



# TRAFFIC IMPACT STUDY

**QUIKTRIP 4299**

Monument, CO

---

PREPARED FOR:  
**QuikTrip**

PREPARED BY:  
**Brian Horan, PE**  
**Daniela Gonzalez**

**Galloway & Company, Inc.**  
**6162 S. Willow Drive, Suite 320**  
**Greenwood Village, CO 80111**

DATE:  
**15 September 2021**  
REVISED: 12 November 2021



## TABLE OF CONTENTS

Executive Summary .....	5
Site Location and Study Area .....	5
Description of Proposed Development .....	5
Conclusions and Recommendations .....	5
Conclusions.....	5
Recommendations .....	6
I. Introduction .....	7
Overview .....	7
Site Location and Study Area .....	7
Site Description and Access .....	8
Figure 1-1 Site Location.....	9
Figure 1-2 Site Plan .....	10
Figure 1-3 Existing Zoning.....	11
II. Background Information .....	12
Study Area .....	12
Study Assumptions .....	12
Study Methodology .....	12
Existing Roadway Network .....	13
Assumed Improvements .....	13
Figure 2-1 Existing Lane Use and Traffic Control.....	15
III. Analysis of Existing Conditions .....	16
Traffic Volumes .....	16
Operational Analysis .....	16
Existing Intersection Queues .....	16
Figure 3-1 Existing Volumes.....	17
Figure 3-2 Existing Levels of Service.....	18
Table 3-1 Existing Levels of Service.....	19
Table 3-2 Existing Queues.....	20
IV. Analysis of Future Conditions without Site Development.....	21
Methodology.....	21
Regional Growth .....	21
Background 2023 Traffic Forecasts .....	21
Background 2023 Levels of Service .....	21
Background 2023 Queueing .....	21

Pipeline Developments .....	21
Background 2028 Traffic Forecasts .....	22
Background 2028 Levels of Service .....	22
Background 2028 Queueing .....	22
Figure 4-1 Background 2023 Growth .....	23
Figure 4-2 Background 2028 Growth .....	24
Figure 4-3 Background 2023 Forecasts .....	25
Figure 4-4 Background 2023 Levels of Service .....	26
Figure 4-5 Pipeline Locations .....	27
Figure 4-6 Pipeline Forecasts .....	28
Figure 4-7 Background 2028 Lane Use and Traffic Control .....	29
Figure 4-8 Background 2028 Forecasts .....	30
Figure 4-9 Background 2028 Levels of Service .....	31
Table 4-1 Background 2023 Levels of Service .....	32
Table 4-2 Background 2023 Queues .....	33
Table 4-3 Background 2028 Levels of Service .....	34
Table 4-4 Background 2028 Queues .....	35
V. Site Analysis .....	36
Overview .....	36
Proposed Site Access .....	36
Trip Generation .....	36
Figure 5-1 Pass-by Trips 2023 .....	38
Figure 5-2 Pass-by Trips 2028 .....	39
Figure 5-3 Site Trips 2023 .....	40
Figure 5-4 Site Trips 2028 .....	41
Table 5-1 Site Trip Generation .....	42
VI. Analysis of Future Conditions with Site Development .....	43
Total Future 2023 Traffic Forecasts .....	43
Total Future 2023 Levels of Service with Proposed Development .....	43
Total Future 2023 Queueing .....	43
Total Future 2028 Traffic Forecasts .....	43
Total Future 2028 Levels of Service with Proposed Development .....	43
Total Future 2028 Queueing .....	44
Total Future 2041 Traffic Forecasts .....	44
Total Future 2041 Levels of Service with Proposed Development .....	44
Total Future 2041 Queueing .....	44

Figure 6-1 Total Future Forecasts 2023 .....	45
Figure 6-2 Total Future Levels of Service 2023.....	46
Figure 6-3 Total Future Forecasts 2028 .....	47
Figure 6-4 Total Future Levels of Service 2028.....	48
Figure 6-5 Total Future Forecasts 2041 .....	49
Figure 6-6 Total Future Levels of Service 2041 .....	50
Table 6-1 Future Levels of Service .....	51
Table 6-2 Future Queues .....	52
VII. Access Management and Improvements .....	53
Signal Warrant .....	53
VIII. Conclusions and Recommendations .....	54
Conclusions.....	54
Recommendations .....	54

Appendices:

- A. Full Sized Site Plan
- B. LOS Descriptions
- C. Traffic Counts and Existing Signal Timings
- D. Existing Synchro Outputs
- E. Background (without site development) Synchro Outputs
- F. Pipeline Development Excerpts
- G. Future (with site development) Synchro Outputs
- H. Signal Warrant Outputs

## **Executive Summary**

### **Site Location and Study Area**

The property that comprises the application area for the proposed development is approximately 12-acres in size and is identified as El Paso County parcel number 713500027. It is located on the southwest quadrant of the Baptist Road and Terrazzo Drive intersection and addressed as 1671 Squadron Drive, Monument, CO. It is zoned Planned Unit Development (PUD) and is currently vacant.

The study area is generally bounded by Baptist Road to the north, Terrazzo Drive to the east, Squadron Drive to the south, and Property Line to the west. The study area for the project includes those intersections identified that could be affected by the proposed development:

- Baptist Road/Woodcarver Road/Old Denver Road roundabout
- Baptist Road/Site entrance
- Baptist Road/Terrazzo Drive
- Baptist Road/S I-25 Ramps
- Baptist Road/N I-25 Ramps

### **Description of Proposed Development**

The Applicant, QuikTrip, seeks to develop the property with a 28 fueling position gas station with convenience store use for the first phase of development. A 3,500 square foot (SF) fast-food restaurant with drive thru use is proposed for the second phase. Access to the site is proposed via an internal access drive that would connect to an existing curb cut along Baptist Road as well as access locations along Terrazzo Drive. The multiple access locations along Terrazzo Drive would facilitate access and circulation throughout the site and to the existing network.

## **Conclusions and Recommendations**

### **Conclusions**

Based on the results of this traffic impact study, the following may be concluded:

- Under existing traffic conditions, the signalized intersections within the study area currently operate at overall acceptable levels of service (LOS) "C" or better during the weekday AM and PM peak hours.
- Under background future 2023, 2028, and 2041 traffic conditions, without the development of the subject site, delays would increase slightly at study intersections due to regional traffic growth. The signalized intersections would continue to operate at LOS "C" or better.
- The 2023 (Phase 1) proposed site development would generate, upon completion and full occupancy, 212 net new weekday AM and 188 net new weekday PM peak hour vehicle trips as well as 2,420 net new weekday daily trips.
- The 2028 (Phase 2) proposed site development would generate, upon completion and full occupancy, 290 net new weekday AM and 240 net new weekday PM peak hour vehicle trips as well as 3,156 net new weekday daily trips.

- Under 2023, 2028, and 2041 total future traffic conditions, all study intersections, including proposed site connections would operate at overall acceptable levels of service consistent with background conditions.

## Recommendations

- It is recommended that the proposed development provide access consistent with the attached plan.
- It is recommended that during phase 1 of the proposed development the design and construction of a signal at Baptist Road/Terrazzo Drive be provided. This effort should be coordinated with CDOT to determine appropriate design and cost share.

## I. Introduction

### Overview

This report presents the results of a Traffic Impact Study (TIS) conducted in support of a site plan to develop a commercial use in the Town of Monument, Colorado. Currently, the site is vacant.

Per the requirements of the Town of Monument Traffic Impact Analysis Criteria, a TIS is generally required for all new land development proposals. More specifically, because the proposed development would generate more than 1,000 daily trips, per the guidelines a full TIS is required.

The basis of this traffic impact study includes analysis of existing and future intersections that would be affected by the proposed development and information from the Applicant including preliminary site concepts.

### Site Location and Study Area

The property that comprises the application area for the proposed development is approximately 12-acres in size and identified as the following El Paso County Parcel Numbers: 7135000027, 7135000002, 7135000018 and addressed as 1671 Squadron Drive Monument, CO. It is located south of Baptist Road, east of Old Denver Road, and west of Terrazzo Drive, as shown on Figure 1-1. It is zoned as Planned Unit Development (PUD) and is currently vacant.

Access to the site is proposed via an internal access drive that would connect to an existing curb cut along Baptist Road as well as access locations along Terrazzo Drive. The multiple access locations along Terrazzo Drive would facilitate access and circulation throughout the site and to the existing network.

The Applicant seeks to develop the property with a gas station and convenience store for Phase 1 and a fast food restaurant with drive thru use for Phase 2. A reduction of the Applicant's proposed conceptual site plan is provided on Figure 1-2. A full-size copy of the plan is provided in Appendix A.

The study area is generally bounded by Baptist Road to the north, Terrazzo Drive to the east, Squadron Drive to the south, and Property Line to the west.

Tasks undertaken in the course of this study included the following:

1. Reviewed the Applicant's proposed development plans and other background data.
2. Conducted a virtual field reconnaissance of existing roadway and intersection geometries, traffic controls, and speed limits.
3. Analyzed existing levels of service at each of the key study intersections based on the methodologies set forth in the Highway Capacity Guidelines (HCM) as reported by Synchro version 11.
4. Reviewed nearby applications to determine pipeline developments in process that would utilize study intersections.
5. Forecasted pipeline development trip generation and regional growth estimates. These volumes were applied to the major study intersections and site entrances.

6. Forecasted background future traffic volumes based on previous traffic counts, pipeline projects, and regional traffic growth for 2023 (phase 1), 2028 (phase 2) and 2041 (long-range) conditions.
7. Calculated background levels of service at each of the key study intersections for the projected build-out years based on background future traffic forecasts, and the existing lane use and traffic controls.
8. Estimated the number of AM and PM peak hour trips that would be generated by the proposed uses based on the Institute of Transportation Engineers (ITE) 11<sup>th</sup> Generation Trip Generation Manual rates/equations and methodologies.
9. Prepared AM and PM peak hour total future traffic forecasts based on background traffic forecasts plus site traffic assignments for the 2023 (phase 1), 2028 (phase 2), and 2041 (long-range) conditions.
10. Calculated total future levels of service for each of the key study intersections based on projected total future traffic forecasts and existing/future traffic controls and intersection geometries.
11. Identified roadway improvements required to accommodate future traffic volumes as necessary.

Sources of data for this analysis included ITE, HCM, QuikTrip, Town of Monument, Colorado, and the files/library of Galloway.

## Site Description and Access

### **Site Conditions**

The terrain proximate to and surrounding the site is generally classified as “level”.

### **Hazardous Conditions**

Based on the field reconnaissance in the vicinity of the subject site, no hazardous features or constraints were identified.

### **Proposed Site Access**

Access to the site is proposed via an internal access drive that would connect to an existing curb cut along Baptist Road as well as access locations along Terrazzo Drive. The multiple access locations along Terrazzo Drive would facilitate access and circulation throughout the site and to the existing network.

### **Existing Zoning**

The subject site is currently zoned Planned Unit Development (PUD) and is currently vacant. Figure 1-3 depicts the existing zoning associated with the subject property, as well as neighboring properties as shown on the Town of Monument zoning map.

### **Nearby Uses**

The properties surrounding the subject site are generally developed with or planned for commercial uses.



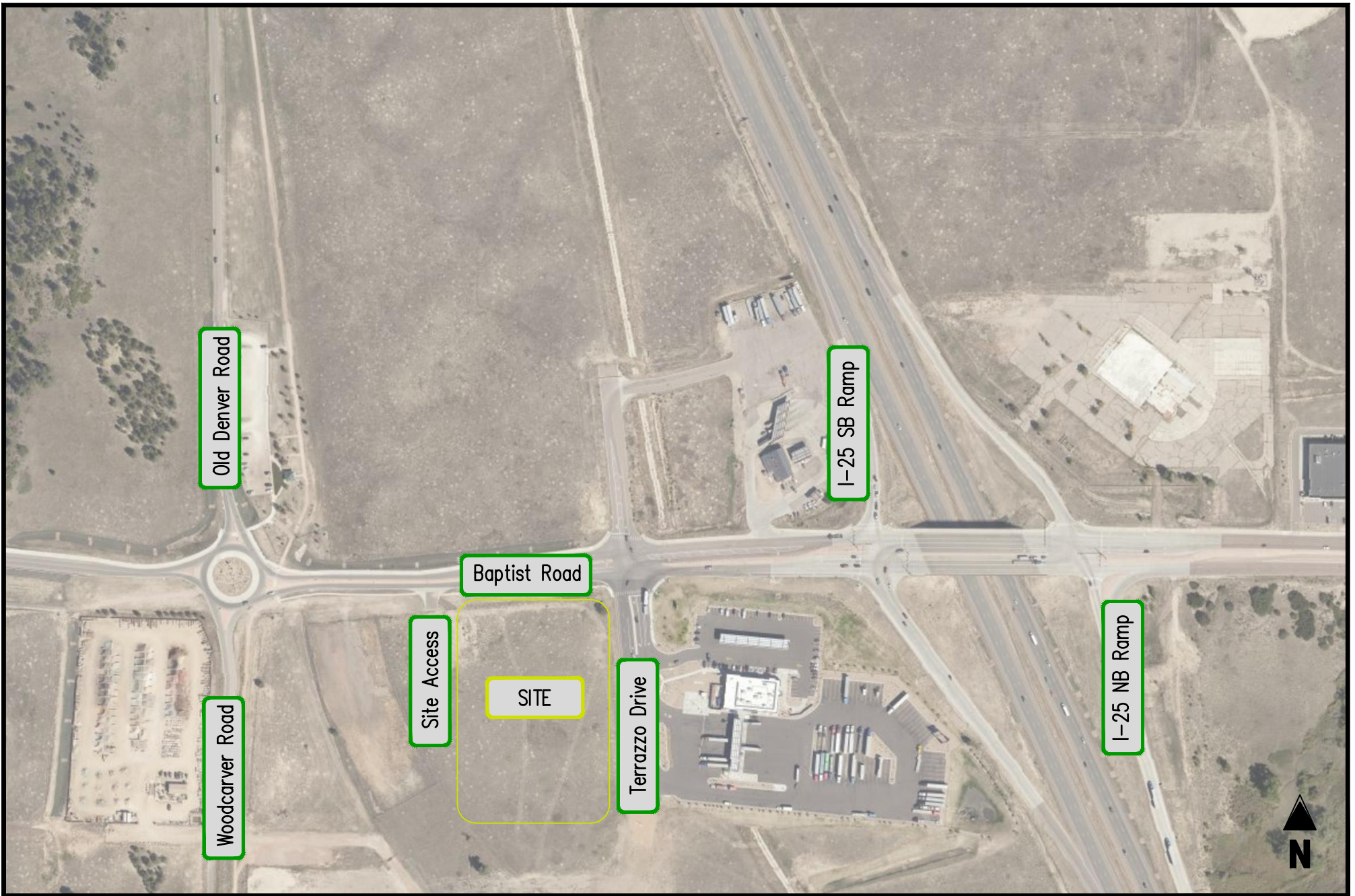


FIGURE 1-1  
Site Location

QKT 4299  
Monument, CO



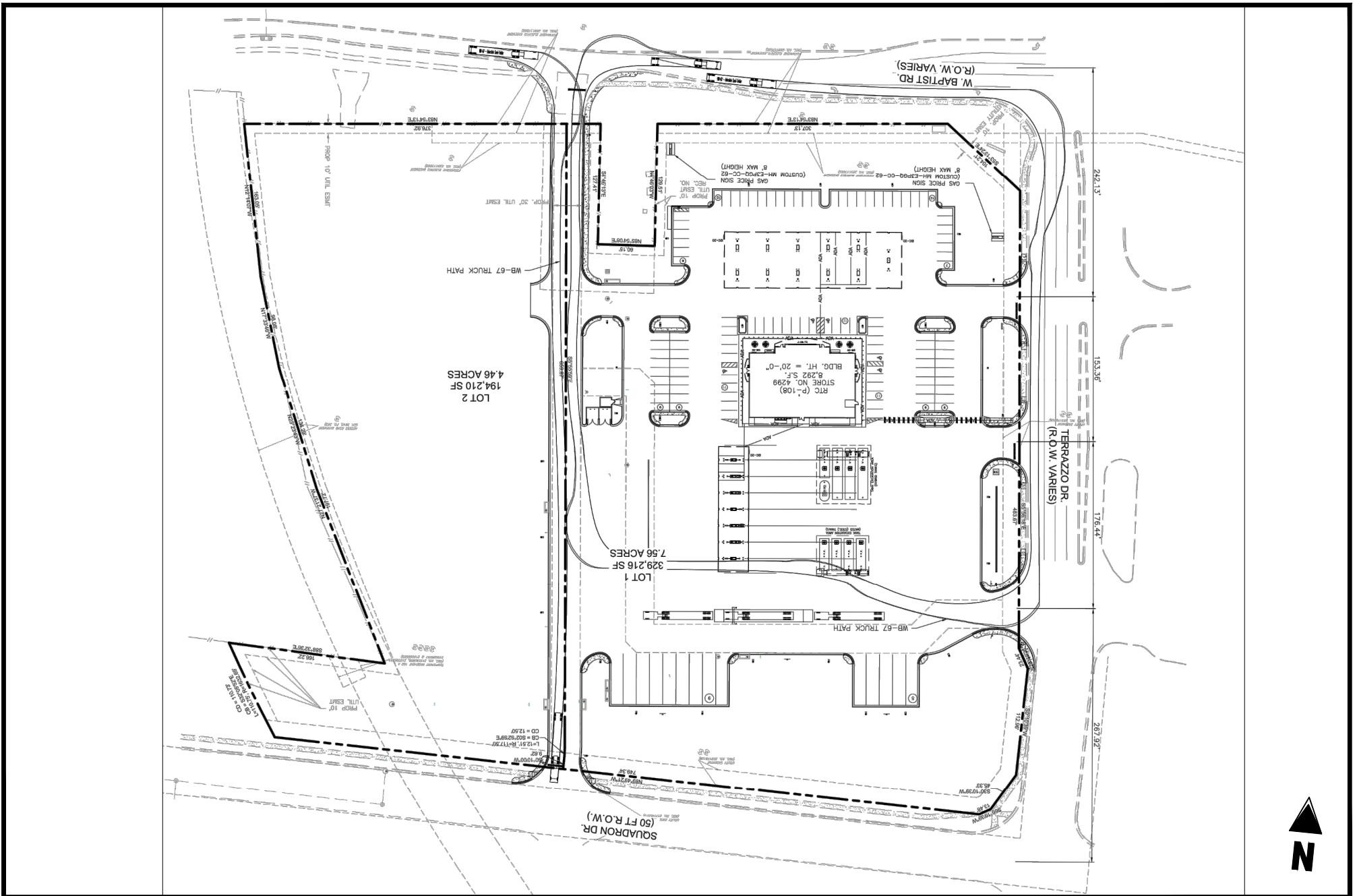


FIGURE 1-2  
Site Plan

QKT 4299  
Monument, CO



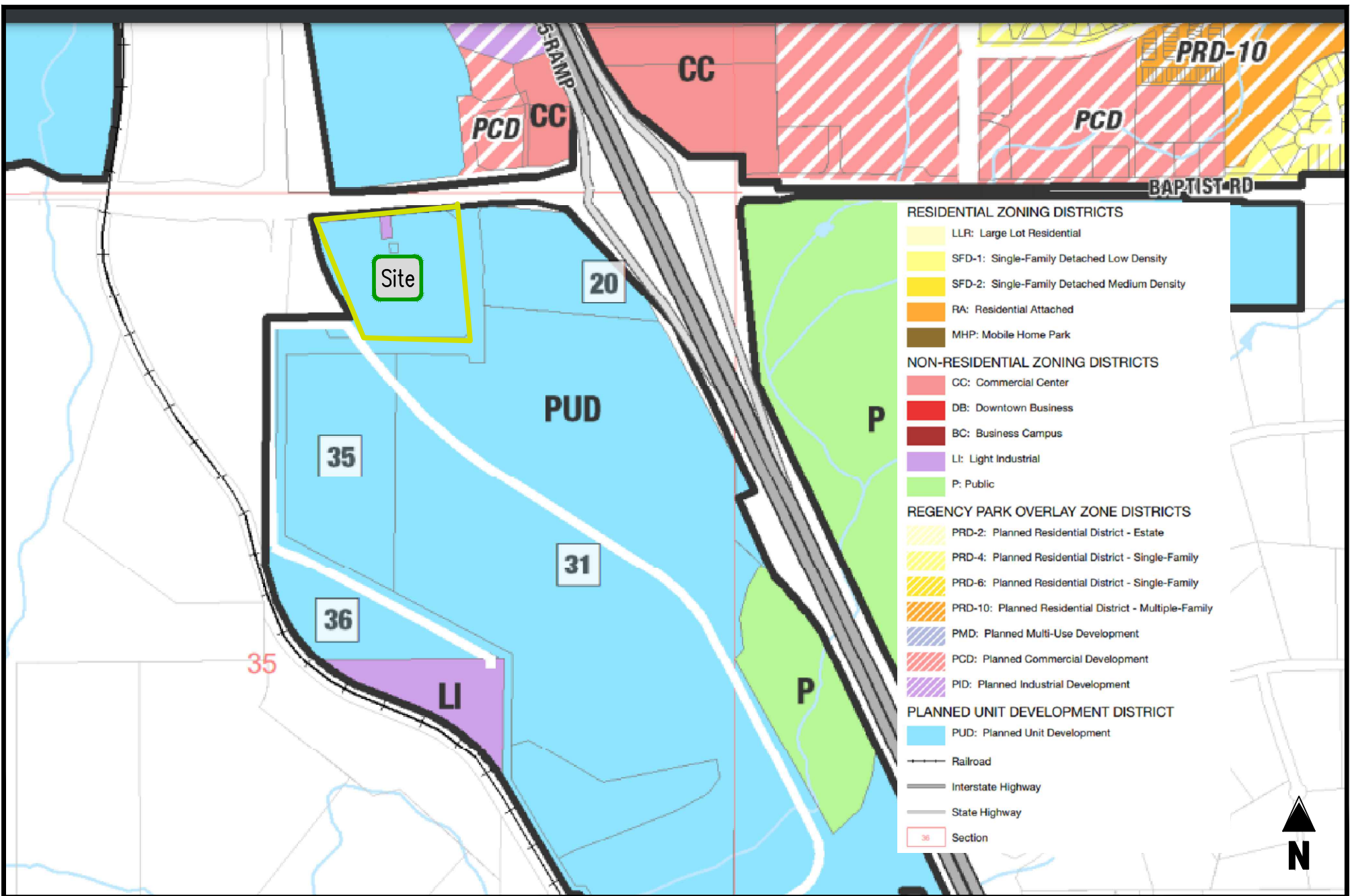


FIGURE 1-3  
Zoning



## II. Background Information

### Study Area

The study area was determined by a review of intersections that would experience a significant portion of turning movement percentages as well as existing/proposed site entrance. As such, the traffic study focuses primarily on the following intersections:

#### **Study Intersections**

- Baptist Road/Woodcarver Road/Old Denver Road Roundabout
- Baptist Road/Proposed Site Access
- Baptist Road/Terrazzo Drive
- Baptist Road/S I-25 Ramp
- Baptist Road/N I-25 Ramp

### Study Assumptions

For purposes of this analysis only, the gas station and convenience store are assumed to be built and occupied in 2023 (phase 1) and the fast-food restaurant with drive-thru is assumed to be built and occupied in 2028 (phase 2). The subject site was included as a part of the Falcon Commerce Center development. Specifically, the subject site was included in Area A of the development. The extension of Terrazzo Drive would provide access to the remainder of Falcon Commerce Center so it was assumed that the remainder of this project would be constructed after the subject site was developed. The remainder of this development was included in long range (2041) analyzes.

A number of additional pipeline projects (approved but unbuilt developments) were identified that would utilize study intersections. These pipeline developments include:

- Forest Lakes:
- Wagons West:
- Nexus Industrial:
- Willow Springs Ranch
- Monument Industrial
- Santa Fe Park

These pipeline developments were assumed coincident with the second phase of the proposed development.

### Study Methodology

Synchro software version 11 was used to evaluate levels of service at each of the study intersections during the weekday AM and PM peak hours. Synchro is a macroscopic model used for optimizing traffic signal timing and performing capacity analyses. The software can model existing traffic signal timings or optimize splits, offsets, and cycle lengths for individual intersections, an arterial, or a complete network. Synchro allows the user to evaluate the effects of changing intersection geometrics, traffic demands, traffic control, and/or traffic signal settings as well as optimize traffic signal timings.

The levels of service reported for the signalized and unsignalized intersections analyzed herein were taken from the HCM reports generated by Synchro 11. Level of service descriptions are included in Appendix B.

To maintain a conservative analysis a default percent heavy vehicle (%HV) factor of 2% was used for all movements in the study area.

## Existing Roadway Network

Regional access to the subject site is provided by Interstate 25 (I-25) and local access is provided via Baptist Road and Terrazzo Drive. Figure 2-1 depicts existing lane use and traffic controls in the vicinity of the subject site. The following provides a description of each of the roadways within the study network.

### **I-25**

I-25 is constructed as a six-lane divided highway in the vicinity of the subject site. The posted speed limit is 75 mph in the vicinity of the subject site. CDOT classifies the roadway functionally as an Interstate and classifies the roadway access as Interstate System (F-W). The northbound and southbound ramps have a posted advisory speed limit of 45 mph.

### **Baptist Road**

From the roundabout at Old Denver Road/Woodcarver Road heading east, Baptist Road is a one lane roadway expanding to two lanes after the proposed site access and expanding to three lanes after the I-25 NB ramps. There are auxiliary lanes for the left turn movements at Terrazzo Drive and dual left turn lanes at both I-25 ramps. The posted speed limit is 40 mph in the vicinity of the subject site. The roadway is classified by El Paso County as a principal arterial providing east-west connection through the region and access to a number of residential and commercial developments. The intersection with Woodcarver Road and Old Denver Road operates as a roundabout, the intersection with Terrazzo Drive operates under stop control, and the intersections with the I-25 north and south ramps operate under signalized control.

### **Old Denver Road**

Old Denver Road is an undivided two-lane roadway with a posted speed limit of 40 mph. The roadway is classified by El Paso County as a collector and provides north-south connection through the region and access to a number of industrial and residential developments. The intersection with Baptist Road operates as a roundabout.

### **Woodcarver Road**

Woodcarver Road is an undivided two-lane roadway with an assumed speed limit of 25 mph. The roadway is unclassified in El Paso County's transportation plan and provides north-south connection to a number of commercial developments. The intersection with Baptist Road operates as a roundabout.

### **Terrazzo Drive**

Terrazzo Drive is an undivided three-lane roadway providing north-south access. It is unclassified by El Paso County's transportation plan but in accordance with Table 2-7 of the County's Engineering Criteria Manual, Terrazzo Drive is assumed to be classified as a collector roadway with a speed limit of 35 mph. This assumption is consistent with the Falcon Commerce Center TIS. The intersection with Baptist Road operates under unsignalized control.

## Assumed Improvements

Due to the large amount of pipeline development, a number of improvements have been identified in the area that would affect the study intersections. Terrazzo Drive is assumed to be extended to the south and Squadron Drive is assumed to be constructed south of Baptist Road. Squadron Drive will provide access

QuikTrip - 4299  
Monument, CO

---

from Woodcarver Road to Terrazzo Drive running east-west. In accordance with the Falcon Commerce Center TIS, the intersection of Terrazzo Drive and Baptist Road is assumed to be signalized by others. A signal warrant is provided herein to better understand timing of the signal.

