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Traffic Impact Study
Eastonville Road Project

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WILSON &COMPANY

EASTONVILLE ROAD PROJECT
Traffic Impact Study

El Paso County Contract Number 17-067-47

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1 – INTRODUCTION

1.1 Background

The project corridor for the Eastonville Road Project extends from McLaughlin Road north to Latigo Boulevard as shown in **Figure 1.1**. As shown, the project corridor is divided into three segments, with each segment identified as either a Phase I or Phase II study element. The Phase I segment, between Snaffle Bit Road and the proposed Rex Road, has the highest priority for improvements needed to serve near-term development along the corridor. There are two Phase II segments: one between McLaughlin Road and Snaffle Bit Road and another between proposed Rex Road and Latigo Boulevard. A mix of generally built-out residential neighborhoods and a few scattered business uses line the southernmost Phase II segment. The established Falcon Town Center commercial node, which is accessed only from McLaughlin Road, is located immediately south of this Phase II segment. Land use adjacent to the northernmost Phase II project segment is currently undeveloped.

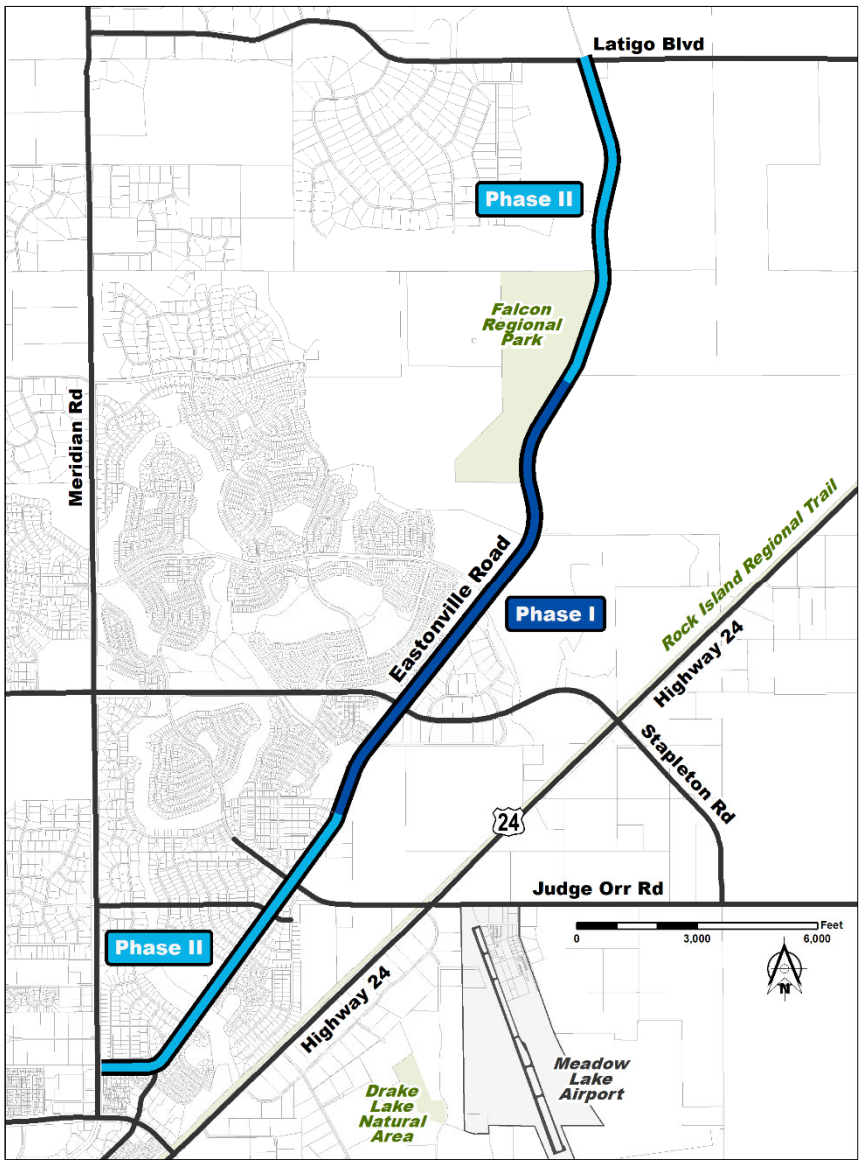


Figure 1.1. Vicinity Map

Established residential neighborhoods that are located along the Eastonville Road corridor include: Woodmen Hills, Windwalk, The Vistas, Metropolitan Club, and portions of Meridian Ranch and 4-Way Ranch. By 2040, the build-out of planned developments along the Phase II study segment, (including Waterbury, Grandview Reserve, Rolling Hills, and Meridian Ranch Phases IV, V, and VI) will generate significant levels of additional traffic that will use Eastonville Road. As a result, the Phase I corridor north of Stapleton Road is forecast to experience a nearly thirtyfold increase in traffic, while the southernmost Phase I segment of the corridor is forecast to experience a more modest twofold increase in traffic (Felsburg Holt & Ullevig 2016, Map 9: Existing and 2040 Traffic Volumes, 40).

1.2 Purpose and Objectives

The Eastonville Road Project Traffic Impact Study (TIS) is part of a broader, corridor-specific investigation that is needed to confirm the functional classification of the roadway and to identify both linear and intersection specific improvements that will be needed to improve corridor safety and serve current and future corridor travel demand. To address this overarching purpose, this TIS includes: an evaluation of 2020 existing corridor traffic operations and carrying capacity; a signal warrants analysis for the intersection at Stapleton Road intersection; All Way Stop Control (AWSC) analyses for the intersections at Judge Orr Road and Stapleton Road; forecasts of 2040 intersection traffic volumes with full build-out of planned developments; and evaluations of traffic operations for 2020 conditions with near-term improvements to the Eastonville Road/Stapleton Road intersection and 2040 conditions with and without the implementation of long-term, intersection-specific improvements.

1.3 Intersection Analysis Methodology

1.3.1 Traffic Operations

The traffic operations analysis addressed unsignalized and signalized intersection operations using the procedures and methodologies contained in the Transportation Research Board's *Highway Capacity Manual Sixth Edition* (HCM6, Transportation Research Board, 2016) for weekday AM and PM peak hour traffic operations. Study intersection operations were evaluated using LOS calculations as analyzed in the Synchro software, version 10.

To measure and describe the operational status of the local roadway network and corresponding intersections, transportation engineers and planners commonly use the LOS grading system. LOS is a description of an intersection's operation, ranging from a LOS A (indicating free flow traffic conditions with little or no delay) to a LOS F (representing oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays).

Signalized Intersections

At signalized intersections, traffic conditions were evaluated using procedures and methodologies contained in the HCM6. The operational analysis uses various intersection characteristics (such as traffic volumes, lane geometry, and signal phasing) to estimate the intersection's volume-to-capacity (v/c) ratio. For signalized intersections, the HCM6 defines the LOS as the average delay per vehicle for the overall intersection. **Table 1.1** summarizes the relationship between delay and LOS for signalized intersections.

Table 1.1. LOS Criteria for Signalized Intersections

Level of Service	Interpretation	Control Delay (seconds/vehicle)
A	Progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may contribute to low delay.	≤10
B	Good progression, short cycle lengths, or both. More vehicles stop than with LOS A.	>10 – 20
C	Fair progression, longer cycle lengths, or both. The number of vehicles stopping is significant, though many still pass through without stopping.	>20 – 35
D	Longer delays result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop.	>35 – 55
E	High delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.	>55 – 80
F	This level often occurs with over saturation when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may be major contributing factors to such delays.	>80

Source: Transportation Research Board. 2010, 19-2.

Unsignalized Intersections
For unsignalized (all-way stop-controlled [AWSC] and side-street stop-controlled) intersections, the HCM6 was utilized. With this methodology, operations are defined by the average control delay per vehicle (measured in seconds) for each stop-controlled movement. The method incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. For AWSC intersections, the HCM6 defines the LOS as the average delay per vehicle for the overall intersection. For side street stop-controlled intersections, LOS is reported for the approach with the highest average delay/vehicle. **Table 1.2** summarizes the relationship between delay and LOS for unsignalized intersections. Insufficient gaps of suitable size to allow minor street traffic demand to cross safely through a major traffic stream.

Table 1.2. LOS Criteria for Two-Way Stop Controlled Intersections

Level of Service	Interpretation	Control Delay (seconds/vehicle)
A	Little or no delay	0-10
B	Short traffic delays	>10-15
C	Average traffic delays	>15-25
D	Long traffic delays	>25-35
E	Very long traffic delays	>35-50
F	When demand volume exceeds the capacity of the lane, extreme delays will be encountered with queuing that may cause severe congestion affecting other traffic movements in the intersection. This condition usually warrants improving the intersection.	>50

Source: Transportation Research Board. 2010, 18-6.
Note: For two-way stop controlled (TWSC) intersections, level of service is determined by the control delay for each minor movement, LOS is not defined for the intersection as a whole.

1.3.2 Significance Criteria
Colorado Department of Transportation (CDOT) minimum design criteria indicate intersections operate at an overall LOS D or better. El Paso County Transportation Impact Study Guidelines indicate that all county roads must maintain an overall LOS C or better and intersections should operate at an overall LOS D or better. CDOT minimum design criteria indicate intersections operate at an overall LOS D or better. The County TIS Guidelines also require more detailed analysis and consideration of mitigation improvements for the following conditions:

- Signalized Intersections: When the added project traffic causes an intersection to exceed the LOS standard or when the background traffic conditions (without project traffic) exceed the established LOS standards and the project traffic causes more than a 20 percent increase in the intersection delay.
- Unsignalized Intersections: When the queuing of traffic to adjacent intersections would create impeded traffic flows or excessive delays are determined to create potential safety problems. It is typical for an unsignalized intersection to notice delays higher than 35 seconds (LOS E) for a single approach without meeting signal warrants. In these cases a LOS E for a single movement at an unsignalized intersection may be tolerated on a short-term basis. Roundabout control may also be implemented to provide improved operations where signal warrants are not met.

1.3.3 Traffic Signal Warrants
Traffic signal warrants analysis was conducted for the Eastonville Road/Stapleton Road intersection. Highway Capacity Software Version 7 (HCS7) was used for the analysis.

2 – EXISTING CONDITIONS

2.1 Roadway Classification

Eastonville Road is classified by the 2016 El Paso County Major Transportation Corridors Plan (MTCP) as a minor arterial. The roadway exists as a two-lane roadway with discontinuous segments of urban cross section (between Woodmen Hills Drive and Motley Road) and rural cross section (the remainder of the corridor). Within the urban section, the cross section varies, including: a standard two-lane section and left-turn lanes at selected intersections between Meridian Road and Woodmen Hills Drive; and a three-lane section with a two-way center turn lane between Woodmen Hills Drive and Snaffle Bit Road. The posted speed limit varies between 35 mph and 45 mph.

2.2 Traffic Volumes

Existing Average Daily Traffic (ADT) volumes vary along the corridor from a high of 2,600 ADT at the south end of the corridor to a low of 200 ADT at the north end of the corridor. Forecast 2040 traffic flows will show increases in both the northern and southern portions of the project corridor. Over the next 20 years it is expected that build-out of planned development will drive growth in traffic flows to approximately 4,800 ADT at the south end of the corridor and 5,400 ADT at the north end of the corridor.

2.3 Travel Patterns

Traffic flows through the intersection are directional. The heaviest flow pattern is southbound (SB) in the morning, reflecting journey to work trips. This flow pattern is reversed in the afternoon to a slightly lighter northbound (NB) flow that reflects journey home trips.

2.4 Pedestrian Activity

Pedestrian activity was recorded by traffic counts conducted in February and October 2020 at the Eastonville Road intersections at McLaughlin Road, Del Rio Road, Woodmen Hills Road, Motley Road and Judge Orr Road, Snaffle Bit Road, and Stapleton Road. The counts show that pedestrian crossing of the roadway is concentrated in locations that connect active pedestrian nodes that include Woodmen Hills Elementary School, Horseshoe Park, and an extensive neighborhood trail system with connection to the Rock Island Regional Trail that runs along the west side of US 24. The Eastonville Road neighborhood trail crossing, located to the south of Del Rio Road, is signalized and the Eastonville Road/Del Rio Road intersection has upgraded AWSC to facilitate crossing of Eastonville Road between Woodmen Hills Elementary School and neighborhoods on the east side of the roadway. The driveway for the Liberty Tree Academy is at Motley Road, forming a fourth leg to that intersection. Access to this K–12 private academy is primarily by vehicle versus bicycle and pedestrian modes. A planned future regional trail will run along the west side of the full Eastonville Road alignment.

2.5 Traffic Operations

The LOS and delay measures shown in **Table 2.1** are for 2020 existing traffic flows and existing roadway geometry and lane utilization with two exceptions, the Del Rio Road and Judge Orr Road intersections. Tose intersections currently operate under AWSC and were evaluated under both AWSC and TWSC with the intent of testing the feasibility of reverting to TWSC at either intersection. The analysis results show that all but one of the project corridor intersections, including those not specifically listed, currently operate at an acceptable LOS D or better. The exception is the intersection at Stapleton Road. This intersection currently operates under TWSC and experiences LOS f operations for the eastbound (EB) Stapleton Road minor street approach during the morning peak hour. To improve traffic operations, AWSC, signalization and a modern roundabout were evaluated as alternative near-term (2020) and long-term (2040) upgrade solutions. Additionally, the analysis shows that the Del Rio Road and Judge Orr Road intersections would operate at a LOS b and LOS c, respectively, under TWSC during both the AM and PM peak hours.

Table 2.1. 2020 Existing Conditions Traffic Operations Summary			
Control	Intersection	LOS/Delay [in seconds/vehicle] (Critical Movement)	
		AM Peak Hour	PM Peak Hour
TWSC	Eastonville Road & McLaughlin Road	d / 28.0 (NB THRU/LT)	c / 20.6 (NB THRU/LT)
AWSC	Eastonville Road & Del Rio Road	A / 9.7	B / 10.8
TWSC	Eastonville Road & Del Rio Road	b / 13.3 (EB Approach)	b / 14.0 (WB Approach)
TWSC	Woodmen Hills Drive & Eastonville Road	b / 12.9 (WB Approach)	b / 14.2 (WB Approach)
TWSC	Motley Road & Eastonville Road	c / 16.3 (WB LT)	b / 10.8 (WB LT)
AWSC	Eastonville Road & Judge Orr Road	B / 13.0	B / 10.9
TWSC	Eastonville Road & Judge Orr Road	c / 23.5 (WB LT)	c / 21.8 (WB THRU)
TWSC	Eastonville Road & Snaffle Bit Road	b / 10.9 (EB)	a / 9.6 (EB)
TWSC	Eastonville Road & Stapleton Road	f / 66.0 (EB)	b / 14.7 (WB THRU/LT)
TWSC	Eastonville Road & Londonderry Road	c / 16.0 (EB LT)	b / 13.3 (EB LT)
TWSC	EPC Regional Park Entrance	a / 8.3 (EB Approach)	a / 8.4 (EB Approach)

3 – TRAVEL DEMAND FORECASTS

3.1 Methodology

Forecasts for 2040 total traffic volumes were developed using a synthesis of historic trends-based methods and regional travel model-based methods that incorporated estimates of development site-generated traffic in a consistent manner. See **Appendix A** for traffic counts and calculations.

3.2 2040 Traffic Forecasts

TIS submittals for the Rolling Hills, Waterbury, and Grandview Reserve developments (see locations in **Figure 3.1**) were used to estimate development traffic not included in 2040 regional forecasts. Trends-based 20-year growth factors for US 24, the closest state highway facility, were obtained from the CDOT Online Traffic Information System (OTIS) database. The identified growth rates for the segments north of Falcon Highway, north of Woodmen Road, and north of Judge Orr Road were 1.41, 1.58, and 1.45, respectively. This equates to an average 20-year growth factor of 1.48 and a growth rate that ranges from 2.0 to 2.9 percent per year. Finally, an analysis using the Pikes Peak Area Council of Governments model and industry-standard adjustment procedures, as shown in **Table 3.1**, was used to calculate unadjusted 2040 forecasts and growth rates for the Eastonville Road corridor segments and cross streets. Calculated growth factors were compared, balanced, and applied to south Eastonville Road (1.43), north Eastonville Road (1.87), west Judge Orr Road (1.10), and east Judge Orr Road (1.24) 2020 intersection volumes to calculate 2040 total traffic intersection volumes. Key intersection 2020 and 2040 volumes are shown in **Figure 3.2** and **Figure 3.3**.

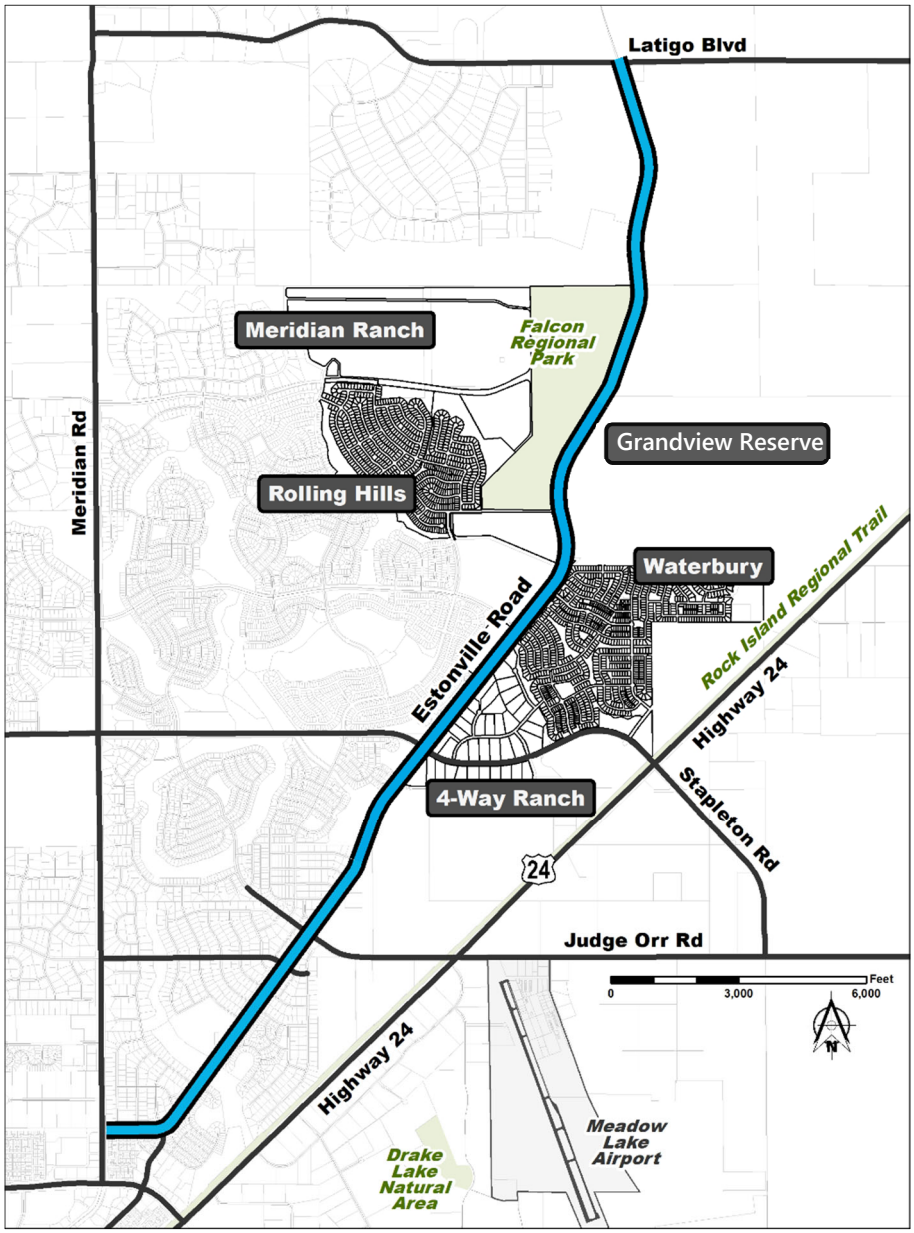
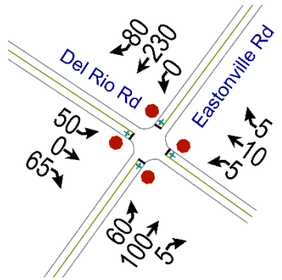


Figure 3.1. Planned Study Area Developments

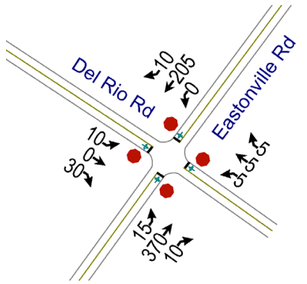
Table 3.1. Forecast Background Traffic Growth Rate Calculations													
Segment Location	ADT Volumes										Adjusted 2040 ADT	20-Year Factor	1-Year Factor
	2020 Count Volumes			PPACG Model Volumes			Difference		% Difference				
	Date	Count	Adjusted Count	2020	2030	2040	2020 vs Count	% Diff	2020 vs Count	2040 vs 2020			
North of McLaughlin Road	2013	2,600	2,765	3,792	4,092	4,470	1,027	37%	146%	118%	5,497		
North of Judge Orr Road	2020	2,600	2,600	30	55	90	-2,570	99%	1%	300%	1,375		
South of Stapleton Road	2020	2,600	2,600	30	45	90	-2,570	99%	1%	300%	1,375		
North of Stapleton Road	2017*	3,510	3,680	100	225	310	-3,580	97%	3%	310%	2,100		
North of Londonderry Road	2017*	420	440	30	150	180	-415	94%	6%	600%	358		
Eastonville Road Average				**677**	**795**	**901**	**-1,622**	**85%**	**31%**	**326%**	**2,141**	**1.33**	**.017**
West of Eastonville Road	2020*	3,250	3,250	2,435	2,905	3,680	-815	25%	75%	151%	4,495		
East of Eastonville Road	2020*	3.750	3.750	920	1,315	2,595	-2,830	75%	25%	282%	5,425		
Judge Orr Road Average				**1,678**	**2,110**	**3,138**	**-1,823**	**50%**	**50%**	**217%**	**4,960**	**1.87**	**.043**
West of Eastonville Road	2020*	3,600	3,600	1,294	4,930	8,850	-2,306	64%	36%	684%	-2,306		
East of Eastonville Road	2020	3,170	3,170	1,236	4,420	7,180	-1,934	61%	39%	581%	-1,934		
Stapleton Road Average				**1,265**	**4,675**	**8,015**	**-2,120**	**63%**	**37%**	**632%**	**10,135**	**6.34**	**0.267**
North of Falcon Highway	2018	16,000	16,660	19,460	27,145	32,030	2800	17%	122%	165%	34,830		
North of Woodmen Road	2018	14,000	14,810	10,355	14,715	19,845	-4,455	30%	74%	192%	24,300		
North Judge Orr Road	2018	11,000	11,490	10,540	12,260	15,855	-950	8%	96%	150%	16,805		
US 24 Highway Average		**13,667**	**14,320**	**13,452**	**18,040**	**22,577**	**-868**	**18%**	**97%**	**169%**	**25,312**	**1.48**	**.024**

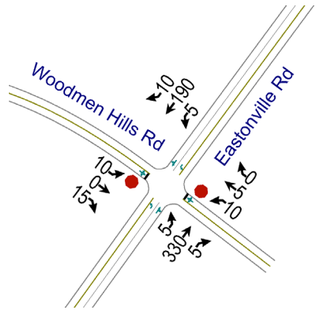
Note: Count dates denoted with an asterisk (*) indicate that the ADT volume was estimated from a peak hour intersection turning movement counts collected at the indicated cross street intersection.

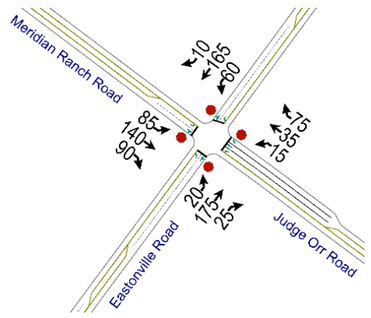
2020 EXISTING CONDITIONS
AM Peak Hour Turning Movement Volumes

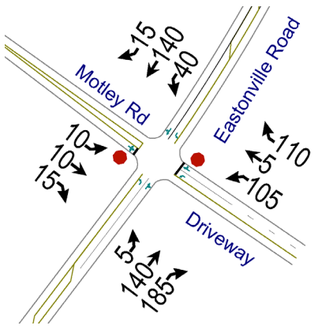


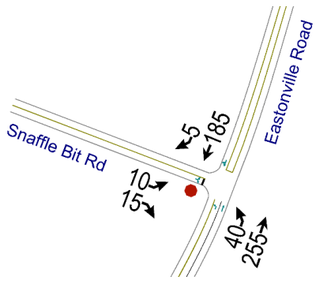
2020 EXISTING CONDITIONS
PM Peak Hour Turning Movement Volumes

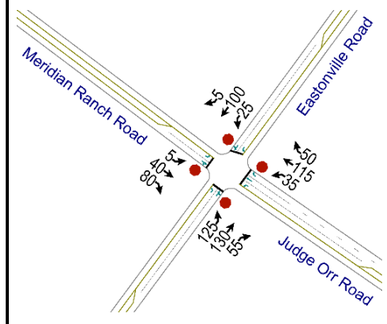


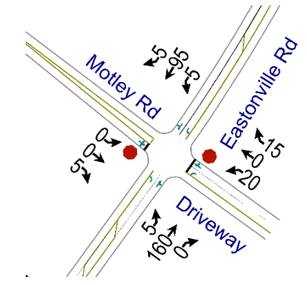


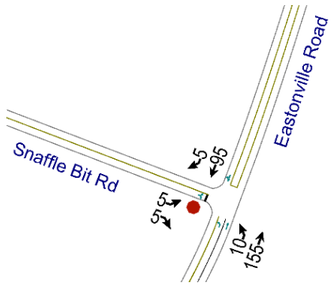


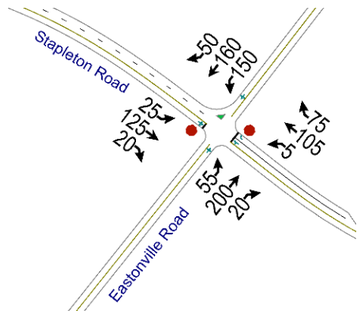


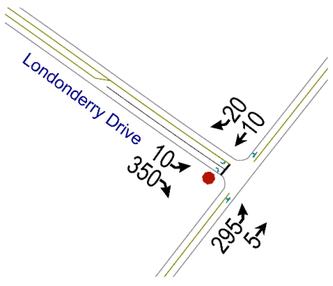


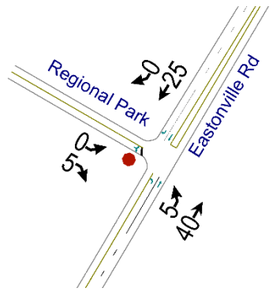


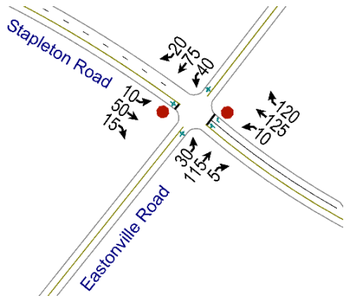


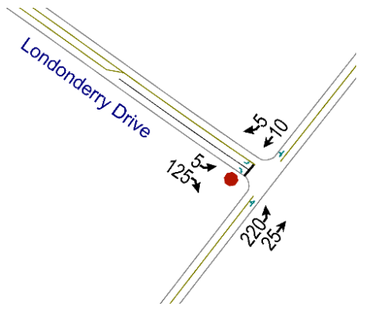












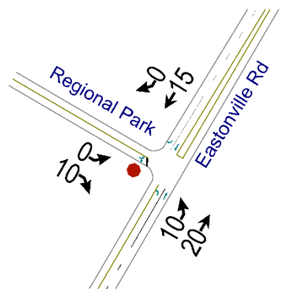
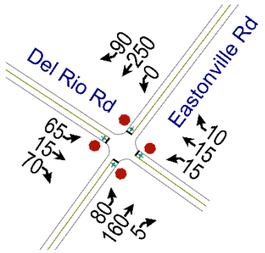
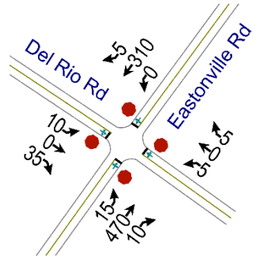


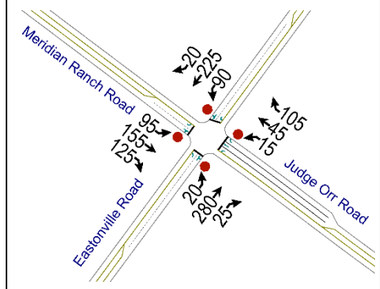
Figure 3.2. 2020 Existing Peak Hour Intersection Volumes

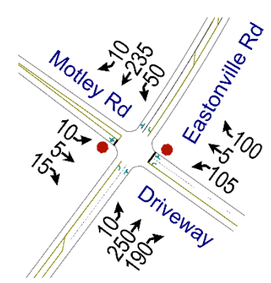
2040 TOTAL TRAFFIC CONDITIONS
AM Peak Hour Turning Movement Volumes

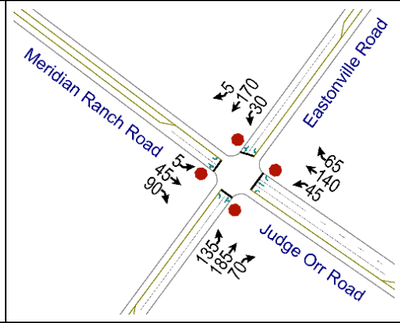


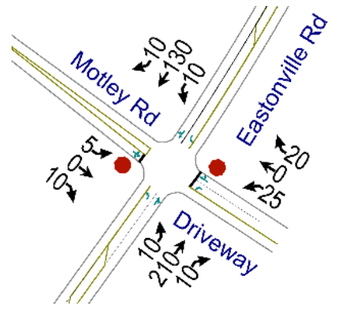
2040 TOTAL TRAFFIC CONDITIONS
PM Peak Hour Turning Movement Volumes

