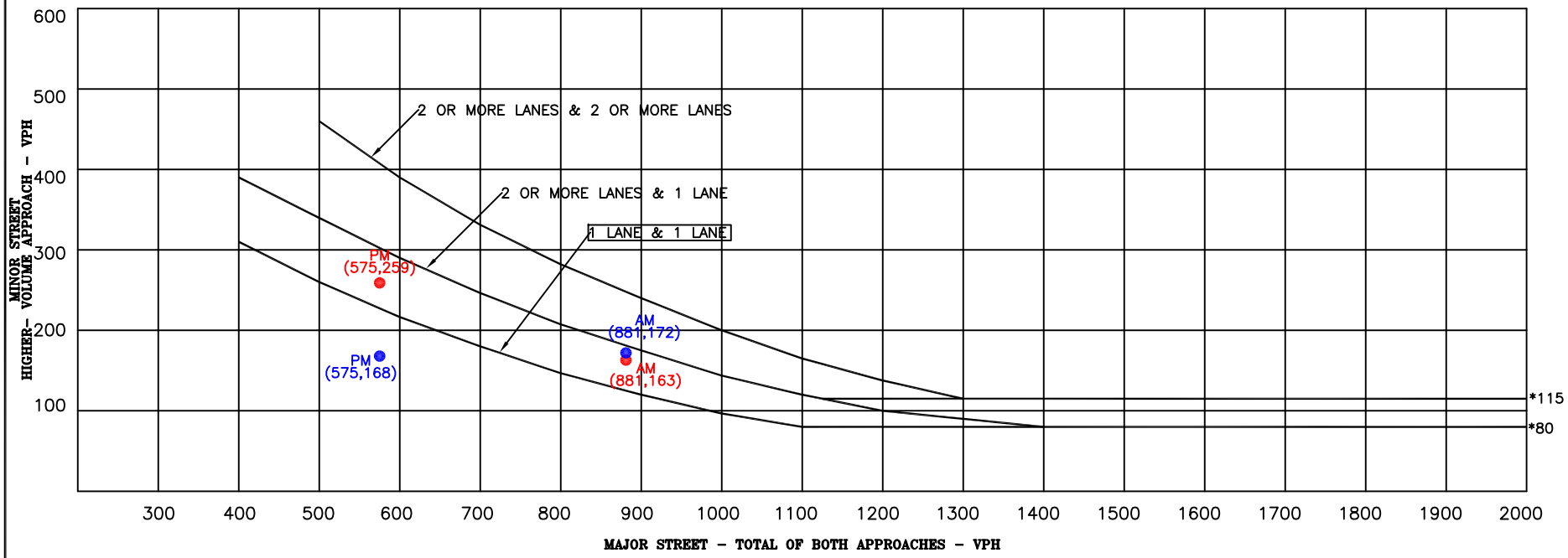
Figure 8

Traffic Signal Warrant Analysis
Londonderry Dr./Eastonville Rd.

Waterbury Phase 2 Preliminary Plan (LSC #174490)

LSC TRANSPORTATION CONSULTANTS, INC.

Short-Term Total Traffic
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



* Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

- Westbound Minor Approach and Both Directions on Major Approach:
  Westbound left turning vehicles
  Westbound through vehicles
  and 25% of westbound right turning vehicles
- Eastbound Minor Approach and Both Directions on Major Approach:
  Eastbound left, through and right turning vehicles

Figure 9

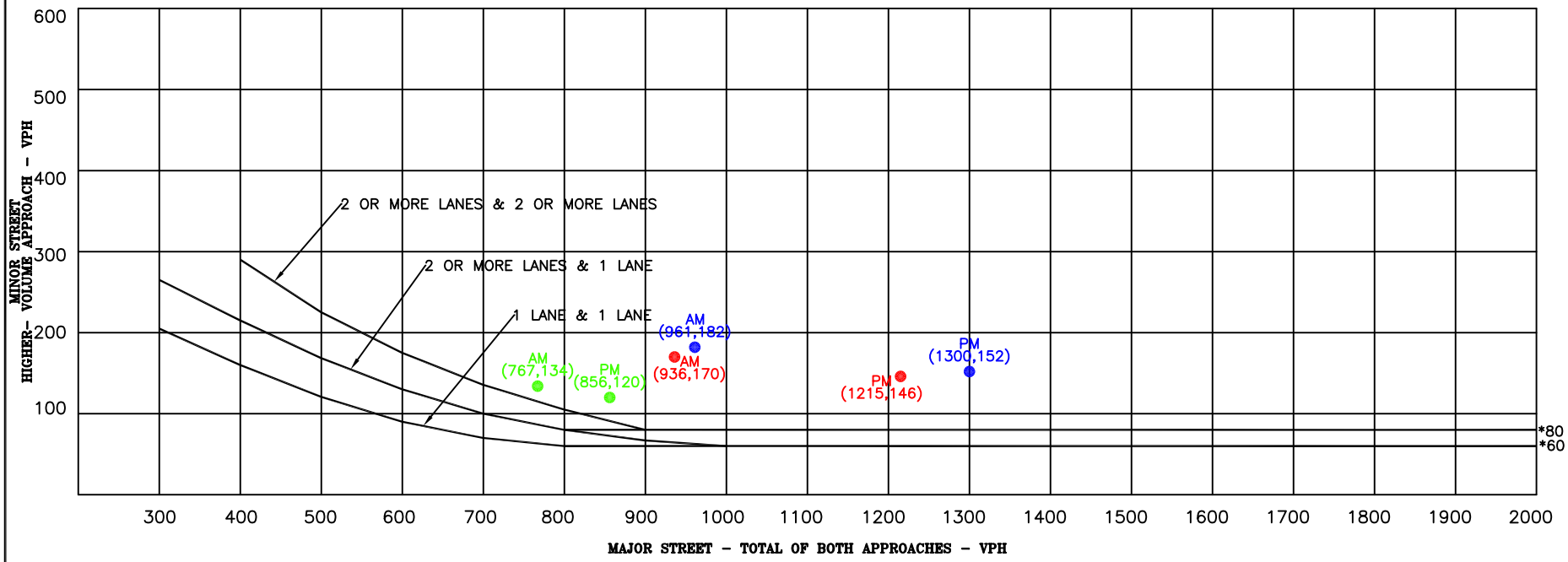
Traffic Signal Warrant Analysis
Eastonville Rd./Stapleton Dr.

Waterbury Phase 2 Preliminary Plan (LSC #174490)

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 4C-2. Warrant 2 Four-Hour Vehicular Volume (70% Factor)

(Community Less than 10,000 population or above 40 mph on Major Street)



* Note: 80 vph applies as the lower threshold volumes for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

- Existing Traffic
- Short-Term Background Traffic
- Short-Term Total Traffic

Minor Approach:
Southbound left-turn and through traffic

Figure 10

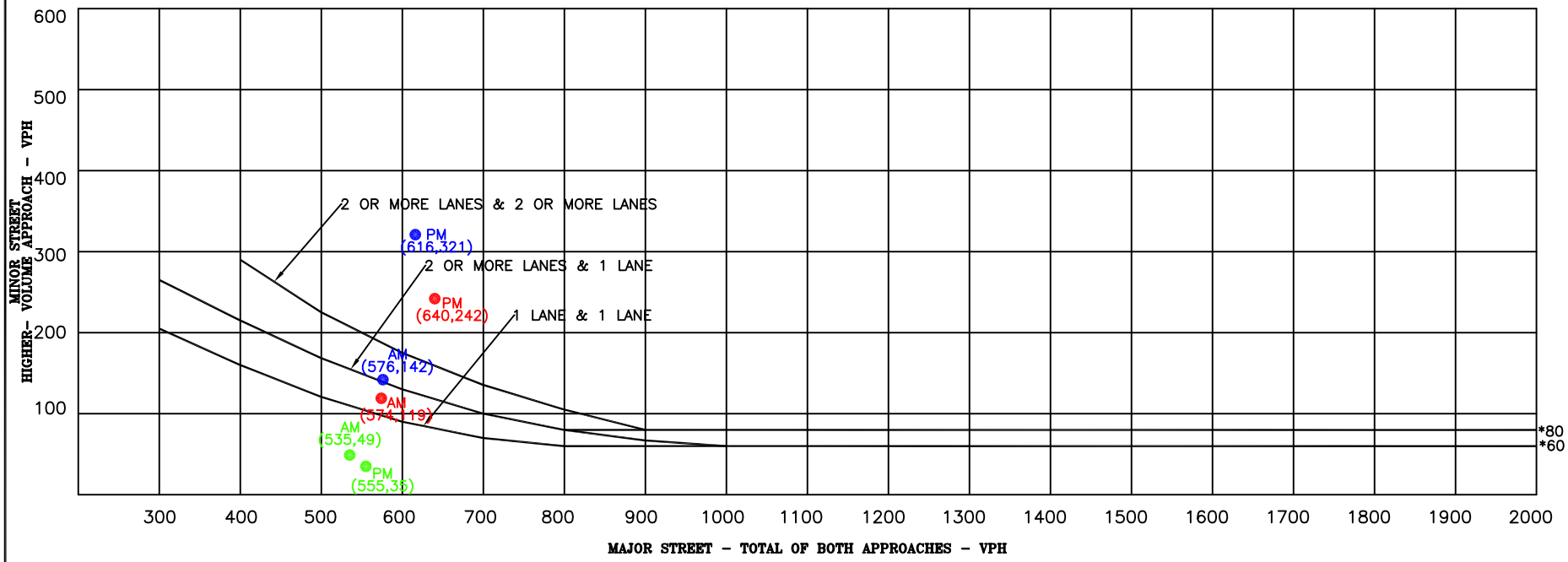
Traffic Signal Warrant Analysis
US 24/Stapleton Dr.

Waterbury Phase 2 Preliminary Plan (LSC #174490)

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 4C-2. Warrant 2 Four-Hour Vehicular Volume (70% Factor)

(Community Less than 10,000 population or above 40 mph on Major Street)



* Note: 80 vph applies as the lower threshold volumes for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

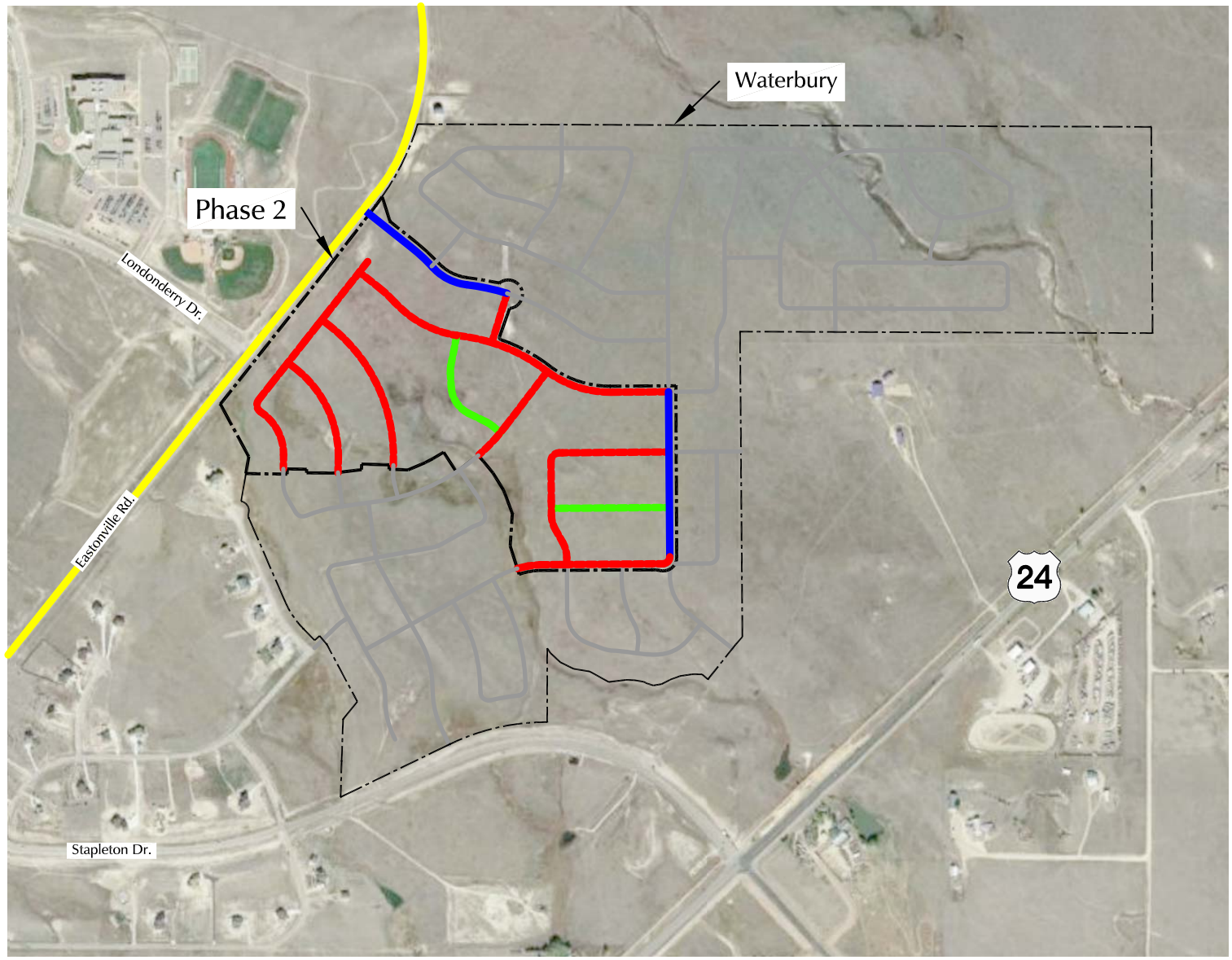
- Existing Traffic
- Short-Term Background Traffic
- Short-Term Total Traffic

Figure 11

Traffic Signal Warrant Analysis
US 24/Stapleton Dr. Minor Approach
US 24 Northbound Left-Turn

Waterbury Phase 2 Preliminary Plan (LSC #174490)

LSC TRANSPORTATION CONSULTANTS, INC.



