Briargate-Stapleton Corridor Study

Appendix B: Traffic Report

El Paso County Department of Public Works

On-Call Contract:
#17-067-51 12/09/2021

DRAFT

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Prepared for

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List of Acronyms and Definitions

Acronym/ Term/ Phrase	Definition
AM	Refers to the morning weekday peak traffic period, which includes primarily work and school trips.
ADT	**Average Daily Traffic:** 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).).
AWDT	**Average Weekday Daily Traffic:** When the term ADT is used specifically to mean typical weekday traffic, it is often called AWDT.
AWSC	**All-Way Stop Controlled:** All intersection approaches are controlled by STOP signs.
CDOT	**Colorado Department of Transportation:** CDOT has jurisdiction over Colorado's State Highway System, including facilities within the project study area.
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.
HCM	***Highway Capacity Manual*:** 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, Sixth Edition: A Guide for Multimodal Mobility Analysis* (HCM6) was used as part of this study.
Lane	A portion of the roadway surface designated for motor vehicle travel, typically in a single direction, 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; "bike lanes," which are designated for bicycle travel in the same direction as the automobile travel, are typically narrower than vehicle lanes, and are usually located along the outside edges of the roadway.

LT	**Left Turn:** 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.
LOS	**Level of Service:** 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 measure like speed, density, etc.
MPO	**Metropolitan Planning Organization:** 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.
NCRHP	**National Cooperative Highway Research Program:** 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.
NB	**Northbound:** Refers to traffic flowing from the south toward the north, and the lanes that carry such traffic.
OTIS)	**Online Transportation Information System:** A publicly 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. It was used in this study as a data source for historical trends-based annual and 20-year traffic growth factors.
PPACG	**Pikes Peak Area Council of Governments:** 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.
RIRO	**Right-In/Right-Out**
ROW	**Right-of Way**
RT	**Right Turn:** Refers to traffic that turns right at an intersection, sometimes using a designated right-turn lane.
(SB)	**Southbound:** Refers to traffic flowing from the north toward the south, and the lanes that carry such traffic.
Through/Right Turn	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.
TWSC	**Two-Way Stop Controlled:** Cross street minor approaches are controlled by STOP signs.
Turning-Movement Counts	Traffic counts for a given time interval that specify how many vehicles turn left or right, as well as counting vehicles that proceed straight forward through the intersection.

V/C Ratio	**Volume-to-Capacity Ratio:** Measures roadway level of congestion, or degree of saturation, by dividing the existing or future volume of traffic by the capacity of roadway.
VPD	**Vehicles Per Day**
Vehicle Queue	A line of stopped vehicles in a single travel lane, commonly caused by traffic control at an intersection.
WB	**Westbound:** Refers to one-way traffic flowing from the east to the west (e.g., from Colorado Springs toward Manitou Springs), and the lanes that carry such traffic.

1.0 Introduction

1.1 Background

The Briargate Parkway–Stapleton Road corridor is an integral part of a larger transportation system in the Pikes Peak Region. The full 14-mile-long corridor will ultimately connect I-25 to US Highway 24 on the north side of the greater Colorado Springs area as shown in **Figure 1.1**. The 5.5-mile-long project corridor for the Briargate-Stapleton Traffic Study extends from Meridian Road on the east to Black Forest Road on the west. The project corridor is mostly undeveloped at this time, with some portions containing existing roadways of various types and phases of construction associated with adjacent development, most notably a nearly one-mile-long segment west of Meridian Road. There is, however, a significant amount of development occurring in this rapidly growing area of El Paso County.

1.1.1 Purpose and Objectives

The El Paso County 2016 *Major Transportation Corridors Plan* (2016 MTCP) identifies the ultimate need for a four-lane section throughout the Briargate Parkway–Stapleton Road project corridor both to meet forecasted travel demand and to fulfill broader county system and connectivity needs. The 2016 MTCP also includes specific recommendations regarding functional classification, transportation modes, and other uses for the Briargate-Stapleton corridor. The 2016 MTCP identifies the Briargate Parkway–Stapleton Road project corridor as a principal arterial from the eastern city limits of Colorado Springs (Black Forest Road) to Judge Orr Road (southeast of US 24). Additional mobility provisions that are necessary, such as bike routes, pedestrian accommodations, and public transit, are also identified for the corridor by the 2016 MTCP. This study was undertaken to confirm and ensure the appropriate spacing of proposed development access along the corridor to maintain operational functionality appropriate for the corridor's functional classification.

The Briargate-Stapleton Traffic Study is a component of the Briargate Parkway–Stapleton Road Corridor Preservation Plan. The purpose of the study is to evaluate existing and future (2045) traffic operations along the roadway, to confirm the proposed number of travel lanes and intersection traffic controls shown in the conceptual design plans, and to devlelop conceptual design for the full corridor. To address this overarching purpose, this study includes: an evaluation of current corridor traffic operations, forecasts of 2045 traffic volumes, an evaluation of traffic operations for the forecasted 2045 conditions, and a confirmation of the feasibility of the planned intersection spacing and access restrictions (e.g., full-access, right-in/right-out (RIRO) only access).

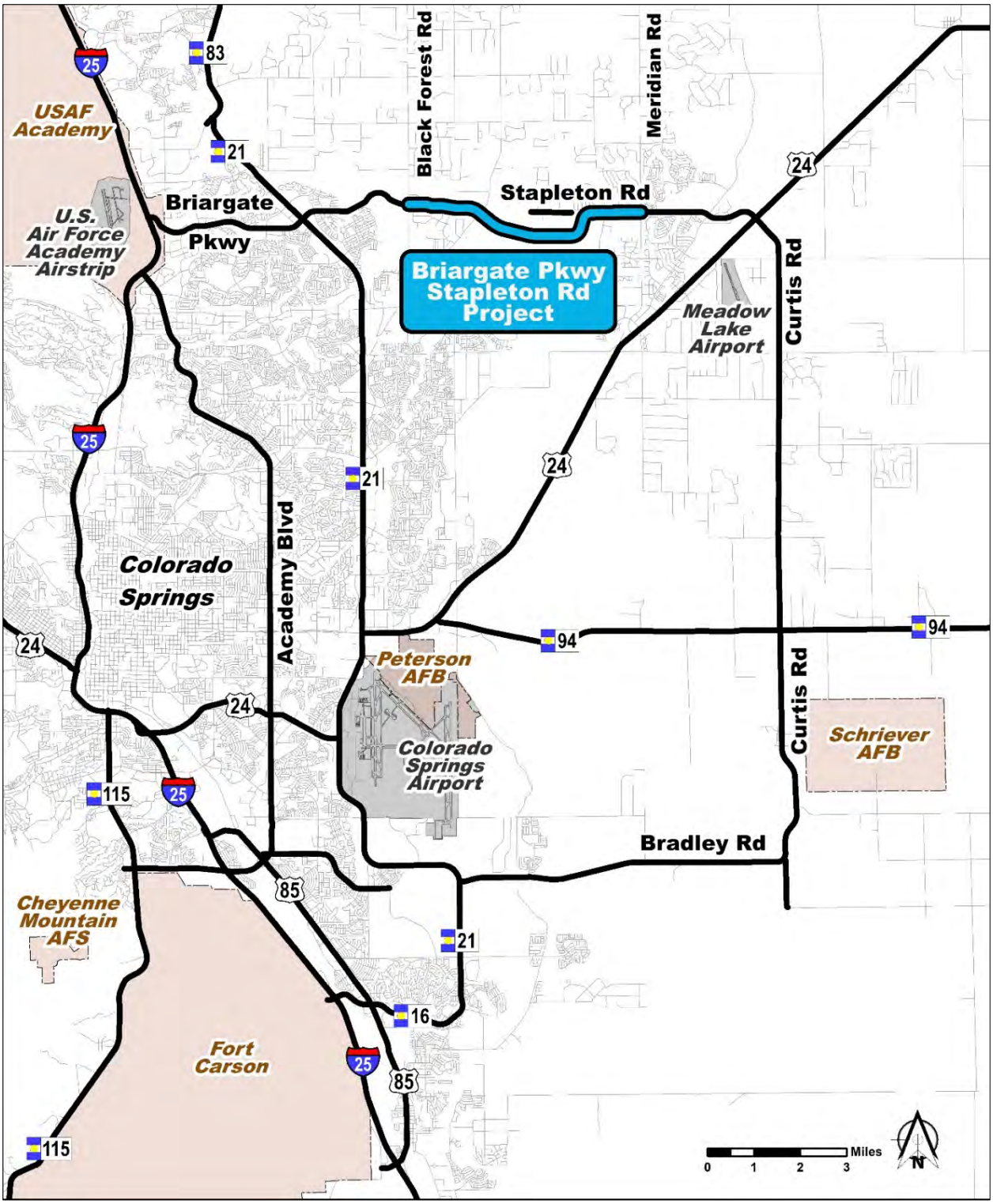


Figure 1.1 Project Corridor Location Map

1.1.2 Methodology and Assumptions

Software Packages

Synchro version 11 software, implementing the Transportation Research Board's *Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis* (HCM6, 2016) delay and Level of Service (LOS) evaluation criteria, was used to perform the traffic operations analysis. Travel demand forecasts were developed using the Pikes Peak Area Council of Governments (PPACG) travel model as a foundation. Full and partial runs of the PPACG travel model and analysis of model inputs and outputs were performed using a PTV Group VISUM version 18 software platform per PPACG model use guidance.

Analysis Area

The analysis area includes the full project corridor extending from Black Forest Road to Meridian Road. Intersection traffic volume forecasts were prepared only for existing and proposed intersections along the project corridor. Existing average daily traffic (ADT) volume counts were collected for a larger area, which included Meridian Road, Woodmen Road, Briargate Parkway (west of Black Forest Road), and Vollmer Road, to support travel demand model validation and adjustment of 2045 traffic forecasts.

Travel Demand Forecasts

The current PPACG VISUM version 18 travel model was used to develop travel demand forecasts for the Briargate Parkway–Stapleton Road corridor study area. Full model scenarios for a 2020 base year and 2045 planning horizon were run for each of these scenarios. Raw traffic assignment volumes produced by the model were adjusted using modeled percent growth and absolute growth in traffic flows between the 2020 and 2045 model scenarios, together with observed traffic count data for 2020, as input. Adjustments to base, raw assignment volumes were made in accordance with industry standard guidance.[1] Adjusted assignment results for 2050 were post-processed to generate balanced peak period intersection turning movements as input to the Synchro-based analyses.

Intersection Analysis

The traffic operations analysis addressed unsignalized and signalized intersection operations using the procedures and methodologies contained in the HCM6 for weekday AM and PM peak hour traffic operations. Study intersection operations were evaluated using LOS and queue length calculations as analyzed in the Synchro version 11 software.

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

[1] NCHRP Report 255 – Highway Traffic Data for Urbanized Area Project Planning and Design, 1982; NCHRP Report 765 – Analytical Travel Forecasting Approaches for Project-Level Planning and Design, 2014.

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 oversaturation 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, *Highway Capacity Manual, 6th Edition: A Guide for Multimodal Mobility Analysis*, 2010, 19-2.

Unsignalized Intersections

For unsignalized (all-way stop-controlled [AWSC] and two-way stop-controlled [TWSC]) 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 TWSC 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.

Table 1.2. LOS Criteria for Unsignalized 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, *Highway Capacity Manual, 6th Edition: A Guide for Multimodal Mobility Analysis*, 2010, 18-6.
Note: For TWSC intersections, level of service is determined by the control delay for each minor movement; LOS is not defined for the overall intersection.

2.0 EXISTING CONDITIONS

2.1 Roadway Classification

Although the study corridor extends approximately 5.5 miles, from Black Forest Road to Meridian Road, approximately 4.3 miles of the corridor has not yet been constructed. The sections that have been built are not consistent with the proposed roadway classification and use. Existing Briargate Parkway extends from the west at Interstate 25 and currently ends approximately one mile west of Black Forest Road. Through the Wolf Ridge development, Briargate Parkway is a 4-lane divided section with curb and gutter and a 30' raised median. In this area, 160' of right-of-way (ROW) has been set aside for the roadway. Another portion of Briargate Parkway currently exists as about 0.2 miles of two-lane, 24'-wide asphalt roadway extending east from Black Forest Road. The ROW indicates that 120' has been set aside for this corridor. Similarly, from the east, Stapleton Drive/Road exists for about 1.0 mile as a two-lane, 24'-wide asphalt roadway from Meridian Road to west of Towner Avenue. ROW that has been set aside in this area varies from 120' to 160'. East of the project, Stapleton Drive/Road is a two-lane section with open drainage and an intermittent painted median.

2.2 Existing Traffic and Roadway Conditions

Available traffic count data was assembled for use in this traffic analysis for the Briargate-Stapleton Corridor Study from sources including the Colorado Department of Transportation (CDOT) traffic statistics database, the PPACG, and both El Paso County and the City of Colorado Springs (traffic count data and recent development traffic impact studies). Count data from these sources included: weekday peak period turning-movement counts, 48-hour counts, hourly counts, and adjusted average daily traffic (ADT) counts. Additional peak hour intersection turning-movement counts were collected at five existing intersections. Directional counts were also conducted hourly at five locations on Stapleton Drive (east of the project corridor), Meridian Road (north and south of the project corridor), Vollmer Road, and Black Forest Road (south of the proposed alignment) in August 2021. **Figure 2.1** shows the existing weekday AM and PM peak hour intersection turning-movement counts. **Figure 2.2** shows the existing lane geometry and traffic control at the study intersections. The raw traffic count data is included in **Attachment A**.

2.3 Traffic Operations

The LOS and delay measures shown in **Table 2.1** are for 2021 existing traffic volumes, roadway geometry, and traffic control. The results show that all the analyzed intersections currently operate at LOS C or better. The Synchro LOS outputs are included in **Attachment B**.

Table 2.1. 2021 Existing Conditions Traffic Operations Summary

Control	Intersection	LOS/Delay [in seconds/vehicle] (Critical Movement)	
		AM Peak Hour	PM Peak Hour
TWSC	Briargate Parkway & Black Forest Road	**b** / 12.3 (WB Approach)	**b** / 13.6 (WB Approach)
AWSC	Stapleton Road & Towner Avenue	**A** / 9.6	**A** / 8.4
TWSC	Stapleton Road & Prairie Dove Drive	**b** / 13.4 (SB Approach)	**b** / 11.2 (SB Approach)
TWSC	Stapleton Road & Liberty Grove Drive	**b** / 14.9 (SB LT)	**b** / 11.5 (SB LT)
Signal	Stapleton Road & Meridian Road	**C** / 28.6	**B** / 19.0

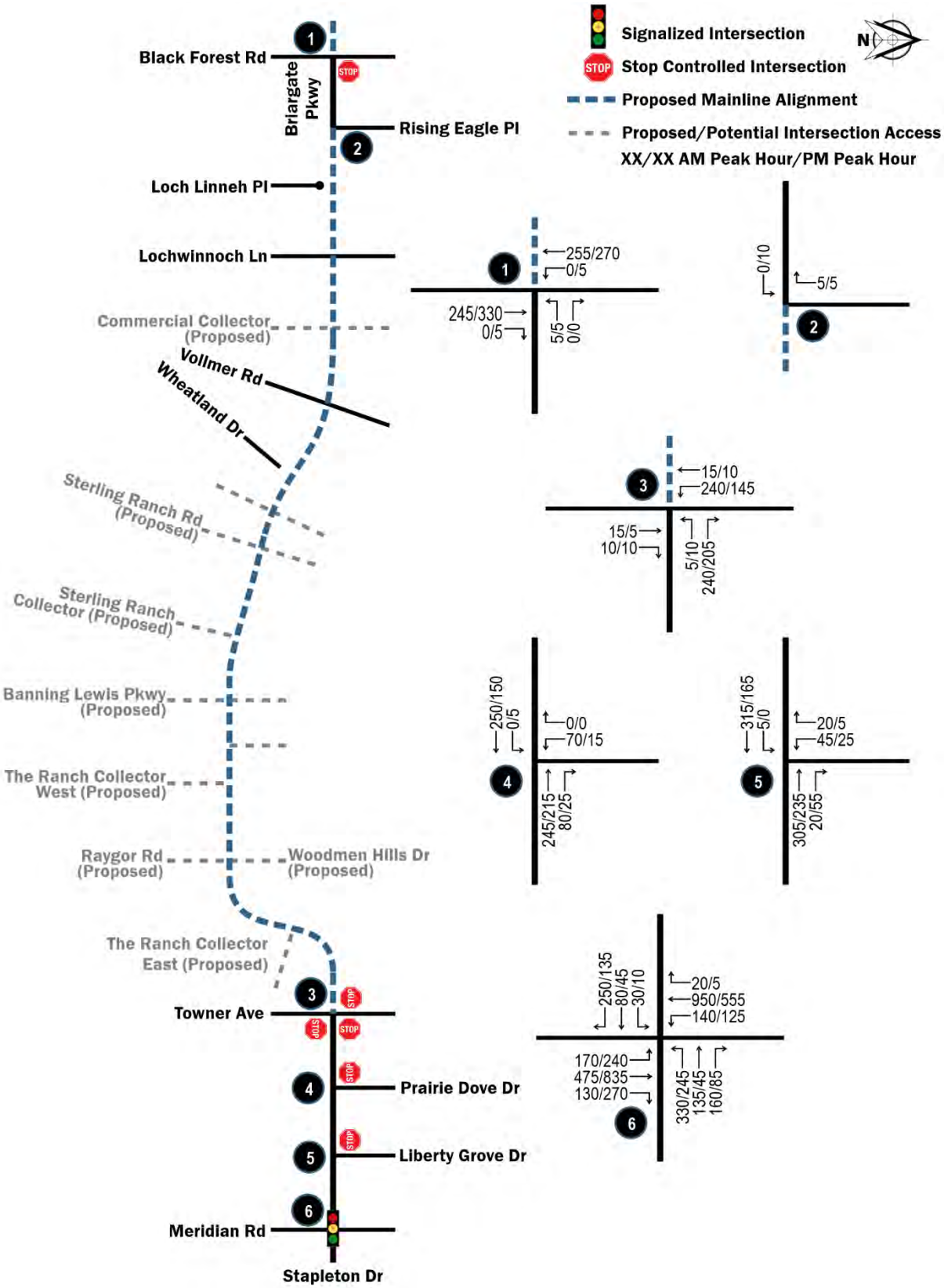


Figure 2.1 Existing Intersection Peak Hour Turning-Movement Volumes

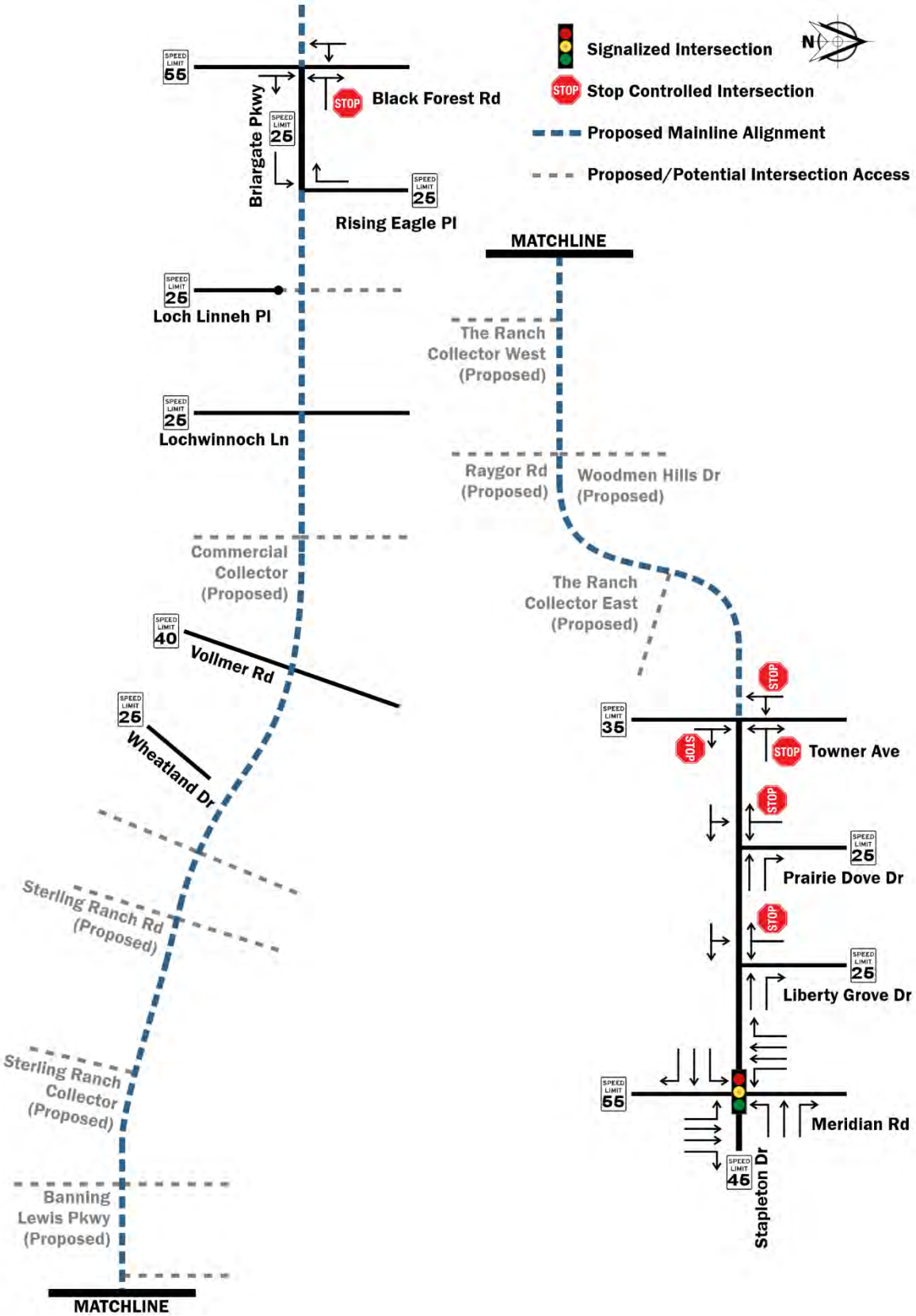


Figure 2.2 Existing Intersection Geometry and Traffic Control

3.0 TRAVEL DEMAND FORECASTS

3.1 Methodology

Forecasts for 2045 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.

The PPACG 2045 fiscally constrained RTP model was used to develop future ADT volume forecasts along the corridor. The model scenario is coded with four lanes east of Black Forest Road and six lanes west of Black Forest Road. The model results were used in conjunction with traffic studies for other projects within the area to develop intersection peak hour turning-movement traffic volumes. Reference studies included the Black Forest Road Widening Project Traffic Impact Study (February 2020) and traffic impact studies completed for Wolf Ranch, The Ranch, Sterling Ranch, Highland Park, and Eagle Rising developments.

3.2 2045 Traffic Forecasts

The traffic impact study included in the City of Colorado Springs Black Forest Road Corridor Study and traffic impact study submittals for the adjacent existing and proposed developments were used to estimate development traffic not included in 2045 regional forecasts. Trends-based 20-year growth factors for US 24, the closest state highway facility, were also obtained from the CDOT Online Traffic Information System (OTIS) database. The average 25-year growth factor was calculated from this data for the corridor segments of interest and was determined to be 1.6. The collected traffic count data is included as **Attachment A**.

The PPACG model and industry-standard adjustment procedures were used, as shown in **Table 3.1**, to calculate unadjusted 2045 forecasts and growth rates. Calculated growth factors were compared, balanced, and applied to 2021 intersection volumes to calculate 2045 total traffic intersection volumes.

Figure 3.1 shows PPACG travel model raw assignment volumes for the 2020 base year model scenario, and **Figure 3.2** shows raw assignment volume for the adopted 2045 PPACG Regional Transportation Plan model scenario.

Figure 3.3 shows the adjusted, forecasted 2045 ADT volumes along the corridor, which range from 16,000 vehicles per day (vpd) west of Meridian Road, at the east end of the study limits, to 25,000 vpd east of Black Forest Road, at the west end of the study limits.

Table 3.1. 2021 Forecast Background Traffic Growth Rate Calculations											
	ADT VOLUMES										Adjusted 2045 ADT Volume
	Ground Count Volumes			PPACG Model Volumes			Difference		% Difference		
SEGMENT LOCATION	Year	Count	Adj. Count	2020	2040	2045	2020 vs Count	% Difference	2020 vs Count	2045 vs 2020	
BLACK FOREST ROAD											
Black Forest Road North of Briargate Parkway	2021*	4,000	4,000	4,200	8,000	8,250	200	5%	105%	196%	8,450
Black Forest Road South of Briargate Parkway	2021*	15,000	15,000	15,000	33,800	35,000	0	0%	100%	233%	35,000
BLACK FOREST ROAD AVERAGE		9,500	9,500	9,600	20,900	21,625	100	3%	103%	215%	21,725
TOWNER AVENUE											
Towner Avenue North of Stapleton Drive	2021*	4,275	4,275	100	225	310	-4,175	98%	2%	310%	2,398
TOWNER AVENUE AVERAGE		4,275	4,275	100	225	310	-4,175	98%	2%	310%	2,398
STAPLETON DRIVE											
Stapleton Drive East of Towner Avenue	2021*	3,500	3,500	500	13,500	14,000	-3,000	86%	14%	2,800%	15,250
Stapleton Drive West of Meridian Road	2021*	6,250	6,250	1,700	14,500	15,000	-4,550	73%	27%	882%	19,050
Stapleton Drive East of Meridian Road	2021	8,900	8,900	4,800	15,400	16,000	-4,100	46%	54%	333%	19,500
STAPLETON DRIVE AVERAGE		6,217	6,217	2,333	14,467	15,000	-3,883	68%	32%	1,339%	17,933
MERIDIAN ROAD											
North of Stapleton Drive	2021	8,000	8,000	8,000	12,200	12,700	0	0%	100%	159%	12,700
South of Stapleton Drive	2021	23,000	23,000	11,000	21,200	22,000	-12,000	52%	48%	200%	34,000
MERIDIAN ROAD AVERAGE		15,500	15,500	9,500	16,700	17,350	-6,000	26%	74%	179%	23,350
US 24											
North of Falcon Highway	2020	16,000	16,000	16,000	22,400	24,000	0	0%	100%	150%	24,000
North of Woodmen Road	2020	11,000	11,000	11,000	16,000	17,200	0	0%	100%	156%	17,200
North Judge Orr Road	2020	11,000	11,000	11,000	16,000	17,200	0	0%	100%	156%	17,200
US 24 AVERAGE		12,667	12,667	12,667	18,133	19,467	0	0%	100%	154%	19,467

*ADT volume was estimated from a peak hour intersection collected at the indicated intersection approaches.