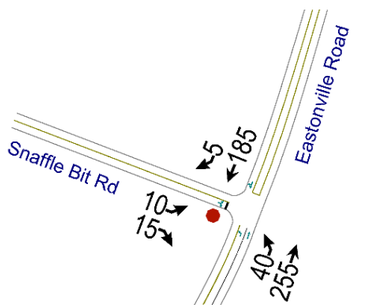


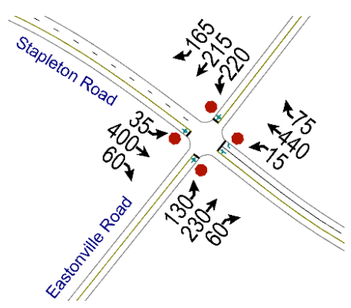


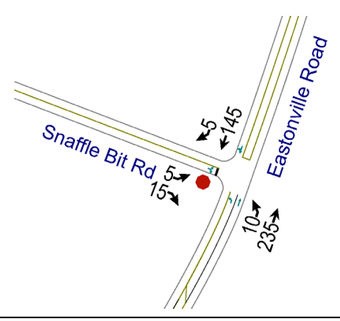


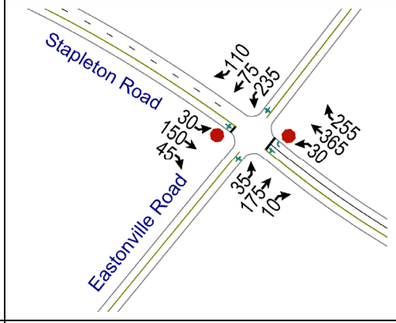


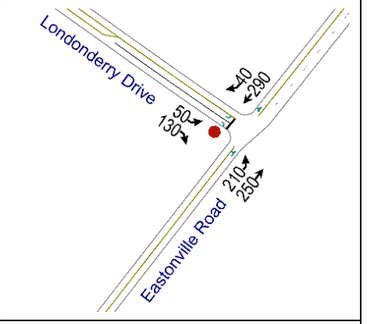


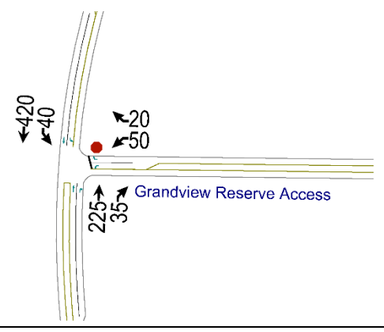


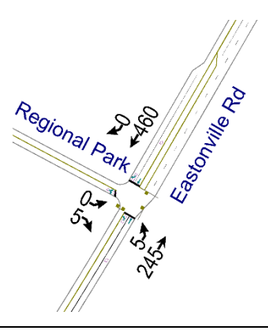


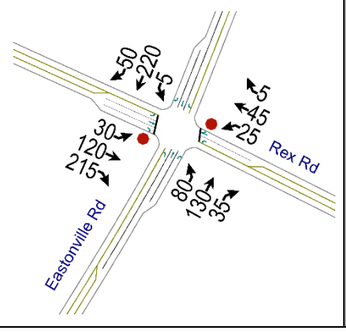


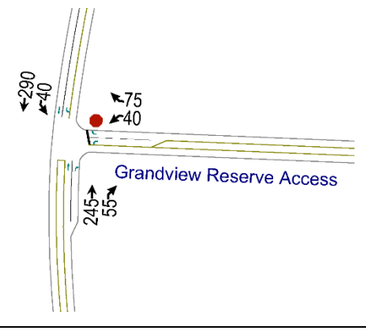


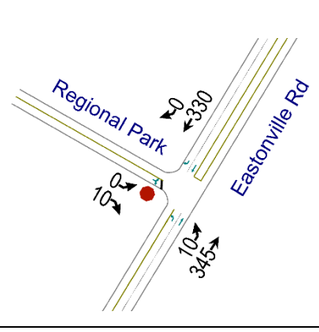












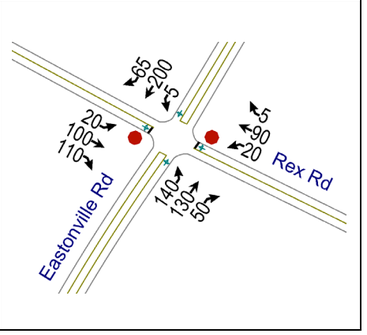


Figure 3.3. 2040 Total Traffic Peak Hour Intersection Volumes

4 – SIGNAL WARRANTS ANALYSIS

The Eastonville Road/Judge Orr Road and Eastonville Road/Stapleton Road intersections were evaluated to determine if signal warrants are currently met at either intersection. The Judge Orr Road intersection currently operates at a LOS B under AWSC, while the Stapleton Road intersection operates at a LOS f during the AM peak hour under TWSC (see Table 2.1). As shown in **Table 4.1**, neither the Eastonville Road at Judge Orr Road intersection nor the Eastonville Road at Stapleton Road intersections currently meets any of the nine warrants for signalization. Based on these findings, a traffic signal is not warranted at either intersection at this time. Calculated hourly traffic volumes used for the analysis are included in **Appendix A** and full HCS7 Warrants and Volumes reports are included in **Appendix C**.

Table 4.1. Summary of Signal Warrants Analysis

Warrant Description	Signal Warrants Met/Not Met	
	Eastonville Rd at Judge Orr Rd	Eastonville Rd at Stapleton Rd
Warrant 1: Eight-Hour Vehicular Volume	No	No
Warrant 2: Four-Hour Vehicular Volume	No	No
Warrant 3: Peak Hour	No	No
Warrant 4: Pedestrian Volume	No	No
Warrant 5: School Crossing	No	No
Warrant 6: Coordinated Signal System	No	No
Warrant 7: Crash Experience	No	No
Warrant 8: Roadway Network	No	No
Warrant 9: Grade Crossing	No	No

Both intersections were also evaluated to determine if AWSC warrants are currently met. As shown in **Table 4.2**, while approaching meeting warrants for AWSC, the Eastonville Road/Stapleton Road intersection does not currently meet warrants for AWSC. The intersection should be monitored as a candidate for interim AWSC implementation should warrants be met in the near term.

Table 4.2. Summary of Eastonville Road/Stapleton Road AWSC Warrants Analysis

Warrant Description	AWSC Warrants Met/Not Met	
	Notes	Warrant Met
Warrant 1: Meets Signal Warrants		No
Warrant 2: Crash Incidence		No
Warrant 3a: 8-Hour Volume Major Street (300)	Met for only 3 hours, plus 2 hours at 80%	No
Warrant 3b: 8-Hour Volume Minor Street (200)	Met for only 4 hours, plus 2 hours at 80%	No
Warrant 4: 2, 3a & 3b (ALL) 80% Satisfied		No
Additional Applicable Criteria (Optional)		
Need to Control Left-Turn Conflicts		No
Need to Control Pedestrian/Vehicle Conflicts	On route to/from Falcon High School.	Yes
Need to Address Inadequate Sight Distance		No
Residential Collector Operational Issues		No

As shown in **Table 4.3**, AWSC warrants analysis confirms that the 8-Hour Major Street Minimum Volume warrant is currently met for the Eastonville Road/Judge Orr Road intersection that is currently operating under AWSC. Additionally, this intersection is approaching meeting the 8-Hour Minor Street Minimum Volume warrant. Calculated hourly traffic volumes used for the analysis are included as part of **Appendix A.**

One of four optional criteria that may be considered in an engineering study is also potentially applicable at both intersections: The need to control vehicle/pedestrian-bicyclist conflicts near locations that generate high pedestrian volumes. This optional criteria may have been influential in the application of AWSC at the Eastonville Road/Del Rio Road intersection. That intersection serves the elementary school that is accessed from Del Rio Road.

Table 4.3. Summary of Eastonville Road/Judge Orr Road AWSC Warrants Analysis

Warrant Description	AWSC Warrants Met/Not Met	
	Notes	Notes
Warrant 1: Meets Signal Warrants		No
Warrant 2: Crash Incidence		No
Warrant 3a: 8-Hour Volume Major Street (300)	Met for only 12 hours, plus 1 hour at 80%	Yes
Warrant 3b: 8-Hour Volume Minor Street (200)	Met for only 5 hours, plus 2 hours at 80%	No
Warrant 4: 2, 3a & 3b (ALL) 80% Satisfied		No
Additional Applicable Criteria (Optional)		
Need to Control Left-Turn Conflicts		No
Need to Control Pedestrian/Vehicle Conflicts	On route to/from schools, park, trails.	Yes
Need to Address Inadequate Sight Distance		No
Residential Collector Operational Issues		No

5 – ANALYSIS OF ALTERNATIVES

5.1 2020 Near-Term Build Analysis

The Eastonville Road/Stapleton Road intersection is the only intersection within the project corridor that does not operate at a LOS D or better for 2020 traffic volumes, existing roadway geometry and intersection control. This intersection operates under TWSC with STOP control applied to the Stapleton Road minor/cross street approaches. In this existing configuration, the EB, single-lane approach operates as a LOS f during the worst-case AM peak hour. Two alternatives, conversion of the intersection to AWSC and replacement of the intersection with a modern roundabout, were evaluated as 2020 near-term build alternatives. The analysis showed that either alternative would provide a LOS B or better; however, conversion of the intersection to AWSC is recommended as the preferred near-term solution because this alternative could be implemented with minimal disruption and would afford the greatest flexibility to accommodate a yet unidentified long-term solution. Long-term alternatives analysis and selection will focus on identification of a preferred alternative that will be compatible with long-term improvements to both the Eastonville Road (2-Lane Minor Arterial) corridor and the Stapleton Road (4-Lane Principal Arterial) corridor. As shown in **Table 5.1**, conversion of the intersection to AWSC would result in a peak hour overall intersection LOS B or better with 2020 traffic flows.

Table 5.1. 2020 Near-Term Improvements Traffic Operations Summary

Control	Intersection	LOS/Delay [in seconds/vehicle] (Critical Movement)	
		AM Peak Hour	PM Peak Hour
TWSC	Eastonville Road & Stapleton Road	f / 66.0 (EB)	b / 14.7 (WB THRU/LT)
AWSC	Eastonville Road & Stapleton Road	B / 14.9	A / 9.2
Roundabout	Eastonville Road & Stapleton Road	A / 5.6	A / 4.1 (NB THRU/LT)

5.2 2040 No Build Analysis

The LOS and delay measures shown in **Table 5.2** are for 2040 total traffic flows (including build-out development traffic) and existing roadway geometry and lane utilization. The only exceptions to this were the intersections at Del Rio Road, Judge Orr Road and Stapleton Road. The Stapleton Road intersection was modeled under AWSC for 2040, consistent with a potential 2020 Near-Term Build Alternative. Additionally, the Del Rio Road intersection was evaluated under both AWSC and TWSC, and the Judge Orr intersection was evaluated under current AWSC as well as under TWSC and as a two-lane roundabout. As shown in **Table 5.2**, delays would increase at all corridor intersections with increased 2040 traffic flows. However, all but one project corridor intersection, including those not specifically listed, would continue to operate at an acceptable LOS D or better under existing control. The exception is the Eastonville Road/Stapleton Road intersection, which would drop to a LOS E/F operating under AWSC with 2040 total traffic flows. Analysis of alternative control at Judge Orr Road and Del Rio Road intersection showed that both intersections would operate at a LOS C or better for 2040 background traffic flows and AWSC. Under TWSC, the Del Rio Road and Judge Orr Road intersections would operate at a LOS c and LOS e, respectively. Were either of these intersections converted to a two-lane roundabouts, they would operate at a LOS A.

Conversion of the Judge Orr Road and Stapleton Road intersections to a two-lane roundabout should be considered when traffic flows increase to levels that result in LOS performance below a LOS C for AWSC or a LOS e for TWSC. Because multi-lane roundabouts can present pedestrian and bicyclist safety challenges, it will be important to integrate pedestrian design and safety considerations, in accordance with current FHWA PEDSAFE and other applicable design guidance, as part of the design processes.

Table 5.2. 2040 No-Build Traffic Operations Summary			
		LOS/Delay [in seconds/vehicle] (Critical Movement)	
Control	Intersection	AM Peak Hour	PM Peak Hour
TWSC	Eastonville Road & McLaughlin Road	d / 34.5 (NB THRU/LT)	d / 27.2 (NB THRU/LT)
AWSC	Eastonville Road & Del Rio Road	B / 11.1	B / 13.6
TWSC	Eastonville Road & Del Rio Road	c / 17.5 (EB Approach)	c / 16.2 (EB Approach)
TWSC	Eastonville Road & Woodmen Hills Drive	c / 15.3 (EB Approach)	c / 18.9 (EB Approach)
TWSC	Motley Road & Eastonville Road	d / 25.2 (WB Approach)	b / 13.5 (WB Approach)
AWSC	Eastonville Road & Judge Orr Road	C / 22.4	B / 13.3
TWSC	Eastonville Road & Judge Orr Road	e / 41.4 (EB LT)	e / 43.9 (EB LT)
Roundabout	Eastonville Road & Judge Orr Road	A / 5.3	A / 5.0
TWSC	Eastonville Road & Snaffle Bit Road	b / 12.8 (EB)	a / 9.8 (EB)
AWSC	Eastonville Road & Stapleton Road	F / 252.1	E / 44.4
TWSC	Eastonville Road & Londonderry Road	c / 23.6 (EB LT)	c / 31.2 (EB LT)
TWSC	Eastonville Road & Grandview Reserve	c / 17.3(WB LT)	b / 14.8 (WB LT)
TWSC	Eastonville Road & Rex Road	d / 32.9 (WB LT)	d / 29.9 (WB LT)
TWSC	Eastonville Road & Falcon Regional Park	b / 10.6 (EB Approach)	a / 9.8 (EB Approach)

5.3 2040 Total Traffic Build Analysis

The LOS and delay measures shown in **Table 5.3** are for 2040 total traffic flows (including development traffic) and upgraded roadway geometry and lane utilization. Intersection control for all corridor intersections except the Eastonville Road/Stapleton Road intersection remains unchanged from the existing condition. That intersection was evaluated both as a signalized intersection and a two-lane modern roundabout. While preferred AWSC near-term alternative would operate at a LOS F (see **Section 5.2**), either of these higher-capacity alternatives would operate at a LOS C or better with 2040 total traffic flows.

The geometric improvements included in the 2040 Total Traffic Build scenarios are: the addition of dedicated left-turn lanes at all intersections (integral to proposed three-lane cross section); the addition of a dedicated right-turn and left-turn lanes on the eastbound (EB) Stapleton Road approach to the Eastonville Road/Stapleton Road intersection; and the addition of right-turn lanes on the EB and WB approaches to the Eastonville Road/Rex Road intersection. Additionally, the proposed access to the Grandview Reserve development from Eastonville Road was configured with a NB right-turn lane, SB left-turn lane, and WB right-turn lane. This is the configuration that was shown in the submitted traffic impact studies for Grandview Reserve and Rolling Hills. As shown in **Table 5.3**, all corridor intersections, or critical movements/approaches, operate at a LOS D or better for 2040 total traffic flows and the identified intersection-specific control and geometric improvements.

Conversion of the Judge Orr Road and Stapleton Road intersections to a two-lane roundabout should be considered when traffic flows increase to levels that result in LOS performance below a LOS C for AWSC or a LOS e for TWSC. Because multi-lane roundabouts can present pedestrian and bicyclist safety challenges it will be important to integrate pedestrian design and safety considerations, in accordance with current FHWA PEDSAFE and other applicable design guidance, as part of the design processes.

Table 5-3. 2040 Total Traffic Build Traffic Operations Summary			
		LOS/Delay [in seconds/vehicle] (Critical Movement)	
	Intersection	AM Peak Hour	PM Peak Hour
TWSC	Eastonville Road & McLaughlin Road	d / 34.5 (NB THRU/LT)	d /27.9 (NB THRU/LT)
AWSC	Eastonville Road & Del Rio Road	B / 11.2	B / 13.8
TWSC	Eastonville Road & Del Rio Road	c / 18.0 (EB Approach)	c / 16.1 (EB Approach)
TWSC	Eastonville Road & Woodmen Hills Drive	c /15.4 (EB Approach)	c /18.1 (EB Approach)
TWSC	Motley Road & Eastonville Road	d / 25.2 (WB Approach)	b / 12.3 (WB Approach)
AWSC	Eastonville Road & Judge Orr Road	C / 22.4	B / 13.3
TWSC	Eastonville Road & Judge Orr Road	e / 41.4 (EB LT)	e / 35.9 (EB LT)
Roundabout	Eastonville Road & Judge Orr Road	A / 5.3	A / 4.7
TWSC	Eastonville Road & Snaffle Bit Road	b /12.8 (EB Approach)	a / 9.9 (EB)
Signal	Eastonville Road & Stapleton Road	C / 20.7	B / 17.9
Roundabout	Eastonville Road & Stapleton Road	B / 10.8	A / 8.6
TWSC	Eastonville Road & Londonderry Road	c / 23.1 (EB LT)	d / 29.8 (EB LT)
TWSC	Eastonville Road & Grandview Reserve	c / 17.3 (WB LT)	b / 14.8 (WB LT)
TWSC	Eastonville Road & Rex Road	d / 32.9 (WB LT)	d / 32.0 (WB LT)
TWSC	Eastonville Road & Falcon Regional Park	b / 11.4 (EB Approach)	b /10.3 (EB Approach)

Timing of phased build-out of new development within the study area in unknown. In order to gauge when additional upgrade to the Eastonville Road/Stapleton Road intersection might be needed, a demand sensitivity analysis was conducted. For this analysis incremental development build-out shares were calculated as the present between 2020 traffic flows and 2040 total traffic flows. The calculated development traffic was added to 2020 volumes and then evaluated under AWSC. The analysis scenarios began with 20% build-out of planned development. Increments of 5% additional development traffic were added. The results of the analysis (see **Table 5.4**) show that the AM peak hour would be most affected, and that 30 percent and 40 percent build-out of new development would bring the intersection to a LOS E and a LOS F, respectively, during the AM peak hour.

Table 5.4. Eastonville Road/Stapleton Road LOS versus Development Build-Out Level					
	Intersection LOS/Delay (in seconds/vehicle)				
	20% Build-Out	25% Build-Out	30% Build-Out	35% Build-Out	40% Build-Out
AM Peak Hour	C / 24.3	D / 29.7	E / 39.0	E / 46.6	F / 57.5
PM Peak Hour	B / 10.5	B / 11.0	B / 11.4	B / 11.9	B / 12.5

6 – CONCLUSIONS AND RECOMMENDATIONS

6.1. Roadway Improvement Recommendations

The roadway cross section, surface and drainage facilities varies throughout the corridor. These differences were important considerations in determining near-term and long-term improvement implementation priorities.

6.1.1 Existing Roadway Characteristics

Eastonville Road traffic flows currently range from a high of 2,600 ADT at the southern end of the corridor to a low of 200 ADT at the northern end of the corridor. By 2040, traffic flows are expected to increase to 4,800 ADT and 5,400 ADT on the northern and southern portions of the project corridor, respectively. Existing and forecast traffic volumes can be accommodated by two travel lanes, one in each direction.

The Eastonville Road project corridor is currently configured as a two-lane roadway with variable cross sections. The roadway segments between McLaughlin Road and Comeapart Road and between Tibbs Road and Snaffle Bit Road are paved and configured as three-lane sections with two-way center left-turn lanes and curb and gutter. The segments between Comeapart Road and Tibbs Road and between Snaffle Bit Road and Londonderry Drive are paved and configured as a two-lane sections with rural roadside drainage. The segment between Londonderry Drive and Latigo Boulevard exists as an unpaved, two-lane roadway with rural roadside drainage. Recommended roadway improvements will bring the full corridor to a uniform standard. The recommended urban cross section combines elements of the County's urban minor arterial and urban nonresidential collector standards and includes detached trail segments/meandering sidewalks.

6.1.2 Near-Term Roadway Improvements

It is recommended that near-term roadway improvements implement the recommended urban cross section across the full project corridor. To achieve that goal, near-term improvements should include upgrades to the following existing rural segments: 1) between Londonderry Road and Rex Road; 2) between Snaffle Bit Road and Londonderry Drive; and 3) between Comeapart Road and Tibbs Road, with priority for phased implementation in the order as listed.

6.1.3 Long-Term Roadway Improvements

Upgrades to the existing urban cross-section roadway segments, between McLaughlin Road and Comeapart Road and between Comeapart Road and Snaffle Bit Road could be implemented with lower priority. While these improvements are integral to achieving functional consistency as well as pedestrian facilities connectivity, improvements to urban corridor segments could be completed in a later corridor improvements phase with minimal effect on either roadway function or capacity. Improvements to the rural corridor segment between Rex Road and Latigo Boulevard could also be completed later as final, long-term improvements and the timing for this segment will likely be development driven.

6.2 Intersection Improvement Recommendations

6.2.1 Near-Term Intersection Improvements

All but two corridor intersections operate at a LOS C or better for 2020 traffic flows. The exceptions are the TWSC intersections at McLaughlin Road and Stapleton Road that operate at AM/PM peak hour LOS d/c and f/b for 2020 traffic flows, respectively. The McLaughlin Road intersection does not require near-term improvements. Although the Stapleton Road intersection does not meet warrants for AWSC at this time, traffic flow through the intersection is increasing and current traffic levels approach meeting minimum volume warrants for AWSC. For these reasons, it is recommended that the intersection at Stapleton Road intersection be monitored and that either near-term or long-term improvements be considered accordingly.

Stapleton Road Intersection
Conversion of the intersection to AWSC and replacement of the traditional intersection with a modern roundabout were evaluated as intersection upgrades for existing traffic flows, and both alternatives were considered as near-term solutions. The analysis showed that under AWSC the intersection would operate at a LOS B and a LOS A during the AM peak hour and PM peak hour, respectively, and that a modern roundabout the intersection would operate as a LOS A during both the AM and PM peak hours. While either alternative would provide a LOS B or better for 2020 traffic flows, the conversion of the intersection to AWSC could be implemented quickly and cost-effectively, and would afford flexibility to accommodate long-term improvements compatible with yet-to-be-identified long-term improvements to Stapleton Road. For these reasons, conversion to AWSC is recommended as the preferred near-term, as-needed intersection upgrade.

6.2.2 Long-Term Intersection Improvements

Phased extension of the standard three-lane cross section to the entire corridor will add dedicated left-turn lanes at all Eastonville Road intersection approaches. Dedicated right-turn and left-turn lanes on the EB Stapleton Road intersection approach as well as dedicated right-turn lanes the EB and WB Rex Road intersection are also included as part of recommended near-term and long-term roadway improvements. With these improvements, all intersections except the intersections at McLaughlin Road and Stapleton Road will operate at a LOS C or better for 2040 traffic flows and existing intersection controls. The TWSC McLaughlin Road intersection will operate at an acceptable LOS d (NB thru/left-turn) for 2040 traffic flows but may need long-term improvements. Near-term conversion of the Stapleton Road intersection to AWSC, or an alternative intersection control, are needed to provide an acceptable LOS D or better for 2020 traffic flows, and additional improvements to this intersection will be needed to adequately serve 2040 traffic flows.

McLaughlin Road Intersection
The McLaughlin Road intersection serves a commercial node and is likely to become increasingly congested. At some point, the capacity of this intersection under TWSC will be inadequate to process increasing traffic flows. The proximity of this intersection to the signalized intersection at Meridian Road may weigh against the feasibility of signalizing the intersection or converting the intersection to AWSC operations. While the selection of a preferred alternative for this intersection should be determined through additional analysis to be conducted as part of preliminary engineering and final design phases, it is recommended that conversion of this intersections to a two-lane roundabout be given serious consideration.

Stapleton Road Intersection
In the future, the capacity of the intersection of Stapleton Road at Eastonville Road, whether under TWSC or AWSC, will be inadequate to process increased traffic flows associated with growth in background traffic and phased build-out of planned development along the Eastonville Road corridor. Given that the pace of planned development build-out is uncertain, sensitivity analysis was conducted to determine how much additional development traffic could be accommodated by a higher capacity AWSC upgrade. The analysis showed that during the worst-case AM peak hour, the LOS under AWSC would drop to a LOS E and LOS F with 30 percent and 40 percent build-out of planned development, respectively. Traffic volume forecasts for each development build-out scenario and Synchro analysis reports for the sensitivity analysis are included as **Appendix F**. Traffic operations for a signalized intersection and a two-lane modern roundabout were evaluated as ultimate upgrades to handle increased long-term traffic flows. The analysis showed that either alternative would operate at a LOS C or better for 2040 traffic flows. The selection of the ultimate alternative for this intersection will be determined through additional analysis as a part of the preliminary engineering and final design phases for the Eastonville Road and Stapleton Road corridors.

List of Acronyms and Definitions

All-Way Stop Controlled (AWSC)
All intersection approaches are controlled by STOP signs.

AM
Refers to the morning weekday peak traffic period, which includes primarily work and school trips.

Average Daily Traffic (ADT)
The amount of vehicular traffic that crosses an imaginary line across a roadway in a 24-hour period. ADT information typically includes both directions of vehicle travel (if on a two-way street). When the term ADT is used specifically to mean typical weekday traffic, it is often called Average Weekday Daily Traffic (AWDT).

Colorado Department of Transportation (CDOT)
The Colorado Department of Transportation Online Traffic Information System (OTIS) was used as a data source for historical trends-based annual and 20-year traffic growth factors. CDOT has jurisdiction over Colorado's State Highway System, including facilities within the project study area.

Eastbound (EB)
Refers to one-way traffic flowing from the west to the east and the lanes that carry such traffic.

Gap in Traffic
A gap in traffic is the space between vehicles approaching the pedestrian crossing. Gaps are typically measured in seconds, not distance, as it is the length of the gap in time in which a pedestrian must be able to cross the street. A directional gap is the gap between vehicles approaching in a single direction. A directional gap can be measured between vehicles in a single lane or between vehicles approaching in the same direction but in different lanes on a multi-lane approach. If there is no median refuge at the crossing, a pedestrian will need to find an acceptable gap in traffic approaching from two directions at once. This is much more challenging than finding a gap in each approach direction separately.

Highway Capacity Software Version 7 (HCS7)
Highway Capacity Software Version 7 is the current version of software used to compute *Highway Capacity Manual* measures of capacity and quality of service of highway facilities, including freeways, highways, arterial roads, roundabouts, signalized and unsignalized intersections, rural highways, and the effects of mass transit, pedestrians, and bicycles on the performance of these systems.

Highway Capacity Manual (HCM)
The *Highway Capacity Manual* is a publication of the U.S. Transportation Research Board of the National Academies of Science. It contains concepts, guidelines, and computational procedures for computing the capacity and quality of service of various highway facilities, including freeways, highways, arterial roads, roundabouts, signalized and unsignalized intersections, rural highways, and the effects of mass transit, pedestrians, and bicycles on the performance of these systems. The *Highway Capacity Manual* (HCM2010) and *Highway Capacity Manual Sixth Edition* (HCM6) were used as part of this study.

Lane
A portion of the roadway surface designated for motor vehicle travel, typically in a single directions, that is delineated by pavement marking stripes. Types of lanes include: "through lanes" for travel along the length of the roadway, often through intersections; "turn lanes," which are typically on

intersection approaches and provide space for left or right turning motorists; and "bike lanes," which are designated for bicycle travel in the same direction as the automobile travel, typically narrower than vehicle lanes, and usually located along the outside edges of the roadway.

Left Turn (LT)
Refers to traffic that turns left at an intersection, often using a designated left-turn lane, and sometimes afforded a dedicated left-turn phase in traffic signal timing.

Level of Service (LOS)
A qualitative measure used to relate the quality of traffic service. LOS is used to analyze highways by categorizing traffic flow and assigning quality levels of traffic based on performance measures such as speed, density, and so forth.

Metropolitan Planning Organization (MPO)
A Metropolitan Planning organization is a federally mandated and federally funded transportation policy-making organization that is composed of representatives from local government and governmental transportation authorities. MPOs were introduced by the Federal-Aid Highway Act of 1962, which required the formation of an MPO for any urbanized area with more than 50,000 residents.

Miles per Hour (mph)
Refers to travel speed or posted speed limit.

National Cooperative Highway Research Program (NCRHP)
The National Cooperative Highway Research Program is a forum for coordinated and collaborative research, addressing issues integral to the state departments of transportation and transportation professionals at all levels of government and the private sector.

Northbound (NB)
Refers to traffic flowing from the south towards the north and the lanes that carry such traffic.

Online Transportation Information System (OTIS)
OTIS is a publically available website maintained by the Colorado Department of Transportation, providing information on current and projected traffic volumes, state highway attributes, summary roadway statistics, demographics, and geographic data.

Pikes Peak Area Council of Governments (PPACG)
The Pikes Peak Area Council of Governments is a voluntary organization of municipal and county governments serving as the federally mandated Metropolitan Planning Organization serving El Paso County, Park County, Teller County, Alma, Calhan, Colorado Springs, Cripple Creek, Fairplay, Fountain, Green Mountain Falls, Manitou Springs, Monument, Palmer Lake, Ramah, Victor, and Woodland Park.

PM
Refers to the afternoon/evening weekday peak traffic period, which includes work trips plus other trip types.

Right Turn (RT)
Refers to traffic that turns right at an intersection, sometimes using a designated right-turn lane.

Southbound (SB)

Refers to traffic flowing from the north towards the south, and the lanes that carry such traffic.

Through/Left Turn (THRU/LT)
Refers to traffic (and the lane that carries it) at an intersection that is continuing forward straight through without turning, together with traffic that turns left at the intersection.

Through/Right Turn (THRU/RT)
Refers to traffic (and the lane that carries it) at an intersection that is continuing forward straight through without turning, together with traffic that turns right at the intersection.

Two-Way Stop Controlled (TWSC)
Cross street minor approaches are controlled by STOP signs.

Turning Movement Counts (TMCs)
Traffic counts for a given time interval that specify the number of vehicles that turn left or right as well as the number of vehicles that proceed straight forward through the intersection.