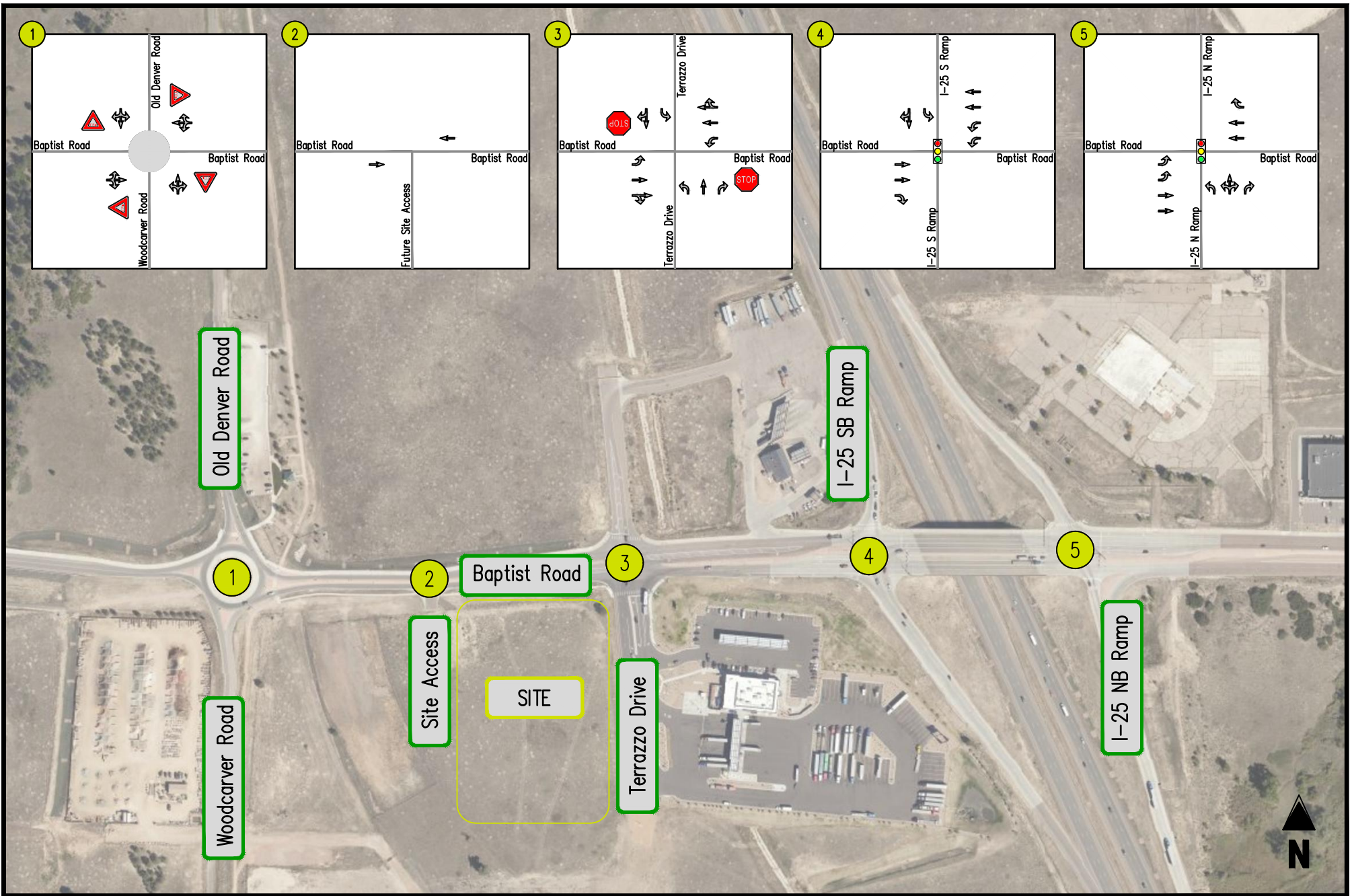





FIGURE 2-1  
Existing Lane Use & Traffic Control

QKT 4299  
Monument, CO

-  MOVEMENT
-  SIGNALIZED INTERSECTION
-  STOP SIGN
-  YIELD SIGN



### **III. Analysis of Existing Conditions**

#### **Traffic Volumes**

Weekday AM and PM peak hour traffic volumes counts were available from the Falcon Commerce Center 2020 TIS and were conducted on Thursday, February 13, 2020 from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM at the study intersections by All Traffic Data.

For purposes of this study and to be consistent with nearby recent studies, the existing volumes were taken from the Falcon Commerce Center TIS. The existing volumes are summarized on Figure 3-1. Copies of traffic counts are included in Appendix C.

#### **Operational Analysis**

Capacity/level of service analyses were conducted at the study intersections based on the existing lane use and traffic controls shown on Figure 2-1 and existing baseline vehicular traffic volumes shown on Figure 3-1. The capacity analysis results are presented in Appendix D and summarized in Table 3-1 and on Figure 3-2.

As shown in Table 3-1, the study intersections currently operate at overall acceptable levels of service (LOS) "C" or better during the weekday peak hours. Side street approaches at the unsignalized intersection are operating at LOS "D" or better in both the AM and PM existing peak hours.

#### **Existing Intersection Queues**

An analysis of intersection 95<sup>th</sup>-percentile queues was performed at key locations. The results of the queuing analysis, as reported by Synchro, are summarized in Table 3-2.

As shown in the table, the existing queues are all contained within the effective storage within the study area.



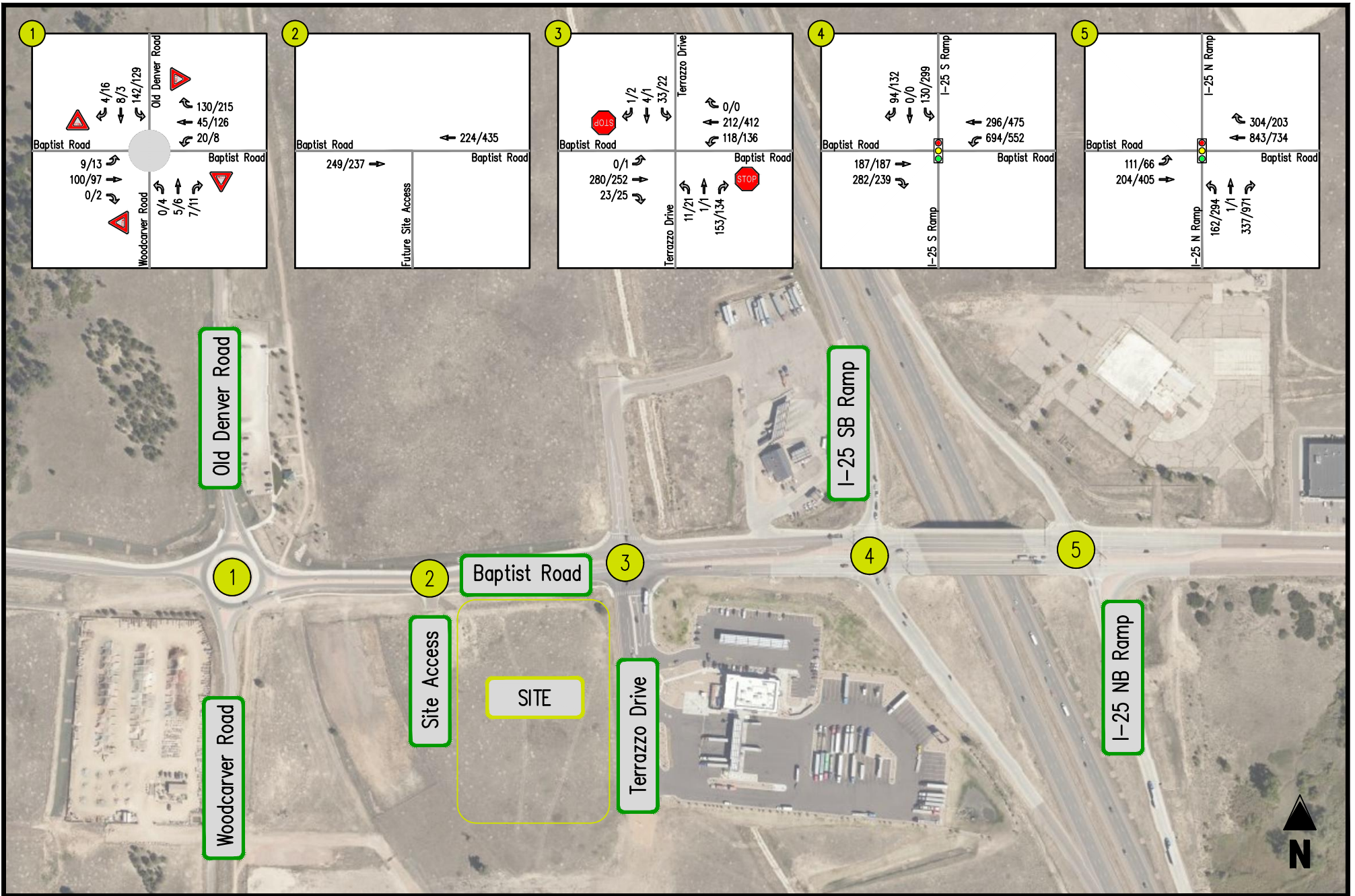


FIGURE 3-1  
Existing Volumes

QKT 4299  
Monument, CO

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

- ← MOVEMENT
- 🚦 SIGNALIZED INTERSECTION
- 🛑 STOP SIGN
- 🚧 YIELD SIGN



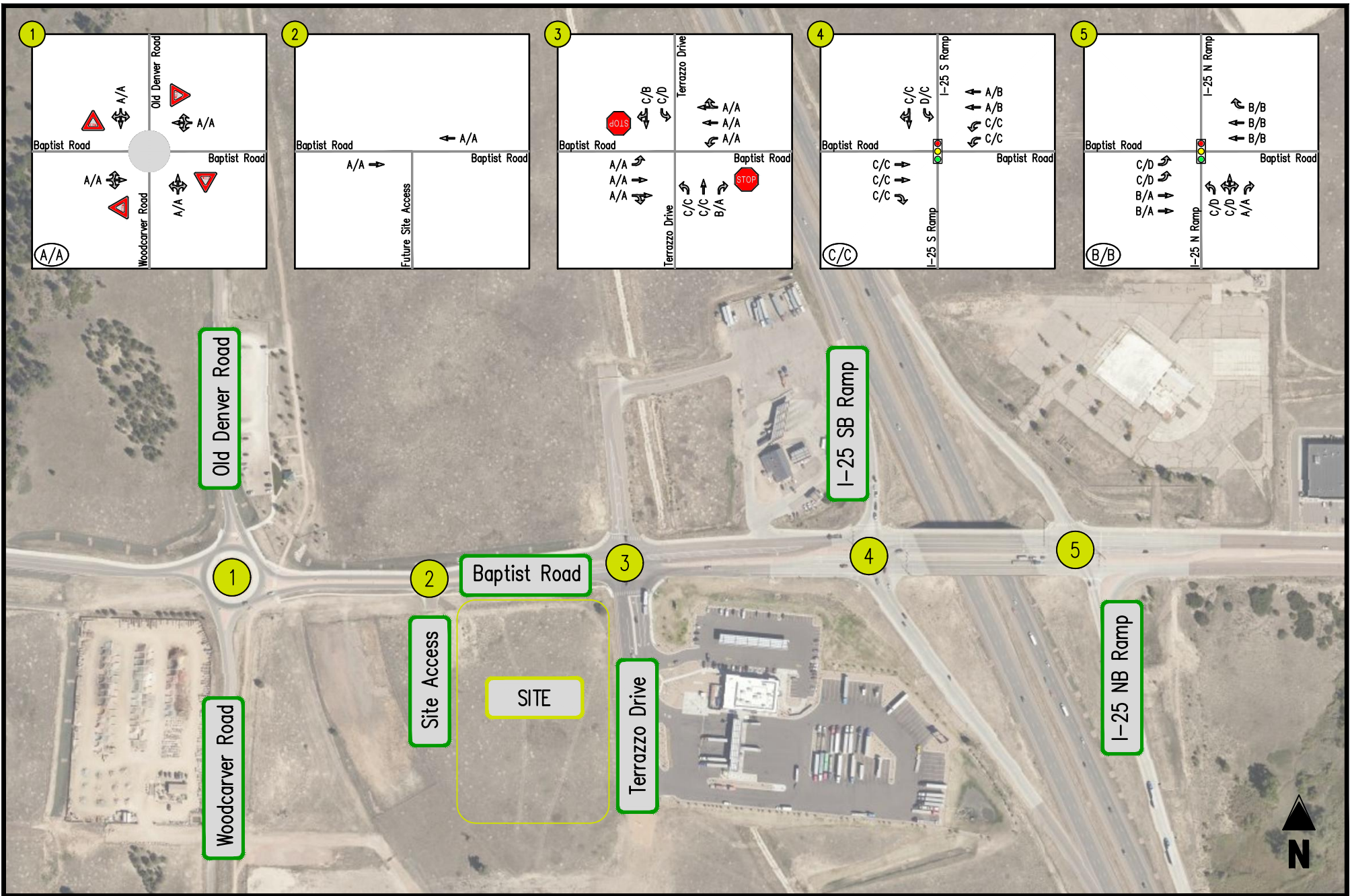


FIGURE 3-2  
Existing LOS

QKT 4299  
Monument, CO

(A/A) INTERSECTION LOS  
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT  
 SIGNALIZED INTERSECTION  
 STOP SIGN  
 YIELD SIGN



Table 3-1  
 QKT 4299  
 Existing Intersection Level of Service Summary (1) (2)

Intersection	Operating Condition	Street Name	Approach/ Movement	Existing 2021		
				AM Peak Hour	PM Peak Hour	
1	Baptist Road/Old Devner Road/Woodcarver Road	ROUNDABOUT	Baptist Road Baptist Road Woodcarver Road Old Denver Road <b>Overall</b>	EBLTR WBLTR NBLTR SBLTR	A (4.1) A (4.2) A (3.6) <u>A (4.1)</u> <b>A (4.2)</b>	A (4.0) A (5.3) A (3.6) <u>A (4.3)</u> <b>A (4.8)</b>
3	Baptist Road/Terrazzo Drive	STOP	Baptist Road Baptist Road Terrazzo Drive Terrazzo Drive	EBL EBT EBR WBL WBT WBTR NBL NBT NBR SBL SBTR	A [0.0] A [0.0] A [0.0] A [8.3] A [0.0] A [0.0] C [17.5] C [17.8] B [10.3] C [20.6] C [16.3]	A [8.2] A [0.0] A [0.0] A [8.2] A [0.0] A [0.0] C [21.2] C [22.7] A [10.0] D [27.9] B [14.2]
4	Baptist Road/SB I-25 Ramp	SIGNAL	Baptist Road Baptist Road I-25 SB Ramp <b>Overall</b>	EBT EBR WBL WBT SBL SBTR	C (20.3) C (21.8) C (24.0) A (1.5) D (37.6) <u>C (31.2)</u> <b>C (20.7)</b>	C (26.1) C (27.1) C (30.0) B (12.7) C (30.8) <u>C (22.3)</u> <b>C (24.5)</b>
5	Baptist Road/NB I-25 Ramp	SIGNAL	Baptist Road Baptist Road I-25 NB Ramp <b>Overall</b>	EBL EBT WBT WBR NBL NBLTR NBR	C (30.0) B (10.2) B (13.1) B (12.9) C (32.3) C (32.3) <u>A (0.3)</u> <b>B (13.1)</b>	D (37.7) A (9.3) B (11.5) B (11.0) D (36.6) D (36.6) <u>A (2.2)</u> <b>B (11.2)</b>

Notes : (1) Numbers in brackets [] represent delay at unsignalized intersections in seconds per vehicle.  
 (2) Numbers in parenthesis () represent delay at signalized intersections in seconds per vehicle.

Table 3-2  
 QKT 4299  
 Existing Intersection Queueing Summary (1)

Intersection	Operating Condition	Street Name	Approach/Movement	Available Storage (ft)	Existing 2021		
					AM Peak Hour	PM Peak Hour	
1	Baptist Road/Old Devner Road/Woodcarver Road	ROUNDAABOUT	Baptist Road	EBLTR	-	0	0
			Baptist Road	WBLTR	-	25	25
			Woodcarver Road	NBLTR	-	0	0
			Old Denver Road	SBLTR	-	0	0
3	Baptist Road/Terrazzo Drive	STOP	Baptist Road	EBL	155	0	0
				EBT	-	0	0
				EBR	-	0	0
			Baptist Road	WBL	420	7.5	10
				WBT	-	0	0
				WBTR	-	0	0
			Terrazzo Drive	NBL	135	2.5	7.5
				NBT	-	0	0
				NBR	135	17.5	15
				SBL	255	12.5	10
Terrazzo Drive	SBTR	-	2.5	0			
4	Baptist Road/SB I-25 Ramp	SIGNAL	Baptist Road	EBT	-	39	43
				EBR	-	60	61
			Baptist Road	WBL	620	108	223
				WBT	-	14	63
			I-25 SB Ramp	SBL	-	131	243
				SBTR	-	0	0
5	Baptist Road/NB I-25 Ramp	SIGNAL	Baptist Road	EBL	550	53	31
				EBT	-	65	79
			Baptist Road	WBT	-	110	91
				WBR	-	43	34
			I-25 NB Ramp	NBL	-	89	150
				NBLT	-	90	150
				NBR	-	0	0

Notes : (1) Queue length is based on the 95th percentile queue as reported by Synchro, Version 11.

## **IV. Analysis of Future Conditions without Site Development**

### **Methodology**

The future traffic forecasts, without the proposed new uses, were developed for 2023 (phase 1) and 2028 (phase 2) conditions based on a composite of existing baseline traffic volumes, pipeline development, and regional traffic. A 1% growth factor per year was applied to existing traffic along Baptist Road.

### **Regional Growth**

Increases in traffic associated with regional growth were estimated at one (1.0) percent per year compounded for movements along Baptist Road and Old Denver Road up to 2023 as well as to 2028. This growth accounts for increases in traffic resulting from influences outside of the immediate study area. The resulting increases in traffic within the study area are reflected on Figure 4-1 for 2023 (phase 1) conditions, and Figure 4-2 for 2028 (phase 2) conditions.

### **Background 2023 Traffic Forecasts**

The existing traffic volumes depicted on Figure 3-1 and the regional growth shown on Figure 4-1 were added together to yield the background future traffic forecasts. The background future (without site development) forecasts are shown on Figure 4-3 for 2023 conditions.

### **Background 2023 Levels of Service**

Capacity analyses were conducted for background (without site development) 2023 scenarios utilizing the background traffic forecasts in Figure 4-3 and the existing lane use and traffic control shown in Figure 2-1. 2023 future traffic conditions without the proposed development are provided in Appendix E and summarized in Table 4-1. The forecasted levels of service are also depicted graphically on Figure 4-4 for 2023 conditions.

As shown on Table 4-1, the signalized intersections within the study area would continue to operate at overall acceptable levels of service (LOS) "C" or better during the AM and PM peak hours, consistent with existing conditions. Minor increases in delay are forecasted due to growth along the arterials within the study area.

### **Background 2023 Queueing**

An analysis of intersection queues was performed at key locations under background future traffic conditions. The results of the queueing analysis are summarized in Table 4-2.

As shown in the table, queues within the study network will generally increase due to regional traffic growth. The increase in 95<sup>th</sup>-percentile queues within the study area are forecasted to be minor. No queues are forecasted to exceed their effective storage consistent with existing conditions.

### **Pipeline Developments**

To account for projected traffic from adjacent developments not yet built, trip generations from a number of pipeline developments was included. Site trips were taken directly from the supporting TIS for each. Relevant excerpts from each of the pipeline TIS's are included in Appendix F. The location of each pipeline development listed below is shown on Figure 4-5. The following developments and their development program were studied as follows:

- Forest Lakes:
  - 68 Single Family Detached (SFD) Dwelling Units (DU)
- Wagons West:
  - 54 SFD DU
  - 77 Townhome (TH) DU
- Nexus Industrial:
  - 130,000 gross square feet (GSF) Business Park
- Willow Springs Ranch
  - 400 SFD DU
- Monument Industrial
  - 136,000 GSF General Light Industrial
- Santa Fe Park
  - 75,000 GSF Shopping Center
  - 475,000 GSF Industrial Park

The above development programs were assigned to the network within each of the appropriate TIS's. The total of the pipeline development trips is shown on Figure 4-6. Certain improvements to the roadway network are identified in the pipeline developments' associated traffic study. These improvements, necessary for the construction of each pipeline is assumed complete in future scenarios. The lane use and traffic controls of the background 2028 and future scenarios is provided in Figure 4-7.

### Background 2028 Traffic Forecasts

The existing traffic volumes depicted on Figure 3-1 and the regional growth shown on Figure 4-2 were added together to yield the background future traffic forecasts. The background future (without site development) forecasts are shown on Figure 4-8 for 2028 conditions.

### Background 2028 Levels of Service

Capacity analyses of 2028 future traffic conditions without the proposed development are provided in Appendix E and summarized in Table 4-3. The forecasted levels of service are also depicted graphically on Figure 4-9 for 2028 conditions.

As shown on Table 4-3, the signalized intersections within the study area would continue to operate at overall acceptable levels of service (LOS) "C" or better during the AM and PM peak hours, consistent with existing conditions. Minor increases in delay are forecasted due to growth along the arterials within the study area.

### Background 2028 Queueing

An analysis of intersection queues was performed at key locations under background future traffic conditions. The results of the queueing analysis are summarized in Table 4-4.

As shown in the table, queues within the study network will generally increase due to regional traffic growth. The increase in 95<sup>th</sup>-percentile queues within the study area are forecasted to be minor. No queues are forecasted to exceed their effective storage consistent with existing conditions.