Approximate Scale
Scale: 1"= 1,000'

LEGEND:

= Urban Collector
= Urban Local
= Urban Local (low volume)
= Rural Minor Arterial

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 12

Recommended Classifications

Waterbury Phase 2 Preliminary Plan (LSC #174490)

Development Services Department
2880 International Circle
Colorado Springs, Colorado 80910

Phone: 719.520.6300
Fax: 719.520.6695
Website www.elpasoco.com

DEVIATION REVIEW AND DECISION FORM

Procedure # R-FM-051-07
Issue Date: 12/31/07
Revision Issued: 00/00/00

DSD FILE NO.:

P	U	D	1	2	0	0	3

General Property Information:

Address of Subject Property (Street Number/Name): 0 Eastonville Road
Tax Schedule ID(s) #:4200000367, 4200000366, 4200000349, 4200000326
Legal Description of Property: See Attached
Subdivision or Project Name: Waterbury
(formerly 4 Way Ranch)

Section of ECM from Which Deviation is Sought: 2.3.2 Design Standards by Functional Classification.
Specific Criteria from Which a Deviation is Sought: Table 2-7 - No Parking permitted on Residential Collector streets; design/posted speed on Residential Collector streets.
Proposed Nature and Extent of Deviation: The proposed deviation is to allow on-street parking on the planned Residential Collector streets River Head Road south of Wading River Road and Wading River Road between Eastonville Road and River Head Road. Also, to allow a proposed speed of 30 mph.

Applicant Information:

Applicant: 4 Way Ranch Joint Venture,LLC (Peter Martz) Email Address: pmartzlrg@comcast.net
Applicant is: __X___ Owner _____ Consultant _____ Contractor
Mailing Address: P.O. Box 50223 Colorado Springs State: CO Postal Code: 80949
Telephone Number: (719) 491-3150 Fax Number:_____

Engineer Information:

Engineer: Jeffrey C. Hodsdon Email Address: jeff@lsccs.com
Company Name: LSC Transportation Consultants, Inc.
Mailing Address: 516 N. Tejon St., Colorado Springs State: CO Postal Code: 80903
Registration Number: 31684 State of Registration: CO
Telephone Number:719-633-2868 Fax Number:719-633-5430

Explanation of Request (Attached diagrams, figures and other documentation to clarify request):

Section of ECM from Which Deviation is Sought: 2.3.2 Design Standards by Functional Classification.
Specific Criteria from Which a Deviation is Sought: Table 2-7 - No Parking permitted on Residential Collector streets, design/posted speed.
Proposed Nature and Extent of Deviation: The proposed deviation is to allow on-street parking on the planned Residential Collector streets River Head Road south of Wading River Road and Wading River Road between Eastonville Road and River Head Road. Also, to allow a proposed speed of 30 mph.
Reason for the Requested Deviation: The overall intent of the community plan is to avoid streets lined with back fences instead of homes. As such, a good portion of the frontage of the proposed Collector streets is planned to have TND-style homes fronting the streets (no driveways fronting, however). The proposed deviation would allow the paved width in excess of the area used for the driving lanes to be used for on-street parking.
Comparison of Proposed Deviation to ECM Standard: The sections of streets proposed as Residential Collector streets would allow on-street parking and the proposed cross section would include 40 feet of asphalt pavement width (split by a median) instead of 36 feet per the criteria. As a median is proposed, there would be 23 feet of width for each direction of travel (flowline to flowline) with 8 feet for parking (including gutter pan), a 14-foot driving lane for traffic plus the 1-foot inside median gutter pan. Each direction of travel would have a 23-foot width, which would be one foot more than one-half of the Residential Collector (22 feet from centerline to face of curb). A preferred speed limit of 30 mph is proposed instead of 35 mph per the criteria as the lower speed will be more appropriate for the neighborhood served by the street and the traffic volumes served.

Applicable Regional or National Standards used as Basis: City of Colorado Springs TND standard for Avenue. The applicable TND standard from the City of Colorado Springs is attached for reference. The widths described above represent increases requested by staff of one foot for the parking lane and one foot for the travel lane over the City TND Avenue standard widths. Part of the reason staff has requested additional width is to accommodate larger-width vehicles generally found in unincorporated areas of El Paso County.

Application Consideration:

CHECK IF APPLICATION MEETS CRITERIA FOR CONSIDERATION	JUSTIFICATION
☒ The ECM standard is inapplicable to a particular situation.	The two streets proposed as Collectors are planned have a raised center median, on-street parallel parking, and alley-loaded lots on both sides of the street. Individual lot driveways will not connect to these Collector streets although the TND-style units will face these two Collector streets. Vehicular access to driveways/garages will be via alleys to the rear of the units. Allowing on-street parking, and desired speeds of 30 mph instead of 35 mph posted (40 design in the ECM) would be more appropriate for the community proposed and the volume of traffic anticipated. The projected ADTs are on the lower end of the Collector range (closer to 3,000 ADT than 10,000 vehicles per day ADT) through the higher-volume sections, and below the Collector range through most sections. The applicable TND standard from the City of Colorado Springs is attached for reference.
☐Topography, right-of-way, or other geographical conditions or impediments impose an undue hardship on the applicant, and an equivalent alternative that can accomplish the same design objective is available and does not compromise public safety or accessibility.	_____
☐ A change to a standard is required to address a specific design or construction problem, and if not modified, the standard will impose an undue hardship on the applicant with little or no material benefit to the public.	_____

If at least one of the criteria listed above is not met, this application for deviation cannot be considered.

Criteria for Approval:

PLEASE EXPLAIN HOW EACH OF THE FOLLOWING CRITERIA HAVE BEEN SATISFIED BY THIS REQUEST

The request for a deviation is not based exclusively on financial considerations.	This deviation is not financially based. It is being proposed to create the best neighborhood plan possible.
The deviation will achieve the intended result with a comparable or superior design and quality of improvement.	This deviation will create a superior design, will be consistent with the design of the community by allowing on-street parking, a 30-mph speed, and would allow use of excess asphalt width (not used for moving traffic lanes) for the on-street parking. The applicable TND standard from the City of Colorado Springs is attached for reference. From a traffic perspective, the on-street parking proposed, the TND-style home facing the street, and the streetscape will have a traffic-calming effect in contrast to the back-fence-lined, open street corridor as commonly-seen with the ECM standard Collector street. The classification of this section of street is shown as Avenue with a 20-foot electric easement. Modifications to the city TND "Avenue" standard have been made to accommodate the requirements of the

	Mountain View Electric Association – the electric easements. Also, the cross section would incorporate the one foot of additional parking width, one foot of additional drive-lane width as requested by staff. The option without a designated bike lane has been used and the median width will be determined with final design.
The deviation will not adversely affect safety or operations.	These Collector streets will have a raised center median, on-street parallel parking, and alley-loaded lots on both sides of the street. Due to the TND-type lot configuration, this street will not have any individual lot driveways intersecting the roadway. The street will not have conflicts associated with vehicles backing out of individual lot driveways into the street. The deviation request for on-street parallel parking to be allowed (on-street parking acts as a traffic-calming feature). Having TND-style residences facing sections of these Collector streets with on-street parking, landscaped center medians, trees, and other landscaping is the intent of the overall community plan. From a traffic perspective, the proposed streetscape will have a traffic-calming effect consistent with the requested deviation for a speed of 30 mph.
The deviation will not adversely affect maintenance and its associated cost.	Not Applicable.
The deviation will not adversely affect aesthetic appearance.	Not Applicable.

Owner, Applicant and Engineer Declaration:

To the best of my knowledge, the information on this application and all additional or supplemental documentation is true, factual and complete. I am fully aware that any misrepresentation of any information on this application may be grounds for denial. I have familiarized myself with the rules, regulations and procedures with respect to preparing and filing this application. I also understand that an incorrect submittal will be cause to have the project removed from the agenda of the Planning Commission, Board of County Commissioners and/or Board of Adjustment or delay review, and that any approval of this application is based on the representations made in the application and may be revoked on any breach of representation or condition(s) of approval.

Signature of owner (or authorized representative) — Date 9/27/12

Signature of applicant (if different from owner) — Date

Signature of Engineer — Date 9/27/12

Engineer's Seal

COLORADO REGISTERED
JEFFREY C HODSDON
31684
PROFESSIONAL ENGINEER

Review and Recommendation:
APPROVED by the ECM Administrator

Date 10-18-12

This request has been determined to have met the criteria for approval. A deviation from Section _____ of ECM is hereby granted based on the justification provided. Comments:

El Paso County Procedures Manual
Procedure # R-FM-051-07
Issue Date: 12/31/07
Revision Issued: 00/00/00
DSD File No. ___ ___ ___ ___ ___ ___ ___ ___

_____
_____
_____

____ Additional comments or information are attached.

DENIED by the ECM Administrator

_____ Date_____

This request has been determined not to have met criteria for approval. A deviation from Section _____ of ECM is hereby denied. Comments:

_____
_____
_____
_____

____ Additional comments or information are attached.

Avenue

(Functional classification: Major Collector)

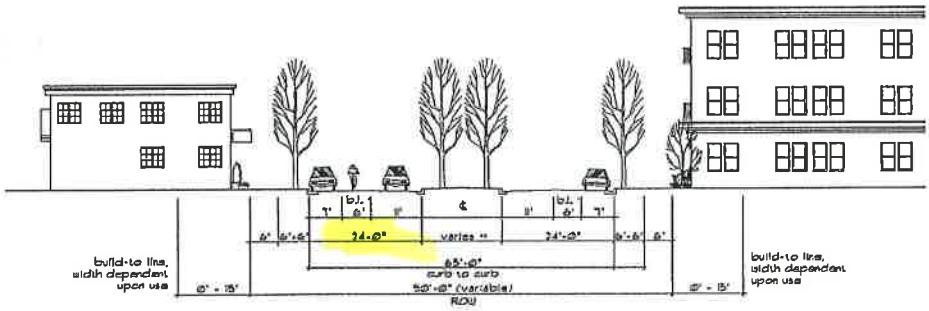
Purpose: connects town centers to neighborhoods

Street Section

Street Width:	90' (minimum)
Median:	65' fl/fl
Parking:	17' minimum parallel, 2 sides
Adjacent land use:	60d diagonal (112' R.O.W., 87' fl-fl) commercial townhomes multi-family residential Neighborhood Center
Alley:	mixed use
Block length:	optional 600' max. (measured from curb face to curb face)
Number of blocks:	4-6
Utilities:	all
Design Volume:	7,500 vpd
Min. Horiz. Radius:	700'

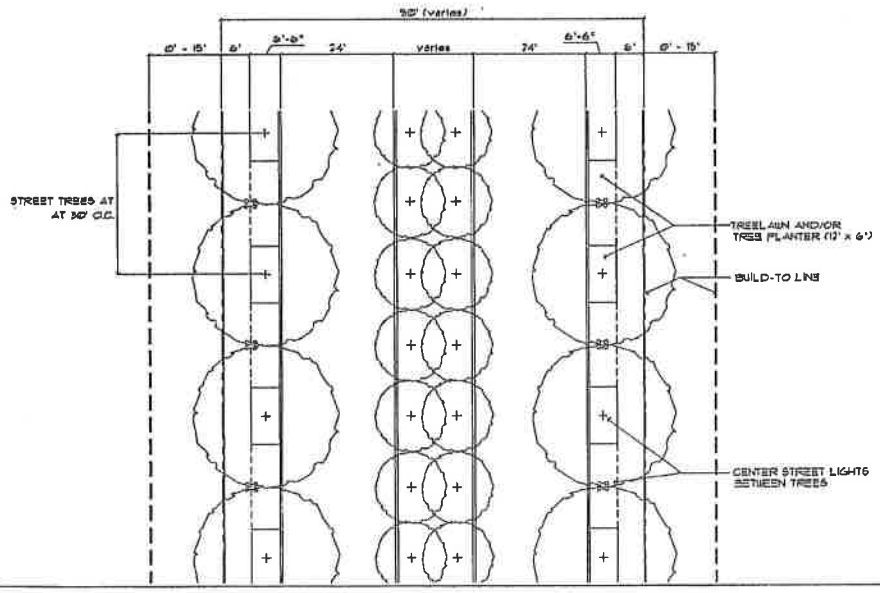
Streetscape

Build-to line:	0 - 10' commercial, 0' - 15' residential
Building height:	70' (2 - 6 story)
Tree lawn:	6'
Street trees:	3" cal. (spacing species dependant)
Sidewalk:	6'
Curb:	min. 6" Type 1
Building entrance:	18" - 4' above grade (residential) at grade (commercial/mixed use)
Miscellaneous:	transit stops shall be accommodated where appropriate (at 800' - 1200')



*bike lane is required when street is designated as a bike route on the Concept Plan (18' pavement mat, each side, without a bike lane).