Vehicle Queue
A line of stopped vehicles in a single travel lane, commonly caused by traffic control at an intersection.

Westbound (WB)
Refers to one-way traffic flowing from the east to the west and the lanes that carry such traffic.

List of References

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Appendix A: Traffic Counts & Growth Forecast Calculations

All Traffic Data Services

www.alltrafficdata.net

Date Start: 06-Feb-20
STAPLETON RD E.O. GILBERT DR
Site Code: 5
Station ID: 5

Start Time	06-Feb-20 Thu	EB	WB							Total
12:00 AM		2	2							4
01:00		0	0							0
02:00		1	0							1
03:00		7	5							12
04:00		32	3							35
05:00		95	15							110
06:00		225	69							294
07:00		**298**	**180**							**478**
08:00		119	91							210
09:00		75	58							133
10:00		69	56							125
11:00		54	59							113
12:00 PM		64	65							129
01:00		56	55							111
02:00		54	87							141
03:00		**107**	162							269
04:00		100	207							**307**
05:00		77	**228**							305
06:00		54	109							163
07:00		35	53							88
08:00		26	43							69
09:00		15	20							35
10:00		14	17							31
11:00		2	6							8
Total		1581	1590							3171
Percent		49.9%	50.1%							
AM Peak	-	07:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	298	180	-	-	-	-	-	-	478
PM Peak	-	15:00	17:00	-	-	-	-	-	-	16:00
Vol.	-	107	228	-	-	-	-	-	-	307
Grand Total		1581	1590							3171
Percent		49.9%	50.1%							
ADT		ADT 3,171		AADT 3,171						

All Traffic Data Services
www.alltrafficdata.net

Date Start: 06-Feb-20
EASTONVILLE RD S.O. BANDANERO DR
Site Code: 6
Station ID: 6

Start Time	06-Feb-20 Thu	NB	SB							Total
12:00 AM		2	0							2
01:00		1	0							1
02:00		0	2							2
03:00		1	2							3
04:00		2	6							8
05:00		11	27							38
06:00		43	78							121
07:00		**254**	**193**							**447**
08:00		81	90							171
09:00		48	37							85
10:00		45	35							80
11:00		65	49							114
12:00 PM		80	39							119
01:00		66	48							114
02:00		61	51							112
03:00		156	**107**							**263**
04:00		**157**	91							248
05:00		152	75							227
06:00		107	68							175
07:00		78	33							111
08:00		39	51							90
09:00		30	18							48
10:00		12	6							18
11:00		7	3							10
Total		1498	1109							2607
Percent		57.5%	42.5%							
AM Peak	-	07:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	254	193	-	-	-	-	-	-	447
PM Peak	-	16:00	15:00	-	-	-	-	-	-	15:00
Vol.	-	157	107	-	-	-	-	-	-	263
Grand Total		1498	1109							2607
Percent		57.5%	42.5%							
ADT		ADT 2,607		AADT 2,607						

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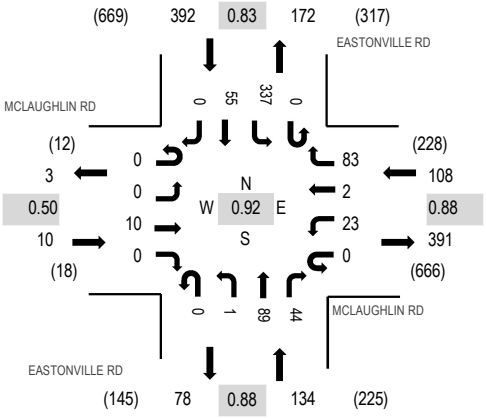
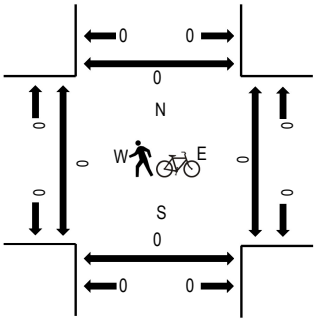
Location: 1 EASTONVILLE RD & MCLAUGHLIN RD AM
Date: Thursday, February 6, 2020
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	MCLAUGHLIN RD Eastbound				MCLAUGHLIN RD Westbound				EASTONVILLE RD Northbound				EASTONVILLE RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	5	0	0	5	1	14	0	0	26	9	0	89	13	0	162	644	0	0	0	0
7:15 AM	0	0	0	0	0	9	1	22	0	1	22	7	0	76	17	0	155	611	0	0	0	0
7:30 AM	0	0	3	0	0	5	0	16	0	0	21	12	0	106	12	0	175	615	0	0	0	0
7:45 AM	0	0	2	0	0	4	0	31	0	0	20	16	0	66	13	0	152	563	0	0	0	0
8:00 AM	0	0	1	0	0	4	0	20	0	0	22	17	0	56	9	0	129	496	0	0	1	1
8:15 AM	0	1	2	0	0	3	2	31	0	1	9	8	0	87	14	1	159		0	0	0	0
8:30 AM	0	0	0	2	0	7	4	27	0	0	8	8	0	53	14	0	123		0	0	0	0
8:45 AM	0	0	2	0	0	3	1	18	0	0	9	9	0	32	11	0	85		0	0	0	0
Count Total	0	1	15	2	0	40	9	179	0	2	137	86	0	565	103	1	1,140		0	0	1	1
Peak Hour	0	0	10	0	0	23	2	83	0	1	89	44	0	337	55	0	644		0	0	0	0

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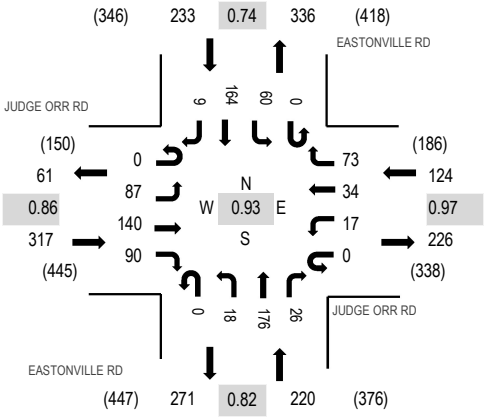
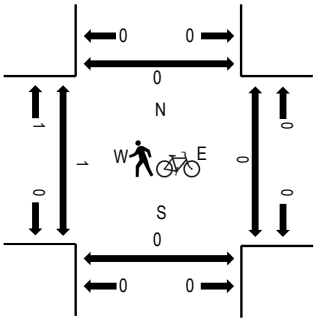
Location: 2 EASTONVILLE RD & JUDGE ORR RD AM
Date: Thursday, February 6, 2020
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	JUDGE ORR RD Eastbound				JUDGE ORR RD Westbound				EASTONVILLE RD Northbound				EASTONVILLE RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	19	43	17	0	6	4	18	0	2	54	10	0	17	35	1	226	894	0	0	0	0
7:15 AM	0	29	39	23	0	4	9	19	0	3	58	6	0	13	34	3	240	788	0	0	0	0
7:30 AM	0	26	36	30	0	3	11	18	0	6	25	3	0	17	57	5	237	703	1	0	0	0
7:45 AM	0	13	22	20	0	4	10	18	0	7	39	7	0	13	38	0	191	567	0	0	0	0
8:00 AM	0	2	19	16	0	7	4	3	0	10	11	9	0	8	28	3	120	459	0	0	0	0
8:15 AM	0	1	15	36	0	11	6	3	0	25	15	11	0	6	26	0	155		0	0	0	0
8:30 AM	0	2	11	10	0	2	6	3	0	20	18	7	0	7	15	0	101		0	0	0	0
8:45 AM	0	3	8	5	0	7	8	2	0	6	19	5	0	6	13	1	83		0	0	0	0
Count Total	0	95	193	157	0	44	58	84	0	79	239	58	0	87	246	13	1,353		1	0	0	0
Peak Hour	0	87	140	90	0	17	34	73	0	18	176	26	0	60	164	9	894		1	0	0	0

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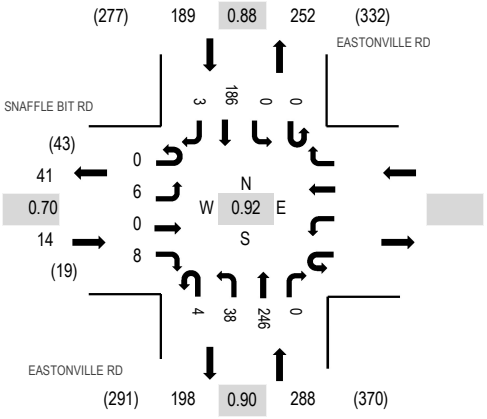
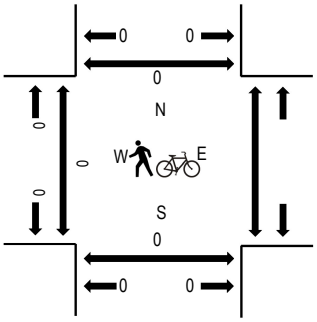
Location: 3 EASTONVILLE RD & SNAFFLE BIT RD AM
Date: Thursday, February 6, 2020
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	SNAFFLE BIT RD Eastbound				Westbound				EASTONVILLE RD Northbound				EASTONVILLE RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	3	0	1					0	0	71	0	0	0	50	0	125	491	0		0	0
7:15 AM	0	3	0	2					0	5	67	0	0	0	54	0	131	417	0		0	0
7:30 AM	0	0	0	5					2	25	53	0	0	0	46	2	133	327	0		0	0
7:45 AM	0	0	0	0					2	8	55	0	0	0	36	1	102	234	0		0	0
8:00 AM	0	0	0	0					0	0	20	0	0	0	31	0	51	175	0		0	0
8:15 AM	0	0	0	2					0	0	16	0	0	0	23	0	41		0		0	0
8:30 AM	0	0	0	1					0	1	20	0	0	0	18	0	40		0		0	0
8:45 AM	0	0	0	2					0	1	24	0	0	0	16	0	43		0		0	0
Count Total	0	6	0	13					4	40	326	0	0	0	274	3	666		0		0	0
Peak Hour	0	6	0	8					4	38	246	0	0	0	186	3	491		0		0	0

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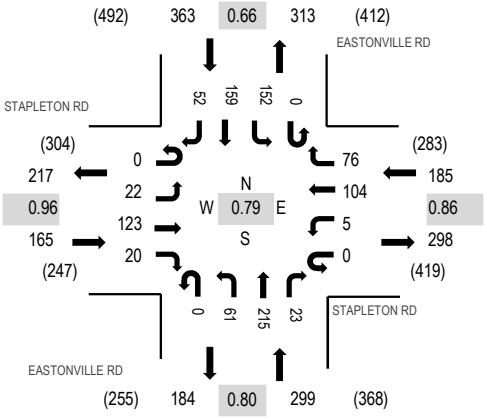
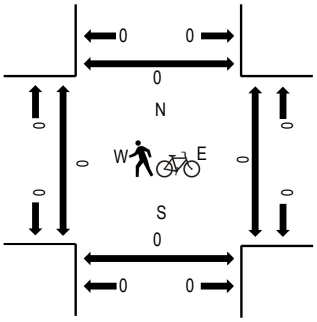
Location: 4 EASTONVILLE RD & STAPLETON RD AM
Date: Thursday, February 6, 2020
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	STAPLETON RD Eastbound				STAPLETON RD Westbound				EASTONVILLE RD Northbound				EASTONVILLE RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	8	23	11	0	1	21	32	0	11	79	2	0	50	37	8	283	1,012	0	0	0	0
7:15 AM	0	7	33	3	0	1	21	26	0	9	83	1	0	48	56	33	321	828	0	0	0	0
7:30 AM	0	4	32	2	0	3	36	4	0	27	23	11	0	29	37	7	215	614	0	0	0	0
7:45 AM	0	3	35	4	0	0	26	14	0	14	30	9	0	25	29	4	193	485	0	0	0	0
8:00 AM	0	3	14	6	0	0	21	8	0	4	12	0	0	13	12	6	99	378	0	0	0	0
8:15 AM	0	1	20	3	0	1	13	10	0	7	7	0	0	26	15	4	107		0	0	0	0
8:30 AM	0	1	12	1	0	2	16	9	0	2	15	2	0	11	13	2	86		0	0	0	1
8:45 AM	0	5	14	2	0	2	7	9	0	1	19	0	0	9	14	4	86		0	0	0	0
Count Total	0	32	183	32	0	10	161	112	0	75	268	25	0	211	213	68	1,390		0	0	0	1
Peak Hour	0	22	123	20	0	5	104	76	0	61	215	23	0	152	159	52	1,012		0	0	0	0

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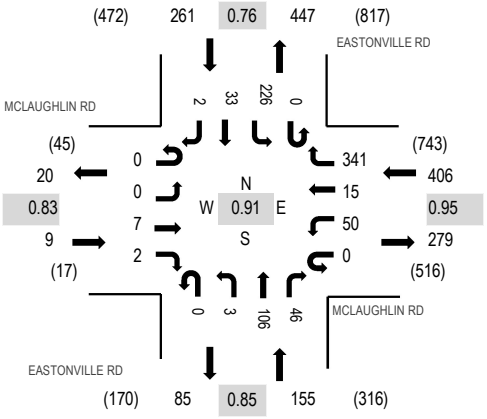
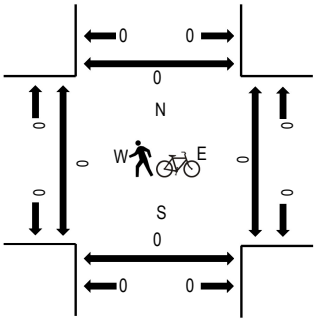
Location: 1 EASTONVILLE RD & MCLAUGHLIN RD PM
Date: Thursday, February 6, 2020
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	MCLAUGHLIN RD Eastbound				MCLAUGHLIN RD Westbound				EASTONVILLE RD Northbound				EASTONVILLE RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	2	0	0	11	6	57	0	0	24	12	0	45	7	0	164	735	0	3	0	1
4:15 PM	0	0	0	1	0	14	2	62	0	0	22	11	0	42	6	0	160	757	0	0	0	0
4:30 PM	0	1	2	0	0	14	6	65	0	2	33	8	0	48	3	0	182	814	0	0	0	0
4:45 PM	0	0	1	0	0	15	1	88	0	0	26	12	0	74	11	1	229	831	0	0	0	0
5:00 PM	0	0	3	0	0	16	3	73	0	1	24	13	0	45	8	0	186	813	0	0	0	0
5:15 PM	0	0	1	1	0	13	3	91	0	0	26	13	0	62	7	0	217		0	0	0	0
5:30 PM	0	0	2	1	0	6	8	89	0	2	30	8	0	45	7	1	199		0	0	0	0
5:45 PM	0	0	0	2	0	19	8	73	0	1	33	15	0	52	8	0	211		0	0	0	0
Count Total	0	1	11	5	0	108	37	598	0	6	218	92	0	413	57	2	1,548		0	3	0	1
Peak Hour	0	0	7	2	0	50	15	341	0	3	106	46	0	226	33	2	831		0	0	0	0

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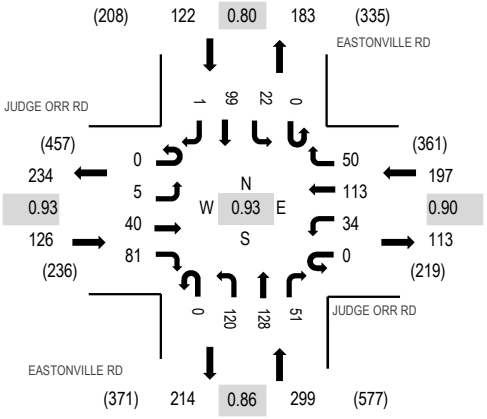
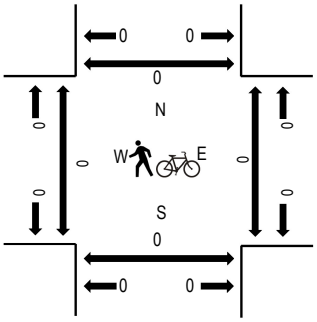
Location: 2 EASTONVILLE RD & JUDGE ORR RD PM
Date: Thursday, February 6, 2020
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



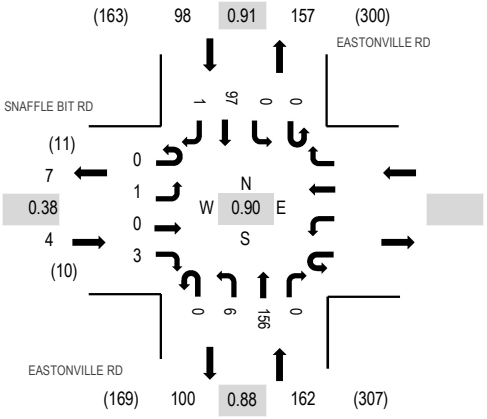
Traffic Counts

Interval Start Time	JUDGE ORR RD Eastbound				JUDGE ORR RD Westbound				EASTONVILLE RD Northbound				EASTONVILLE RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	1	12	14	0	7	21	8	0	31	21	10	0	5	19	1	150	686	0	0	0	0
4:15 PM	0	0	8	13	0	7	26	2	0	20	30	7	0	5	22	0	140	717	0	0	0	0
4:30 PM	0	3	10	18	0	7	28	20	0	27	39	13	0	8	23	1	197	744	0	0	0	0
4:45 PM	0	1	8	25	0	6	28	9	0	37	33	14	0	7	31	0	199	727	0	0	0	0
5:00 PM	0	0	14	17	0	11	32	12	0	25	32	13	0	6	19	0	181	696	0	0	0	0
5:15 PM	0	1	8	21	0	10	25	9	0	31	24	11	0	1	26	0	167		0	0	0	0
5:30 PM	0	1	12	14	0	8	27	10	0	45	30	15	0	5	13	0	180		0	0	0	0
5:45 PM	0	2	10	23	0	6	26	16	0	25	31	13	0	4	11	1	168		0	0	0	0
Count Total	0	9	82	145	0	62	213	86	0	241	240	96	0	41	164	3	1,382		0	0	0	0
Peak Hour	0	5	40	81	0	34	113	50	0	120	128	51	0	22	99	1	744		0	0	0	0

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

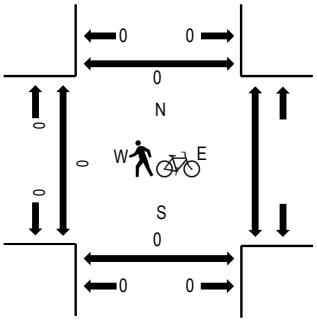
Location: 3 EASTONVILLE RD & SNAFFLE BIT RD PM
Date: Thursday, February 6, 2020
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



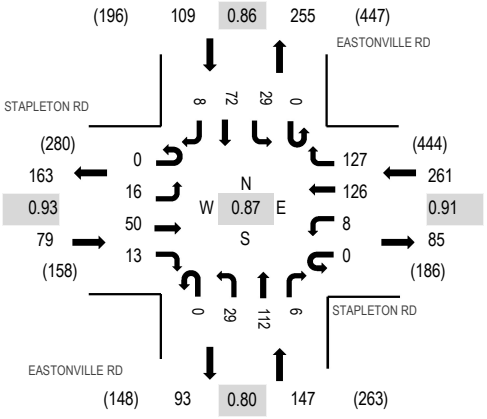
Traffic Counts

Interval Start Time	SNAFFLE BIT RD Eastbound				Westbound				EASTONVILLE RD Northbound				EASTONVILLE RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	0	0					0	0	32	0	0	0	16	0	48	243	0		0	0
4:15 PM	0	0	0	2					0	2	27	0	0	0	22	0	53	262	0		0	0
4:30 PM	0	1	0	3					0	2	40	0	0	0	27	0	73	264	0		0	0
4:45 PM	0	0	0	0					0	2	44	0	0	0	23	0	69	246	0		0	0
5:00 PM	0	0	0	0					0	1	42	0	0	0	23	1	67	237	0		0	0
5:15 PM	0	0	0	0					0	1	30	0	0	0	24	0	55		0		0	0
5:30 PM	0	2	0	1					0	2	35	0	0	0	15	0	55		0		0	0
5:45 PM	0	0	0	1					0	0	47	0	0	0	12	0	60		0		0	0
Count Total	0	3	0	7					0	10	297	0	0	0	162	1	480		0		0	0
Peak Hour	0	1	0	3					0	6	156	0	0	0	97	1	264		0		0	0

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

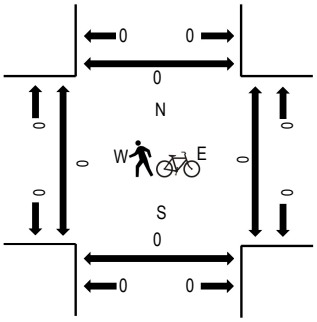
Location: 4 EASTONVILLE RD & STAPLETON RD PM
Date: Thursday, February 6, 2020
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	STAPLETON RD Eastbound				STAPLETON RD Westbound				EASTONVILLE RD Northbound				EASTONVILLE RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	1	16	2	0	0	22	16	0	1	26	5	0	8	15	4	116	552	0	0	0	0
4:15 PM	0	2	18	3	0	1	25	18	0	1	20	0	0	11	13	2	114	585	0	0	0	0
4:30 PM	0	6	13	5	0	1	38	33	0	9	30	3	0	4	27	3	172	596	0	0	0	0
4:45 PM	0	1	19	3	0	3	30	31	0	9	26	2	0	9	13	4	150	535	0	0	0	0
5:00 PM	0	3	8	1	0	1	32	27	0	7	38	1	0	11	20	0	149	509	0	0	0	0
5:15 PM	0	6	10	4	0	3	26	36	0	4	18	0	0	5	12	1	125		0	0	0	0
5:30 PM	0	4	7	1	0	1	27	27	0	4	20	2	0	5	11	2	111		0	0	0	0
5:45 PM	0	4	18	3	0	1	25	20	0	2	34	1	0	10	4	2	124		0	0	0	0
Count Total	0	27	109	22	0	11	225	208	0	37	212	14	0	63	115	18	1,061		0	0	0	0
Peak Hour	0	16	50	13	0	8	126	127	0	29	112	6	0	29	72	8	596		0	0	0	0

LSC Transportation Consultants, Inc.

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

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

Groups Printed- Unshifted

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

LSC Transportation Consultants, Inc.
545 E Pikes Peak Ave, Suite 210
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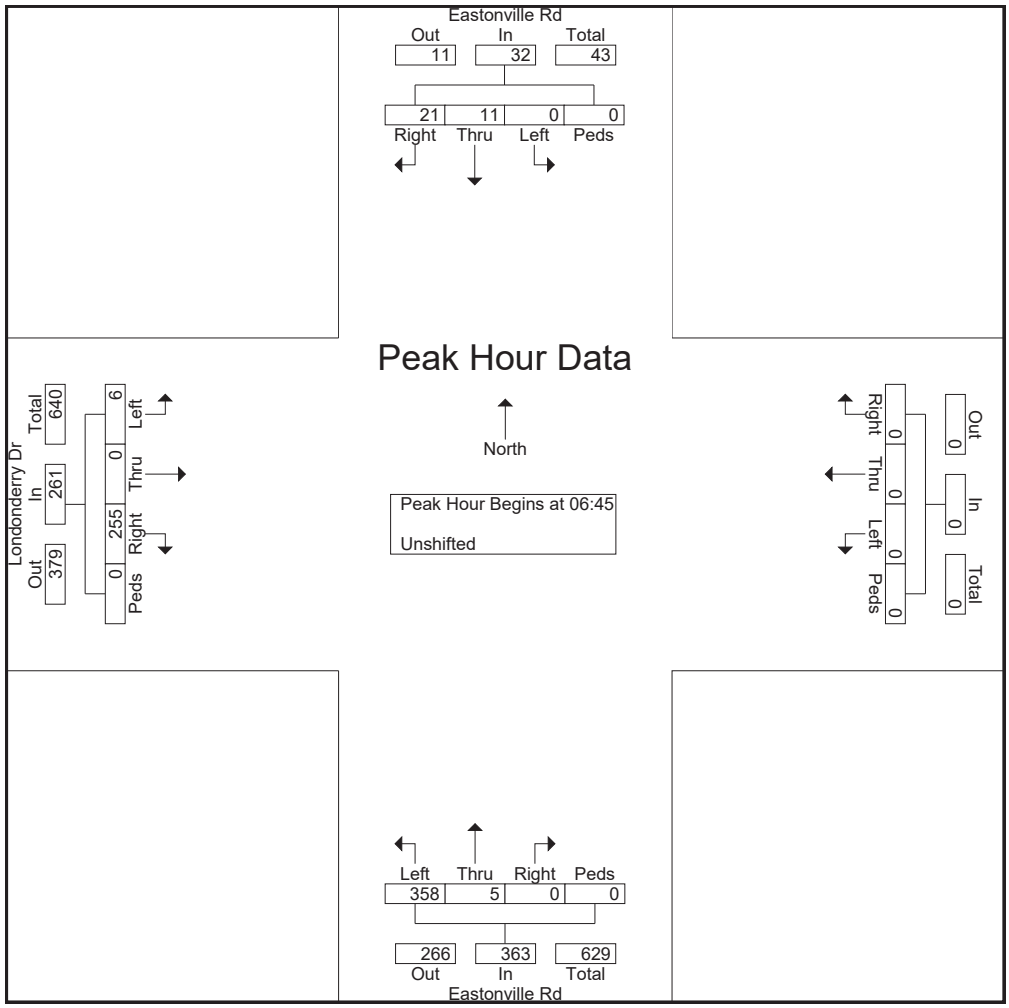
719-633-2868

File Name : Eastonville Rd - Londonderry Dr AM 12-18
Site Code : 184750
Start Date : 12/11/2018
Page No : 2

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



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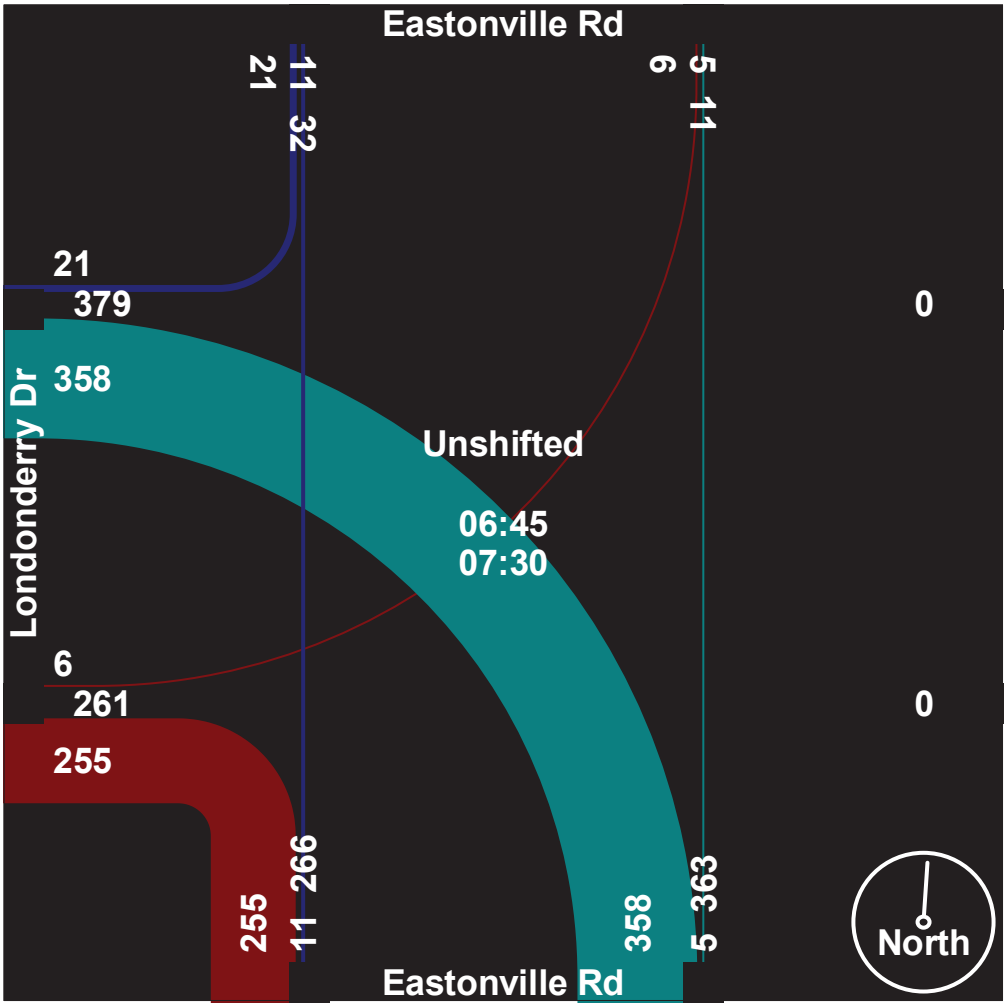


LSC Transportation Consultants, Inc.