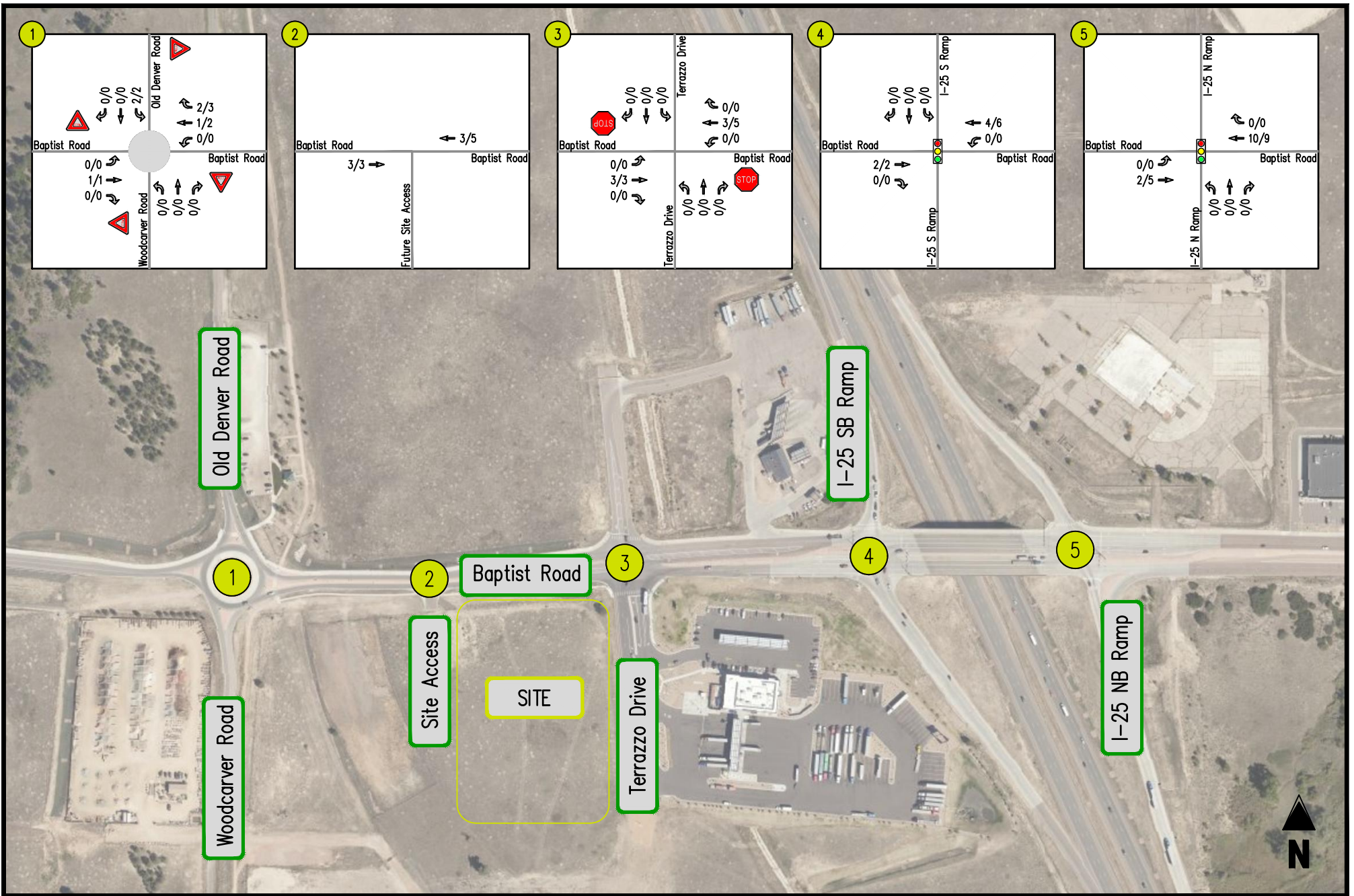


FIGURE 4-1  
Background 2023 Growth

QKT 4299  
Monument, CO

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

- ← MOVEMENT
- 🚦 SIGNALIZED INTERSECTION
- 🛑 STOP SIGN
- 🚶 YIELD SIGN



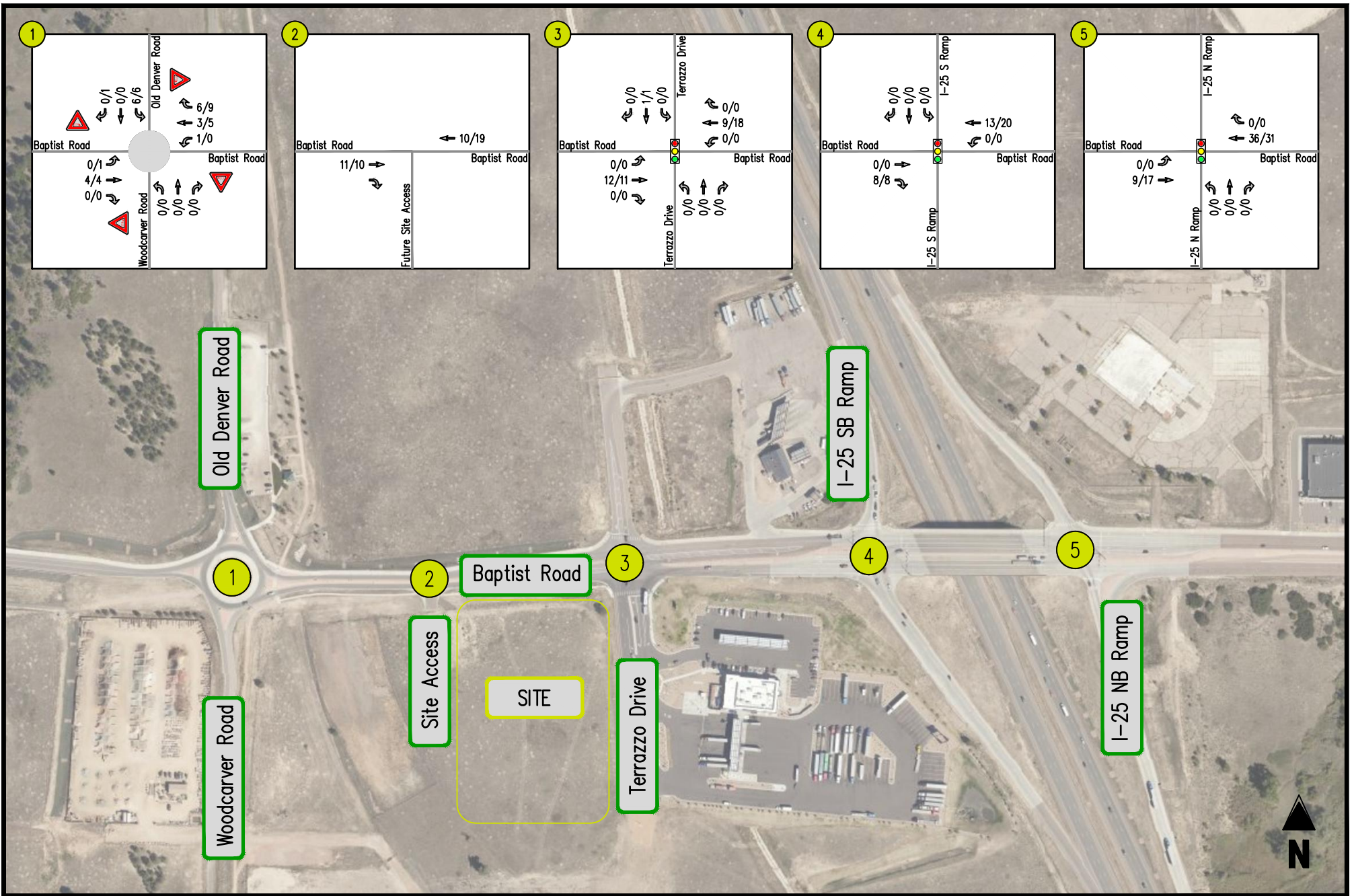


FIGURE 4-2  
Background 2028 Growth

QKT 4299  
Monument, CO

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

- ← MOVEMENT
- 🚦 SIGNALIZED INTERSECTION
- 🛑 STOP SIGN
- 🚧 YIELD SIGN





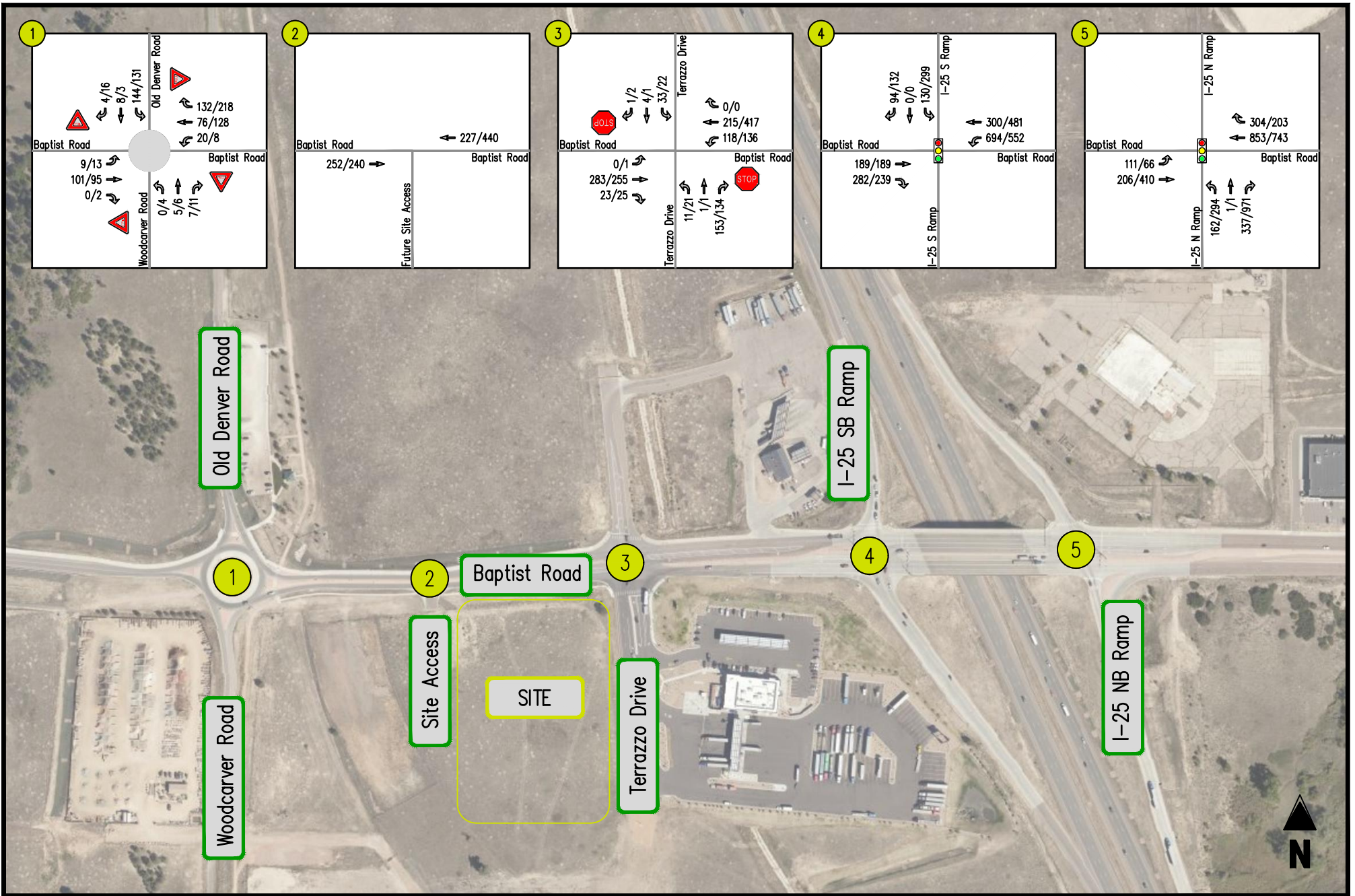


FIGURE 4-3  
Background 2023 Forecasts

QKT 4299  
Monument, CO

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

- ← MOVEMENT
- 🚦 SIGNALIZED INTERSECTION
- 🛑 STOP SIGN
- 🚧 YIELD SIGN



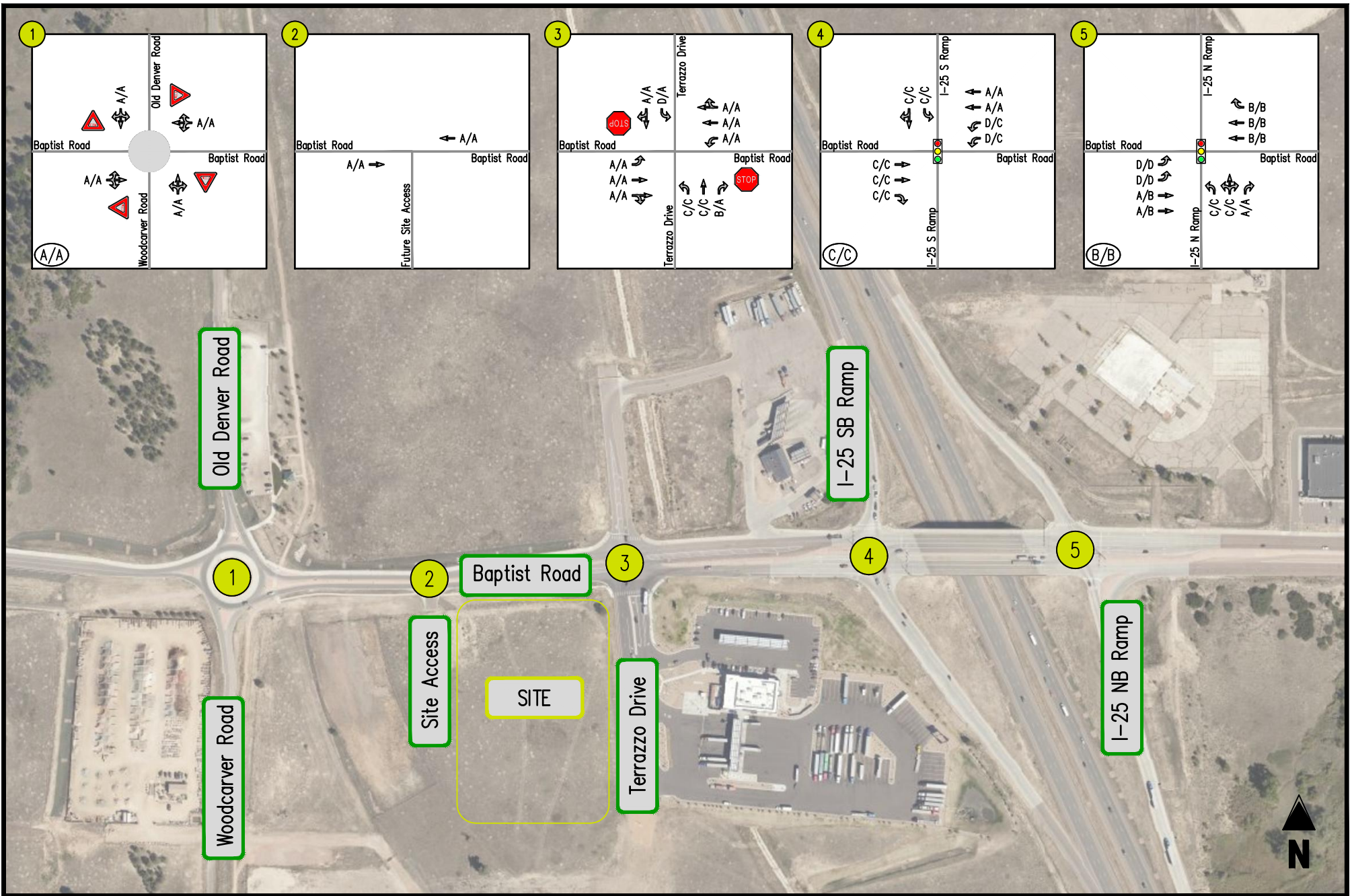


FIGURE 4-4  
Background 2023 LOS

QKT 4299  
Monument, CO

(A/A) INTERSECTION LOS  
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT  
 SIGNALIZED INTERSECTION  
 STOP SIGN  
 YIELD SIGN

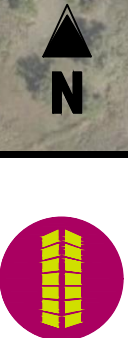








FIGURE 4-5  
Pipeline Development Area

QKT 4299  
Monument, CO

-  MOVEMENT
-  SIGNALIZED INTERSECTION
-  STOP SIGN
-  YIELD SIGN



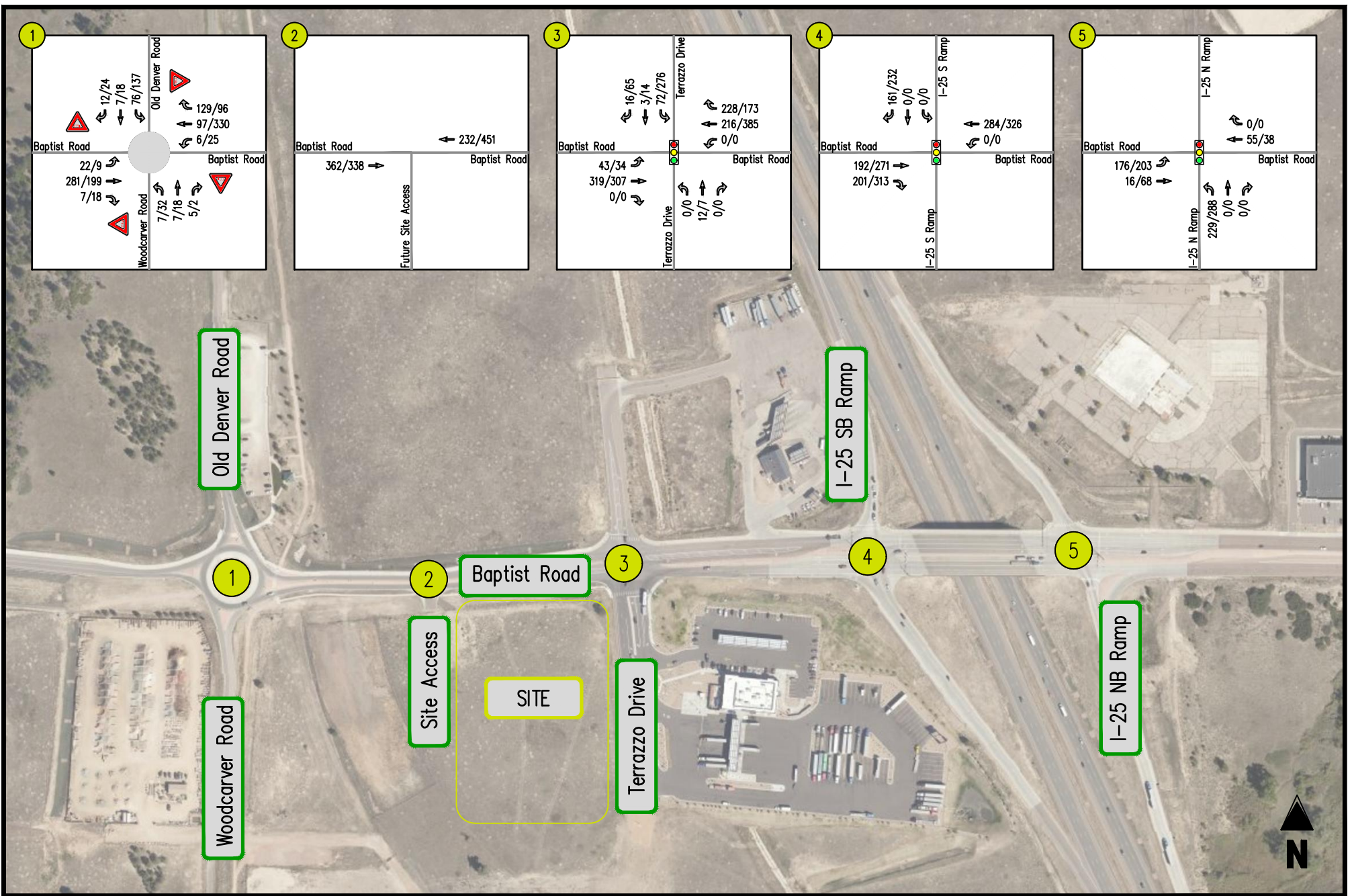


FIGURE 4-6  
Pipeline Volume Forecasts

QKT 4299  
Monument, CO

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

- ← MOVEMENT
- 🚦 SIGNALIZED INTERSECTION
- 🛑 STOP SIGN
- 🚧 YIELD SIGN



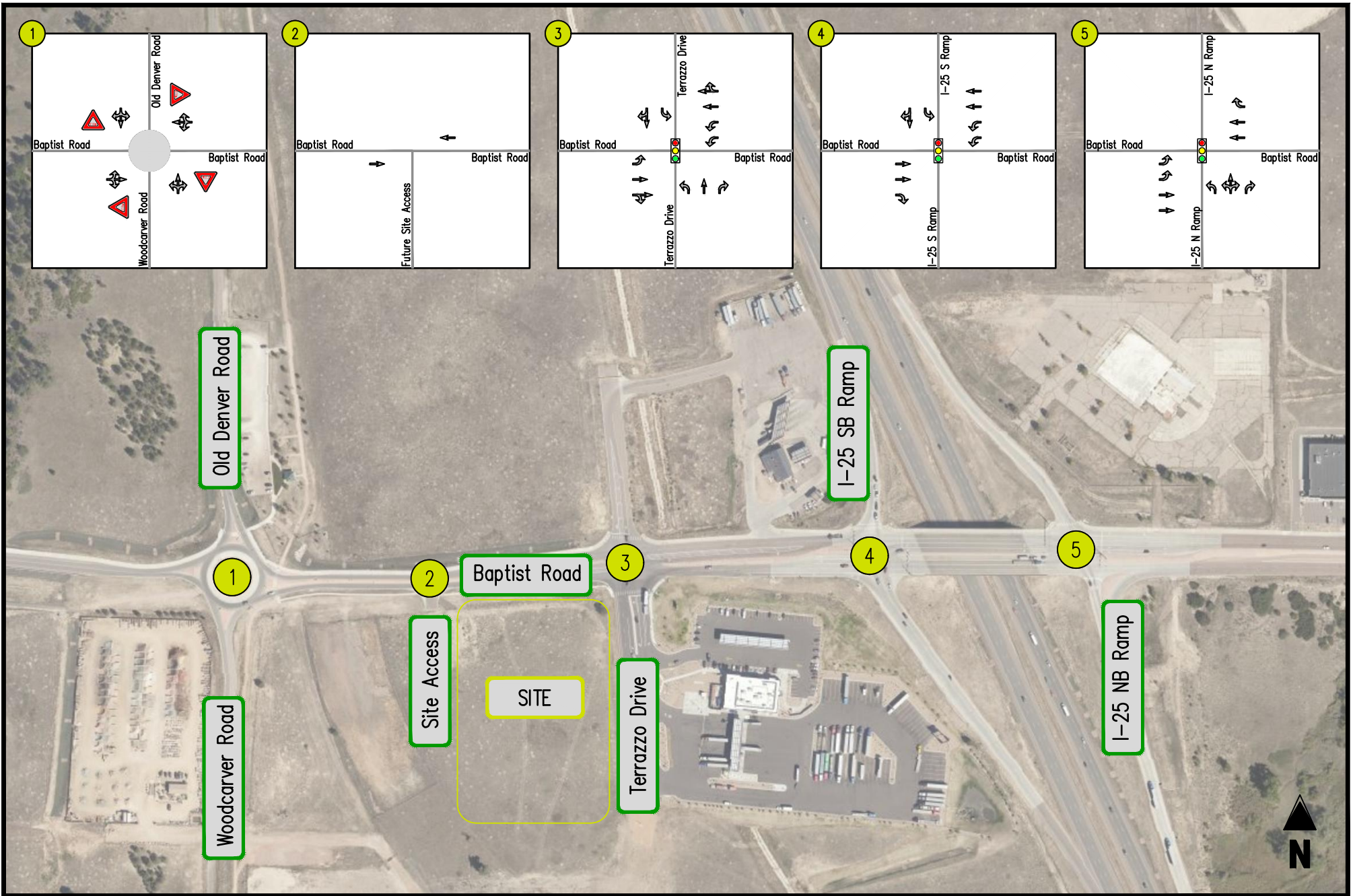


FIGURE 4-7  
Background Lane Use & Traffic Control

QKT 4299  
Monument, CO

- MOVEMENT
- SIGNALIZED INTERSECTION
- STOP SIGN
- YIELD SIGN



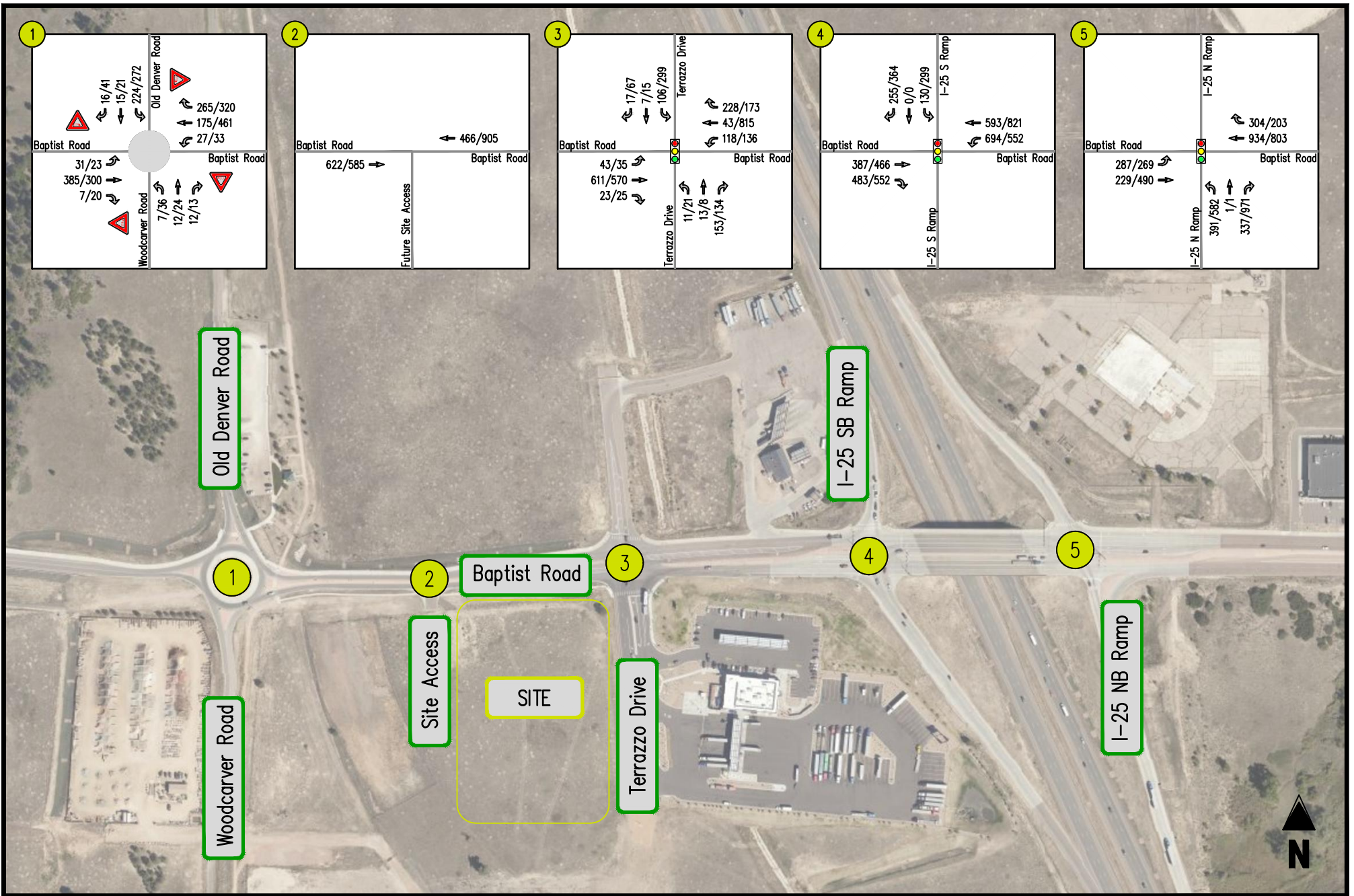


FIGURE 4-8  
Background 2028 Forecasts

QKT 4299  
Monument, CO

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

- ← MOVEMENT
- 🚦 SIGNALIZED INTERSECTION
- 🛑 STOP SIGN
- 🚧 YIELD SIGN



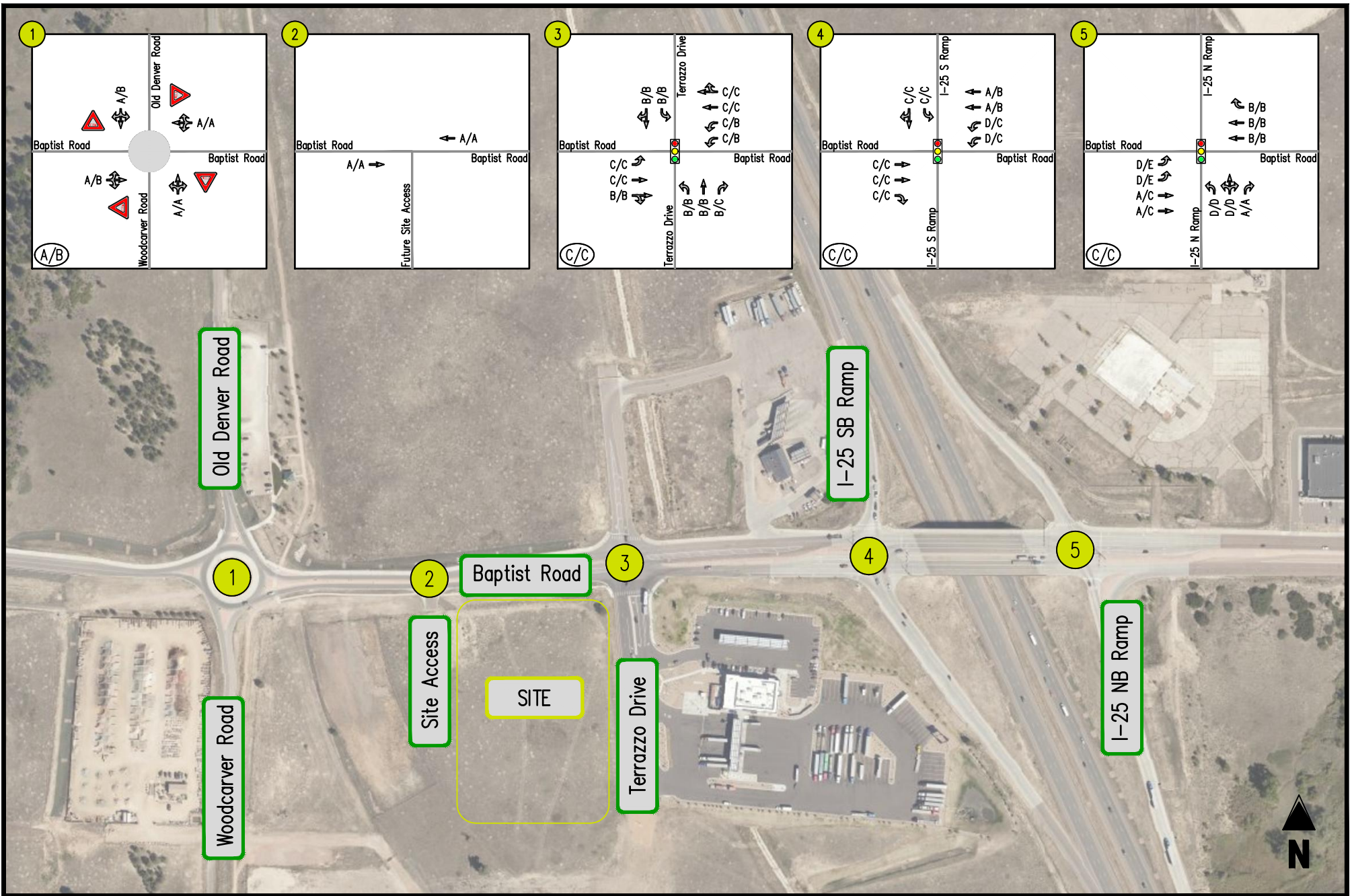


FIGURE 4-9  
Background 2028 LOS

QKT 4299  
Monument, CO

(A/A) INTERSECTION LOS  
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT  
 SIGNALIZED INTERSECTION  
 STOP SIGN  
 YIELD SIGN



Table 4-1  
 QKT 4299  
 Background Future 2023 Intersection Level of Service Summary (1) (2)

Intersection	Operating Condition	Street Name	Approach/Movement	Existing 2021		Background 2023		
				AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour Original	
1	Baptist Road/Old Devner Road/Woodcarver Road	ROUNDABOUT	Baptist Road Baptist Road Woodcarver Road Old Denver Road <b>Overall</b>	EBLTR WBLTR NBLTR SBLTR	A (4.1) A (4.2) A (3.6) <u>A (4.1)</u> <b>A (4.2)</b>	A (4.0) A (5.3) A (3.6) <u>A (4.3)</u> <b>A (4.8)</b>	A (4.2) A (4.2) A (3.6) <u>A (4.1)</u> <b>A (4.2)</b>	A (4.0) A (5.3) A (3.6) <u>A (4.3)</u> <b>A (4.8)</b>
3	Baptist Road/Terrazzo Drive	STOP	Baptist Road Baptist Road Terrazzo Drive Terrazzo Drive	EBL EBT EBR WBL WBT WBTR NBL NBT NBR SBL SBTR	A [0.0] A [0.0] A [0.0] A [8.3] A [0.0] A [0.0] C [17.5] C [17.8] B [10.3] C [20.6] C [16.3]	A [8.2] A [0.0] A [0.0] A [8.2] A [0.0] A [0.0] C [21.2] C [22.7] A [10.0] D [27.9] B [14.2]	A [0.0] A [0.0] A [0.0] A [8.3] A [0.0] A [0.0] C [17.3] C [17.7] B [10.2] D [26.8] A [0.0]	A [8.2] A [0.0] A [0.0] A [8.3] A [0.0] A [0.0] C [20.6] C [22.4] A [9.9] A [3.5] A [0.0]
4	Baptist Road/SB I-25 Ramp	SIGNAL	Baptist Road Baptist Road I-25 SB Ramp <b>Overall</b>	EBT EBR WBL WBT SBL SBTR	C (20.3) C (21.8) C (24.0) A (1.5) D (37.6) <u>C (31.2)</u> <b>C (20.7)</b>	C (26.1) C (27.1) C (30.0) B (12.7) C (30.8) <u>C (22.3)</u> <b>C (24.5)</b>	C (23.2) C (24.6) D (42.7) A (5.2) C (32.1) <u>C (28.0)</u> <b>C (29.2)</b>	C (24.6) C (25.0) C (29.9) A (7.3) C (33.8) <u>C (23.8)</u> <b>C (23.1)</b>
5	Baptist Road/NB I-25 Ramp	SIGNAL	Baptist Road Baptist Road I-25 NB Ramp <b>Overall</b>	EBL EBT WBT WBR NBL NBLTR NBR	C (30.0) B (10.2) B (13.1) B (12.9) C (32.3) C (32.3) <u>A (0.3)</u> <b>B (13.1)</b>	D (37.7) A (9.3) B (11.5) B (11.0) D (36.6) D (36.6) <u>A (2.2)</u> <b>B (11.2)</b>	D (51.4) A (4.6) B (13.1) B (12.9) C (32.3) C (32.3) <u>A (0.3)</u> <b>B (13.7)</b>	D (37.7) B (13.2) B (14.3) B (13.5) C (30.0) C (30.1) <u>A (2.2)</u> <b>B (12.0)</b>

Notes : (1) Numbers in brackets [] represent delay at unsignalized intersections in seconds per vehicle.  
 (2) Numbers in parenthesis () represent delay at signalized intersections in seconds per vehicle.



Table 4-2  
 QKT 4299  
 Background Future 2023 Intersection Queueing Summary (1)

Intersection	Operating Condition	Street Name	Approach/ Movement	Available Storage (ft)	Existing 2021		Background 2023		
					AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
1	Baptist Road/Old Devner Road/Woodcarver Road	ROUNDAABOUT	Baptist Road	EBLTR	-	0	0	0	0
			Baptist Road	WBLTR	-	25	25	25	25
			Woodcarver Road	NBLTR	-	0	0	0	0
			Old Denver Road	SBLTR	-	0	0	0	0
3	Baptist Road/Terrazzo Drive	STOP	Baptist Road	EBL	155	0	0	0	0
				EBT	-	0	0	0	0
			Baptist Road	EBR	-	0	0	0	0
				WBL	420	7.5	10	225	250
				WBT	-	0	0	0	0
				WBTR	-	0	0	0	0
			Terrazzo Drive	NBL	135	2.5	7.5	75	175
				NBT	-	0	0	0	0
			Terrazzo Drive	NBR	135	17.5	15	450	375
				SBL	255	12.5	10	400	350
			SBTR	-	2.5	0	0	0	
4	Baptist Road/SB I-25 Ramp	SIGNAL	Baptist Road	EBT	-	39	43	42	40
				EBR	-	60	61	64	57
			Baptist Road	WBL	620	108	223	300	229
				WBT	-	14	63	41	51
			I-25 SB Ramp	SBL	-	131	243	123	252
				SBTR	-	0	0	0	0
5	Baptist Road/NB I-25 Ramp	SIGNAL	Baptist Road	EBL	550	53	31	68	30
				EBT	-	65	79	27	90
			Baptist Road	WBT	-	110	91	111	102
				WBR	-	43	34	43	38
			I-25 NB Ramp	NBL	-	89	150	89	138
				NBLT	-	90	150	90	140
			NBR	-	0	0	0	0	

Notes : (1) Queue length is based on the 95th percentile queue as reported by Synchro, Version 11.