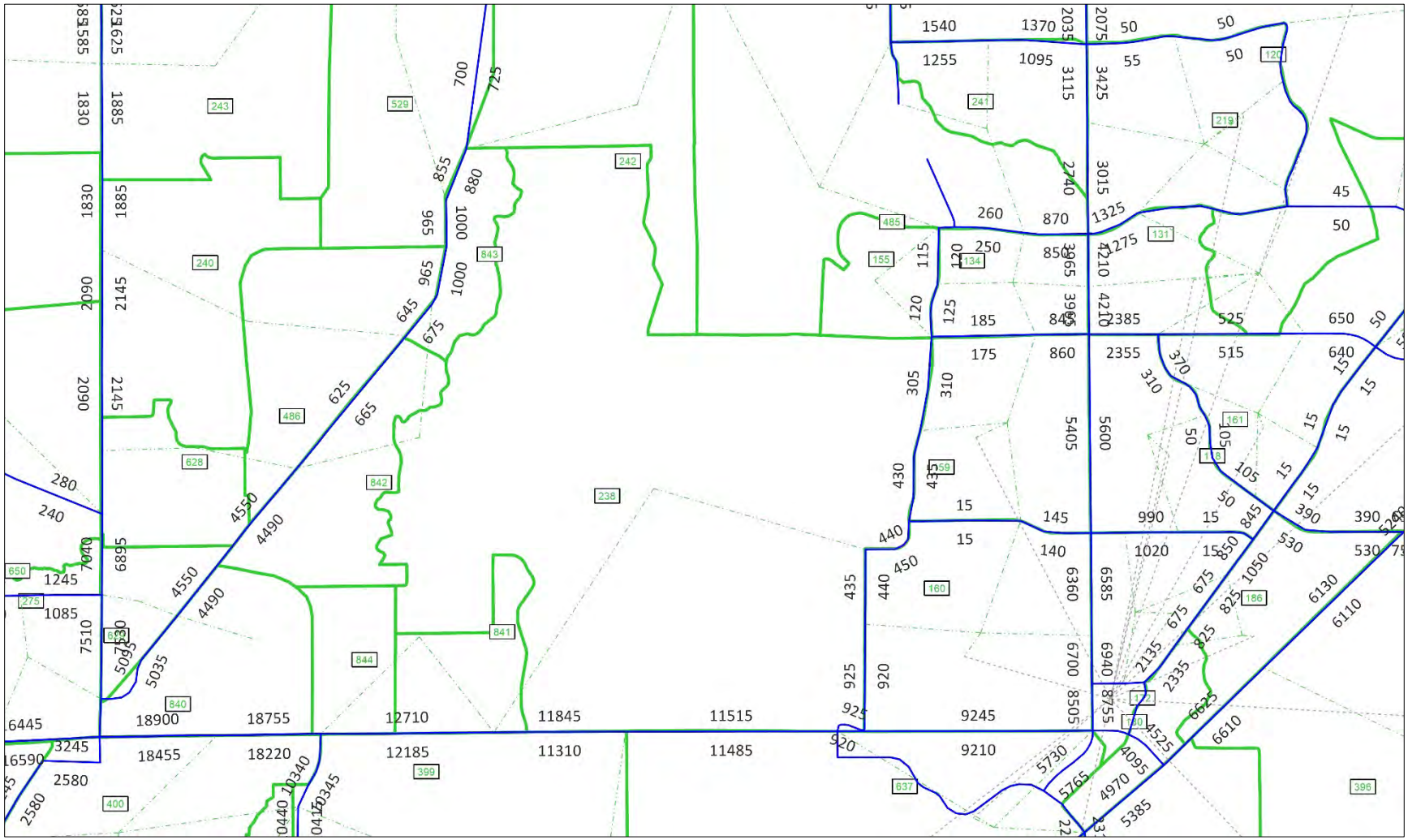


Figure 3.1 PPACG Model 2020 Network and 2020 ADT Traffic Assignment

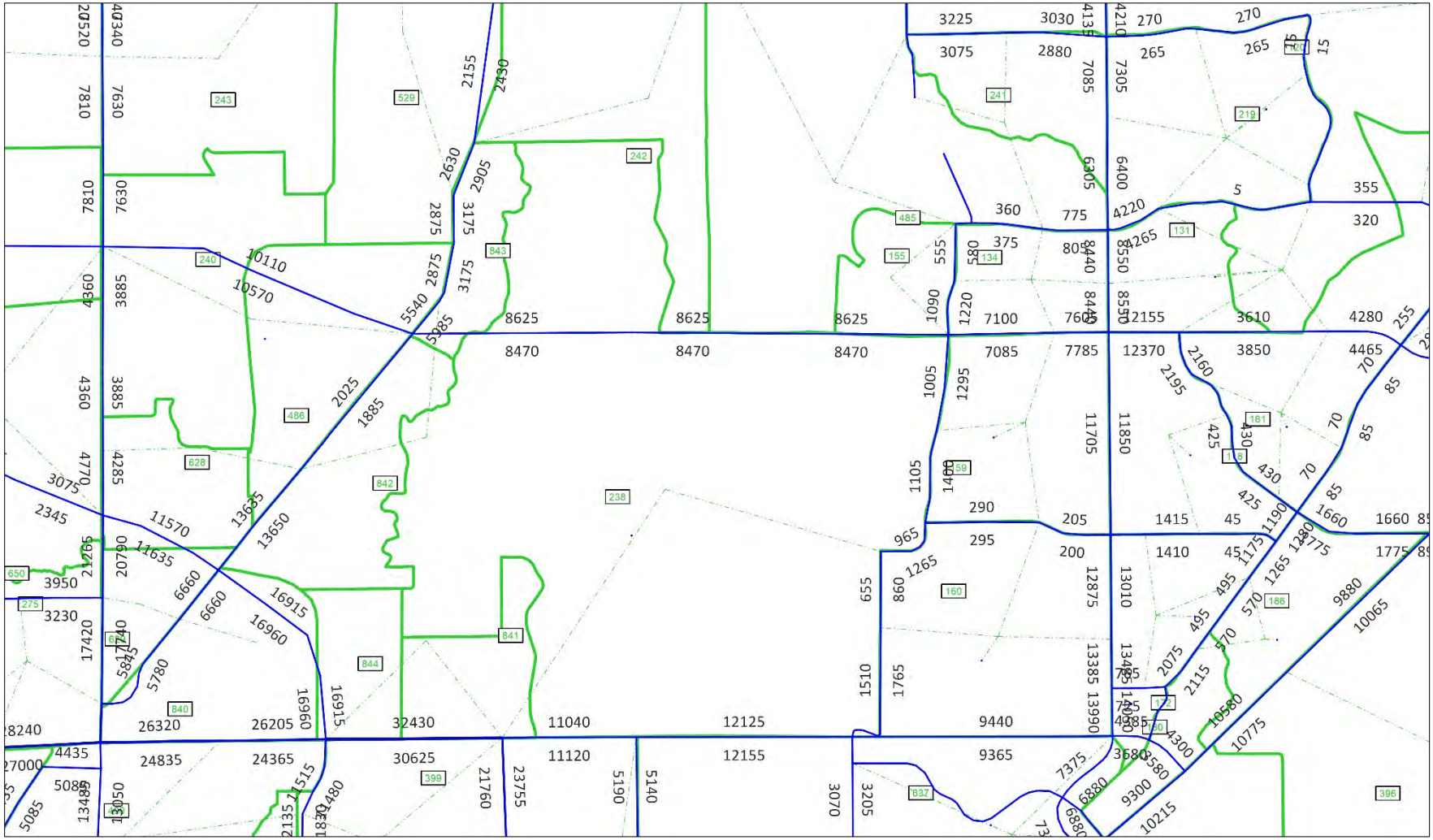


Figure 3.2 PPACG Model 2045 Network and 2045 ADT Traffic Assignment

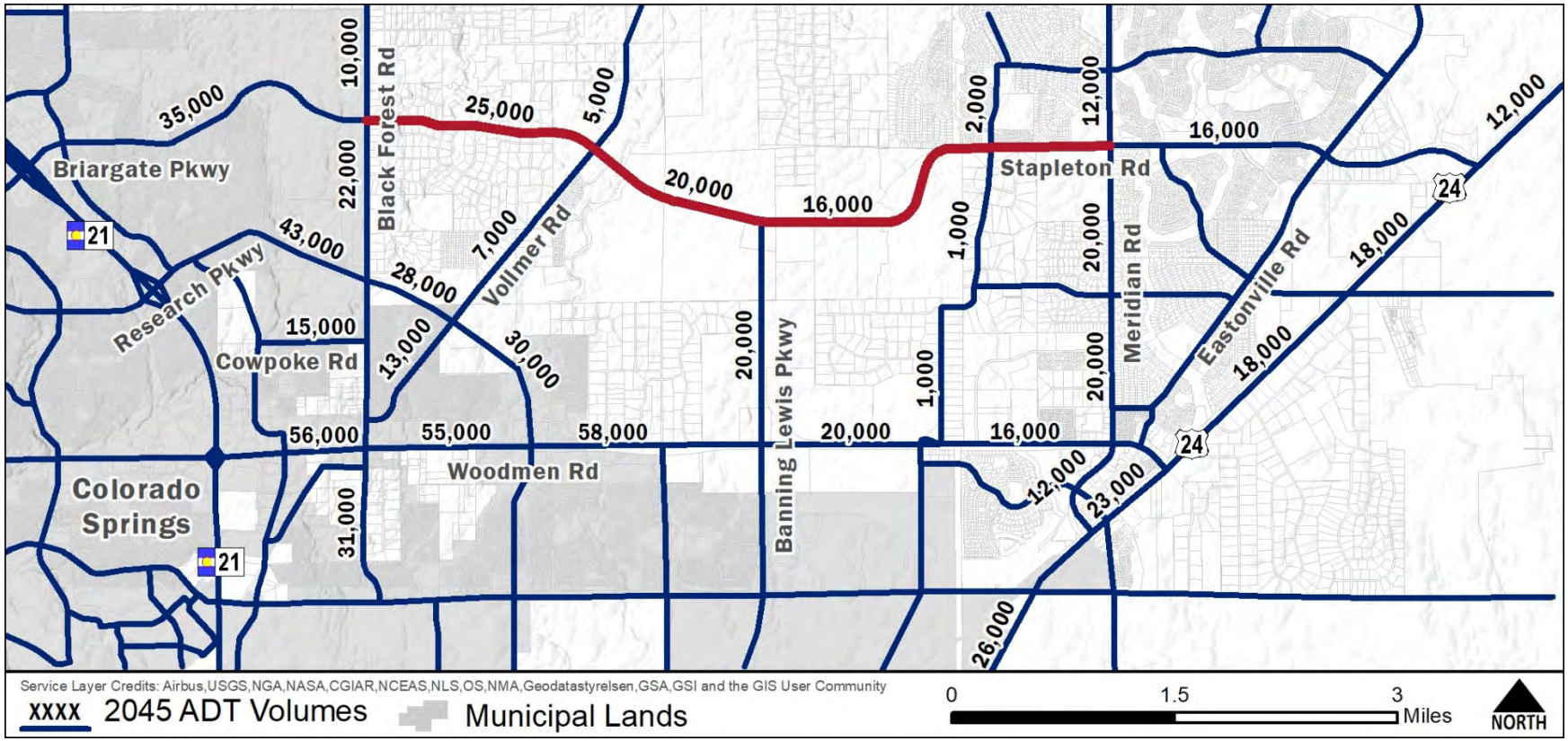


Figure 3.3 2045 Forecast ADT Traffic Volumes

4.0 SIGNAL WARRANT ANALYSIS

4.1 Existing Conditions

There are six intersections along the existing segments of Briargate Parkway–Stapleton Drive/Stapleton Road. These intersections are located at Black Forest Road, Rising Eagle Place, Towner Avenue, Prairie Dove Drive, Liberty Grove Drive, and Meridian Road. There is an existing traffic signal at the intersection of Stapleton Drive and Meridian Road. The other five unsignalized intersections currently experience relatively low traffic volumes. None of these intersections currently meet warrants for signalization.

4.2 Proposed Improvements

The proposed ultimate corridor improvements will include a total of 12 full-access intersections. With forecast daily traffic flow along the corridor ranging from 16,000 to 25,000 ADT, all the full-access intersections are expected to warrant signalization to accommodate forecasted 2045 traffic flow. This traffic study assumed signalized control for purposes of 2045 traffic operations analysis. Both signalized and roundabout alternatives will be evaluated as a part of the preliminary and final roadway design.

5.0 ANALYSIS OF FUTURE CONDITIONS

5.1 Forecast Intersection Traffic Volumes

Figures 5.1 and **5.2** show the 2045 forecast peak hour intersection turning-movement volumes for the west and east segments of the proposed corridor intersections, respectively. Locations at which additional right-in/right-out-only access or additional intersection legs may be allowed are also shown in the figures' key maps.

5.2 Intersection Level of Service

Figure 5.3 shows the proposed lane geometry and traffic control at the study intersections. The intersection LOS and delay measures for the 2045 traffic conditions are shown in **Table 5.1**. As shown in the table, other than at the western and eastern study limits, the analyzed intersections are projected to operate at LOS C or better during the AM and PM peak hours. The Stapleton Road/Meridian Road intersection is projected to operate at LOS D during the AM and PM peak hours. The Briargate Parkway/Black Forest Road intersection is projected to operate at LOS E during the AM peak hour and LOS D during the PM peak hour. The projected level of service at Briargate Parkway/Black Forest Road indicates a potential need for three through lanes in each direction of Briargate Parkway across Black Forest Road at some point in time. The Synchro LOS outputs are included in **Attachment B**.

Table 5.1. 2045 Intersection Level of Service Summary

Control	Intersection	LOS/Delay [in seconds/vehicle] (Critical Movement)	
		AM Peak Hour	PM Peak Hour
Signal	Briargate Parkway & Black Forest Road	E / 60.6	D / 54.8
TWSC	Briargate Parkway & Rising Eagle Place	c / 16.3 (SB RT)	b / 14.7 (SB RT)
Signal	Briargate Parkway & Loch Linneh Place	A / 1.4	A / 1.5
Signal	Briargate Parkway & Lochwinnoch Lane	A / 2.9	A / 2.7
Signal	Briargate Parkway & Commercial Collector	A / 6.7	B / 13.9
Signal	Briargate Parkway & Vollmer Road	B / 17.7	C / 24.0
TWSC	Briargate Parkway & Wheatland Drive	b / 13.5 (NB RT)	c / 16.2 (NB RT)
Signal	Briargate Parkway & Sterling Ranch Road	B / 12.7	B / 15.9
TWSC	Briargate Parkway & Sterling Ranch Collector	b / 13.0 (NB RT)	b / 14.6 (NB RT)
Signal	Briargate Pkwy-Stapleton Rd & Banning Lewis Pkwy	C / 27.1	C / 28.7
Signal	Stapleton Road & The Ranch Collector West	A / 1.5	A / 2.0
Signal	Stapleton Road & Woodmen Hills-Raygor Road	B / 10.8	B / 12.1
Signal	Stapleton Road & The Ranch Collector East	A / 5.5	A / 7.5
Signal	Stapleton Road & Towner Avenue	C / 26.7	B / 17.7
TWSC	Stapleton Road & Prairie Dove Drive	b / 11.4 (SB RT)	b / 10.0 (SB RT)
TWSC	Stapleton Road & Liberty Grove Drive	b / 12.1 (SB RT)	b / 10.1 (SB RT)
Signal	Stapleton Road & Meridian Road	D / 37.2	D / 41.4

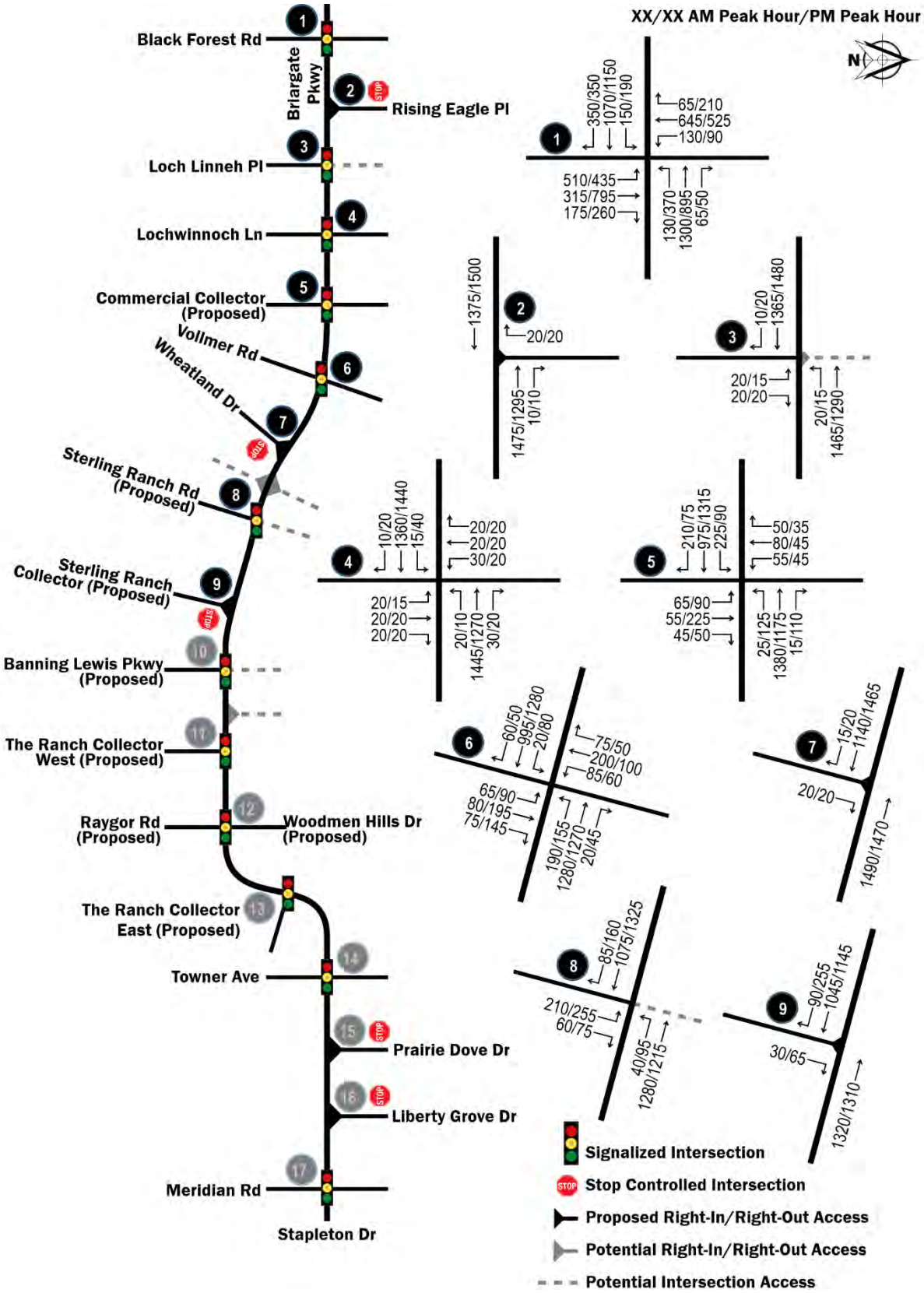


Figure 5.1 2045 Forecast Intersection Peak Hour Turning-Movement Volumes – West Segment

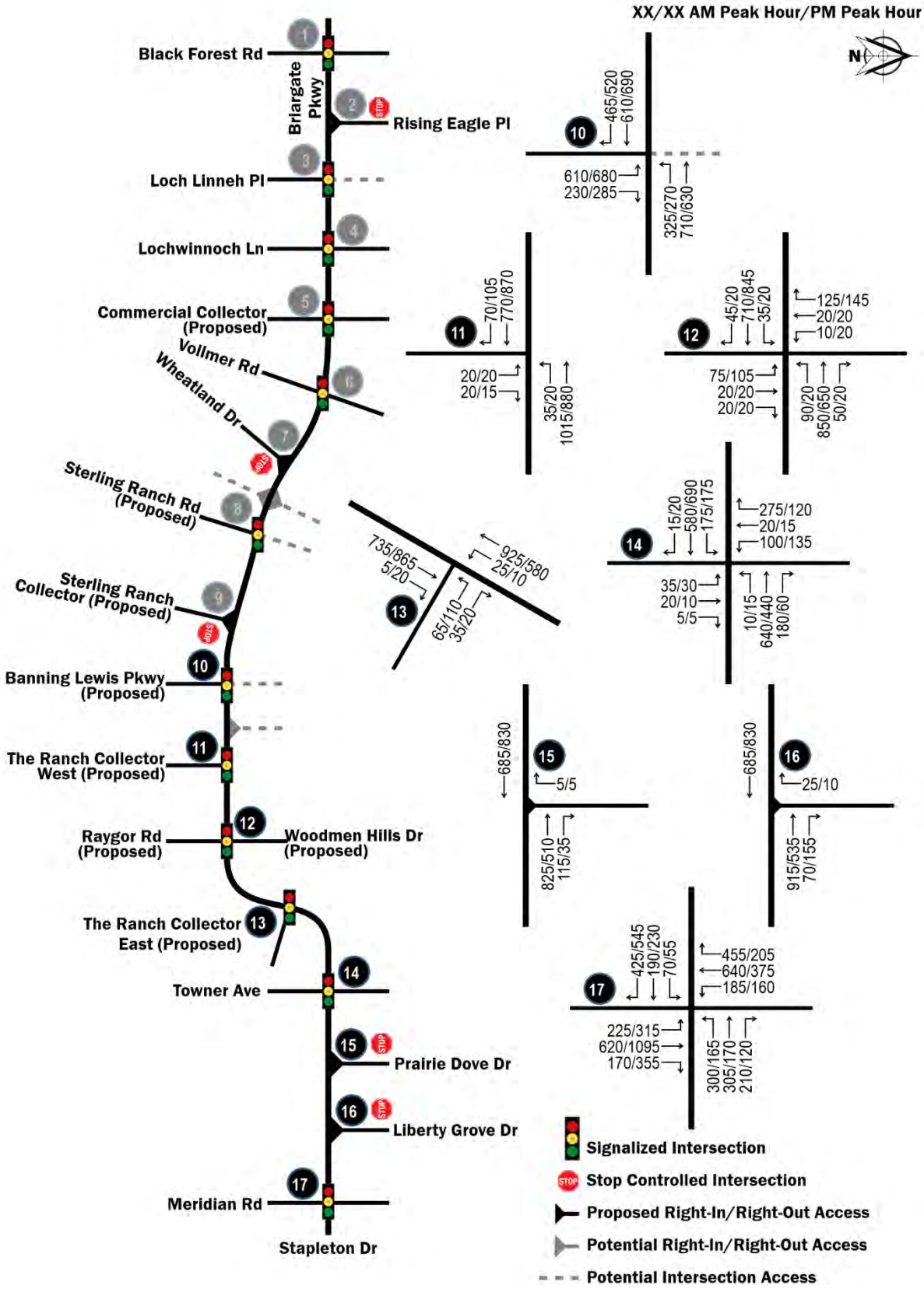


Figure 5.2 2045 Forecast Intersection Peak Hour Turning-Movement Volumes – East Segment

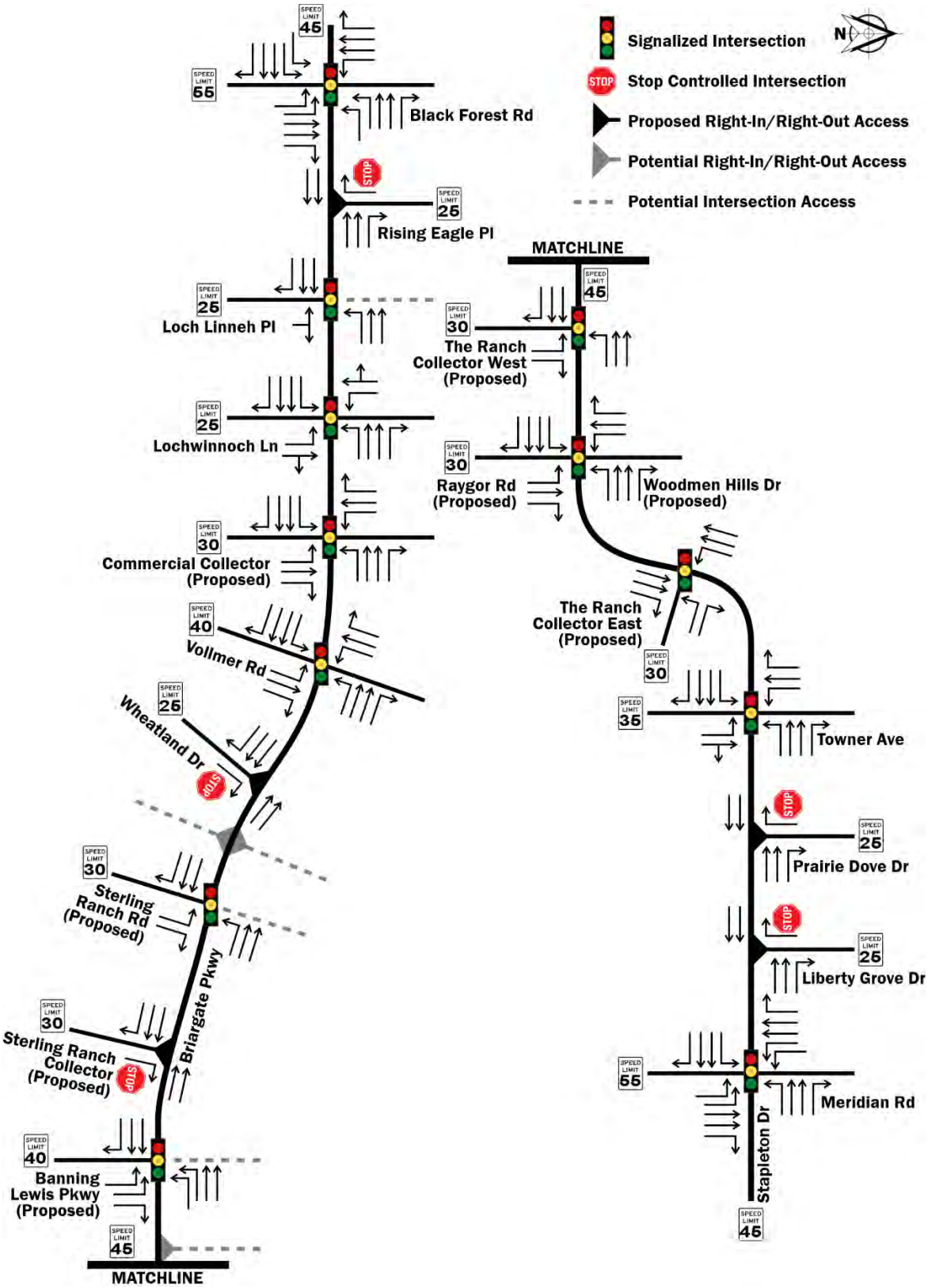


Figure 5.3 2045 Intersection Geometry and Traffic Control

5.3 Queuing Analysis

The queuing analysis results for the left-turn movements at the signalized intersections based on the 2045 AM and PM peak hour traffic conditions are summarized in **Table 5.2**.