**17' minimum median width



LSC Transportation Consultants, Inc.
545 E. Pikes Peak Ave., #210
Colorado Springs, CO 80903
(719) 633-2868

LSC Transportation Consultants, Inc.

File Name : Eastonville Rd - Londonderry Dr 1-20-16 AM
Site Code : 00154570
Start Date : 01/20/2016
Page No : 1

Groups Printed- Unshifted

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06:30 AM	0	6	0	0	0	0	0	0	0	1	18	0	18	0	0	0	43
06:45 AM	1	1	0	0	0	0	0	0	0	0	44	0	27	0	0	0	73
Total	1	7	0	0	0	0	0	0	0	1	62	0	45	0	0	0	116
07:00 AM	7	1	0	0	0	0	0	0	0	0	163	0	53	0	0	0	224
07:15 AM	19	1	0	0	0	0	0	0	0	2	152	0	80	0	4	0	258
07:30 AM	2	2	0	0	0	0	0	0	0	1	16	0	21	0	0	0	42
07:45 AM	0	4	0	0	0	0	0	0	0	2	10	0	13	0	0	0	29
Total	28	8	0	0	0	0	0	0	0	5	341	0	167	0	4	0	553
08:00 AM	3	1	0	0	0	0	0	0	0	2	13	0	12	0	0	0	31
08:15 AM	1	11	0	0	0	0	0	0	0	1	11	0	26	0	3	0	53
Grand Total	33	27	0	0	0	0	0	0	0	9	427	0	250	0	7	0	753
Apprch %	55.0	45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	97.9	0.0	97.3	0.0	2.7	0.0	
Total %	4.4	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	56.7	0.0	33.2	0.0	0.9	0.0	

LSC Transportation Consultants, Inc.
545 E. Pikes Peak Ave., #210
Colorado Springs, CO 80903
(719) 633-2868

File Name : Eastonville Rd - Londonderry Dr 1-20-16 AM
Site Code : 00154570
Start Date : 01/20/2016
Page No : 2

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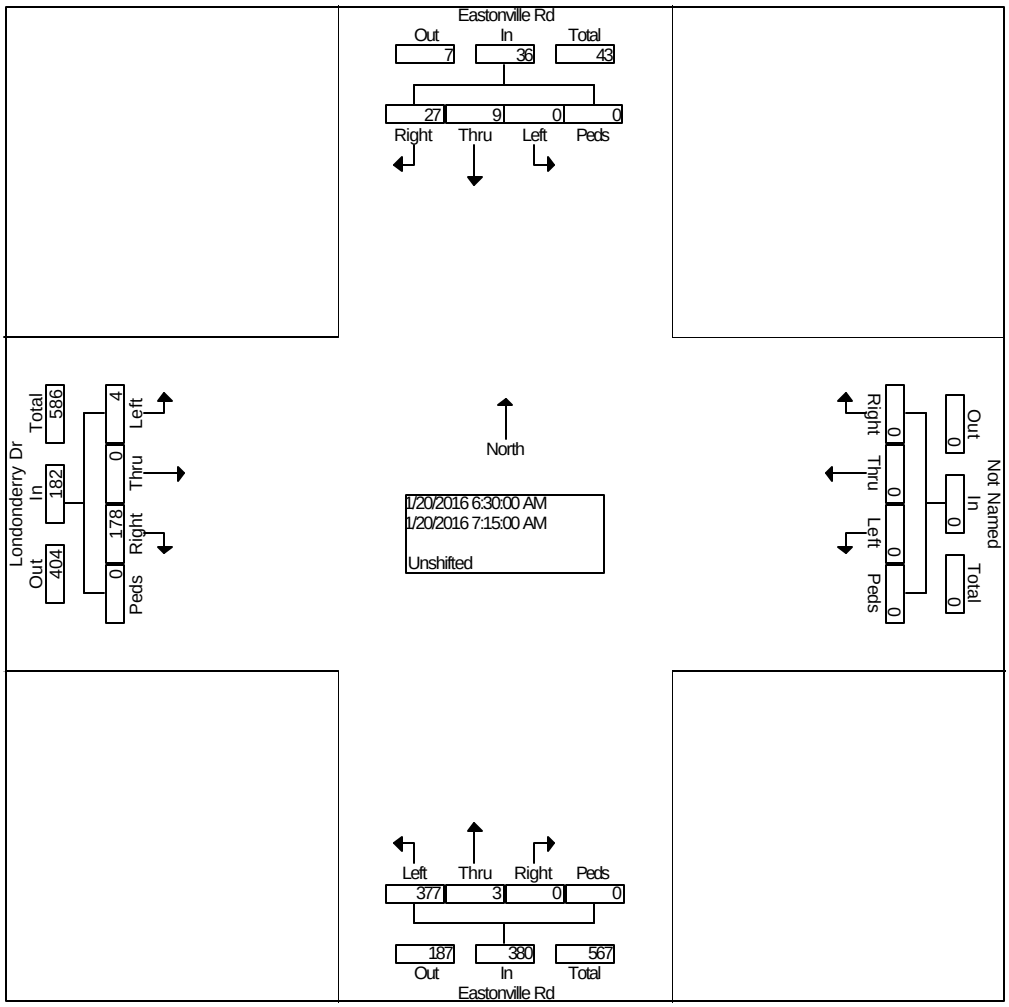
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	06:30 AM																				
Volume	27	9	0	0	36	0	0	0	0	0	0	3	377	0	380	178	0	4	0	182	598
Percent	75.0	25.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.8	99.2	0.0		97.8	0.0	2.2	0.0		
07:15 Volume	19	1	0	0	20	0	0	0	0	0	0	2	152	0	154	80	0	4	0	84	258
Peak Factor																					0.579
High Int.	07:15 AM					6:15:00 AM					07:00 AM					07:15 AM					
Volume	19	1	0	0	20	0	0	0	0	0	0	0	163	0	163	80	0	4	0	84	
Peak Factor					0.450										0.583					0.542	



LSC Transportation Consultants, Inc.
516 N. Tejon St.
Colorado Springs, CO
(719) 633-2868

LSC Transportation Consultants, Inc.

File Name : Eastonville Rd - Londonderry Dr PM
Site Code : 00144640
Start Date : 11/05/2014
Page No : 1

Groups Printed- Unshifted

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04:00 PM	0	2	0	0	0	0	0	0	0	4	20	0	29	0	0	0	55
04:15 PM	0	2	0	0	0	0	0	0	0	3	20	0	22	0	0	0	47
04:30 PM	0	2	0	0	0	0	0	0	0	1	21	0	22	0	1	0	47
04:45 PM	1	1	0	0	0	0	0	0	0	4	34	0	12	0	2	0	54
Total	1	7	0	0	0	0	0	0	0	12	95	0	85	0	3	0	203
05:00 PM	0	3	0	0	0	0	0	0	0	4	19	0	61	0	1	0	88
05:15 PM	0	1	0	0	0	0	0	0	0	1	20	0	43	0	1	0	66
05:30 PM	5	2	0	0	0	0	0	0	0	2	27	0	14	0	0	0	50
05:45 PM	2	4	0	0	0	0	0	0	0	3	35	0	6	0	0	0	50
Total	7	10	0	0	0	0	0	0	0	10	101	0	124	0	2	0	254
Grand Total	8	17	0	0	0	0	0	0	0	22	196	0	209	0	5	0	457
Apprch %	32.0	68.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1	89.9	0.0	97.7	0.0	2.3	0.0	
Total %	1.8	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	42.9	0.0	45.7	0.0	1.1	0.0	

LSC Transportation Consultants, Inc.
516 N. Tejon St.
Colorado Springs, CO
(719) 633-2868

File Name : Eastonville Rd - Londonderry Dr PM
Site Code : 00144640
Start Date : 11/05/2014
Page No : 2

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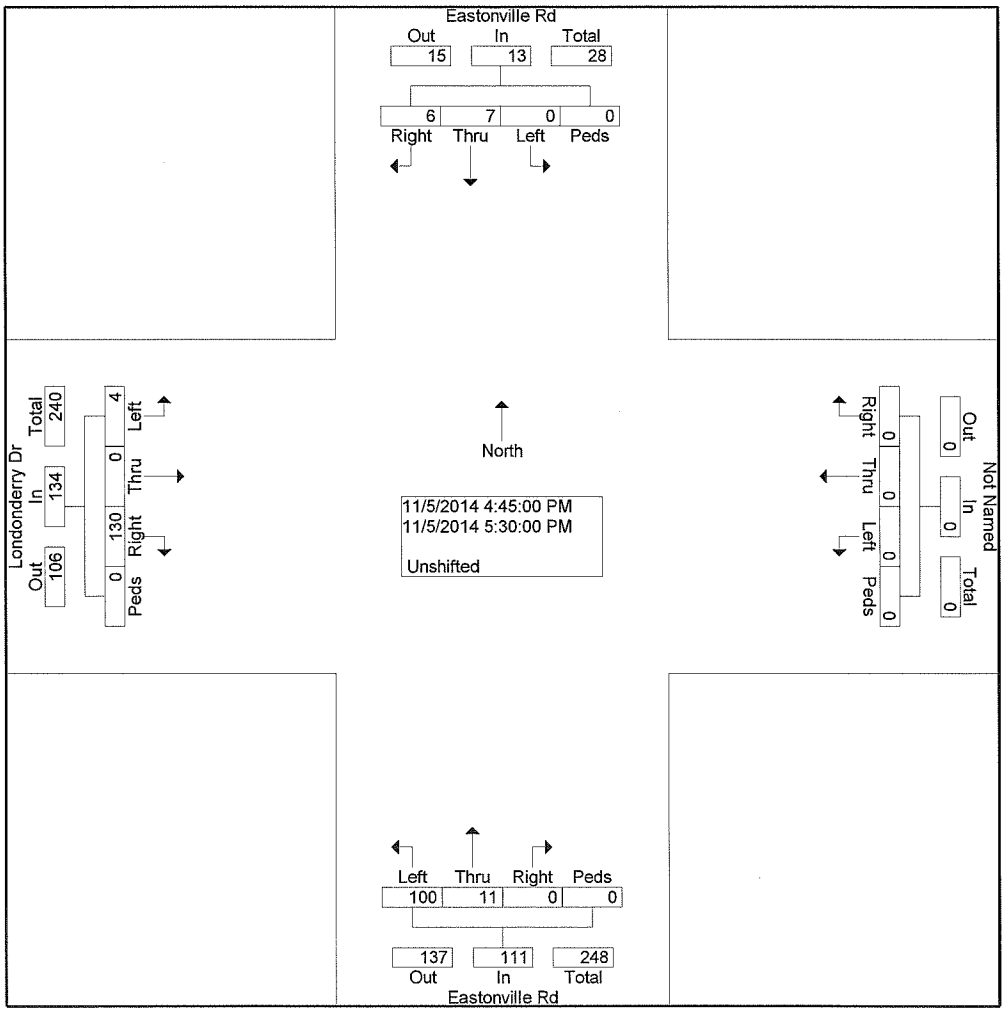
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	6	7	0	0	13	0	0	0	0	0	0	11	100	0	111	130	0	4	0	134	258
Percent	46.2	53.8	0.0	0.0		0.0	0.0	0.0	0.0		0.0	9.9	90.1	0.0		97.0	0.0	3.0	0.0		
05:00 Volume	0	3	0	0	3	0	0	0	0	0	0	4	19	0	23	61	0	1	0	62	88
Peak Factor																					0.733
High Int.	05:30 PM					3:45:00 PM					04:45 PM					05:00 PM					
Volume	5	2	0	0	7	0	0	0	0	0	0	4	34	0	38	61	0	1	0	62	
Peak Factor					0.464										0.730					0.540	