Table 4-3  
 QKT 4299  
 Background Future 2028 Intersection Level of Service Summary (1) (2)

Intersection	Operating Condition	Street Name	Approach/Movement	Existing 2021		Background 2028			
				AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour		
1	Baptist Road/Old Devner Road/Woodcarver Road ROUNDABOUT	Baptist Road	EBLTR	A (4.1)	A (4.0)	A (8.9)	A (8.4)		
			WBLTR	A (4.2)	A (5.3)	A (6.7)	B (13.6)		
			NBLTR	A (3.6)	A (3.6)	A (6.0)	A (6.5)		
			SBLTR	<u>A (4.1)</u>	<u>A (4.3)</u>	<u>A (5.8)</u>	<u>B (11.9)</u>		
			<b>Overall</b>	<b>A (4.2)</b>	<b>A (4.8)</b>	<b>A (7.3)</b>	<b>B (11.7)</b>		
3	Baptist Road/Terrazzo Drive	Baptist Road	EBL	A [0.0]	A [8.2]	N/A	N/A		
			EBT	A [0.0]	A [0.0]	N/A	N/A		
			EBR	A [0.0]	A [0.0]	N/A	N/A		
			WBL	A [8.3]	A [8.2]	N/A	N/A		
			WBT	A [0.0]	A [0.0]	N/A	N/A		
			WBTR	A [0.0]	A [0.0]	N/A	N/A		
			NBL	C [17.5]	C [21.2]	N/A	N/A		
			NBT	C [17.8]	C [22.7]	N/A	N/A		
			NBR	B [10.3]	A [10.0]	N/A	N/A		
			SBL	C [20.6]	D [27.9]	N/A	N/A		
		SBT	C [16.3]	B [14.2]	N/A	N/A			
		<i>Signal added</i>	SIGNAL	Baptist Road	EBL	N/A	N/A	C (21.7)	C (20.9)
					EBT	N/A	N/A	C (27.4)	C (23.6)
					EBR	N/A	N/A	B (19.6)	B (18.5)
					WBL	N/A	N/A	C (20.3)	B (15.7)
					WBTR	N/A	N/A	C (23.6)	C (24.4)
					NBL	N/A	N/A	B (14.4)	B (18.2)
					NBT	N/A	N/A	B (15.2)	B (19.6)
					NBR	N/A	N/A	B (15.9)	C (20.3)
					SBL	N/A	N/A	B (10.9)	B (19.1)
SBT	N/A				N/A	<u>B (12.8)</u>	<u>B (17.1)</u>		
<b>Overall</b>	N/A	N/A	<b>C (22.9)</b>	<b>C (22.3)</b>					
4	Baptist Road/SB I-25 Ramp	Baptist Road	EBT	C (20.3)	C (26.1)	C (23.5)	C (25.5)		
			EBR	C (21.8)	C (27.1)	C (28.2)	C (28.3)		
			WBL	C (24.0)	C (30.0)	D (42.5)	C (30.7)		
			WBT	A (1.5)	B (12.7)	A (5.0)	B (14.9)		
			SBL	D (37.6)	C (30.8)	C (33.3)	C (33.8)		
			SBT	<u>C (31.2)</u>	<u>C (22.3)</u>	<u>C (30.2)</u>	<u>C (34.8)</u>		
			<b>Overall</b>	<b>C (20.7)</b>	<b>C (24.5)</b>	<b>C (26.4)</b>	<b>C (26.0)</b>		
5	Baptist Road/NB I-25 Ramp	Baptist Road	EBL	C (30.0)	D (37.7)	D (50.4)	E (70.2)		
			EBT	B (10.2)	A (9.3)	A (5.2)	C (21.0)		
			WBT	B (13.1)	B (11.5)	B (16.5)	B (15.7)		
			WBR	B (12.9)	B (11.0)	B (15.7)	B (14.6)		
			NBL	C (32.3)	D (36.6)	D (41.7)	D (41.5)		
			NBLTR	C (32.3)	D (36.6)	D (41.8)	D (41.6)		
			NBR	<u>A (0.3)</u>	<u>A (2.2)</u>	<u>A (0.3)</u>	<u>A (2.2)</u>		
			<b>Overall</b>	<b>B (13.1)</b>	<b>B (11.2)</b>	<b>C (21.1)</b>	<b>C (21.4)</b>		

Notes : (1) Numbers in brackets [ ] represent delay at unsignalized intersections in seconds per vehicle.  
 (2) Numbers in parenthesis ( ) represent delay at signalized intersections in seconds per vehicle.

Table 4-4  
 QKT 4299  
 Background Future 2028 Intersection Queueing Summary (1)

Intersection	Operating Condition	Street Name	Approach/Movement	Available Storage (ft)	Existing 2021		Background 2028					
					AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour				
1	Baptist Road/Old Devner Road/Woodcarver Road	ROUNDABOUT	Baptist Road	EBLTR	-	0	0	50	50			
			Baptist Road	WBLTR	-	25	25	50	175			
			Woodcarver Road	NBLTR	-	0	0	0	0			
			Old Denver Road	SBLTR	-	0	0	25	75			
3	Baptist Road/Terrazzo Drive	STOP	Baptist Road	EBL	155	0	0	N/A	N/A			
				EBT	-	0	0	N/A	N/A			
				EBR	-	0	0	N/A	N/A			
				WBL	420	7.5	10	N/A	N/A			
			Baptist Road	WBT	-	0	0	N/A	N/A			
				WBTR	-	0	0	N/A	N/A			
				NBL	135	2.5	7.5	N/A	N/A			
				NBT	-	0	0	N/A	N/A			
			Terrazzo Drive	NBR	135	17.5	15	N/A	N/A			
				SBL	255	12.5	10	N/A	N/A			
				SBT	-	2.5	0	N/A	N/A			
				SBTR	-	2.5	0	N/A	N/A			
			<i>Signal added</i>	SIGNAL		Baptist Road	EBL	155	N/A	N/A	38	34
							EBT	-	N/A	N/A	187	180
							EBR	-	N/A	N/A	0	0
							WBL	420	N/A	N/A	39	43
Baptist Road	WBTR	-				N/A	N/A	174	368			
	NBL	135				N/A	N/A	11	18			
	NBT	-				N/A	N/A	16	12			
	NBR	135				N/A	N/A	16	8			
Terrazzo Drive	SBL	255	N/A	N/A	56	174						
	SBT	-	N/A	N/A	18	35						
	SBTR	-	N/A	N/A	18	35						
	SBTR	-	N/A	N/A	18	35						
4	Baptist Road/SB I-25 Ramp	SIGNAL	Baptist Road	EBT	-	39	43	78	90			
				EBR	-	60	61	154	90			
			Baptist Road	WBL	620	108	223	302	234			
				WBT	-	14	63	61	274			
			I-25 SB Ramp	SBL	-	131	243	125	252			
				SBTR	-	0	0	49	236			
5	Baptist Road/NB I-25 Ramp	SIGNAL	Baptist Road	EBL	550	53	31	143	165			
				EBT	-	65	79	30	174			
				WBT	-	110	91	142	110			
				WBR	-	43	34	49	38			
			I-25 NB Ramp	NBL	-	89	150	195	296			
				NBLT	-	90	150	197	300			
				NBR	-	0	0	0	0			
				NBR	-	0	0	0	0			

Notes : (1) Queue length is based on the 95th percentile queue as reported by Synchro, Version 11.

## V. Site Analysis

### Overview

The Applicant proposes to develop the approximately 12-acre site with a gas station with convenience store use and fast-food restaurant with drive-thru use. For purposes of this study, the site will be developed in two phases with phase 1 built and occupied in 2023 and phase 2 to be complete in 2028. The following land use development program was analyzed:

#### Phase 1 - 2023

28      FP      Gas Station with Convenience Store

#### Phase 2 - 2028

3,500      SF      Fast-food Restaurant with Drive-Through

Specifically, the site will be developed with then (11) fueling dispensers (22 fueling positions) which is supported by a ±8,292 square foot (SF) convenience store with an additional six (6) high speed fueling positions.

### Proposed Site Access

As shown on the Applicant's plan (Figure 1-2) and mentioned above access to the site is proposed via an internal access drive that would connect to an existing curb cut along Baptist Road as well as access locations along Terrazzo Drive. The multiple access locations along Terrazzo Drive would facilitate access and circulation throughout the site and to the existing network.

In addition to providing the proposed connections to the local network, it was determined that the signalization of Baptist Road/Terrazzo Drive would be warranted coincident with the buildout of phase 1 of this development. The signal warrant details are provided later in this report. Additional improvements with the signal would include dual westbound lefts being required.

### Trip Generation

#### **Overview**

Trip generation estimates for the weekday AM and PM peak hours, as well as the weekday average daily traffic (ADT), were derived from the standard Institute of Transportation Engineers (ITE) Trip Generation Manual rates/equations, as published in the 11<sup>th</sup> edition. The trip generation analysis is presented in Table 5-1.

#### **Pass-by Trips**

According to ITE, in some cases the driveway volumes at a particular land use are different from the amount of traffic added to the adjacent street system. Uses such as retail establishments attract a portion of their trips from traffic that is already present on the road network. Pass-by trip are those trips which are made as intermediate stops on the way to a primary destination. An example of a pass-by trip would be one in which a driver stops at a retail store on his/her way home from work.

The proposed use would experience pass-by trips consistent with the primary use located on site. In recognition of this phenomenon and consistent with ITE published data, the following pass-by reductions were applied to the trip generation analysis:

- Gas Station with Convenience Store 76% AM/ 75% PM
- Fast-Food Restaurant with Drive-Thru 50% AM/ 55% PM

As shown in Table 5-1, the site is anticipated to generate 673 weekday AM, and 565 weekday PM peak hour pass-by trips for 2023 (phase 1) conditions. The site is anticipated to generate a total of 751 weekday AM and 629 weekday PM peak hour pass-by trips for 2028 (phase 2) conditions. Therefore, these trips would be drawn from the existing road network and assigned to the future site entrances accordingly. Pass-by trip assignments at key study intersections are shown on Figure 5-1 for 2023 (phase 1) conditions and Figure 5-2 for 2028 (phase 2) conditions.

### **Net Site Trips**

The vehicle trips that would be generated by the proposed development plan are summarized in Table 5-1. As shown in Table 5-1, the site would generate upon completion and full occupancy of phase 1, 212 net new weekday AM peak hour trips, 188 net new weekday PM peak hour trips, as well as 2,420 net new weekday daily trips. Upon the completion and full occupancy of phase 2 the site is expected to generate a total of 290 net new weekday AM peak hour trips, 240 net new weekday PM peak hour trips, as well as 3,156 net new weekday daily trips.

### **Site Trip Distributions**

The distribution of the anticipated trips generated by the completion of the proposed development was based on an examination of existing traffic counts and local knowledge. Existing travel patterns indicate the following distribution is appropriate in the forecasting of future site traffic:

- To/from the west on Baptist Road: 20%
- To/from the east on Baptist Road: 80%

### **Site Trip Assignments**

The assignment of the new vehicle trips generated upon the future build-out of the development project was based on the above distribution. The trips assignments are depicted on Figure 5-3 for 2023 (phase 1) conditions and Figure 5-4 for 2028 (phase 2) conditions.

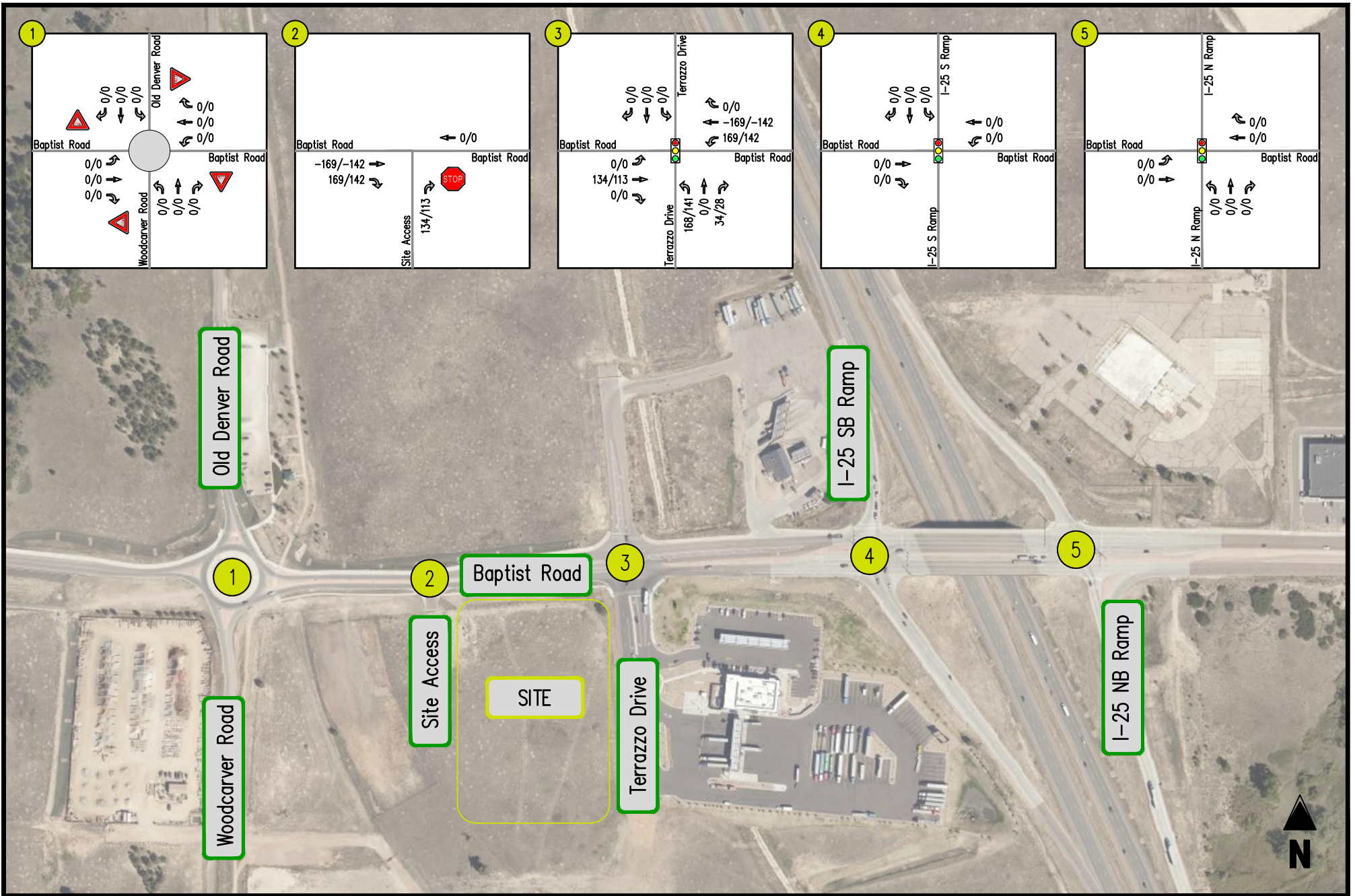


FIGURE 5-1  
Pass-by Trips 2023

QKT 4299  
Monument, CO

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

- ← MOVEMENT
- 🚦 SIGNALIZED INTERSECTION
- 🛑 STOP SIGN
- 🚶 YIELD SIGN



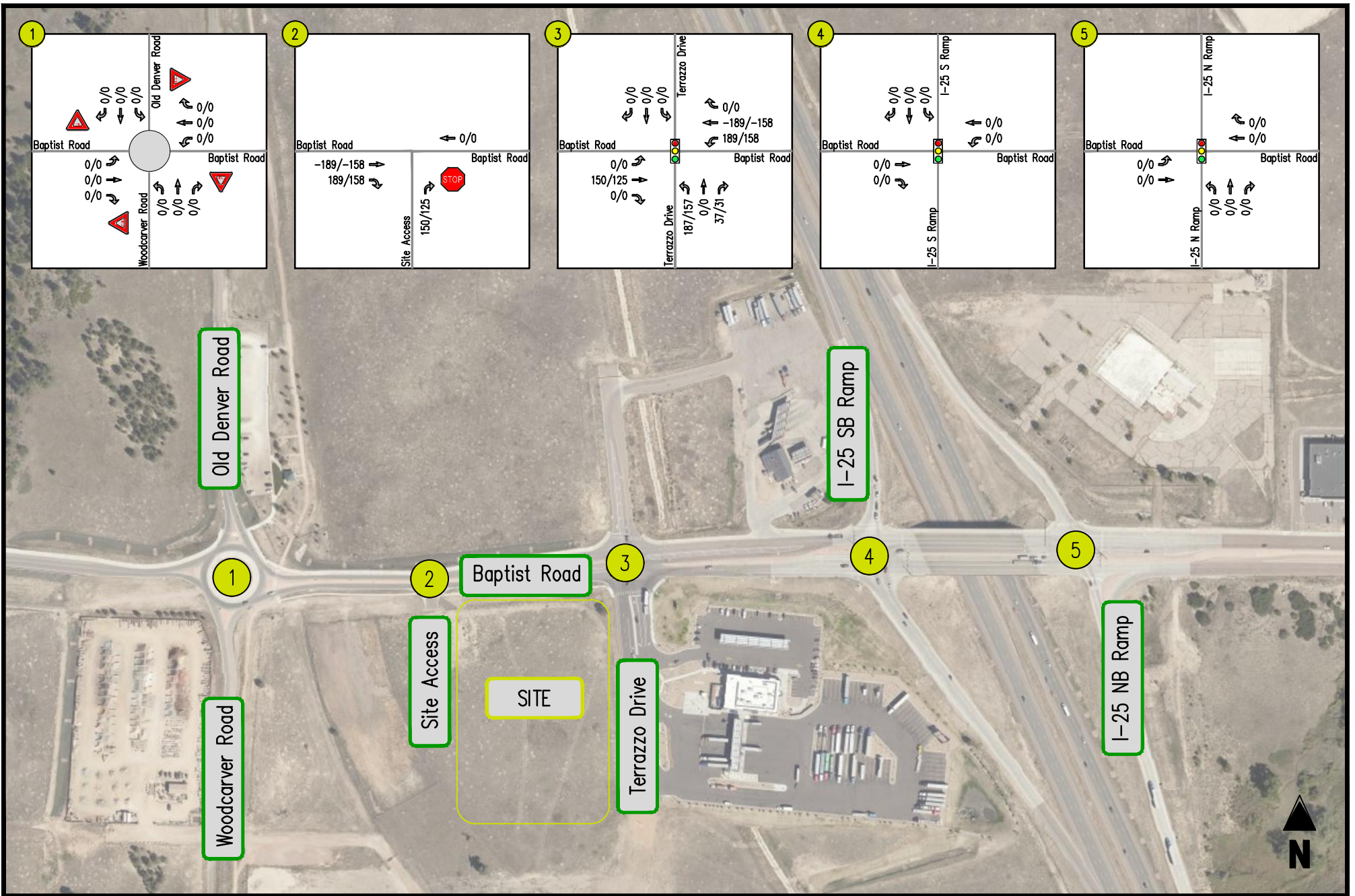


FIGURE 5-2  
Total Pass-by Trips 2028

QKT 4299  
Monument, CO

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

- ← MOVEMENT
- 🚦 SIGNALIZED INTERSECTION
- 🛑 STOP SIGN
- 🚧 YIELD SIGN



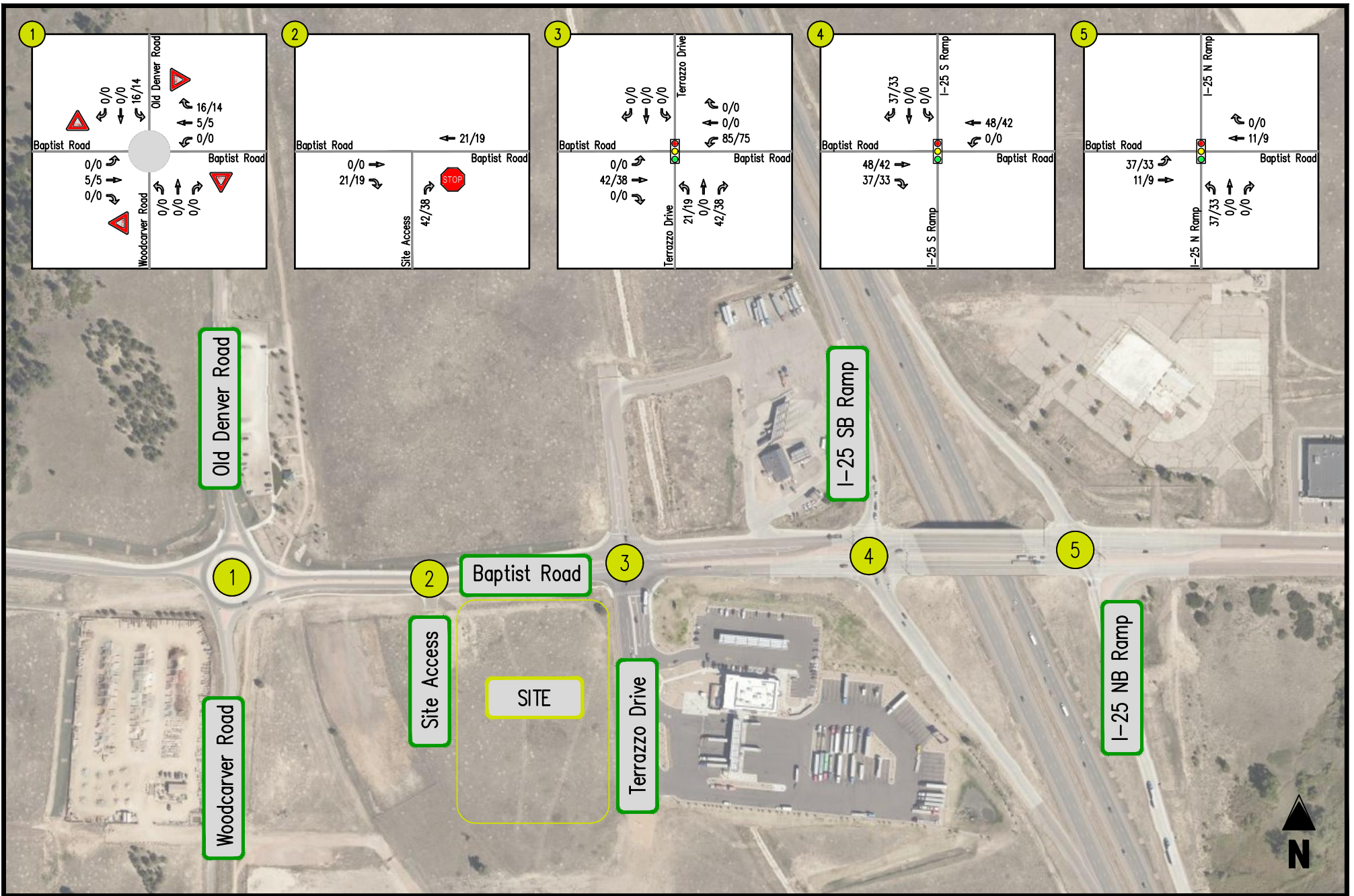


FIGURE 5-3  
Site Trips 2023

QKT 4299  
Monument, CO

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

- ← MOVEMENT
- 🚦 SIGNALIZED INTERSECTION
- 🛑 STOP SIGN
- 🚶 YIELD SIGN





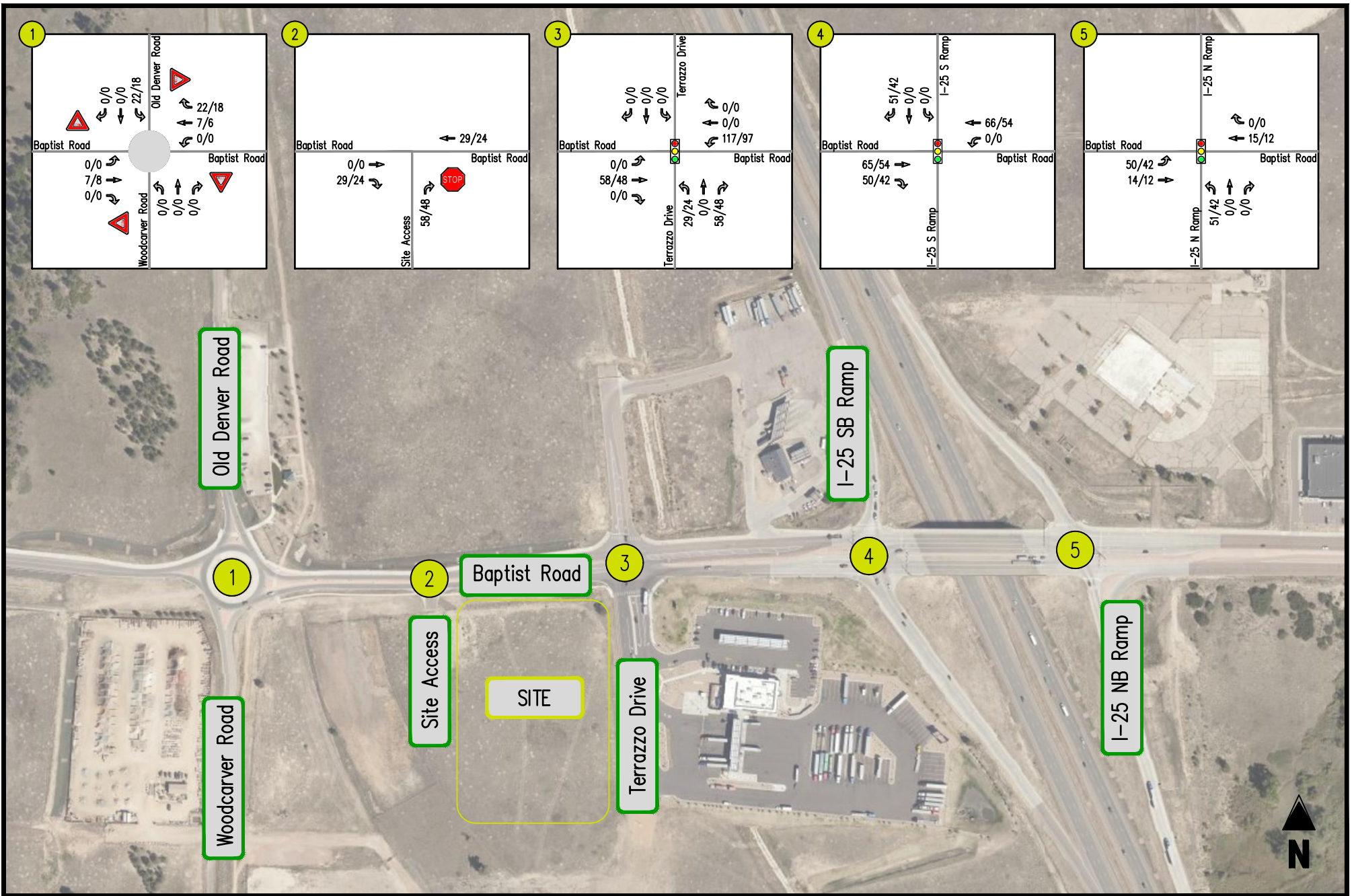


FIGURE 5-4  
Site Trips 2028

QKT 4299  
Monument, CO

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

- ← MOVEMENT
- 🚦 SIGNALIZED INTERSECTION
- 🛑 STOP SIGN
- 🚧 YIELD SIGN



Table 5-1  
 QKT 4299  
 Site Trip Generation

Land Use	Land Use Code	Amount	Units	AM Peak Hour			PM Peak Hour			Average Daily Trips
				In	Out	Total	In	Out	Total	
<i>Phase 1 - 2023</i>										
Convenience Store/Gas Station: GFA (5.5-10k)	945	28	FP	443	442	885	377	376	753	9,681
				(337)	(336)	(673)	(283)	(282)	(565)	(7,261)
				<i>Phase 1 Pass-by (AM 76%/PM 75%)</i>						
				<i>Net Total</i>			106	94	188	2,420
<b>Phase 1 Net New Trips</b>				<b>106</b>	<b>106</b>	<b>212</b>	<b>94</b>	<b>94</b>	<b>188</b>	<b>2,420</b>
<i>Phase 2 - 2028</i>										
Fast-Food Restaurant with Drive-Thru	934	3,500	SF	80	76	156	60	56	116	1,636
				(40)	(38)	(78)	(33)	(31)	(64)	(900)
				<i>Pass-by (AM 50%/PM 55%)</i>						
				<i>Net Total</i>			40	25	52	736
<b>Phase 2 Net New Trips</b>				<b>40</b>	<b>38</b>	<b>78</b>	<b>27</b>	<b>25</b>	<b>52</b>	<b>736</b>
<i>Total Pass-bys</i>				(377)	(374)	(751)	(316)	(313)	(629)	(8,161)
<b>Total Net New Trips</b>				<b>146</b>	<b>144</b>	<b>290</b>	<b>121</b>	<b>119</b>	<b>240</b>	<b>3,156</b>

Note(s):  
 (1) Trip generation based on the Institute of Transportation Engineers' Trip Generation Manual, 11th Edition

## **VI. Analysis of Future Conditions with Site Development**

### **Total Future 2023 Traffic Forecasts**

The 2023 total future traffic forecasts associated with the proposed development were developed by combining the background future forecasts shown on Figure 4-3 and the total site trip assignments shown on Figure 5-3. The resulting total future traffic forecasts are provided on Figure 6-1 for 2023.

### **Total Future 2023 Levels of Service with Proposed Development**

Future levels of service with the proposed development plan were estimated at key study intersections based on the future traffic volumes shown on Figure 6-1, the future lane use on Figure 4-7, and the HCM methodologies for signalized and unsignalized intersections. The results of these analyses are provided in Appendix G and presented in Table 6-1. The 2023 total future levels of service are also presented graphically on Figure 6-2.

As shown in Table 6-1, levels of service under future site development conditions would remain generally consistent with future background conditions (i.e., without site development). Overall delays would experience minor increase due to site trips. The intersections within the study area would continue to operate at acceptable overall LOS “C” or better in the AM and PM peak hours.

These results indicate that the development of the site would not require additional road improvements.