The values in the table are the 95th percentile queue lengths as reported by Synchro. As shown, most left-turn movements are projected to have queues of less than 200 feet in length. Exceptions are at Black Forest Road (AM Peak Hour - NB 331'/PM Peak Hour - WB 251' and NB 285'), Sterling Ranch Road (AM Peak Hour - NB 236'/PM Peak Hour – 280'), Banning Lewis Parkway (AM Peak Hour - NB 287'/PM Peak Hour – 309'), and Meridian Road (AM Peak Hour - WB 255'). Synchro Queuing Reports are included in **Attachment B**.

Table 5.2 2045 Left Turn Queuing Summary			
Intersecting Road	Approach Direction	95th Percentile Vehicle Queue Length [in feet]	
		AM Peak Hour	PM Peak Hour
Black Forest Road	EB	131*	117
	WB	108*	251*
	NB	331*	285*
	SB	112	105*
Loch Linneh Place	WB	3†	0†
Lochwinnoch Lane	EB	2†	6†
	WB	0†	4†
	NB	42	35
	SB	56	42
Commercial Collector	EB	129	18
	WB	3†	80†
	NB	96	118
	SB	84	73
Vollmer Road	EB	13†	23†
	WB	103	158
	NB	74	114
	SB	92	85
Sterling Ranch Road	WB	12†	49†
	NB	236	280
Banning Lewis Pkwy	WB	189	167
	NB	287	309
The Ranch Collector West	WB	6	18
	NB	42	42
Woodmen Hills-Raygor	EB	3	3
	WB	40	18
	NB	107	138
	SB	26	38
The Ranch Collector East	WB	6†	5†
	NB	96	143
Towner Avenue	EB	45	34
	WB	6†	m7†
	NB	50	47
	SB	113	153
Meridian Road	EB	37	28†
	WB	255	140
	NB	134	174
	SB	112	104

*The 95th percentile volume exceeds capacity; queue may be longer.
†The volume for 95th percentile queue is metered by upstream signal.

6.0 CONCLUSIONS & RECOMMENDATIONS

6.1 Proposed Functional Classification

The forecasted 2045 ADT volumes range from 16,000 vpd west of Meridian Road, at the east end of the study limits, to 25,000 vpd east of Black Forest Road, at the west end of the study limits. These forecasted daily traffic volumes are within the range of a four-lane principal arterial (10,000–25,000 vpd), as specified in the City of Colorado Springs "Traffic Criteria Manual" (Section III, *Engineering Criteria Manual*, year)

Furthermore, the traffic operations analysis of the forecasted 2045 weekday AM and PM peak hour traffic conditions confirm that the Briargate Parkway–Stapleton Road corridor will function acceptably as a four-lane arterial. All analyzed intersections are projected to operate at LOS D or better during the peak hours, except at the Briargate Parkway/Black Forest Road intersection, which is projected to operate at LOS E during the AM peak hour. The projected level of service at Briargate Parkway/Black Forest Road indicates a potential need for three through lanes in each direction of Briargate Parkway across Black Forest Road at some point in time.

6.2 Intersection Geometry and Traffic Control

Ultimate intersection layouts will be designed for RIRO and full-access intersections and a four-lane section with center median. Full-access intersections may be configured as signalized intersections or roundabout intersections, with alternatives analysis and selection to be determined during preliminary and final design. Conceptual layouts of ultimate RIRO, signalized, and roundabout alternatives are illustrated in **Figure 6.1**, **Figure 6.2**, and **Figure 6.3**, respectively.

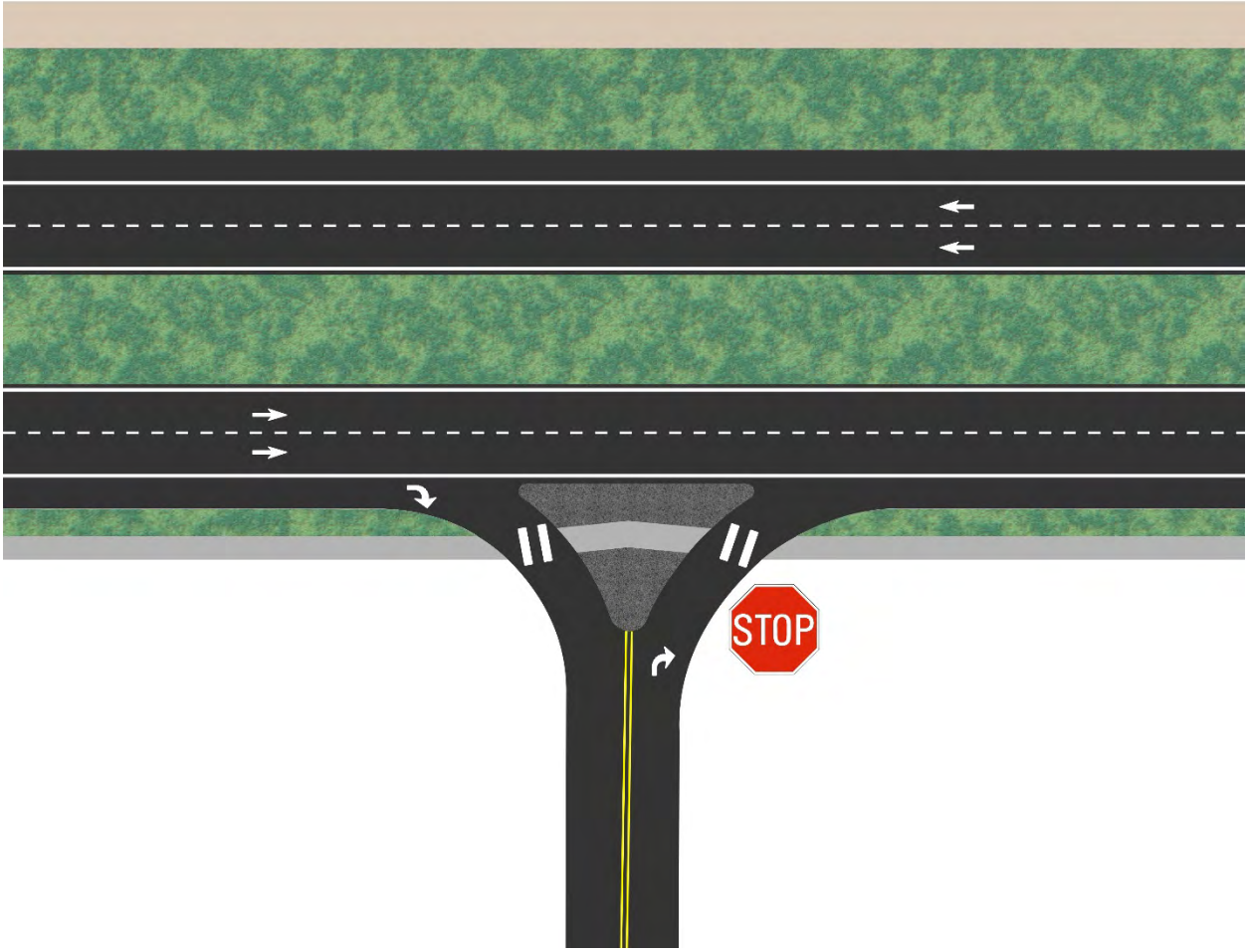


Figure 6.1 Typical Right-In/Right-Out Only Intersection Layout

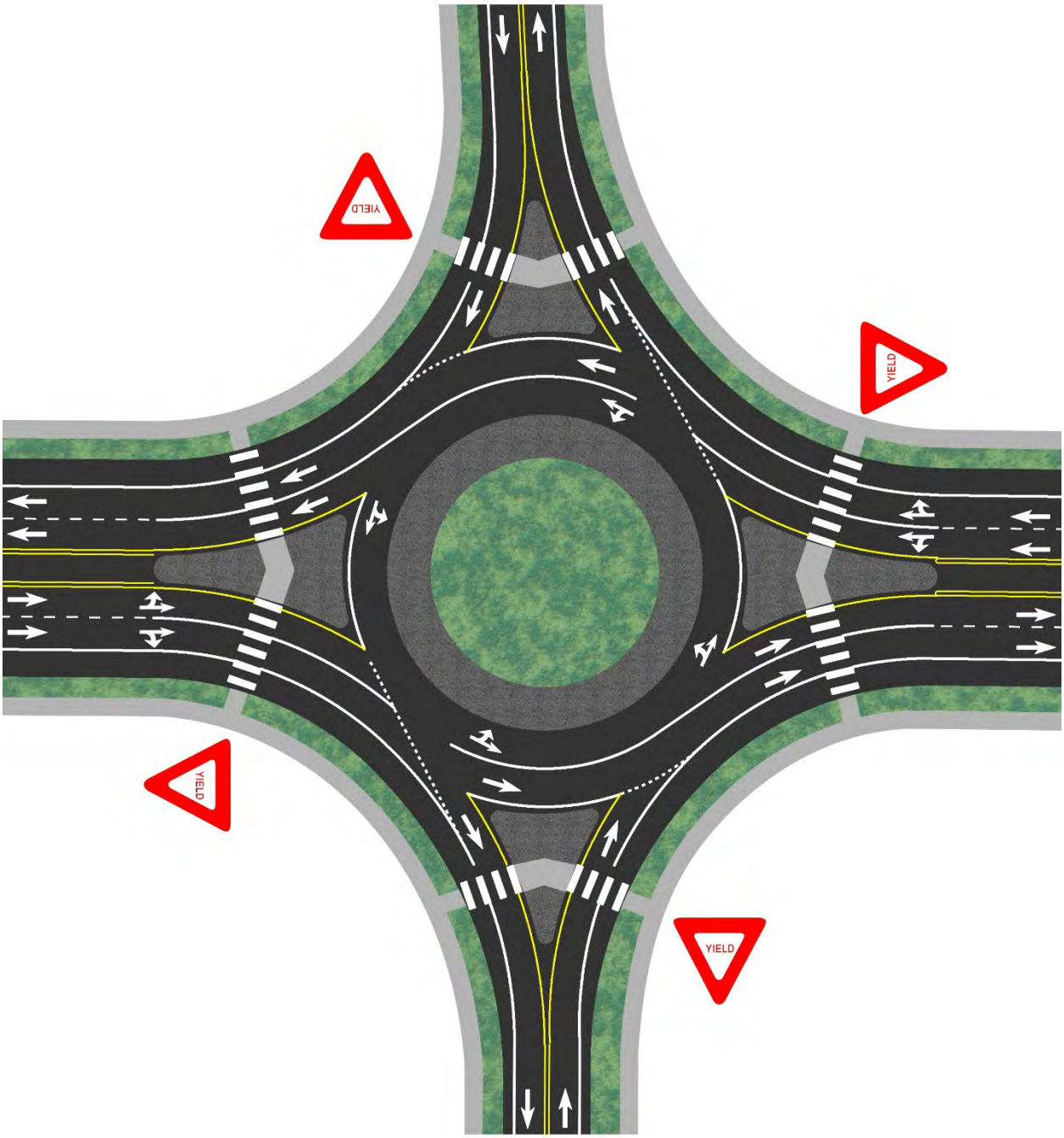


Figure 6.2 Typical Roundabout Intersection Layout

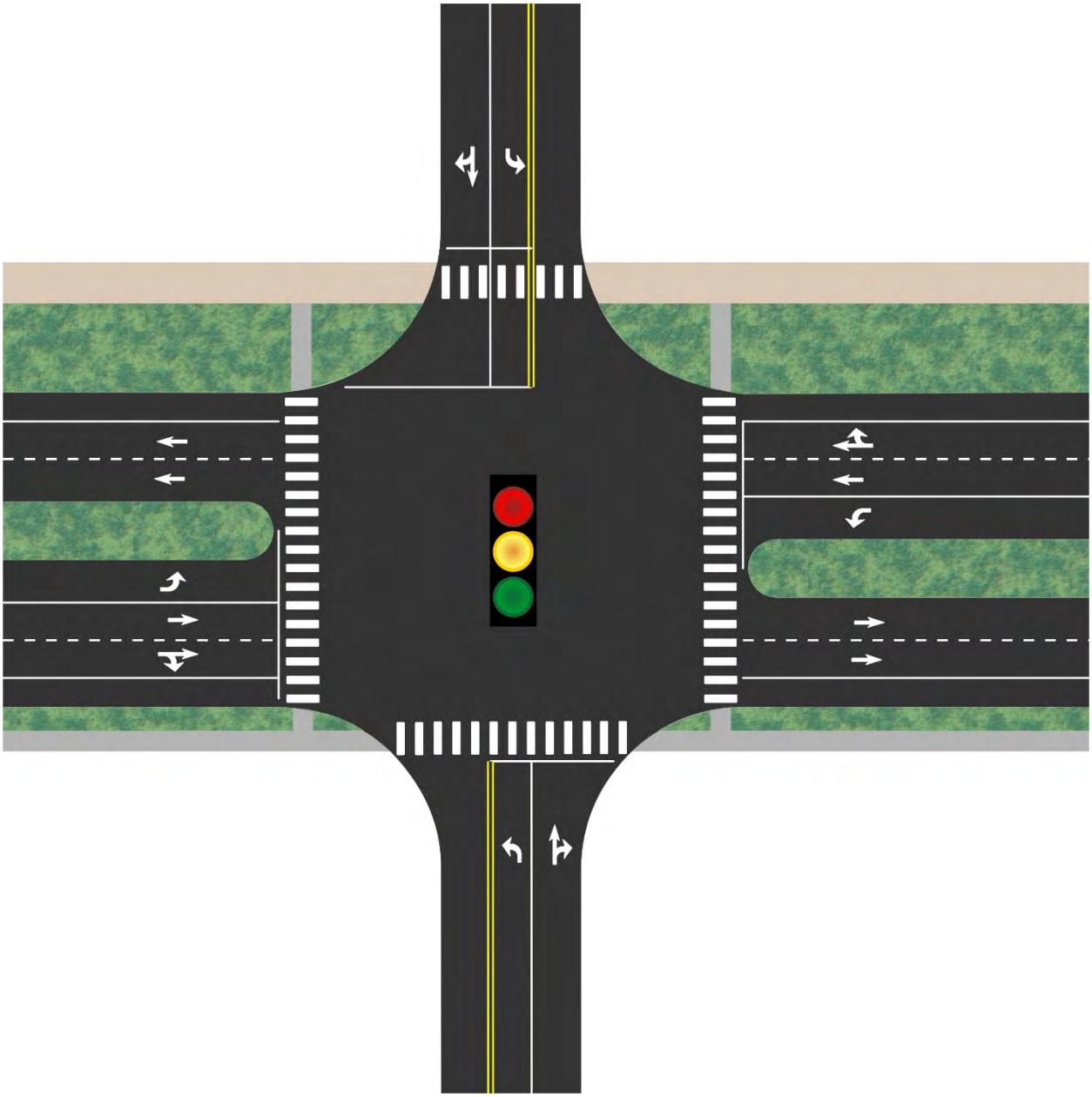


Figure 6.3 Typical Signalized Intersection Layout

WILL REPLACE WITH VERSION WITH DEDICATED RT LANES

Attachment A – Traffic Count Data

All Traffic Data Services

www.alltrafficdata.net

Date Start: 10-Aug-21
Site Code: 6
Station ID: 6
BLACK FOREST RD S.O. BRIARGATE PKWY

Start Time	10-Aug-21 Tue	NB	SB							Total
12:00 AM		9	7							16
01:00		4	4							8
02:00		0	2							2
03:00		4	3							7
04:00		6	13							19
05:00		28	39							67
06:00		116	161							277
07:00		206	232							438
08:00		**243**	**250**							**493**
09:00		192	236							428
10:00		190	203							393
11:00		180	222							402
12:00 PM		206	216							422
01:00		194	258							452
02:00		234	221							455
03:00		271	278							549
04:00		**318**	273							**591**
05:00		287	**298**							585
06:00		234	192							426
07:00		150	121							271
08:00		99	81							180
09:00		62	48							110
10:00		37	27							64
11:00		20	12							32
Total		3290	3397							6687
Percent		49.2%	50.8%							
AM Peak	-	08:00	08:00	-	-	-	-	-	-	08:00
Vol.	-	243	250	-	-	-	-	-	-	493
PM Peak	-	16:00	17:00	-	-	-	-	-	-	16:00
Vol.	-	318	298	-	-	-	-	-	-	591
Grand Total		3290	3397							6687
Percent		49.2%	50.8%							
ADT		ADT 6,687		AADT 6,687						

All Traffic Data Services

www.alltrafficdata.net

Date Start: 10-Aug-21
Site Code: 7
Station ID: 7
VOLLMER RD N.O. GLIDER LOOP

Start Time	10-Aug-21 Tue	NB	SB							Total
12:00 AM		7	2							9
01:00		2	1							3
02:00		5	4							9
03:00		2	6							8
04:00		5	18							23
05:00		14	47							61
06:00		60	139							199
07:00		**189**	**236**							**425**
08:00		180	217							397
09:00		170	172							342
10:00		144	182							326
11:00		176	206							382
12:00 PM		208	**209**							417
01:00		171	189							360
02:00		148	172							320
03:00		224	198							422
04:00		228	199							427
05:00		**237**	195							**432**
06:00		185	136							321
07:00		120	80							200
08:00		86	60							146
09:00		53	24							77
10:00		36	11							47
11:00		14	11							25
Total		2664	2714							5378
Percent		49.5%	50.5%							
AM Peak	-	07:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	189	236	-	-	-	-	-	-	425
PM Peak	-	17:00	12:00	-	-	-	-	-	-	17:00
Vol.	-	237	209	-	-	-	-	-	-	432
Grand Total		2664	2714							5378
Percent		49.5%	50.5%							
ADT		ADT 5,378		AADT 5,378						

All Traffic Data Services

www.alltrafficdata.net

Date Start: 10-Aug-21
Site Code: 8
Station ID: 8
MERIDIAN RD N.O. STAPLETON DR

Start Time	10-Aug-21 Tue	NB	SB							Total
12:00 AM		34	13							47
01:00		19	12							31
02:00		17	8							25
03:00		15	17							32
04:00		15	73							88
05:00		63	229							292
06:00		262	643							905
07:00		**667**	**1110**							**1777**
08:00		499	673							1172
09:00		405	550							955
10:00		462	559							1021
11:00		479	569							1048
12:00 PM		578	603							1181
01:00		589	539							1128
02:00		684	569							1253
03:00		815	**841**							**1656**
04:00		876	722							1598
05:00		**931**	687							1618
06:00		735	498							1233
07:00		528	317							845
08:00		402	249							651
09:00		249	128							377
10:00		115	73							188
11:00		64	31							95
Total		9503	9713							19216
Percent		49.5%	50.5%							
AM Peak	-	07:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	667	1110	-	-	-	-	-	-	1777
PM Peak	-	17:00	15:00	-	-	-	-	-	-	15:00
Vol.	-	931	841	-	-	-	-	-	-	1656
Grand Total		9503	9713							19216
Percent		49.5%	50.5%							
ADT		ADT 19,216		AADT 19,216						

All Traffic Data Services

www.alltrafficdata.net

Date Start: 10-Aug-21
Site Code: 9
Station ID: 9
MERIDIAN RD S.O. STAPLETON DR

Start Time	10-Aug-21 Tue	NB	SB							Total
12:00 AM		59	20							79
01:00		28	16							44
02:00		22	18							40
03:00		16	35							51
04:00		12	123							135
05:00		59	344							403
06:00		276	918							1194
07:00		**775**	**1528**							**2303**
08:00		587	896							1483
09:00		539	793							1332
10:00		601	802							1403
11:00		659	827							1486
12:00 PM		774	821							1595
01:00		806	734							1540
02:00		967	848							1815
03:00		1120	**1072**							2192
04:00		1185	959							2144
05:00		**1349**	934							**2283**
06:00		1090	695							1785
07:00		787	450							1237
08:00		615	338							953
09:00		384	202							586
10:00		169	93							262
11:00		102	45							147
Total		12981	13511							26492
Percent		49.0%	51.0%							
AM Peak	-	07:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	775	1528	-	-	-	-	-	-	2303
PM Peak	-	17:00	15:00	-	-	-	-	-	-	17:00
Vol.	-	1349	1072	-	-	-	-	-	-	2283
Grand Total		12981	13511							26492
Percent		49.0%	51.0%							
ADT		ADT 5,378		AADT 5,378						

All Traffic Data Services

www.alltrafficdata.net

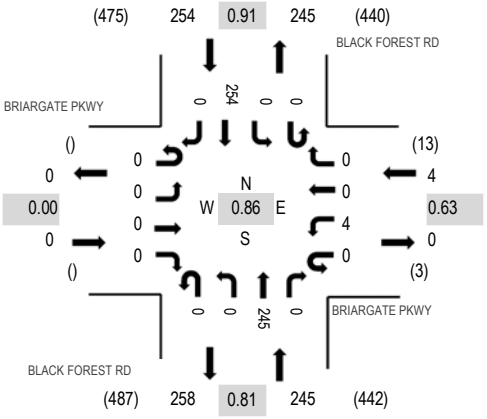
Date Start: 10-Aug-21
Site Code: 10
Station ID: 10
STAPLETON DR E.O. MERIDIAN RD

Start Time	10-Aug-21 Tue	EB	WB							Total
12:00 AM		23	9							32
01:00		4	3							7
02:00		7	6							13
03:00		4	12							16
04:00		7	43							50
05:00		46	102							148
06:00		175	316							491
07:00		**348**	**622**							**970**
08:00		211	294							505
09:00		203	261							464
10:00		223	290							513
11:00		213	265							478
12:00 PM		248	266							514
01:00		247	243							490
02:00		276	**403**							679
03:00		**493**	381							**874**
04:00		366	383							749
05:00		442	377							819
06:00		364	281							645
07:00		258	196							454
08:00		195	138							333
09:00		111	89							200
10:00		49	24							73
11:00		33	17							50
Total		4546	5021							9567
Percent		47.5%	52.5%							
AM Peak	-	07:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	348	622	-	-	-	-	-	-	970
PM Peak	-	15:00	14:00	-	-	-	-	-	-	15:00
Vol.	-	493	403	-	-	-	-	-	-	874
Grand Total		4546	5021							9567
Percent		47.5%	52.5%							
ADT		ADT 9,567		AADT 9,567						

(303) 216-2439
www.alltrafficdata.net

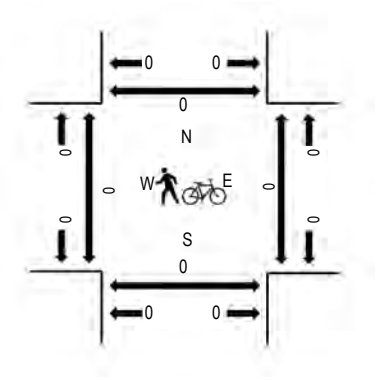
Location: 1 BLACK FOREST RD & BRIARGATE PKWY AM
Date: Tuesday, August 10, 2021
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



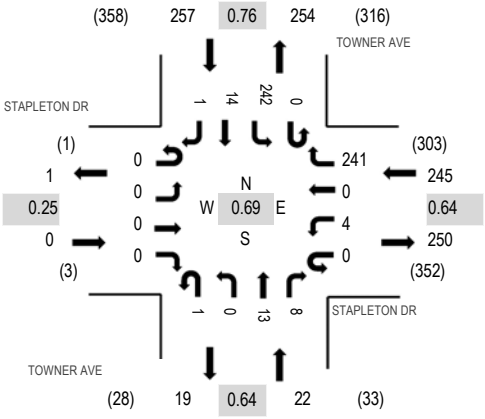
Traffic Counts

Interval Start Time	BRIARGATE PKWY Eastbound				BRIARGATE PKWY Westbound				BLACK FOREST RD Northbound				BLACK FOREST RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	3	0	0	0	0	38	1	0	0	50	0	92	438	0	0	0	0
7:15 AM	0	0	0	0	0	2	0	0	0	0	45	0	0	0	49	0	96	451	0	0	0	0
7:30 AM	0	0	0	0	0	4	0	0	0	0	60	0	0	0	65	0	129	502	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	0	0	0	59	0	0	0	61	0	121	503	0	0	0	0
8:00 AM	0	0	0	0	0	1	0	0	0	0	48	0	0	0	56	0	105	492	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	0	0	0	76	0	0	0	70	0	147		0	0	0	0
8:30 AM	0	0	0	0	0	1	0	0	0	0	62	0	0	0	67	0	130		0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	52	1	0	1	56	0	110		0	0	0	0
Count Total	0	0	0	0	0	13	0	0	0	0	440	2	0	1	474	0	930		0	0	0	0
Peak Hour	0	0	0	0	0	4	0	0	0	0	245	0	0	0	254	0	503		0	0	0	0

(303) 216-2439
www.alltrafficdata.net

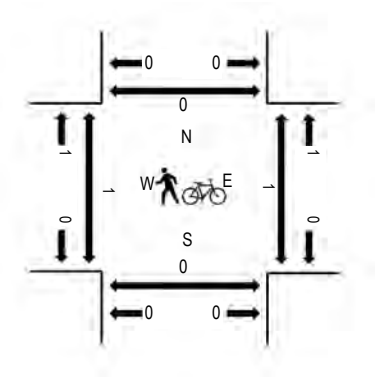
Location: 2 TOWNER AVE & STAPLETON DR AM
Date: Tuesday, August 10, 2021
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