Counts by LSC

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

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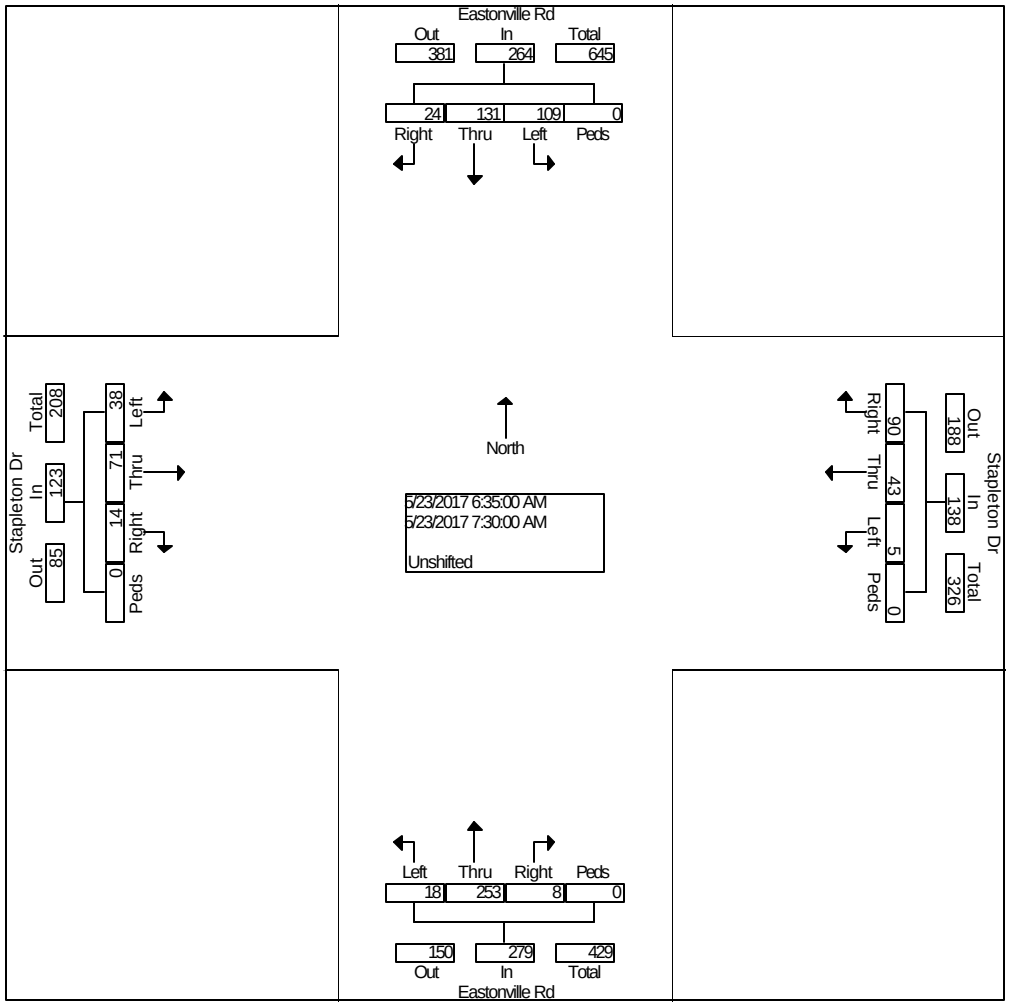
06:30 AM	1	11	18	0	9	1	0	0	0	30	1	0	1	12	5	0	89
06:45 AM	2	16	25	0	19	5	2	0	0	42	3	0	4	17	8	0	143
07:00 AM	10	46	24	0	35	9	1	0	0	111	6	0	6	19	18	0	285
07:15 AM	10	54	37	0	25	20	1	0	7	75	7	0	2	16	6	0	260
07:30 AM	2	14	19	0	7	25	2	0	2	3	3	0	2	21	5	0	105
07:45 AM	4	7	11	0	11	15	2	0	0	8	2	0	4	29	2	0	95
08:00 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	

Counts by LSC

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



Counts by LSC

LSC Transportation Consultants, Inc.

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

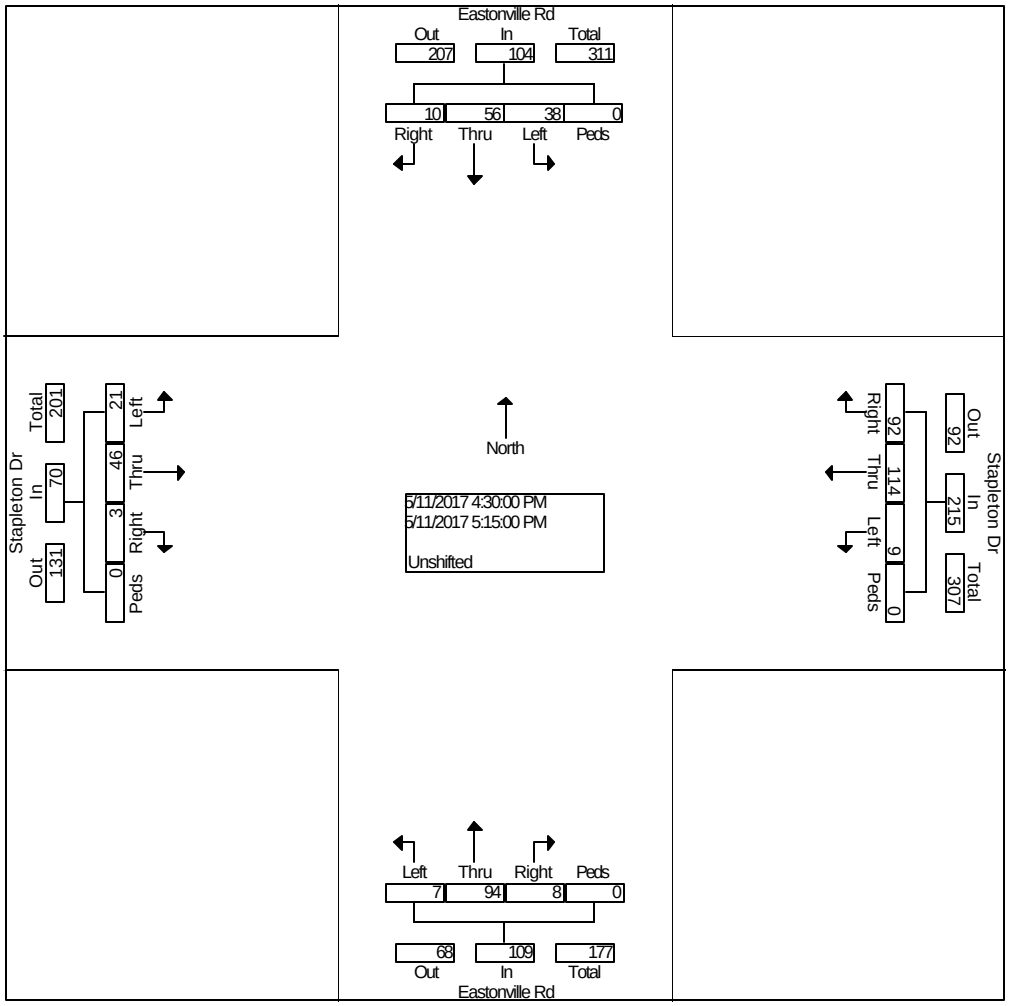
Groups Printed- Unshifted

	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	

Counts by LSC

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	



LSC Transportation Consultants, Inc.
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LSC Transportation Consultants, Inc.

File Name : Hwy 24 - Stapleton Dr AM
Site Code : 00174140
Start Date : 03/22/2017
Page No : 1

Groups Printed- Unshifted

	Hwy 24 From North				Stapleton Dr From East				Hwy 24 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	107	5	0	1	1	0	0	0	48	3	0	12	21	1	0	200
06:45 AM	3	115	8	0	2	6	0	0	0	47	7	0	19	38	7	0	252
Total	4	222	13	0	3	7	0	0	0	95	10	0	31	59	8	0	452
07:00 AM	5	130	13	0	4	7	0	0	0	56	6	0	11	24	5	0	261
07:15 AM	1	119	5	0	6	5	1	0	0	59	5	0	12	28	5	0	246
07:30 AM	5	106	7	0	4	6	2	0	1	65	4	0	6	23	4	0	233
07:45 AM	4	85	7	0	1	6	4	0	1	49	3	0	7	15	2	0	184
Total	15	440	32	0	15	24	7	0	2	229	18	0	36	90	16	0	924
08:00 AM	5	77	7	0	2	3	3	0	2	62	4	0	9	19	2	0	195
08:15 AM	1	91	3	0	4	2	0	0	2	61	1	0	7	4	7	0	183
Grand Total	25	830	55	0	24	36	10	0	6	447	33	0	83	172	33	0	1754
Apprch %	2.7	91.2	6.0	0.0	34.3	51.4	14.3	0.0	1.2	92.0	6.8	0.0	28.8	59.7	11.5	0.0	
Total %	1.4	47.3	3.1	0.0	1.4	2.1	0.6	0.0	0.3	25.5	1.9	0.0	4.7	9.8	1.9	0.0	

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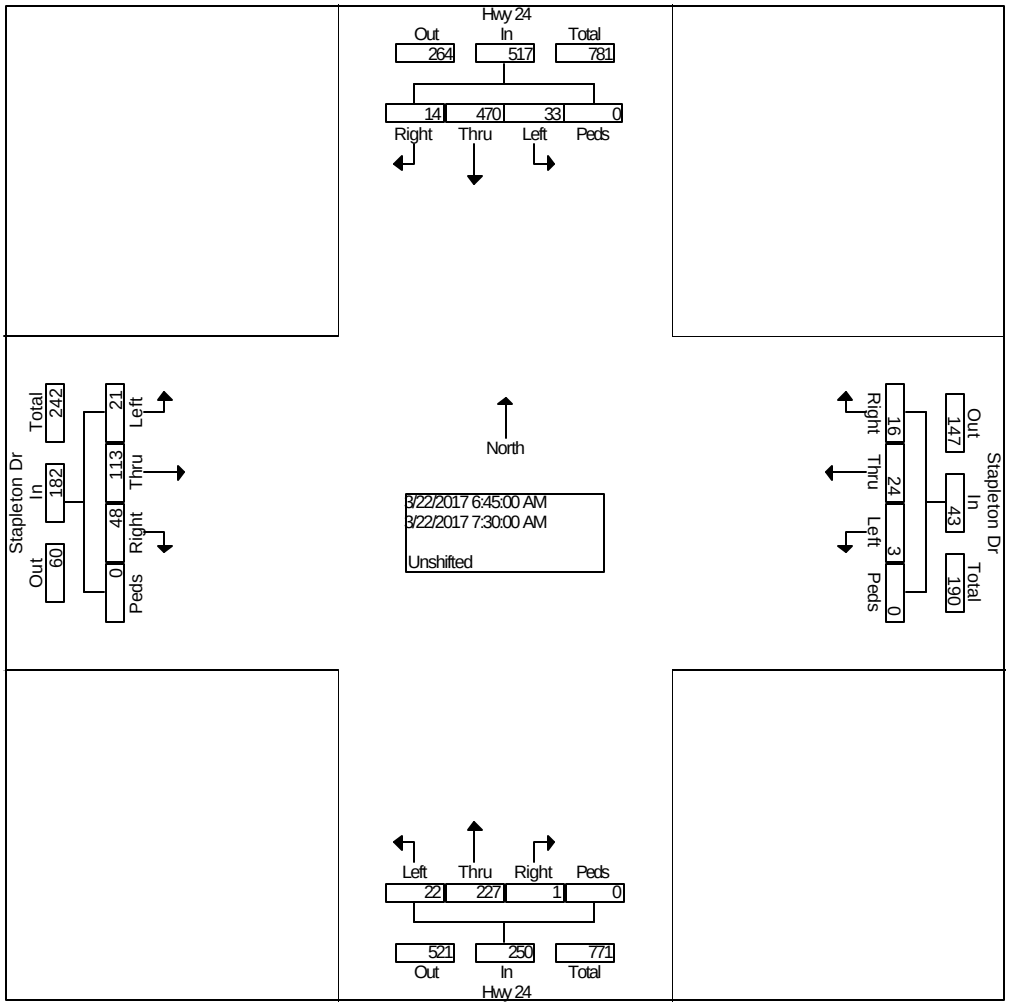
File Name : Hwy 24 - Stapleton Dr AM
Site Code : 00174140
Start Date : 03/22/2017
Page No : 2

	Hwy 24 From North					Stapleton Dr From East					Hwy 24 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 08:15 AM - Peak 1 of 1																					
Intersection	06:45 AM																				
Volume	14	470	33	0	517	16	24	3	0	43	1	227	22	0	250	48	113	21	0	182	992
Percent	2.7	90.9	6.4	0.0		37.2	55.8	7.0	0.0		0.4	90.8	8.8	0.0		26.4	62.1	11.5	0.0		
07:00 Volume	5	130	13	0	148	4	7	0	0	11	0	56	6	0	62	11	24	5	0	40	261
Peak Factor																					0.950
High Int.	07:00 AM					07:15 AM					07:30 AM					06:45 AM					
Volume	5	130	13	0	148	6	5	1	0	12	1	65	4	0	70	19	38	7	0	64	
Peak Factor					0.873					0.896					0.893					0.711	



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LSC Transportation Consultants, Inc.