### **Total Future 2023 Queuing**

Total future queues were forecasted using Synchro software. The results of the queuing analysis are summarized in Table 6-2. In general, vehicle queues would be consistent with background future conditions.

### **Total Future 2028 Traffic Forecasts**

The 2028 total future traffic forecasts associated with the proposed development were developed by combining the background future forecasts shown on Figure 4-8 and the total site trip assignments shown on Figure 5-4. The resulting total future traffic forecasts are provided on Figure 6-3 for 2028.

### **Total Future 2028 Levels of Service with Proposed Development**

Future levels of service with the proposed development plan were estimated at key study intersections based on the future traffic volumes shown on Figure 6-4 and the HCM methodologies for signalized and unsignalized intersections. The results of these analyses are provided in Appendix G and presented in Table 6-3. The 2028 total future levels of service are also presented graphically on Figure 6-4.

As shown in Table 6-1, phase 2 levels of service under future site development conditions would remain generally consistent with 2028 future background conditions (i.e., without site development). Overall delays would experience minor increase due to site trips. The intersections within the study area would continue to operate at acceptable overall LOS “D” or better in the AM and PM peak hours.

These results indicate that the development of the site would not require additional road improvements beyond those already assumed.

### Total Future 2028 Queuing

Total future queues were forecasted using Synchro software. The results of the queuing analysis are summarized in Table 6-2. In general, vehicle queues would be consistent with background future conditions.

### Total Future 2041 Traffic Forecasts

Long range 2041 total future traffic forecasts were developed by combining the total future 2028 forecasts shown on Figure 6-3 and adding additional growth and long range pipeline development traffic consistent with area studies. The resulting total future traffic forecasts are provided on Figure 6-5 for 2041.

### Total Future 2041 Levels of Service with Proposed Development

Long range future levels of service were estimated at key study intersections based on the 2041 future traffic volumes shown on Figure 6-5 and the HCM methodologies for signalized and unsignalized intersections. The results of these analyses are provided in Appendix G and presented in Table 6-1. The 2041 total future levels of service are also presented graphically on Figure 6-6.

As shown in Table 6-1, long range levels of service would remain generally consistent with short range future conditions. Overall delays would experience minor increase due to regional growth in the area. The intersections within the study area would continue to operate at acceptable overall LOS “C” or better in the AM and PM peak hours.

### Total Future 2041 Queuing

Long range total future queues were forecasted using Synchro software. The results of the queuing analysis are summarized in Table 6-1. In general, vehicle queues would be consistent with short range future conditions.

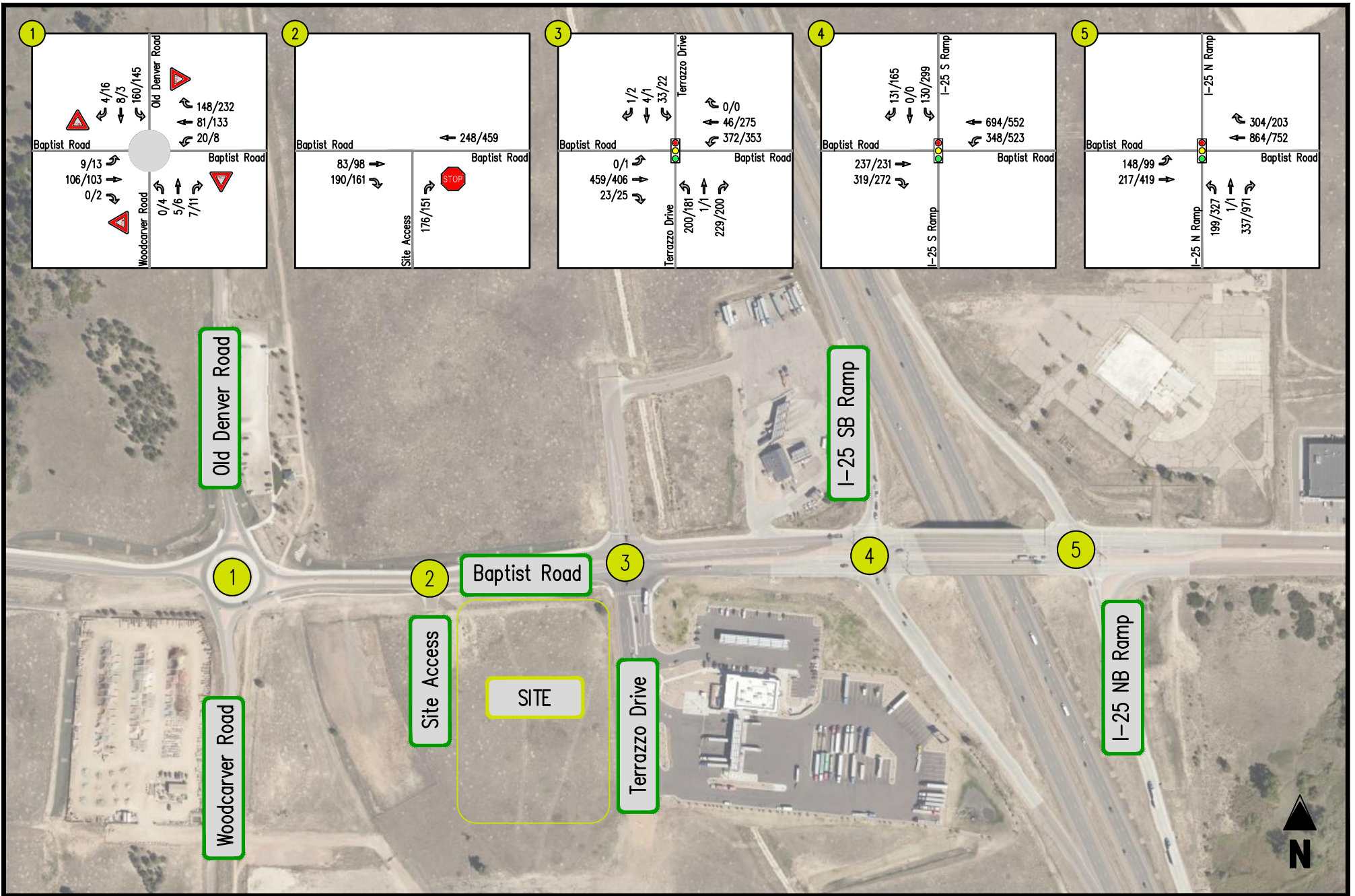


FIGURE 6-1  
Total Future 2023 Forecasts

QKT 4299  
Monument, CO

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

- ← MOVEMENT
- 🚦 SIGNALIZED INTERSECTION
- 🛑 STOP SIGN
- 🚶 YIELD SIGN



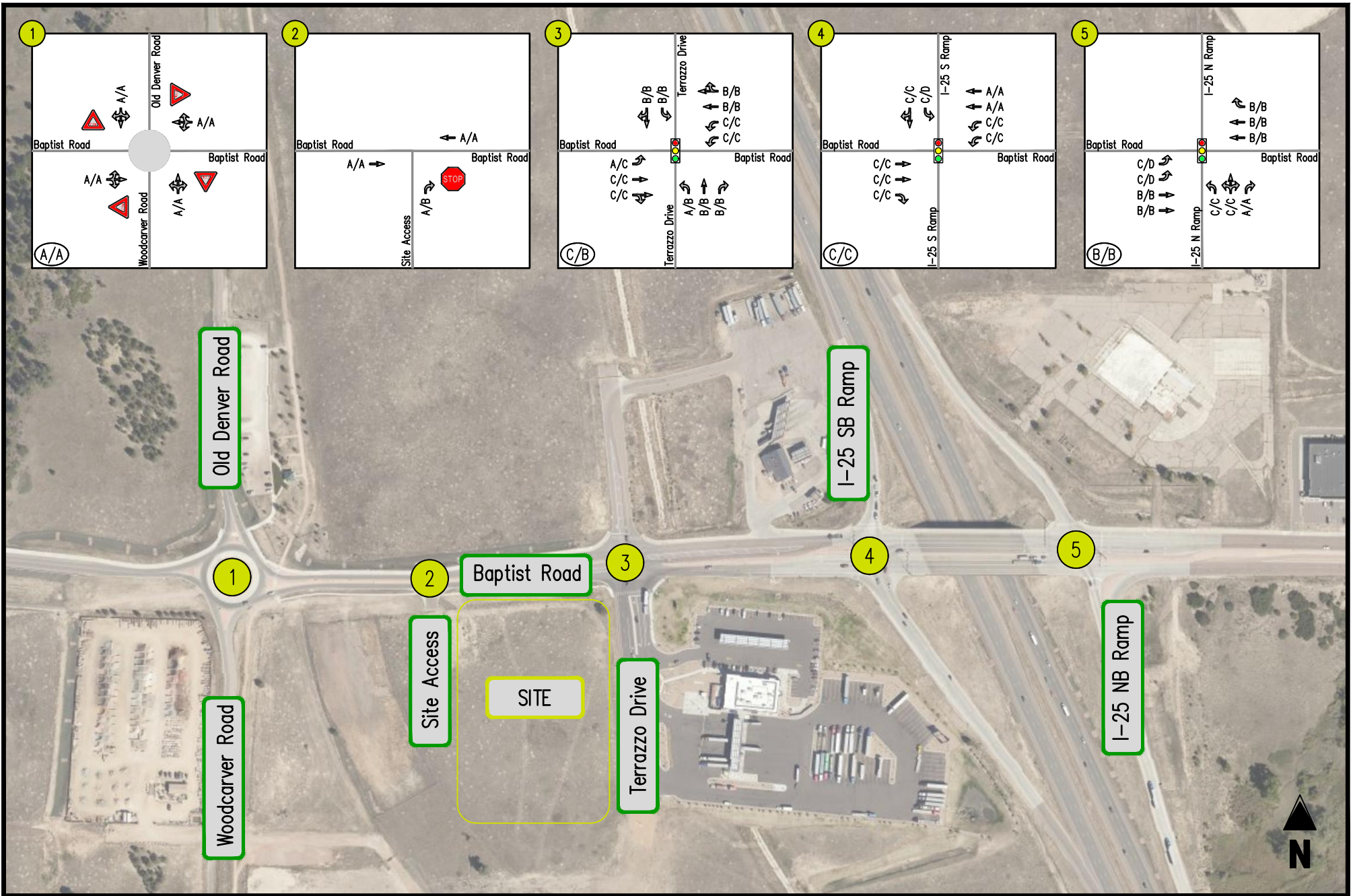


FIGURE 6-2  
Total Future 2023 LOS

QKT 4299  
Monument, CO

(A/A) INTERSECTION LOS  
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT  
 SIGNALIZED INTERSECTION  
 STOP SIGN  
 YIELD SIGN



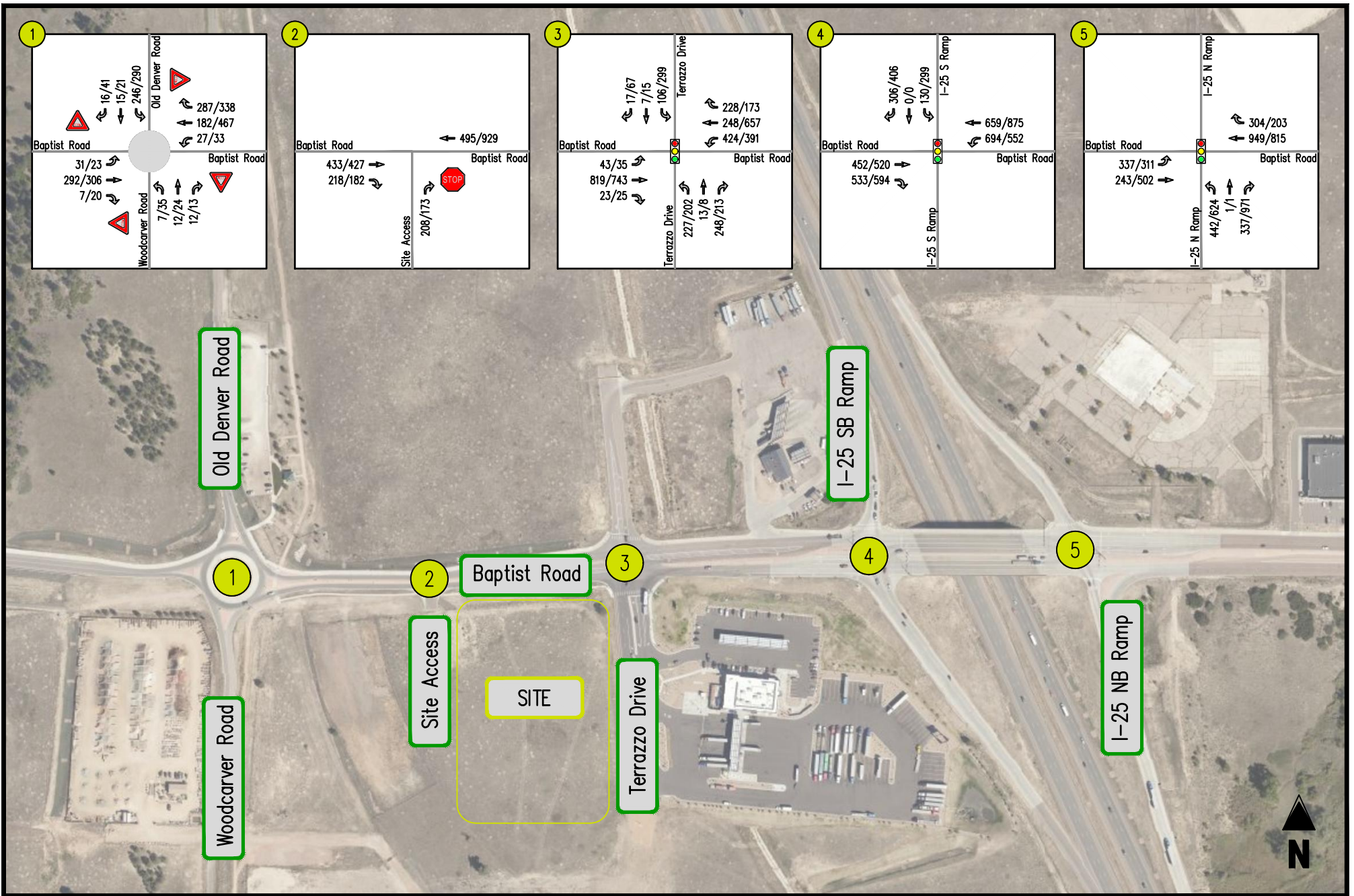


FIGURE 6-3  
Total Future 2028 Forecasts

QKT 4299  
Monument, CO

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

- ← MOVEMENT
- 🚦 SIGNALIZED INTERSECTION
- 🛑 STOP SIGN
- 🚶 YIELD SIGN



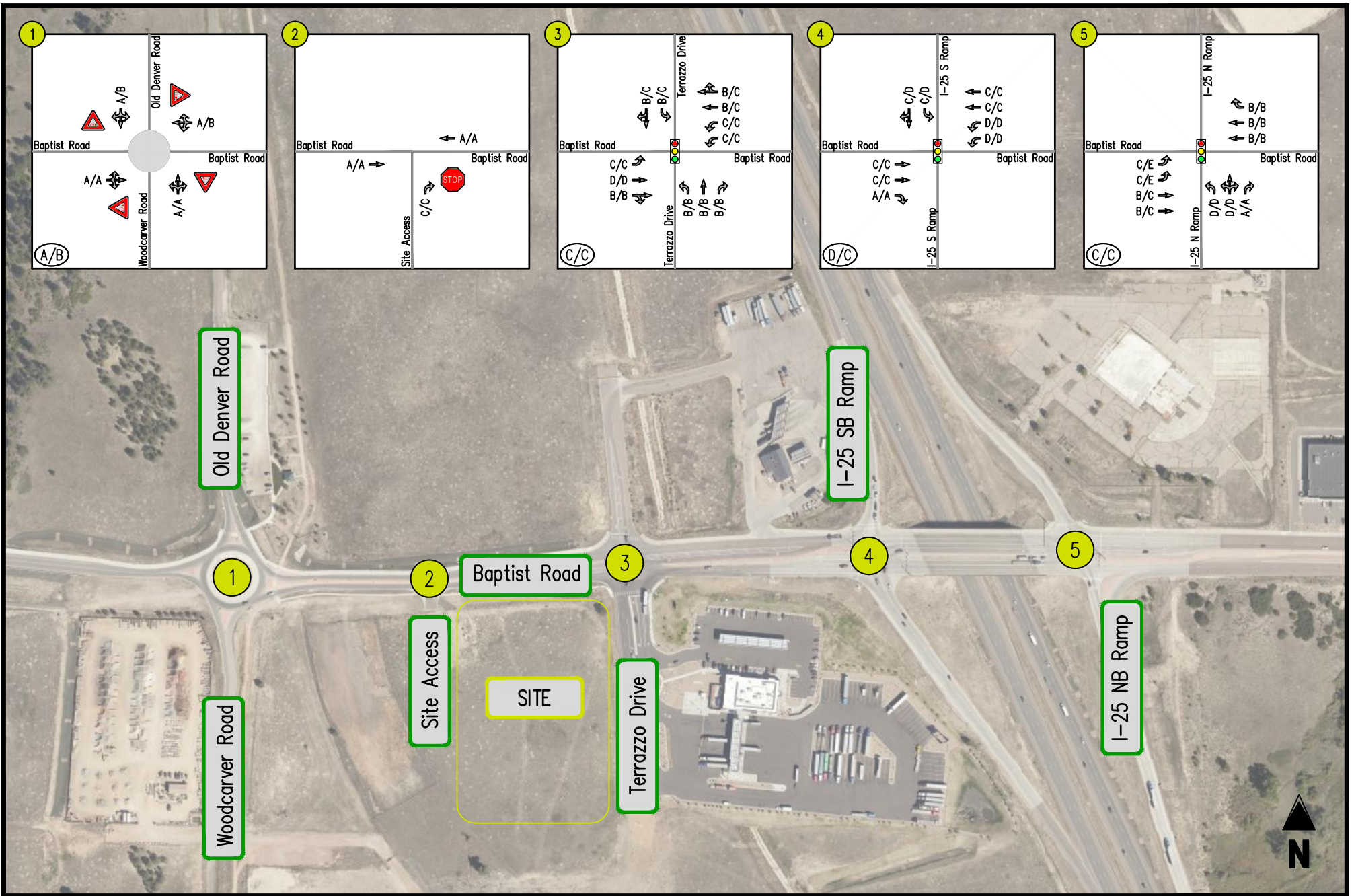


FIGURE 6-4  
Total Future 2028 LOS

QKT 4299  
Monument, CO

(A/A) INTERSECTION LOS  
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

- ← MOVEMENT
- 🚦 SIGNALIZED INTERSECTION
- 🛑 STOP SIGN
- 🚶 YIELD SIGN





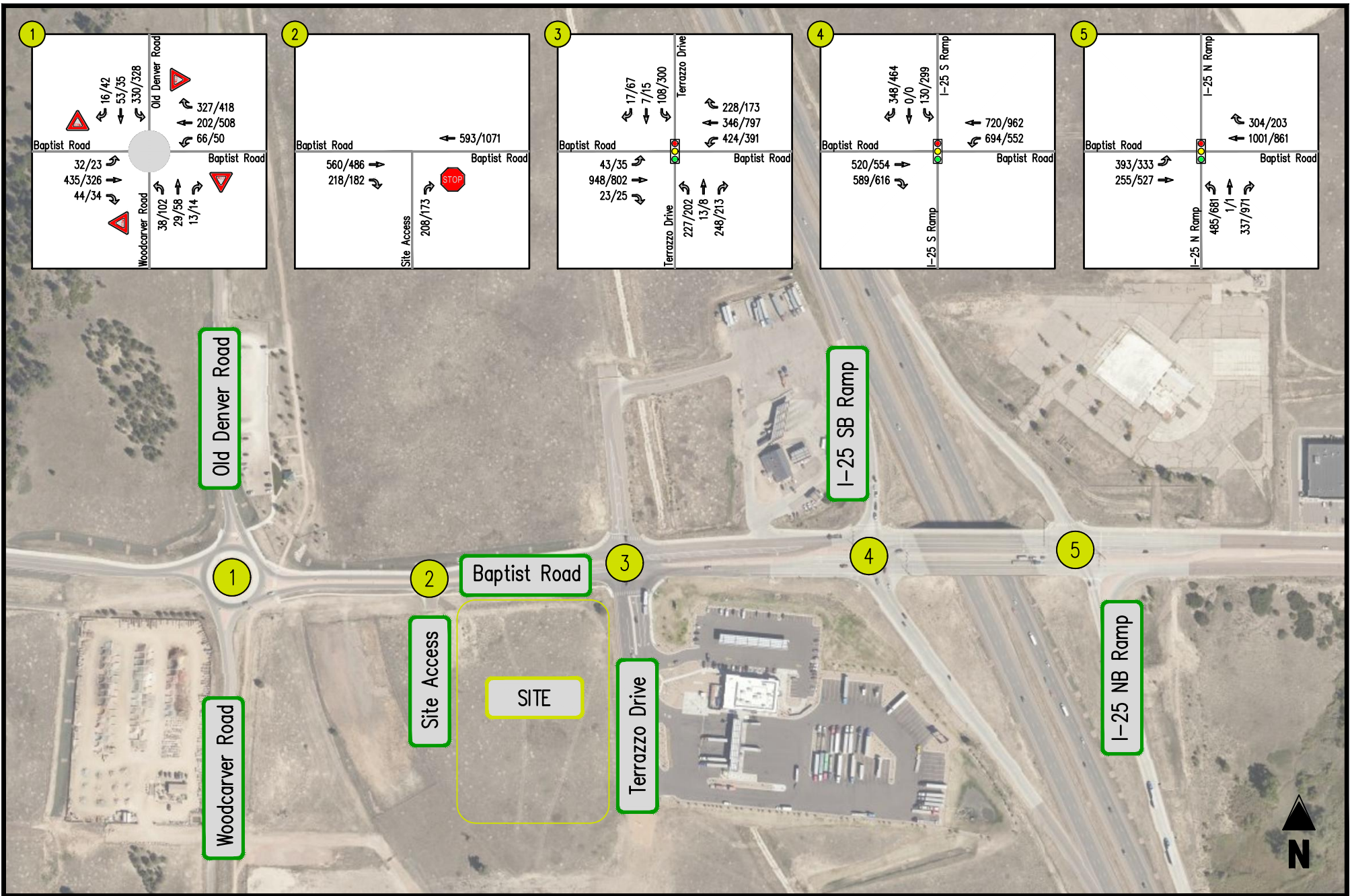


FIGURE 6-5  
 Total Future 2041 Forecasts

QKT 4299  
 Monument, CO

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

- ← MOVEMENT
- 🚦 SIGNALIZED INTERSECTION
- 🛑 STOP SIGN
- 🚶 YIELD SIGN



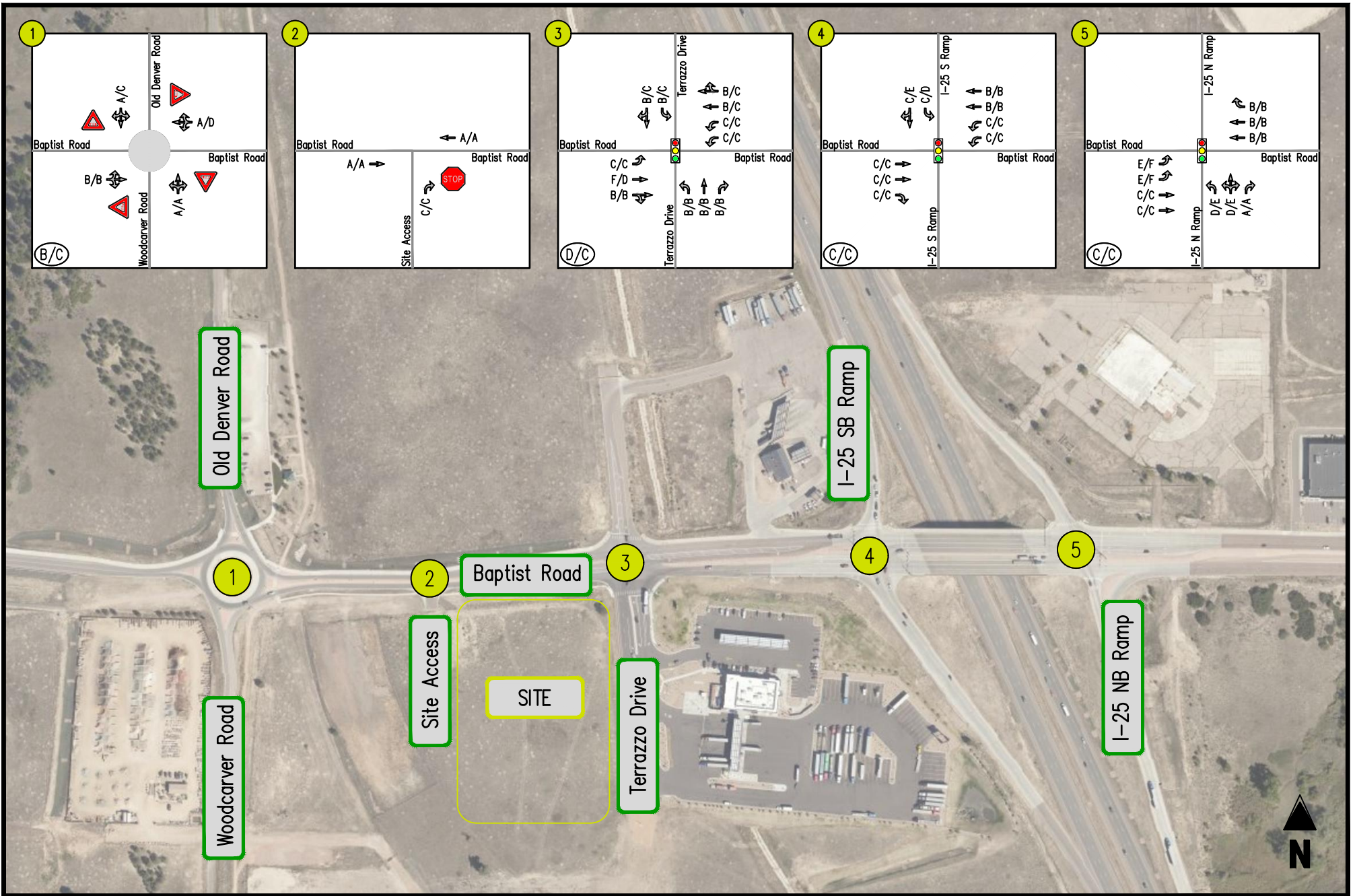


FIGURE 6-6  
Total Future 2041 LOS

QKT 4299  
Monument, CO

(A/A) INTERSECTION LOS  
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT  
 SIGNALIZED INTERSECTION  
 STOP SIGN  
 YIELD SIGN



Table 6-1  
 QKT 4299  
 Total Future Intersection Level of Service Summary (1) (2)