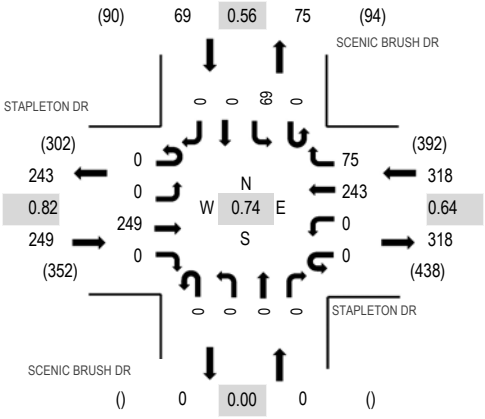
Traffic Counts

Interval Start Time	STAPLETON DR Eastbound				STAPLETON DR Westbound				TOWNER AVE Northbound				TOWNER AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	1	0	34	0	0	0	4	0	57	3	0	99	524	0	0	0	0
7:15 AM	0	0	0	0	0	1	0	95	1	0	7	1	0	74	10	1	190	463	0	1	0	0
7:30 AM	0	0	0	0	0	2	0	71	0	0	5	0	0	75	1	0	154	312	1	0	0	0
7:45 AM	0	0	0	0	0	0	0	41	0	0	1	3	0	36	0	0	81	211	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	11	0	0	2	3	0	20	2	0	38	173	1	0	1	0
8:15 AM	0	0	0	0	0	0	0	14	0	0	0	0	0	24	1	0	39		0	0	0	0
8:30 AM	0	1	2	0	0	0	0	14	0	0	0	3	0	28	5	0	53		0	0	0	0
8:45 AM	0	0	0	0	0	0	0	19	0	0	1	2	0	20	1	0	43		0	0	0	0
Count Total	0	1	2	0	0	4	0	299	1	0	16	16	0	334	23	1	697		2	1	1	0
Peak Hour	0	0	0	0	0	4	0	241	1	0	13	8	0	242	14	1	524		1	1	0	0

(303) 216-2439
www.alltrafficdata.net

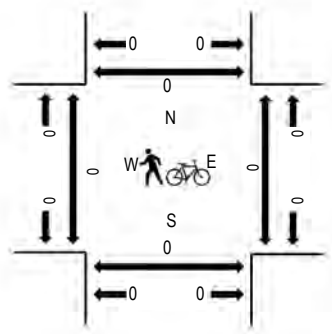
Location: 3 SCENIC BRUSH DR & STAPLETON DR AM
Date: Tuesday, August 10, 2021
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	STAPLETON DR Eastbound				STAPLETON DR Westbound				SCENIC BRUSH DR Northbound				SCENIC BRUSH DR Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	58	0	0	0	38	9	0	0	0	0	0	13	0	0	118	636	0	0	0	0
7:15 AM	0	0	76	0	0	0	99	25	0	0	0	0	0	16	0	0	216	561	0	0	0	0
7:30 AM	0	0	73	0	0	0	67	32	0	0	0	0	0	31	0	0	203	393	0	0	0	0
7:45 AM	0	0	42	0	0	0	39	9	0	0	0	0	0	9	0	0	99	250	0	0	0	0
8:00 AM	0	1	20	0	0	0	10	6	0	0	0	0	0	5	0	1	43	198	0	0	0	0
8:15 AM	0	0	27	0	0	0	15	2	0	0	0	0	0	4	0	0	48		0	0	0	0
8:30 AM	0	1	31	0	0	0	13	7	0	0	0	0	0	7	0	1	60		0	0	0	0
8:45 AM	0	0	23	0	0	0	19	2	0	0	0	0	0	3	0	0	47		0	0	0	0
Count Total	0	2	350	0	0	0	300	92	0	0	0	0	0	88	0	2	834		0	0	0	0
Peak Hour	0	0	249	0	0	0	243	75	0	0	0	0	0	69	0	0	636		0	0	0	0

(303) 216-2439
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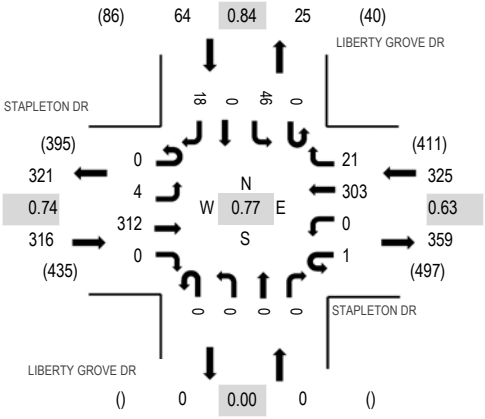
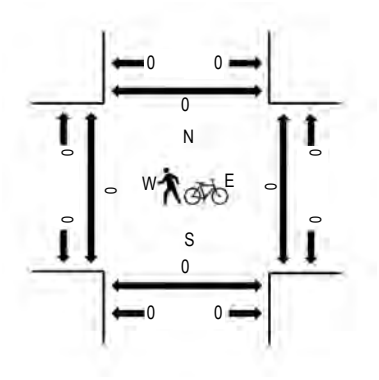
Location: 4 LIBERTY GROVE DR & STAPLETON DR AM
Date: Tuesday, August 10, 2021
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	STAPLETON DR Eastbound				STAPLETON DR Westbound				LIBERTY GROVE DR Northbound				LIBERTY GROVE DR 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	1	69	0	0	0	48	4	0	0	0	0	0	17	0	1	140	705	0	0	0	0
7:15 AM	0	0	86	0	0	0	126	4	0	0	0	0	0	11	0	3	230	616	0	0	0	0
7:30 AM	0	1	106	0	1	0	90	3	0	0	0	0	0	7	0	6	214	442	0	0	0	0
7:45 AM	0	2	51	0	0	0	39	10	0	0	0	0	0	11	0	8	121	297	0	0	0	0
8:00 AM	0	1	25	0	0	0	17	3	0	0	0	0	0	5	0	0	51	227	0	0	0	2
8:15 AM	0	0	30	0	0	0	15	6	0	0	0	0	0	5	0	0	56		0	0	0	0
8:30 AM	0	0	39	0	0	0	19	3	0	0	0	0	0	7	0	1	69		0	0	0	0
8:45 AM	0	0	24	0	0	0	21	2	0	0	0	0	0	3	0	1	51		0	0	0	0
Count Total	0	5	430	0	1	0	375	35	0	0	0	0	0	66	0	20	932		0	0	0	2
Peak Hour	0	4	312	0	1	0	303	21	0	0	0	0	0	46	0	18	705		0	0	0	0

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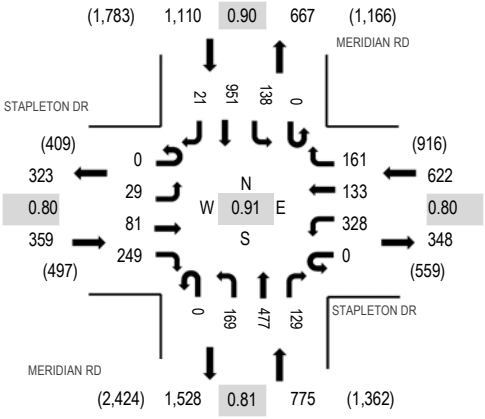
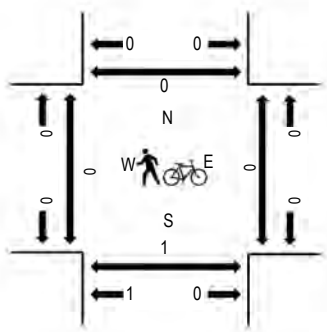
Location: 5 MERIDIAN RD & STAPLETON DR AM
Date: Tuesday, August 10, 2021
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	STAPLETON DR Eastbound				STAPLETON DR Westbound				MERIDIAN RD Northbound				MERIDIAN 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	2	17	66	0	95	19	27	0	33	76	39	0	21	236	1	632	2,866	0	0	1	0
7:15 AM	0	4	22	71	0	89	57	48	0	65	108	30	0	24	205	12	735	2,680	0	0	0	0
7:30 AM	0	12	35	65	0	81	54	50	0	29	127	27	0	44	262	4	790	2,407	0	0	0	0
7:45 AM	0	11	7	47	0	63	3	36	0	42	166	33	0	49	248	4	709	2,052	0	0	0	0
8:00 AM	0	4	5	21	0	62	2	20	1	16	119	14	0	33	148	1	446	1,692	0	0	0	0
8:15 AM	0	2	9	24	0	29	4	23	0	17	130	30	0	18	175	1	462		0	0	0	0
8:30 AM	0	4	5	35	0	63	4	19	0	20	86	36	0	17	146	0	435		0	0	0	0
8:45 AM	0	2	3	24	0	50	1	17	0	20	73	25	0	16	118	0	349		0	0	0	0
Count Total	0	41	103	353	0	532	144	240	1	242	885	234	0	222	1,538	23	4,558		0	0	1	0
Peak Hour	0	29	81	249	0	328	133	161	0	169	477	129	0	138	951	21	2,866		0	0	1	0

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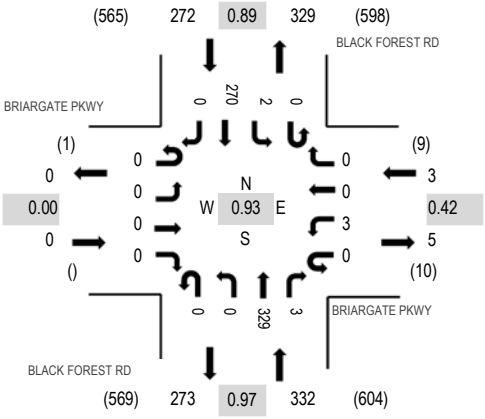
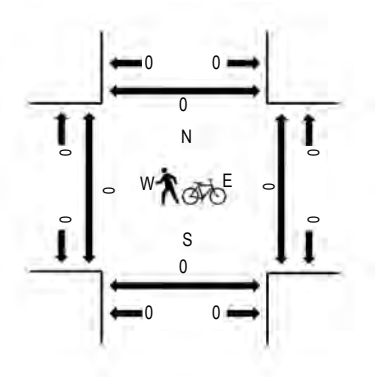
Location: 1 BLACK FOREST RD & BRIARGATE PKWY PM
Date: Tuesday, August 10, 2021
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	BRIARGATE PKWY Eastbound				BRIARGATE PKWY Westbound				BLACK FOREST RD Northbound				BLACK FOREST RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	0	0	0	1	1	0	0	0	66	0	0	1	76	0	145	587	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	73	2	0	0	68	0	144	588	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	0	0	0	85	0	0	0	64	0	150	607	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	85	1	0	0	62	0	148	607	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	82	1	0	0	63	0	146	591	0	0	0	0
5:15 PM	0	0	0	0	0	2	0	0	0	0	77	1	0	2	81	0	163		0	0	0	0
5:30 PM	0	0	0	0	0	3	0	0	0	0	66	1	0	0	80	0	150		0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	64	0	0	1	67	0	132		0	0	0	0
Count Total	0	0	0	0	0	8	1	0	0	0	598	6	0	4	561	0	1,178		0	0	0	0
Peak Hour	0	0	0	0	0	3	0	0	0	0	329	3	0	2	270	0	607		0	0	0	0

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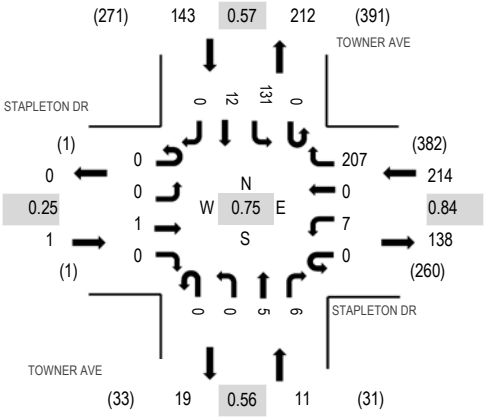
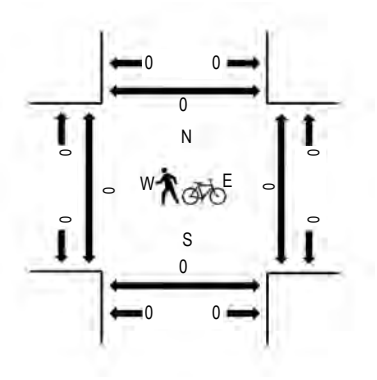
Location: 2 TOWNER AVE & STAPLETON DR PM
Date: Tuesday, August 10, 2021
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	STAPLETON DR Eastbound				STAPLETON DR Westbound				TOWNER AVE Northbound				TOWNER AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	0	0	0	0	1	45	0	0	1	1	0	26	4	0	78	319	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	41	0	0	2	2	0	25	1	0	71	319	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	45	0	0	5	3	0	35	4	0	93	339	0	0	0	0
4:45 PM	0	0	0	0	0	3	0	45	0	0	2	0	0	25	2	0	77	369	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	46	0	0	0	0	0	29	3	0	78	366	0	0	0	0
5:15 PM	0	0	0	0	0	4	0	60	0	0	3	5	0	18	1	0	91		0	0	0	0
5:30 PM	0	0	1	0	0	0	0	56	0	0	0	1	0	59	6	0	123		0	0	0	0
5:45 PM	0	0	0	0	0	1	0	34	0	0	6	0	0	30	3	0	74		0	0	0	0
Count Total	0	0	1	0	0	9	1	372	0	0	19	12	0	247	24	0	685		0	0	0	0
Peak Hour	0	0	1	0	0	7	0	207	0	0	5	6	0	131	12	0	369		0	0	0	0

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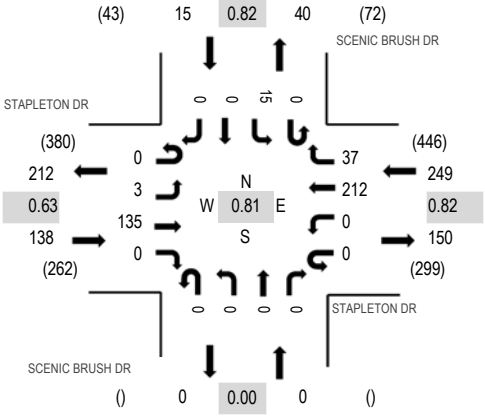
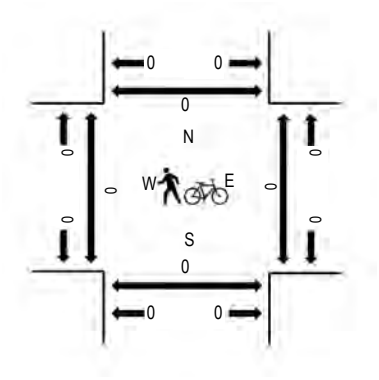
Location: 3 SCENIC BRUSH DR & STAPLETON DR PM
Date: Tuesday, August 10, 2021
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	STAPLETON DR Eastbound				STAPLETON DR Westbound				SCENIC BRUSH DR Northbound				SCENIC BRUSH DR 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	28	0	0	0	42	7	0	0	0	0	0	7	0	0	84	349	0	0	0	0
4:15 PM	0	1	25	0	0	0	39	11	0	0	0	0	0	3	0	1	80	353	0	0	0	0
4:30 PM	0	1	36	0	0	0	48	5	0	0	0	0	0	7	0	0	97	375	0	0	0	0
4:45 PM	0	1	25	0	0	0	47	10	0	0	0	0	0	5	0	0	88	402	0	0	0	0
5:00 PM	0	0	31	0	0	0	46	11	0	0	0	0	0	0	0	0	88	402	0	0	0	0
5:15 PM	0	1	22	0	0	0	69	7	0	0	0	0	0	3	0	0	102		0	0	0	0
5:30 PM	0	1	57	0	0	0	50	9	0	0	0	0	0	7	0	0	124		0	0	0	0
5:45 PM	0	0	33	0	0	0	38	7	0	0	0	0	0	10	0	0	88		0	0	0	0
Count Total	0	5	257	0	0	0	379	67	0	0	0	0	0	42	0	1	751		0	0	0	0
Peak Hour	0	3	135	0	0	0	212	37	0	0	0	0	0	15	0	0	402		0	0	0	0

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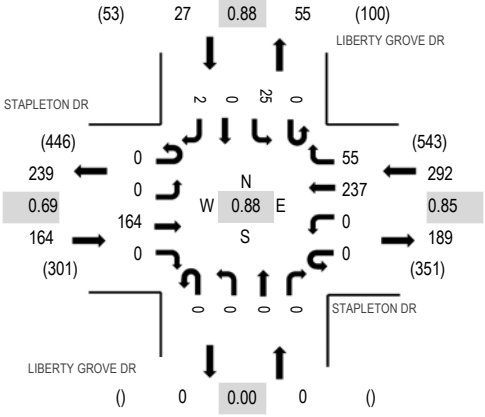
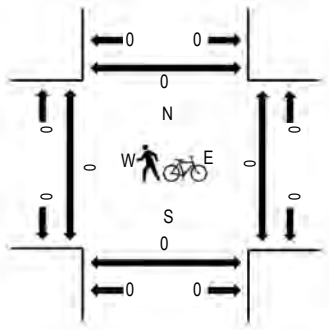
Location: 4 LIBERTY GROVE DR & STAPLETON DR PM
Date: Tuesday, August 10, 2021
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	STAPLETON DR Eastbound				STAPLETON DR Westbound				LIBERTY GROVE DR Northbound				LIBERTY GROVE DR Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	1	35	0	0	0	46	7	0	0	0	0	0	4	0	0	93	414	0	0	0	0
4:15 PM	0	0	26	0	0	0	50	16	0	0	0	0	0	6	0	0	98	429	0	0	0	0
4:30 PM	0	0	43	0	0	0	53	13	0	0	0	0	0	8	0	0	117	449	0	0	0	0
4:45 PM	0	0	32	0	0	0	58	8	0	0	0	0	0	8	0	0	106	470	0	0	0	0
5:00 PM	0	0	31	0	0	0	58	13	0	0	0	0	0	6	0	0	108	483	0	0	0	0
5:15 PM	0	0	26	0	0	0	76	11	0	0	0	0	0	5	0	0	118		0	0	0	0
5:30 PM	0	0	59	0	0	0	58	14	0	0	0	0	0	6	0	1	138		0	0	0	0
5:45 PM	0	0	48	0	0	0	45	17	0	0	0	0	0	8	0	1	119		0	0	0	0
Count Total	0	1	300	0	0	0	444	99	0	0	0	0	0	51	0	2	897		0	0	0	0
Peak Hour	0	0	164	0	0	0	237	55	0	0	0	0	0	25	0	2	483		0	0	0	0

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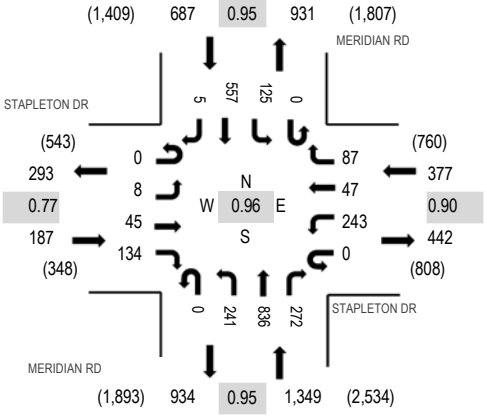
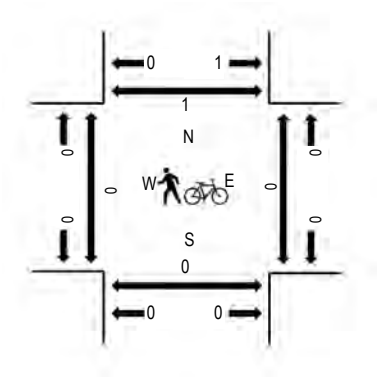
Location: 5 MERIDIAN RD & STAPLETON DR PM
Date: Tuesday, August 10, 2021
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	STAPLETON DR Eastbound				STAPLETON DR Westbound				MERIDIAN RD Northbound				MERIDIAN RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	1	6	32	0	48	13	27	0	42	171	57	0	29	151	0	577	2,451	0	0	0	0
4:15 PM	0	1	2	29	0	46	12	28	0	58	207	51	0	22	168	1	625	2,511	0	0	0	0
4:30 PM	0	1	10	39	0	57	18	26	0	46	185	58	0	26	156	1	623	2,529	0	0	0	0
4:45 PM	0	4	10	26	0	71	8	29	0	47	196	67	0	28	136	4	626	2,583	0	0	0	0
5:00 PM	0	2	7	26	0	60	7	27	0	64	212	79	0	29	122	2	637	2,600	0	0	0	0
5:15 PM	0	1	10	21	0	49	18	20	0	69	198	57	0	34	164	2	643		0	0	0	0
5:30 PM	0	4	14	43	0	60	13	17	0	58	217	64	0	35	151	1	677		0	0	0	1
5:45 PM	0	1	14	44	0	74	9	23	0	50	209	72	0	27	120	0	643		0	0	0	0
Count Total	0	15	73	260	0	465	98	197	0	434	1,595	505	0	230	1,168	11	5,051		0	0	0	1
Peak Hour	0	8	45	134	0	243	47	87	0	241	836	272	0	125	557	5	2,600		0	0	0	1

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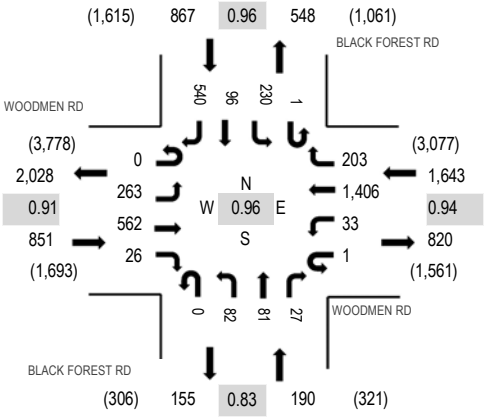
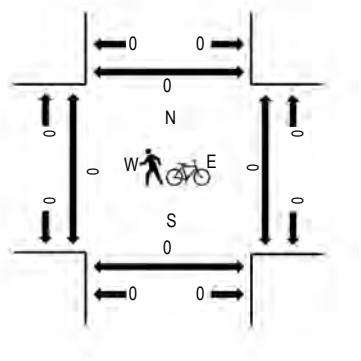
Location: 1 BLACK FOREST RD & WOODMEN RD AM
Date: Thursday, July 11, 2019
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	WOODMEN RD Eastbound				WOODMEN RD Westbound				BLACK FOREST RD Northbound				BLACK FOREST RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
6:30 AM	0	43	129	18	1	4	308	40	0	10	6	3	0	54	17	113	746	3,313	0	0	0	0
6:45 AM	0	68	139	20	1	7	338	36	0	13	19	3	0	59	24	120	847	3,473	0	0	0	0
7:00 AM	0	47	133	9	1	8	321	33	0	16	25	7	1	71	28	112	812	3,551	0	0	0	0
7:15 AM	0	48	151	6	0	9	376	52	0	18	16	5	0	60	23	144	908	3,461	0	0	0	0
7:30 AM	0	82	130	4	0	9	353	55	0	27	15	4	0	57	23	147	906	3,393	0	0	0	0
7:45 AM	0	86	148	7	0	7	356	63	0	21	25	11	0	42	22	137	925		0	0	0	0
8:00 AM	0	74	136	6	0	7	237	51	0	13	24	4	0	32	21	117	722		0	0	0	0
8:15 AM	0	68	134	7	0	4	337	63	0	11	21	4	0	42	16	133	840		0	0	0	0
Count Total	0	516	1,100	77	3	55	2,626	393	0	129	151	41	1	417	174	1,023	6,706		0	0	0	0
Peak Hour	0	263	562	26	1	33	1,406	203	0	82	81	27	1	230	96	540	3,551		0	0	0	0

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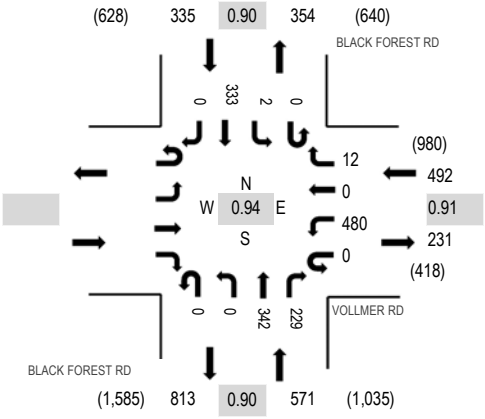
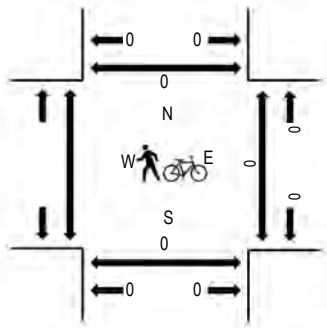
Location: 2 BLACK FOREST RD & VOLLMER RD AM
Date: Thursday, July 11, 2019
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	Eastbound U-Turn	Eastbound Left	Eastbound Thru	Eastbound Right	VOLLMER RD Westbound U-Turn	VOLLMER RD Westbound Left	VOLLMER RD Westbound Thru	VOLLMER RD Westbound Right	BLACK FOREST RD Northbound U-Turn	BLACK FOREST RD Northbound Left	BLACK FOREST RD Northbound Thru	BLACK FOREST RD Northbound Right	BLACK FOREST RD Southbound U-Turn	BLACK FOREST RD Southbound Left	BLACK FOREST RD Southbound Thru	BLACK FOREST RD Southbound Right	Total	Rolling Hour	Pedestrian Crossings West	Pedestrian Crossings East	Pedestrian Crossings South	Pedestrian Crossings North
6:30 AM					0	126	0	2	0	0	54	31	0	1	56	0	270	1,245		0	0	0
6:45 AM					0	114	0	2	0	0	67	54	0	0	85	0	322	1,347		0	0	0
7:00 AM					0	129	0	1	0	0	64	40	0	0	71	0	305	1,388		0	0	0
7:15 AM					0	142	0	2	0	0	73	41	0	1	89	0	348	1,398		0	0	0
7:30 AM					0	132	0	5	0	0	92	59	0	0	84	0	372	1,398		0	0	0
7:45 AM					0	98	0	2	0	0	95	74	0	0	94	0	363			0	0	0
8:00 AM					0	108	0	3	0	0	82	55	0	1	66	0	315			0	0	0
8:15 AM					0	111	0	3	0	0	93	61	0	0	80	0	348			0	0	0
Count Total					0	960	0	20	0	0	620	415	0	3	625	0	2,643			0	0	0
Peak Hour					0	480	0	12	0	0	342	229	0	2	333	0	1,398			0	0	0