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

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

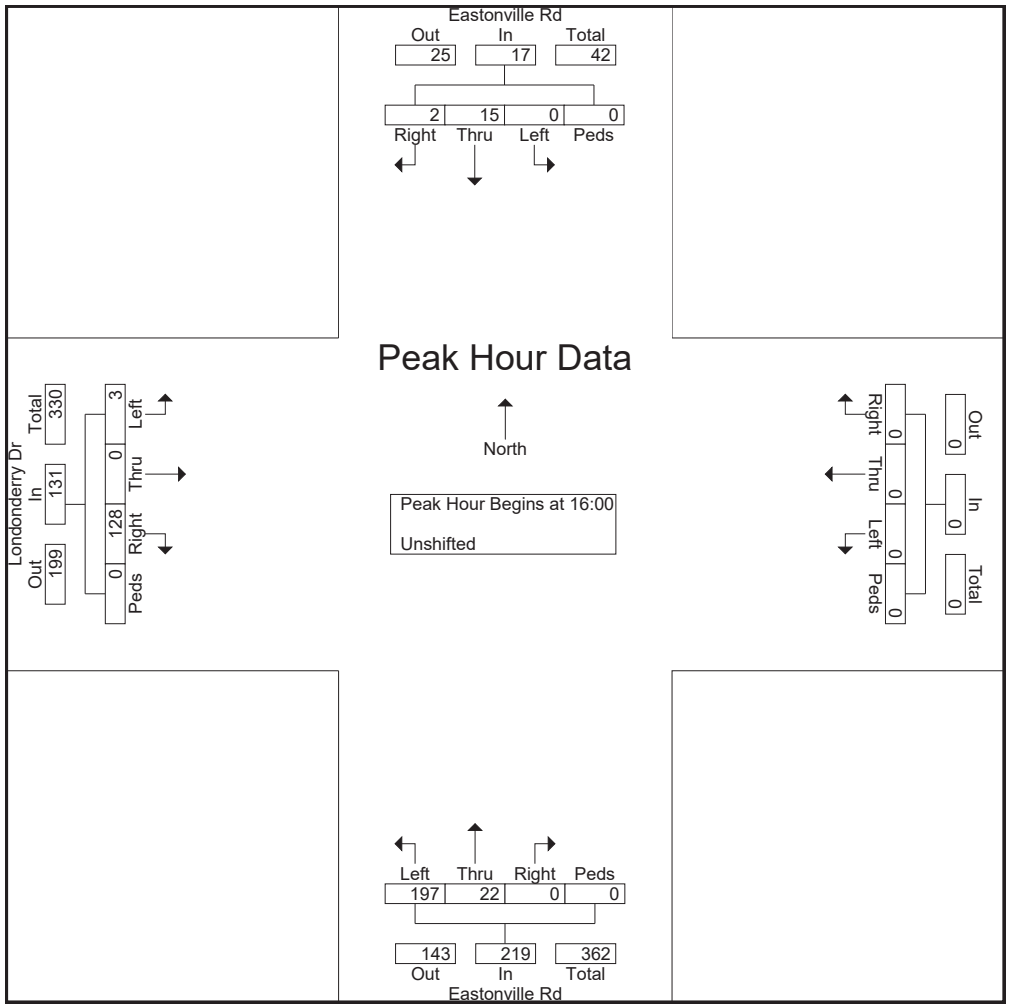
Groups Printed- Unshifted

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

LSC Transportation Consultants, Inc.
545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name : Eastonville Rd - Londonderry Dr PM 12-18
Site Code : 184750
Start Date : 12/11/2018
Page No : 2

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



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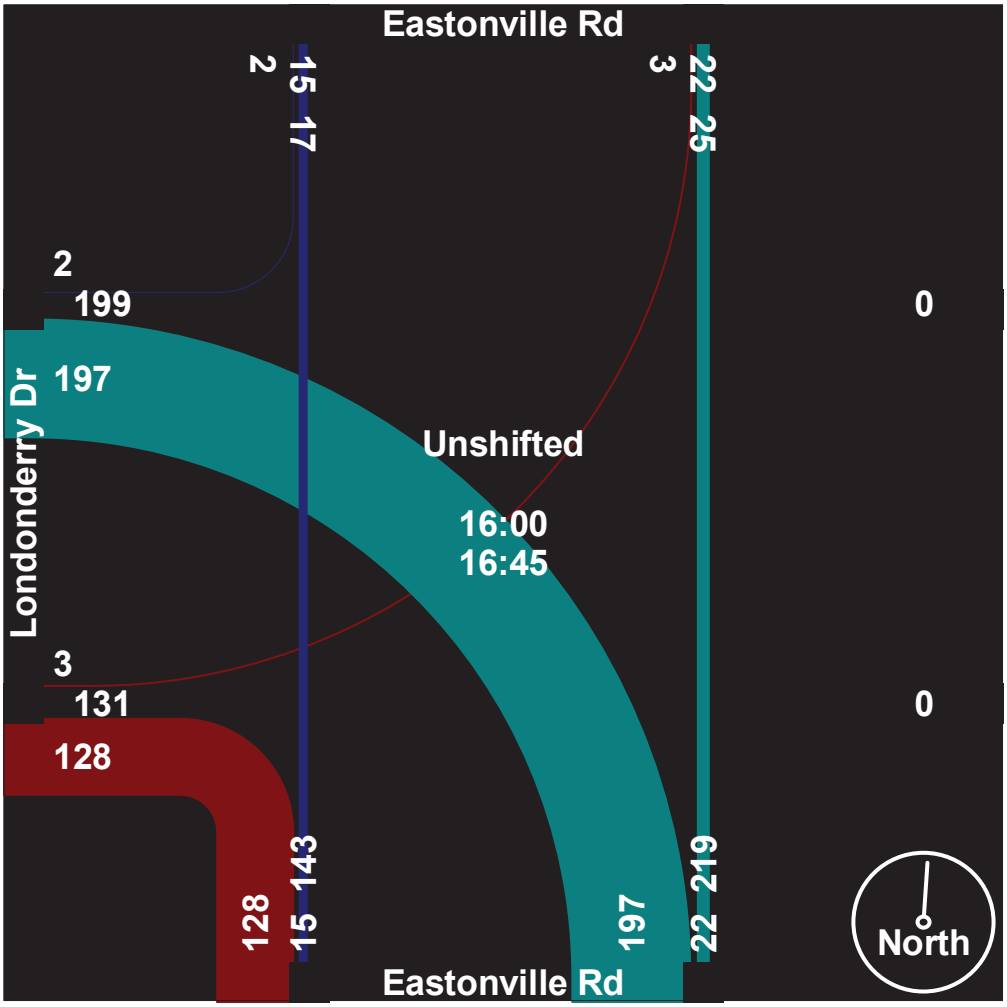
File Name : Eastonville Rd - Londonderry Dr PM 12-18
Site Code : 184750
Start Date : 12/11/2018
Page No : 3



Counts by LSC

LSC Transportation Consultants, Inc.

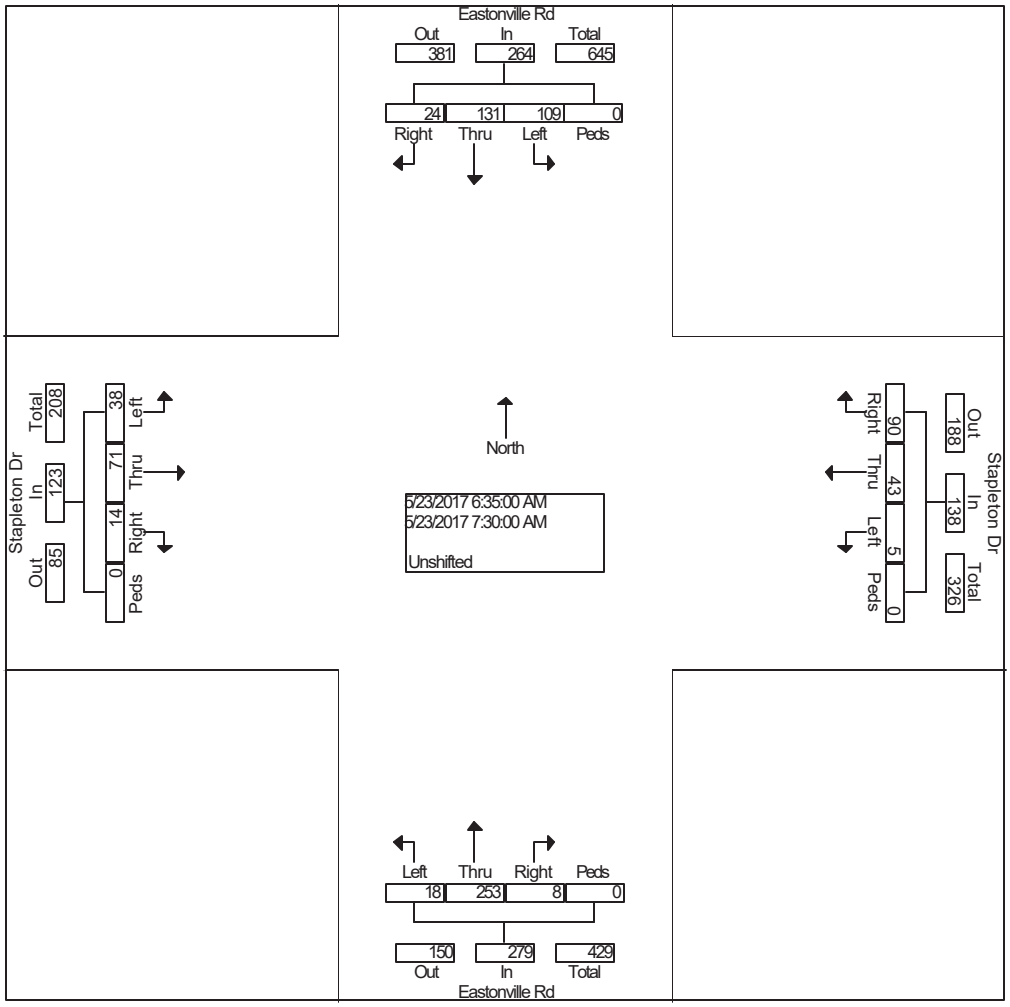
File Name : Eastonville Rd - Stapleton Dr 5-23-17 AM
Site Code : 00174350
Start Date : 05/23/2017
Page No : 1

Groups Printed- Unshifted

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

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.

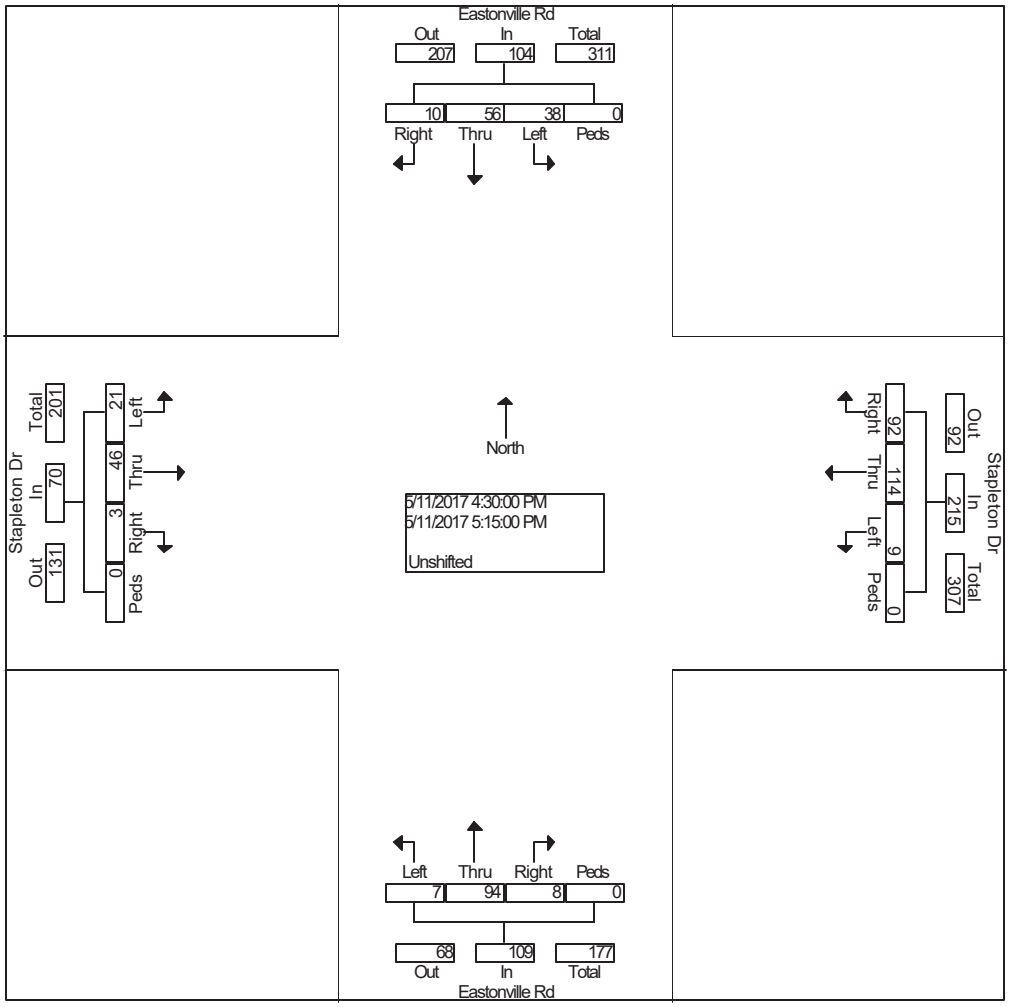
File Name : Eastonville Rd - Stapleton Dr PM
Site Code : 00174350
Start Date : 05/11/2017
Page No : 1

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	

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.

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

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

Groups Printed- Unshifted

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

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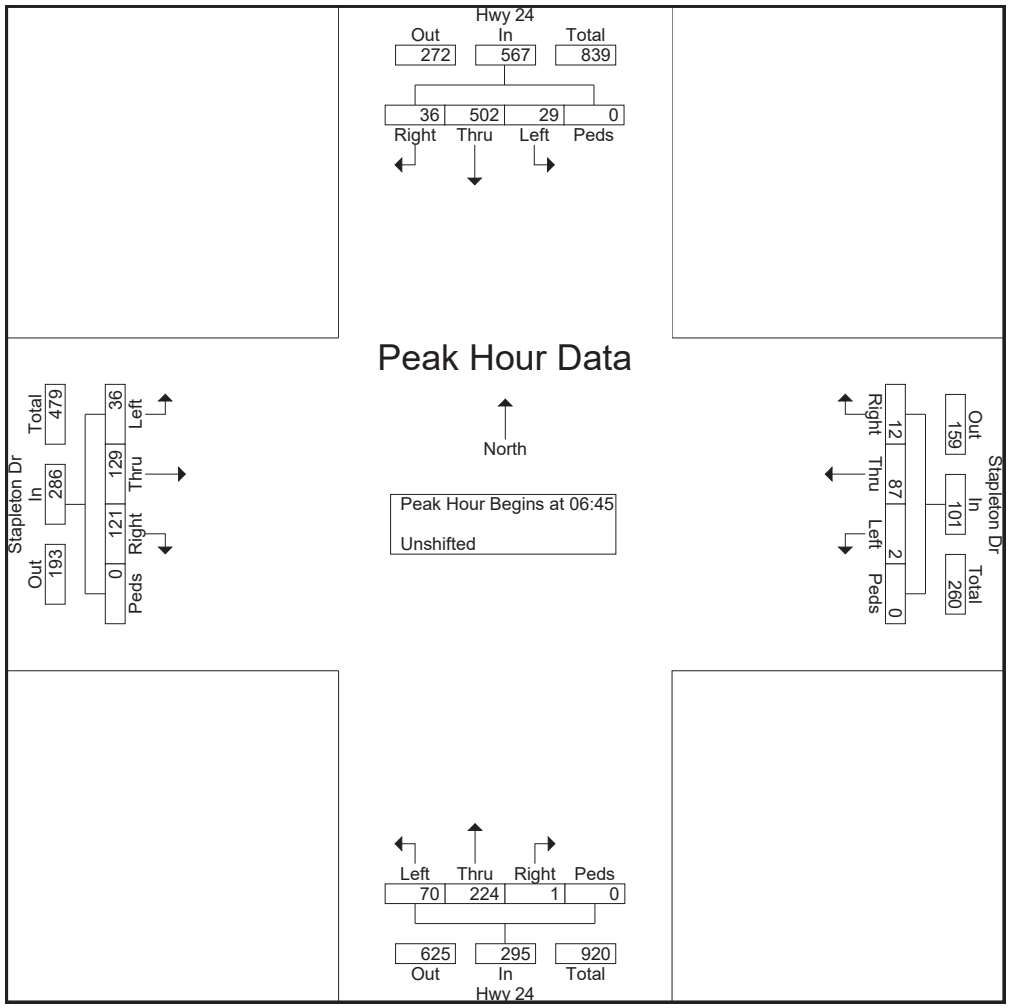
719-633-2868

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

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



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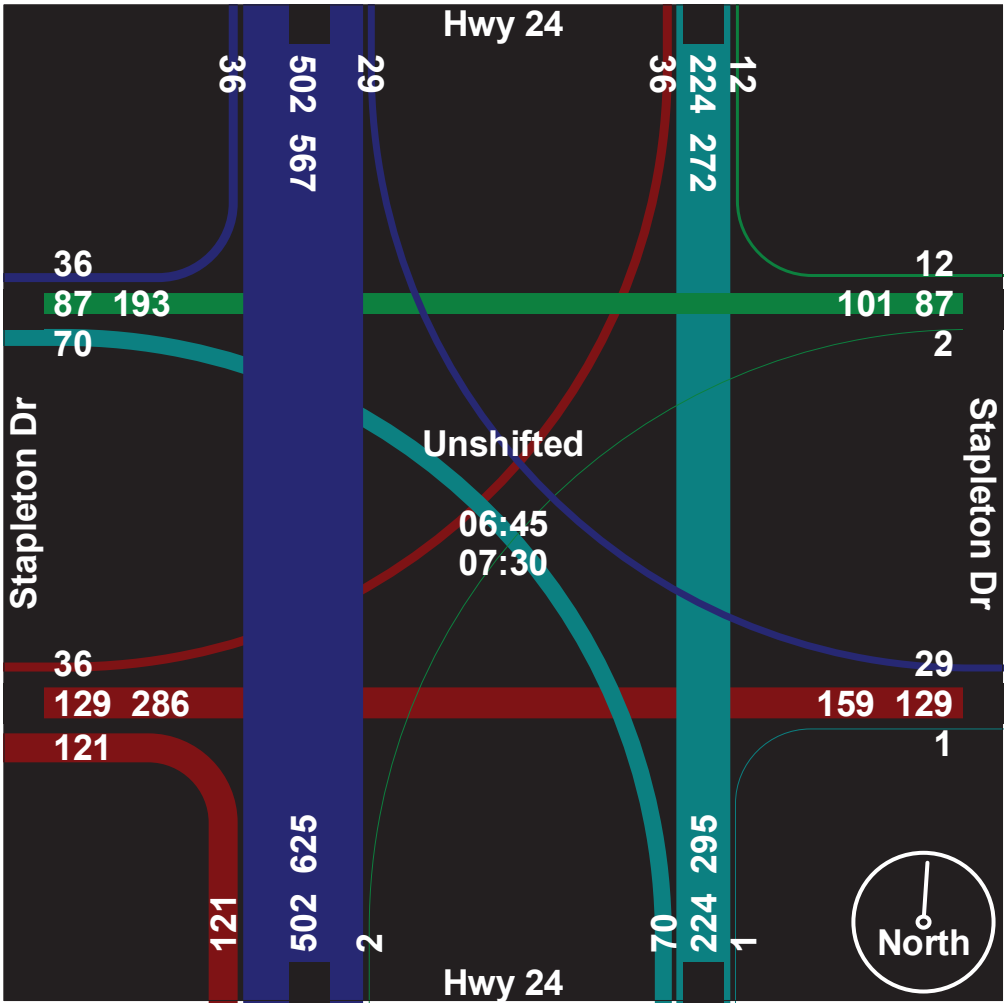
File Name : Hwy 24 - Stapleton Rd AM 11-18
Site Code : 184750
Start Date : 11/15/2018
Page No : 3



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545 E Pikes Peak Ave, Suite 210
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719-633-2868

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

Groups Printed- Unshifted

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

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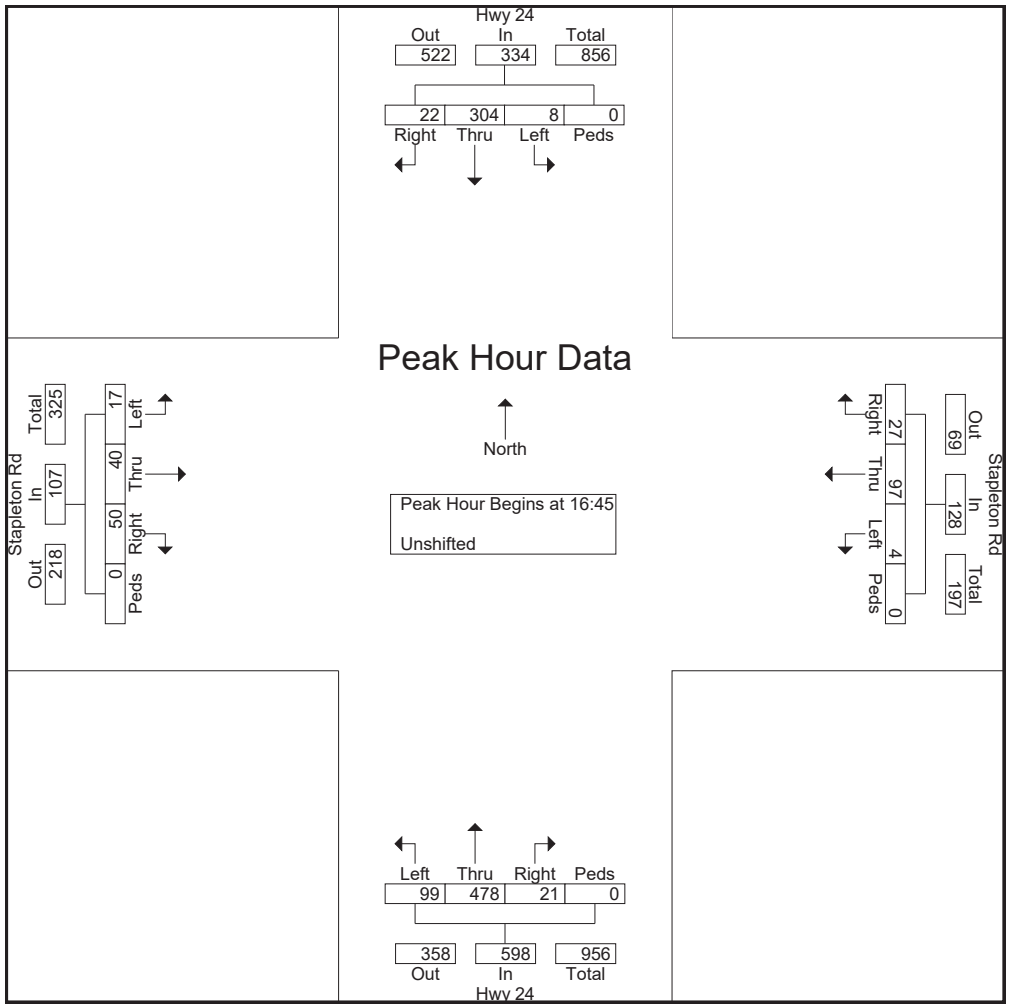
File Name : Hwy 24 - Stapleton Rd PM 11-18
Site Code : 00184750
Start Date : 11/28/2018
Page No : 2

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



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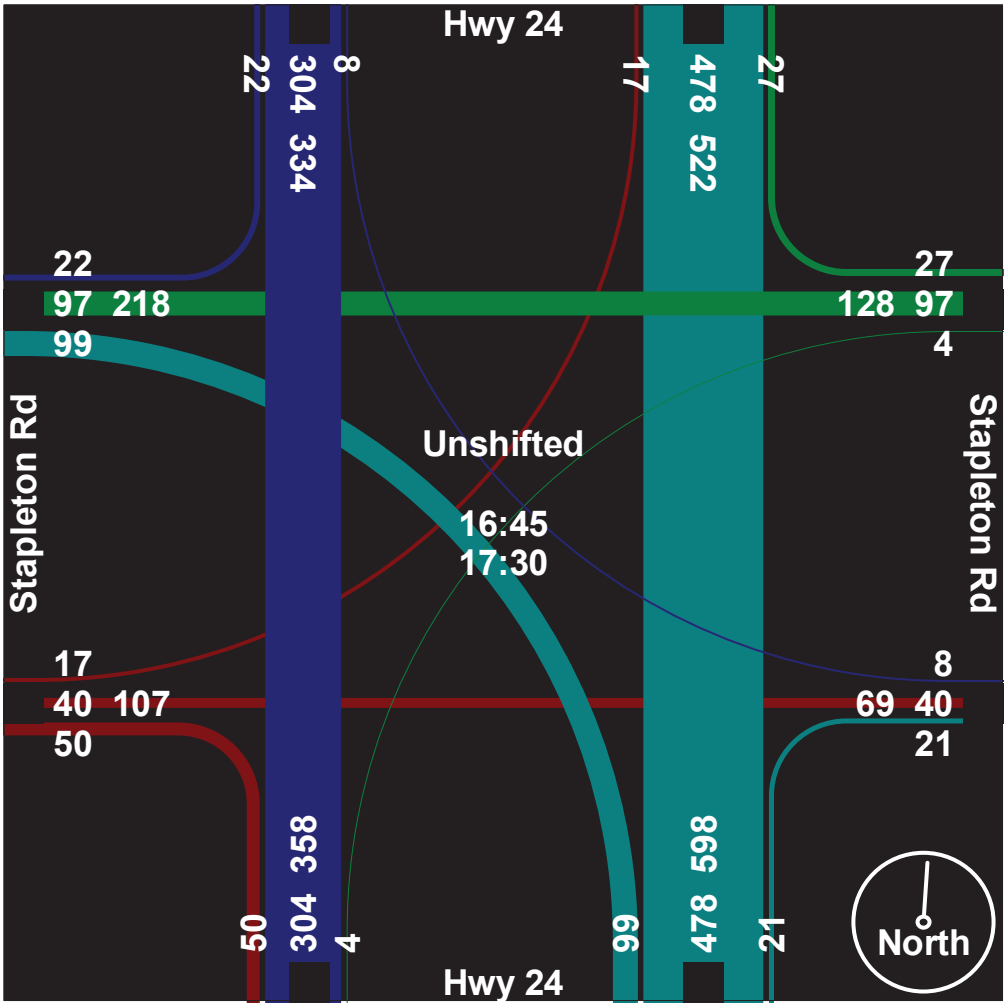
File Name : Hwy 24 - Stapleton Rd PM 11-18
Site Code : 00184750
Start Date : 11/28/2018
Page No : 3



Counts by LSC

LSC Transportation Consultants, Inc.

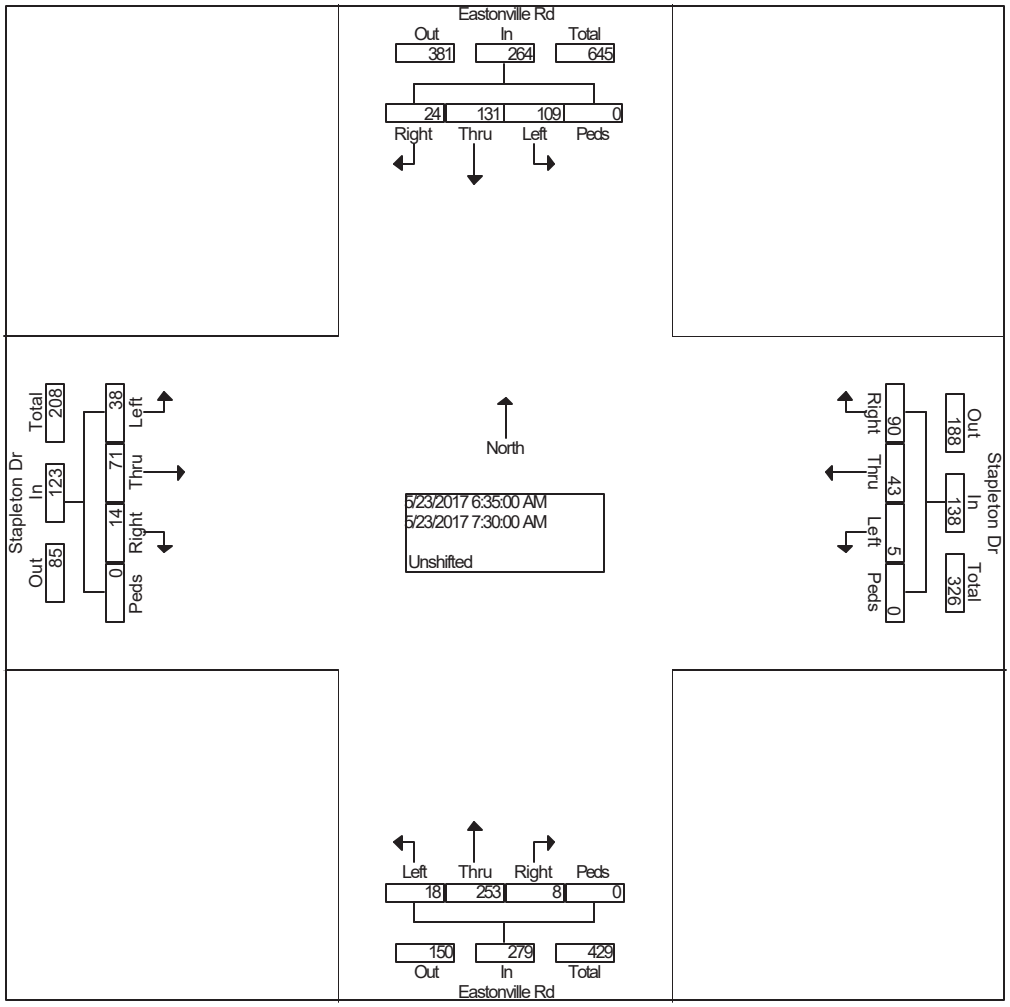
File Name : Eastonville Rd - Stapleton Dr 5-23-17 AM
Site Code : 00174350
Start Date : 05/23/2017
Page No : 1

Groups Printed- Unshifted

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

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.