Intersection	Operating Condition	Street Name	Approach/Movement	Background 2023		Background 2028		Total Future 2023		Total Future 2028		Total Future 2041				
				AM Peak Hour	PM Peak Hour Original	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
1	Baptist Road/Old Devner Road/Woodcarver Road	ROUNDBABOUT	Baptist Road	EBLTR	A (4.2)	A (4.0)	A (8.9)	A (8.4)	A (4.3)	A (4.1)	A (9.4)	A (8.8)	B (16.8)	B (10.7)		
			Baptist Road	WBLTR	A (4.2)	A (5.3)	A (6.7)	B (13.6)	A (4.4)	A (5.5)	A (7.0)	B (14.4)	A (9.0)	D (38.2)		
			Woodcarver Road	NBLTR	A (3.6)	A (3.6)	A (6.0)	A (6.5)	A (3.7)	A (3.7)	A (6.2)	A (6.7)	A (8.6)	A (9.6)		
			Old Denver Road	SBLTR	<u>A (4.1)</u>	<u>A (4.3)</u>	<u>A (5.8)</u>	<u>B (11.9)</u>	<u>A (4.3)</u>	<u>A (4.5)</u>	<u>A (6.1)</u>	<u>B (12.6)</u>	<u>A (9.1)</u>	<u>C (20.4)</u>		
			<b>Overall</b>		<b>A (4.2)</b>	<b>A (4.8)</b>	<b>A (7.3)</b>	<b>B (11.7)</b>	<b>A (4.3)</b>	<b>A (4.9)</b>	<b>A (7.6)</b>	<b>B (12.4)</b>	<b>B (11.5)</b>	<b>C (26.5)</b>		
2	Baptist Road/Site Access	STOP	Baptist Road	EBTR	N/A	N/A	N/A	N/A	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]		
			Baptist Road	WBT	N/A	N/A	N/A	N/A	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]		
			Site Access	NBR	N/A	N/A	N/A	N/A	A [0.9]	B [10.3]	C [17.7]	C [15.6]	C [23.0]	C [17.1]		
3	Baptist Road/Terrazzo Drive	STOP	Baptist Road	EBL	A [0.0]	A [8.2]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
				EBT	A [0.0]	A [0.0]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
				EBR	A [0.0]	A [0.0]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
				WBL	A [8.3]	A [8.3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			Baptist Road	WBT	A [0.0]	A [0.0]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
				WBTR	A [0.0]	A [0.0]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
				NBL	C [17.3]	C [20.6]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			Terrazzo Drive	NBT	C [17.7]	C [22.4]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
				NBR	B [10.2]	A [9.9]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			Terrazzo Drive	SBL	D [26.8]	A [3.5]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
				SBTR	A [0.0]	A [0.0]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			<i>Signal added</i>	SIGNAL	Baptist Road	EBL	N/A	N/A	C (21.7)	C (20.9)	A (0.0)	C (22.5)	C (21.1)	C (21.7)	C (21.4)	C (21.6)
					EBT	N/A	N/A	C (27.4)	C (23.6)	C (27.2)	C (27.1)	D (50.1)	D (36.3)	F (99.1)	D (45.8)	
					EBR	N/A	N/A	B (19.6)	B (18.5)	C (22.4)	C (22.4)	B (19.4)	B (19.5)	B (19.4)	B (19.4)	
					WBL	N/A	N/A	C (20.3)	B (15.7)	C (25.4)	C (20.9)	C (27.0)	C (25.1)	C (28.8)	C (25.4)	
			Baptist Road		WBTR	N/A	N/A	C (23.6)	C (24.4)	B (14.7)	B (17.7)	B (17.0)	C (21.5)	B (17.7)	C (25.3)	
					NBL	N/A	N/A	B (14.4)	B (18.2)	A (9.9)	B (11.5)	B (16.2)	B (15.7)	B (16.2)	B (15.8)	
			Terrazzo Drive		NBT	N/A	N/A	B (15.2)	B (19.6)	B (12.2)	B (13.8)	B (17.8)	B (18.1)	B (17.8)	B (18.1)	
				NBR	N/A	N/A	B (15.9)	C (20.3)	B (13.5)	B (15.0)	B (19.3)	B (19.5)	B (19.3)	B (19.5)		
Terrazzo Drive	SBL	N/A	N/A	B (10.9)	B (19.1)	B (14.4)	B (16.3)	B (17.4)	C (22.8)	B (17.4)	C (23.7)					
	SBTR	N/A	N/A	<u>B (12.8)</u>	<u>B (17.1)</u>	<u>B (16.0)</u>	<u>B (17.7)</u>	<u>B (19.4)</u>	<u>C (20.2)</u>	<u>B (19.4)</u>	<u>C (20.4)</u>					
<b>Overall</b>				N/A	N/A	<b>C (22.9)</b>	<b>C (22.3)</b>	<b>C (21.0)</b>	<b>B (20.0)</b>	<b>C (30.3)</b>	<b>C (25.4)</b>	<b>D (48.9)</b>	<b>C (29.3)</b>			
4	Baptist Road/SB I-25 Ramp	SIGNAL	Baptist Road	EBT	C (23.2)	C (24.6)	C (23.5)	C (25.5)	C (26.0)	C (23.2)	C (27.3)	C (24.2)	C (27.8)	C (24.4)		
				EBR	C (24.6)	C (25.0)	C (28.2)	C (28.3)	C (27.5)	C (24.3)	C (29.9)	C (29.1)	C (33.2)	C (30.3)		
			Baptist Road	WBL	D (42.7)	C (29.9)	D (42.5)	C (30.7)	C (32.0)	C (31.5)	C (33.0)	C (30.8)	C (32.8)	C (30.6)		
				WBT	A (5.2)	A (7.3)	A (5.0)	B (14.9)	A (6.4)	A (6.6)	B (11.3)	B (13.1)	B (11.9)	B (14.2)		
			I-25 SB Ramp	SBL	C (32.1)	C (33.8)	C (33.3)	C (33.8)	C (26.1)	D (35.6)	C (26.1)	D (37.6)	C (26.1)	D (37.6)		
			<b>Overall</b>		<b>C (28.0)</b>	<b>C (23.8)</b>	<b>C (30.2)</b>	<b>C (34.8)</b>	<b>C (28.7)</b>	<b>C (24.8)</b>	<b>C (28.2)</b>	<b>C (24.8)</b>	<b>D (46.3)</b>	<b>C (31.5)</b>	<b>E (78.0)</b>	
5	Baptist Road/NB I-25 Ramp	SIGNAL	Baptist Road	EBL	D (51.4)	D (37.7)	D (50.4)	E (70.2)	C (23.5)	D (40.9)	D (43.2)	E (76.2)	E (74.5)	F (95.5)		
				EBT	A (4.6)	B (13.2)	A (5.2)	C (21.0)	B (16.9)	B (13.2)	B (19.7)	C (20.1)	C (20.4)	C (20.7)		
			Baptist Road	WBT	B (13.1)	B (14.3)	B (16.5)	B (15.7)	B (13.6)	B (14.1)	B (14.9)	B (15.7)	B (15.1)	B (15.9)		
				WBR	B (12.9)	B (13.5)	B (15.7)	B (14.6)	B (13.3)	B (13.4)	B (14.3)	B (14.6)	B (14.3)	B (14.6)		
				NBL	C (32.3)	C (30.0)	D (41.7)	D (41.5)	C (33.3)	C (32.0)	D (45.8)	D (49.4)	D (50.7)	E (58.6)		
			I-25 NB Ramp	NBLTR	C (32.3)	C (30.1)	D (41.8)	D (41.6)	C (33.3)	C (32.1)	D (45.8)	D (49.1)	D (50.9)	E (58.2)		
				NBR	<u>A (0.3)</u>	<u>A (2.2)</u>	<u>A (0.3)</u>	<u>A (2.2)</u>	<u>A (0.3)</u>	<u>A (2.2)</u>	<u>A (0.3)</u>	<u>A (2.2)</u>	<u>A (0.3)</u>	<u>A (2.2)</u>		
			<b>Overall</b>		<b>B (13.7)</b>	<b>B (12.0)</b>	<b>C (21.1)</b>	<b>C (21.4)</b>	<b>B (14.4)</b>	<b>B (12.8)</b>	<b>C (22.3)</b>	<b>C (24.1)</b>	<b>C (28.4)</b>	<b>C (28.3)</b>		

Notes : (1) Numbers in brackets [] represent delay at unsignalized intersections in seconds per vehicle.  
 (2) Numbers in parenthesis () represent delay at signalized intersections in seconds per vehicle.

Table 6-2  
 QKT 4299  
 Total Future Intersection Queueing Summary (1)

Intersection	Operating Condition	Street Name	Approach/Movement	Available Storage (ft)	Background 2023		Background 2028		Total Future 2023		Total Future 2028		Total Future 2041			
					AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour				
1	ROUNDABOUT	Baptist Road/Old Devner Road/Woodcarver Road	Baptist Road	EBLTR	-	0	0	50	50	0	0	75	50	150	75	
			Baptist Road	WBLTR	-	25	25	50	175	25	25	50	175	75	450	
			Woodcarver Road	NBLTR	-	0	0	0	0	0	0	0	0	25	25	
			Old Denver Road	SBLTR	-	0	0	25	75	25	25	25	75	50	125	
2	STOP	Baptist Road/Site Access	Baptist Road	EBTR	-	N/A	N/A	N/A	N/A	0	0	0	0	0	0	
			Baptist Road	WBT	-	N/A	N/A	N/A	N/A	0	0	0	0	0	0	
			Site Access	NBR	-	N/A	N/A	N/A	N/A	22.5	17.5	57.5	40	77.5	45	
3	STOP	Baptist Road/Terrazzo Drive	Baptist Road	EBL	155	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			Baptist Road	EBT	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			Baptist Road	EBR	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			Baptist Road	WBL	420	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			Baptist Road	WBT	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			Baptist Road	WBTR	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			Baptist Road	NBL	135	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			Terrazzo Drive	NBT	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			Terrazzo Drive	NBR	135	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Signal added	SIGNAL	Baptist Road/Terrazzo Drive	Terrazzo Drive	SBL	255	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Terrazzo Drive	SBTR	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Baptist Road	EBL	155	0	4	38	34	0	4	39	34	39	34
				Baptist Road	EBT	-	95	88	187	180	143	126	320	277	392	310
				Baptist Road	EBR	-	0	0	0	0	0	0	0	0	0	
				Baptist Road	WBL	420	35	46	39	43	89	103	132	146	132	146
				Baptist Road	WBTR	-	58	127	174	368	16	82	84	300	116	383
				Terrazzo Drive	NBL	135	10	16	11	18	95	92	118	99	118	99
				Terrazzo Drive	NBT	-	3	4	16	12	4	4	16	12	16	12
4	SIGNAL	Baptist Road/SB I-25 Ramp	Baptist Road	NBR	135	15	8	16	8	47	38	49	43	49	43	
			Baptist Road	SBL	255	20	17	56	174	22	18	59	148	60	149	
			Baptist Road	SBTR	-	7	6	18	35	8	6	19	35	19	35	
			Baptist Road	EBT	-	42	40	78	90	50	46	90	96	103	102	
			Baptist Road	EBR	-	64	57	154	90	66	58	91	143	158	170	
			Baptist Road	WBL	620	300	229	302	234	298	232	300	226	300	191	
5	SIGNAL	Baptist Road/NB I-25 Ramp	Baptist Road	WBT	-	41	51	61	274	32	50	93	275	104	295	
			Baptist Road	SBL	-	123	252	125	252	111	256	111	261	111	261	
			Baptist Road	SBTR	-	0	0	49	236	0	0	134	337	192	448	
			Baptist Road	EBL	550	68	30	143	165	59	46	186	187	230	204	
			Baptist Road	EBT	-	27	90	30	174	78	87	106	168	114	181	
5	SIGNAL	Baptist Road/NB I-25 Ramp	Baptist Road	WBT	-	111	102	142	110	113	103	125	112	133	118	
			Baptist Road	WBR	-	43	38	49	38	43	38	43	38	43	38	
			Baptist Road	NBL	-	89	138	195	296	105	154	243	343	277	387	
			I-25 NB Ramp	NBLT	-	90	140	197	300	107	155	244	343	280	387	
			I-25 NB Ramp	NBR	-	0	0	0	0	0	0	0	0	0	0	
			I-25 NB Ramp	NBLT	-	90	140	197	300	107	155	244	343	280	387	

Notes: (1) Queue length is based on the 95th percentile queue as reported by Synchro, Version 11.

## VII. Access Management and Improvements

### Signal Warrant

It was identified in the Falcon Commerce Center TIS that the Baptist Road/Terrazzo intersection would require signalization to accommodate area traffic. Signal warrants were performed to determine the specific timing of this improvement.

The Manual on Uniform Traffic Control Devices 2009 Edition (MUTCD) provides a nine (9) distinct warrants for determining the appropriateness of a traffic signal as an operational improvement for an intersection.

- Warrant 1 – Eight-Hour Vehicular Volume
  - Condition A – Minimum Vehicular Volume
  - Condition B – Interruption of Continuous Traffic
  - Condition C – Combination of Warrants
- Warrant 2 – Four-Hour Vehicular Volume
- Warrant 3 – Peak Hour
  - Condition A – Peak Hour Delay
  - Condition B – Peak Hour Volume
- Warrant 4 – Pedestrian Volume
  - Condition A – Peak Hour Volume
  - Condition B – Four-Hour Volume
- Warrant 5 – School Crossing
- Warrant 6 – Coordinated Signal System
- Warrant 7 – Crash Experience
- Warrant 8 – Roadway Network
- Warrant 9 – Intersection Near a Grade Crossing

Although Warrant 3 is not applicable to developments with the types of land uses proposed here, Warrant 3 was considered to confirm the use of a traffic signal as an improvement for the study intersection due to the availability of the data from this traffic study. The peak hour warrant worksheets are provided in Appendix H and based on the 2023 forecasts provided herein. A summary of the Warrants provided below provides the timing of when the signalization should be provided.

- Background 2023 AM – **NOT Warranted**
- Background 2023 PM – **NOT Warranted**
- Total Future 2023 AM – **NOT Warranted**
- Total Future 2023 PM – **Warranted**

As noted above Warrant 3 – Peak Hour warrant threshold is met in the phase 1 2023 total future build out scenario. With the understanding that a significant amount of regional and proximate growth is expected in the area it is recommended that the signal at Baptist Road/Terrazzo Drive be provided with the construction of phase 1 of the proposed development.

## VIII. Conclusions and Recommendations

### Conclusions

Based on the results of this traffic impact study, the following may be concluded:

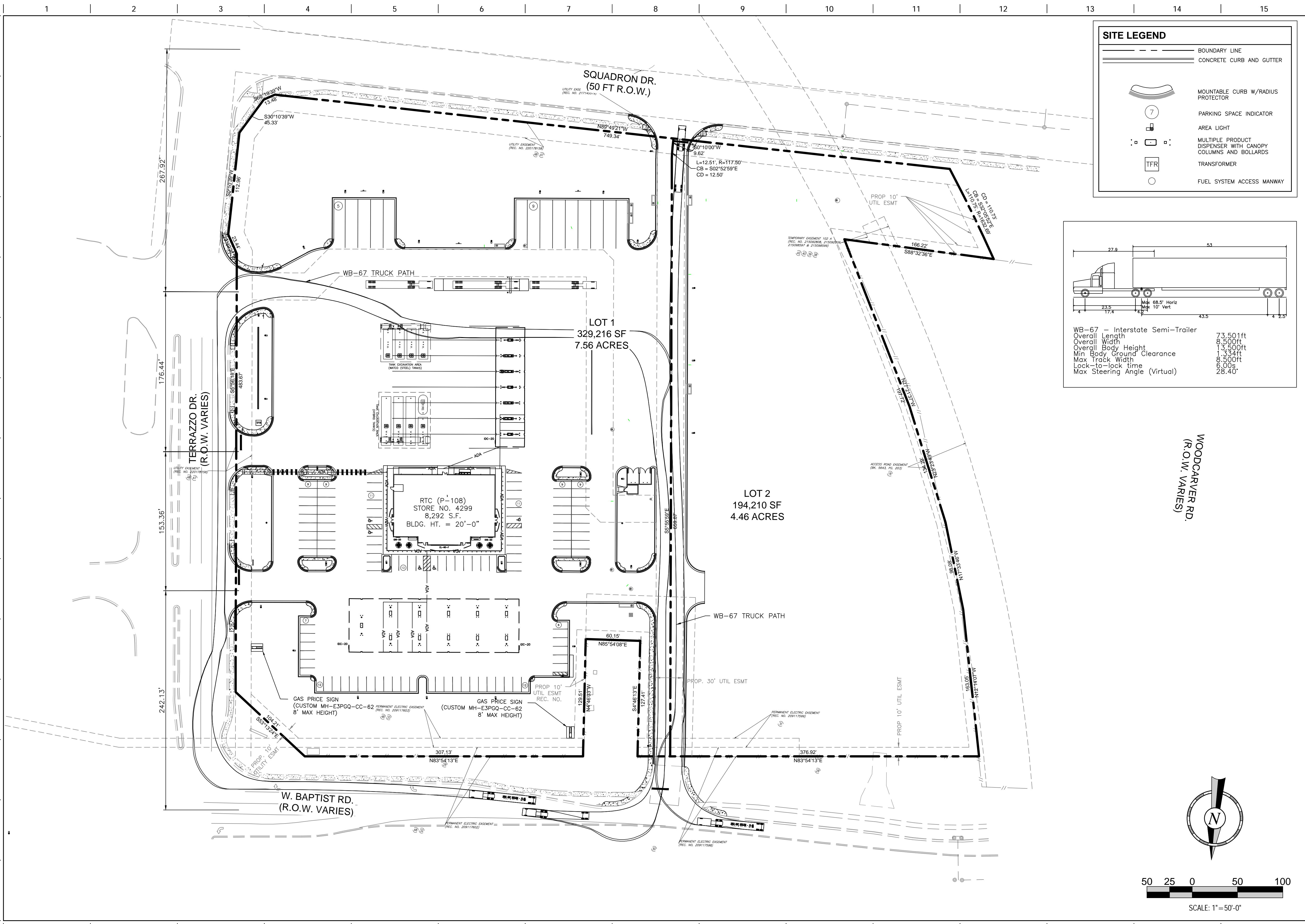
- Under existing traffic conditions, the signalized intersections within the study area currently operate at overall acceptable levels of service (LOS) “C” or better during the weekday AM and PM peak hours.
- Under background future 2023, 2028, and 2041 traffic conditions, without the development of the subject site, delays would increase slightly at study intersections due to regional traffic growth. The signalized intersections would continue to operate at LOS “C” or better.
- The 2023 (Phase 1) proposed site development would generate, upon completion and full occupancy, 212 net new weekday AM and 188 net new weekday PM peak hour vehicle trips as well as 2,420 net new weekday daily trips.
- The 2028 (Phase 2) proposed site development would generate, upon completion and full occupancy, 290 net new weekday AM and 240 net new weekday PM peak hour vehicle trips as well as 3,156 net new weekday daily trips.
- Under 2023, 2028, and 2041 total future traffic conditions, all study intersections, including proposed site connections would operate at overall acceptable levels of service consistent with background conditions.

### Recommendations

- It is recommended that the proposed development provide access consistent with the attached plan.
- It is recommended that during phase 1 of the proposed development the design and construction of a signal at Baptist Road/Terrazzo Drive be provided. This effort should be coordinated with CDOT to determine appropriate design and cost share.

**APPENDIX A – Full Sized Plan**

FILE LOCATION: \\Quiktrip\Monument\CD\CD\2-Plan\85-4299\_Civil.dwg Overall USE: Duncun\_Roady SAV: 11/11/2021 4:22 PM PLOTTED: 11/11/2021 4:23 PM



**SITE LEGEND**

- BOUNDARY LINE
- ==== CONCRETE CURB AND GUTTER
- MOUNTABLE CURB W/RADIUS PROTECTOR
- PARKING SPACE INDICATOR
- AREA LIGHT
- MULTIPLE PRODUCT DISPENSER WITH CANOPY COLUMNS AND BOLLARDS
- TRANSFORMER
- FUEL SYSTEM ACCESS MANWAY

WB-67 - Interstate Semi-Trailer

Overall Length	73.50ft
Overall Width	8.50ft
Overall Body Height	13.50ft
Min Body Ground Clearance	1.334ft
Max Track Width	6.50ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	28.40°

PROJECT NO.: QKT004299

**QuikTrip No. 4299**  
S.W.C. OF BAPTIST RD & TERRAZZO DR.  
MONUMENT, COLORADO

© COPYRIGHT QUIKTRIP CORPORATION 2011  
ANY UNAUTHORIZED USE, REPRODUCTION, PUBLICATION, DISTRIBUTION, OR SALE IN WHOLE OR IN PART, IS STRICTLY FORBIDDEN.

PROTOTYPE:	P-108 (11/01/21)
DIVISION:	83
VERSION:	D01
DESIGNED BY:	DLR
DRAWN BY:	DLR
REVIEWED BY:	ACJ

REV	DATE	DESCRIPTION

SHEET TITLE:  
SITE PLAN (OVERALL)

SHEET NUMBER:  
**8**

SCALE: 1" = 50'-0"



## **APPENDIX B – LOS Descriptions**

## Level of Service for Signalized Intersections

Level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. Specifically, level-of-service (LOS) criteria are stated in terms of the average stopped delay per vehicle for a 15-min analysis period. The criteria are given in Exhibit 16-2. Delay may be measured in the field or estimated using procedures presented later in this chapter. Delay is a complex measure and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the  $v/c$  ratio for the lane group in question.

**LOS A** describes operations with very low delay, up to 10 sec per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

**LOS B** describes operations with delay greater than 10 and up to 20 sec per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.

Exhibit 16-2. Level-of-Service Criteria for Signalized Intersections

LEVEL OF SERVICE	STOPPED DELAY PER VEHICLE (SEC)
A	$\leq 10.0$
B	$> 10.0$ and $\leq 20.0$
C	$> 20.0$ and $\leq 35.0$
D	$> 35.0$ and $\leq 55.0$
E	$> 55.0$ and $\leq 80.0$
F	$> 80.0$

**LOS C** describes operations with delay greater than 20 and up to 35 sec per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

**LOS D** describes operations with delay greater than 35 and up to 55 sec per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high  $v/c$  ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

**LOS E** describes operations with delay greater than 55 and up to 80 sec per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high  $v/c$  ratios. Individual cycle failures are frequent occurrences.

**LOS F** describes operations with delay in excess of 80 sec per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high  $v/c$  ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Source: [Highway Capacity Manual, 2000](#). Transportation Research Board, National Research Council

## Level of Service Criteria for Stop Sign Controlled Intersections

The level of service criteria are given in Table 17-2. As used here, control delay is defined as the total elapsed time from the time a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in queue.

The average total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. . . .

Table 17-2. Level of Service Criteria for TWSC Intersections

LEVEL OF SERVICE	AVERAGE CONTROL DELAY (sec/veh)
A	$\leq 10$
B	$> 10$ and $\leq 15$
C	$> 15$ and $\leq 25$
D	$> 25$ and $\leq 35$
E	$> 35$ and $\leq 50$
F	$> 50$

Average total delay less than 10 sec/veh is defined as Level of Service (LOS) A. Follow-up times of less than 5 sec have been measured when there is no conflicting traffic for a minor street movement, so control delays of less than 10 sec/veh are appropriate for low flow conditions. To remain consistent with the AWSC intersection analysis procedure described later in this chapter, a total delay of 50 sec/veh is assumed as the break point between LOS E and F.

The proposed level of service criteria for TWSC intersections are somewhat different from the criteria used in Chapter 16 for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, several driver behavior considerations combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, where drivers on the minor approaches to unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized than signalized intersections. For these reasons, it is considered that the total delay threshold for any given level of service is less for an unsignalized intersection than for a signalized intersection. . . .

LOS F exists when there are insufficient gaps of suitable size to allow a side street demand to cross safely through a major street traffic stream. This level of service is generally evident from extremely long total delays experienced by side street traffic and by queueing on the minor approaches. The method, however, is based on a constant critical gap size - that is, the critical gap remains constant, no matter how long the side street motorist waits. LOS F may also appear in the form of side street vehicles' selecting smaller-than-usual gaps. In such cases, safety may be a problem and some disruption to the major traffic stream may result. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal gap acceptance behavior. The latter is more difficult to observe on the field than queueing, which is more obvious.

Source: Highway Capacity Manual, 2000. Transportation Research Board, National Research Council

## **APPENDIX C – Traffic Counts and Existing Signal Timings**



(303) 216-2439  
www.alltrafficdata.net

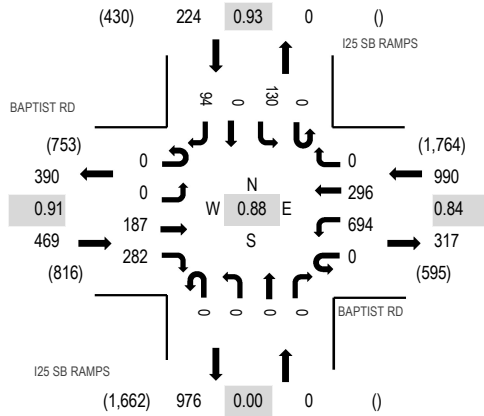
Location: 1 I25 SB RAMPS & BAPTIST RD AM

Date: Thursday, February 13, 2020

Peak Hour: 07:00 AM - 08:00 AM

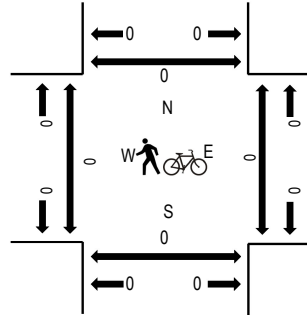
Peak 15-Minutes: 07:30 AM - 07:45 AM

**Peak Hour - All Vehicles**



Note: Total study counts contained in parentheses.

**Peak Hour - Pedestrians/Bicycles on Crosswalk**



**Traffic Counts**

Interval Start Time	BAPTIST RD Eastbound				BAPTIST RD Westbound				I25 SB RAMPS Northbound				I25 SB RAMPS 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	38	70	0	167	64	0	0	0	0	0	0	0	20	0	18	377	1,683	0	0	0	0
7:15 AM	0	0	58	71	0	183	61	0	0	0	0	0	0	0	34	0	30	437	1,627	0	0	0	0
7:30 AM	0	0	49	74	0	210	83	0	0	0	0	0	0	0	40	0	22	478	1,497	0	0	0	0
7:45 AM	0	0	42	67	0	134	88	0	0	0	0	0	0	0	36	0	24	391	1,395	0	0	0	0
8:00 AM	0	0	26	60	0	119	65	0	0	0	0	0	0	0	36	0	15	321	1,327	0	0	0	0
8:15 AM	0	0	32	48	0	116	63	0	0	0	0	0	0	0	34	0	14	307		0	0	0	0
8:30 AM	0	0	37	58	0	131	94	0	0	0	0	0	0	0	35	1	20	376		0	0	0	0
8:45 AM	0	0	49	37	0	115	71	0	0	0	0	0	0	0	29	1	21	323		0	0	1	1
Count Total	0	0	331	485	0	1,175	589	0	0	0	0	0	0	0	264	2	164	3,010		0	0	1	1
Peak Hour	0	0	187	282	0	694	296	0	0	0	0	0	0	0	130	0	94	1,683		0	0	0	0



(303) 216-2439  
www.alltrafficdata.net

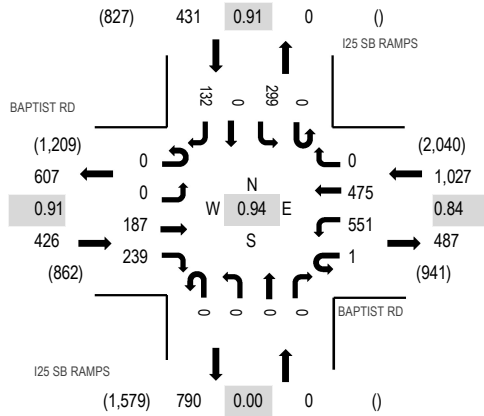
Location: 1 I25 SB RAMPS & BAPTIST RD PM

Date: Thursday, February 13, 2020

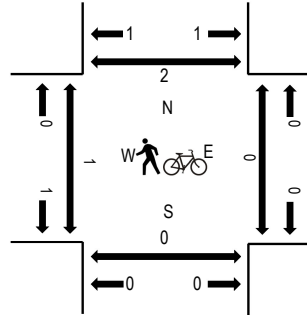
Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

**Peak Hour - All Vehicles**



**Peak Hour - Pedestrians/Bicycles on Crosswalk**



Note: Total study counts contained in parentheses.

**Traffic Counts**

Interval Start Time	BAPTIST RD Eastbound				BAPTIST RD Westbound				I25 SB RAMPS Northbound				I25 SB RAMPS 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	59	65	0	153	114	0	0	0	0	0	0	79	0	29	499	1,868	0	0	0	0
4:15 PM	0	0	45	70	0	166	121	0	0	0	0	0	0	55	1	38	496	1,868	0	0	0	0
4:30 PM	0	0	44	48	0	116	112	0	0	0	0	0	0	65	0	33	418	1,863	1	0	0	1
4:45 PM	0	0	58	63	0	114	113	0	0	0	0	0	0	71	0	36	455	1,884	1	0	0	1
5:00 PM	0	0	59	62	1	148	110	0	0	0	0	0	0	90	0	29	499	1,861	0	0	0	0
5:15 PM	0	0	35	56	0	161	145	0	0	0	0	0	0	61	0	33	491		0	0	0	0
5:30 PM	0	0	35	58	0	128	107	0	0	0	0	0	0	77	0	34	439		0	0	0	1
5:45 PM	0	0	47	58	0	112	119	0	0	0	0	0	0	60	0	36	432		0	0	0	0
Count Total	0	0	382	480	1	1,098	941	0	0	0	0	0	0	558	1	268	3,729		2	0	0	3
Peak Hour	0	0	187	239	1	551	475	0	0	0	0	0	0	299	0	132	1,884		1	0	0	2



(303) 216-2439  
www.alltrafficdata.net

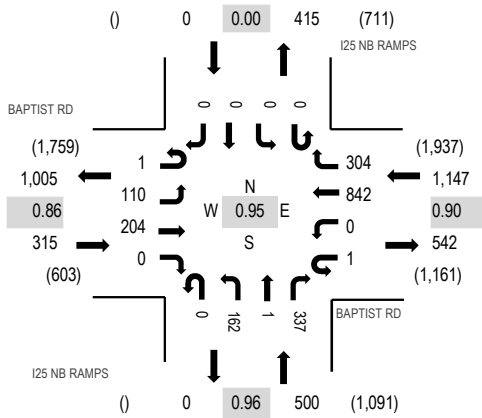
Location: 2 I25 NB RAMPS & BAPTIST RD AM

Date: Thursday, February 13, 2020

Peak Hour: 07:00 AM - 08:00 AM

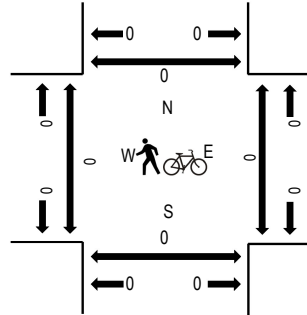
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	BAPTIST RD Eastbound				BAPTIST RD Westbound				I25 NB RAMPS Northbound				I25 NB RAMPS 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	22	37	0	0	0	208	109	0	39	1	61	0	0	0	0	477	1,962	0	0	0	0
7:15 AM	1	33	60	0	0	0	222	80	0	31	0	86	0	0	0	0	513	1,903	0	0	0	0
7:30 AM	0	29	54	0	1	0	246	63	0	44	0	82	0	0	0	0	519	1,781	0	0	0	0
7:45 AM	0	26	53	0	0	0	166	52	0	48	0	108	0	0	0	0	453	1,706	0	0	0	0
8:00 AM	1	14	54	0	0	0	145	51	0	42	2	109	0	0	0	0	418	1,669	0	0	0	0
8:15 AM	0	14	55	0	0	0	132	44	0	36	0	110	0	0	0	0	391		0	0	0	0
8:30 AM	0	24	49	0	0	0	162	49	0	56	0	104	0	0	0	0	444		0	0	0	0
8:45 AM	0	29	48	0	0	0	138	69	0	42	0	90	0	0	0	0	416		0	0	0	1
Count Total	2	191	410	0	1	0	1,419	517	0	338	3	750	0	0	0	0	3,631		0	0	0	1
Peak Hour	1	110	204	0	1	0	842	304	0	162	1	337	0	0	0	0	1,962		0	0	0	0



(303) 216-2439  
www.alltrafficdata.net

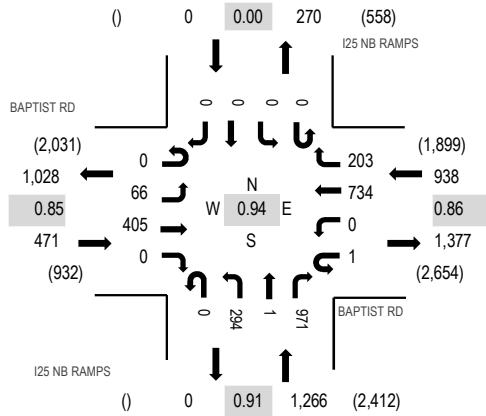
Location: 2 I25 NB RAMPS & BAPTIST RD PM

Date: Thursday, February 13, 2020

Peak Hour: 04:45 PM - 05:45 PM

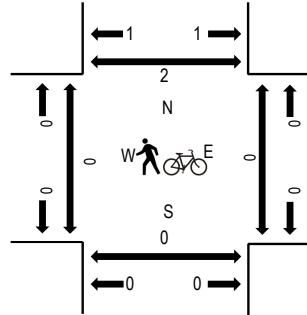
Peak 15-Minutes: 05:15 PM - 05:30 PM

**Peak Hour - All Vehicles**



Note: Total study counts contained in parentheses.