File Name : Hwy 24 - Stapleton Dr PM
Site Code : 00174140
Start Date : 03/21/2017
Page No : 1

Groups Printed- Unshifted

	Hwy 24 From North				Stapleton Dr From East				Hwy 24 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	5	93	25	0	4	3	1	0	4	67	5	0	6	17	2	2	234
04:15 PM	4	109	17	0	10	5	1	0	9	75	1	0	7	20	2	0	260
04:30 PM	2	118	23	0	10	8	8	0	3	81	5	0	4	30	4	0	296
04:45 PM	2	120	10	0	8	5	4	0	8	83	0	0	4	24	2	0	270
Total	13	440	75	0	32	21	14	0	24	306	11	0	21	91	10	2	1060
05:00 PM	4	91	8	0	7	7	3	0	10	72	1	0	16	36	2	0	257
05:15 PM	2	94	12	0	6	12	2	0	2	51	1	0	17	23	2	0	224
05:30 PM	0	154	12	0	5	5	5	0	7	62	2	0	17	19	0	0	288
05:45 PM	1	128	20	0	4	5	5	0	7	83	1	0	13	19	1	0	287
Total	7	467	52	0	22	29	15	0	26	268	5	0	63	97	5	0	1056
Grand Total	20	907	127	0	54	50	29	0	50	574	16	0	84	188	15	2	2116
Apprch %	1.9	86.1	12.0	0.0	40.6	37.6	21.8	0.0	7.8	89.7	2.5	0.0	29.1	65.1	5.2	0.7	
Total %	0.9	42.9	6.0	0.0	2.6	2.4	1.4	0.0	2.4	27.1	0.8	0.0	4.0	8.9	0.7	0.1	

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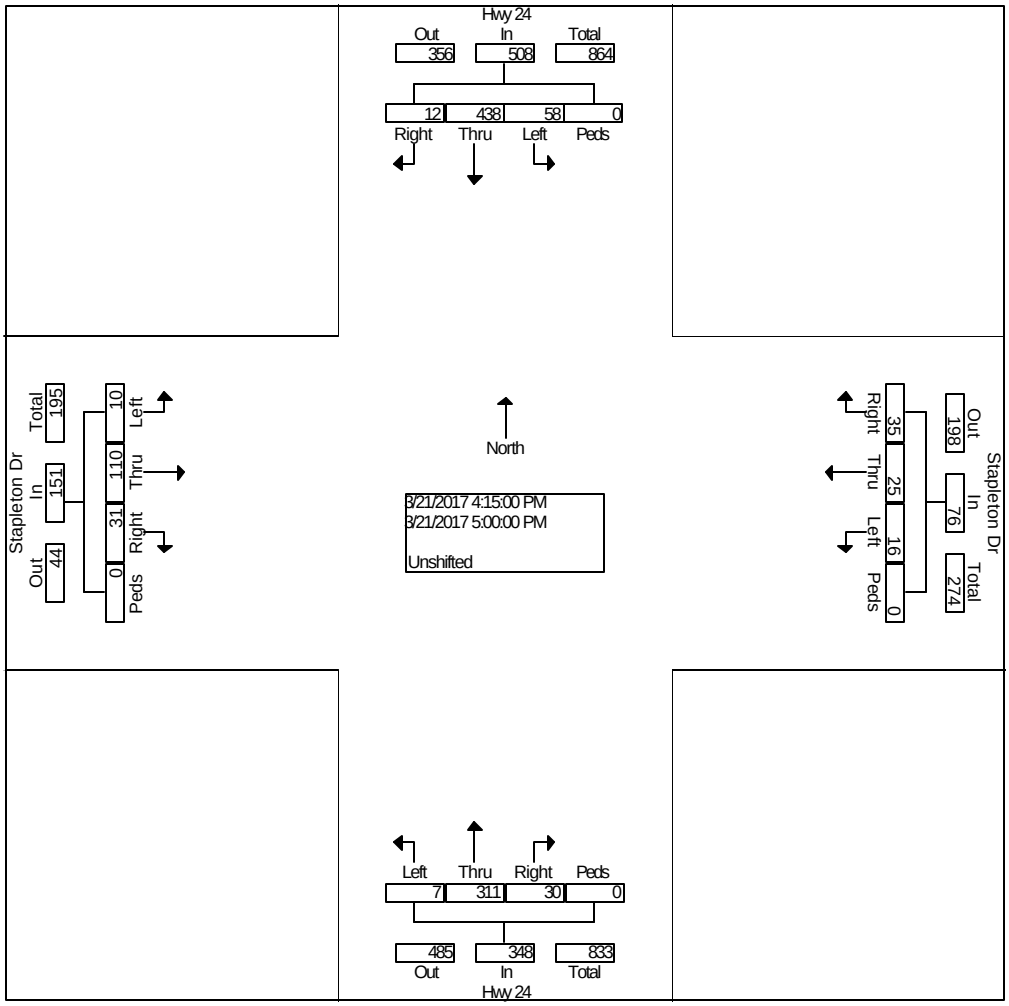
File Name : Hwy 24 - Stapleton Dr PM
Site Code : 00174140
Start Date : 03/21/2017
Page No : 2

	Hwy 24 From North					Stapleton Dr From East					Hwy 24 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	04:15 PM																				
Volume	12	438	58	0	508	35	25	16	0	76	30	311	7	0	348	31	110	10	0	151	1083
Percent	2.4	86.2	11.4	0.0		46.1	32.9	21.1	0.0		8.6	89.4	2.0	0.0		20.5	72.8	6.6	0.0		
04:30 Volume	2	118	23	0	143	10	8	8	0	26	3	81	5	0	89	4	30	4	0	38	296
Peak Factor																					0.915
High Int.	04:30 PM					04:30 PM					04:45 PM					05:00 PM					
Volume	2	118	23	0	143	10	8	8	0	26	8	83	0	0	91	16	36	2	0	54	
Peak Factor					0.888					0.731					0.956					0.699	



Intersection	
Int Delay, s/veh	9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	260	378	3	5	29
Future Vol, veh/h	4	260	378	3	5	29
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	76	76	58	58	43	43
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	342	652	5	12	67

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1355	46	79	0	-	0
Stage 1	46	-	-	-	-	-
Stage 2	1309	-	-	-	-	-
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	165	1023	1519	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	253	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	94	1023	1519	-	-	-
Mov Cap-2 Maneuver	94	-	-	-	-	-
Stage 1	556	-	-	-	-	-
Stage 2	253	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	9.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1519	-	94	1023	-	-
HCM Lane V/C Ratio	0.429	-	0.056	0.334	-	-
HCM Control Delay (s)	9.1	0	45.6	10.3	-	-
HCM Lane LOS	A	A	E	B	-	-
HCM 95th %tile Q(veh)	2.2	-	0.2	1.5	-	-

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	113	48	3	57	14	49	227	1	33	470	32
Future Vol, veh/h	21	113	48	3	57	14	49	227	1	33	470	32
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	100	100	100	95	95	95	100	100	100	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	113	48	3	60	15	49	227	1	38	540	37

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	979	942	540	1040	978	227	577	0	0	228	0	0
Stage 1	616	616	-	325	325	-	-	-	-	-	-	-
Stage 2	363	326	-	715	653	-	-	-	-	-	-	-
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	229	263	542	208	250	812	996	-	-	1340	-	-
Stage 1	478	482	-	687	649	-	-	-	-	-	-	-
Stage 2	656	648	-	422	464	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	170	243	542	114	231	812	996	-	-	1340	-	-
Mov Cap-2 Maneuver	170	243	-	114	231	-	-	-	-	-	-	-
Stage 1	455	469	-	653	617	-	-	-	-	-	-	-
Stage 2	553	616	-	284	451	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.5	23.3	1.6	0.5
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	996	-	-	170	243	542	114	231	812	1340	-	-
HCM Lane V/C Ratio	0.049	-	-	0.124	0.465	0.089	0.028	0.26	0.018	0.028	-	-
HCM Control Delay (s)	8.8	-	-	29.1	32.1	12.3	37.5	26	9.5	7.8	-	-
HCM Lane LOS	A	-	-	D	D	B	E	D	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	2.3	0.3	0.1	1	0.1	0.1	-	-

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	7.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	97	196	11	7	6
Future Vol, veh/h	4	97	196	11	7	6
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	54	54	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	180	196	11	7	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	413	10	13	0	-	0
Stage 1	10	-	-	-	-	-
Stage 2	403	-	-	-	-	-
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	595	1071	1606	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	675	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	522	1071	1606	-	-	-
Mov Cap-2 Maneuver	522	-	-	-	-	-
Stage 1	888	-	-	-	-	-
Stage 2	675	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	7.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1606	-	522	1071	-	-
HCM Lane V/C Ratio	0.122	-	0.014	0.168	-	-
HCM Control Delay (s)	7.6	0	12	9	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.4	-	0	0.6	-	-

Intersection	
Int Delay, s/veh	15.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	110	31	16	124	35	35	311	30	58	438	59
Future Vol, veh/h	10	110	31	16	124	35	35	311	30	58	438	59
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	99	99	99	73	73	73	98	98	98	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	111	31	22	170	48	36	317	31	65	492	66

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1136	1042	492	1115	1077	317	558	0	0	348	0	0
Stage 1	622	622	-	389	389	-	-	-	-	-	-	-
Stage 2	514	420	-	726	688	-	-	-	-	-	-	-
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	179	230	577	185	219	724	1013	-	-	1211	-	-
Stage 1	474	479	-	635	608	-	-	-	-	-	-	-
Stage 2	543	589	-	416	447	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	45	210	577	96	200	724	1013	-	-	1211	-	-
Mov Cap-2 Maneuver	45	210	-	96	200	-	-	-	-	-	-	-
Stage 1	457	453	-	612	586	-	-	-	-	-	-	-
Stage 2	347	568	-	281	423	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	38.5	62.7	0.8	0.9
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1013	-	-	45	210	577	96	200	724	1211	-	-
HCM Lane V/C Ratio	0.035	-	-	0.224	0.529	0.054	0.228	0.849	0.066	0.054	-	-
HCM Control Delay (s)	8.7	-	-	106.8	39.9	11.6	53.3	78.7	10.3	8.1	-	-
HCM Lane LOS	A	-	-	F	E	B	F	F	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	2.8	0.2	0.8	6.3	0.2	0.2	-	-

Intersection	
Int Delay, s/veh	7.2

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	88	88	88	96	96	96	100	100	100	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	52	3	9	119	96	7	94	8	45	67	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	383	279	73	303	281	98	79	0	0	102	0	0
Stage 1	163	163	-	112	112	-	-	-	-	-	-	-
Stage 2	220	116	-	191	169	-	-	-	-	-	-	-
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	575	629	989	649	627	958	1519	-	-	1490	-	-
Stage 1	839	763	-	893	803	-	-	-	-	-	-	-
Stage 2	782	800	-	811	759	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	427	606	989	587	604	958	1519	-	-	1490	-	-
Mov Cap-2 Maneuver	427	606	-	587	604	-	-	-	-	-	-	-
Stage 1	835	739	-	889	799	-	-	-	-	-	-	-
Stage 2	596	796	-	727	735	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.7	11.1	0.5	2.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1519	-	-	546	603	958	1490	-	-
HCM Lane V/C Ratio	0.005	-	-	0.146	0.212	0.1	0.03	-	-
HCM Control Delay (s)	7.4	0	-	12.7	12.6	9.2	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.8	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	332	200	23	68	34
Future Vol, veh/h	11	332	200	23	68	34
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	12	361	217	25	74	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	242	0	-	0	602	217
Stage 1	-	-	-	-	217	-
Stage 2	-	-	-	-	385	-
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	1324	-	-	-	463	823
Stage 1	-	-	-	-	819	-
Stage 2	-	-	-	-	688	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1324	-	-	-	459	823
Mov Cap-2 Maneuver	-	-	-	-	459	-
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	688	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1324	-	-	-	459	823
HCM Lane V/C Ratio	0.009	-	-	-	0.161	0.045
HCM Control Delay (s)	7.7	-	-	-	14.3	9.6
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0.1

Intersection	
Int Delay, s/veh	12.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	528	470	3	6	36
Future Vol, veh/h	6	528	470	3	6	36
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	76	76	58	58	43	43
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	695	810	5	14	84