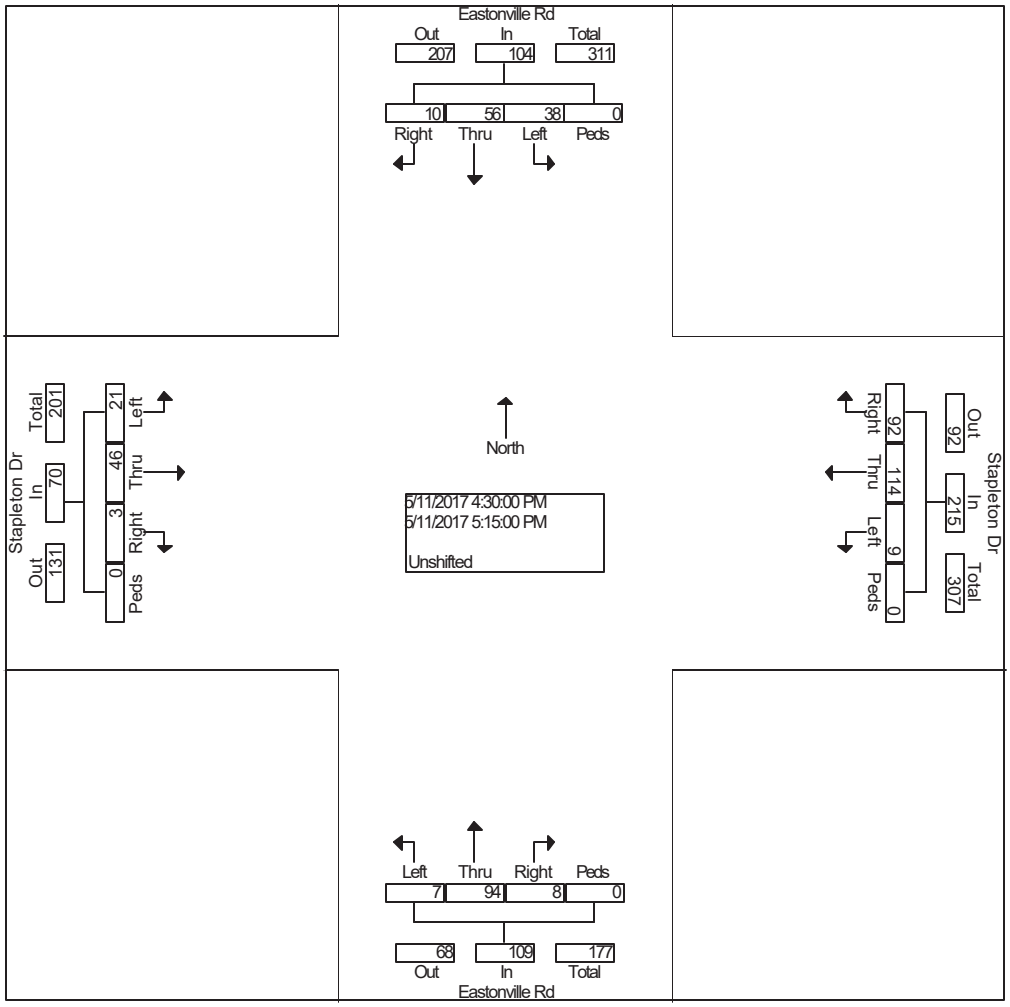
File Name : Eastonville Rd - Stapleton Dr PM
Site Code : 00174350
Start Date : 05/11/2017
Page No : 1

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	

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	



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1					300 (240)			200 (160)												
2	Start Date: 2/6/2020								STAPLETON RD						EASTONVILLE RD					
3			STAPLETON			EASTONVILLE			Eastbound			Westbound			Northbound			Southbound		
4	Date	Time	EB	WB		NB	SB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
5	2/6/2020	07:00 AM	74	56		65	51													
6	2/6/2020	07:15 AM	84	44		79	45													
7	2/6/2020	07:30 AM	72	40		55	61													
8	2/6/2020	07:45 AM	68	40		55	36				298			180			254			193
9			**298**	**180**	**478**	**254**	**193**	**447**	**43**	**215**	**40**	**5**	**96**	**79**	**45**	**193**	**16**	**77**	**92**	**24**
10			**298**	**180**		**254**	**193**		**22**	**123**	**20**	**5**	**104**	**76**	**61**	**215**	**23**	**152**	**159**	**52**
11	2/6/2020	08:00 AM	27	27		23	32				165			185			299			363
12	2/6/2020	08:15 AM	44	24		20	23													
13	2/6/2020	08:30 AM	25	22		21	21													
14	2/6/2020	08:45 AM	23	18		17	14				119			91			81			90
15			**119**	**91**	**210**	**81**	**90**	**171**	**17**	**86**	**16**	**3**	**48**	**40**	**14**	**62**	**5**	**36**	**43**	**11**
16			**119**	**91**		**81**	**90**		**10**	**60**	**12**	**5**	**57**	**36**	**14**	**53**	**2**	**59**	**54**	**16**
17	2/6/2020	09:00 AM	25	16		27	12				82			98			69			129
18	2/6/2020	09:15 AM	15	16		11	9													
19	2/6/2020	09:30 AM	15	12		5	8													
20	2/6/2020	09:45 AM	20	14		5	8				75			58			48			37
21			**75**	**58**	**133**	**48**	**37**	**85**	**11**	**54**	**10**	**2**	**31**	**26**	**9**	**37**	**3**	**15**	**18**	**5**
22	2/6/2020	10:00 AM	19	15		9	9													
23	2/6/2020	10:15 AM	19	9		11	7													
24	2/6/2020	10:30 AM	20	15		12	5													
25	2/6/2020	10:45 AM	11	17		13	14				69			56			45			35
26			**69**	**56**	**125**	**45**	**35**	**80**	**10**	**50**	**9**	**2**	**30**	**25**	**8**	**34**	**3**	**14**	**17**	**4**
27	2/6/2020	11:00 AM	12	22		26	16													
28	2/6/2020	11:15 AM	10	10		11	11													
29	2/6/2020	11:30 AM	18	12		16	11													
30	2/6/2020	11:45 AM	14	15		12	11				54			59			65			49
31			**54**	**59**	**113**	**65**	**49**	**114**	**8**	**39**	**7**	**2**	**31**	**26**	**12**	**49**	**4**	**20**	**23**	**6**
32	2/6/2020	12:00 PM	10	19		14	11													
33	2/6/2020	12:15 PM	18	13		20	16													
34	2/6/2020	12:30 PM	19	21		26	4													
35	2/6/2020	12:45 PM	17	12		20	8				64			65			80			39
36			**64**	**65**	**129**	**80**	**39**	**119**	**9**	**46**	**9**	**2**	**35**	**29**	**14**	**61**	**5**	**16**	**19**	**5**
37	2/6/2020	01:00 PM	11	11		17	9													
38	2/6/2020	01:15 PM	8	7		15	15													
39	2/6/2020	01:30 PM	16	10		14	5													
40	2/6/2020	01:45 PM	21	27		20	19				56			55			66			48
41			**56**	**55**	**111**	**66**	**48**	**114**	**8**	**40**	**7**	**2**	**29**	**24**	**12**	**50**	**4**	**19**	**23**	**6**
42	2/6/2020	02:00 PM	14	20		15	12													
43	2/6/2020	02:15 PM	10	23		17	10													
44	2/6/2020	02:30 PM	11	25		11	16													
45	2/6/2020	02:45 PM	19	19		18	13				54			87			61			51
46			**54**	**87**	**141**	**61**	**51**	**112**	**8**	**39**	**7**	**3**	**46**	**38**	**11**	**46**	**4**	**20**	**24**	**6**
47	2/6/2020	03:00 PM	26	31		10	21													
48	2/6/2020	03:15 PM	26	41		19	31													

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1					300 (240)			200 (160)												
2	Start Date: 2/6/2020								STAPLETON RD						EASTONVILLE RD					
3			STAPLETON			EASTONVILLE			Eastbound			Westbound			Northbound			Southbound		
4	Date	Time	EB	WB		NB	SB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
49	2/6/2020	03:30 PM	28	44		68	32													
50	2/6/2020	03:45 PM	27	46		59	23				107			162			156			107
51			**107**	**162**	**269**	**156**	**107**	**263**	**16**	**77**	**14**	**5**	**86**	**71**	**28**	**119**	**10**	**43**	**51**	**13**
52	2/6/2020	04:00 PM	27	39		47	17													
53	2/6/2020	04:15 PM	29	43		19	19													
54	2/6/2020	04:30 PM	17	80		43	28													
55	2/6/2020	04:45 PM	27	45		48	27				100			207			157			91
56			**100**	**207**	**307**	**157**	**91**	**248**	**15**	**72**	**13**	**6**	**110**	**91**	**28**	**119**	**10**	**36**	**43**	**11**
57			**100**	**207**		**157**	**91**		**10**	**66**	**13**	**5**	**115**	**98**	**20**	**102**	**10**	**32**	**68**	**13**
58	2/6/2020	05:00 PM	20	64		45	22				89			218			132			113
59	2/6/2020	05:15 PM	15	59		29	28													
60	2/6/2020	05:30 PM	12	57		37	10													
61	2/6/2020	05:45 PM	30	48		41	15				77			228			152			75
62			**77**	**228**	**305**	**152**	**75**	**227**	**11**	**56**	**10**	**7**	**121**	**100**	**27**	**116**	**9**	**30**	**36**	**9**
63			**77**	**228**		**152**	**75**		**17**	**43**	**9**	**6**	**110**	**110**	**17**	**110**	**4**	**31**	**47**	**5**
64	2/6/2020	06:00 PM	11	37		33	23				69			226			131			83
65	2/6/2020	06:15 PM	23	25		23	18													
66	2/6/2020	06:30 PM	12	24		21	16													
67	2/6/2020	06:45 PM	8	23		30	11				54			109			107			68
68			**54**	**109**	**163**	**107**	**68**	**175**	**8**	**39**	**7**	**3**	**58**	**48**	**19**	**81**	**7**	**27**	**32**	**9**
69	2/6/2020	07:00 PM	11	14		24	10													
70	2/6/2020	07:15 PM	9	16		19	3													
71	2/6/2020	07:30 PM	10	11		17	14													
72	2/6/2020	07:45 PM	5	12		18	6				35			53			78			33

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1					200 (160)			300 (240)													
2	Start Date: 2/6/2020								JUDGE ORR RD						EASTONVILLE RD						
3			JUDGE ORR			EASTONVILLE			Eastbound			Westbound			Northbound			Southbound			
4	Date	Time	EB	WB		NB	SB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	2/6/2020	07:00 AM	79	28		66	53														
6	2/6/2020	07:15 AM	91	32		67	50														
7	2/6/2020	07:30 AM	92	32		34	79														
8	2/6/2020	07:45 AM	55	32		53	51				317			124			220			233	
9			**317**	**124**	**441**	**220**	**233**	**453**	**48**	**128**	**141**	**24**	**61**	**39**	**74**	**111**	**36**	**54**	**172**	**7**	
10			**317**	**124**		**220**	**233**		**87**	**140**	**90**	**17**	**34**	**73**	**18**	**176**	**26**	**60**	**164**	**9**	
11	2/6/2020	08:00 AM	37	14		30	39				317			124			220			233	
12	2/6/2020	08:15 AM	52	20		51	32														
13	2/6/2020	08:30 AM	23	11		45	22														
14	2/6/2020	08:45 AM	16	17		30	20				128			62			156			113	
15			**128**	**62**	**190**	**156**	**113**	**269**	**20**	**52**	**57**	**12**	**31**	**19**	**52**	**78**	**25**	**26**	**84**	**3**	
16			**128**	**62**		**156**	**113**		**8**	**53**	**67**	**27**	**24**	**11**	**61**	**63**	**32**	**27**	**82**	**4**	
17	2/6/2020	09:00 AM	27	12		47	61				128			62			156			113	
18	2/6/2020	09:15 AM	15	12		38	59														
19	2/6/2020	09:30 AM	17	7		50	65														
20	2/6/2020	09:45 AM	15	10		46	63				74			41			181			248	
21			**74**	**41**	**115**	**181**	**248**	**429**	**11**	**30**	**33**	**8**	**20**	**13**	**61**	**91**	**29**	**57**	**184**	**7**	
22	2/6/2020	10:00 AM	22	13		41	43														
23	2/6/2020	10:15 AM	12	9		55	67														
24	2/6/2020	10:30 AM	15	5		46	47														
25	2/6/2020	10:45 AM	24	14		48	66				72			40			190			223	
26			**72**	**40**	**112**	**190**	**223**	**413**	**11**	**29**	**32**	**8**	**20**	**12**	**64**	**95**	**31**	**52**	**165**	**6**	
27	2/6/2020	11:00 AM	27	13		44	71														
28	2/6/2020	11:15 AM	22	10		60	47														
29	2/6/2020	11:30 AM	39	12		43	65														
30	2/6/2020	11:45 AM	20	11		52	54				108			45			199			237	
31			**108**	**45**	**153**	**199**	**237**	**436**	**16**	**43**	**48**	**9**	**22**	**14**	**67**	**100**	**32**	**55**	**175**	**7**	
32	2/6/2020	12:00 PM	29	15		54	63														
33	2/6/2020	12:15 PM	25	14		56	75														
34	2/6/2020	12:30 PM	24	10		70	70														
35	2/6/2020	12:45 PM	18	10		56	53				96			49			236			261	
36			**96**	**49**	**145**	**236**	**261**	**497**	**15**	**39**	**43**	**9**	**24**	**15**	**79**	**119**	**38**	**60**	**193**	**8**	
37	2/6/2020	01:00 PM	18	13		57	54														
38	2/6/2020	01:15 PM	20	14		53	70														
39	2/6/2020	01:30 PM	25	16		45	51														
40	2/6/2020	01:45 PM	22	8		35	65				86			50			190			240	
41			**86**	**50**	**136**	**190**	**240**	**430**	**13**	**35**	**38**	**10**	**25**	**16**	**64**	**95**	**31**	**55**	**178**	**7**	
42	2/6/2020	02:00 PM	39	8		41	55														
43	2/6/2020	02:15 PM	20	13		52	100														
44	2/6/2020	02:30 PM	30	6		48	107														
45	2/6/2020	02:45 PM	42	14		50	83				131			41			191			345	
46			**131**	**41**	**173**	**191**	**345**	**536**	**20**	**53**	**58**	**8**	**21**	**13**	**64**	**96**	**31**	**80**	**255**	**10**	
47	2/6/2020	03:00 PM	50	14		90	97														
48	2/6/2020	03:15 PM	37	25		79	102														

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1					200 (160)			300 (240)													
2	Start Date: 2/6/2020								JUDGE ORR RD						EASTONVILLE RD						
3			JUDGE ORR			EASTONVILLE			Eastbound			Westbound			Northbound			Southbound			
4	Date	Time	EB	WB		NB	SB		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
49	2/6/2020	03:30 PM	71	16		83	102														
50	2/6/2020	03:45 PM	84	17		95	141				242			72			347			442	
51			**242**	**72**	**314**	**347**	**442**	**789**	**37**	**98**	**107**	**14**	**36**	**22**	**117**	**174**	**56**	**102**	**327**	**13**	
52	2/6/2020	04:00 PM	27	36		62	25														
53	2/6/2020	04:15 PM	21	35		57	27														
54	2/6/2020	04:30 PM	31	55		79	32														
55	2/6/2020	04:45 PM	34	43		84	38				113			169			282			122	
56			**113**	**169**	**282**	**282**	**122**	**404**	**17**	**46**	**50**	**33**	**84**	**53**	**95**	**142**	**46**	**28**	**90**	**4**	
57			**113**	**169**		**282**	**122**		**5**	**38**	**70**	**27**	**103**	**39**	**115**	**123**	**44**	**25**	**95**	**2**	
58	2/6/2020	05:00 PM	31	55		70	25				113			169			282			122	
59	2/6/2020	05:15 PM	30	44		66	27														
60	2/6/2020	05:30 PM	27	45		90	18														
61	2/6/2020	05:45 PM	35	48		69	16				123			192			295			86	
62			**123**	**192**	**315**	**295**	**86**	**381**	**19**	**50**	**55**	**37**	**95**	**60**	**99**	**148**	**48**	**20**	**64**	**2**	
63			**123**	**192**		**295**	**86**		**4**	**44**	**75**	**35**	**110**	**47**	**126**	**117**	**52**	**16**	**69**	**1**	
64	2/6/2020	06:00 PM	45	14		55	83				123			192			295			86	
65	2/6/2020	06:15 PM	44	9		67	77														
66	2/6/2020	06:30 PM	40	9		42	71														
67	2/6/2020	06:45 PM	27	14		48	57				156			45			212			288	
68			**156**	**45**	**202**	**212**	**288**	**500**	**24**	**63**	**69**	**9**	**22**	**14**	**71**	**107**	**34**	**67**	**213**	**8**	
69	2/6/2020	07:00 PM	29	4		44	63														
70	2/6/2020	07:15 PM	32	6		28	54														
71	2/6/2020	07:30 PM	32	7		39	55														
72	2/6/2020	07:45 PM	17	2		34	46				109			18			145			218	
73			**109**	**18**	**127**	**145**	**218**	**363**	**17**	**44**	**48**	**3**	**9**	**6**	**49**	**73**	**23**	**50**	**161**	**6**	

Appendix B: 2020 Existing & Near-Term Build Conditions Synchro Analysis Reports

2020 AM Peak Hour Existing Conditions Synchro Reports

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	85	45	340	55	5	25	5	80	5	10	5
Future Vol, veh/h	5	85	45	340	55	5	25	5	80	5	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	Stop
Storage Length	0	-	-	100	-	-	-	-	80	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	92	49	370	60	5	27	5	87	5	11	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	65	0	0	141	0	0	935	932	117	932	954	63
Stage 1	-	-	-	-	-	-	127	127	-	803	803	-
Stage 2	-	-	-	-	-	-	808	805	-	129	151	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1537	-	-	1442	-	-	246	266	935	247	259	1002
Stage 1	-	-	-	-	-	-	877	791	-	377	396	-
Stage 2	-	-	-	-	-	-	375	395	-	875	772	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1537	-	-	1442	-	-	188	197	935	176	192	1002
Mov Cap-2 Maneuver	-	-	-	-	-	-	188	197	-	176	192	-
Stage 1	-	-	-	-	-	-	874	789	-	376	294	-
Stage 2	-	-	-	-	-	-	267	293	-	786	770	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	7.1	14.3	20.9
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	189	935	1537	-	-	1442	-	-	248
HCM Lane V/C Ratio	0.173	0.093	0.004	-	-	0.256	-	-	0.088
HCM Control Delay (s)	28	9.2	7.4	-	-	8.4	-	-	20.9
HCM Lane LOS	D	A	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.6	0.3	0	-	-	1	-	-	0.3

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	0	65	5	10	5	60	100	5	0	230	80
Future Vol, veh/h	50	0	65	5	10	5	60	100	5	0	230	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	0	71	5	11	5	65	109	5	0	250	87
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	8.4	9.2	10.4
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	36%	43%	25%	0%
Vol Thru, %	61%	0%	50%	74%
Vol Right, %	3%	57%	25%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	165	115	20	310
LT Vol	60	50	5	0
Through Vol	100	0	10	230
RT Vol	5	65	5	80
Lane Flow Rate	179	125	22	337
Geometry Grp	1	1	1	1
Degree of Util (X)	0.235	0.169	0.031	0.407
Departure Headway (Hd)	4.714	4.86	5.168	4.351
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	760	735	689	826
Service Time	2.754	2.909	3.229	2.384
HCM Lane V/C Ratio	0.236	0.17	0.032	0.408
HCM Control Delay	9.2	8.9	8.4	10.4
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.9	0.6	0.1	2

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	50	0	65	5	10	5	60	100	5	0	230	80
Future Vol, veh/h	50	0	65	5	10	5	60	100	5	0	230	80
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	0	71	5	11	5	65	109	5	0	250	87

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	544	538	294	571	579	112	337	0	0	114	0	0
Stage 1	294	294	-	242	242	-	-	-	-	-	-	-
Stage 2	250	244	-	329	337	-	-	-	-	-	-	-
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	450	450	745	432	426	941	1222	-	-	1475	-	-
Stage 1	714	670	-	762	705	-	-	-	-	-	-	-
Stage 2	754	704	-	684	641	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	419	424	745	374	402	941	1222	-	-	1475	-	-
Mov Cap-2 Maneuver	419	424	-	374	402	-	-	-	-	-	-	-
Stage 1	673	670	-	719	665	-	-	-	-	-	-	-
Stage 2	695	664	-	619	641	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.3	13.2	2.9	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1222	-	-	557	459	1475	-	-
HCM Lane V/C Ratio	0.053	-	-	0.224	0.047	-	-	-
HCM Control Delay (s)	8.1	0	-	13.3	13.2	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.9	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	5	5	5	5	10	0	185	5	5	260	20
Future Vol, veh/h	20	5	5	5	5	10	0	185	5	5	260	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	365	-	-	465	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	5	5	5	5	11	0	201	5	5	283	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	516	510	294	513	519	204	305	0	0	206	0	0
Stage 1	304	304	-	204	204	-	-	-	-	-	-	-
Stage 2	212	206	-	309	315	-	-	-	-	-	-	-
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	470	467	745	472	461	837	1256	-	-	1365	-	-
Stage 1	705	663	-	798	733	-	-	-	-	-	-	-
Stage 2	790	731	-	701	656	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	458	465	745	463	459	837	1256	-	-	1365	-	-
Mov Cap-2 Maneuver	458	465	-	463	459	-	-	-	-	-	-	-
Stage 1	705	660	-	798	733	-	-	-	-	-	-	-
Stage 2	774	731	-	688	653	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	11.3	0	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1256	-	-	491	595	1365	-	-
HCM Lane V/C Ratio	-	-	-	0.066	0.037	0.004	-	-
HCM Control Delay (s)	0	-	-	12.9	11.3	7.6	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	85	140	90	15	35	75	20	175	25	60	165	10
Future Vol, veh/h	85	140	90	15	35	75	20	175	25	60	165	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	92	152	98	16	38	82	22	190	27	65	179	11
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	13.6	10.5	13.8	12.8
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	88%	0%	61%	0%	100%	0%	0%	94%
Vol Right, %	0%	12%	0%	39%	0%	0%	100%	0%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	200	85	230	15	35	75	60	175
LT Vol	20	0	85	0	15	0	0	60	0
Through Vol	0	175	0	140	0	35	0	0	165
RT Vol	0	25	0	90	0	0	75	0	10
Lane Flow Rate	22	217	92	250	16	38	82	65	190
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.044	0.407	0.184	0.444	0.035	0.077	0.149	0.132	0.357
Departure Headway (Hd)	7.33	6.736	7.181	6.394	7.818	7.308	6.593	7.296	6.749
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	485	530	496	560	461	493	547	488	529
Service Time	5.129	4.534	4.972	4.184	5.518	5.008	4.293	5.093	4.546
HCM Lane V/C Ratio	0.045	0.409	0.185	0.446	0.035	0.077	0.15	0.133	0.359
HCM Control Delay	10.5	14.1	11.6	14.3	10.8	10.6	10.4	11.2	13.3
HCM Lane LOS	B	B	B	B	B	B	B	B	B
HCM 95th-tile Q	0.1	2	0.7	2.3	0.1	0.2	0.5	0.5	1.6

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	10	15	105	5	110	5	140	185	40	140	15
Future Vol, veh/h	10	10	15	105	5	110	5	140	185	40	140	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	175	-	-	245	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	16	114	5	120	5	152	201	43	152	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	571	609	160	523	517	253	168	0	0	353	0	0
Stage 1	246	246	-	263	263	-	-	-	-	-	-	-
Stage 2	325	363	-	260	254	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	432	410	885	465	462	786	1410	-	-	1206	-	-
Stage 1	758	703	-	742	691	-	-	-	-	-	-	-
Stage 2	687	625	-	745	697	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	352	394	885	433	444	786	1410	-	-	1206	-	-
Mov Cap-2 Maneuver	352	394	-	433	444	-	-	-	-	-	-	-
Stage 1	755	678	-	739	688	-	-	-	-	-	-	-
Stage 2	576	623	-	694	672	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	13.4	0.1	1.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1410	-	-	495	433	761	1206	-	-
HCM Lane V/C Ratio	0.004	-	-	0.077	0.264	0.164	0.036	-	-
HCM Control Delay (s)	7.6	-	-	12.9	16.3	10.7	8.1	-	-
HCM Lane LOS	A	-	-	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	1	0.6	0.1	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	15	40	255	185	5
Future Vol, veh/h	10	15	40	255	185	5
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	-	245	-	-	-
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	11	16	43	277	201	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	567	204	206	0	-	0
Stage 1	204	-	-	-	-	-
Stage 2	363	-	-	-	-	-
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	485	837	1365	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	704	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	469	837	1365	-	-	-
Mov Cap-2 Maneuver	469	-	-	-	-	-
Stage 1	803	-	-	-	-	-
Stage 2	704	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1365	-	637	-	-
HCM Lane V/C Ratio	0.032	-	0.043	-	-
HCM Control Delay (s)	7.7	-	10.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	18.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↰	↗		↕			↕	
Traffic Vol, veh/h	25	125	20	5	105	75	55	200	20	150	160	50
Future Vol, veh/h	25	125	20	5	105	75	55	200	20	150	160	50
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	-	-	Free
Storage Length	-	-	-	-	-	270	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	136	22	5	114	82	60	217	22	163	174	54

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	946	859	174	927	848	228	174	0	0	239	0	0
Stage 1	500	500	-	348	348	-	-	-	-	-	-	-
Stage 2	446	359	-	579	500	-	-	-	-	-	-	-
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	241	294	869	249	298	811	1403	-	-	1328	-	0
Stage 1	553	543	-	668	634	-	-	-	-	-	-	0
Stage 2	591	627	-	501	543	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	120	242	869	118	245	811	1403	-	-	1328	-	-
Mov Cap-2 Maneuver	120	242	-	118	245	-	-	-	-	-	-	-
Stage 1	526	469	-	635	603	-	-	-	-	-	-	-
Stage 2	410	596	-	300	469	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	66	25.1	1.5	3.9
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	1403	-	-	227	234	811	1328	-
HCM Lane V/C Ratio	0.043	-	-	0.814	0.511	0.101	0.123	-
HCM Control Delay (s)	7.7	0	-	66	35.4	9.9	8.1	0
HCM Lane LOS	A	A	-	F	E	A	A	A
HCM 95th %tile Q(veh)	0.1	-	-	6.1	2.6	0.3	0.4	-

Intersection	
Intersection Delay, s/veh	14.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	125	20	5	105	75	55	200	20	150	160	50
Future Vol, veh/h	25	125	20	5	105	75	55	200	20	150	160	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	136	22	5	114	82	60	217	22	163	174	54
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	12.8	11.1	14.6	18
HCM LOS	B	B	B	C

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	20%	15%	5%	0%	42%
Vol Thru, %	73%	74%	95%	0%	44%
Vol Right, %	7%	12%	0%	100%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	275	170	110	75	360
LT Vol	55	25	5	0	150
Through Vol	200	125	105	0	160
RT Vol	20	20	0	75	50
Lane Flow Rate	299	185	120	82	391
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.492	0.333	0.232	0.141	0.627
Departure Headway (Hd)	5.929	6.492	6.976	6.236	5.767
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	610	552	514	575	630
Service Time	3.943	4.539	4.72	3.98	3.778
HCM Lane V/C Ratio	0.49	0.335	0.233	0.143	0.621
HCM Control Delay	14.6	12.8	11.8	10	18
HCM Lane LOS	B	B	B	A	C
HCM 95th-tile Q	2.7	1.5	0.9	0.5	4.4

Intersection	
Intersection Delay, s/veh	5.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	185	201	299	391
Demand Flow Rate, veh/h	189	205	304	398
Vehicles Circulating, veh/h	348	310	333	182
Vehicles Exiting, veh/h	177	305	182	249
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.2	4.5	6.5	5.7
Approach LOS	A	A	A	A

Lane	Left	Bypass	Left	Bypass	Left	Bypass	Left	Bypass
Designated Moves	LT	R	LT	R	LT	R	LT	R
Assumed Moves	LT	R	LT	R	LT	R	LT	R
RT Channelized		Yield		Yield		Yield		Yield
Lane Util	1.000		1.000		1.000		1.000	
Follow-Up Headway, s	2.609		2.609		2.609		2.609	
Critical Headway, s	4.976	22	4.976	84	4.976	22	4.976	55
Entry Flow, veh/h	167	1146	121	1070	282	1011	343	1152
Cap Entry Lane, veh/h	968	0.980	1006	0.980	983	0.980	1146	0.980
Entry HV Adj Factor	0.978	22	0.981	82	0.981	22	0.981	54
Flow Entry, veh/h	163	1124	119	1049	277	991	337	1129
Cap Entry, veh/h	946	0.020	987	0.078	964	0.022	1124	0.048
V/C Ratio	0.173	3.4	0.120	4.1	0.287	3.8	0.299	3.6
Control Delay, s/veh	5.5	A	4.7	A	6.7	A	6.1	A
LOS	A	0	A	0	A	0	A	0
95th %tile Queue, veh	1		0		1		1	

Intersection	
Int Delay, s/veh	8.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	350	295	5	10	20
Future Vol, veh/h	10	350	295	5	10	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	250	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	11	380	321	5	11	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	669	22	33	0	-	0
Stage 1	22	-	-	-	-	-
Stage 2	647	-	-	-	-	-
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	423	1055	1579	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	521	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	337	1055	1579	-	-	-
Mov Cap-2 Maneuver	337	-	-	-	-	-
Stage 1	797	-	-	-	-	-
Stage 2	521	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	7.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1579	-	337	1055	-	-
HCM Lane V/C Ratio	0.203	-	0.032	0.361	-	-
HCM Control Delay (s)	7.9	0	16	10.3	-	-
HCM Lane LOS	A	A	C	B	-	-
HCM 95th %tile Q(veh)	0.8	-	0.1	1.7	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	5	40	0	0
Future Vol, veh/h	0	5	5	40	0	0
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	-	-	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	0	5	5	43	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	54	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	53	-	-	-	-	-
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	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	951	1084	1622	-	-	-
Mov Cap-2 Maneuver	951	-	-	-	-	-
Stage 1	1019	-	-	-	-	-
Stage 2	970	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.3	0.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	1084	-	-
HCM Lane V/C Ratio	0.003	-	0.005	-	-
HCM Control Delay (s)	7.2	-	8.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