**Peak Hour - Pedestrians/Bicycles on Crosswalk**



**Traffic Counts**

Interval Start Time	BAPTIST RD Eastbound				BAPTIST RD Westbound				I25 NB RAMPS Northbound				I25 NB RAMPS 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	1	21	112	0	1	0	203	63	0	57	0	214	0	0	0	0	672	2,601	0	0	0	0
4:15 PM	0	19	88	0	0	0	221	56	0	62	0	256	0	0	0	0	702	2,618	0	0	0	0
4:30 PM	0	19	92	0	0	0	154	50	0	74	0	213	0	0	0	0	602	2,626	0	0	0	1
4:45 PM	0	15	110	0	0	0	161	43	0	67	0	229	0	0	0	0	625	2,675	0	0	0	1
5:00 PM	0	20	124	0	1	0	194	58	0	66	0	226	0	0	0	0	689	2,642	0	0	0	0
5:15 PM	0	11	83	0	0	0	216	51	0	89	0	260	0	0	0	0	710		0	0	0	0
5:30 PM	0	20	88	0	0	0	163	51	0	72	1	256	0	0	0	0	651		0	0	0	1
5:45 PM	0	17	92	0	0	0	170	43	0	61	0	209	0	0	0	0	592		0	0	0	0
Count Total	1	142	789	0	2	0	1,482	415	0	548	1	1,863	0	0	0	0	5,243		0	0	0	3
Peak Hour	0	66	405	0	1	0	734	203	0	294	1	971	0	0	0	0	2,675		0	0	0	2



CDOT

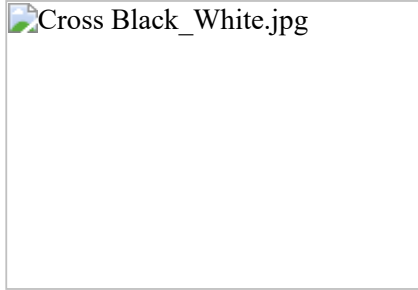
### MaxTime Timing Shee

2.0.16 Update

#### Administration

#### Unit Information

Controller ID	0
Main St.	25A
Side St.	Baptist NB Ramp



Adapter	IP Address	Subnet Mask	Default Gateway	ARP	DHCP
1	192.168.10.104	255.255.255.0	192.168.10.1	Disable	
2	10.20.70.51	255.255.255.0	0.0.0.0	Disable	

#### Serial Ports:

Port	Description	Function	Address	Baud	Bits	Stop	Parity	Flow	CTS	RTS
1	Port 2/C21S	None	1	9600	8	1	None	None	0	0
2	Aux P3/C22S	None	1	9600	8	1	None	None	0	0
3	SDLC Port 1	None	1	9600	8	1	None	None	0	0
4	Com A/C50S	None	1	9600	8	1	None	None	0	0
5	FIO	None	1	9600	8	1	None	None	0	0
6	DISPLAY/C60M	None	1	9600	8	1	None	None	0	0
7	SP7	None	1	9600	8	1	None	None	0	0
8	SP8/Com B	None	1	9600	8	1	None	None	0	0

#### Unit Parameters

Startup Flash	0	Auto Ped Clr	Enable	Red Revert	4.0	Backup Time	600	Ext Mode	Disable
All Red Exit	0	Grn Flash Freq.	60	Yel Flash Freq.	60	MCE Enable	Enable	Free Seq.	1
MCE Seq.	1	Start Yellow	0.0	Start Red	0.0	Start Clear Hold	6		

#### Phase Parameters

Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Walk Time	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clear Time	0	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Don't Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Green	5	19	5	5	6	19	5	6	1	1	1	1	1	1	1	1	1	1	1	1
Min Green 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Passage	1.0	3.0	1.0	1.0	3.0	3.0	1.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max-1	0	30	0	0	20	30	0	20	0	0	0	0	0	0	0	0	0	0	0	0
Max-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yel Change	3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	2.0	1.0	1.0	2.0	2.0	1.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Add Red Clear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Revert	0.0	5.0	0.0	0.0	5.0	5.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time B4 Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars B4 Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduce By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	0.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dyn Max Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dyn Max Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advance Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Ped	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alt Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alt Ped Clr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pre Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pre Clearance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phases	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Walk Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clear Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Don't Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Green	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Min Green 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yel Change	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Add Red Clear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Revert	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time B4 Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars B4 Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduce By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dyn Max Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dyn Max Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advance Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Ped	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alt Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alt Ped Cir	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pre Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pre Clearance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Phase Options**

Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Enable																				
Auto Flash Ent.																				
Auto Flash Exit																				
Non Actuated I																				
Non Actuated II																				
Non Lock Mem																				
Min Veh Recall																				
Max Veh Recall																				
Ped Recall																				
Soft Veh Recall																				
Dual Entry																				
Sim Gap Dis																				
Guaranteed Pass																				
Act Rest Walk																				
Cond Service																				
Add Initial																				

Phases	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Enable																				
Auto Flash Ent.																				
Auto Flash Exit																				
Non Actuated I																				
Non Actuated II																				
Non Lock Mem																				
Min Veh Recall																				
Max Veh Recall																				
Ped Recall																				
Soft Veh Recall																				
Dual Entry																				
Sim Gap Dis																				
Guaranteed Pass																				
Act Rest Walk																				
Cond Service																				
Add Initial																				

**Additional Phase Options**

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ped Clr During Yel																				
Ped Clr During Red																				
Cond Reservice																				
Yel Min Override																				
No Startup Call																				
Adv. Warn Flasher																				
No Ped Str Up Call																				
Ped Clr OVTG																				
Flash Exit Call																				
Flash Exit Ped Call																				
MinGreen2																				
MaxGreen2																				
MaxGreen3																				
Ped2																				
Ped Clear Pre Clear																				
Ped NA+ Mode																				
Red Rest																				
Serve Evy Oth Even																				
Serve Evy Oth Odd																				

Phases	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Ped Clr During Yel																				
Ped Clr During Red																				
Cond Reservice																				
Yel Min Override																				
No Startup Call																				
Adv. Warn Flasher																				
No Ped Str Up Call																				
Ped Clr OVTG																				
Flash Exit Call																				
Flash Exit Ped Call																				
MinGreen2																				
MaxGreen2																				
MaxGreen3																				
Ped2																				
Ped Clear Pre Clear																				
Ped NA+ Mode																				
Red Rest																				
Serve Evy Oth Even																				
Serve Evy Oth Odd																				

**Phase Configuration**

Ph.	Startup	Ring	Concurrent	No Served Phases	Startup Min	Description
1	Phase Not On	0			0	
2	Green No Walk	1	5,6		0	EB
3	Phase Not On	0			0	
4	Phase Not On	0			0	
5	Phase Not On	2	2		0	EBLT
6	Green No Walk	2	2		0	WB
7	Phase Not On	0			0	
8	Phase Not On	2			0	NB
9	None	0			0	
10	None	0			0	
11	None	0			0	
12	None	0			0	
13	None	0			0	
14	None	0			0	
15	None	0			0	
16	None	0			0	
17	None	0			0	
18	None	0			0	
19	None	0			0	
20	None	0			0	

21	None	0			0
22	None	0			0
23	None	0			0
24	None	0			0
25	None	0			0
26	None	0			0
27	None	0			0
28	None	0			0
29	None	0			0
30	None	0			0
31	None	0			0
32	None	0			0
33	None	0			0
34	None	0			0
35	None	0			0
36	None	0			0
37	None	0			0
38	None	0			0
39	None	0			0
40	None	0			0

**Sequence Configuration**

**Sequence 1**

Ring	Phases
1	2,a,b
2	5,6,a,8,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 2**

Ring	Phases
1	2,1,a,3,4,b
2	5,6,a,7,8,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 3**

Ring	Phases
1	1,2,a,4,3,b
2	5,6,a,7,8,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 4**

Ring	Phases
1	2,1,a,4,3,b
2	5,6,a,7,8,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 5**

Ring	Phases
1	1,2,a,3,4,b
2	6,5,a,7,8,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 6**

Ring	Phases
1	2,1,a,3,4,b
2	6,5,a,7,8,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 7**

Ring	Phases
1	1,2,a,4,3,b
2	6,5,a,7,8,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 8**

Ring	Phases
1	2,1,a,4,3,b
2	6,5,a,7,8,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 9**

Ring	Phases
1	1,2,a,3,4,b

**Sequence 10**

Ring	Phases
1	2,1,a,3,4,b

**Sequence 11**

Ring	Phases
1	1,2,a,4,3,b

**Sequence 12**

Ring	Phases
1	2,1,a,4,3,b

2	5,6,a,8,7,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

2	5,6,a,8,7,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

2	5,6,a,8,7,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

2	5,6,a,8,7,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 13**

Ring	Phases
1	1,2,a,3,4,b
2	6,5,a,8,7,b
3	
4	
5	
6	
7	
8	
9	
10	

**Sequence 14**

Ring	Phases
1	2,1,a,3,4,b
2	6,5,a,8,7,b
3	
4	
5	
6	
7	
8	
9	
10	

**Sequence 15**

Ring	Phases
1	1,2,a,4,3,b
2	6,5,a,8,7,b
3	
4	
5	
6	
7	
8	
9	
10	

**Sequence 16**

Ring	Phases
1	2,1,a,4,3,b
2	6,5,a,8,7,b
3	
4	
5	
6	
7	
8	
9	
10	

**Sequence 13**

11	
12	
13	
14	
15	
16	

**Sequence 14**

11	
12	
13	
14	
15	
16	

**Sequence 15**

11	
12	
13	
14	
15	
16	

**Sequence 16**

11	
12	
13	
14	
15	
16	

**Sequence 17**

Ring	Phases
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 18**

Ring	Phases
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 19**

Ring	Phases
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 20**

Ring	Phases
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Vehicle Detection Parameters**

Det.	Call Phs	Call Ovl	Additional Call Phase	Switch Phase	Delay	Extend	Queue Limit	No Activity	Max Presence	Erratic Counts	Failed Time	Description
1	1	0		0	0.0	0.0	0	0	0	0	0	
2	2	0		0	0.0	0.0	0	0	0	0	0	
3	2	0		0	0.0	0.0	0	0	0	0	0	
4	2	0		0	0.0	0.0	0	0	0	0	0	

5	2	0		0	0.0	0.0	0	0	0	0	0
6	2	0		0	0.0	0.0	0	0	0	0	0
7	3	0		0	0.0	0.0	0	0	0	0	0
8	4	0		0	0.0	0.0	0	0	0	0	0
9	4	0		0	0.0	0.0	0	0	0	0	0
10	4	0		0	0.0	0.0	0	0	0	0	0
11	4	0		0	0.0	0.0	0	0	0	0	0
12	4	0		0	0.0	0.0	0	0	0	0	0
13	1	0		0	0.0	0.0	0	0	0	0	0
14	3	0		0	0.0	0.0	0	0	0	0	0
15	5	0		0	0.0	0.0	0	0	0	0	0
16	6	0		0	0.0	0.0	0	0	0	0	0
17	6	0		0	0.0	0.0	0	0	0	0	0
18	6	0		0	0.0	0.0	0	0	0	0	0
19	6	0		0	0.0	0.0	0	0	0	0	0
20	6	0		0	0.0	0.0	0	0	0	0	0
21	7	0		0	0.0	0.0	0	0	0	0	0
22	8	0		0	0.0	0.0	0	0	0	0	0
23	8	0		0	0.0	0.0	0	0	0	0	0
24	8	0		0	0.0	0.0	0	0	0	0	0
25	8	0		0	0.0	0.0	0	0	0	0	0
26	8	0		0	0.0	0.0	0	0	0	0	0
27	5	0		0	0.0	0.0	0	0	0	0	0
28	7	0		0	0.0	0.0	0	0	0	0	0
29	0	0		0	0.0	0.0	0	0	0	0	0
30	0	0		0	0.0	0.0	0	0	0	0	0
31	0	0		0	0.0	0.0	0	0	0	0	0
32	0	0		0	0.0	0.0	0	0	0	0	0
33	0	0		0	0.0	0.0	0	0	0	0	0
34	0	0		0	0.0	0.0	0	0	0	0	0
35	0	0		0	0.0	0.0	0	0	0	0	0
36	0	0		0	0.0	0.0	0	0	0	0	0
37	0	0		0	0.0	0.0	0	0	0	0	0
38	0	0		0	0.0	0.0	0	0	0	0	0
39	0	0		0	0.0	0.0	0	0	0	0	0
40	0	0		0	0.0	0.0	0	0	0	0	0
41	0	0		0	0.0	0.0	0	0	0	0	0
42	0	0		0	0.0	0.0	0	0	0	0	0
43	0	0		0	0.0	0.0	0	0	0	0	0
44	0	0		0	0.0	0.0	0	0	0	0	0
45	0	0		0	0.0	0.0	0	0	0	0	0
46	0	0		0	0.0	0.0	0	0	0	0	0
47	0	0		0	0.0	0.0	0	0	0	0	0
48	0	0		0	0.0	0.0	0	0	0	0	0
49	0	0		0	0.0	0.0	0	0	0	0	0
50	0	0		0	0.0	0.0	0	0	0	0	0
51	0	0		0	0.0	0.0	0	0	0	0	0
52	0	0		0	0.0	0.0	0	0	0	0	0
53	0	0		0	0.0	0.0	0	0	0	0	0
54	0	0		0	0.0	0.0	0	0	0	0	0
55	0	0		0	0.0	0.0	0	0	0	0	0
56	0	0		0	0.0	0.0	0	0	0	0	0
57	0	0		0	0.0	0.0	0	0	0	0	0
58	0	0		0	0.0	0.0	0	0	0	0	0
59	0	0		0	0.0	0.0	0	0	0	0	0
60	0	0		0	0.0	0.0	0	0	0	0	0
61	0	0		0	0.0	0.0	0	0	0	0	0
62	0	0		0	0.0	0.0	0	0	0	0	0
63	0	0		0	0.0	0.0	0	0	0	0	0
64	0	0		0	0.0	0.0	0	0	0	0	0
65	0	0		0	0.0	0.0	0	0	0	0	0
66	0	0		0	0.0	0.0	0	0	0	0	0
67	0	0		0	0.0	0.0	0	0	0	0	0
68	0	0		0	0.0	0.0	0	0	0	0	0

69	0	0		0	0.0	0.0	0	0	0	0	0	
70	0	0		0	0.0	0.0	0	0	0	0	0	
71	0	0		0	0.0	0.0	0	0	0	0	0	
72	0	0		0	0.0	0.0	0	0	0	0	0	

**Vehicle Detection Options**

Detector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Volume Detector																				
Occupancy																				
Yellow Lock Call																				
Red Lock call																				
Passage																				
Queue																				
Call																				
Terminate																				

Detector	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Volume Detector																				
Occupancy																				
Yellow Lock Call																				
Red Lock call																				
Passage																				
Queue																				
Call																				
Terminate																				

Detector	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Volume Detector																				
Occupancy																				
Yellow Lock Call																				
Red Lock call																				
Passage																				
Queue																				
Call																				
Terminate																				

Detector	61	62	63	64	65	66	67	68	69	70	71	72
Volume Detector												
Occupancy												
Yellow Lock Call												
Red Lock call												
Passage												
Queue												
Call												
Terminate												

Data Collection Period	0
------------------------	---

**Pedestrian Detectors**

Det	Call Phase	Call Ovp	No Act	Max Presence	Erratic Count
1	0	0	0	0	0
2	2	0	0	0	0
3	0	0	0	0	0
4	4	0	0	0	0
5	0	0	0	0	0
6	6	0	0	0	0
7	0	0	0	0	0
8	8	0	0	0	0
9	0	0	0	0	0
10	0	0	0	0	0
11	0	0	0	0	0
12	0	0	0	0	0
13	0	0	0	0	0
14	0	0	0	0	0

Det	Call Phase	Call Ovp	No Act	Max Presence	Erratic Count
21	0	0	0	0	0
22	0	0	0	0	0
23	0	0	0	0	0
24	0	0	0	0	0
25	0	0	0	0	0
26	0	0	0	0	0
27	0	0	0	0	0
28	0	0	0	0	0
29	0	0	0	0	0
30	0	0	0	0	0
31	0	0	0	0	0
32	0	0	0	0	0
33	0	0	0	0	0
34	0	0	0	0	0

15	0	0	0	0	0
16	0	0	0	0	0
17	0	0	0	0	0
18	0	0	0	0	0
19	0	0	0	0	0
20	0	0	0	0	0

35	0	0	0	0	0
36	0	0	0	0	0
37	0	0	0	0	0
38	0	0	0	0	0
39	0	0	0	0	0
40	0	0	0	0	0

**Overlaps**

OLP	Type	Included Phases	Modifier Phases	Trail		Walk		Ped		Delay	Flash	Descriptions
				GRN	YEL	RED	1	Clr 1	2			
1	FYA - 4 Sec	2	1	0	0.0	0.0	0	0	0	0	0.0	On
2	Off			0	0.0	0.0	0	0	0	0	0.0	Off
3	FYA - 4 Sec	4	3	0	0.0	0.0	0	0	0	0	0.0	On
4	Off			0	0.0	0.0	0	0	0	0	0.0	Off
5	FYA - 4 Sec	6	5	0	0.0	0.0	0	0	0	0	0.0	On
6	Off			0	0.0	0.0	0	0	0	0	0.0	Off
7	FYA - 4 Sec	8	7	0	0.0	0.0	0	0	0	0	0.0	On
8	Off			0	0.0	0.0	0	0	0	0	0.0	Off
9	Off			0	0.0	0.0	0	0	0	0	0.0	Off
10	Off			0	0.0	0.0	0	0	0	0	0.0	Off
11	Off			0	0.0	0.0	0	0	0	0	0.0	Off
12	Off			0	0.0	0.0	0	0	0	0	0.0	Off
13	Off			0	0.0	0.0	0	0	0	0	0.0	Off
14	Off			0	0.0	0.0	0	0	0	0	0.0	Off
15	Off			0	0.0	0.0	0	0	0	0	0.0	Off
16	Off			0	0.0	0.0	0	0	0	0	0.0	Off
17	Off			0	0.0	0.0	0	0	0	0	0.0	Off
18	Off			0	0.0	0.0	0	0	0	0	0.0	Off
19	Off			0	0.0	0.0	0	0	0	0	0.0	Off
20	Off			0	0.0	0.0	0	0	0	0	0.0	Off
21	Off			0	0.0	0.0	0	0	0	0	0.0	Off
22	Off			0	0.0	0.0	0	0	0	0	0.0	Off
23	Off			0	0.0	0.0	0	0	0	0	0.0	Off
24	Off			0	0.0	0.0	0	0	0	0	0.0	Off
25	Off			0	0.0	0.0	0	0	0	0	0.0	Off
26	Off			0	0.0	0.0	0	0	0	0	0.0	Off
27	Off			0	0.0	0.0	0	0	0	0	0.0	Off
28	Off			0	0.0	0.0	0	0	0	0	0.0	Off
29	Off			0	0.0	0.0	0	0	0	0	0.0	Off
30	Off			0	0.0	0.0	0	0	0	0	0.0	Off
31	Off			0	0.0	0.0	0	0	0	0	0.0	Off
32	Off			0	0.0	0.0	0	0	0	0	0.0	Off

**Coordination Parameters**

Operational Mode	Correction Mode	Maximum Mode	Force Mode
Automatic	Shortway (Auto)	Per Pattern	Per Pattern

**Patterns**

Patt.	Cycle	Offset 1	Offset 2	Offset 2	Split	Sequence	Ref. Color	Max Mode	Phs	Det	Ped
									Pln	Pln	Pln
1	90	0	0	0	1	1	Yel	Inh	1	1	1
2	0	0	0	0	0	0	Yel	Inh	1	1	1
3	0	0	0	0	0	0	Yel	Inh	1	1	1
4	0	0	0	0	0	0	Yel	Inh	1	1	1
5	0	0	0	0	0	0	Yel	Inh	1	1	1
6	0	0	0	0	0	0	Yel	Inh	1	1	1
7	0	0	0	0	0	0	Yel	Inh	1	1	1
8	0	0	0	0	0	0	Yel	Inh	1	1	1
9	0	0	0	0	0	0	Yel	Inh	1	1	1
10	0	0	0	0	0	0	Yel	Inh	1	1	1
11	0	0	0	0	0	0	Yel	Inh	1	1	1
12	0	0	0	0	0	0	Yel	Inh	1	1	1
13	0	0	0	0	0	0	Yel	Inh	1	1	1
14	0	0	0	0	0	0	Yel	Inh	1	1	1
15	0	0	0	0	0	0	Yel	Inh	1	1	1
16	0	0	0	0	0	0	Yel	Inh	1	1	1



17	0	0	0	0	0	0	Yel	Inh	1	1	1
18	0	0	0	0	0	0	Yel	Inh	1	1	1
19	0	0	0	0	0	0	Yel	Inh	1	1	1
20	0	0	0	0	0	0	Yel	Inh	1	1	1
21	0	0	0	0	0	0	Yel	Inh	1	1	1
22	0	0	0	0	0	0	Yel	Inh	1	1	1
23	0	0	0	0	0	0	Yel	Inh	1	1	1
24	0	0	0	0	0	0	Yel	Inh	1	1	1
25	0	0	0	0	0	0	Yel	Inh	1	1	1
26	0	0	0	0	0	0	Yel	Inh	1	1	1
27	0	0	0	0	0	0	Yel	Inh	1	1	1
28	0	0	0	0	0	0	Yel	Inh	1	1	1
29	0	0	0	0	0	0	Yel	Inh	1	1	1
30	0	0	0	0	0	0	Yel	Inh	1	1	1
31	0	0	0	0	0	0	Yel	Inh	1	1	1
32	0	0	0	0	0	0	Yel	Inh	1	1	1
33	0	0	0	0	0	0	Yel	Inh	1	1	1
34	0	0	0	0	0	0	Yel	Inh	1	1	1
35	0	0	0	0	0	0	Yel	Inh	1	1	1
36	0	0	0	0	0	0	Yel	Inh	1	1	1
37	0	0	0	0	0	0	Yel	Inh	1	1	1
38	0	0	0	0	0	0	Yel	Inh	1	1	1
39	0	0	0	0	0	0	Yel	Inh	1	1	1
40	0	0	0	0	0	0	Yel	Inh	1	1	1
41	0	0	0	0	0	0	Yel	Inh	1	1	1
42	0	0	0	0	0	0	Yel	Inh	1	1	1
43	0	0	0	0	0	0	Yel	Inh	1	1	1
44	0	0	0	0	0	0	Yel	Inh	1	1	1
45	0	0	0	0	0	0	Yel	Inh	1	1	1
46	0	0	0	0	0	0	Yel	Inh	1	1	1
47	0	0	0	0	0	0	Yel	Inh	1	1	1
48	0	0	0	0	0	0	Yel	Inh	1	1	1
49	0	0	0	0	0	0	Yel	Inh	1	1	1
50	0	0	0	0	0	0	Yel	Inh	1	1	1
51	0	0	0	0	0	0	Yel	Inh	1	1	1
52	0	0	0	0	0	0	Yel	Inh	1	1	1
53	0	0	0	0	0	0	Yel	Inh	1	1	1
54	0	0	0	0	0	0	Yel	Inh	1	1	1
55	0	0	0	0	0	0	Yel	Inh	1	1	1
56	0	0	0	0	0	0	Yel	Inh	1	1	1
57	0	0	0	0	0	0	Yel	Inh	1	1	1
58	0	0	0	0	0	0	Yel	Inh	1	1	1
59	0	0	0	0	0	0	Yel	Inh	1	1	1
60	0	0	0	0	0	0	Yel	Inh	1	1	1
61	0	0	0	0	0	0	Yel	Inh	1	1	1
62	0	0	0	0	0	0	Yel	Inh	1	1	1
63	0	0	0	0	0	0	Yel	Inh	1	1	1
64	0	0	0	0	0	0	Yel	Inh	1	1	1
65	0	0	0	0	0	0	Yel	Inh	1	1	1
66	0	0	0	0	0	0	Yel	Inh	1	1	1
67	0	0	0	0	0	0	Yel	Inh	1	1	1
68	0	0	0	0	0	0	Yel	Inh	1	1	1
69	0	0	0	0	0	0	Yel	Inh	1	1	1
70	0	0	0	0	0	0	Yel	Inh	1	1	1
71	0	0	0	0	0	0	Yel	Inh	1	1	1
72	0	0	0	0	0	0	Yel	Inh	1	1	1
73	0	0	0	0	0	0	Yel	Inh	1	1	1
74	0	0	0	0	0	0	Yel	Inh	1	1	1
75	0	0	0	0	0	0	Yel	Inh	1	1	1
76	0	0	0	0	0	0	Yel	Inh	1	1	1
77	0	0	0	0	0	0	Yel	Inh	1	1	1
78	0	0	0	0	0	0	Yel	Inh	1	1	1
79	0	0	0	0	0	0	Yel	Inh	1	1	1

80	0	0	0	0	0	0	Yel	Inh	1	1	1
81	0	0	0	0	0	0	Yel	Inh	1	1	1
82	0	0	0	0	0	0	Yel	Inh	1	1	1
83	0	0	0	0	0	0	Yel	Inh	1	1	1
84	0	0	0	0	0	0	Yel	Inh	1	1	1
85	0	0	0	0	0	0	Yel	Inh	1	1	1
86	0	0	0	0	0	0	Yel	Inh	1	1	1
87	0	0	0	0	0	0	Yel	Inh	1	1	1
88	0	0	0	0	0	0	Yel	Inh	1	1	1
89	0	0	0	0	0	0	Yel	Inh	1	1	1
90	0	0	0	0	0	0	Yel	Inh	1	1	1
91	0	0	0	0	0	0	Yel	Inh	1	1	1
92	0	0	0	0	0	0	Yel	Inh	1	1	1
93	0	0	0	0	0	0	Yel	Inh	1	1	1
94	0	0	0	0	0	0	Yel	Inh	1	1	1
95	0	0	0	0	0	0	Yel	Inh	1	1	1
96	0	0	0	0	0	0	Yel	Inh	1	1	1
97	0	0	0	0	0	0	Yel	Inh	1	1	1
98	0	0	0	0	0	0	Yel	Inh	1	1	1
99	0	0	0	0	0	0	Yel	Inh	1	1	1
100	0	0	0	0	0	0	Yel	Inh	1	1	1
101	0	0	0	0	0	0	Yel	Inh	1	1	1
102	0	0	0	0	0	0	Yel	Inh	1	1	1
103	0	0	0	0	0	0	Yel	Inh	1	1	1
104	0	0	0	0	0	0	Yel	Inh	1	1	1
105	0	0	0	0	0	0	Yel	Inh	1	1	1
106	0	0	0	0	0	0	Yel	Inh	1	1	1
107	0	0	0	0	0	0	Yel	Inh	1	1	1
108	0	0	0	0	0	0	Yel	Inh	1	1	1
109	0	0	0	0	0	0	Yel	Inh	1	1	1
110	0	0	0	0	0	0	Yel	Inh	1	1	1
111	0	0	0	0	0	0	Yel	Inh	1	1	1
112	0	0	0	0	0	0	Yel	Inh	1	1	1
113	0	0	0	0	0	0	Yel	Inh	1	1	1
114	0	0	0	0	0	0	Yel	Inh	1	1	1
115	0	0	0	0	0	0	Yel	Inh	1	1	1
116	0	0	0	0	0	0	Yel	Inh	1	1	1
117	0	0	0	0	0	0	Yel	Inh	1	1	1
118	0	0	0	0	0	0	Yel	Inh	1	1	1
119	0	0	0	0	0	0	Yel	Inh	1	1	1
120	0	0	0	0	0	0	Yel	Inh	1	1	1
121	0	0	0	0	0	0	Yel	Inh	1	1	1
122	0	0	0	0	0	0	Yel	Inh	1	1	1
123	0	0	0	0	0	0	Yel	Inh	1	1	1
124	0	0	0	0	0	0	Yel	Inh	1	1	1
125	0	0	0	0	0	0	Yel	Inh	1	1	1
126	0	0	0	0	0	0	Yel	Inh	1	1	1
127	0	0	0	0	0	0	Yel	Inh	1	1	1
128	0	0	0	0	0	0	Yel	Inh	1	1	1