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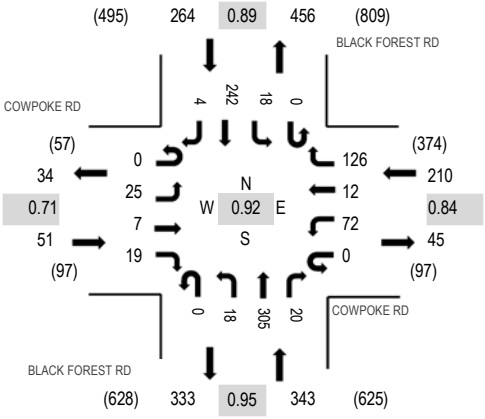
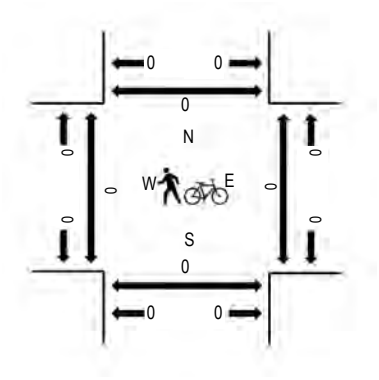
Location: 3 BLACK FOREST RD & COWPOKE RD AM
Date: Thursday, July 11, 2019
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	COWPOKE RD Eastbound				COWPOKE RD Westbound				BLACK FOREST RD Northbound				BLACK FOREST RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
6:30 AM	0	6	0	5	0	18	4	23	0	2	48	7	0	2	37	1	153	724	0	0	0	0
6:45 AM	0	7	0	8	0	23	2	18	0	2	57	6	0	8	53	0	184	801	0	0	0	0
7:00 AM	0	5	0	6	0	19	0	21	0	0	60	8	0	5	51	2	177	854	0	0	0	0
7:15 AM	0	2	0	9	0	21	4	39	0	1	65	6	0	3	60	0	210	868	0	0	0	0
7:30 AM	0	4	1	4	0	18	3	36	0	5	89	2	0	3	63	2	230	867	0	0	0	0
7:45 AM	0	10	2	6	0	18	1	34	0	8	76	5	0	7	68	2	237		0	0	0	0
8:00 AM	0	9	4	0	0	15	4	17	0	4	75	7	0	5	51	0	191		0	0	0	0
8:15 AM	0	3	1	5	0	12	2	22	0	4	83	5	0	10	58	4	209		0	0	0	0
Count Total	0	46	8	43	0	144	20	210	0	26	553	46	0	43	441	11	1,591		0	0	0	0
Peak Hour	0	25	7	19	0	72	12	126	0	18	305	20	0	18	242	4	868		0	0	0	0

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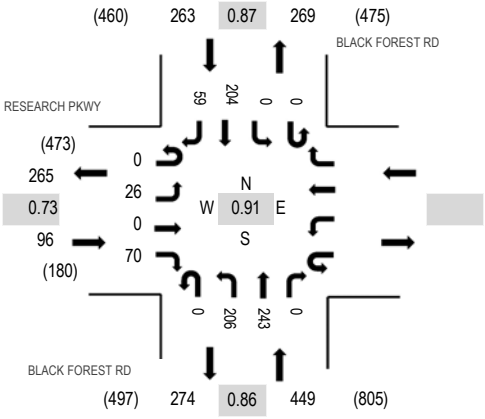
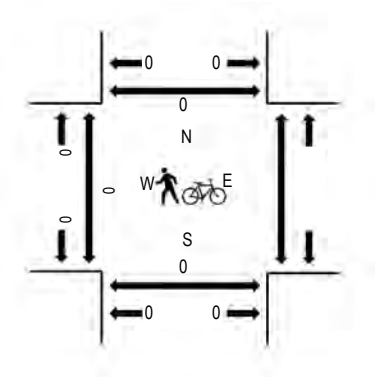
Location: 4 BLACK FOREST RD & RESEARCH PKWY AM
Date: Thursday, July 11, 2019
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	RESEARCH PKWY Eastbound U-Turn	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound U-Turn	Westbound Left	Westbound Thru	Westbound Right	BLACK FOREST RD Northbound U-Turn	Northbound Left	Northbound Thru	Northbound Right	BLACK FOREST RD Southbound U-Turn	Southbound Left	Southbound Thru	Southbound Right	Total	Rolling Hour	Pedestrian Crossings West	East	South	North
6:30 AM	0	3	0	11					0	38	40	0	0	0	30	10	132	637	0		0	0
6:45 AM	0	3	0	22					0	37	47	0	0	0	37	9	155	726	0		0	0
7:00 AM	0	4	0	19					0	39	49	0	0	0	42	10	163	785	0		0	0
7:15 AM	0	9	0	13					0	55	51	0	0	0	49	10	187	790	0		0	0
7:30 AM	0	4	0	12					0	69	62	0	0	0	58	16	221	808	0		0	0
7:45 AM	0	8	0	15					0	54	61	0	0	0	55	21	214		0		0	0
8:00 AM	0	6	0	18					0	46	48	0	0	0	42	8	168		0		0	0
8:15 AM	0	8	0	25					0	37	72	0	0	0	49	14	205		0		0	0
Count Total	0	45	0	135					0	375	430	0	0	0	362	98	1,445		0		0	0
Peak Hour	0	26	0	70					0	206	243	0	0	0	204	59	808		0		0	0

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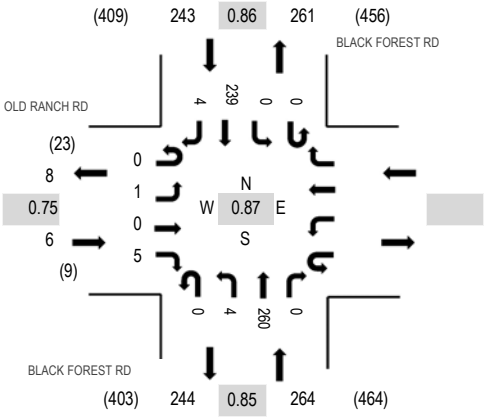
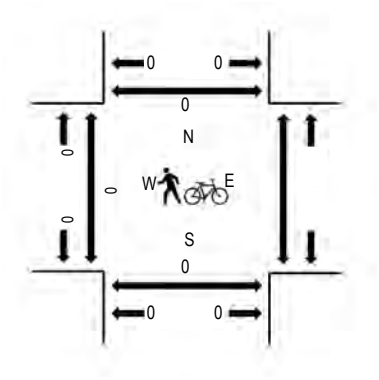
Location: 5 BLACK FOREST RD & OLD RANCH RD AM
Date: Thursday, July 11, 2019
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	OLD RANCH RD Eastbound U-Turn	Left	Thru	Right	Westbound U-Turn	Left	Thru	Right	BLACK FOREST RD Northbound U-Turn	Left	Thru	Right	BLACK FOREST RD Southbound U-Turn	Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings West	East	South	North
6:30 AM	0	1	0	0					0	2	41	0	0	0	37	2	83	369	0		0	0
6:45 AM	0	0	0	0					0	2	45	0	0	0	32	6	85	412	0		0	0
7:00 AM	0	1	0	0					0	1	52	0	0	0	37	0	91	475	0		0	0
7:15 AM	0	0	0	1					0	2	55	0	0	0	52	0	110	480	0		0	0
7:30 AM	0	0	0	2					0	0	53	0	0	0	71	0	126	513	0		0	0
7:45 AM	0	1	0	1					0	3	72	0	0	0	70	1	148		0		0	0
8:00 AM	0	0	0	1					0	1	57	0	0	0	36	1	96		0		0	0
8:15 AM	0	0	0	1					0	0	78	0	0	0	62	2	143		0		0	0
Count Total	0	3	0	6					0	11	453	0	0	0	397	12	882		0		0	0
Peak Hour	0	1	0	5					0	4	260	0	0	0	239	4	513		0		0	0

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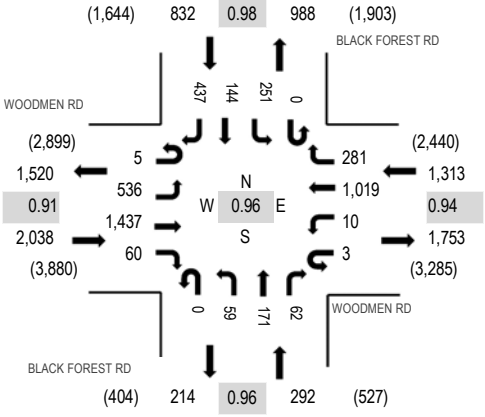
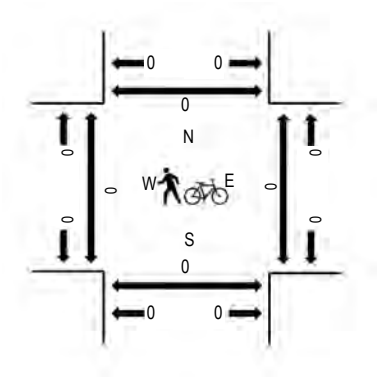
Location: 1 BLACK FOREST RD & WOODMEN RD PM
Date: Thursday, July 11, 2019
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	WOODMEN RD Eastbound				WOODMEN RD Westbound				BLACK FOREST RD Northbound				BLACK FOREST 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
4:30 PM	2	135	330	17	1	4	260	66	0	18	50	8	0	53	28	102	1,074	4,475	0	0	0	0
4:45 PM	0	135	407	16	0	2	246	72	0	11	39	23	0	63	37	114	1,165	4,451	0	0	0	0
5:00 PM	1	130	328	12	0	1	276	73	0	18	40	16	0	70	39	104	1,108	4,412	0	0	0	0
5:15 PM	2	136	372	15	2	3	237	70	0	12	42	15	0	65	40	117	1,128	4,263	0	0	0	0
5:30 PM	1	122	329	11	1	4	251	54	0	15	40	6	0	58	38	120	1,050	4,016	0	0	0	0
5:45 PM	0	132	377	20	0	4	234	65	0	9	55	10	0	66	26	128	1,126		0	0	0	0
6:00 PM	1	117	288	19	3	3	192	58	0	6	44	4	0	70	28	126	959		0	0	0	0
6:15 PM	1	136	274	14	1	2	196	59	0	7	33	6	0	39	21	92	881		0	0	0	0
Count Total	8	1,043	2,705	124	8	23	1,892	517	0	96	343	88	0	484	257	903	8,491		0	0	0	0
Peak Hour	5	536	1,437	60	3	10	1,019	281	0	59	171	62	0	251	144	437	4,475		0	0	0	0

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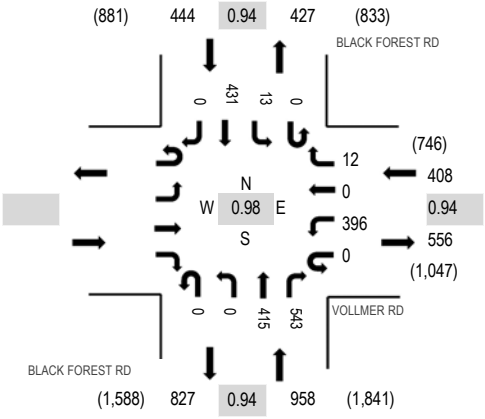
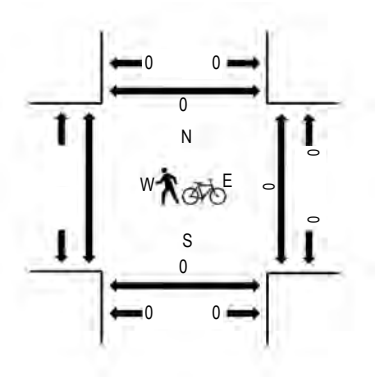
Location: 2 BLACK FOREST RD & VOLLMER RD PM
Date: Thursday, July 11, 2019
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	Eastbound U-Turn	Eastbound Left	Eastbound Thru	Eastbound Right	VOLLMER RD Westbound U-Turn	VOLLMER RD Westbound Left	VOLLMER RD Westbound Thru	VOLLMER RD Westbound Right	BLACK FOREST RD Northbound U-Turn	BLACK FOREST RD Northbound Left	BLACK FOREST RD Northbound Thru	BLACK FOREST RD Northbound Right	BLACK FOREST RD Southbound U-Turn	BLACK FOREST RD Southbound Left	BLACK FOREST RD Southbound Thru	BLACK FOREST RD Southbound Right	Total	Rolling Hour	Pedestrian Crossings West	Pedestrian Crossings East	Pedestrian Crossings South	Pedestrian Crossings North
4:30 PM					0	94	0	3	0	0	110	144	0	4	99	0	454	1,810		0	0	0
4:45 PM					0	97	0	1	0	0	100	140	0	3	113	0	454	1,776		0	0	0
5:00 PM					0	102	0	6	0	0	107	134	0	4	108	0	461	1,774		0	0	0
5:15 PM					0	103	0	2	0	0	98	125	0	2	111	0	441	1,735		0	0	0
5:30 PM					0	76	0	2	0	0	108	115	0	1	118	0	420	1,658		0	0	0
5:45 PM					0	94	0	4	0	0	101	133	0	2	118	0	452			0	0	0
6:00 PM					0	84	0	1	0	0	104	106	0	2	125	0	422			0	0	0
6:15 PM					0	75	0	2	0	0	84	132	0	0	71	0	364			0	0	0
Count Total					0	725	0	21	0	0	812	1,029	0	18	863	0	3,468			0	0	0
Peak Hour					0	396	0	12	0	0	415	543	0	13	431	0	1,810			0	0	0

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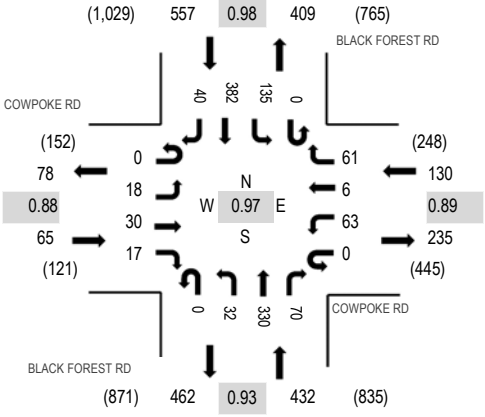
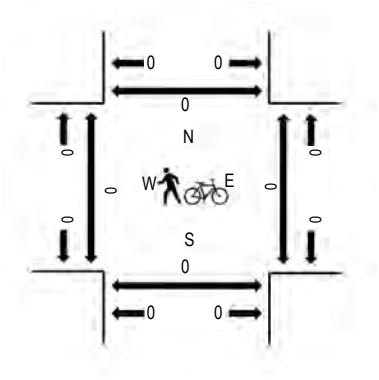
Location: 3 BLACK FOREST RD & COWPOKE RD PM
Date: Thursday, July 11, 2019
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:45 PM - 06:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	COWPOKE RD Eastbound				COWPOKE RD Westbound				BLACK FOREST RD Northbound				BLACK FOREST 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
4:30 PM	0	2	3	3	0	13	1	12	0	8	79	27	0	23	98	14	283	1,152	0	0	0	0
4:45 PM	0	8	10	3	0	19	1	14	0	10	76	15	0	33	88	6	283	1,162	0	0	0	0
5:00 PM	0	6	7	7	0	19	2	12	0	10	80	19	0	36	85	14	297	1,184	0	0	0	0
5:15 PM	0	5	7	4	0	14	0	11	0	5	81	20	0	40	94	8	289	1,175	0	0	0	0
5:30 PM	0	5	9	3	0	13	3	19	0	5	81	15	0	34	100	6	293	1,081	0	0	0	0
5:45 PM	0	2	7	3	0	17	1	19	0	12	88	16	0	25	103	12	305		0	0	0	0
6:00 PM	0	7	4	2	0	23	2	9	0	10	78	20	0	35	88	10	288		0	0	0	0
6:15 PM	0	7	4	3	0	16	1	7	0	3	57	20	0	16	53	8	195		0	0	0	0
Count Total	0	42	51	28	0	134	11	103	0	63	620	152	0	242	709	78	2,233		0	0	0	0
Peak Hour	0	18	30	17	0	63	6	61	0	32	330	70	0	135	382	40	1,184		0	0	0	0

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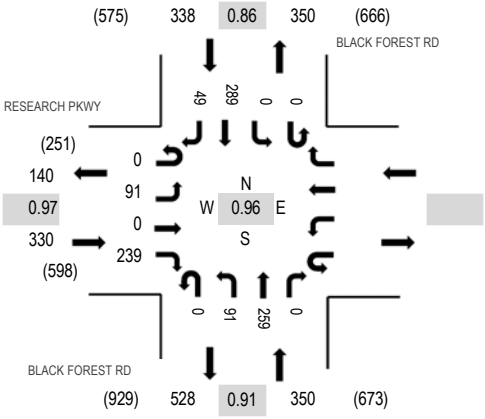
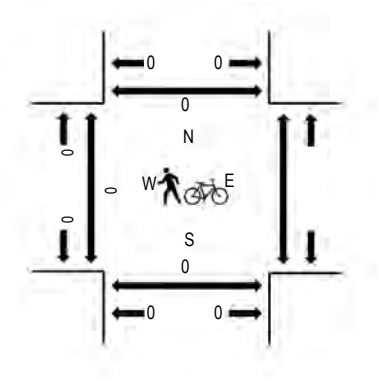
Location: 4 BLACK FOREST RD & RESEARCH PKWY PM
Date: Thursday, July 11, 2019
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	RESEARCH PKWY Eastbound U-Turn	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound U-Turn	Westbound Left	Westbound Thru	Westbound Right	BLACK FOREST RD Northbound U-Turn	Northbound Left	Northbound Thru	Northbound Right	BLACK FOREST RD Southbound U-Turn	Southbound Left	Southbound Thru	Southbound Right	Total	Rolling Hour	Pedestrian Crossings West	East	South	North
4:30 PM	0	23	0	40					0	25	65	0	0	0	68	5	226	956	0		0	0
4:45 PM	0	22	0	60					0	24	57	0	0	0	53	3	219	996	0		0	0
5:00 PM	0	27	0	56					0	27	70	0	0	0	63	11	254	1,018	0		0	0
5:15 PM	0	15	0	70					0	26	58	0	0	0	76	12	257	957	0		0	0
5:30 PM	0	29	0	51					0	22	66	0	0	0	88	10	266	890	0		0	0
5:45 PM	0	20	0	62					0	16	65	0	0	0	62	16	241		0		0	0
6:00 PM	0	23	0	46					0	21	56	0	0	0	40	7	193		0		0	0
6:15 PM	0	13	0	41					0	18	57	0	0	0	53	8	190		0		0	0
Count Total	0	172	0	426					0	179	494	0	0	0	503	72	1,846		0		0	0
Peak Hour	0	91	0	239					0	91	259	0	0	0	289	49	1,018		0		0	0

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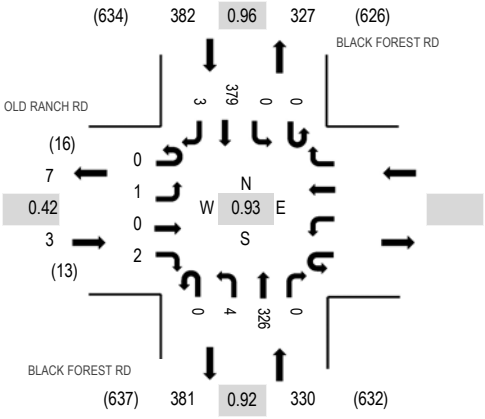
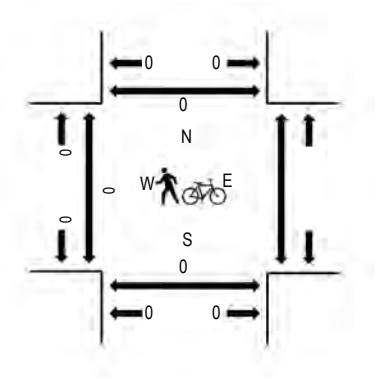
Location: 5 BLACK FOREST RD & OLD RANCH RD PM
Date: Thursday, July 11, 2019
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:45 PM - 06:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	OLD RANCH RD Eastbound U-Turn	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound U-Turn	Westbound Left	Westbound Thru	Westbound Right	BLACK FOREST RD Northbound U-Turn	Northbound Left	Northbound Thru	Northbound Right	BLACK FOREST RD Southbound U-Turn	Southbound Left	Southbound Thru	Southbound Right	Total	Rolling Hour	Pedestrian Crossings West	East	South	North
4:30 PM	0	0	0	1					0	1	71	0	0	0	62	1	136	646	0		0	0
4:45 PM	0	2	0	4					0	1	87	0	0	0	76	0	170	693	0		0	0
5:00 PM	0	1	0	0					0	0	73	0	0	0	91	0	165	715	0		0	0
5:15 PM	0	0	0	2					0	1	79	0	0	0	91	2	175	692	0		0	0
5:30 PM	0	0	0	0					0	2	83	0	0	0	97	1	183	633	0		0	0
5:45 PM	0	0	0	0					0	1	91	0	0	0	100	0	192		0		0	0
6:00 PM	0	0	0	1					0	3	77	0	0	0	59	2	142		0		0	0
6:15 PM	0	1	0	1					0	1	61	0	0	0	52	0	116		0		0	0
Count Total	0	4	0	9					0	10	622	0	0	0	628	6	1,279		0		0	0
Peak Hour	0	1	0	2					0	4	326	0	0	0	379	3	715		0		0	0

Attachment B – Synchro Reports

Existing Conditions LOS Analysis Reports

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	245	0	0	255
Future Vol, veh/h	5	0	245	0	0	255
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
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	0	266	0	0	277

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	543	266	0	0	266	0
Stage 1	266	-	-	-	-	-
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	501	773	-	-	1298	-
Stage 1	779	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	501	773	-	-	1298	-
Mov Cap-2 Maneuver	501	-	-	-	-	-
Stage 1	779	-	-	-	-	-
Stage 2	770	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	501	1298	-
HCM Lane V/C Ratio	-	-	0.011	-	-
HCM Control Delay (s)	-	-	12.3	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	240	15	10	240	15
Future Vol, veh/h	5	240	15	10	240	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	261	16	11	261	16
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	8.9	7.8	10.4
HCM LOS	A	A	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	2%	94%
Vol Thru, %	60%	0%	6%
Vol Right, %	40%	98%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	25	245	255
LT Vol	0	5	240
Through Vol	15	0	15
RT Vol	10	240	0
Lane Flow Rate	27	266	277
Geometry Grp	1	1	1
Degree of Util (X)	0.035	0.303	0.363
Departure Headway (Hd)	4.595	4.097	4.719
Convergence, Y/N	Yes	Yes	Yes
Cap	776	879	762
Service Time	2.639	2.116	2.755
HCM Lane V/C Ratio	0.035	0.303	0.364
HCM Control Delay	7.8	8.9	10.4
HCM Lane LOS	A	A	B
HCM 95th-tile Q	0.1	1.3	1.7

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	250	245	80	70	0
Future Vol, veh/h	0	250	245	80	70	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	285	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	272	266	87	76	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	353	0	-	0	538	266
Stage 1	-	-	-	-	266	-
Stage 2	-	-	-	-	272	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1206	-	-	-	504	773
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	774	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1206	-	-	-	504	773
Mov Cap-2 Maneuver	-	-	-	-	504	-
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	774	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1206	-	-	-	504
HCM Lane V/C Ratio	-	-	-	-	0.151
HCM Control Delay (s)	0	-	-	-	13.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	315	305	20	45	20
Future Vol, veh/h	5	315	305	20	45	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	115	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	5	342	332	22	49	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	354	0	-	0	684	332
Stage 1	-	-	-	-	332	-
Stage 2	-	-	-	-	352	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1205	-	-	-	414	710
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	712	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1205	-	-	-	412	710
Mov Cap-2 Maneuver	-	-	-	-	412	-
Stage 1	-	-	-	-	723	-
Stage 2	-	-	-	-	712	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1205	-	-	-	412	710
HCM Lane V/C Ratio	0.005	-	-	-	0.119	0.031
HCM Control Delay (s)	8	0	-	-	14.9	10.2
HCM Lane LOS	A	A	-	-	B	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	80	250	330	135	160	170	475	130	140	950	20
Future Volume (veh/h)	30	80	250	330	135	160	170	475	130	140	950	20
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	87	272	359	147	0	185	516	0	152	1033	22
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	450	656	556	410	656		278	1247		433	1203	537
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.00	0.09	0.35	0.00	0.08	0.34	0.34
Sat Flow, veh/h	1241	1870	1585	1022	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	33	87	272	359	147	0	185	516	0	152	1033	22
Grp Sat Flow(s),veh/h/ln	1241	1870	1585	1022	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.6	2.7	11.5	27.3	4.7	0.0	5.7	9.4	0.0	4.7	23.2	0.8
Cycle Q Clear(g_c), s	6.4	2.7	11.5	30.0	4.7	0.0	5.7	9.4	0.0	4.7	23.2	0.8
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	450	656	556	410	656		278	1247		433	1203	537
V/C Ratio(X)	0.07	0.13	0.49	0.88	0.22		0.66	0.41		0.35	0.86	0.04
Avail Cap(c_a), veh/h	450	656	556	410	656		287	1370		464	1370	611
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.8	18.9	21.8	30.4	19.6	0.0	20.0	21.1	0.0	16.5	26.4	19.0
Incr Delay (d2), s/veh	0.1	0.1	0.7	18.6	0.2	0.0	5.5	0.2	0.0	0.5	5.2	0.0
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	1.1	4.0	9.1	1.9	0.0	2.4	3.5	0.0	1.7	9.4	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.9	19.0	22.5	49.0	19.8	0.0	25.5	21.3	0.0	17.0	31.5	19.0
LnGrp LOS	C	B	C	D	B		C	C		B	C	B
Approach Vol, veh/h		392			506	A		701	A		1207	
Approach Delay, s/veh		21.6			40.5			22.4			29.5	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.5	37.0		36.0	13.6	36.0		36.0
Change Period (Y+Rc), s	6.0	7.0		6.0	6.0	7.0		6.0
Max Green Setting (Gmax), s	8.0	33.0		30.0	8.0	33.0		30.0
Max Q Clear Time (g_c+I1), s	6.7	11.4		13.5	7.7	25.2		32.0
Green Ext Time (p_c), s	0.0	2.9		1.3	0.0	3.8		0.0

Intersection Summary	
HCM 6th Ctrl Delay	28.6
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	330	5	5	270
Future Vol, veh/h	5	0	330	5	5	270
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
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	0	359	5	5	293