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1681	56	98	0	-	0
Stage 1	56	-	-	-	-	-
Stage 2	1625	-	-	-	-	-
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	104	1011	1495	-	-	-
Stage 1	967	-	-	-	-	-
Stage 2	177	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	48	1011	1495	-	-	-
Mov Cap-2 Maneuver	48	-	-	-	-	-
Stage 1	442	-	-	-	-	-
Stage 2	177	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.9	10.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1495	-	48	1011	-	-
HCM Lane V/C Ratio	0.542	-	0.164	0.687	-	-
HCM Control Delay (s)	10.2	0	94.2	16	-	-
HCM Lane LOS	B	A	F	C	-	-
HCM 95th %tile Q(veh)	3.4	-	0.5	5.8	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	1	7	3	0	34
Future Vol, veh/h	8	1	7	3	0	34
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	100	-	-	-	-
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	9	1	8	3	0	37

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	47	10	0	0	11	0
Stage 1	10	-	-	-	-	-
Stage 2	37	-	-	-	-	-
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	963	1071	-	-	1608	-
Stage 1	1013	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	963	1071	-	-	1608	-
Mov Cap-2 Maneuver	963	-	-	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	985	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	963	1071	1608	-
HCM Lane V/C Ratio	-	-	0.009	0.001	-	-
HCM Control Delay (s)	-	-	8.8	8.4	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	0	-

Intersection	
Int Delay, s/veh	13.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	131	222	3	64	15	119	242	1	35	500	39
Future Vol, veh/h	39	131	222	3	64	15	119	242	1	35	500	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	-	-	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	100	100	100	95	95	95	100	100	100	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	131	222	3	67	16	119	242	1	40	575	45

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1177	1136	575	1334	1180	242	620	0	0	243	0	0
Stage 1	655	655	-	480	480	-	-	-	-	-	-	-
Stage 2	522	481	-	854	700	-	-	-	-	-	-	-
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	168	202	518	131	190	797	960	-	-	1323	-	-
Stage 1	455	463	-	567	554	-	-	-	-	-	-	-
Stage 2	538	554	-	353	441	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	99	172	518	25	162	797	960	-	-	1323	-	-
Mov Cap-2 Maneuver	99	172	-	25	162	-	-	-	-	-	-	-
Stage 1	399	449	-	497	485	-	-	-	-	-	-	-
Stage 2	398	485	-	139	428	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	40.2	40.9	3.1	0.5
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	960	-	-	99	172	518	25	162	797	1323	-	-
HCM Lane V/C Ratio	0.124	-	-	0.394	0.762	0.429	0.126	0.416	0.02	0.03	-	-
HCM Control Delay (s)	9.3	-	-	63.2	72.5	17.1	168.8	42.2	9.6	7.8	-	-
HCM Lane LOS	A	-	-	F	F	C	F	E	A	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	1.6	4.9	2.1	0.4	1.8	0.1	0.1	-	-

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	49	92	24	22	77	135	27	289	14	238	239	57
Future Vol, veh/h	49	92	24	22	77	135	27	289	14	238	239	57
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	74	139	36	31	108	190	45	482	23	301	314	72

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1685	1547	350	1624	1572	494	386	0	0	505	0	0
Stage 1	952	952	-	584	584	-	-	-	-	-	-	-
Stage 2	733	595	-	1040	988	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	75	~ 114	693	82	110	575	1172	-	-	1060	-	-
Stage 1	312	338	-	498	498	-	-	-	-	-	-	-
Stage 2	412	492	-	278	325	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 69	693	-	~ 66	575	1172	-	-	1060	-	-
Mov Cap-2 Maneuver	-	~ 69	-	-	~ 66	-	-	-	-	-	-	-
Stage 1	295	215	-	471	471	-	-	-	-	-	-	-
Stage 2	201	465	-	59	206	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.7	4.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1172	-	-	-	-	575	1060	-	-
HCM Lane V/C Ratio	0.038	-	-	-	-	0.331	0.284	-	-
HCM Control Delay (s)	8.2	0	-	-	-	14.3	9.7	0	-
HCM Lane LOS	A	A	-	-	-	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-	1.4	1.2	-	-

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)	39	131	222	3	64	15	119	242	1	35	500	39
Future Volume (vph)	39	131	222	3	64	15	119	242	1	35	500	39
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	70.0	70.0	70.0	70.0	70.0	70.0
Total Split (%)	22.2%	22.2%	22.2%	22.2%	22.2%	22.2%	77.8%	77.8%	77.8%	77.8%	77.8%	77.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	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	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)	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	11.1	11.1	11.1	11.1	11.1	11.1	64.1	64.1	64.1	64.1	64.1	64.1
Actuated g/C Ratio	0.13	0.13	0.13	0.13	0.13	0.13	0.74	0.74	0.74	0.74	0.74	0.74
v/c Ratio	0.23	0.55	0.56	0.02	0.28	0.07	0.21	0.17	0.00	0.05	0.42	0.04
Control Delay	36.6	43.8	10.8	32.3	36.5	4.5	4.9	4.0	0.0	3.7	5.5	1.3
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	36.6	43.8	10.8	32.3	36.5	4.5	4.9	4.0	0.0	3.7	5.5	1.3
LOS	D	D	B	C	D	A	A	A	A	A	A	A
Approach Delay		24.4			30.4			4.2			5.1	
Approach LOS		C			C			A			A	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 86.2
Natural Cycle: 45
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 11.4 — Intersection LOS: B
Intersection Capacity Utilization 57.6% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 33: US 24 & Stapleton Dr

Intersection	
Int Delay, s/veh	11.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	528	470	3	6	36
Future Vol, veh/h	6	528	470	3	6	36
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	76	76	58	58	43	43
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	695	810	5	14	84

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1639	14	98	0	-	0
Stage 1	14	-	-	-	-	-
Stage 2	1625	-	-	-	-	-
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	110	1066	1495	-	-	-
Stage 1	1009	-	-	-	-	-
Stage 2	177	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	50	1066	1495	-	-	-
Mov Cap-2 Maneuver	50	-	-	-	-	-
Stage 1	462	-	-	-	-	-
Stage 2	177	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.3	10.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1495	-	50	1066	-	-
HCM Lane V/C Ratio	0.542	-	0.158	0.652	-	-
HCM Control Delay (s)	10.2	-	90.1	14.5	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q(veh)	3.4	-	0.5	5.1	-	-

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	49	92	24	22	77	135	27	289	14	238	239	57
Future Vol, veh/h	49	92	24	22	77	135	27	289	14	238	239	57
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	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	74	139	36	31	108	190	45	482	23	301	314	72

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1685	1547	350	1624	1572	494	386	0	0	505	0	0
Stage 1	952	952	-	584	584	-	-	-	-	-	-	-
Stage 2	733	595	-	1040	988	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	75	~ 114	693	82	110	575	1172	-	-	1060	-	-
Stage 1	312	338	-	498	498	-	-	-	-	-	-	-
Stage 2	412	492	-	278	325	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 79	693	-	~ 76	575	1172	-	-	1060	-	-
Mov Cap-2 Maneuver	-	~ 79	-	-	~ 76	-	-	-	-	-	-	-
Stage 1	300	242	-	479	479	-	-	-	-	-	-	-
Stage 2	205	473	-	80	233	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.7	4.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1172	-	-	-	-	575	1060	-	-
HCM Lane V/C Ratio	0.038	-	-	-	-	0.331	0.284	-	-
HCM Control Delay (s)	8.2	-	-	-	-	14.3	9.7	-	-
HCM Lane LOS	A	-	-	-	-	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-	1.4	1.2	-	-

Notes

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

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	38	189	396	75	45	22
Future Vol, veh/h	38	189	396	75	45	22
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	81	81	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	205	489	93	49	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	582	0	-	0	776	489
Stage 1	-	-	-	-	489	-
Stage 2	-	-	-	-	287	-
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	992	-	-	-	366	579
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	762	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	992	-	-	-	351	579
Mov Cap-2 Maneuver	-	-	-	-	351	-
Stage 1	-	-	-	-	591	-
Stage 2	-	-	-	-	762	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	992	-	-	-	351	579
HCM Lane V/C Ratio	0.042	-	-	-	0.139	0.041
HCM Control Delay (s)	8.8	-	-	-	16.9	11.5
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5	0.1

Intersection	
Int Delay, s/veh	10

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	275	497	12	8	11
Future Vol, veh/h	12	275	497	12	8	11
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	54	54	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	509	497	12	8	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1020	14	19	0	-	0
Stage 1	14	-	-	-	-	-
Stage 2	1006	-	-	-	-	-
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	262	1066	1597	-	-	-
Stage 1	1009	-	-	-	-	-
Stage 2	353	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	180	1066	1597	-	-	-
Mov Cap-2 Maneuver	180	-	-	-	-	-
Stage 1	693	-	-	-	-	-
Stage 2	353	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.1	8.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1597	-	180	1066	-	-
HCM Lane V/C Ratio	0.311	-	0.123	0.478	-	-
HCM Control Delay (s)	8.3	0	27.8	11.4	-	-
HCM Lane LOS	A	A	D	B	-	-
HCM 95th %tile Q(veh)	1.3	-	0.4	2.6	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	1	15	9	1	13
Future Vol, veh/h	5	1	15	9	1	13
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	100	-	-	-	-
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	5	1	16	10	1	14

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	37	21	0	0	26	0
Stage 1	21	-	-	-	-	-
Stage 2	16	-	-	-	-	-
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	975	1056	-	-	1588	-
Stage 1	1002	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	974	1056	-	-	1588	-
Mov Cap-2 Maneuver	974	-	-	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	1007	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	974	1056	1588	-
HCM Lane V/C Ratio	-	-	0.006	0.001	0.001	-
HCM Control Delay (s)	-	-	8.7	8.4	7.3	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	123	146	17	147	37	242	331	32	62	466	82
Future Vol, veh/h	23	123	146	17	147	37	242	331	32	62	466	82
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	99	99	99	73	73	73	98	98	98	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	124	147	23	201	51	247	338	33	70	524	92

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1639	1529	524	1678	1588	338	616	0	0	371	0	0
Stage 1	664	664	-	832	832	-	-	-	-	-	-	-
Stage 2	975	865	-	846	756	-	-	-	-	-	-	-
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	80	~ 117	553	75	~ 108	704	964	-	-	1188	-	-
Stage 1	450	458	-	363	384	-	-	-	-	-	-	-
Stage 2	303	371	-	357	416	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 82	553	-	~ 76	704	964	-	-	1188	-	-
Mov Cap-2 Maneuver	-	~ 82	-	-	~ 76	-	-	-	-	-	-	-
Stage 1	335	431	-	270	286	-	-	-	-	-	-	-
Stage 2	62	276	-	175	391	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			4	0.8
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	964	-	-	-	82	553	-	76	704	1188	-	-
HCM Lane V/C Ratio	0.256	-	-	-	1.515	0.267	-	2.65	0.072	0.059	-	-
HCM Control Delay (s)	10	-	-	-$	373.1	13.9	-$	864.3	10.5	8.2	-	-
HCM Lane LOS	B	-	-	-	F	B	-	F	B	A	-	-
HCM 95th %tile Q(veh)	1	-	-	-	10	1.1	-	19.5	0.2	0.2	-	-

Notes

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

Intersection	
Int Delay, s/veh	33.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	75	13	20	160	235	20	215	27	124	126	32
Future Vol, veh/h	60	75	13	20	160	235	20	215	27	124	126	32
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	88	88	88	96	96	96	100	100	100	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	68	85	15	21	167	245	20	215	27	148	150	38

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	940	747	169	784	753	229	188	0	0	242	0	0
Stage 1	465	465	-	269	269	-	-	-	-	-	-	-
Stage 2	475	282	-	515	484	-	-	-	-	-	-	-
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	244	341	875	311	339	810	1386	-	-	1324	-	-
Stage 1	578	563	-	737	687	-	-	-	-	-	-	-
Stage 2	570	678	-	543	552	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	84	293	875	213	292	810	1386	-	-	1324	-	-
Mov Cap-2 Maneuver	84	293	-	213	292	-	-	-	-	-	-	-
Stage 1	568	493	-	724	675	-	-	-	-	-	-	-
Stage 2	294	666	-	386	483	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	169.6	24	0.6	3.5
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1386	-	-	150	280	810	1324	-	-
HCM Lane V/C Ratio	0.014	-	-	1.121	0.67	0.302	0.111	-	-
HCM Control Delay (s)	7.6	0	-	169.6	40.5	11.4	8.1	0	-
HCM Lane LOS	A	A	-	F	E	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	9.2	4.4	1.3	0.4	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	123	146	17	147	37	242	331	32	62	466	82
Future Volume (vph)	23	123	146	17	147	37	242	331	32	62	466	82
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	70.0	70.0	70.0	70.0	70.0	70.0
Total Split (%)	22.2%	22.2%	22.2%	22.2%	22.2%	22.2%	77.8%	77.8%	77.8%	77.8%	77.8%	77.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	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	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)	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	13.3	13.3	13.3	13.3	13.3	13.3	64.0	64.0	64.0	64.0	64.0	64.0
Actuated g/C Ratio	0.15	0.15	0.15	0.15	0.15	0.15	0.72	0.72	0.72	0.72	0.72	0.72
v/c Ratio	0.20	0.44	0.40	0.13	0.72	0.18	0.42	0.25	0.03	0.09	0.39	0.08
Control Delay	36.9	39.4	9.6	33.9	50.9	11.5	7.7	4.9	1.5	4.3	5.9	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	36.9	39.4	9.6	33.9	50.9	11.5	7.7	4.9	1.5	4.3	5.9	1.1
LOS	D	D	A	C	D	B	A	A	A	A	A	A
Approach Delay		24.3			42.2			5.8			5.1	
Approach LOS		C			D			A			A	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 88.3
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 13.8 — Intersection LOS: B
Intersection Capacity Utilization 68.2% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 33: US 24 & Stapleton Dr