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Intersection	
Int Delay, s/veh	8.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	110	45	225	35	5	50	15	340	0	10	5
Future Vol, veh/h	5	110	45	225	35	5	50	15	340	0	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	Stop
Storage Length	0	-	-	100	-	-	-	-	80	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	120	49	245	38	5	54	16	370	0	11	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	43	0	0	169	0	0	691	688	145	694	710	41
Stage 1	-	-	-	-	-	-	155	155	-	531	531	-
Stage 2	-	-	-	-	-	-	536	533	-	163	179	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1566	-	-	1409	-	-	359	369	902	357	359	1030
Stage 1	-	-	-	-	-	-	847	769	-	532	526	-
Stage 2	-	-	-	-	-	-	529	525	-	839	751	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1566	-	-	1409	-	-	300	304	902	175	296	1030
Mov Cap-2 Maneuver	-	-	-	-	-	-	300	304	-	175	296	-
Stage 1	-	-	-	-	-	-	844	767	-	530	434	-
Stage 2	-	-	-	-	-	-	424	434	-	483	749	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	6.9	13.1	13.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	301	902	1566	-	-	1409	-	-	444
HCM Lane V/C Ratio	0.235	0.41	0.003	-	-	0.174	-	-	0.037
HCM Control Delay (s)	20.6	11.7	7.3	-	-	8.1	-	-	13.4
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.9	2	0	-	-	0.6	-	-	0.1

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	30	5	5	5	15	370	10	0	205	10
Future Vol, veh/h	10	0	30	5	5	5	15	370	10	0	205	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	33	5	5	5	16	402	11	0	223	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.4	8.5	11.9	9.4
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	25%	33%	0%
Vol Thru, %	94%	0%	33%	95%
Vol Right, %	3%	75%	33%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	395	40	15	215
LT Vol	15	10	5	0
Through Vol	370	0	5	205
RT Vol	10	30	5	10
Lane Flow Rate	429	43	16	234
Geometry Grp	1	1	1	1
Degree of Util (X)	0.516	0.06	0.024	0.292
Departure Headway (Hd)	4.323	4.997	5.312	4.494
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	837	715	672	799
Service Time	2.344	3.04	3.359	2.519
HCM Lane V/C Ratio	0.513	0.06	0.024	0.293
HCM Control Delay	11.9	8.4	8.5	9.4
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	3	0.2	0.1	1.2

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	30	5	5	5	15	370	10	0	205	10
Future Vol, veh/h	10	0	30	5	5	5	15	370	10	0	205	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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	33	5	5	5	16	402	11	0	223	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	674	674	229	685	674	408	234	0	0	413	0	0
Stage 1	229	229	-	440	440	-	-	-	-	-	-	-
Stage 2	445	445	-	245	234	-	-	-	-	-	-	-
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	368	376	810	362	376	643	1333	-	-	1146	-	-
Stage 1	774	715	-	596	578	-	-	-	-	-	-	-
Stage 2	592	575	-	759	711	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	356	370	810	343	370	643	1333	-	-	1146	-	-
Mov Cap-2 Maneuver	356	370	-	343	370	-	-	-	-	-	-	-
Stage 1	762	715	-	586	569	-	-	-	-	-	-	-
Stage 2	572	566	-	728	711	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	14	0.3	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1333	-	-	614	418	1146	-	-
HCM Lane V/C Ratio	0.012	-	-	0.071	0.039	-	-	-
HCM Control Delay (s)	7.7	0	-	11.3	14	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	10	0	15	10	5	0	5	330	5	5	190	10
Future Vol, veh/h	10	0	15	10	5	0	5	330	5	5	190	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	-	-	Stop	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	365	-	-	465	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	16	11	5	0	5	359	5	5	207	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	597	597	213	595	600	362	218	0	0	364	0	0
Stage 1	223	223	-	372	372	-	-	-	-	-	-	-
Stage 2	374	374	-	223	228	-	-	-	-	-	-	-
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	415	416	827	416	415	683	1352	-	-	1195	-	-
Stage 1	780	719	-	648	619	-	-	-	-	-	-	-
Stage 2	647	618	-	780	715	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	408	413	827	405	412	683	1352	-	-	1195	-	-
Mov Cap-2 Maneuver	408	413	-	405	412	-	-	-	-	-	-	-
Stage 1	777	716	-	645	617	-	-	-	-	-	-	-
Stage 2	639	616	-	761	712	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	8.6	14.2	0.1	0.2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1352	-	-	407	1020	1195	-	-
HCM Lane V/C Ratio	0.004	-	-	0.04	0.027	0.005	-	-
HCM Control Delay (s)	7.7	-	-	14.2	8.6	8	-	-
HCM Lane LOS	A	-	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	40	80	35	115	50	125	130	55	25	100	5
Future Vol, veh/h	5	40	80	35	115	50	125	130	55	25	100	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	43	87	38	125	54	136	141	60	27	109	5
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	10.7	10.4	11.4	10.8
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	70%	0%	33%	0%	100%	0%	0%	95%
Vol Right, %	0%	30%	0%	67%	0%	0%	100%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	125	185	5	120	35	115	50	25	105
LT Vol	125	0	5	0	35	0	0	25	0
Through Vol	0	130	0	40	0	115	0	0	100
RT Vol	0	55	0	80	0	0	50	0	5
Lane Flow Rate	136	201	5	130	38	125	54	27	114
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.248	0.327	0.011	0.224	0.073	0.223	0.086	0.053	0.205
Departure Headway (Hd)	6.569	5.857	7.152	6.17	6.941	6.434	5.726	7.007	6.468
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	546	613	500	580	515	556	624	510	554
Service Time	4.316	3.603	4.907	3.924	4.695	4.188	3.479	4.763	4.224
HCM Lane V/C Ratio	0.249	0.328	0.01	0.224	0.074	0.225	0.087	0.053	0.206
HCM Control Delay	11.5	11.4	10	10.7	10.2	11	9	10.2	10.9
HCM Lane LOS	B	B	A	B	B	B	A	B	B
HCM 95th-tile Q	1	1.4	0	0.9	0.2	0.8	0.3	0.2	0.8

Intersection	
Int Delay, s/veh	1.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	20	0	15	5	160	0	5	95	5
Future Vol, veh/h	0	0	5	20	0	15	5	160	0	5	95	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	175	-	-	245	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	22	0	16	5	174	0	5	103	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	308	300	106	302	302	174	108	0	0	174	0	0
Stage 1	116	116	-	184	184	-	-	-	-	-	-	-
Stage 2	192	184	-	118	118	-	-	-	-	-	-	-
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	644	612	948	650	611	869	1483	-	-	1403	-	-
Stage 1	889	800	-	818	747	-	-	-	-	-	-	-
Stage 2	810	747	-	887	798	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	629	608	948	643	607	869	1483	-	-	1403	-	-
Mov Cap-2 Maneuver	629	608	-	643	607	-	-	-	-	-	-	-
Stage 1	886	797	-	816	745	-	-	-	-	-	-	-
Stage 2	792	745	-	879	795	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	8.8	10.1	0.2	0.4
HCM LOS	A	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	NWLn2	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1483	-	-	643	869	948	1403	-	-
HCM Lane V/C Ratio	0.004	-	-	0.034	0.019	0.006	0.004	-	-
HCM Control Delay (s)	7.4	-	-	10.8	9.2	8.8	7.6	-	-
HCM Lane LOS	A	-	-	B	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	10	155	95	5
Future Vol, veh/h	5	5	10	155	95	5
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	-	245	-	-	-
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	5	11	168	103	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	296	106	108	0	-	0
Stage 1	106	-	-	-	-	-
Stage 2	190	-	-	-	-	-
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	695	948	1483	-	-	-
Stage 1	918	-	-	-	-	-
Stage 2	842	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	690	948	1483	-	-	-
Mov Cap-2 Maneuver	690	-	-	-	-	-
Stage 1	912	-	-	-	-	-
Stage 2	842	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1483	-	799	-	-
HCM Lane V/C Ratio	0.007	-	0.014	-	-
HCM Control Delay (s)	7.4	-	9.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	50	15	10	125	120	30	115	5	40	75	20
Future Vol, veh/h	10	50	15	10	125	120	30	115	5	40	75	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	270	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	54	16	11	136	130	33	125	5	43	82	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	506	375	93	408	384	128	104	0	0	130	0	0
Stage 1	179	179	-	194	194	-	-	-	-	-	-	-
Stage 2	327	196	-	214	190	-	-	-	-	-	-	-
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	477	556	964	554	550	922	1488	-	-	1455	-	-
Stage 1	823	751	-	808	740	-	-	-	-	-	-	-
Stage 2	686	739	-	788	743	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	314	526	964	481	520	922	1488	-	-	1455	-	-
Mov Cap-2 Maneuver	314	526	-	481	520	-	-	-	-	-	-	-
Stage 1	803	728	-	789	722	-	-	-	-	-	-	-
Stage 2	467	721	-	695	720	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.1	12.3	1.5	2.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1488	-	-	526	517	922	1455	-	-
HCM Lane V/C Ratio	0.022	-	-	0.155	0.284	0.141	0.03	-	-
HCM Control Delay (s)	7.5	0	-	13.1	14.7	9.5	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	1.2	0.5	0.1	-	-

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	50	15	10	125	120	30	115	5	40	75	20
Future Vol, veh/h	10	50	15	10	125	120	30	115	5	40	75	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	54	16	11	136	130	33	125	5	43	82	22
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	8.8	9.1	9.5	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	20%	13%	7%	0%	30%
Vol Thru, %	77%	67%	93%	0%	56%
Vol Right, %	3%	20%	0%	100%	15%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	150	75	135	120	135
LT Vol	30	10	10	0	40
Through Vol	115	50	125	0	75
RT Vol	5	15	0	120	20
Lane Flow Rate	163	82	147	130	147
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.226	0.114	0.221	0.169	0.202
Departure Headway (Hd)	4.988	5.05	5.419	4.676	4.963
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	716	704	659	762	719
Service Time	3.051	3.126	3.181	2.438	3.027
HCM Lane V/C Ratio	0.228	0.116	0.223	0.171	0.204
HCM Control Delay	9.5	8.8	9.7	8.4	9.3
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.9	0.4	0.8	0.6	0.8

Intersection	
Intersection Delay, s/veh	4.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	2	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	81	277	163	147
Demand Flow Rate, veh/h	82	283	167	150
Vehicles Circulating, veh/h	139	172	110	184
Vehicles Exiting, veh/h	195	104	111	271
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.6	4.0	4.1	4.3
Approach LOS	A	A	A	A

Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.530	0.470	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
Entry Flow, veh/h	82	150	133	167	150
Cap Entry Lane, veh/h	1197	1214	1214	1233	1144
Entry HV Adj Factor	0.987	0.982	0.977	0.979	0.982
Flow Entry, veh/h	81	147	130	163	147
Cap Entry, veh/h	1182	1192	1187	1207	1124
V/C Ratio	0.068	0.124	0.110	0.135	0.131
Control Delay, s/veh	3.6	4.1	4.0	4.1	4.3
LOS	A	A	A	A	A
95th %tile Queue, veh	0	0	0	0	0

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	125	220	25	10	5
Future Vol, veh/h	5	125	220	25	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	250	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	5	136	239	27	11	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	519	14	16	0	-	0
Stage 1	14	-	-	-	-	-
Stage 2	505	-	-	-	-	-
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	517	1066	1602	-	-	-
Stage 1	1009	-	-	-	-	-
Stage 2	606	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	439	1066	1602	-	-	-
Mov Cap-2 Maneuver	439	-	-	-	-	-
Stage 1	857	-	-	-	-	-
Stage 2	606	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	6.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1602	-	439	1066	-	-
HCM Lane V/C Ratio	0.149	-	0.012	0.127	-	-
HCM Control Delay (s)	7.6	0	13.3	8.9	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.5	-	0	0.4	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	10	20	0	0
Future Vol, veh/h	0	10	10	20	0	0
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	-	-	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	0	11	11	22	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	45	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	44	-	-	-	-	-
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	965	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	978	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	958	1084	1622	-	-	-
Mov Cap-2 Maneuver	958	-	-	-	-	-
Stage 1	1015	-	-	-	-	-
Stage 2	978	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.4	2.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	1084	-	-
HCM Lane V/C Ratio	0.007	-	0.01	-	-
HCM Control Delay (s)	7.2	-	8.4	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

AM Peak Hour Traffic Growth Sensitivity Analaysis Synchro Reports

Intersection	
Intersection Delay, s/veh	24.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	180	28	7	172	75	70	206	28	164	171	73
Future Vol, veh/h	27	180	28	7	172	75	70	206	28	164	171	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	196	30	8	187	82	76	224	30	178	186	79
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	18.9	15.1	22.1	34.8
HCM LOS	C	C	C	D

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	23%	11%	4%	0%	40%
Vol Thru, %	68%	77%	96%	0%	42%
Vol Right, %	9%	12%	0%	100%	18%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	304	235	179	75	408
LT Vol	70	27	7	0	164
Through Vol	206	180	172	0	171
RT Vol	28	28	0	75	73
Lane Flow Rate	330	255	195	82	443
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.646	0.533	0.429	0.163	0.83
Departure Headway (Hd)	7.037	7.507	7.944	7.201	6.735
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	512	480	453	497	537
Service Time	5.095	5.57	5.705	4.962	4.787
HCM Lane V/C Ratio	0.645	0.531	0.43	0.165	0.825
HCM Control Delay	22.1	18.9	16.6	11.4	34.8
HCM Lane LOS	C	C	C	B	D
HCM 95th-tile Q	4.6	3.1	2.1	0.6	8.4

Intersection	
Intersection Delay, s/veh	29.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	194	30	8	189	75	74	208	30	168	174	79
Future Vol, veh/h	28	194	30	8	189	75	74	208	30	168	174	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	211	33	9	205	82	80	226	33	183	189	86
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	22	16.9	26	45.4
HCM LOS	C	C	D	E

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	24%	11%	4%	0%	40%
Vol Thru, %	67%	77%	96%	0%	41%
Vol Right, %	10%	12%	0%	100%	19%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	312	252	197	75	421
LT Vol	74	28	8	0	168
Through Vol	208	194	189	0	174
RT Vol	30	30	0	75	79
Lane Flow Rate	339	274	214	82	458
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.698	0.597	0.491	0.17	0.897
Departure Headway (Hd)	7.409	7.844	8.261	7.516	7.058
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	485	457	435	474	513
Service Time	5.493	5.933	6.048	5.303	5.133
HCM Lane V/C Ratio	0.699	0.6	0.492	0.173	0.893
HCM Control Delay	26	22	18.8	11.9	45.4
HCM Lane LOS	D	C	C	B	E
HCM 95th-tile Q	5.4	3.8	2.6	0.6	10.2

Intersection	
Intersection Delay, s/veh	39
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	208	32	8	206	75	78	209	32	171	177	85
Future Vol, veh/h	28	208	32	8	206	75	78	209	32	171	177	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	226	35	9	224	82	85	227	35	186	192	92
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	27	19.7	32.4	64.2
HCM LOS	D	C	D	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	24%	10%	4%	0%	39%
Vol Thru, %	66%	78%	96%	0%	41%
Vol Right, %	10%	12%	0%	100%	20%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	319	268	214	75	433
LT Vol	78	28	8	0	171
Through Vol	209	208	206	0	177
RT Vol	32	32	0	75	85
Lane Flow Rate	347	291	233	82	471
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.763	0.673	0.563	0.18	0.981
Departure Headway (Hd)	7.921	8.322	8.71	7.964	7.5
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	454	434	414	449	485
Service Time	5.991	6.396	6.48	5.734	5.562
HCM Lane V/C Ratio	0.764	0.671	0.563	0.183	0.971
HCM Control Delay	32.4	27	22.2	12.5	64.2
HCM Lane LOS	D	D	C	B	F
HCM 95th-tile Q	6.5	4.8	3.4	0.6	12.7

Intersection	
Intersection Delay, s/veh	46.6
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	221	34	9	222	75	81	211	34	175	179	90
Future Vol, veh/h	29	221	34	9	222	75	81	211	34	175	179	90
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	240	37	10	241	82	88	229	37	190	195	98
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	31	21.8	36.5	81.2
HCM LOS	D	C	E	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	25%	10%	4%	0%	39%
Vol Thru, %	65%	78%	96%	0%	40%
Vol Right, %	10%	12%	0%	100%	20%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	326	284	231	75	444
LT Vol	81	29	9	0	175
Through Vol	211	221	222	0	179
RT Vol	34	34	0	75	90
Lane Flow Rate	354	309	251	82	483
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.794	0.72	0.605	0.182	1.041
Departure Headway (Hd)	8.316	8.681	9.055	8.306	7.765
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	439	420	402	435	468
Service Time	6.316	6.681	6.755	6.006	5.809
HCM Lane V/C Ratio	0.806	0.736	0.624	0.189	1.032
HCM Control Delay	36.5	31	24.7	12.8	81.2
HCM Lane LOS	E	D	C	B	F
HCM 95th-tile Q	7.1	5.6	3.8	0.7	14.6

Intersection	
Intersection Delay, s/veh	57.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	235	36	9	239	75	85	212	36	178	182	96
Future Vol, veh/h	29	235	36	9	239	75	85	212	36	178	182	96
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	255	39	10	260	82	92	230	39	193	198	104
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	37.1	25.4	42.9	104.3
HCM LOS	E	D	E	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	26%	10%	4%	0%	39%
Vol Thru, %	64%	78%	96%	0%	40%
Vol Right, %	11%	12%	0%	100%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	333	300	248	75	456
LT Vol	85	29	9	0	178
Through Vol	212	235	239	0	182
RT Vol	36	36	0	75	96
Lane Flow Rate	362	326	270	82	496
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.835	0.775	0.668	0.186	1.11
Departure Headway (Hd)	8.742	9.062	9.387	8.638	8.065
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	416	401	388	418	451
Service Time	6.742	7.062	7.087	6.338	6.143
HCM Lane V/C Ratio	0.87	0.813	0.696	0.196	1.1
HCM Control Delay	42.9	37.1	29	13.3	104.3
HCM Lane LOS	E	E	D	B	F
HCM 95th-tile Q	7.9	6.5	4.7	0.7	16.9

PM Peak Hour Traffic Growth Sensitivity Analysis Synchro Reports

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	70	21	14	173	153	31	127	6	79	75	38
Future Vol, veh/h	14	70	21	14	173	153	31	127	6	79	75	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	76	23	15	188	166	34	138	7	86	82	41
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	9.8	10.5	10.6	10.9
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	19%	13%	7%	0%	41%
Vol Thru, %	77%	67%	93%	0%	39%
Vol Right, %	4%	20%	0%	100%	20%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	164	105	187	153	192
LT Vol	31	14	14	0	79
Through Vol	127	70	173	0	75
RT Vol	6	21	0	153	38
Lane Flow Rate	178	114	203	166	209
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.274	0.177	0.328	0.234	0.314
Departure Headway (Hd)	5.525	5.569	5.814	5.068	5.423
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	651	644	618	708	664
Service Time	3.559	3.608	3.546	2.799	3.457
HCM Lane V/C Ratio	0.273	0.177	0.328	0.234	0.315
HCM Control Delay	10.6	9.8	11.4	9.3	10.9
HCM Lane LOS	B	A	B	A	B
HCM 95th-tile Q	1.1	0.6	1.4	0.9	1.3

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	75	23	15	185	161	31	130	6	89	75	43
Future Vol, veh/h	15	75	23	15	185	161	31	130	6	89	75	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	82	25	16	201	175	34	141	7	97	82	47
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	10.1	10.9	11	11.5
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	19%	13%	7%	0%	43%
Vol Thru, %	78%	66%	93%	0%	36%
Vol Right, %	4%	20%	0%	100%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	167	113	200	161	207
LT Vol	31	15	15	0	89
Through Vol	130	75	185	0	75
RT Vol	6	23	0	161	43
Lane Flow Rate	182	123	217	175	225
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.285	0.194	0.357	0.251	0.345
Departure Headway (Hd)	5.653	5.69	5.909	5.162	5.525
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	635	630	609	695	650
Service Time	3.696	3.735	3.643	2.896	3.566
HCM Lane V/C Ratio	0.287	0.195	0.356	0.252	0.346
HCM Control Delay	11	10.1	11.9	9.6	11.5
HCM Lane LOS	B	B	B	A	B
HCM 95th-tile Q	1.2	0.7	1.6	1	1.5

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	80	24	16	197	170	32	133	7	99	75	47
Future Vol, veh/h	16	80	24	16	197	170	32	133	7	99	75	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	87	26	17	214	185	35	145	8	108	82	51
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	10.4	11.4	11.3	12.1
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	19%	13%	8%	0%	45%
Vol Thru, %	77%	67%	92%	0%	34%
Vol Right, %	4%	20%	0%	100%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	172	120	213	170	221
LT Vol	32	16	16	0	99
Through Vol	133	80	197	0	75
RT Vol	7	24	0	170	47
Lane Flow Rate	187	130	232	185	240
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.3	0.211	0.386	0.27	0.376
Departure Headway (Hd)	5.784	5.824	6.007	5.26	5.638
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	621	614	600	682	637
Service Time	3.834	3.877	3.749	3.001	3.684
HCM Lane V/C Ratio	0.301	0.212	0.387	0.271	0.377
HCM Control Delay	11.3	10.4	12.5	10	12.1
HCM Lane LOS	B	B	B	A	B
HCM 95th-tile Q	1.3	0.8	1.8	1.1	1.7

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	85	26	17	209	178	32	136	7	108	75	52
Future Vol, veh/h	17	85	26	17	209	178	32	136	7	108	75	52
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	92	28	18	227	193	35	148	8	117	82	57
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	10.8	11.9	11.7	12.7
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	18%	13%	8%	0%	46%
Vol Thru, %	78%	66%	92%	0%	32%
Vol Right, %	4%	20%	0%	100%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	175	128	226	178	235
LT Vol	32	17	17	0	108
Through Vol	136	85	209	0	75
RT Vol	7	26	0	178	52
Lane Flow Rate	190	139	246	193	255
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.313	0.23	0.416	0.288	0.407
Departure Headway (Hd)	5.917	5.947	6.102	5.354	5.742
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	605	601	590	669	626
Service Time	3.978	4.011	3.854	3.105	3.799
HCM Lane V/C Ratio	0.314	0.231	0.417	0.288	0.407
HCM Control Delay	11.7	10.8	13.2	10.3	12.7
HCM Lane LOS	B	B	B	B	B
HCM 95th-tile Q	1.3	0.9	2	1.2	2

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	90	27	18	221	186	32	139	7	118	75	56
Future Vol, veh/h	18	90	27	18	221	186	32	139	7	118	75	56
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	98	29	20	240	202	35	151	8	128	82	61
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	11.2	12.5	12	13.5
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	18%	13%	8%	0%	47%
Vol Thru, %	78%	67%	92%	0%	30%
Vol Right, %	4%	20%	0%	100%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	178	135	239	186	249
LT Vol	32	18	18	0	118
Through Vol	139	90	221	0	75
RT Vol	7	27	0	186	56
Lane Flow Rate	193	147	260	202	271
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.325	0.248	0.447	0.306	0.44
Departure Headway (Hd)	6.051	6.076	6.199	5.45	5.848
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	590	587	579	657	612
Service Time	4.125	4.154	3.96	3.211	3.913
HCM Lane V/C Ratio	0.327	0.25	0.449	0.307	0.443
HCM Control Delay	12	11.2	13.9	10.6	13.5
HCM Lane LOS	B	B	B	B	B
HCM 95th-tile Q	1.4	1	2.3	1.3	2.2

Appendix C: Traffic Signal Warrants Analysis

Warrants Summary

Information			
Analyst	MPA	Intersection	Stapleton Rd-Eastonville Rd
Agency/Co	El Paso Couty PWD	Jurisdiction	El Paso County
Date Performed	04-27-2020	Units	U.S. Customary
Project ID	#1910007100 - Eastonville Road	Time Period Analyzed	
East/West Street	Stapleton Road	North/South Street	Eastonville Road North-South
File Name	Eastonville_Stapleton_Warrants.xhy	Major Street	

Project Description *#1910007100 - Eastonville Road*

General				Roadway Network	
Major Street Speed (mph)	45	☐	Population < 10,000	Two Major Routes	☑
Nearest Signal (ft)	0	☑	Coordinated Signal System	Weekend Count	☐
Crashes (per year)	0	☐	Adequate Trials of Alternatives	5-yr Growth Factor	6

Geometry and Traffic	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N	0	1	0	0	1	1	0	1	0	0	1	0
Lane usage		T			TR	R		T			T	
Vehicle Volume Averages (vph)	0	93	0	0	63	49	0	106	0	0	73	0
Peds (ped/h) / Gaps (gaps/h)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--
Delay (s/veh) / (veh-hr)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--

Warrant 1: Eight-Hour Vehicular Volume	☐
1 A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	☐
1 B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	☐
1 (56%) Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 2: Four-Hour Vehicular Volume	☐
2 A. Four-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 3: Peak Hour	☐
3 A. Peak-Hour Conditions (Minor delay --and-- minor volume --and-- total volume) --or--	☐
3 B. Peak- Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☐
Warrant 4: Pedestrian Volume	☐
4 A. Four Hour Volumes --or--	☐
4 B. One-Hour Volumes	☐
Warrant 5: School Crossing	☐
5. Student Volumes --and--	☐
5. Gaps Same Period	☐
Warrant 6: Coordinated Signal System	☑
6. Degree of Platooning (Predominant direction or both directions)	☑
Warrant 7: Crash Experience	☐
7 A. Adequate trials of alternatives, observance and enforcement failed --and--	☐
7 B. Reported crashes susceptible to correction by signal (12-month period) --and--	☐
7 C. (56%) Volumes for Warrants 1A, 1B --or-- 4 are satisfied	☐

Warrant 8: Roadway Network	☐
8 A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2 or 3) --or--	☐
8 B. Weekend Volume (Five hours total)	☐
Warrant 9: Grade Crossing	☐
9 A. Grade Crossing within 140 ft --and--	☐
9 B. Peak-Hour Vehicular Volumes	☐

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Warrants Volume

Information

Analyst	MPA	Intersection	Stapleton Rd-Eastonville Rd
Agency/Co	El Paso Couty PWD	Jurisdiction	El Paso County
Date Performed	04-27-2020	Units	U.S. Customary
Project ID	#1910007100 - Eastonville Road	Time Period Analyzed	
East/West Street	Stapleton Road	North/South Street	Eastonville Road
File Name	Eastonville_Stapleton_Warrants.xhy	Major Street	North-South

Project Description *#1910007100 - Eastonville Road*

Warrant 1

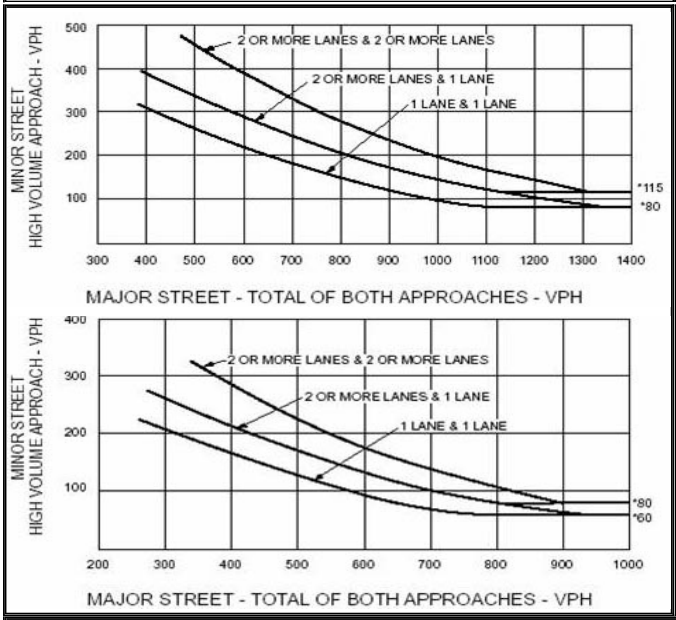
Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

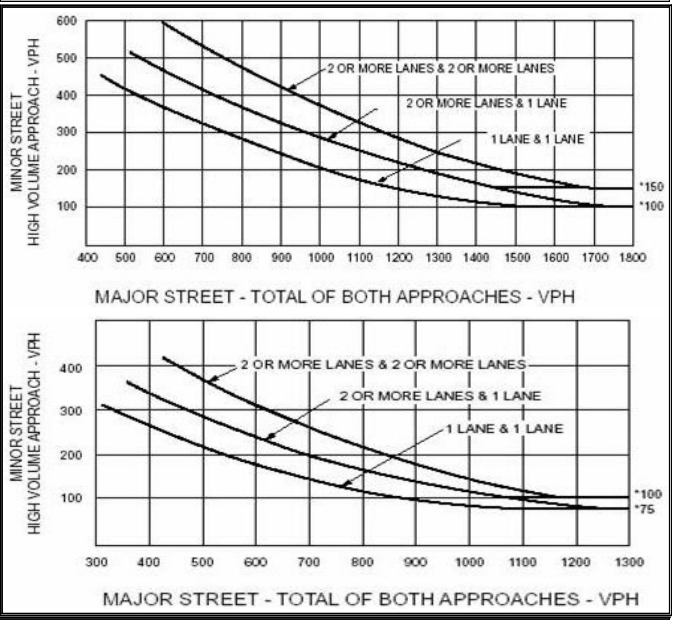
Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant 2



Warrant 3



Volume Summary

Major Street Lanes 1 **Minor Street Lanes** 2+ **Speed** 45 **Population** 10000+

Hours	Major Volume	Minor Volume	Total Volume	1A (70%)	1A (56%)	1B (70%)	1B (56%)	2 (70%)	3A (70%)	3B (70%)
07-08	447	298	925	Yes	Yes	No	Yes	Yes	No	No
08-09	171	119	381	No	No	No	No	No	No	No
09-10	85	75	219	No	No	No	No	No	No	No
10-11	80	69	206	No	No	No	No	No	No	No
11-12	114	59	227	No	No	No	No	No	No	No
12-13	119	66	249	No	No	No	No	No	No	No
13-14	114	56	225	No	No	No	No	No	No	No
14-15	112	87	253	No	No	No	No	No	No	No
15-16	263	162	532	No	No	No	No	No	No	No
16-17	248	207	555	No	No	No	No	No	No	No
17-18	227	228	532	No	No	No	No	No	No	No
18-19	175	109	338	No	No	No	No	No	No	No
Totals	2155	1535	4642	1	1	0	1	1	0	0

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HCS7™ Warrants Version 7.3 Generated: 6/18/2020 2:40 PM