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	665	362	0	0	364	0
Stage 1	362	-	-	-	-	-
Stage 2	303	-	-	-	-	-
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	425	683	-	-	1195	-
Stage 1	704	-	-	-	-	-
Stage 2	749	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	423	683	-	-	1195	-
Mov Cap-2 Maneuver	423	-	-	-	-	-
Stage 1	704	-	-	-	-	-
Stage 2	745	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	423	1195	-
HCM Lane V/C Ratio	-	-	0.013	0.005	-
HCM Control Delay (s)	-	-	13.6	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	205	5	10	145	10
Future Vol, veh/h	10	205	5	10	145	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	223	5	11	158	11
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	8.1	7.3	8.9
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	5%	94%
Vol Thru, %	33%	0%	6%
Vol Right, %	67%	95%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	15	215	155
LT Vol	0	10	145
Through Vol	5	0	10
RT Vol	10	205	0
Lane Flow Rate	16	234	168
Geometry Grp	1	1	1
Degree of Util (X)	0.019	0.248	0.213
Departure Headway (Hd)	4.202	3.818	4.545
Convergence, Y/N	Yes	Yes	Yes
Cap	853	946	780
Service Time	2.22	1.82	2.629
HCM Lane V/C Ratio	0.019	0.247	0.215
HCM Control Delay	7.3	8.1	8.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	1	0.8

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	150	215	25	15	0
Future Vol, veh/h	5	150	215	25	15	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	285	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	163	234	27	16	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	261	0	-	0	407	234
Stage 1	-	-	-	-	234	-
Stage 2	-	-	-	-	173	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1303	-	-	-	600	805
Stage 1	-	-	-	-	805	-
Stage 2	-	-	-	-	857	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1303	-	-	-	598	805
Mov Cap-2 Maneuver	-	-	-	-	598	-
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	857	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1303	-	-	-	598
HCM Lane V/C Ratio	0.004	-	-	-	0.027
HCM Control Delay (s)	7.8	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	165	235	55	25	5
Future Vol, veh/h	0	165	235	55	25	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	115	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	179	255	60	27	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	315	0	-	0	434	255
Stage 1	-	-	-	-	255	-
Stage 2	-	-	-	-	179	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1245	-	-	-	579	784
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	852	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1245	-	-	-	579	784
Mov Cap-2 Maneuver	-	-	-	-	579	-
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	852	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1245	-	-	-	579	784
HCM Lane V/C Ratio	-	-	-	-	0.047	0.007
HCM Control Delay (s)	0	-	-	-	11.5	9.6
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	45	135	245	45	85	240	835	270	125	555	5
Future Volume (veh/h)	10	45	135	245	45	85	240	835	270	125	555	5
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	11	49	147	266	49	0	261	908	0	136	603	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	469	524	444	424	524		459	1206		322	1028	459
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.00	0.13	0.34	0.00	0.08	0.29	0.29
Sat Flow, veh/h	1356	1870	1585	1187	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	11	49	147	266	49	0	261	908	0	136	603	5
Grp Sat Flow(s),veh/h/ln	1356	1870	1585	1187	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.4	1.2	4.6	13.4	1.2	0.0	6.3	14.2	0.0	3.3	9.1	0.1
Cycle Q Clear(g_c), s	1.6	1.2	4.6	14.6	1.2	0.0	6.3	14.2	0.0	3.3	9.1	0.1
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	469	524	444	424	524		459	1206		322	1028	459
V/C Ratio(X)	0.02	0.09	0.33	0.63	0.09		0.57	0.75		0.42	0.59	0.01
Avail Cap(c_a), veh/h	737	894	758	659	894		459	1869		411	1869	834
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.3	16.7	17.9	22.1	16.7	0.0	13.5	18.4	0.0	14.9	19.1	15.9
Incr Delay (d2), s/veh	0.0	0.1	0.4	1.5	0.1	0.0	1.7	1.0	0.0	0.9	0.5	0.0
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	0.1	0.5	1.5	3.4	0.5	0.0	2.1	4.7	0.0	1.1	3.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.3	16.8	18.3	23.6	16.8	0.0	15.1	19.4	0.0	15.8	19.6	15.9
LnGrp LOS	B	B	B	C	B		B	B		B	B	B
Approach Vol, veh/h		207			315	A		1169	A		744	
Approach Delay, s/veh		17.9			22.5			18.4			18.9	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.9	28.3		23.6	14.0	25.2		23.6
Change Period (Y+Rc), s	6.0	7.0		6.0	6.0	7.0		6.0
Max Green Setting (Gmax), s	8.0	33.0		30.0	8.0	33.0		30.0
Max Q Clear Time (g_c+I1), s	5.3	16.2		6.6	8.3	11.1		16.6
Green Ext Time (p_c), s	0.1	5.1		0.7	0.0	3.5		1.0

Intersection Summary	
HCM 6th Ctrl Delay	19.0
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

2045 Build LOS Analysis Reports

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	1070	350	130	1300	65	510	315	175	130	645	65
Future Volume (veh/h)	150	1070	350	130	1300	65	510	315	175	130	645	65
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	158	1126	164	137	1368	0	537	332	51	137	679	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	1392	621	173	1392	621	547	1007	449	394	711	317
Arrive On Green	0.05	0.39	0.39	0.02	0.13	0.00	0.16	0.28	0.28	0.08	0.20	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	158	1126	164	137	1368	0	537	332	51	137	679	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.5	33.9	8.4	4.7	46.1	0.0	18.6	8.9	2.9	7.2	22.7	0.0
Cycle Q Clear(g_c), s	5.5	33.9	8.4	4.7	46.1	0.0	18.6	8.9	2.9	7.2	22.7	0.0
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	173	1392	621	173	1392	621	547	1007	449	394	711	317
V/C Ratio(X)	0.91	0.81	0.26	0.79	0.98	0.00	0.98	0.33	0.11	0.35	0.96	0.00
Avail Cap(c_a), veh/h	173	1392	621	173	1392	621	547	1007	449	394	711	317
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	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	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.7	32.5	24.8	58.4	51.8	0.0	50.3	34.0	31.8	34.2	47.5	0.0
Incr Delay (d2), s/veh	44.6	5.2	1.0	21.8	20.4	0.0	33.6	0.9	0.5	0.5	24.4	0.0
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	3.4	14.8	3.2	2.6	25.7	0.0	10.3	3.8	1.1	3.1	12.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.4	37.7	25.8	80.2	72.2	0.0	83.9	34.9	32.4	34.7	71.9	0.0
LnGrp LOS	F	D	C	F	E	A	F	C	C	C	E	A
Approach Vol, veh/h		1448			1505			920			816	
Approach Delay, s/veh		43.3			72.9			63.4			65.7	
Approach LOS		D			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	53.0	25.0	30.0	12.0	53.0	15.0	40.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	6.0	47.0	19.0	24.0	6.0	47.0	9.0	34.0
Max Q Clear Time (g_c+I1), s	6.7	35.9	20.6	24.7	7.5	48.1	9.2	10.9
Green Ext Time (p_c), s	0.0	5.8	0.0	0.0	0.0	0.0	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	60.6
HCM 6th LOS	E

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	1375	1475	10	0	20
Future Vol, veh/h	0	1375	1475	10	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	150	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1447	1553	11	0	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	777
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	340
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	340
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	340
HCM Lane V/C Ratio	-	-	-	0.062
HCM Control Delay (s)	-	-	-	16.3
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1365	10	20	1465	20	20
Future Volume (veh/h)	1365	10	20	1465	20	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1437	11	21	1542	21	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2636	1176	333	2636	130	130
Arrive On Green	1.00	1.00	1.00	1.00	0.16	0.16
Sat Flow, veh/h	3647	1585	368	3647	821	821
Grp Volume(v), veh/h	1437	11	21	1542	43	0
Grp Sat Flow(s),veh/h/ln	1777	1585	368	1777	1681	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	2.7	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	2.7	0.0
Prop In Lane		1.00	1.00		0.49	0.49
Lane Grp Cap(c), veh/h	2636	1176	333	2636	266	0
V/C Ratio(X)	0.55	0.01	0.06	0.59	0.16	0.00
Avail Cap(c_a), veh/h	2636	1176	333	2636	266	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.86	0.86	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	43.6	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.3	0.8	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.3	1.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.8	0.0	0.3	0.8	44.9	0.0
LnGrp LOS	A	A	A	A	D	A
Approach Vol, veh/h	1448			1563	43	
Approach Delay, s/veh	0.8			0.8	44.9	
Approach LOS	A			A	D	

Timer - Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		95.0				95.0		25.0
Change Period (Y+Rc), s		6.0				6.0		6.0
Max Green Setting (Gmax), s		89.0				89.0		19.0
Max Q Clear Time (g_c+I1), s		2.0				2.0		4.7
Green Ext Time (p_c), s		15.4				18.7		0.1

Intersection Summary	
HCM 6th Ctrl Delay	1.4
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	1360	10	20	1445	30	20	20	20	30	20	20
Future Volume (veh/h)	15	1360	10	20	1445	30	20	20	20	30	20	20
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	16	1432	11	21	1521	32	21	21	21	32	21	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	338	2971	1325	369	2971	1325	115	55	55	115	55	55
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.06	0.06	0.06	0.06	0.06	0.06
Sat Flow, veh/h	333	3554	1585	370	3554	1585	1365	858	858	1365	858	858
Grp Volume(v), veh/h	16	1432	11	21	1521	32	21	0	42	32	0	42
Grp Sat Flow(s),veh/h/ln	333	1777	1585	370	1777	1585	1365	0	1716	1365	0	1716
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	2.8	2.8	0.0	2.8
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.6	0.0	2.8	5.6	0.0	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		0.50
Lane Grp Cap(c), veh/h	338	2971	1325	369	2971	1325	115	0	110	115	0	110
V/C Ratio(X)	0.05	0.48	0.01	0.06	0.51	0.02	0.18	0.00	0.38	0.28	0.00	0.38
Avail Cap(c_a), veh/h	338	2971	1325	369	2971	1325	244	0	272	244	0	272
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	0.74	0.74	0.74	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	56.1	0.0	53.9	56.6	0.0	53.9
Incr Delay (d2), s/veh	0.2	0.5	0.0	0.2	0.5	0.0	0.8	0.0	2.2	1.3	0.0	2.2
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	0.0	0.2	0.0	0.0	0.2	0.0	0.6	0.0	1.3	1.0	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.2	0.5	0.0	0.2	0.5	0.0	56.9	0.0	56.1	57.9	0.0	56.1
LnGrp LOS	A	A	A	A	A	A	E	A	E	E	A	E
Approach Vol, veh/h		1459			1574			63			74	
Approach Delay, s/veh		0.5			0.5			56.3			56.9	
Approach LOS		A			A			E			E	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	106.3	13.7	106.3	13.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	89.0	19.0	89.0	19.0
Max Q Clear Time (g_c+I1), s	2.0	7.6	2.0	6.6
Green Ext Time (p_c), s	16.1	0.2	18.5	0.1

Intersection Summary	
HCM 6th Ctrl Delay	2.9
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	975	210	25	1380	15	65	55	45	55	80	50
Future Volume (veh/h)	225	975	210	25	1380	15	65	55	45	55	80	50
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	237	1026	221	26	1453	16	68	58	47	58	84	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	417	2530	1128	403	2388	1065	150	213	181	170	213	181
Arrive On Green	0.13	1.00	1.00	0.05	1.00	1.00	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1252	1870	1585	1289	1870	1585
Grp Volume(v), veh/h	237	1026	221	26	1453	16	68	58	47	58	84	53
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1252	1870	1585	1289	1870	1585
Q Serve(g_s), s	5.2	0.0	0.0	0.5	0.0	0.0	6.4	3.4	3.2	5.2	5.0	3.7
Cycle Q Clear(g_c), s	5.2	0.0	0.0	0.5	0.0	0.0	11.4	3.4	3.2	8.6	5.0	3.7
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	417	2530	1128	403	2388	1065	150	213	181	170	213	181
V/C Ratio(X)	0.57	0.41	0.20	0.06	0.61	0.02	0.45	0.27	0.26	0.34	0.39	0.29
Avail Cap(c_a), veh/h	584	2530	1128	493	2388	1065	206	296	251	228	296	251
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.77	0.77	0.77	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	4.3	0.0	0.0	5.5	0.0	0.0	54.6	48.6	48.5	52.5	49.3	48.7
Incr Delay (d2), s/veh	1.1	0.4	0.3	0.1	0.9	0.0	2.1	0.7	0.8	1.2	1.2	0.9
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	1.4	0.1	0.1	0.2	0.3	0.0	2.1	1.6	1.3	1.7	2.4	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.4	0.4	0.3	5.5	0.9	0.0	56.7	49.3	49.3	53.7	50.5	49.6
LnGrp LOS	A	A	A	A	A	A	E	D	D	D	D	D
Approach Vol, veh/h		1484			1495			173			195	
Approach Delay, s/veh		1.2			1.0			52.2			51.2	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.9	91.4		19.7	13.7	86.6		19.7
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	9.0	74.0		19.0	19.0	64.0		19.0
Max Q Clear Time (g_c+I1), s	7.2	2.0		10.6	7.2	2.0		13.4
Green Ext Time (p_c), s	0.0	9.7		0.5	0.5	15.3		0.3

Intersection Summary	
HCM 6th Ctrl Delay	6.7
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	995	60	190	1280	20	65	80	75	85	200	75
Future Volume (veh/h)	20	995	60	190	1280	20	65	80	75	85	200	75
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	21	1047	63	200	1347	21	68	84	79	89	211	79
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	1977	882	460	2137	953	165	226	191	259	249	211
Arrive On Green	0.04	1.00	1.00	0.07	0.60	0.60	0.04	0.12	0.12	0.06	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	21	1047	63	200	1347	21	68	84	79	89	211	79
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.6	0.0	0.0	5.6	29.2	0.6	4.0	5.0	5.5	5.2	13.2	5.5
Cycle Q Clear(g_c), s	0.6	0.0	0.0	5.6	29.2	0.6	4.0	5.0	5.5	5.2	13.2	5.5
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	240	1977	882	460	2137	953	165	226	191	259	249	211
V/C Ratio(X)	0.09	0.53	0.07	0.44	0.63	0.02	0.41	0.37	0.41	0.34	0.85	0.38
Avail Cap(c_a), veh/h	336	1977	882	595	2137	953	218	343	291	291	343	291
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	0.0	0.0	9.1	15.4	9.7	44.1	48.6	48.8	42.8	50.8	47.5
Incr Delay (d2), s/veh	0.1	0.9	0.1	0.6	1.4	0.0	1.7	1.0	1.4	0.8	13.5	1.1
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	0.2	0.3	0.0	2.0	11.0	0.2	1.8	2.4	2.2	2.3	7.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.2	0.9	0.1	9.7	16.8	9.7	45.7	49.6	50.2	43.6	64.3	48.6
LnGrp LOS	B	A	A	A	B	A	D	D	D	D	E	D
Approach Vol, veh/h		1131			1568			231			379	
Approach Delay, s/veh		1.1			15.8			48.7			56.2	
Approach LOS		A			B			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	72.8	11.4	21.9	8.5	78.2	12.8	20.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	7.0	48.0	9.0	22.0	9.0	56.0	9.0	22.0
Max Q Clear Time (g_c+I1), s	7.6	2.0	6.0	15.2	2.6	31.2	7.2	7.5
Green Ext Time (p_c), s	0.3	8.8	0.0	0.7	0.0	10.5	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱		↑↑		↱
Traffic Vol, veh/h	1140	15	0	1490	0	20
Future Vol, veh/h	1140	15	0	1490	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1200	16	0	1568	0	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	600
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	444
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	444
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	444	-	-	-
HCM Lane V/C Ratio	0.047	-	-	-
HCM Control Delay (s)	13.5	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1075	85	40	1280	210	60
Future Volume (veh/h)	1075	85	40	1280	210	60
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1132	89	42	1347	221	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2398	1070	355	2687	256	228
Arrive On Green	0.67	0.67	0.03	0.76	0.14	0.14
Sat Flow, veh/h	3647	1585	1781	3647	1781	1585
Grp Volume(v), veh/h	1132	89	42	1347	221	63
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	18.2	2.3	0.8	17.9	14.6	4.3
Cycle Q Clear(g_c), s	18.2	2.3	0.8	17.9	14.6	4.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2398	1070	355	2687	256	228
V/C Ratio(X)	0.47	0.08	0.12	0.50	0.86	0.28
Avail Cap(c_a), veh/h	2398	1070	433	2687	445	396
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	9.3	6.7	6.6	5.7	50.2	45.8
Incr Delay (d2), s/veh	0.7	0.2	0.1	0.7	8.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.7	0.3	5.2	7.1	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.0	6.9	6.7	6.4	58.6	46.5
LnGrp LOS	A	A	A	A	E	D
Approach Vol, veh/h	1221			1389	284	
Approach Delay, s/veh	9.8			6.4	55.9	
Approach LOS	A			A	E	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	9.8	87.0				96.7	23.3
Change Period (Y+Rc), s	6.0	6.0				6.0	6.0
Max Green Setting (Gmax), s	9.0	63.0				78.0	30.0
Max Q Clear Time (g_c+I1), s	2.8	20.2				19.9	16.6
Green Ext Time (p_c), s	0.0	10.0				13.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	12.7
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱		↑↑		↱
Traffic Vol, veh/h	1045	90	0	1320	0	30
Future Vol, veh/h	1045	90	0	1320	0	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1100	95	0	1389	0	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	550
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	479
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	479
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	479	-	-	-
HCM Lane V/C Ratio	0.066	-	-	-
HCM Control Delay (s)	13	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	610	465	325	710	610	230
Future Volume (veh/h)	610	465	325	710	610	230
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	642	489	342	747	642	242
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1830	816	405	2424	753	346
Arrive On Green	0.51	0.51	0.23	1.00	0.22	0.22
Sat Flow, veh/h	3647	1585	3456	3647	3456	1585
Grp Volume(v), veh/h	642	489	342	747	642	242
Grp Sat Flow(s),veh/h/ln	1777	1585	1728	1777	1728	1585
Q Serve(g_s), s	12.8	26.0	11.3	0.0	21.4	16.9
Cycle Q Clear(g_c), s	12.8	26.0	11.3	0.0	21.4	16.9
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1830	816	405	2424	753	346
V/C Ratio(X)	0.35	0.60	0.84	0.31	0.85	0.70
Avail Cap(c_a), veh/h	1830	816	605	2424	1037	476
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.95	0.95	1.00	1.00
Uniform Delay (d), s/veh	17.2	20.4	44.9	0.0	45.1	43.3
Incr Delay (d2), s/veh	0.5	3.2	6.7	0.3	5.2	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	9.6	4.6	0.1	9.5	6.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.8	23.7	51.6	0.3	50.2	46.1
LnGrp LOS	B	C	D	A	D	D
Approach Vol, veh/h	1131			1089	884	
Approach Delay, s/veh	20.3			16.4	49.1	
Approach LOS	C			B	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	20.1	67.8				87.8	32.2
Change Period (Y+Rc), s	6.0	6.0				6.0	6.0
Max Green Setting (Gmax), s	21.0	45.0				72.0	36.0
Max Q Clear Time (g_c+I1), s	13.3	28.0				2.0	23.4
Green Ext Time (p_c), s	0.7	5.5				5.5	2.7

Intersection Summary	
HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	770	70	35	1015	20	20
Future Volume (veh/h)	770	70	35	1015	20	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	811	74	37	1068	21	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3087	1377	605	3087	56	50
Arrive On Green	1.00	1.00	1.00	1.00	0.03	0.03
Sat Flow, veh/h	3647	1585	628	3647	1781	1585
Grp Volume(v), veh/h	811	74	37	1068	21	21
Grp Sat Flow(s),veh/h/ln	1777	1585	628	1777	1781	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.0	1.4	1.6
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	1.4	1.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	3087	1377	605	3087	56	50
V/C Ratio(X)	0.26	0.05	0.06	0.35	0.38	0.42
Avail Cap(c_a), veh/h	3087	1377	605	3087	327	291
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.93	0.93	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	57.0	57.0
Incr Delay (d2), s/veh	0.2	0.1	0.2	0.3	4.1	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.1	0.7	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.2	0.1	0.2	0.3	61.1	62.6
LnGrp LOS	A	A	A	A	E	E
Approach Vol, veh/h	885			1105	42	
Approach Delay, s/veh	0.2			0.3	61.9	
Approach LOS	A			A	E	

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	110.2			110.2	9.8
Change Period (Y+Rc), s	6.0			6.0	6.0
Max Green Setting (Gmax), s	86.0			86.0	22.0
Max Q Clear Time (g_c+I1), s	2.0			2.0	3.6
Green Ext Time (p_c), s	6.4			9.7	0.1

Intersection Summary	
HCM 6th Ctrl Delay	1.5
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	710	45	90	850	50	75	20	20	10	20	125
Future Volume (veh/h)	35	710	45	90	850	50	75	20	20	10	20	125
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	37	747	47	95	895	53	79	21	21	11	21	132
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	482	2517	1123	615	2554	1139	173	190	161	185	190	161
Arrive On Green	0.06	1.00	1.00	0.04	0.72	0.72	0.10	0.10	0.10	0.10	0.10	0.10
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1234	1870	1585	1365	1870	1585
Grp Volume(v), veh/h	37	747	47	95	895	53	79	21	21	11	21	132
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1234	1870	1585	1365	1870	1585
Q Serve(g_s), s	0.7	0.0	0.0	1.7	11.4	1.2	7.5	1.2	1.4	0.9	1.2	9.8
Cycle Q Clear(g_c), s	0.7	0.0	0.0	1.7	11.4	1.2	8.7	1.2	1.4	2.1	1.2	9.8
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	482	2517	1123	615	2554	1139	173	190	161	185	190	161
V/C Ratio(X)	0.08	0.30	0.04	0.15	0.35	0.05	0.46	0.11	0.13	0.06	0.11	0.82
Avail Cap(c_a), veh/h	563	2517	1123	752	2554	1139	305	390	330	330	390	330
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	4.5	0.0	0.0	4.0	6.3	4.9	52.9	49.0	49.1	49.9	49.0	52.8
Incr Delay (d2), s/veh	0.1	0.3	0.1	0.1	0.4	0.1	1.9	0.3	0.4	0.1	0.3	9.7
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	0.2	0.1	0.0	0.5	3.6	0.3	2.4	0.6	0.6	0.3	0.6	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.6	0.3	0.1	4.1	6.7	5.0	54.8	49.2	49.4	50.1	49.2	62.6
LnGrp LOS	A	A	A	A	A	A	D	D	D	D	D	E
Approach Vol, veh/h		831			1043			121			164	
Approach Delay, s/veh		0.5			6.4			52.9			60.0	
Approach LOS		A			A			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.8	91.0		18.2	9.5	92.3		18.2
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	4.0	63.0		25.0	9.0	68.0		25.0
Max Q Clear Time (g_c+I1), s	3.7	2.0		11.8	2.7	13.4		10.7
Green Ext Time (p_c), s	0.1	5.6		0.4	0.0	7.1		0.3

Intersection Summary	
HCM 6th Ctrl Delay	10.8
HCM 6th LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	65	35	735	5	25	925
Future Volume (veh/h)	65	35	735	5	25	925
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	37	774	5	26	974
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	97	86	3005	1340	616	3005
Arrive On Green	0.05	0.05	0.85	0.85	0.85	0.85
Sat Flow, veh/h	1781	1585	3647	1585	693	3647
Grp Volume(v), veh/h	68	37	774	5	26	974
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	693	1777
Q Serve(g_s), s	4.5	2.7	5.2	0.1	0.9	7.0
Cycle Q Clear(g_c), s	4.5	2.7	5.2	0.1	6.1	7.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	97	86	3005	1340	616	3005
V/C Ratio(X)	0.70	0.43	0.26	0.00	0.04	0.32
Avail Cap(c_a), veh/h	386	343	3005	1340	616	3005
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.96	0.96	0.91	0.91
Uniform Delay (d), s/veh	55.8	54.9	1.8	1.4	2.4	2.0
Incr Delay (d2), s/veh	8.8	3.3	0.2	0.0	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.2	0.9	0.0	0.1	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	64.6	58.3	2.0	1.4	2.5	2.2
LnGrp LOS	E	E	A	A	A	A
Approach Vol, veh/h	105		779			1000
Approach Delay, s/veh	62.3		2.0			2.2
Approach LOS	E		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	107.5			107.5	12.5
Change Period (Y+Rc), s	6.0			6.0	6.0
Max Green Setting (Gmax), s	82.0			82.0	26.0
Max Q Clear Time (g_c+I1), s	7.2			9.0	6.5
Green Ext Time (p_c), s	5.7			8.2	0.2