Intersection	
Int Delay, s/veh	9.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	275	497	12	8	11
Future Vol, veh/h	12	275	497	12	8	11
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	54	54	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	509	497	12	8	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1014	8	19	0	-	0
Stage 1	8	-	-	-	-	-
Stage 2	1006	-	-	-	-	-
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	264	1074	1597	-	-	-
Stage 1	1015	-	-	-	-	-
Stage 2	353	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	182	1074	1597	-	-	-
Mov Cap-2 Maneuver	182	-	-	-	-	-
Stage 1	699	-	-	-	-	-
Stage 2	353	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12	8.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1597	-	182	1074	-	-
HCM Lane V/C Ratio	0.311	-	0.122	0.474	-	-
HCM Control Delay (s)	8.3	-	27.5	11.3	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	1.3	-	0.4	2.6	-	-

Intersection	
Int Delay, s/veh	31.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	75	13	20	160	235	20	215	27	124	126	32
Future Vol, veh/h	60	75	13	20	160	235	20	215	27	124	126	32
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	88	88	88	96	96	96	100	100	100	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	68	85	15	21	167	245	20	215	27	148	150	38

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	940	747	169	784	753	229	188	0	0	242	0	0
Stage 1	465	465	-	269	269	-	-	-	-	-	-	-
Stage 2	475	282	-	515	484	-	-	-	-	-	-	-
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	244	341	875	311	339	810	1386	-	-	1324	-	-
Stage 1	578	563	-	737	687	-	-	-	-	-	-	-
Stage 2	570	678	-	543	552	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	87	299	875	217	297	810	1386	-	-	1324	-	-
Mov Cap-2 Maneuver	87	299	-	217	297	-	-	-	-	-	-	-
Stage 1	570	500	-	727	677	-	-	-	-	-	-	-
Stage 2	295	669	-	393	490	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	155.6	23.4	0.6	3.5
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1386	-	-	155	285	810	1324	-	-
HCM Lane V/C Ratio	0.014	-	-	1.085	0.658	0.302	0.111	-	-
HCM Control Delay (s)	7.6	-	-	155.6	39	11.4	8.1	-	-
HCM Lane LOS	A	-	-	F	E	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	8.8	4.3	1.3	0.4	-	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	332	200	49	148	63
Future Vol, veh/h	21	332	200	49	148	63
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	23	361	217	53	161	68

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	270	0	-	0	624	217
Stage 1	-	-	-	-	217	-
Stage 2	-	-	-	-	407	-
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	1293	-	-	-	449	823
Stage 1	-	-	-	-	819	-
Stage 2	-	-	-	-	672	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1293	-	-	-	441	823
Mov Cap-2 Maneuver	-	-	-	-	441	-
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	672	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	15.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1293	-	-	-	441	823
HCM Lane V/C Ratio	0.018	-	-	-	0.365	0.083
HCM Control Delay (s)	7.8	-	-	-	17.8	9.8
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0.1	-	-	-	1.6	0.3

Intersection	
Int Delay, s/veh	13.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	528	470	7	16	47
Future Vol, veh/h	10	528	470	7	16	47
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	76	76	58	58	43	43
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	695	810	12	37	109

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1724	92	146	0	-	0
Stage 1	92	-	-	-	-	-
Stage 2	1632	-	-	-	-	-
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	98	965	1436	-	-	-
Stage 1	932	-	-	-	-	-
Stage 2	175	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	42	965	1436	-	-	-
Mov Cap-2 Maneuver	42	-	-	-	-	-
Stage 1	403	-	-	-	-	-
Stage 2	175	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.7	10.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1436	-	42	965	-	-
HCM Lane V/C Ratio	0.564	-	0.313	0.72	-	-
HCM Control Delay (s)	10.7	0	125.8	17.7	-	-
HCM Lane LOS	B	A	F	C	-	-
HCM 95th %tile Q(veh)	3.7	-	1.1	6.5	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	2	7	10	1	34
Future Vol, veh/h	29	2	7	10	1	34
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	100	-	-	-	-
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	32	2	8	11	1	37

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	53	14	0	0	19	0
Stage 1	14	-	-	-	-	-
Stage 2	39	-	-	-	-	-
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	955	1066	-	-	1597	-
Stage 1	1009	-	-	-	-	-
Stage 2	983	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	954	1066	-	-	1597	-
Mov Cap-2 Maneuver	954	-	-	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	983	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	954	1066	1597	-
HCM Lane V/C Ratio	-	-	0.033	0.002	0.001	-
HCM Control Delay (s)	-	-	8.9	8.4	7.3	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Intersection	
Int Delay, s/veh	18.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	137	292	3	66	15	142	242	1	35	500	41
Future Vol, veh/h	45	137	292	3	66	15	142	242	1	35	500	41
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	100	100	100	95	95	95	100	100	100	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	137	292	3	69	16	142	242	1	40	575	47

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1224	1182	575	1419	1228	242	622	0	0	243	0	0
Stage 1	655	655	-	526	526	-	-	-	-	-	-	-
Stage 2	569	527	-	893	702	-	-	-	-	-	-	-
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	156	190	518	114	178	797	959	-	-	1323	-	-
Stage 1	455	463	-	535	529	-	-	-	-	-	-	-
Stage 2	507	528	-	336	440	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	85	157	518	11	147	797	959	-	-	1323	-	-
Mov Cap-2 Maneuver	85	157	-	11	147	-	-	-	-	-	-	-
Stage 1	388	449	-	456	451	-	-	-	-	-	-	-
Stage 2	358	450	-	99	427	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	49.4	56.2	3.5	0.5
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	959	-	-	85	157	518	11	147	797	1323	-	-
HCM Lane V/C Ratio	0.148	-	-	0.529	0.873	0.564	0.287	0.473	0.02	0.03	-	-
HCM Control Delay (s)	9.4	-	-	87.4	98.4	20.6	$ 432.7	49.7	9.6	7.8	-	-
HCM Lane LOS	A	-	-	F	F	C	F	E	A	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	2.3	6	3.5	0.7	2.2	0.1	0.1	-	-

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	51	97	24	38	91	135	27	291	19	238	244	62
Future Vol, veh/h	51	97	24	38	91	135	27	291	19	238	244	62
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	77	147	36	54	128	190	45	485	32	301	321	78

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1712	1569	360	1645	1592	501	399	0	0	517	0	0
Stage 1	962	962	-	591	591	-	-	-	-	-	-	-
Stage 2	750	607	-	1054	1001	-	-	-	-	-	-	-
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	~ 71	~ 111	684	79	~ 107	570	1160	-	-	1049	-	-
Stage 1	308	334	-	493	494	-	-	-	-	-	-	-
Stage 2	403	486	-	273	321	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 66	684	-	~ 63	570	1160	-	-	1049	-	-
Mov Cap-2 Maneuver	-	~ 66	-	-	~ 63	-	-	-	-	-	-	-
Stage 1	291	209	-	466	467	-	-	-	-	-	-	-
Stage 2	184	459	-	~ 48	201	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.7	4.2
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1160	-	-	-	-	570	1049	-	-
HCM Lane V/C Ratio	0.039	-	-	-	-	0.334	0.287	-	-
HCM Control Delay (s)	8.2	0	-	-	-	14.4	9.8	0	-
HCM Lane LOS	A	A	-	-	-	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-	1.5	1.2	-	-

Notes

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

Intersection	
Intersection Delay, s/veh	69.9
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	51	97	24	0	38	91	135	0	27	291	19
Future Vol, veh/h	0	51	97	24	0	38	91	135	0	27	291	19
Peak Hour Factor	0.92	0.66	0.66	0.66	0.92	0.71	0.71	0.71	0.92	0.60	0.60	0.60
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	77	147	36	0	54	128	190	0	45	485	32
Number of Lanes	0	0	1	0	0	0	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	1	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	2
HCM Control Delay	31.7	19.7	149.2
HCM LOS	D	C	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	1%	30%	29%	0%	100%	0%
Vol Thru, %	0%	93%	56%	71%	0%	0%	80%
Vol Right, %	0%	6%	14%	0%	100%	0%	20%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	313	172	129	135	238	306
LT Vol	24	3	51	38	0	238	0
Through Vol	0	291	97	91	0	0	244
RT Vol	0	19	24	0	135	0	62
Lane Flow Rate	40	521	261	182	190	301	400
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.104	1.256	0.675	0.465	0.442	0.745	0.917
Departure Headway (Hd)	9.235	8.674	10.113	9.864	8.975	9.515	8.843
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	388	422	360	367	403	383	412
Service Time	6.986	6.425	8.113	7.564	6.675	7.215	6.543
HCM Lane V/C Ratio	0.103	1.235	0.725	0.496	0.471	0.786	0.971
HCM Control Delay	13.1	159.8	31.7	20.9	18.6	35.3	56.1
HCM Lane LOS	B	F	D	C	C	E	F
HCM 95th-tile Q	0.3	22	4.7	2.4	2.2	5.9	9.9

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	238	244	62
Future Vol, veh/h	0	238	244	62
Peak Hour Factor	0.92	0.79	0.76	0.79
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	301	321	78
Number of Lanes	0	1	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	47.2
HCM LOS	E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	137	292	3	66	15	142	242	1	35	500	41
Future Volume (vph)	45	137	292	3	66	15	142	242	1	35	500	41
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	70.0	70.0	70.0	70.0	70.0	70.0
Total Split (%)	22.2%	22.2%	22.2%	22.2%	22.2%	22.2%	77.8%	77.8%	77.8%	77.8%	77.8%	77.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	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	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)	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	11.5	11.5	11.5	11.5	11.5	11.5	64.1	64.1	64.1	64.1	64.1	64.1
Actuated g/C Ratio	0.13	0.13	0.13	0.13	0.13	0.13	0.74	0.74	0.74	0.74	0.74	0.74
v/c Ratio	0.26	0.55	0.63	0.02	0.28	0.07	0.25	0.18	0.00	0.05	0.42	0.04
Control Delay	37.0	43.8	11.0	32.0	36.3	4.5	5.4	4.1	0.0	3.8	5.7	1.3
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	37.0	43.8	11.0	32.0	36.3	4.5	5.4	4.1	0.0	3.8	5.7	1.3
LOS	D	D	B	C	D	A	A	A	A	A	A	A
Approach Delay		22.9			30.4			4.5			5.3	
Approach LOS		C			C			A			A	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 86.6
Natural Cycle: 45
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 11.7 — Intersection LOS: B
Intersection Capacity Utilization 61.9% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 33: US 24 & Stapleton Dr

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	51	97	38	91	135	27	291	238	244
Future Volume (vph)	51	97	38	91	135	27	291	238	244
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		4		8			2		6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	15.0	15.0	15.0	15.0	15.0	75.0	75.0	75.0	75.0
Total Split (%)	16.7%	16.7%	16.7%	16.7%	16.7%	83.3%	83.3%	83.3%	83.3%
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 Optimize?									
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)		10.4		10.4	10.4	20.8	20.8	20.8	20.8
Actuated g/C Ratio		0.25		0.25	0.25	0.50	0.50	0.50	0.50
v/c Ratio		0.67		0.46	0.35	0.09	0.59	0.87	0.43
Control Delay		29.9		22.4	6.0	5.0	9.6	35.5	6.7
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		29.9		22.4	6.0	5.0	9.6	35.5	6.7
LOS		C		C	A	A	A	D	A
Approach Delay		29.9		14.0			9.3		19.1
Approach LOS		C		B			A		B

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 41.6
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 16.7 — Intersection LOS: B
Intersection Capacity Utilization 60.6% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 35: Eastonville Rd & Stapleton Dr

Intersection	
Int Delay, s/veh	12.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	528	470	7	16	47
Future Vol, veh/h	10	528	470	7	16	47
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	76	76	58	58	43	43
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	695	810	12	37	109

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1669	37	146	0	-	0
Stage 1	37	-	-	-	-	-
Stage 2	1632	-	-	-	-	-
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	106	1035	1436	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	175	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	46	1035	1436	-	-	-
Mov Cap-2 Maneuver	46	-	-	-	-	-
Stage 1	429	-	-	-	-	-
Stage 2	175	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.1	10.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1436	-	46	1035	-	-
HCM Lane V/C Ratio	0.564	-	0.286	0.671	-	-
HCM Control Delay (s)	10.7	-	112	15.3	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	3.7	-	1	5.4	-	-