Appendix D: No Build Alternatives Synchro Analysis Reports

2040 No-Build Conditions - AM Peak Hour Synchro Reports

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	85	45	320	70	20	25	5	160	5	10	5
Future Vol, veh/h	5	85	45	320	70	20	25	5	160	5	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	Stop
Storage Length	0	-	-	100	-	-	-	-	80	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	92	49	348	76	22	27	5	174	5	11	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	98	0	0	141	0	0	916	921	117	912	934	87
Stage 1	-	-	-	-	-	-	127	127	-	783	783	-
Stage 2	-	-	-	-	-	-	789	794	-	129	151	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1495	-	-	1442	-	-	253	270	935	255	266	971
Stage 1	-	-	-	-	-	-	877	791	-	387	404	-
Stage 2	-	-	-	-	-	-	384	400	-	875	772	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1495	-	-	1442	-	-	196	204	935	165	201	971
Mov Cap-2 Maneuver	-	-	-	-	-	-	196	204	-	165	201	-
Stage 1	-	-	-	-	-	-	874	789	-	386	307	-
Stage 2	-	-	-	-	-	-	279	304	-	705	770	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	6.5	12.4	20.8
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	197	935	1495	-	-	1442	-	-	250
HCM Lane V/C Ratio	0.166	0.186	0.004	-	-	0.241	-	-	0.087
HCM Control Delay (s)	26.9	9.7	7.4	-	-	8.3	-	-	20.8
HCM Lane LOS	D	A	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.6	0.7	0	-	-	0.9	-	-	0.3

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	65	10	70	15	15	10	80	160	5	0	250	90
Future Vol, veh/h	65	10	70	15	15	10	80	160	5	0	250	90
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	11	76	16	16	11	87	174	5	0	272	98
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10	9.1	10.9	11.9
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	33%	45%	38%	0%
Vol Thru, %	65%	7%	38%	74%
Vol Right, %	2%	48%	25%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	245	145	40	340
LT Vol	80	65	15	0
Through Vol	160	10	15	250
RT Vol	5	70	10	90
Lane Flow Rate	266	158	43	370
Geometry Grp	1	1	1	1
Degree of Util (X)	0.366	0.234	0.069	0.475
Departure Headway (Hd)	4.943	5.354	5.701	4.631
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	719	675	632	769
Service Time	3.036	3.354	3.706	2.716
HCM Lane V/C Ratio	0.37	0.234	0.068	0.481
HCM Control Delay	10.9	10	9.1	11.9
HCM Lane LOS	B	A	A	B
HCM 95th-tile Q	1.7	0.9	0.2	2.6

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	65	10	70	15	15	10	80	160	5	0	250	90
Future Vol, veh/h	65	10	70	15	15	10	80	160	5	0	250	90
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	11	76	16	16	11	87	174	5	0	272	98

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	685	674	321	716	721	177	370	0	0	179	0	0
Stage 1	321	321	-	351	351	-	-	-	-	-	-	-
Stage 2	364	353	-	365	370	-	-	-	-	-	-	-
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	362	376	720	345	353	866	1189	-	-	1397	-	-
Stage 1	691	652	-	666	632	-	-	-	-	-	-	-
Stage 2	655	631	-	654	620	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	323	346	720	283	324	866	1189	-	-	1397	-	-
Mov Cap-2 Maneuver	323	346	-	283	324	-	-	-	-	-	-	-
Stage 1	635	652	-	612	581	-	-	-	-	-	-	-
Stage 2	578	580	-	575	620	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.5	16.3	2.7	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1189	-	-	443	361	1397	-	-
HCM Lane V/C Ratio	0.073	-	-	0.356	0.12	-	-	-
HCM Control Delay (s)	8.3	0	-	17.5	16.3	0	-	-
HCM Lane LOS	A	A	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.6	0.4	0	-	-

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	25	5	10	5	10	20	10	230	10	15	315	25
Future Vol, veh/h	25	5	10	5	10	20	10	230	10	15	315	25
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	-	-	-	-	-	-	365	-	-	465	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	5	11	5	11	22	11	250	11	16	342	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	682	671	356	674	679	256	369	0	0	261	0	0
Stage 1	388	388	-	278	278	-	-	-	-	-	-	-
Stage 2	294	283	-	396	401	-	-	-	-	-	-	-
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	364	378	688	368	374	783	1190	-	-	1303	-	-
Stage 1	636	609	-	728	680	-	-	-	-	-	-	-
Stage 2	714	677	-	629	601	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	340	370	688	352	366	783	1190	-	-	1303	-	-
Mov Cap-2 Maneuver	340	370	-	352	366	-	-	-	-	-	-	-
Stage 1	630	602	-	721	674	-	-	-	-	-	-	-
Stage 2	677	671	-	606	594	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.3	12.4	0.3	0.3
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1190	-	-	394	522	1303	-	-
HCM Lane V/C Ratio	0.009	-	-	0.11	0.073	0.013	-	-
HCM Control Delay (s)	8.1	-	-	15.3	12.4	7.8	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.2	0	-	-

Intersection	
Intersection Delay, s/veh	19.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	95	155	100	15	45	105	20	280	25	90	200	20
Future Vol, veh/h	95	155	100	15	45	105	20	280	25	90	200	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	103	168	109	16	49	114	22	304	27	98	217	22
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	18.9	12.9	26.5	17.3
HCM LOS	C	B	D	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	92%	0%	61%	0%	100%	0%	0%	91%
Vol Right, %	0%	8%	0%	39%	0%	0%	100%	0%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	305	95	255	15	45	105	90	220
LT Vol	20	0	95	0	15	0	0	90	0
Through Vol	0	280	0	155	0	45	0	0	200
RT Vol	0	25	0	100	0	0	105	0	20
Lane Flow Rate	22	332	103	277	16	49	114	98	239
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.05	0.711	0.241	0.586	0.041	0.117	0.251	0.228	0.519
Departure Headway (Hd)	8.292	7.723	8.403	7.605	9.154	8.637	7.914	8.391	7.815
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	430	464	425	471	394	418	457	426	459
Service Time	6.083	5.515	6.196	5.398	6.854	6.337	5.614	6.188	5.612
HCM Lane V/C Ratio	0.051	0.716	0.242	0.588	0.041	0.117	0.249	0.23	0.521
HCM Control Delay	11.5	27.5	13.9	20.7	12.2	12.5	13.2	13.7	18.8
HCM Lane LOS	B	D	B	C	B	B	B	B	C
HCM 95th-tile Q	0.2	5.5	0.9	3.7	0.1	0.4	1	0.9	2.9

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	5	15	105	5	100	10	250	190	50	235	10
Future Vol, veh/h	10	5	15	105	5	100	10	250	190	50	235	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	175	-	-	245	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	5	16	114	5	109	11	272	207	54	255	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	824	870	261	777	772	376	266	0	0	479	0	0
Stage 1	369	369	-	398	398	-	-	-	-	-	-	-
Stage 2	455	501	-	379	374	-	-	-	-	-	-	-
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	292	290	778	314	330	670	1298	-	-	1083	-	-
Stage 1	651	621	-	628	603	-	-	-	-	-	-	-
Stage 2	585	543	-	643	618	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	231	273	778	290	311	670	1298	-	-	1083	-	-
Mov Cap-2 Maneuver	231	273	-	290	311	-	-	-	-	-	-	-
Stage 1	646	590	-	623	598	-	-	-	-	-	-	-
Stage 2	482	539	-	593	587	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.6	18.5	0.2	1.4
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1298	-	-	371	290	635	1083	-	-
HCM Lane V/C Ratio	0.008	-	-	0.088	0.394	0.18	0.05	-	-
HCM Control Delay (s)	7.8	-	-	15.6	25.2	11.9	8.5	-	-
HCM Lane LOS	A	-	-	C	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	1.8	0.7	0.2	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	15	40	400	340	15
Future Vol, veh/h	10	15	40	400	340	15
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	-	245	-	-	-
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	11	16	43	435	370	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	899	378	386	0	-	0
Stage 1	378	-	-	-	-	-
Stage 2	521	-	-	-	-	-
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	309	669	1172	-	-	-
Stage 1	693	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	298	669	1172	-	-	-
Mov Cap-2 Maneuver	298	-	-	-	-	-
Stage 1	667	-	-	-	-	-
Stage 2	596	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.6	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1172	-	447	-	-
HCM Lane V/C Ratio	0.037	-	0.061	-	-
HCM Control Delay (s)	8.2	-	13.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	202.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	400	60	15	440	185	110	135	175	160	215	115
Future Vol, veh/h	50	400	60	15	440	185	110	135	175	160	215	115
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	435	65	16	478	201	120	147	190	174	234	125
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	268	154.9	154.4	236.4
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	26%	10%	3%	0%	33%
Vol Thru, %	32%	78%	97%	0%	44%
Vol Right, %	42%	12%	0%	100%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	420	510	455	185	490
LT Vol	110	50	15	0	160
Through Vol	135	400	440	0	215
RT Vol	175	60	0	185	115
Lane Flow Rate	457	554	495	201	533
Geometry Grp	2	5	7	7	2
Degree of Util (X)	1.196	1.49	1.339	0.504	1.413
Departure Headway (Hd)	12.929	12.179	12.584	11.824	12.264
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	283	305	292	308	304
Service Time	10.929	10.179	10.284	9.524	10.264
HCM Lane V/C Ratio	1.615	1.816	1.695	0.653	1.753
HCM Control Delay	154.4	268	207.3	26	236.4
HCM Lane LOS	F	F	F	D	F
HCM 95th-tile Q	15.1	24.8	19.5	2.7	22.2

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	205	130	240	285	40
Future Vol, veh/h	40	205	130	240	285	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	250	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	43	223	141	261	310	43

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	875	332	353	0	-	0
Stage 1	332	-	-	-	-	-
Stage 2	543	-	-	-	-	-
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	320	710	1206	-	-	-
Stage 1	727	-	-	-	-	-
Stage 2	582	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	276	710	1206	-	-	-
Mov Cap-2 Maneuver	276	-	-	-	-	-
Stage 1	627	-	-	-	-	-
Stage 2	582	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.7	2.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1206	-	276	710	-	-
HCM Lane V/C Ratio	0.117	-	0.158	0.314	-	-
HCM Control Delay (s)	8.4	0	20.5	12.4	-	-
HCM Lane LOS	A	A	C	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.6	1.3	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	20	260	20	60	310
Future Vol, veh/h	15	20	260	20	60	310
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	-	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	16	22	283	22	65	337

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	750	283	0	0	305	0
Stage 1	283	-	-	-	-	-
Stage 2	467	-	-	-	-	-
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	379	756	-	-	1256	-
Stage 1	765	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	359	756	-	-	1256	-
Mov Cap-2 Maneuver	359	-	-	-	-	-
Stage 1	725	-	-	-	-	-
Stage 2	631	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	359	756	1256	-
HCM Lane V/C Ratio	-	-	0.045	0.029	0.052	-
HCM Control Delay (s)	-	-	15.5	9.9	8	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	0.2	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	5	275	370	0
Future Vol, veh/h	0	5	5	275	370	0
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	-	250	-	-	250
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	0	5	5	299	402	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	711	402	402	0	-	0
Stage 1	402	-	-	-	-	-
Stage 2	309	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	400	648	1157	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	745	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	398	648	1157	-	-	-
Mov Cap-2 Maneuver	398	-	-	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	745	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1157	-	648	-	-
HCM Lane V/C Ratio	0.005	-	0.008	-	-
HCM Control Delay (s)	8.1	-	10.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	9.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	30	90	190	50	25	5	80	150	50	5	130	50
Future Vol, veh/h	30	90	190	50	25	5	80	150	50	5	130	50
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	98	207	54	27	5	87	163	54	5	141	54

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	558	569	168	695	569	190	195	0	0	217	0	0
Stage 1	178	178	-	364	364	-	-	-	-	-	-	-
Stage 2	380	391	-	331	205	-	-	-	-	-	-	-
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	440	432	876	357	432	852	1378	-	-	1353	-	-
Stage 1	824	752	-	655	624	-	-	-	-	-	-	-
Stage 2	642	607	-	682	732	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	391	399	876	209	399	852	1378	-	-	1353	-	-
Mov Cap-2 Maneuver	391	399	-	209	399	-	-	-	-	-	-	-
Stage 1	765	749	-	608	579	-	-	-	-	-	-	-
Stage 2	564	563	-	451	729	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.6	25.6	2.2	0.2
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1378	-	-	597	260	1353	-	-
HCM Lane V/C Ratio	0.063	-	-	0.564	0.334	0.004	-	-
HCM Control Delay (s)	7.8	0	-	18.6	25.6	7.7	0	-
HCM Lane LOS	A	A	-	C	D	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	3.5	1.4	0	-	-

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	130	45	200	55	20	50	15	400	0	10	5
Future Vol, veh/h	5	130	45	200	55	20	50	15	400	0	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	Stop
Storage Length	0	-	-	100	-	-	-	-	80	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	141	49	217	60	22	54	16	435	0	11	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	82	0	0	190	0	0	687	692	166	689	705	71
Stage 1	-	-	-	-	-	-	176	176	-	505	505	-
Stage 2	-	-	-	-	-	-	511	516	-	184	200	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1515	-	-	1384	-	-	361	367	878	360	361	991
Stage 1	-	-	-	-	-	-	826	753	-	549	540	-
Stage 2	-	-	-	-	-	-	545	534	-	818	736	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1515	-	-	1384	-	-	306	308	878	153	303	991
Mov Cap-2 Maneuver	-	-	-	-	-	-	306	308	-	153	303	-
Stage 1	-	-	-	-	-	-	824	751	-	547	455	-
Stage 2	-	-	-	-	-	-	446	450	-	403	734	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	5.9	14.1	13.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	306	878	1515	-	-	1384	-	-	454
HCM Lane V/C Ratio	0.231	0.495	0.004	-	-	0.157	-	-	0.036
HCM Control Delay (s)	20.3	13.1	7.4	-	-	8.1	-	-	13.2
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.9	2.8	0	-	-	0.6	-	-	0.1

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	35	5	0	5	15	455	10	10	310	15
Future Vol, veh/h	10	0	35	5	0	5	15	455	10	10	310	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	38	5	0	5	16	495	11	11	337	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	8.9	15.5	11.7
HCM LOS	A	A	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	22%	50%	3%
Vol Thru, %	95%	0%	0%	93%
Vol Right, %	2%	78%	50%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	480	45	10	335
LT Vol	15	10	5	10
Through Vol	455	0	0	310
RT Vol	10	35	5	15
Lane Flow Rate	522	49	11	364
Geometry Grp	1	1	1	1
Degree of Util (X)	0.649	0.074	0.017	0.467
Departure Headway (Hd)	4.478	5.435	5.741	4.618
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	803	654	618	779
Service Time	2.513	3.51	3.828	2.657
HCM Lane V/C Ratio	0.65	0.075	0.018	0.467
HCM Control Delay	15.5	8.9	8.9	11.7
HCM Lane LOS	C	A	A	B
HCM 95th-tile Q	4.9	0.2	0.1	2.5

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	45	90	45	140	60	135	205	70	35	170	5
Future Vol, veh/h	5	45	90	45	140	60	135	205	70	35	170	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	49	98	49	152	65	147	223	76	38	185	5
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	12.9	12.3	15.8	14
HCM LOS	B	B	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	75%	0%	33%	0%	100%	0%	0%	97%
Vol Right, %	0%	25%	0%	67%	0%	0%	100%	0%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	275	5	135	45	140	60	35	175
LT Vol	135	0	5	0	45	0	0	35	0
Through Vol	0	205	0	45	0	140	0	0	170
RT Vol	0	70	0	90	0	0	60	0	5
Lane Flow Rate	147	299	5	147	49	152	65	38	190
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.298	0.549	0.012	0.294	0.107	0.312	0.121	0.082	0.384
Departure Headway (Hd)	7.301	6.614	8.215	7.223	7.883	7.372	6.658	7.799	7.271
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	493	547	436	497	455	488	539	460	495
Service Time	5.037	4.351	5.964	4.971	5.624	5.114	4.399	5.544	5.016
HCM Lane V/C Ratio	0.298	0.547	0.011	0.296	0.108	0.311	0.121	0.083	0.384
HCM Control Delay	13.1	17.1	11.1	13	11.6	13.4	10.3	11.2	14.5
HCM Lane LOS	B	C	B	B	B	B	B	B	B
HCM 95th-tile Q	1.2	3.3	0	1.2	0.4	1.3	0.4	0.3	1.8

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	35	5	0	5	15	455	10	10	310	15
Future Vol, veh/h	10	0	35	5	0	5	15	455	10	10	310	15
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	38	5	0	5	16	495	11	11	337	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	902	905	345	919	908	501	353	0	0	506	0	0
Stage 1	367	367	-	533	533	-	-	-	-	-	-	-
Stage 2	535	538	-	386	375	-	-	-	-	-	-	-
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	259	276	698	252	275	570	1206	-	-	1059	-	-
Stage 1	653	622	-	531	525	-	-	-	-	-	-	-
Stage 2	529	522	-	637	617	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	250	267	698	233	266	570	1206	-	-	1059	-	-
Mov Cap-2 Maneuver	250	267	-	233	266	-	-	-	-	-	-	-
Stage 1	641	614	-	521	516	-	-	-	-	-	-	-
Stage 2	515	513	-	594	609	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13	16.2	0.3	0.3
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1206	-	-	499	331	1059	-	-
HCM Lane V/C Ratio	0.014	-	-	0.098	0.033	0.01	-	-
HCM Control Delay (s)	8	0	-	13	16.2	8.4	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	0	15	5	5	0	30	410	10	10	285	15
Future Vol, veh/h	15	0	15	5	5	0	30	410	10	10	285	15
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	-	-	-	-	-	-	365	-	-	465	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	16	5	5	0	33	446	11	11	310	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	860	863	318	866	866	452	326	0	0	457	0	0
Stage 1	340	340	-	518	518	-	-	-	-	-	-	-
Stage 2	520	523	-	348	348	-	-	-	-	-	-	-
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	276	292	723	274	291	608	1234	-	-	1104	-	-
Stage 1	675	639	-	541	533	-	-	-	-	-	-	-
Stage 2	539	530	-	668	634	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	264	281	723	260	280	608	1234	-	-	1104	-	-
Mov Cap-2 Maneuver	264	281	-	260	280	-	-	-	-	-	-	-
Stage 1	657	633	-	526	519	-	-	-	-	-	-	-
Stage 2	519	516	-	646	628	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.2	18.9	0.5	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1234	-	-	387	270	1104	-	-
HCM Lane V/C Ratio	0.026	-	-	0.084	0.04	0.01	-	-
HCM Control Delay (s)	8	-	-	15.2	18.9	8.3	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	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	5	0	10	25	0	20	10	235	10	10	195	10
Future Vol, veh/h	5	0	10	25	0	20	10	235	10	10	195	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	175	-	-	245	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	11	27	0	22	11	255	11	11	212	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	534	528	218	528	528	261	223	0	0	266	0	0
Stage 1	240	240	-	283	283	-	-	-	-	-	-	-
Stage 2	294	288	-	245	245	-	-	-	-	-	-	-
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	457	456	822	461	456	778	1346	-	-	1298	-	-
Stage 1	763	707	-	724	677	-	-	-	-	-	-	-
Stage 2	714	674	-	759	703	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	439	449	822	449	449	778	1346	-	-	1298	-	-
Mov Cap-2 Maneuver	439	449	-	449	449	-	-	-	-	-	-	-
Stage 1	757	701	-	718	672	-	-	-	-	-	-	-
Stage 2	688	669	-	743	697	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	11.9	0.3	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1346	-	-	637	449	778	1298	-	-
HCM Lane V/C Ratio	0.008	-	-	0.026	0.061	0.028	0.008	-	-
HCM Control Delay (s)	7.7	-	-	10.8	13.5	9.8	7.8	-	-
HCM Lane LOS	A	-	-	B	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	20	240	210	5
Future Vol, veh/h	5	5	20	240	210	5
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	-	245	-	-	-
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	5	22	261	228	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	536	231	233	0	-	0
Stage 1	231	-	-	-	-	-
Stage 2	305	-	-	-	-	-
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	505	808	1335	-	-	-
Stage 1	807	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	497	808	1335	-	-	-
Mov Cap-2 Maneuver	497	-	-	-	-	-
Stage 1	794	-	-	-	-	-
Stage 2	748	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1335	-	615	-	-
HCM Lane V/C Ratio	0.016	-	0.018	-	-
HCM Control Delay (s)	7.7	-	11	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	75
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	160	150	45	30	365	135	90	160	15	125	160	110
Future Vol, veh/h	160	150	45	30	365	135	90	160	15	125	160	110
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	174	163	49	33	397	147	98	174	16	136	174	120
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	72	84.1	39.4	89.4
HCM LOS	F	F	E	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	34%	45%	8%	0%	32%
Vol Thru, %	60%	42%	92%	0%	41%
Vol Right, %	6%	13%	0%	100%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	265	355	395	135	395
LT Vol	90	160	30	0	125
Through Vol	160	150	365	0	160
RT Vol	15	45	0	135	110
Lane Flow Rate	288	386	429	147	429
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.764	0.974	1.101	0.343	1.047
Departure Headway (Hd)	10.112	9.634	9.538	8.767	9.194
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	360	378	382	412	399
Service Time	8.112	7.634	7.238	6.467	7.194
HCM Lane V/C Ratio	0.8	1.021	1.123	0.357	1.075
HCM Control Delay	39.4	72	107.4	16	89.4
HCM Lane LOS	E	F	F	C	F
HCM 95th-tile Q	6.1	11.1	15.1	1.5	13.6

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	130	165	290	265	30
Future Vol, veh/h	40	130	165	290	265	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	250	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	43	141	179	315	288	33

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	978	305	321	0	-	0
Stage 1	305	-	-	-	-	-
Stage 2	673	-	-	-	-	-
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	278	735	1239	-	-	-
Stage 1	748	-	-	-	-	-
Stage 2	507	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	229	735	1239	-	-	-
Mov Cap-2 Maneuver	229	-	-	-	-	-
Stage 1	617	-	-	-	-	-
Stage 2	507	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.2	3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1239	-	229	735	-	-
HCM Lane V/C Ratio	0.145	-	0.19	0.192	-	-
HCM Control Delay (s)	8.4	0	24.4	11.1	-	-
HCM Lane LOS	A	A	C	B	-	-
HCM 95th %tile Q(veh)	0.5	-	0.7	0.7	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	20	295	35	30	275
Future Vol, veh/h	20	20	295	35	30	275
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	-	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	22	22	321	38	33	299

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	686	321	0	0	359	0
Stage 1	321	-	-	-	-	-
Stage 2	365	-	-	-	-	-
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	413	720	-	-	1200	-
Stage 1	735	-	-	-	-	-
Stage 2	702	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	402	720	-	-	1200	-
Mov Cap-2 Maneuver	402	-	-	-	-	-
Stage 1	715	-	-	-	-	-
Stage 2	702	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	402	720	1200	-
HCM Lane V/C Ratio	-	-	0.054	0.03	0.027	-
HCM Control Delay (s)	-	-	14.5	10.2	8.1	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	0.1	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	10	150	255	0
Future Vol, veh/h	0	10	10	150	255	0
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	-	250	-	-	250
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	0	11	11	163	277	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	462	277	277	0	-	0
Stage 1	277	-	-	-	-	-
Stage 2	185	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	558	762	1286	-	-	-
Stage 1	770	-	-	-	-	-
Stage 2	847	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	553	762	1286	-	-	-
Mov Cap-2 Maneuver	553	-	-	-	-	-
Stage 1	763	-	-	-	-	-
Stage 2	847	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1286	-	762	-	-
HCM Lane V/C Ratio	0.008	-	0.014	-	-
HCM Control Delay (s)	7.8	-	9.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	10.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	80	65	40	50	5	140	120	55	5	200	60
Future Vol, veh/h	35	80	65	40	50	5	140	120	55	5	200	60
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	87	71	43	54	5	152	130	60	5	217	65

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	754	754	250	803	756	160	282	0	0	190	0	0
Stage 1	260	260	-	464	464	-	-	-	-	-	-	-
Stage 2	494	494	-	339	292	-	-	-	-	-	-	-
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	326	338	789	302	337	885	1280	-	-	1384	-	-
Stage 1	745	693	-	578	564	-	-	-	-	-	-	-
Stage 2	557	546	-	676	671	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	249	292	789	191	291	885	1280	-	-	1384	-	-
Mov Cap-2 Maneuver	249	292	-	191	291	-	-	-	-	-	-	-
Stage 1	645	690	-	501	488	-	-	-	-	-	-	-
Stage 2	426	473	-	536	668	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26	29.8	3.6	0.1
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1280	-	-	362	246	1384	-	-
HCM Lane V/C Ratio	0.119	-	-	0.54	0.42	0.004	-	-
HCM Control Delay (s)	8.2	0	-	26	29.8	7.6	0	-
HCM Lane LOS	A	A	-	D	D	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	3.1	2	0	-	-

Appendix E: Build Alternatives Synchro Analysis Reports

2040 Build Conditions - AM Peak Hour Synchro Reports

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	95	45	370	85	10	25	5	175	5	10	5
Future Vol, veh/h	5	95	45	370	85	10	25	5	175	5	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	100	-	-	-	-	80	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	103	49	402	92	11	27	5	190	5	11	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	103	0	0	152	0	0	1048	1045	128	1137	1064	98
Stage 1	-	-	-	-	-	-	138	138	-	902	902	-
Stage 2	-	-	-	-	-	-	910	907	-	235	162	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1489	-	-	1429	-	-	206	229	922	179	223	958
Stage 1	-	-	-	-	-	-	865	782	-	332	356	-
Stage 2	-	-	-	-	-	-	329	355	-	768	764	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1489	-	-	1429	-	-	152	164	922	108	160	958
Mov Cap-2 Maneuver	-	-	-	-	-	-	152	164	-	108	160	-
Stage 1	-	-	-	-	-	-	862	780	-	331	256	-
Stage 2	-	-	-	-	-	-	225	255	-	603	762	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	6.8	13.5	28.5
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	154	922	1489	-	-	1429	-	-	175
HCM Lane V/C Ratio	0.212	0.206	0.004	-	-	0.281	-	-	0.124
HCM Control Delay (s)	34.5	9.9	7.4	-	-	8.5	-	-	28.5
HCM Lane LOS	D	A	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.8	0.8	0	-	-	1.2	-	-	0.4

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	15	70	15	15	10	80	160	5	0	250	90
Future Vol, veh/h	65	15	70	15	15	10	80	160	5	0	250	90
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	16	76	16	16	11	87	174	5	0	272	98
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.1	9.1	11	12
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	33%	43%	38%	0%
Vol Thru, %	65%	10%	38%	74%
Vol Right, %	2%	47%	25%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	245	150	40	340
LT Vol	80	65	15	0
Through Vol	160	15	15	250
RT Vol	5	70	10	90
Lane Flow Rate	266	163	43	370
Geometry Grp	1	1	1	1
Degree of Util (X)	0.367	0.243	0.069	0.477
Departure Headway (Hd)	4.959	5.365	5.717	4.647
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	716	673	630	765
Service Time	3.058	3.366	3.724	2.735
HCM Lane V/C Ratio	0.372	0.242	0.068	0.484
HCM Control Delay	11	10.1	9.1	12
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	1.7	0.9	0.2	2.6

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	65	15	70	15	15	10	80	160	5	0	250	90
Future Vol, veh/h	65	15	70	15	15	10	80	160	5	0	250	90
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	16	76	16	16	11	87	174	5	0	272	98

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	685	674	321	718	721	177	370	0	0	179	0	0
Stage 1	321	321	-	351	351	-	-	-	-	-	-	-
Stage 2	364	353	-	367	370	-	-	-	-	-	-	-
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	362	376	720	344	353	866	1189	-	-	1397	-	-
Stage 1	691	652	-	666	632	-	-	-	-	-	-	-
Stage 2	655	631	-	653	620	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	323	346	720	278	324	866	1189	-	-	1397	-	-
Mov Cap-2 Maneuver	323	346	-	278	324	-	-	-	-	-	-	-
Stage 1	635	652	-	612	581	-	-	-	-	-	-	-
Stage 2	578	580	-	569	620	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18	16.4	2.7	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1189	-	-	439	358	1397	-	-
HCM Lane V/C Ratio	0.073	-	-	0.371	0.121	-	-	-
HCM Control Delay (s)	8.3	0	-	18	16.4	0	-	-
HCM Lane LOS	A	A	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.7	0.4	0	-	-

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	25	10	10	5	5	20	10	230	10	15	315	25
Future Vol, veh/h	25	10	10	5	5	20	10	230	10	15	315	25
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	-	-	-	-	-	-	365	-	-	465	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	11	11	5	5	22	11	250	11	16	342	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	679	671	356	677	679	256	369	0	0	261	0	0
Stage 1	388	388	-	278	278	-	-	-	-	-	-	-
Stage 2	291	283	-	399	401	-	-	-	-	-	-	-
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	366	378	688	367	374	783	1190	-	-	1303	-	-
Stage 1	636	609	-	728	680	-	-	-	-	-	-	-
Stage 2	717	677	-	627	601	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	346	370	688	347	366	783	1190	-	-	1303	-	-
Mov Cap-2 Maneuver	346	370	-	347	366	-	-	-	-	-	-	-
Stage 1	630	602	-	721	674	-	-	-	-	-	-	-
Stage 2	685	671	-	599	594	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.4	11.8	0.3	0.3
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1190	-	-	395	560	1303	-	-
HCM Lane V/C Ratio	0.009	-	-	0.124	0.058	0.013	-	-
HCM Control Delay (s)	8.1	-	-	15.4	11.8	7.8	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	15	40	400	285	10
Future Vol, veh/h	10	15	40	400	285	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	245	-	-	-
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	11	16	43	435	310	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	837	316	321	0	-	0
Stage 1	316	-	-	-	-	-
Stage 2	521	-	-	-	-	-
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	337	724	1239	-	-	-
Stage 1	739	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	325	724	1239	-	-	-
Mov Cap-2 Maneuver	325	-	-	-	-	-
Stage 1	713	-	-	-	-	-
Stage 2	596	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.8	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1239	-	486	-	-
HCM Lane V/C Ratio	0.035	-	0.056	-	-
HCM Control Delay (s)	8	-	12.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	22.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	95	155	125	15	45	105	20	280	25	90	225	20
Future Vol, veh/h	95	155	125	15	45	105	20	280	25	90	225	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	103	168	136	16	49	114	22	304	27	98	245	22
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	22.1	13.4	29.6	20.1
HCM LOS	C	B	D	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	92%	0%	55%	0%	100%	0%	0%	92%
Vol Right, %	0%	8%	0%	45%	0%	0%	100%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	305	95	280	15	45	105	90	245
LT Vol	20	0	95	0	15	0	0	90	0
Through Vol	0	280	0	155	0	45	0	0	225
RT Vol	0	25	0	125	0	0	105	0	20
Lane Flow Rate	22	332	103	304	16	49	114	98	266
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.052	0.743	0.249	0.663	0.043	0.121	0.26	0.236	0.599
Departure Headway (Hd)	8.637	8.067	8.678	7.839	9.45	8.932	8.206	8.669	8.099
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	415	448	414	463	379	402	437	415	447
Service Time	6.382	5.812	6.42	5.581	7.204	6.685	5.96	6.414	5.843
HCM Lane V/C Ratio	0.053	0.741	0.249	0.657	0.042	0.122	0.261	0.236	0.595
HCM Control Delay	11.9	30.8	14.3	24.8	12.6	12.9	13.8	14.1	22.3
HCM Lane LOS	B	D	B	C	B	B	B	B	C
HCM 95th-tile Q	0.2	6.1	1	4.7	0.1	0.4	1	0.9	3.8