Intersection Summary	
HCM 6th Ctrl Delay	5.5
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	580	15	10	640	180	35	20	5	100	20	275
Future Volume (veh/h)	175	580	15	10	640	180	35	20	5	100	20	275
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	184	611	16	11	674	189	37	21	5	105	21	289
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	429	1995	890	458	1807	806	286	236	56	381	367	311
Arrive On Green	0.07	0.56	0.56	0.01	0.51	0.51	0.03	0.16	0.16	0.06	0.20	0.20
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1460	348	1781	1870	1585
Grp Volume(v), veh/h	184	611	16	11	674	189	37	0	26	105	21	289
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1808	1781	1870	1585
Q Serve(g_s), s	5.7	10.9	0.5	0.4	13.8	8.0	2.1	0.0	1.5	5.8	1.1	21.5
Cycle Q Clear(g_c), s	5.7	10.9	0.5	0.4	13.8	8.0	2.1	0.0	1.5	5.8	1.1	21.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	429	1995	890	458	1807	806	286	0	293	381	367	311
V/C Ratio(X)	0.43	0.31	0.02	0.02	0.37	0.23	0.13	0.00	0.09	0.28	0.06	0.93
Avail Cap(c_a), veh/h	520	1995	890	569	1807	806	367	0	293	475	374	317
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)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.7	13.9	11.7	13.9	17.9	16.5	40.1	0.0	42.8	38.1	39.2	47.4
Incr Delay (d2), s/veh	0.7	0.4	0.0	0.0	0.6	0.7	0.2	0.0	0.1	0.4	0.1	32.3
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	2.1	4.2	0.2	0.1	5.5	3.0	0.9	0.0	0.7	2.6	0.5	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.3	14.3	11.7	13.9	18.5	17.1	40.3	0.0	42.9	38.5	39.3	79.7
LnGrp LOS	B	B	B	B	B	B	D	A	D	D	D	E
Approach Vol, veh/h		811			874			63			415	
Approach Delay, s/veh		14.1			18.1			41.3			67.2	
Approach LOS		B			B			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	73.4	9.5	29.6	13.9	67.0	13.7	25.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	54.0	9.0	24.0	14.0	49.0	14.0	19.0
Max Q Clear Time (g_c+I1), s	2.4	12.9	4.1	23.5	7.7	15.8	7.8	3.5
Green Ext Time (p_c), s	0.0	4.2	0.0	0.1	0.2	5.3	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	26.7
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	685	825	115	0	5
Future Vol, veh/h	0	685	825	115	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	200	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	721	868	121	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	434
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	570
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	570
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	570
HCM Lane V/C Ratio	-	-	-	0.009
HCM Control Delay (s)	-	-	-	11.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	685	915	70	0	25
Future Vol, veh/h	0	685	915	70	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	200	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	721	963	74	0	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	482
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	530
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	530
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	530
HCM Lane V/C Ratio	-	-	-	0.05
HCM Control Delay (s)	-	-	-	12.1
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	190	425	300	305	210	225	620	170	185	640	455
Future Volume (veh/h)	70	190	425	300	305	210	225	620	170	185	640	455
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	74	200	216	316	321	0	237	653	58	195	674	251
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	433	1115	497	458	1236		298	1198	534	256	1155	515
Arrive On Green	0.04	0.31	0.31	0.08	0.35	0.00	0.09	0.34	0.34	0.07	0.32	0.32
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	74	200	216	316	321	0	237	653	58	195	674	251
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	3.4	4.9	13.0	9.0	7.8	0.0	8.1	17.9	3.0	6.6	19.0	15.2
Cycle Q Clear(g_c), s	3.4	4.9	13.0	9.0	7.8	0.0	8.1	17.9	3.0	6.6	19.0	15.2
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	433	1115	497	458	1236		298	1198	534	256	1155	515
V/C Ratio(X)	0.17	0.18	0.43	0.69	0.26		0.80	0.55	0.11	0.76	0.58	0.49
Avail Cap(c_a), veh/h	493	1115	497	458	1236		403	1198	534	403	1155	515
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.1	29.9	32.7	30.4	28.1	0.0	53.8	32.3	27.4	54.5	33.7	32.5
Incr Delay (d2), s/veh	0.2	0.4	2.7	4.3	0.5	0.0	7.7	1.8	0.4	4.7	2.2	3.3
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	1.4	2.1	5.1	3.6	3.3	0.0	3.7	7.5	1.1	2.9	8.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.3	30.3	35.5	34.7	28.6	0.0	61.5	34.1	27.8	59.2	35.9	35.8
LnGrp LOS	C	C	D	C	C		E	C	C	E	D	D
Approach Vol, veh/h		490			637	A		948			1120	
Approach Delay, s/veh		32.0			31.6			40.6			39.9	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	43.7	16.3	45.0	10.9	47.7	14.9	46.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	34.0	14.0	39.0	9.0	34.0	14.0	39.0
Max Q Clear Time (g_c+I1), s	11.0	15.0	10.1	21.0	5.4	9.8	8.6	19.9
Green Ext Time (p_c), s	0.0	1.7	0.3	4.5	0.0	1.8	0.3	3.8

Intersection Summary	
HCM 6th Ctrl Delay	37.2
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	1150	350	370	895	50	435	795	260	90	525	210
Future Volume (veh/h)	190	1150	350	370	895	50	435	795	260	90	525	210
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	200	1211	189	389	942	0	458	837	98	95	553	35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	1333	594	403	1481	661	490	948	423	159	592	264
Arrive On Green	0.07	0.38	0.38	0.08	0.28	0.00	0.14	0.27	0.27	0.04	0.17	0.17
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	200	1211	189	389	942	0	458	837	98	95	553	35
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.8	38.8	10.2	13.5	27.9	0.0	15.7	27.1	5.8	5.0	18.4	2.3
Cycle Q Clear(g_c), s	6.8	38.8	10.2	13.5	27.9	0.0	15.7	27.1	5.8	5.0	18.4	2.3
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	259	1333	594	403	1481	661	490	948	423	159	592	264
V/C Ratio(X)	0.77	0.91	0.32	0.96	0.64	0.00	0.94	0.88	0.23	0.60	0.93	0.13
Avail Cap(c_a), veh/h	346	1333	594	403	1481	661	490	948	423	159	592	264
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	35.6	26.6	55.1	35.3	0.0	51.0	42.2	34.4	41.8	49.3	42.6
Incr Delay (d2), s/veh	7.5	10.7	1.4	35.6	2.1	0.0	25.5	11.7	1.3	6.1	23.8	1.0
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	3.2	17.8	3.9	7.9	12.8	0.0	8.3	13.0	2.3	2.6	9.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	46.2	28.0	90.7	37.4	0.0	76.5	54.0	35.7	47.9	73.1	43.6
LnGrp LOS	E	D	C	F	D	A	E	D	D	D	E	D
Approach Vol, veh/h		1600			1331			1393			683	
Approach Delay, s/veh		46.0			52.9			60.1			68.1	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	51.0	23.0	26.0	15.0	56.0	11.0	38.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	45.0	17.0	20.0	12.0	47.0	5.0	32.0
Max Q Clear Time (g_c+I1), s	15.5	40.8	17.7	20.4	8.8	29.9	7.0	29.1
Green Ext Time (p_c), s	0.0	2.9	0.0	0.0	0.2	5.7	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	54.8
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	1500	1295	10	0	20
Future Vol, veh/h	0	1500	1295	10	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	150	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1579	1363	11	0	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	682
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	392
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	392
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	392
HCM Lane V/C Ratio	-	-	-	0.054
HCM Control Delay (s)	-	-	-	14.7
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1480	20	15	1290	15	20
Future Volume (veh/h)	1480	20	15	1290	15	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1558	21	16	1358	16	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3092	1379	342	3092	21	28
Arrive On Green	1.00	1.00	1.00	1.00	0.03	0.03
Sat Flow, veh/h	3647	1585	324	3647	703	922
Grp Volume(v), veh/h	1558	21	16	1358	38	0
Grp Sat Flow(s),veh/h/ln	1777	1585	324	1777	1669	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	2.7	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	2.7	0.0
Prop In Lane		1.00	1.00		0.42	0.55
Lane Grp Cap(c), veh/h	3092	1379	342	3092	50	0
V/C Ratio(X)	0.50	0.02	0.05	0.44	0.76	0.00
Avail Cap(c_a), veh/h	3092	1379	342	3092	264	0
HCM Platoon Ratio	1.33	1.33	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.90	0.90	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	57.8	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.2	0.4	20.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.2	1.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.6	0.0	0.2	0.4	78.5	0.0
LnGrp LOS	A	A	A	A	E	A
Approach Vol, veh/h	1579			1374	38	
Approach Delay, s/veh	0.6			0.4	78.5	
Approach LOS	A			A	E	

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		110.4				110.4	9.6
Change Period (Y+Rc), s		6.0				6.0	6.0
Max Green Setting (Gmax), s		89.0				89.0	19.0
Max Q Clear Time (g_c+I1), s		2.0				2.0	4.7
Green Ext Time (p_c), s		18.3				14.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	1.5
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1440	20	10	1270	20	15	20	20	20	20	20
Future Volume (veh/h)	40	1440	20	10	1270	20	15	20	20	20	20	20
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	42	1516	21	11	1337	21	16	21	21	21	21	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	399	3000	1338	345	3000	1338	104	48	48	104	48	48
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.06	0.06	0.06	0.06	0.06	0.06
Sat Flow, veh/h	401	3554	1585	338	3554	1585	1365	858	858	1365	858	858
Grp Volume(v), veh/h	42	1516	21	11	1337	21	16	0	42	21	0	42
Grp Sat Flow(s),veh/h/ln	401	1777	1585	338	1777	1585	1365	0	1716	1365	0	1716
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	2.8	1.8	0.0	2.8
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	2.8	4.7	0.0	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		0.50
Lane Grp Cap(c), veh/h	399	3000	1338	345	3000	1338	104	0	96	104	0	96
V/C Ratio(X)	0.11	0.51	0.02	0.03	0.45	0.02	0.15	0.00	0.44	0.20	0.00	0.44
Avail Cap(c_a), veh/h	399	3000	1338	345	3000	1338	244	0	272	244	0	272
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	0.83	0.83	0.83	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	56.9	0.0	54.8	57.1	0.0	54.8
Incr Delay (d2), s/veh	0.5	0.5	0.0	0.1	0.4	0.0	0.7	0.0	3.1	0.9	0.0	3.1
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	0.1	0.2	0.0	0.0	0.2	0.0	0.5	0.0	1.3	0.7	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.5	0.5	0.0	0.1	0.4	0.0	57.6	0.0	58.0	58.0	0.0	58.0
LnGrp LOS	A	A	A	A	A	A	E	A	E	E	A	E
Approach Vol, veh/h		1579			1369			58			63	
Approach Delay, s/veh		0.5			0.4			57.9			58.0	
Approach LOS		A			A			E			E	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	107.3	12.7	107.3	12.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	89.0	19.0	89.0	19.0
Max Q Clear Time (g_c+I1), s	2.0	6.7	2.0	6.2
Green Ext Time (p_c), s	19.1	0.1	14.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	2.7
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	1315	75	125	1175	110	90	225	50	45	45	35
Future Volume (veh/h)	90	1315	75	125	1175	110	90	225	50	45	45	35
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	95	1384	79	132	1237	116	95	237	53	47	47	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	384	2227	993	280	2243	1000	267	335	284	125	335	284
Arrive On Green	0.04	0.63	0.63	0.09	1.00	1.00	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1314	1870	1585	1089	1870	1585
Grp Volume(v), veh/h	95	1384	79	132	1237	116	95	237	53	47	47	37
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1314	1870	1585	1089	1870	1585
Q Serve(g_s), s	2.3	28.6	2.3	3.3	0.0	0.0	7.9	14.3	3.4	5.1	2.5	2.4
Cycle Q Clear(g_c), s	2.3	28.6	2.3	3.3	0.0	0.0	10.4	14.3	3.4	19.4	2.5	2.4
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	384	2227	993	280	2243	1000	267	335	284	125	335	284
V/C Ratio(X)	0.25	0.62	0.08	0.47	0.55	0.12	0.36	0.71	0.19	0.38	0.14	0.13
Avail Cap(c_a), veh/h	446	2227	993	335	2243	1000	295	374	317	148	374	317
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	0.72	0.72	0.72	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.0	13.7	8.8	11.7	0.0	0.0	45.9	46.3	41.8	55.4	41.5	41.4
Incr Delay (d2), s/veh	0.3	1.1	0.1	0.9	0.7	0.2	0.8	5.3	0.3	1.9	0.2	0.2
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	0.8	10.4	0.8	1.1	0.2	0.0	2.6	7.1	1.4	1.5	1.2	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.3	14.8	8.9	12.6	0.7	0.2	46.7	51.6	42.2	57.3	41.7	41.6
LnGrp LOS	A	B	A	B	A	A	D	D	D	E	D	D
Approach Vol, veh/h		1558			1485			385			131	
Approach Delay, s/veh		14.1			1.7			49.1			47.2	
Approach LOS		B			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.3	81.2		27.5	10.8	81.7		27.5
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	9.0	69.0		24.0	9.0	69.0		24.0
Max Q Clear Time (g_c+I1), s	5.3	30.6		21.4	4.3	2.0		16.3
Green Ext Time (p_c), s	0.1	13.1		0.1	0.1	12.2		1.1

Intersection Summary	
HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	1280	50	155	1270	45	90	195	145	60	100	50
Future Volume (veh/h)	80	1280	50	155	1270	45	90	195	145	60	100	50
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	84	1347	53	163	1337	47	95	205	153	63	105	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	422	1973	880	320	1599	713	175	247	210	126	195	165
Arrive On Green	0.36	1.00	1.00	0.08	0.45	0.45	0.06	0.13	0.13	0.04	0.10	0.10
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	84	1347	53	163	1337	47	95	205	153	63	105	53
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.0	0.0	0.0	7.1	39.8	2.0	6.1	12.8	8.9	0.0	6.4	2.6
Cycle Q Clear(g_c), s	0.0	0.0	0.0	7.1	39.8	2.0	6.1	12.8	8.9	0.0	6.4	2.6
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	422	1973	880	320	1599	713	175	247	210	126	195	165
V/C Ratio(X)	0.20	0.68	0.06	0.51	0.84	0.07	0.54	0.83	0.73	0.50	0.54	0.32
Avail Cap(c_a), veh/h	422	1973	880	363	1599	713	194	374	317	195	374	317
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.4	0.0	0.0	22.5	29.1	18.7	51.5	50.7	31.8	55.7	51.0	23.5
Incr Delay (d2), s/veh	0.2	1.5	0.1	1.3	5.4	0.2	2.6	9.1	4.8	3.0	2.3	1.1
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	1.6	0.4	0.0	3.0	17.0	0.8	2.8	6.5	3.6	1.9	3.1	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	1.5	0.1	23.8	34.4	18.9	54.1	59.9	36.6	58.7	53.3	24.6
LnGrp LOS	C	A	A	C	C	B	D	E	D	E	D	C
Approach Vol, veh/h		1484			1547			453			221	
Approach Delay, s/veh		3.0			32.8			50.8			48.0	
Approach LOS		A			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	72.6	13.8	18.5	27.7	60.0	10.4	21.9
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	12.0	51.0	9.0	24.0	9.0	54.0	9.0	24.0
Max Q Clear Time (g_c+I1), s	9.1	2.0	8.1	8.4	2.0	41.8	2.0	14.8
Green Ext Time (p_c), s	0.1	13.1	0.0	0.5	0.1	7.0	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	24.0
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱		↑↑		↱
Traffic Vol, veh/h	1465	20	0	1470	0	20
Future Vol, veh/h	1465	20	0	1470	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1542	21	0	1547	0	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	771
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	343
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	343
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	16.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	343	-	-	-
HCM Lane V/C Ratio	0.061	-	-	-
HCM Control Delay (s)	16.2	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1325	160	95	1215	255	75
Future Volume (veh/h)	1325	160	95	1215	255	75
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1395	168	100	1279	268	79
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2274	1014	266	2594	303	269
Arrive On Green	0.64	0.64	0.04	0.73	0.17	0.17
Sat Flow, veh/h	3647	1585	1781	3647	1781	1585
Grp Volume(v), veh/h	1395	168	100	1279	268	79
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	27.9	5.1	2.2	18.2	17.6	5.2
Cycle Q Clear(g_c), s	27.9	5.1	2.2	18.2	17.6	5.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2274	1014	266	2594	303	269
V/C Ratio(X)	0.61	0.17	0.38	0.49	0.89	0.29
Avail Cap(c_a), veh/h	2274	1014	328	2594	430	383
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	12.8	8.7	11.2	6.8	48.7	43.5
Incr Delay (d2), s/veh	1.2	0.4	0.9	0.7	14.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	1.7	0.8	5.7	9.1	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.1	9.1	12.1	7.5	63.3	44.1
LnGrp LOS	B	A	B	A	E	D
Approach Vol, veh/h	1563			1379	347	
Approach Delay, s/veh	13.5			7.8	58.9	
Approach LOS	B			A	E	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	10.8	82.8				93.6	26.4
Change Period (Y+Rc), s	6.0	6.0				6.0	6.0
Max Green Setting (Gmax), s	9.0	64.0				79.0	29.0
Max Q Clear Time (g_c+I1), s	4.2	29.9				20.2	19.6
Green Ext Time (p_c), s	0.1	13.3				12.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	15.9
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱		↑↑		↱
Traffic Vol, veh/h	1145	255	0	1310	0	65
Future Vol, veh/h	1145	255	0	1310	0	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1205	268	0	1379	0	68

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	603
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	442
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	442
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	442	-	-	-
HCM Lane V/C Ratio	0.155	-	-	-
HCM Control Delay (s)	14.6	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.5	-	-	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	690	520	270	630	680	285
Future Volume (veh/h)	690	520	270	630	680	285
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	726	547	284	663	716	300
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1806	805	343	2336	839	385
Arrive On Green	0.51	0.51	0.20	1.00	0.24	0.24
Sat Flow, veh/h	3647	1585	3456	3647	3456	1585
Grp Volume(v), veh/h	726	547	284	663	716	300
Grp Sat Flow(s),veh/h/ln	1777	1585	1728	1777	1728	1585
Q Serve(g_s), s	15.2	31.1	9.5	0.0	23.8	21.2
Cycle Q Clear(g_c), s	15.2	31.1	9.5	0.0	23.8	21.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1806	805	343	2336	839	385
V/C Ratio(X)	0.40	0.68	0.83	0.28	0.85	0.78
Avail Cap(c_a), veh/h	1806	805	490	2336	1152	528
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.97	0.97	1.00	1.00
Uniform Delay (d), s/veh	18.2	22.2	47.1	0.0	43.4	42.4
Incr Delay (d2), s/veh	0.7	4.6	7.6	0.3	4.8	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	11.8	4.0	0.1	10.4	8.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.9	26.8	54.7	0.3	48.2	47.5
LnGrp LOS	B	C	D	A	D	D
Approach Vol, veh/h	1273			947	1016	
Approach Delay, s/veh	22.3			16.6	48.0	
Approach LOS	C			B	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	17.9	67.0				84.9	35.1
Change Period (Y+Rc), s	6.0	6.0				6.0	6.0
Max Green Setting (Gmax), s	17.0	45.0				68.0	40.0
Max Q Clear Time (g_c+I1), s	11.5	33.1				2.0	25.8
Green Ext Time (p_c), s	0.5	5.2				4.7	3.4

Intersection Summary	
HCM 6th Ctrl Delay	28.7
HCM 6th LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	870	105	20	880	20	15
Future Volume (veh/h)	870	105	20	880	20	15
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	916	111	21	926	21	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3093	1380	538	3093	53	47
Arrive On Green	1.00	1.00	0.87	0.87	0.03	0.03
Sat Flow, veh/h	3647	1585	549	3647	1781	1585
Grp Volume(v), veh/h	916	111	21	926	21	16
Grp Sat Flow(s),veh/h/ln	1777	1585	549	1777	1781	1585
Q Serve(g_s), s	0.0	0.0	0.6	5.5	1.4	1.2
Cycle Q Clear(g_c), s	0.0	0.0	0.6	5.5	1.4	1.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	3093	1380	538	3093	53	47
V/C Ratio(X)	0.30	0.08	0.04	0.30	0.40	0.34
Avail Cap(c_a), veh/h	3093	1380	538	3093	341	304
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.95	0.95	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	1.0	1.4	57.2	57.1
Incr Delay (d2), s/veh	0.2	0.1	0.1	0.2	4.8	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.6	0.7	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.2	0.1	1.2	1.6	62.0	61.3
LnGrp LOS	A	A	A	A	E	E
Approach Vol, veh/h	1027			947	37	
Approach Delay, s/veh	0.2			1.6	61.7	
Approach LOS	A			A	E	

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	110.5			110.5	9.5
Change Period (Y+Rc), s	6.0			6.0	6.0
Max Green Setting (Gmax), s	85.0			85.0	23.0
Max Q Clear Time (g_c+I1), s	2.0			7.5	3.4
Green Ext Time (p_c), s	7.7			7.7	0.1

Intersection Summary	
HCM 6th Ctrl Delay	2.0
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	845	20	20	650	20	105	20	20	20	20	145
Future Volume (veh/h)	20	845	20	20	650	20	105	20	20	20	20	145
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	21	889	21	21	684	21	111	21	21	21	21	153
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	573	2520	1124	532	2520	1124	193	224	190	210	224	190
Arrive On Green	0.04	1.00	1.00	0.02	0.71	0.71	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1211	1870	1585	1365	1870	1585
Grp Volume(v), veh/h	21	889	21	21	684	21	111	21	21	21	21	153
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1211	1870	1585	1365	1870	1585
Q Serve(g_s), s	0.4	0.0	0.0	0.4	8.3	0.5	10.8	1.2	1.4	1.7	1.2	11.3
Cycle Q Clear(g_c), s	0.4	0.0	0.0	0.4	8.3	0.5	12.0	1.2	1.4	2.9	1.2	11.3
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	573	2520	1124	532	2520	1124	193	224	190	210	224	190
V/C Ratio(X)	0.04	0.35	0.02	0.04	0.27	0.02	0.57	0.09	0.11	0.10	0.09	0.81
Avail Cap(c_a), veh/h	639	2520	1124	599	2520	1124	330	436	370	365	436	370
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	0.97	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	4.6	0.0	0.0	4.4	6.3	5.1	52.3	47.0	47.1	48.3	47.0	51.4
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.3	0.0	2.7	0.2	0.3	0.2	0.2	7.8
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	0.1	0.1	0.0	0.1	2.7	0.1	3.4	0.6	0.6	0.6	0.6	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.6	0.4	0.0	4.5	6.5	5.2	55.0	47.2	47.4	48.5	47.2	59.2
LnGrp LOS	A	A	A	A	A	A	E	D	D	D	D	E
Approach Vol, veh/h		931			726			153			195	
Approach Delay, s/veh		0.5			6.4			52.9			56.8	
Approach LOS		A			A			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.5	91.1		20.4	8.5	91.1		20.4
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	7.0	67.0		28.0	7.0	67.0		28.0
Max Q Clear Time (g_c+I1), s	2.4	2.0		13.3	2.4	10.3		14.0
Green Ext Time (p_c), s	0.0	7.0		0.5	0.0	4.9		0.4

Intersection Summary	
HCM 6th Ctrl Delay	12.1
HCM 6th LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	110	20	865	20	10	580
Future Volume (veh/h)	110	20	865	20	10	580
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	21	911	21	11	611
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	147	131	2905	1296	513	2905
Arrive On Green	0.08	0.08	0.82	0.82	0.82	0.82
Sat Flow, veh/h	1781	1585	3647	1585	601	3647
Grp Volume(v), veh/h	116	21	911	21	11	611
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	601	1777
Q Serve(g_s), s	7.7	1.5	7.5	0.3	0.5	4.5
Cycle Q Clear(g_c), s	7.7	1.5	7.5	0.3	8.1	4.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	147	131	2905	1296	513	2905
V/C Ratio(X)	0.79	0.16	0.31	0.02	0.02	0.21
Avail Cap(c_a), veh/h	445	396	2905	1296	513	2905
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.95	0.95	0.97	0.97
Uniform Delay (d), s/veh	54.0	51.2	2.7	2.0	3.7	2.4
Incr Delay (d2), s/veh	9.1	0.6	0.3	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.6	1.6	0.1	0.1	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	63.1	51.8	3.0	2.0	3.8	2.6
LnGrp LOS	E	D	A	A	A	A
Approach Vol, veh/h	137		932			622
Approach Delay, s/veh	61.3		2.9			2.6
Approach LOS	E		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	104.1			104.1	15.9
Change Period (Y+Rc), s	6.0			6.0	6.0
Max Green Setting (Gmax), s	78.0			78.0	30.0
Max Q Clear Time (g_c+I1), s	9.5			10.1	9.7
Green Ext Time (p_c), s	7.2			4.4	0.3

Intersection Summary	
HCM 6th Ctrl Delay	7.5
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	690	20	15	440	60	30	10	5	135	15	120
Future Volume (veh/h)	175	690	20	15	440	60	30	10	5	135	15	120
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	184	726	21	16	463	63	32	11	5	142	16	126
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	646	2313	1032	491	2174	970	161	51	23	267	196	166
Arrive On Green	0.06	0.65	0.65	0.02	0.61	0.61	0.03	0.04	0.04	0.09	0.10	0.10
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1217	553	1781	1870	1585
Grp Volume(v), veh/h	184	726	21	16	463	63	32	0	16	142	16	126
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1771	1781	1870	1585
Q Serve(g_s), s	4.5	10.8	0.6	0.4	7.0	1.9	2.0	0.0	1.0	8.8	0.9	9.3
Cycle Q Clear(g_c), s	4.5	10.8	0.6	0.4	7.0	1.9	2.0	0.0	1.0	8.8	0.9	9.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	646	2313	1032	491	2174	970	161	0	74	267	196	166
V/C Ratio(X)	0.28	0.31	0.02	0.03	0.21	0.06	0.20	0.00	0.22	0.53	0.08	0.76
Avail Cap(c_a), veh/h	753	2313	1032	594	2174	970	320	0	280	314	296	251
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)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.4	9.2	7.4	8.5	10.4	9.4	53.0	0.0	55.6	47.3	48.5	52.3
Incr Delay (d2), s/veh	0.2	0.3	0.0	0.0	0.2	0.1	0.6	0.0	1.5	1.6	0.2	7.1
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	1.5	3.8	0.2	0.1	2.6	0.7	0.9	0.0	0.5	4.0	0.4	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.7	9.5	7.5	8.5	10.6	9.6	53.6	0.0	57.1	48.9	48.7	59.3
LnGrp LOS	A	A	A	A	B	A	D	A	E	D	D	E
Approach Vol, veh/h		931			542			48			284	
Approach Delay, s/veh		9.1			10.4			54.7			53.5	
Approach LOS		A			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	84.1	9.3	18.6	12.8	79.4	16.8	11.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	54.0	14.0	19.0	14.0	49.0	14.0	19.0
Max Q Clear Time (g_c+I1), s	2.4	12.8	4.0	11.3	6.5	9.0	10.8	3.0
Green Ext Time (p_c), s	0.0	5.2	0.0	0.2	0.3	3.2	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	830	510	35	0	5
Future Vol, veh/h	0	830	510	35	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	200	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	874	537	37	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	269
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	729
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	729
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	729
HCM Lane V/C Ratio	-	-	-	0.007
HCM Control Delay (s)	-	-	-	10
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	830	535	155	0	10
Future Vol, veh/h	0	830	535	155	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	200	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	874	563	163	0	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	282
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	715
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	715
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	715
HCM Lane V/C Ratio	-	-	-	0.015
HCM Control Delay (s)	-	-	-	10.1
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	230	545	165	170	120	315	1095	355	160	375	205
Future Volume (veh/h)	55	230	545	165	170	120	315	1095	355	160	375	205
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	58	242	267	174	179	0	332	1153	138	168	395	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	477	1043	465	409	1183		398	1303	581	224	1123	501
Arrive On Green	0.04	0.29	0.29	0.08	0.33	0.00	0.12	0.37	0.37	0.06	0.32	0.32
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	58	242	267	174	179	0	332	1153	138	168	395	60
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	2.7	6.2	17.2	8.1	4.2	0.0	11.3	36.5	7.2	5.7	10.3	3.2
Cycle Q Clear(g_c), s	2.7	6.2	17.2	8.1	4.2	0.0	11.3	36.5	7.2	5.7	10.3	3.2
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	477	1043	465	409	1183		398	1303	581	224	1123	501
V/C Ratio(X)	0.12	0.23	0.57	0.43	0.15		0.83	0.88	0.24	0.75	0.35	0.12
Avail Cap(c_a), veh/h	547	1043	465	409	1183		547	1303	581	259	1123	501
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	32.1	36.0	26.3	28.1	0.0	52.0	35.6	26.4	55.2	31.6	29.2
Incr Delay (d2), s/veh	0.1	0.5	5.1	0.7	0.3	0.0	7.8	9.0	1.0	10.0	0.9	0.5
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	1.1	2.7	6.9	3.4	1.8	0.0	5.1	16.2	2.7	2.7	4.3	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.0	32.6	41.1	27.0	28.4	0.0	59.8	44.7	27.3	65.2	32.4	29.7
LnGrp LOS	C	C	D	C	C		E	D	C	E	C	C
Approach Vol, veh/h		567			353	A		1623			623	
Approach Delay, s/veh		36.1			27.7			46.3			41.0	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	41.2	19.8	43.9	10.3	46.0	13.8	50.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	34.0	19.0	34.0	9.0	34.0	9.0	44.0
Max Q Clear Time (g_c+I1), s	10.1	19.2	13.3	12.3	4.7	6.2	7.7	38.5
Green Ext Time (p_c), s	0.0	2.0	0.6	2.3	0.0	1.0	0.1	3.3