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	51	97	24	38	91	135	27	291	19	238	244	62
Future Vol, veh/h	51	97	24	38	91	135	27	291	19	238	244	62
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	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	77	147	36	54	128	190	45	485	32	301	321	78

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1712	1569	360	1645	1592	501	399	0	0	517	0	0
Stage 1	962	962	-	591	591	-	-	-	-	-	-	-
Stage 2	750	607	-	1054	1001	-	-	-	-	-	-	-
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	~ 71	~ 111	684	79	~ 107	570	1160	-	-	1049	-	-
Stage 1	308	334	-	493	494	-	-	-	-	-	-	-
Stage 2	403	486	-	273	321	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 76	684	-	~ 73	570	1160	-	-	1049	-	-
Mov Cap-2 Maneuver	-	~ 76	-	-	~ 73	-	-	-	-	-	-	-
Stage 1	296	238	-	474	475	-	-	-	-	-	-	-
Stage 2	188	467	-	70	229	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.7	4.2
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1160	-	-	-	-	570	1049	-	-
HCM Lane V/C Ratio	0.039	-	-	-	-	0.334	0.287	-	-
HCM Control Delay (s)	8.2	-	-	-	-	14.4	9.8	-	-
HCM Lane LOS	A	-	-	-	-	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-	1.5	1.2	-	-

Notes

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

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	71	189	396	165	98	42
Future Vol, veh/h	71	189	396	165	98	42
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	81	81	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	77	205	489	204	107	46

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	693	0	-	0	848	489
Stage 1	-	-	-	-	489	-
Stage 2	-	-	-	-	359	-
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	902	-	-	-	332	579
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	707	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	902	-	-	-	304	579
Mov Cap-2 Maneuver	-	-	-	-	304	-
Stage 1	-	-	-	-	564	-
Stage 2	-	-	-	-	707	-

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	19.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	902	-	-	-	304	579
HCM Lane V/C Ratio	0.086	-	-	-	0.35	0.079
HCM Control Delay (s)	9.4	-	-	-	23.1	11.7
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1.5	0.3

Intersection	
Int Delay, s/veh	10.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	275	497	24	14	18
Future Vol, veh/h	24	275	497	24	14	18
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	54	54	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	509	497	24	14	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1041	23	32	0	-	0
Stage 1	23	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
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	255	1054	1580	-	-	-
Stage 1	1000	-	-	-	-	-
Stage 2	349	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	174	1054	1580	-	-	-
Mov Cap-2 Maneuver	174	-	-	-	-	-
Stage 1	681	-	-	-	-	-
Stage 2	349	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	7.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1580	-	174	1054	-	-
HCM Lane V/C Ratio	0.315	-	0.255	0.483	-	-
HCM Control Delay (s)	8.3	0	32.6	11.6	-	-
HCM Lane LOS	A	A	D	B	-	-
HCM 95th %tile Q(veh)	1.4	-	1	2.7	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	2	15	32	3	13
Future Vol, veh/h	19	2	15	32	3	13
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	100	-	-	-	-
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	21	2	16	35	3	14

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	54	34	0	0	51	0
Stage 1	34	-	-	-	-	-
Stage 2	20	-	-	-	-	-
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	954	1039	-	-	1555	-
Stage 1	988	-	-	-	-	-
Stage 2	1003	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	952	1039	-	-	1555	-
Mov Cap-2 Maneuver	952	-	-	-	-	-
Stage 1	986	-	-	-	-	-
Stage 2	1003	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	1.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	952	1039	1555	-
HCM Lane V/C Ratio	-	-	0.022	0.002	0.002	-
HCM Control Delay (s)	-	-	8.9	8.5	7.3	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	126	192	17	153	37	321	331	32	62	466	88
Future Vol, veh/h	26	126	192	17	153	37	321	331	32	62	466	88
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	99	99	99	73	73	73	98	98	98	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	127	194	23	210	51	328	338	33	70	524	99

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1805	1691	524	1868	1757	338	623	0	0	371	0	0
Stage 1	664	664	-	994	994	-	-	-	-	-	-	-
Stage 2	1141	1027	-	874	763	-	-	-	-	-	-	-
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	61	~ 93	553	55	~ 85	704	958	-	-	1188	-	-
Stage 1	450	458	-	295	323	-	-	-	-	-	-	-
Stage 2	244	312	-	344	413	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 58	553	-	~ 53	704	958	-	-	1188	-	-
Mov Cap-2 Maneuver	-	~ 58	-	-	~ 53	-	-	-	-	-	-	-
Stage 1	296	431	-	194	213	-	-	-	-	-	-	-
Stage 2	~ 2	205	-	148	389	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			5	0.8
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	958	-	-	-	58	553	-	53	704	1188	-	-
HCM Lane V/C Ratio	0.342	-	-	-	2.194	0.351	-	3.955	0.072	0.059	-	-
HCM Control Delay (s)	10.7	-	-	-$	701.2	15	$	1487.9	10.5	8.2	-	-
HCM Lane LOS	B	-	-	-	F	C	-	F	B	A	-	-
HCM 95th %tile Q(veh)	1.5	-	-	-	12.5	1.6	-	23	0.2	0.2	-	-

Notes

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

Intersection	
Int Delay, s/veh	53.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	90	13	31	169	235	20	221	45	124	130	35
Future Vol, veh/h	65	90	13	31	169	235	20	221	45	124	130	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	250	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	96	96	96	100	100	100	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	102	15	32	176	245	20	221	45	148	155	42

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	966	778	176	815	777	244	197	0	0	266	0	0
Stage 1	472	472	-	284	284	-	-	-	-	-	-	-
Stage 2	494	306	-	531	493	-	-	-	-	-	-	-
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	234	328	867	296	328	795	1376	-	-	1298	-	-
Stage 1	573	559	-	723	676	-	-	-	-	-	-	-
Stage 2	557	662	-	532	547	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 73	281	867	187	281	795	1376	-	-	1298	-	-
Mov Cap-2 Maneuver	~ 73	281	-	187	281	-	-	-	-	-	-	-
Stage 1	563	487	-	711	665	-	-	-	-	-	-	-
Stage 2	279	651	-	360	476	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	275.8	32.5	0.5	3.5
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1376	-	-	137	261	795	1298	-	-
HCM Lane V/C Ratio	0.015	-	-	1.393	0.798	0.308	0.114	-	-
HCM Control Delay (s)	7.7	0	-	275.8	57.2	11.5	8.1	0	-
HCM Lane LOS	A	A	-	F	F	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	12.5	6.1	1.3	0.4	-	-

Notes

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

Intersection	
Intersection Delay, s/veh	15.3
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	65	90	13	0	31	169	235	0	20	221	45
Future Vol, veh/h	0	65	90	13	0	31	169	235	0	20	221	45
Peak Hour Factor	0.92	0.88	0.88	0.88	0.92	0.96	0.96	0.96	0.92	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	74	102	15	0	32	176	245	0	20	221	45
Number of Lanes	0	0	1	0	0	0	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	1	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	2
HCM Control Delay	15.8	14.5	17.6
HCM LOS	C	B	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	1%	39%	16%	0%	100%	0%
Vol Thru, %	0%	82%	54%	84%	0%	0%	79%
Vol Right, %	0%	17%	8%	0%	100%	0%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	18	268	168	200	235	124	165
LT Vol	18	2	65	31	0	124	0
Through Vol	0	221	90	169	0	0	130
RT Vol	0	45	13	0	235	0	35
Lane Flow Rate	18	268	191	208	245	148	196
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.039	0.537	0.404	0.416	0.434	0.318	0.387
Departure Headway (Hd)	7.84	7.209	7.611	7.182	6.387	7.756	7.09
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	456	498	472	500	563	464	507
Service Time	5.594	4.963	5.67	4.933	4.139	5.51	4.844
HCM Lane V/C Ratio	0.039	0.538	0.405	0.416	0.435	0.319	0.387
HCM Control Delay	10.9	18.1	15.8	15	14	14.1	14.3
HCM Lane LOS	B	C	C	B	B	B	B
HCM 95th-tile Q	0.1	3.1	1.9	2	2.2	1.4	1.8

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	124	130	35
Future Vol, veh/h	0	124	130	35
Peak Hour Factor	0.92	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	148	155	42
Number of Lanes	0	1	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	14.2
HCM LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	126	192	17	153	37	321	331	32	62	466	88
Future Volume (vph)	26	126	192	17	153	37	321	331	32	62	466	88
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	70.0	70.0	70.0	70.0	70.0	70.0
Total Split (%)	22.2%	22.2%	22.2%	22.2%	22.2%	22.2%	77.8%	77.8%	77.8%	77.8%	77.8%	77.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	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	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)	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	13.5	13.5	13.5	13.5	13.5	13.5	64.1	64.1	64.1	64.1	64.1	64.1
Actuated g/C Ratio	0.15	0.15	0.15	0.15	0.15	0.15	0.72	0.72	0.72	0.72	0.72	0.72
v/c Ratio	0.23	0.45	0.48	0.13	0.74	0.18	0.55	0.25	0.03	0.09	0.39	0.08
Control Delay	38.2	39.4	9.5	33.9	52.3	11.5	10.4	4.9	1.5	4.4	5.9	1.0
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	38.2	39.4	9.5	33.9	52.3	11.5	10.4	4.9	1.5	4.4	5.9	1.0
LOS	D	D	A	C	D	B	B	A	A	A	A	A
Approach Delay		22.6			43.5			7.3			5.1	
Approach LOS		C			D			A			A	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 88.6	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 14.2	Intersection LOS: B
Intersection Capacity Utilization 72.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 33: US 24 & Stapleton Dr

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	65	90	31	169	235	20	221	124	130
Future Volume (vph)	65	90	31	169	235	20	221	124	130
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		4		8			2		6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	70.0	70.0	70.0	70.0
Total Split (%)	22.2%	22.2%	22.2%	22.2%	22.2%	77.8%	77.8%	77.8%	77.8%
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 Optimize?									
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)		15.1		15.1	15.1	10.3	10.3	10.3	10.3
Actuated g/C Ratio		0.43		0.43	0.43	0.29	0.29	0.29	0.29
v/c Ratio		0.30		0.28	0.30	0.06	0.52	0.47	0.36
Control Delay		8.9		8.7	2.7	9.0	13.0	15.5	9.8
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		8.9		8.7	2.7	9.0	13.0	15.5	9.8
LOS		A		A	A	A	B	B	A
Approach Delay		8.9		5.5			12.8		12.2
Approach LOS		A		A			B		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 35.4	
Natural Cycle: 40	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.52	
Intersection Signal Delay: 9.5	Intersection LOS: A
Intersection Capacity Utilization 57.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 35: Eastonville Rd & Stapleton Dr

Intersection	
Int Delay, s/veh	10.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	275	497	24	14	18
Future Vol, veh/h	24	275	497	24	14	18
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	54	54	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	509	497	24	14	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1032	14	32	0	-	0
Stage 1	14	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
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	258	1066	1580	-	-	-
Stage 1	1009	-	-	-	-	-
Stage 2	349	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	177	1066	1580	-	-	-
Mov Cap-2 Maneuver	177	-	-	-	-	-
Stage 1	691	-	-	-	-	-
Stage 2	349	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	7.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1580	-	177	1066	-	-
HCM Lane V/C Ratio	0.315	-	0.251	0.478	-	-
HCM Control Delay (s)	8.3	-	32	11.4	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	1.4	-	1	2.6	-	-

Intersection	
Int Delay, s/veh	51.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	90	13	31	169	235	20	221	45	124	130	35
Future Vol, veh/h	65	90	13	31	169	235	20	221	45	124	130	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	250	0	-	-	400	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	96	96	96	100	100	100	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	102	15	32	176	245	20	221	45	148	155	42

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	966	778	176	815	777	244	197	0	0	266	0	0
Stage 1	472	472	-	284	284	-	-	-	-	-	-	-
Stage 2	494	306	-	531	493	-	-	-	-	-	-	-
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	234	328	867	296	328	795	1376	-	-	1298	-	-
Stage 1	573	559	-	723	676	-	-	-	-	-	-	-
Stage 2	557	662	-	532	547	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	75	286	867	191	286	795	1376	-	-	1298	-	-
Mov Cap-2 Maneuver	75	286	-	191	286	-	-	-	-	-	-	-
Stage 1	564	495	-	712	666	-	-	-	-	-	-	-
Stage 2	279	652	-	368	485	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	262.4	31.2	0.5	3.5
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1376	-	-	140	266	795	1298	-	-
HCM Lane V/C Ratio	0.015	-	-	1.364	0.783	0.308	0.114	-	-
HCM Control Delay (s)	7.7	-	-	262.4	54.3	11.5	8.1	-	-
HCM Lane LOS	A	-	-	F	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	12.2	5.9	1.3	0.4	-	-