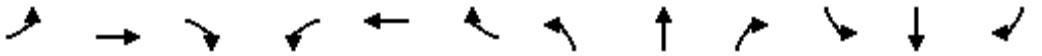
Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	5	15	105	5	100	10	250	190	50	235	10
Future Vol, veh/h	10	5	15	105	5	100	10	250	190	50	235	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	175	-	-	245	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	5	16	114	5	109	11	272	207	54	255	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	824	870	261	777	772	376	266	0	0	479	0	0
Stage 1	369	369	-	398	398	-	-	-	-	-	-	-
Stage 2	455	501	-	379	374	-	-	-	-	-	-	-
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	292	290	778	314	330	670	1298	-	-	1083	-	-
Stage 1	651	621	-	628	603	-	-	-	-	-	-	-
Stage 2	585	543	-	643	618	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	231	273	778	290	311	670	1298	-	-	1083	-	-
Mov Cap-2 Maneuver	231	273	-	290	311	-	-	-	-	-	-	-
Stage 1	646	590	-	623	598	-	-	-	-	-	-	-
Stage 2	482	539	-	593	587	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.6	18.5	0.2	1.4
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1298	-	-	371	290	635	1083	-	-
HCM Lane V/C Ratio	0.008	-	-	0.088	0.394	0.18	0.05	-	-
HCM Control Delay (s)	7.8	-	-	15.6	25.2	11.9	8.5	-	-
HCM Lane LOS	A	-	-	C	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	1.8	0.7	0.2	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	400	60	15	440	75	130	230	60	220	215	165
Future Volume (veh/h)	35	400	60	15	440	75	130	230	60	220	215	165
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	435	65	16	478	82	141	250	65	239	234	179
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	1008	854	438	1008	854	318	634	537	332	634	537
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	850	1870	1585	898	1870	1585	973	1870	1585	1065	1870	1585
Grp Volume(v), veh/h	38	435	65	16	478	82	141	250	65	239	234	179
Grp Sat Flow(s),veh/h/ln	850	1870	1585	898	1870	1585	973	1870	1585	1065	1870	1585
Q Serve(g_s), s	2.6	12.6	1.8	1.0	14.2	2.3	11.5	9.2	2.5	19.9	8.5	7.6
Cycle Q Clear(g_c), s	16.9	12.6	1.8	13.6	14.2	2.3	20.0	9.2	2.5	29.1	8.5	7.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	403	1008	854	438	1008	854	318	634	537	332	634	537
V/C Ratio(X)	0.09	0.43	0.08	0.04	0.47	0.10	0.44	0.39	0.12	0.72	0.37	0.33
Avail Cap(c_a), veh/h	403	1008	854	438	1008	854	318	634	537	332	634	537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	12.5	10.0	16.5	12.9	10.1	30.0	22.7	20.5	33.8	22.5	22.2
Incr Delay (d2), s/veh	0.5	1.3	0.2	0.2	1.6	0.2	1.0	0.4	0.1	7.4	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	5.1	0.6	0.2	5.9	0.8	2.7	3.9	0.9	5.6	3.7	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	13.8	10.2	16.7	14.5	10.3	31.0	23.1	20.6	41.1	22.8	22.5
LnGrp LOS	B	B	B	B	B	B	C	C	C	D	C	C
Approach Vol, veh/h		538			576			456			652	
Approach Delay, s/veh		13.7			13.9			25.2			29.5	
Approach LOS		B			B			C			C	

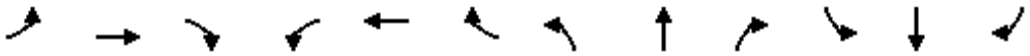
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		54.0		36.0		54.0		36.0				
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s		48.5		30.5		48.5		30.5				
Max Q Clear Time (g_c+I1), s		16.2		22.0		18.9		31.1				
Green Ext Time (p_c), s		3.6		1.5		3.3		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			20.7									
HCM 6th LOS			C									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	400	60	15	440	75	130	230	60	220	215	165
Future Volume (vph)	35	400	60	15	440	75	130	230	60	220	215	165
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4		4	8		8
Detector Phase	6	6	6	2	2	2	4	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
Total Split (s)	54.0	54.0	54.0	54.0	54.0	54.0	36.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	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)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
Act Effct Green (s)	51.2	51.2	51.2	51.2	51.2	51.2	27.8	27.8	27.8	27.8	27.8	27.8
Actuated g/C Ratio	0.57	0.57	0.57	0.57	0.57	0.57	0.31	0.31	0.31	0.31	0.31	0.31
v/c Ratio	0.09	0.41	0.07	0.03	0.45	0.09	0.47	0.44	0.12	0.82	0.41	0.29
Control Delay	12.4	14.1	3.7	12.0	14.7	3.4	28.4	25.8	5.2	50.3	25.3	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.4	14.1	3.7	12.0	14.7	3.4	28.4	25.8	5.2	50.3	25.3	4.2
LOS	B	B	A	B	B	A	C	C	A	D	C	A
Approach Delay		12.7			13.0			23.7			28.6	
Approach LOS		B			B			C			C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 19.7	Intersection LOS: B
Intersection Capacity Utilization 67.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 13: Eastonville Road & Stapleton Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	38	435	65	16	478	82	141	250	65	239	234	179
v/c Ratio	0.09	0.41	0.07	0.03	0.45	0.09	0.47	0.44	0.12	0.82	0.41	0.29
Control Delay	12.4	14.1	3.7	12.0	14.7	3.4	28.4	25.8	5.2	50.3	25.3	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.4	14.1	3.7	12.0	14.7	3.4	28.4	25.8	5.2	50.3	25.3	4.2
Queue Length 50th (ft)	9	132	0	4	150	0	63	111	0	123	103	0
Queue Length 95th (ft)	31	250	21	16	281	23	103	152	24	190	143	38
Internal Link Dist (ft)		617			1839			954			3471	
Turn Bay Length (ft)	250		100	270		270	250		100	250		100
Base Capacity (vph)	447	1097	959	483	1097	966	353	668	609	338	668	682
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.40	0.07	0.03	0.44	0.08	0.40	0.37	0.11	0.71	0.35	0.26

Intersection Summary

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	538	576	456	652
Demand Flow Rate, veh/h	549	588	465	666
Vehicles Circulating, veh/h	499	438	727	648
Vehicles Exiting, veh/h	815	754	321	378
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	10.9	11.6	9.5	10.7
Approach LOS	B	B	A	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	L	TR	L	TR	L	TR
Assumed Moves	L	TR	L	TR	L	TR	L	TR
RT Channelized								
Lane Util	0.071	0.929	0.027	0.973	0.310	0.690	0.366	0.634
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	39	510	16	572	144	321	244	422
Cap Entry Lane, veh/h	853	929	902	979	692	765	744	819
Entry HV Adj Factor	0.974	0.981	1.000	0.980	0.979	0.981	0.980	0.979
Flow Entry, veh/h	38	500	16	560	141	315	239	413
Cap Entry, veh/h	831	911	902	959	677	751	728	802
V/C Ratio	0.046	0.549	0.018	0.585	0.208	0.419	0.328	0.516
Control Delay, s/veh	4.8	11.4	4.2	11.8	7.7	10.3	9.0	11.7
LOS	A	B	A	B	A	B	A	B
95th %tile Queue, veh	0	3	0	4	1	2	1	3

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	180	120	220	420	50
Future Vol, veh/h	40	180	120	220	420	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	250	0	250	-	-	-
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	43	196	130	239	457	54

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	983	484	511	0	-	0
Stage 1	484	-	-	-	-	-
Stage 2	499	-	-	-	-	-
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	276	583	1054	-	-	-
Stage 1	620	-	-	-	-	-
Stage 2	610	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	242	583	1054	-	-	-
Mov Cap-2 Maneuver	242	-	-	-	-	-
Stage 1	544	-	-	-	-	-
Stage 2	610	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.9	3.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1054	-	242	583	-	-
HCM Lane V/C Ratio	0.124	-	0.18	0.336	-	-
HCM Control Delay (s)	8.9	-	23.1	14.3	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.6	1.5	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	20	225	35	40	420
Future Vol, veh/h	50	20	225	35	40	420
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	250	250	-
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	54	22	245	38	43	457

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	788	245	0	0	283	0
Stage 1	245	-	-	-	-	-
Stage 2	543	-	-	-	-	-
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	360	794	-	-	1279	-
Stage 1	796	-	-	-	-	-
Stage 2	582	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	348	794	-	-	1279	-
Mov Cap-2 Maneuver	348	-	-	-	-	-
Stage 1	769	-	-	-	-	-
Stage 2	582	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.1	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	348	794	1279	-
HCM Lane V/C Ratio	-	-	0.156	0.027	0.034	-
HCM Control Delay (s)	-	-	17.3	9.7	7.9	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	0.1	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	5	275	370	0
Future Vol, veh/h	0	5	5	275	370	0
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	-	250	-	-	250
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	0	5	5	299	402	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	711	402	402	0	-	0
Stage 1	402	-	-	-	-	-
Stage 2	309	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	400	648	1157	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	745	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	398	648	1157	-	-	-
Mov Cap-2 Maneuver	398	-	-	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	745	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1157	-	648	-	-
HCM Lane V/C Ratio	0.005	-	0.008	-	-
HCM Control Delay (s)	8.1	-	10.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	120	215	25	45	5	80	130	35	5	220	50
Future Vol, veh/h	30	120	215	25	45	5	80	130	35	5	220	50
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	100	-	100	100	-	-	250	-	100	250	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	130	234	27	49	5	87	141	38	5	239	54

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	610	602	239	773	618	141	293	0	0	179	0	0
Stage 1	249	249	-	315	315	-	-	-	-	-	-	-
Stage 2	361	353	-	458	303	-	-	-	-	-	-	-
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	407	414	800	316	405	907	1269	-	-	1397	-	-
Stage 1	755	701	-	696	656	-	-	-	-	-	-	-
Stage 2	657	631	-	583	664	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	345	384	800	156	375	907	1269	-	-	1397	-	-
Mov Cap-2 Maneuver	345	384	-	156	375	-	-	-	-	-	-	-
Stage 1	703	698	-	648	611	-	-	-	-	-	-	-
Stage 2	560	587	-	334	661	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.3	21.3	2.6	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1269	-	-	345	384	800	156	398	1397	-	-
HCM Lane V/C Ratio	0.069	-	-	0.095	0.34	0.292	0.174	0.137	0.004	-	-
HCM Control Delay (s)	8	-	-	16.5	19.1	11.3	32.9	15.5	7.6	-	-
HCM Lane LOS	A	-	-	C	C	B	D	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	1.5	1.2	0.6	0.5	0	-	-

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Intersection	
Int Delay, s/veh	9.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	130	45	280	45	5	50	15	400	0	10	5
Future Vol, veh/h	5	130	45	280	45	5	50	15	400	0	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	100	-	-	-	-	80	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	141	49	304	49	5	54	16	435	0	11	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	54	0	0	190	0	0	844	838	166	1061	860	52
Stage 1	-	-	-	-	-	-	176	176	-	660	660	-
Stage 2	-	-	-	-	-	-	668	662	-	401	200	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1551	-	-	1384	-	-	283	302	878	202	294	1016
Stage 1	-	-	-	-	-	-	826	753	-	452	460	-
Stage 2	-	-	-	-	-	-	448	459	-	626	736	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1551	-	-	1384	-	-	225	235	878	80	229	1016
Mov Cap-2 Maneuver	-	-	-	-	-	-	225	235	-	80	229	-
Stage 1	-	-	-	-	-	-	824	751	-	451	359	-
Stage 2	-	-	-	-	-	-	337	358	-	308	734	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	7.1	15.2	17.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	227	878	1551	-	-	1384	-	-	309
HCM Lane V/C Ratio	0.311	0.495	0.004	-	-	0.22	-	-	0.053
HCM Control Delay (s)	27.9	13.1	7.3	-	-	8.3	-	-	17.3
HCM Lane LOS	D	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.3	2.8	0	-	-	0.8	-	-	0.2

Intersection	
Intersection Delay, s/veh	13.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	35	5	0	5	15	470	10	0	310	5
Future Vol, veh/h	10	0	35	5	0	5	15	470	10	0	310	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	38	5	0	5	16	511	11	0	337	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	8.9	16	11.3
HCM LOS	A	A	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	22%	50%	0%
Vol Thru, %	95%	0%	0%	98%
Vol Right, %	2%	78%	50%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	495	45	10	315
LT Vol	15	10	5	0
Through Vol	470	0	0	310
RT Vol	10	35	5	5
Lane Flow Rate	538	49	11	342
Geometry Grp	1	1	1	1
Degree of Util (X)	0.666	0.074	0.017	0.442
Departure Headway (Hd)	4.457	5.426	5.732	4.644
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	807	655	619	774
Service Time	2.492	3.5	3.818	2.684
HCM Lane V/C Ratio	0.667	0.075	0.018	0.442
HCM Control Delay	16	8.9	8.9	11.3
HCM Lane LOS	C	A	A	B
HCM 95th-tile Q	5.2	0.2	0.1	2.3

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	10	0	35	5	0	5	15	470	10	0	310	5
Future Vol, veh/h	10	0	35	5	0	5	15	470	10	0	310	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	38	5	0	5	16	511	11	0	337	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	891	894	340	908	891	517	342	0	0	522	0	0
Stage 1	340	340	-	549	549	-	-	-	-	-	-	-
Stage 2	551	554	-	359	342	-	-	-	-	-	-	-
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	263	280	702	256	282	558	1217	-	-	1044	-	-
Stage 1	675	639	-	520	516	-	-	-	-	-	-	-
Stage 2	519	514	-	659	638	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	257	275	702	239	277	558	1217	-	-	1044	-	-
Mov Cap-2 Maneuver	257	275	-	239	277	-	-	-	-	-	-	-
Stage 1	662	639	-	510	506	-	-	-	-	-	-	-
Stage 2	504	504	-	623	638	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	16.1	0.2	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1217	-	-	507	335	1044	-	-
HCM Lane V/C Ratio	0.013	-	-	0.096	0.032	-	-	-
HCM Control Delay (s)	8	0	-	12.9	16.1	0	-	-
HCM Lane LOS	A	A	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	15	0	15	5	5	0	30	410	10	10	250	15
Future Vol, veh/h	15	0	15	5	5	0	30	410	10	10	250	15
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	-	-	-	-	-	-	365	-	-	465	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	16	5	5	0	33	446	11	11	272	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	822	825	280	828	828	452	288	0	0	457	0	0
Stage 1	302	302	-	518	518	-	-	-	-	-	-	-
Stage 2	520	523	-	310	310	-	-	-	-	-	-	-
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	293	308	759	290	306	608	1274	-	-	1104	-	-
Stage 1	707	664	-	541	533	-	-	-	-	-	-	-
Stage 2	539	530	-	700	659	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	281	297	759	276	295	608	1274	-	-	1104	-	-
Mov Cap-2 Maneuver	281	297	-	276	295	-	-	-	-	-	-	-
Stage 1	689	657	-	527	519	-	-	-	-	-	-	-
Stage 2	520	516	-	678	652	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	14.5	18.1	0.5	0.3
HCM LOS	B	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1274	-	-	285	410	1104	-	-
HCM Lane V/C Ratio	0.026	-	-	0.038	0.08	0.01	-	-
HCM Control Delay (s)	7.9	-	-	18.1	14.5	8.3	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.3	0	-	-

Intersection	
Intersection Delay, s/veh	13.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	45	90	45	140	65	135	185	70	30	150	5
Future Vol, veh/h	5	45	90	45	140	65	135	185	70	30	150	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	49	98	49	152	71	147	201	76	33	163	5
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	12.5	11.9	14.7	13.1
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	73%	0%	33%	0%	100%	0%	0%	97%
Vol Right, %	0%	27%	0%	67%	0%	0%	100%	0%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	255	5	135	45	140	65	30	155
LT Vol	135	0	5	0	45	0	0	30	0
Through Vol	0	185	0	45	0	140	0	0	150
RT Vol	0	70	0	90	0	0	65	0	5
Lane Flow Rate	147	277	5	147	49	152	71	33	168
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.294	0.502	0.012	0.287	0.104	0.303	0.127	0.07	0.336
Departure Headway (Hd)	7.222	6.522	8.019	7.029	7.685	7.176	6.463	7.708	7.177
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	500	557	447	511	467	501	555	465	500
Service Time	4.922	4.222	5.763	4.773	5.427	4.918	4.204	5.449	4.919
HCM Lane V/C Ratio	0.294	0.497	0.011	0.288	0.105	0.303	0.128	0.071	0.336
HCM Control Delay	12.9	15.6	10.9	12.6	11.3	13	10.1	11	13.5
HCM Lane LOS	B	C	B	B	B	B	B	B	B
HCM 95th-tile Q	1.2	2.8	0	1.2	0.3	1.3	0.4	0.2	1.5

Intersection	
Int Delay, s/veh	1.8

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	5	0	10	25	0	20	10	210	10	10	130	10
Future Vol, veh/h	5	0	10	25	0	20	10	210	10	10	130	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	175	-	-	245	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	11	27	0	22	11	228	11	11	141	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	436	430	147	430	430	234	152	0	0	239	0	0
Stage 1	169	169	-	256	256	-	-	-	-	-	-	-
Stage 2	267	261	-	174	174	-	-	-	-	-	-	-
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	531	518	900	535	518	805	1429	-	-	1328	-	-
Stage 1	833	759	-	749	696	-	-	-	-	-	-	-
Stage 2	738	692	-	828	755	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	510	510	900	522	510	805	1429	-	-	1328	-	-
Mov Cap-2 Maneuver	510	510	-	522	510	-	-	-	-	-	-	-
Stage 1	826	753	-	743	690	-	-	-	-	-	-	-
Stage 2	713	686	-	811	749	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	10.1	11.1	0.3	0.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	NWLn2	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1429	-	-	522	805	717	1328	-	-
HCM Lane V/C Ratio	0.008	-	-	0.052	0.027	0.023	0.008	-	-
HCM Control Delay (s)	7.5	-	-	12.3	9.6	10.1	7.7	-	-
HCM Lane LOS	A	-	-	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0.1	0	-	-

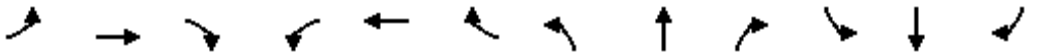
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	15	10	235	145	5
Future Vol, veh/h	5	15	10	235	145	5
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	-	245	-	-	-
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	16	11	255	158	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	438	161	163	0	-	0
Stage 1	161	-	-	-	-	-
Stage 2	277	-	-	-	-	-
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	576	884	1416	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	571	884	1416	-	-	-
Mov Cap-2 Maneuver	571	-	-	-	-	-
Stage 1	861	-	-	-	-	-
Stage 2	770	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1416	-	777	-	-
HCM Lane V/C Ratio	0.008	-	0.028	-	-
HCM Control Delay (s)	7.6	-	9.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	150	45	30	365	255	35	175	10	235	75	110
Future Volume (veh/h)	30	150	45	30	365	255	35	175	10	235	75	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	163	49	33	397	277	38	190	11	255	82	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	426	1064	902	697	1064	902	364	580	34	375	227	332
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	764	1870	1585	1170	1870	1585	1180	1751	101	1181	686	1004
Grp Volume(v), veh/h	33	163	49	33	397	277	38	0	201	255	0	202
Grp Sat Flow(s),veh/h/ln	764	1870	1585	1170	1870	1585	1180	0	1852	1181	0	1690
Q Serve(g_s), s	2.2	3.7	1.2	1.2	10.5	8.2	2.3	0.0	7.3	18.6	0.0	8.2
Cycle Q Clear(g_c), s	12.7	3.7	1.2	4.9	10.5	8.2	10.4	0.0	7.3	25.9	0.0	8.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.05	1.00		0.59
Lane Grp Cap(c), veh/h	426	1064	902	697	1064	902	364	0	613	375	0	559
V/C Ratio(X)	0.08	0.15	0.05	0.05	0.37	0.31	0.10	0.00	0.33	0.68	0.00	0.36
Avail Cap(c_a), veh/h	426	1064	902	697	1064	902	517	0	854	529	0	779
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.1	9.2	8.6	10.3	10.6	10.1	26.8	0.0	22.6	32.3	0.0	22.9
Incr Delay (d2), s/veh	0.4	0.3	0.1	0.1	1.0	0.9	0.1	0.0	0.3	2.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.5	0.4	0.3	4.3	2.9	0.6	0.0	3.2	5.4	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.4	9.5	8.7	10.5	11.6	11.0	27.0	0.0	22.9	34.5	0.0	23.3
LnGrp LOS	B	A	A	B	B	B	C	A	C	C	A	C
Approach Vol, veh/h		245			707			239			457	
Approach Delay, s/veh		10.0			11.3			23.5			29.5	
Approach LOS		A			B			C			C	

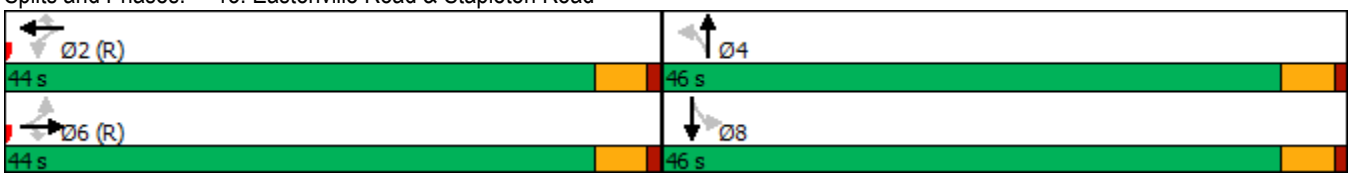
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		55.7		34.3		55.7		34.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		39.5		41.5		39.5		41.5				
Max Q Clear Time (g_c+I1), s		12.5		12.4		14.7		27.9				
Green Ext Time (p_c), s		3.8		1.3		1.3		1.9				

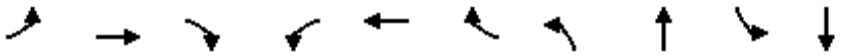
Intersection Summary												
HCM 6th Ctrl Delay			17.9									
HCM 6th LOS			B									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	150	45	30	365	255	35	175	235	75
Future Volume (vph)	30	150	45	30	365	255	35	175	235	75
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		6			2			4		8
Permitted Phases	6		6	2		2	4		8	
Detector Phase	6	6	6	2	2	2	4	4	8	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	44.0	44.0	44.0	44.0	44.0	44.0	46.0	46.0	46.0	46.0
Total Split (%)	48.9%	48.9%	48.9%	48.9%	48.9%	48.9%	51.1%	51.1%	51.1%	51.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	54.3	54.3	54.3	54.3	54.3	54.3	26.7	26.7	26.7	26.7
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.60	0.60	0.30	0.30	0.30	0.30
v/c Ratio	0.06	0.15	0.05	0.04	0.35	0.26	0.13	0.37	0.84	0.35
Control Delay	10.7	10.1	3.8	10.4	11.9	2.3	20.6	24.6	52.1	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	10.1	3.8	10.4	11.9	2.3	20.6	24.6	52.1	11.5
LOS	B	B	A	B	B	A	C	C	D	B
Approach Delay		8.9			8.1			23.9		34.1
Approach LOS		A			A			C		C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 17.7	Intersection LOS: B
Intersection Capacity Utilization 59.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 13: Eastonville Road & Stapleton Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	33	163	49	33	397	277	38	201	255	202
v/c Ratio	0.06	0.15	0.05	0.04	0.35	0.26	0.13	0.37	0.84	0.35
Control Delay	10.7	10.1	3.8	10.4	11.9	2.3	20.6	24.6	52.1	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	10.1	3.8	10.4	11.9	2.3	20.6	24.6	52.1	11.5
Queue Length 50th (ft)	7	37	0	7	104	0	16	88	136	39
Queue Length 95th (ft)	26	88	18	26	217	39	32	120	193	76
Internal Link Dist (ft)		575			1841			970		3471
Turn Bay Length (ft)	250		250	250		270	250		250	
Base Capacity (vph)	531	1124	975	735	1124	1065	470	854	472	841
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.15	0.05	0.04	0.35	0.26	0.08	0.24	0.54	0.24

Intersection Summary

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	245	740	239	457
Demand Flow Rate, veh/h	250	755	244	466
Vehicles Circulating, veh/h	378	267	460	478
Vehicles Exiting, veh/h	566	437	168	544
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.4	11.6	5.7	6.9
Approach LOS	A	B	A	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	L	TR	L	TR	L	TR
Assumed Moves	L	TR	L	TR	L	TR	L	TR
RT Channelized								
Lane Util	0.136	0.864	0.045	0.955	0.160	0.840	0.558	0.442
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	34	216	34	721	39	205	260	206
Cap Entry Lane, veh/h	953	1030	1056	1132	884	960	870	946
Entry HV Adj Factor	0.971	0.980	0.971	0.981	0.974	0.981	0.981	0.982
Flow Entry, veh/h	33	212	33	707	38	201	255	202
Cap Entry, veh/h	925	1010	1025	1110	861	943	853	929
V/C Ratio	0.036	0.210	0.032	0.637	0.044	0.213	0.299	0.218
Control Delay, s/veh	4.2	5.6	3.8	11.9	4.6	5.9	7.5	6.0
LOS	A	A	A	B	A	A	A	A
95th %tile Queue, veh	0	1	0	5	0	1	1	1

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	130	210	250	290	40
Future Vol, veh/h	50	130	210	250	290	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	250	-	-	-
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	54	141	228	272	315	43

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1065	337	358	0	-	0
Stage 1	337	-	-	-	-	-
Stage 2	728	-	-	-	-	-
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	246	705	1201	-	-	-
Stage 1	723	-	-	-	-	-
Stage 2	478	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	199	705	1201	-	-	-
Mov Cap-2 Maneuver	199	-	-	-	-	-
Stage 1	586	-	-	-	-	-
Stage 2	478	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.5	4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1201	-	199	705	-	-
HCM Lane V/C Ratio	0.19	-	0.273	0.2	-	-
HCM Control Delay (s)	8.7	-	29.8	11.4	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.7	-	1.1	0.7	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	75	245	55	40	290
Future Vol, veh/h	40	75	245	55	40	290
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	250	250	-
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	43	82	266	60	43	315

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	667	266	0	0	326	0
Stage 1	266	-	-	-	-	-
Stage 2	401	-	-	-	-	-
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	424	773	-	-	1234	-
Stage 1	779	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	409	773	-	-	1234	-
Mov Cap-2 Maneuver	409	-	-	-	-	-
Stage 1	752	-	-	-	-	-
Stage 2	676	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	409	773	1234	-
HCM Lane V/C Ratio	-	-	0.106	0.105	0.035	-
HCM Control Delay (s)	-	-	14.8	10.2	8	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.4	0.1	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	10	345	330	0
Future Vol, veh/h	0	10	10	345	330	0
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	-	250	-	-	250
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	0	11	11	375	359	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	756	359	359	0	-	0
Stage 1	359	-	-	-	-	-
Stage 2	397	-	-	-	-	-
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	376	685	1200	-	-	-
Stage 1	707	-	-	-	-	-
Stage 2	679	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	373	685	1200	-	-	-
Mov Cap-2 Maneuver	373	-	-	-	-	-
Stage 1	701	-	-	-	-	-
Stage 2	679	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1200	-	685	-	-
HCM Lane V/C Ratio	0.009	-	0.016	-	-
HCM Control Delay (s)	8	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	100	110	20	90	5	140	130	50	5	200	65
Future Vol, veh/h	20	100	110	20	90	5	140	130	50	5	200	65
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	100	-	100	100	-	-	250	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	109	120	22	98	5	152	141	54	5	217	71

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	787	762	253	849	770	168	288	0	0	195	0	0
Stage 1	263	263	-	472	472	-	-	-	-	-	-	-
Stage 2	524	499	-	377	298	-	-	-	-	-	-	-
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	309	335	786	281	331	876	1274	-	-	1378	-	-
Stage 1	742	691	-	573	559	-	-	-	-	-	-	-
Stage 2	537	544	-	644	667	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	207	294	786	155	290	876	1274	-	-	1378	-	-
Mov Cap-2 Maneuver	207	294	-	155	290	-	-	-	-	-	-	-
Stage 1	654	688	-	505	492	-	-	-	-	-	-	-
Stage 2	377	479	-	458	664	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.7	24.6	3.6	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1274	-	-	207	294	786	155	301	1378	-	-
HCM Lane V/C Ratio	0.119	-	-	0.105	0.37	0.152	0.14	0.343	0.004	-	-
HCM Control Delay (s)	8.2	-	-	24.4	24.3	10.4	32	23.1	7.6	-	-
HCM Lane LOS	A	-	-	C	C	B	D	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.3	1.6	0.5	0.5	1.5	0	-	-

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