Intersection Summary	
HCM 6th Ctrl Delay	41.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

2045 Queue Length Analysis Reports

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	1070	350	130	1300	65	510	315	175	130	645	65
Future Volume (vph)	150	1070	350	130	1300	65	510	315	175	130	645	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		150	300		300	300		300
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1256			1075			1783			1083	
Travel Time (s)		19.0			16.3			27.0			16.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	158	1126	368	137	1368	68	537	332	184	137	679	68
v/c Ratio	0.92	0.81	0.45	0.80	0.99	0.09	0.99	0.33	0.32	0.41	0.96	0.14
Control Delay	108.2	38.3	5.6	89.6	47.6	0.3	86.6	35.0	6.2	28.5	73.2	0.6
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	108.2	38.3	5.6	89.6	47.6	0.3	86.6	35.0	6.2	28.5	73.2	0.6
Queue Length 50th (ft)	63	404	15	50	595	0	216	107	0	67	276	0
Queue Length 95th (ft)	#131	494	81	#108	#730	m1	#331	149	54	112	#397	0
Internal Link Dist (ft)		1176			995			1703			1003	
Turn Bay Length (ft)	200			200		150	300		300	300		300
Base Capacity (vph)	171	1386	825	171	1386	736	543	1010	583	337	707	469
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	0.92	0.81	0.45	0.80	0.99	0.09	0.99	0.33	0.32	0.41	0.96	0.14

Intersection Summary

Area Type: Other

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1365	10	20	1465	20	20
Future Volume (vph)	1365	10	20	1465	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	200		100	0
Storage Lanes		1	1		0	0
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	45			45	25	
Link Distance (ft)	1682			1976	502	
Travel Time (s)	25.5			29.9	13.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1437	11	21	1542	42	0
v/c Ratio	0.55	0.01	0.10	0.59	0.15	
Control Delay	2.3	0.1	2.9	2.9	27.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	2.3	0.1	2.9	2.9	27.7	
Queue Length 50th (ft)	38	0	1	56	14	
Queue Length 95th (ft)	47	m0	m3	72	47	
Internal Link Dist (ft)	1602			1896	422	
Turn Bay Length (ft)		150	200		100	
Base Capacity (vph)	2624	1176	208	2624	285	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.55	0.01	0.10	0.59	0.15	

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1360	10	20	1445	30	20	20	20	30	20	20
Future Volume (vph)	15	1360	10	20	1445	30	20	20	20	30	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		200	100		0	100		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		1976			1925			693			779	
Travel Time (s)		29.9			29.2			18.9			21.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	1432	11	21	1521	32	21	42	0	32	42	0
v/c Ratio	0.07	0.47	0.01	0.08	0.50	0.02	0.22	0.30		0.34	0.30	
Control Delay	1.9	1.7	0.0	0.8	2.4	0.1	57.1	36.8		62.0	36.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	1.9	1.7	0.0	0.8	2.4	0.1	57.1	36.8		62.0	36.8	
Queue Length 50th (ft)	1	52	0	1	364	1	16	16		24	16	
Queue Length 95th (ft)	m2	74	m0	m0	3	m0	42	51		56	51	
Internal Link Dist (ft)		1896			1845			613			699	
Turn Bay Length (ft)	200		200	200		200	100			100		
Base Capacity (vph)	246	3041	1364	274	3041	1365	215	290		215	290	
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	0.07	0.47	0.01	0.08	0.50	0.02	0.10	0.14		0.15	0.14	

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	975	210	25	1380	15	65	55	45	55	80	50
Future Volume (vph)	225	975	210	25	1380	15	65	55	45	55	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		200	150		0	150		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1925			1605			500			446	
Travel Time (s)		29.2			24.3			11.4			10.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	237	1026	221	26	1453	16	68	58	47	58	84	53
v/c Ratio	0.68	0.39	0.18	0.06	0.65	0.02	0.54	0.32	0.17	0.45	0.47	0.19
Control Delay	39.7	1.5	0.5	1.6	3.9	0.0	66.1	53.8	1.3	60.9	58.6	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	1.5	0.5	1.6	3.9	0.0	66.1	53.8	1.3	60.9	58.6	1.5
Queue Length 50th (ft)	90	34	0	1	45	0	51	43	0	43	63	0
Queue Length 95th (ft)	129	45	0	m3	70	m0	96	82	0	84	110	0
Internal Link Dist (ft)		1845			1525			420			366	
Turn Bay Length (ft)	200		200	200		200	150			150		
Base Capacity (vph)	418	2627	1232	462	2242	1052	207	294	365	212	294	365
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.39	0.18	0.06	0.65	0.02	0.33	0.20	0.13	0.27	0.29	0.15

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	995	60	190	1280	20	65	80	75	85	200	75
Future Volume (vph)	20	995	60	190	1280	20	65	80	75	85	200	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		200	200		200	200		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		1605			749			1153			1264	
Travel Time (s)		24.3			11.3			19.7			21.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	1047	63	200	1347	21	68	84	79	89	211	79
v/c Ratio	0.10	0.61	0.07	0.60	0.64	0.02	0.29	0.32	0.21	0.29	0.70	0.19
Control Delay	9.4	15.1	0.2	22.4	14.2	0.1	35.3	47.9	1.2	35.2	60.1	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.4	15.1	0.2	22.4	14.2	0.1	35.3	47.9	1.2	35.2	60.1	1.0
Queue Length 50th (ft)	4	132	0	66	310	0	40	58	0	52	157	0
Queue Length 95th (ft)	m13	204	1	103	430	m0	74	104	0	92	236	0
Internal Link Dist (ft)		1525			669			1073			1184	
Turn Bay Length (ft)	200		200	200		200	200		200	200		200
Base Capacity (vph)	255	1725	869	393	2111	999	244	341	446	310	341	446
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	0.08	0.61	0.07	0.51	0.64	0.02	0.28	0.25	0.18	0.29	0.62	0.18

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1075	85	40	1280	210	60
Future Volume (vph)	1075	85	40	1280	210	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	200		150	0
Storage Lanes		1	1		1	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	45			45	30	
Link Distance (ft)	2623			2477	930	
Travel Time (s)	39.7			37.5	21.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1132	89	42	1347	221	63
v/c Ratio	0.49	0.08	0.13	0.52	0.74	0.20
Control Delay	12.5	2.4	4.8	5.4	61.9	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	2.4	4.8	5.4	61.9	10.9
Queue Length 50th (ft)	396	11	2	29	164	0
Queue Length 95th (ft)	515	m19	m12	252	236	37
Internal Link Dist (ft)	2543			2397	850	
Turn Bay Length (ft)		200	200		150	
Base Capacity (vph)	2291	1055	359	2587	442	443
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.08	0.12	0.52	0.50	0.14

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	610	465	325	710	610	230
Future Volume (vph)	610	465	325	710	610	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	200		200	0
Storage Lanes		1	2		1	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	45			45	40	
Link Distance (ft)	1069			2325	1040	
Travel Time (s)	16.2			35.2	17.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	642	489	342	747	642	242
v/c Ratio	0.39	0.49	0.70	0.32	0.79	0.43
Control Delay	12.0	3.1	55.9	12.5	50.1	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	3.1	55.9	12.5	50.1	6.6
Queue Length 50th (ft)	37	0	129	133	241	0
Queue Length 95th (ft)	127	104	189	233	287	60
Internal Link Dist (ft)	989			2245	960	
Turn Bay Length (ft)		200	200		200	
Base Capacity (vph)	1663	1003	603	2345	1029	644
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.49	0.57	0.32	0.62	0.38

Intersection Summary

Area Type: Other

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	770	70	35	1015	20	20
Future Volume (vph)	770	70	35	1015	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	200		100	0
Storage Lanes		1	1		1	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	45			45	30	
Link Distance (ft)	2325			1550	1373	
Travel Time (s)	35.2			23.5	31.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	811	74	37	1068	21	21
v/c Ratio	0.25	0.05	0.06	0.34	0.20	0.19
Control Delay	3.7	1.7	1.3	1.1	57.9	24.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.7	1.7	1.3	1.1	57.9	24.1
Queue Length 50th (ft)	90	4	2	26	16	0
Queue Length 95th (ft)	247	15	6	56	42	26
Internal Link Dist (ft)	2245			1470	1293	
Turn Bay Length (ft)		200	200		100	
Base Capacity (vph)	3188	1433	581	3188	324	307
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.05	0.06	0.34	0.06	0.07

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	710	45	90	850	50	75	20	20	10	20	125
Future Volume (vph)	35	710	45	90	850	50	75	20	20	10	20	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		200	100		0	100		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1550			3004			761			677	
Travel Time (s)		23.5			45.5			17.3			15.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	747	47	95	895	53	79	21	21	11	21	132
v/c Ratio	0.08	0.31	0.04	0.17	0.34	0.04	0.56	0.11	0.09	0.08	0.11	0.47
Control Delay	1.3	4.4	0.3	3.7	7.8	3.0	65.7	48.0	0.8	47.4	48.0	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.3	4.4	0.3	3.7	7.8	3.0	65.7	48.0	0.8	47.4	48.0	13.7
Queue Length 50th (ft)	1	54	0	19	144	3	59	15	0	8	15	0
Queue Length 95th (ft)	3	23	0	40	201	9	107	39	0	26	39	57
Internal Link Dist (ft)		1470			2924			681			597	
Turn Bay Length (ft)	200		200	200		200	100			100		
Base Capacity (vph)	527	2444	1118	633	2606	1187	288	388	394	288	388	434
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	0.07	0.31	0.04	0.15	0.34	0.04	0.27	0.05	0.05	0.04	0.05	0.30

Intersection Summary

Area Type: Other

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	65	35	735	5	25	925
Future Volume (vph)	65	35	735	5	25	925
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0		200	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	772		3004			2529
Travel Time (s)	17.5		45.5			38.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	37	774	5	26	974
v/c Ratio	0.46	0.22	0.26	0.00	0.05	0.32
Control Delay	61.8	18.4	1.3	0.0	2.0	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.8	18.4	1.3	0.0	2.0	2.6
Queue Length 50th (ft)	51	0	1	0	2	54
Queue Length 95th (ft)	96	33	2	m0	m6	116
Internal Link Dist (ft)	692		2924			2449
Turn Bay Length (ft)	100			200	200	
Base Capacity (vph)	383	371	2997	1341	564	2997
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.10	0.26	0.00	0.05	0.32

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	580	15	10	640	180	35	20	5	100	20	275
Future Volume (vph)	175	580	15	10	640	180	35	20	5	100	20	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		200	100		0	100		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		2529			1339			650			600	
Travel Time (s)		38.3			20.3			12.7			11.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	184	611	16	11	674	189	37	26	0	105	21	289
v/c Ratio	0.34	0.24	0.01	0.02	0.32	0.18	0.22	0.22		0.50	0.12	0.70
Control Delay	6.5	2.2	0.0	6.3	10.0	1.8	41.3	49.3		49.2	49.2	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	6.5	2.2	0.0	6.3	10.0	1.8	41.3	49.3		49.2	49.2	15.2
Queue Length 50th (ft)	20	21	0	2	84	3	24	16		69	15	0
Queue Length 95th (ft)	45	30	0	m6	130	20	50	44		113	39	83
Internal Link Dist (ft)		2449			1259			570			520	
Turn Bay Length (ft)	200		200	200		200	100			100		
Base Capacity (vph)	585	2516	1164	603	2126	1026	194	290		250	372	547
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.31	0.24	0.01	0.02	0.32	0.18	0.19	0.09		0.42	0.06	0.53

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	190	425	300	305	210	225	620	170	185	640	455
Future Volume (vph)	70	190	425	300	305	210	225	620	170	185	640	455
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	275		275	380		600	315		280
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		1445			1276			1562			1226	
Travel Time (s)		21.9			19.3			19.4			15.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	200	447	316	321	221	237	653	179	195	674	479
v/c Ratio	0.18	0.20	0.66	0.69	0.29	0.34	0.65	0.54	0.27	0.58	0.57	0.63
Control Delay	18.4	25.8	9.7	38.0	33.3	5.8	60.4	34.1	5.3	58.4	35.2	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	25.8	9.7	38.0	33.3	5.8	60.4	34.1	5.3	58.4	35.2	13.9
Queue Length 50th (ft)	33	47	8	174	102	0	91	214	0	75	226	85
Queue Length 95th (ft)	37	51	96	255	144	59	134	281	50	112	291	206
Internal Link Dist (ft)		1365			1196			1482			1146	
Turn Bay Length (ft)	200		200	275		275	380		600	315		280
Base Capacity (vph)	422	1002	677	457	1102	645	400	1214	660	400	1189	756
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	0.18	0.20	0.66	0.69	0.29	0.34	0.59	0.54	0.27	0.49	0.57	0.63

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	1150	350	370	895	50	435	795	260	90	525	210
Future Volume (vph)	190	1150	350	370	895	50	435	795	260	90	525	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		150	300		300	300		300
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1256			1075			1783			1083	
Travel Time (s)		19.0			16.3			27.0			16.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	200	1211	368	389	942	53	458	837	274	95	553	221
v/c Ratio	0.63	0.91	0.48	0.97	0.67	0.07	0.94	0.89	0.46	0.70	0.94	0.49
Control Delay	61.5	47.1	8.8	94.3	20.0	0.3	80.0	54.8	9.6	58.4	74.4	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	47.1	8.8	94.3	20.0	0.3	80.0	54.8	9.6	58.4	74.4	9.8
Queue Length 50th (ft)	77	464	41	135	351	0	183	328	21	50	225	0
Queue Length 95th (ft)	117	#602	121	#251	388	3	#285	#437	94	#105	#334	70
Internal Link Dist (ft)		1176			995			1703			1003	
Turn Bay Length (ft)	200			200		150	300		300	300		300
Base Capacity (vph)	343	1327	773	400	1411	746	486	943	596	135	589	448
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.91	0.48	0.97	0.67	0.07	0.94	0.89	0.46	0.70	0.94	0.49

Intersection Summary

Area Type: Other

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

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1480	20	15	1290	15	20
Future Volume (vph)	1480	20	15	1290	15	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	200		100	0
Storage Lanes		1	1		0	0
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	45			45	25	
Link Distance (ft)	1682			1976	502	
Travel Time (s)	25.5			29.9	13.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1558	21	16	1358	37	0
v/c Ratio	0.49	0.01	0.06	0.43	0.31	
Control Delay	1.6	0.0	0.5	0.4	36.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	1.6	0.0	0.5	0.4	36.9	
Queue Length 50th (ft)	24	0	0	2	12	
Queue Length 95th (ft)	m22	m0	m0	2	47	
Internal Link Dist (ft)	1602			1896	422	
Turn Bay Length (ft)		150	200		100	
Base Capacity (vph)	3185	1426	253	3185	284	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.49	0.01	0.06	0.43	0.13	

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	1440	20	10	1270	20	15	20	20	20	20	20
Future Volume (vph)	40	1440	20	10	1270	20	15	20	20	20	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		200	100		0	100		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		1976			1925			693			779	
Travel Time (s)		29.9			29.2			18.9			21.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	1516	21	11	1337	21	16	42	0	21	42	0
v/c Ratio	0.13	0.49	0.02	0.04	0.44	0.02	0.19	0.33		0.25	0.33	
Control Delay	1.6	1.1	0.1	3.0	3.9	1.4	57.6	39.0		59.9	39.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	1.6	1.1	0.1	3.0	3.9	1.4	57.6	39.0		59.9	39.0	
Queue Length 50th (ft)	1	25	0	1	74	1	12	16		16	16	
Queue Length 95th (ft)	m6	61	m0	m4	167	m2	35	52		42	52	
Internal Link Dist (ft)		1896			1845			613			699	
Turn Bay Length (ft)	200		200	200		200	100			100		
Base Capacity (vph)	312	3067	1375	252	3067	1375	215	290		215	290	
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	0.13	0.49	0.02	0.04	0.44	0.02	0.07	0.14		0.10	0.14	

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	1315	75	125	1175	110	90	225	50	45	45	35
Future Volume (vph)	90	1315	75	125	1175	110	90	225	50	45	45	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		200	150		0	150		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1925			1605			500			446	
Travel Time (s)		29.2			24.3			11.4			10.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	1384	79	132	1237	116	95	237	53	47	47	37
v/c Ratio	0.32	0.63	0.08	0.50	0.56	0.11	0.42	0.77	0.16	0.47	0.15	0.11
Control Delay	5.2	7.4	0.7	20.6	7.2	0.9	49.8	63.9	4.3	59.1	42.1	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.2	7.4	0.7	20.6	7.2	0.9	49.8	63.9	4.3	59.1	42.1	0.7
Queue Length 50th (ft)	8	64	0	16	96	0	66	177	0	33	31	0
Queue Length 95th (ft)	18	262	1	m80	132	m6	118	258	16	73	65	1
Internal Link Dist (ft)		1845			1525			420			366	
Turn Bay Length (ft)	200		200	200		200	150			150		
Base Capacity (vph)	326	2186	1009	280	2203	1028	270	372	382	122	372	382
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	0.29	0.63	0.08	0.47	0.56	0.11	0.35	0.64	0.14	0.39	0.13	0.10

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	1280	50	155	1270	45	90	195	145	60	100	50
Future Volume (vph)	80	1280	50	155	1270	45	90	195	145	60	100	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		200	200		200	200		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		1605			749			1153			1264	
Travel Time (s)		24.3			11.3			19.7			21.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	1347	53	163	1337	47	95	205	153	63	105	53
v/c Ratio	0.33	0.75	0.06	0.69	0.68	0.05	0.50	0.66	0.36	0.36	0.47	0.15
Control Delay	12.5	10.2	0.1	41.7	16.7	0.1	53.2	57.7	5.0	53.2	54.6	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	10.2	0.1	41.7	16.7	0.1	53.2	57.7	5.0	53.2	54.6	0.9
Queue Length 50th (ft)	8	67	0	94	324	0	67	153	0	45	77	0
Queue Length 95th (ft)	m23	#198	m0	158	397	m0	114	224	30	85	127	0
Internal Link Dist (ft)		1525			669			1073			1184	
Turn Bay Length (ft)	200		200	200		200	200		200	200		200
Base Capacity (vph)	260	1806	901	256	1971	966	192	372	469	225	372	469
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	0.32	0.75	0.06	0.64	0.68	0.05	0.49	0.55	0.33	0.28	0.28	0.11

Intersection Summary

Area Type: Other

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1325	160	95	1215	255	75
Future Volume (vph)	1325	160	95	1215	255	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	200		150	0
Storage Lanes		1	1		1	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	45			45	30	
Link Distance (ft)	2623			2477	930	
Travel Time (s)	39.7			37.5	21.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1395	168	100	1279	268	79
v/c Ratio	0.66	0.17	0.41	0.51	0.79	0.22
Control Delay	4.2	0.3	16.3	8.2	62.9	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.2	0.3	16.3	8.2	62.9	9.4
Queue Length 50th (ft)	51	0	27	186	199	0
Queue Length 95th (ft)	62	m0	m49	136	280	39
Internal Link Dist (ft)	2543			2397	850	
Turn Bay Length (ft)		200	200		150	
Base Capacity (vph)	2108	996	262	2508	427	442
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.17	0.38	0.51	0.63	0.18

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	690	520	270	630	680	285
Future Volume (vph)	690	520	270	630	680	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	200		200	0
Storage Lanes		1	2		1	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	45			45	40	
Link Distance (ft)	1069			2325	1040	
Travel Time (s)	16.2			35.2	17.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	726	547	284	663	716	300
v/c Ratio	0.44	0.53	0.67	0.29	0.80	0.47
Control Delay	17.6	4.2	59.5	9.9	48.0	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	4.2	59.5	9.9	48.0	6.0
Queue Length 50th (ft)	80	0	96	91	267	0
Queue Length 95th (ft)	152	111	167	161	309	62
Internal Link Dist (ft)	989			2245	960	
Turn Bay Length (ft)		200	200		200	
Base Capacity (vph)	1639	1026	493	2257	1144	727
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.53	0.58	0.29	0.63	0.41

Intersection Summary

Area Type: Other

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	870	105	20	880	20	15
Future Volume (vph)	870	105	20	880	20	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	200		100	0
Storage Lanes		1	1		1	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	45			45	30	
Link Distance (ft)	2325			1550	1373	
Travel Time (s)	35.2			23.5	31.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	916	111	21	926	21	16
v/c Ratio	0.29	0.08	0.04	0.29	0.20	0.15
Control Delay	0.8	0.2	4.3	3.6	57.9	25.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.8	0.2	4.3	3.6	57.9	25.7
Queue Length 50th (ft)	13	0	1	13	16	0
Queue Length 95th (ft)	46	2	18	188	42	23
Internal Link Dist (ft)	2245			1470	1293	
Turn Bay Length (ft)		200	200		100	
Base Capacity (vph)	3188	1437	521	3188	339	316
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.08	0.04	0.29	0.06	0.05

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	845	20	20	650	20	105	20	20	20	20	145
Future Volume (vph)	20	845	20	20	650	20	105	20	20	20	20	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		200	100		0	100		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1550			3004			761			677	
Travel Time (s)		23.5			45.5			17.3			15.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	889	21	21	684	21	111	21	21	21	21	153
v/c Ratio	0.04	0.34	0.02	0.04	0.26	0.02	0.65	0.09	0.08	0.12	0.09	0.46
Control Delay	1.2	2.1	0.1	5.3	9.8	1.6	66.2	44.7	0.6	45.7	44.7	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.2	2.1	0.1	5.3	9.8	1.6	66.2	44.7	0.6	45.7	44.7	11.7
Queue Length 50th (ft)	1	22	0	5	137	0	83	15	0	15	15	0
Queue Length 95th (ft)	3	40	0	18	175	5	138	37	0	38	37	58
Internal Link Dist (ft)		1470			2924			681			597	
Turn Bay Length (ft)	200		200	200		200	100			100		
Base Capacity (vph)	596	2600	1184	488	2600	1184	323	434	432	323	434	486
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	0.04	0.34	0.02	0.04	0.26	0.02	0.34	0.05	0.05	0.07	0.05	0.31

Intersection Summary

Area Type: Other

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	110	20	865	20	10	580
Future Volume (vph)	110	20	865	20	10	580
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0		200	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	772		3004			2529
Travel Time (s)	17.5		45.5			38.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	116	21	911	21	11	611
v/c Ratio	0.60	0.11	0.33	0.02	0.02	0.22
Control Delay	62.9	18.4	1.1	0.1	2.8	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	18.4	1.1	0.1	2.8	2.5
Queue Length 50th (ft)	87	0	33	1	1	30
Queue Length 95th (ft)	143	24	3	0	m5	52
Internal Link Dist (ft)	692		2924			2449
Turn Bay Length (ft)	100			200	200	
Base Capacity (vph)	442	411	2795	1254	445	2795
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.05	0.33	0.02	0.02	0.22

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	690	20	15	440	60	30	10	5	135	15	120
Future Volume (vph)	175	690	20	15	440	60	30	10	5	135	15	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		200	100		0	100		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		2529			1339			650			600	
Travel Time (s)		38.3			20.3			12.7			11.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	184	726	21	16	463	63	32	16	0	142	16	126
v/c Ratio	0.27	0.29	0.02	0.03	0.21	0.06	0.21	0.16		0.59	0.10	0.47
Control Delay	3.4	3.3	0.1	5.1	6.5	0.3	45.1	46.0		53.9	50.9	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	3.4	3.3	0.1	5.1	6.5	0.3	45.1	46.0		53.9	50.9	13.2
Queue Length 50th (ft)	14	29	0	1	26	0	24	8		101	12	0
Queue Length 95th (ft)	34	57	1	m7	75	m0	47	32		153	34	50
Internal Link Dist (ft)		2449			1259			570			520	
Turn Bay Length (ft)	200		200	200		200	100			100		
Base Capacity (vph)	710	2467	1144	559	2155	1017	253	285		259	294	365
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.26	0.29	0.02	0.03	0.21	0.06	0.13	0.06		0.55	0.05	0.35

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	230	545	165	170	120	315	1095	355	160	375	205
Future Volume (vph)	55	230	545	165	170	120	315	1095	355	160	375	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	275		275	380		600	315		280
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		1445			1276			1562			1226	
Travel Time (s)		21.9			19.3			19.4			15.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	242	574	174	179	126	332	1153	374	168	395	216
v/c Ratio	0.13	0.24	0.76	0.40	0.16	0.20	0.71	0.89	0.46	0.67	0.37	0.34
Control Delay	15.9	23.9	13.4	27.1	31.6	1.4	58.2	45.1	4.6	67.6	34.3	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.9	23.9	13.4	27.1	31.6	1.4	58.2	45.1	4.6	67.6	34.3	5.9
Queue Length 50th (ft)	24	65	182	87	54	0	127	437	0	66	126	0
Queue Length 95th (ft)	m28	66	70	140	85	7	174	#544	63	104	177	57
Internal Link Dist (ft)		1365			1196			1482			1146	
Turn Bay Length (ft)	200		200	275		275	380		600	315		280
Base Capacity (vph)	469	1003	755	439	1111	628	543	1302	819	257	1081	633
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	0.12	0.24	0.76	0.40	0.16	0.20	0.61	0.89	0.46	0.65	0.37	0.34

Intersection Summary

Area Type: Other

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

m Volume for 95th percentile queue is metered by upstream signal.

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