**Split Parameters**

Split 1		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	66			None
3	0			None
4	0			None
5	20			None
6	46			None
7	0			None
8	24			None
9	0			None
10	0			None
11	0			None

Split 2		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None

12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 3		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 4		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 5		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 6		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 7		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 8		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 9

Split 10

PH.	Time	Coord PH	Ref PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None

PH.	Time	Coord PH	Ref PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None

Split 9

PH.	Time	Coord PH	Ref PH	Mode
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 10

PH.	Time	Coord PH	Ref PH	Mode
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 11

PH.	Time	Coord PH	Ref PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 12

PH.	Time	Coord PH	Ref PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 13

PH.	Time	Coord PH	Ref PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 14

PH.	Time	Coord PH	Ref PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 15

PH.	Time	Coord PH	Ref PH	Mode
1	0			None
2	0			None

Split 16

PH.	Time	Coord PH	Ref PH	Mode
1	0			None
2	0			None

3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 17		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 18		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 19		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None

Split 20		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None

Split 19		Coord	Ref	
PH.	Time	PH	PH	Mode
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 20		Coord	Ref	
PH.	Time	PH	PH	Mode
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Ring	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Offset																

Day Plan	1																											
Month of Year	Days of Week				Days of Month																							
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

J	A	S	O	N	D																																		
						17	18	19	20	21	22	23	24	25	26	27	28	29	30	31																			

Day Plan 2

Month of Year	Days of Week	Days of Month																																													
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																			
J	A	S	O	N	D																																										
						17	18	19	20	21	22	23	24	25	26	27	28	29	30	31																											

Day Plan 3

Month of Year	Days of Week	Days of Month																																														
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																				
J	A	S	O	N	D																																											
						17	18	19	20	21	22	23	24	25	26	27	28	29	30	31																												

Day Plan 4

Month of Year	Days of Week	Days of Month																																															
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																					
J	A	S	O	N	D																																												
						17	18	19	20	21	22	23	24	25	26	27	28	29	30	31																													

Day Plan 5

Month of Year	Days of Week	Days of Month																																															
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																					
J	A	S	O	N	D																																												
						17	18	19	20	21	22	23	24	25	26	27	28	29	30	31																													

Day Plan 6

Month of Year	Days of Week	Days of Month																																															
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																					
J	A	S	O	N	D																																												
						17	18	19	20	21	22	23	24	25	26	27	28	29	30	31																													

Day Plan 7

Month of Year	Days of Week	Days of Month																																															
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																					
J	A	S	O	N	D																																												
						17	18	19	20	21	22	23	24	25	26	27	28	29	30	31																													

Day Plan 8

Month of Year	Days of Week	Days of Month																																															
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																					
J	A	S	O	N	D																																												
						17	18	19	20	21	22	23	24	25	26	27	28	29	30	31																													

Day Plan 9

Month of Year	Days of Week	Days of Month																																															
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																					
J	A	S	O	N	D																																												
						17	18	19	20	21	22	23	24	25	26	27	28	29	30	31																													

Day Plan 10

Month of Year	Days of Week	Days of Month																																															
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																					
J	A	S	O	N	D																																												
						17	18	19	20	21	22	23	24	25	26	27	28	29	30	31																													

J	A	S	O	N	D

17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Day Plan 11

Month of Year							Days of Week							Days of Month																
J	F	M	A	M	J	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
J	A	S	O	N	D									17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		

Day Plan 12

Month of Year							Days of Week							Days of Month																
J	F	M	A	M	J	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
J	A	S	O	N	D									17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		

Day Plan 13

Month of Year							Days of Week							Days of Month																
J	F	M	A	M	J	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
J	A	S	O	N	D									17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		

Day Plan 14

Month of Year							Days of Week							Days of Month																
J	F	M	A	M	J	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
J	A	S	O	N	D									17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		

Day Plan 15

Month of Year							Days of Week							Days of Month																
J	F	M	A	M	J	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
J	A	S	O	N	D									17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		

Day Plan 1

Event	Hour	Min.	Act
1	6	0	1
2	20	0	2
3	0	0	
4	0	0	
5	0	0	

Day Plan 2

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	

Day Plan 3

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	

Day Plan 4

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	

Day Plan 1

Event	Hour	Min.	Act
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Day Plan 2

Event	Hour	Min.	Act
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Day Plan 3

Event	Hour	Min.	Act
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Day Plan 4

Event	Hour	Min.	Act
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Day Plan 5

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	

Day Plan 6

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	

Day Plan 7

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	

Day Plan 8

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	

7	0	0	
8	0	0	
9	0	0	
10	0	0	

7	0	0	
8	0	0	
9	0	0	
10	0	0	

7	0	0	
8	0	0	
9	0	0	
10	0	0	

7	0	0	
8	0	0	
9	0	0	
10	0	0	

Day Plan 9

Day Plan 10

Day Plan 11

Day Plan 12

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Day Plan 13

Day Plan 14

Day Plan 15

Day Plan 16

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Day Plan 17

Day Plan 18

Day Plan 19

Day Plan 20

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

**Actions**

Act	Pattern	Aux.			Special Functions														
		1	2	3	1	2	3	4	5	6	7	8							
1	Pattern 1																		
2	Free																		
3	None																		
4	None																		
5	None																		
6	None																		
7	None																		
8	None																		
9	None																		
10	None																		
11	None																		
12	None																		
13	None																		
14	None																		
15	None																		
16	None																		
17	None																		
18	None																		
19	None																		

**Actions**

Act	Pattern	Aux.			Special Functions														
		1	2	3	1	2	3	4	5	6	7	8							
33	None																		
34	None																		
35	None																		
36	None																		
37	None																		
38	None																		
39	None																		
40	None																		
41	None																		
42	None																		
43	None																		
44	None																		
45	None																		
46	None																		
47	None																		
48	None																		
49	None																		
50	None																		
51	None																		



20	None																		
21	None																		
22	None																		
23	None																		
24	None																		
25	None																		
26	None																		
27	None																		
28	None																		
29	None																		
30	None																		
31	None																		
32	None																		

52	None																		
53	None																		
54	None																		
55	None																		
56	None																		
57	None																		
58	None																		
59	None																		
60	None																		
61	None																		
62	None																		
63	None																		
64	None																		

**Preemption Parameters**

Preempt	1	2	3	4	5	6	7	8
Link	0	0	0	0	0	0	0	0
Delay	0	0	0	0	0	0	0	0
Min Duration	0	0	0	0	0	0	0	0
Min Green	0	0	0	0	0	0	0	0
Min Walk	0	0	0	0	0	0	0	0
Ent. Ped Clear	255	255	255	255	255	255	255	255
Track Green	0	0	0	0	0	0	0	0
Dwell Green	0	0	0	0	0	0	0	0
Max Presence	0	0	0	0	0	0	0	0
Enter Yellow	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Ent. Red Clear	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5

**Preemption Parameters**

Preempt	1	2	3	4	5	6	7	8
Track Yellow	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Track Red Clear	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Exit Red	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Exit Ped Clear	255	255	255	255	255	255	255	255
Exit Yellow	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Exit Red	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Preempt	1	2	3	4	5	6	7	8
Non Lock Mem								
Not Override Flash								
NotOverrideNextPre								
Flash Dwell								

**Preemption Configuration**

Preempt	1	2	3	4	5	6	7	8
Track phase								
Dwell Phase								
Dwell Ped								
Exit Phase								
Track Overlap								
Dwell overlap								
Cycling phase								
Cycling Ped								
Cycling Overlap								

**IO Modules**

IO Mod	TYPE
1	Caltrans 332
2	None
3	None
4	None
5	None
6	None
7	None
8	None
9	None
10	None

**Channel Configuration**

Chan	Ctrl Type	Source
1	None	1
2	Phs Veh	2
3	None	3
4	None	4
5	Phs Veh	5
6	Phs Veh	6
7	None	7
8	Phs Veh	8
9	None	1
10	None	3

Chan	Ctrl Type	Source
11	None	5
12	None	7
13	None	2
14	None	4
15	Phs Ped	6
16	None	8
17	None	0
18	None	0
19	None	0
20	None	0

**Channel Options**

Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flash Yellow																
Flash Red																
Alt Flash																
Channel	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Flash Yellow																
Flash Red																
Alt Flash																

**Startup Clearance Hold Type**

1=off, 2=On, 3=Flash and 4= Alt Flash

Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Red																
Yellow																
Green																
Channel	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Red																
Yellow																
Green																

**Phase Intervals**

Interval	Description	Red	Yel	Grn	Type
1	notActive	On	Off	Off	Red
2	dltGrn	On	Off	Off	Red
3	PreGrn	Off	Off	On	Green
4	minGrn	Off	Off	On	Green
5	grnExt	Off	Off	On	Green
6	grnDwell	Off	Off	On	Green
7	preClear	Off	Off	On	Green
8	yelChange	Off	On	Off	Yellow
9	redClear	On	Off	Off	Red
10	redDwell	On	Off	Off	Red
11	Barrier	On	Off	Off	Red
12					

**Pedestrian Intervals**

Interval	Description	DWK	CLR	Wlk	Type
1	notActive	On	Off	Off	Dont Walk
2	dltPed	On	Off	Off	Dont Walk
3	walk	Off	Off	On	Walk
4	walkDwell	Off	Off	On	Walk
5	flashDtWlk	Flash	Off	Off	Ped Clear
6	dWalk	On	Off	Off	Dont Walk
7					
8					

**Countdown Display**

Display	Addr	Phase	Time
1			
2			
3			
4			
5			
6			
7			
8			

Display	Addr	Phase	Time
9			
10			
11			
12			
13			
14			
15			
16			

Display	Addr	Phase	Time
17			
18			
19			
20			
21			
22			
23			
24			

Display	Addr	Phase	Time
25			
26			
27			
28			
29			
30			
31			
32			

**Manual Control Phase Groups**

Grp 1	Grp 2	Grp 3	Grp 4	Grp 5	Grp 6	Grp 7	Grp 8
Ring	Ph	Ring	Ph	Ring	Ph	Ring	Ph
1	0	1	0	1	0	1	0
2	0	2	0	2	0	2	0
3	0	3	0	3	0	3	0
4	0	4	0	4	0	4	0
5	0	5	0	5	0	5	0
6	0	6	0	6	0	6	0
7	0	7	0	7	0	7	0
8	0	8	0	8	0	8	0
9	0	9	0	9	0	9	0
10	0	10	0	10	0	10	0
11	0	11	0	11	0	11	0
12	0	12	0	12	0	12	0
13	0	13	0	13	0	13	0
14	0	14	0	14	0	14	0
15	0	15	0	15	0	15	0
16	0	16	0	16	0	16	0

**Prioritor Settings**

Prioritor	Priority Ph	Output Dly
1		0
2		0
3		0
4		0
5		0

Enabled	Lock Out Time
No	0

6		0
7		0
8		0

**Loopback Functions**

Func	Result Function Type	Index	Source Function Type	Index	Func	Result Function Type	Index	Source Function Type	Index
1					51				
2					52				
3					53				
4					54				
5					55				
6					56				
7					57				
8					58				
9					59				
10					60				
11					61				
12					62				
13					63				
14					64				
15					65				
16					66				
17					67				
18					68				
19					69				
20					70				
21					71				
22					72				
23					73				
24					74				
25					75				
26					76				
27					77				
28					78				
29					79				
30					80				
31					81				
32					82				
33					83				
34					84				
35					85				
36					86				
37					87				
38					88				
39					89				
40					90				
41					91				
42					92				
43					93				
44					94				
45					95				
46					96				
47					97				
48					98				
49					99				
50					100				

**Peer Configuration**

Ctrl	Peer ID	IP address	SNMP Port	Hot Port	Serial Port	Serial Addr.	Master Sect.	P2P TO	Description
1	0		161	80	0	0	0	15	
2	0		161	80	0	0	0	15	
3	0		161	80	0	0	0	15	

4	0		161	80	0	0	0	15	
5	0		161	80	0	0	0	15	
6	0		161	80	0	0	0	15	
7	0		161	80	0	0	0	15	
8	0		161	80	0	0	0	15	
9	0		161	80	0	0	0	15	
10	0		161	80	0	0	0	15	
11	0		161	80	0	0	0	15	
12	0		161	80	0	0	0	15	
13	0		161	80	0	0	0	15	
14	0		161	80	0	0	0	15	
15	0		161	80	0	0	0	15	
16	0		161	80	0	0	0	15	
17	0		161	80	0	0	0	15	
18	0		161	80	0	0	0	15	
19	0		161	80	0	0	0	15	
20	0		161	80	0	0	0	15	
21	0		161	80	0	0	0	15	
22	0		161	80	0	0	0	15	
23	0		161	80	0	0	0	15	
24	0		161	80	0	0	0	15	
25	0		161	80	0	0	0	15	
26	0		161	80	0	0	0	15	
27	0		161	80	0	0	0	15	
28	0		161	80	0	0	0	15	
29	0		161	80	0	0	0	15	
30	0		161	80	0	0	0	15	
31	0		161	80	0	0	0	15	
32	0		161	80	0	0	0	15	
33	0		161	80	0	0	0	15	
34	0		161	80	0	0	0	15	
35	0		161	80	0	0	0	15	
36	0		161	80	0	0	0	15	
37	0		161	80	0	0	0	15	
38	0		161	80	0	0	0	15	
39	0		161	80	0	0	0	15	
40	0		161	80	0	0	0	15	
41	0		161	80	0	0	0	15	
42	0		161	80	0	0	0	15	
43	0		161	80	0	0	0	15	
44	0		161	80	0	0	0	15	
45	0		161	80	0	0	0	15	
46	0		161	80	0	0	0	15	
47	0		161	80	0	0	0	15	
48	0		161	80	0	0	0	15	
49	0		161	80	0	0	0	15	
50	0		161	80	0	0	0	15	
51	0		161	80	0	0	0	15	
52	0		161	80	0	0	0	15	
53	0		161	80	0	0	0	15	
54	0		161	80	0	0	0	15	
55	0		161	80	0	0	0	15	
56	0		161	80	0	0	0	15	
57	0		161	80	0	0	0	15	
58	0		161	80	0	0	0	15	
59	0		161	80	0	0	0	15	
60	0		161	80	0	0	0	15	
61	0		161	80	0	0	0	15	
62	0		161	80	0	0	0	15	
63	0		161	80	0	0	0	15	
64	0		161	80	0	0	0	15	
65	0		161	80	0	0	0	15	
66	0		161	80	0	0	0	15	
67	0		161	80	0	0	0	15	

68	0		161	80	0	0	0	15	
69	0		161	80	0	0	0	15	
70	0		161	80	0	0	0	15	
71	0		161	80	0	0	0	15	
72	0		161	80	0	0	0	15	
73	0		161	80	0	0	0	15	
74	0		161	80	0	0	0	15	
75	0		161	80	0	0	0	15	
76	0		161	80	0	0	0	15	
77	0		161	80	0	0	0	15	
78	0		161	80	0	0	0	15	
79	0		161	80	0	0	0	15	
80	0		161	80	0	0	0	15	
81	0		161	80	0	0	0	15	
82	0		161	80	0	0	0	15	
83	0		161	80	0	0	0	15	
84	0		161	80	0	0	0	15	
85	0		161	80	0	0	0	15	
86	0		161	80	0	0	0	15	
87	0		161	80	0	0	0	15	
88	0		161	80	0	0	0	15	
89	0		161	80	0	0	0	15	
90	0		161	80	0	0	0	15	
91	0		161	80	0	0	0	15	
92	0		161	80	0	0	0	15	
93	0		161	80	0	0	0	15	
94	0		161	80	0	0	0	15	
95	0		161	80	0	0	0	15	
96	0		161	80	0	0	0	15	
97	0		161	80	0	0	0	15	
98	0		161	80	0	0	0	15	
99	0		161	80	0	0	0	15	
100	0		161	80	0	0	0	15	
101	0		161	80	0	0	0	15	
102	0		161	80	0	0	0	15	
103	0		161	80	0	0	0	15	
104	0		161	80	0	0	0	15	
105	0		161	80	0	0	0	15	
106	0		161	80	0	0	0	15	
107	0		161	80	0	0	0	15	
108	0		161	80	0	0	0	15	
109	0		161	80	0	0	0	15	
110	0		161	80	0	0	0	15	
111	0		161	80	0	0	0	15	
112	0		161	80	0	0	0	15	
113	0		161	80	0	0	0	15	
114	0		161	80	0	0	0	15	
115	0		161	80	0	0	0	15	
116	0		161	80	0	0	0	15	
117	0		161	80	0	0	0	15	
118	0		161	80	0	0	0	15	
119	0		161	80	0	0	0	15	
120	0		161	80	0	0	0	15	
121	0		161	80	0	0	0	15	
122	0		161	80	0	0	0	15	
123	0		161	80	0	0	0	15	
124	0		161	80	0	0	0	15	
125	0		161	80	0	0	0	15	
126	0		161	80	0	0	0	15	
127	0		161	80	0	0	0	15	
128	0		161	80	0	0	0	15	
129	0		161	80	0	0	0	15	
130	0		161	80	0	0	0	15	

131	0		161	80	0	0	0	15	
132	0		161	80	0	0	0	15	
133	0		161	80	0	0	0	15	
134	0		161	80	0	0	0	15	
135	0		161	80	0	0	0	15	
136	0		161	80	0	0	0	15	
137	0		161	80	0	0	0	15	
138	0		161	80	0	0	0	15	
139	0		161	80	0	0	0	15	
140	0		161	80	0	0	0	15	
141	0		161	80	0	0	0	15	
142	0		161	80	0	0	0	15	
143	0		161	80	0	0	0	15	
144	0		161	80	0	0	0	15	
145	0		161	80	0	0	0	15	
146	0		161	80	0	0	0	15	
147	0		161	80	0	0	0	15	
148	0		161	80	0	0	0	15	
149	0		161	80	0	0	0	15	
150	0		161	80	0	0	0	15	
151	0		161	80	0	0	0	15	
152	0		161	80	0	0	0	15	
153	0		161	80	0	0	0	15	
154	0		161	80	0	0	0	15	
155	0		161	80	0	0	0	15	
156	0		161	80	0	0	0	15	
157	0		161	80	0	0	0	15	
158	0		161	80	0	0	0	15	
159	0		161	80	0	0	0	15	
160	0		161	80	0	0	0	15	
161	0		161	80	0	0	0	15	
162	0		161	80	0	0	0	15	
163	0		161	80	0	0	0	15	
164	0		161	80	0	0	0	15	
165	0		161	80	0	0	0	15	
166	0		161	80	0	0	0	15	
167	0		161	80	0	0	0	15	
168	0		161	80	0	0	0	15	
169	0		161	80	0	0	0	15	
170	0		161	80	0	0	0	15	
171	0		161	80	0	0	0	15	
172	0		161	80	0	0	0	15	
173	0		161	80	0	0	0	15	
174	0		161	80	0	0	0	15	
175	0		161	80	0	0	0	15	
176	0		161	80	0	0	0	15	
177	0		161	80	0	0	0	15	
178	0		161	80	0	0	0	15	
179	0		161	80	0	0	0	15	
180	0		161	80	0	0	0	15	
181	0		161	80	0	0	0	15	
182	0		161	80	0	0	0	15	
183	0		161	80	0	0	0	15	
184	0		161	80	0	0	0	15	
185	0		161	80	0	0	0	15	
186	0		161	80	0	0	0	15	
187	0		161	80	0	0	0	15	
188	0		161	80	0	0	0	15	
189	0		161	80	0	0	0	15	
190	0		161	80	0	0	0	15	
191	0		161	80	0	0	0	15	
192	0		161	80	0	0	0	15	
193	0		161	80	0	0	0	15	
194	0		161	80	0	0	0	15	

195	0		161	80	0	0	0	15	
196	0		161	80	0	0	0	15	
197	0		161	80	0	0	0	15	
198	0		161	80	0	0	0	15	
199	0		161	80	0	0	0	15	
200	0		161	80	0	0	0	15	
201	0		161	80	0	0	0	15	
202	0		161	80	0	0	0	15	
203	0		161	80	0	0	0	15	
204	0		161	80	0	0	0	15	
205	0		161	80	0	0	0	15	
206	0		161	80	0	0	0	15	
207	0		161	80	0	0	0	15	
208	0		161	80	0	0	0	15	
209	0		161	80	0	0	0	15	
210	0		161	80	0	0	0	15	
211	0		161	80	0	0	0	15	
212	0		161	80	0	0	0	15	
213	0		161	80	0	0	0	15	
214	0		161	80	0	0	0	15	
215	0		161	80	0	0	0	15	
216	0		161	80	0	0	0	15	
217	0		161	80	0	0	0	15	
218	0		161	80	0	0	0	15	
219	0		161	80	0	0	0	15	
220	0		161	80	0	0	0	15	
221	0		161	80	0	0	0	15	
222	0		161	80	0	0	0	15	
223	0		161	80	0	0	0	15	
224	0		161	80	0	0	0	15	
225	0		161	80	0	0	0	15	
226	0		161	80	0	0	0	15	
227	0		161	80	0	0	0	15	
228	0		161	80	0	0	0	15	
229	0		161	80	0	0	0	15	
230	0		161	80	0	0	0	15	
231	0		161	80	0	0	0	15	
232	0		161	80	0	0	0	15	
233	0		161	80	0	0	0	15	
234	0		161	80	0	0	0	15	
235	0		161	80	0	0	0	15	
236	0		161	80	0	0	0	15	
237	0		161	80	0	0	0	15	
238	0		161	80	0	0	0	15	
239	0		161	80	0	0	0	15	
240	0		161	80	0	0	0	15	
241	0		161	80	0	0	0	15	
242	0		161	80	0	0	0	15	
243	0		161	80	0	0	0	15	
244	0		161	80	0	0	0	15	
245	0		161	80	0	0	0	15	
246	0		161	80	0	0	0	15	
247	0		161	80	0	0	0	15	
248	0		161	80	0	0	0	15	
249	0		161	80	0	0	0	15	
250	0		161	80	0	0	0	15	
251	0		161	80	0	0	0	15	
252	0		161	80	0	0	0	15	
253	0		161	80	0	0	0	15	
254	0		161	80	0	0	0	15	
255	0		161	80	0	0	0	15	

**Section Configuration**

--	--	--	--	--	--	--	--	--	--

Section	Control	Poll	Req #	Fail Time	Algorithm Period	Description
1	None	60	1	300	240	
2	None	60	1	300	240	
3	None	60	1	300	240	
4	None	60	1	300	240	
5	None	60	1	300	240	
6	None	60	1	300	240	
7	None	60	1	300	240	
8	None	60	1	300	240	
9	None	60	1	300	240	
10	None	60	1	300	240	
11	None	60	1	300	240	
12	None	60	1	300	240	
13	None	60	1	300	240	
14	None	60	1	300	240	
15	None	60	1	300	240	
16	None	60	1	300	240	

**User Program Info**

Pgrm	Description
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	



CDOT

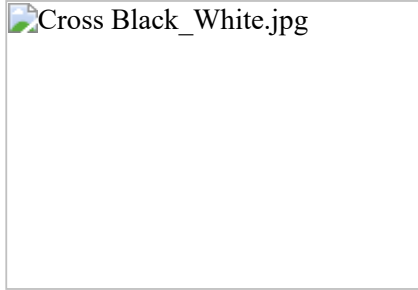
### MaxTime Timing Shee

332 FYA

#### Administration

#### Unit Information

Controller ID	0
Main St.	25A
Side St.	Baptist SB Ramp (West)



Adapter	IP Address	Subnet Mask	Default Gateway	ARP	DHCP
1	192.168.10.104	255.255.255.0	192.168.10.1	Disable	
2	10.20.70.51	255.255.255.0	0.0.0.0	Disable	

#### Serial Ports:

Port	Description	Function	Address	Baud	Bits	Stop	Parity	Flow	CTS	RTS
1	Port 2/C21S	None	1	9600	8	1	None	None	0	0
2	Aux P3/C22S	None	1	9600	8	1	None	None	0	0
3	SDLC Port 1	None	1	9600	8	1	None	None	0	0
4	Com A/C50S	None	1	9600	8	1	None	None	0	0
5	FIO	None	1	9600	8	1	None	None	0	0
6	DISPLAY/C60M	None	1	9600	8	1	None	None	0	0
7	SP7	None	1	9600	8	1	None	None	0	0
8	SP8/Com B	None	1	9600	8	1	None	None	0	0

#### Unit Parameters

Startup Flash	0	Auto Ped Clr	Enable	Red Revert	4.0	Backup Time	600	Ext Mode	Disable
All Red Exit	0	Grn Flash Freq.	60	Yel Flash Freq.	60	MCE Enable	Enable	Free Seq.	1
MCE Seq.	1	Start Yellow	0.0	Start Red	0.0	Start Clear Hold	6		

#### Phase Parameters

Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Walk Time	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clear Time	0	0	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Don't Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Green	19	6	5	6	5	19	5	5	1	1	1	1	1	1	1	1	1	1	1	1
Min Green 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Passage	3.0	3.0	1.0	4.0	1.0	3.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max-1	38	30	0	30	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yel Change	4.0	4.0	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	2.0	2.0	1.0	2.0	1.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Add Red Clear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Revert	5.0	5.0	0.0	5.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time B4 Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars B4 Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduce By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	3.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dyn Max Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dyn Max Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advance Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Ped	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alt Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alt Ped Clr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pre Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pre Clearance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phases	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Walk Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clear Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Don't Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Green	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Min Green 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yel Change	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Add Red Clear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Revert	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time B4 Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars B4 Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduce By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dyn Max Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dyn Max Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advance Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Ped	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alt Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alt Ped Cir	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pre Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pre Clearance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Phase Options**

Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Enable																				
Auto Flash Ent.																				
Auto Flash Exit																				
Non Actuated I																				
Non Actuated II																				
Non Lock Mem																				
Min Veh Recall																				
Max Veh Recall																				
Ped Recall																				
Soft Veh Recall																				
Dual Entry																				
Sim Gap Dis																				
Guaranteed Pass																				
Act Rest Walk																				
Cond Service																				
Add Initial																				

Phases	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Enable																				
Auto Flash Ent.																				
Auto Flash Exit																				
Non Actuated I																				
Non Actuated II																				
Non Lock Mem																				
Min Veh Recall																				
Max Veh Recall																				
Ped Recall																				
Soft Veh Recall																				
Dual Entry																				
Sim Gap Dis																				
Guaranteed Pass																				
Act Rest Walk																				
Cond Service																				
Add Initial																				

**Additional Phase Options**

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ped Clr During Yel																				
Ped Clr During Red																				
Cond Reservice																				
Yel Min Override																				
No Startup Call																				
Adv. Warn Flasher																				
No Ped Str Up Call																				
Ped Clr OVTG																				
Flash Exit Call																				
Flash Exit Ped Call																				
MinGreen2																				
MaxGreen2																				
MaxGreen3																				
Ped2																				
Ped Clear Pre Clear																				
Ped NA+ Mode																				
Red Rest																				
Serve Evy Oth Even																				
Serve Evy Oth Odd																				

Phases	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Ped Clr During Yel																				
Ped Clr During Red																				
Cond Reservice																				
Yel Min Override																				
No Startup Call																				
Adv. Warn Flasher																				
No Ped Str Up Call																				
Ped Clr OVTG																				
Flash Exit Call																				
Flash Exit Ped Call																				
MinGreen2																				
MaxGreen2																				
MaxGreen3																				
Ped2																				
Ped Clear Pre Clear																				
Ped NA+ Mode																				
Red Rest																				
Serve Evy Oth Even																				
Serve Evy Oth Odd																				

**Phase Configuration**

Ph.	Startup	Ring	Concurrent	No Served Phases	Startup Min	Description
1	Phase Not On	1	6		0	WBLT
2	Green No Walk	1	6		0	EB
3	Phase Not On	0			0	
4	Phase Not On	1			0	SB
5	Phase Not On	0			0	
6	Green No Walk	2	1,2		0	WB
7	Phase Not On	0			0	
8	Phase Not On	0			0	
9	None	0			0	
10	None	0			0	
11	None	0			0	
12	None	0			0	
13	None	0			0	
14	None	0			0	
15	None	0			0	
16	None	0			0	
17	None	0			0	
18	None	0			0	
19	None	0			0	
20	None	0			0	

21	None	0			0
22	None	0			0
23	None	0			0
24	None	0			0
25	None	0			0
26	None	0			0
27	None	0			0
28	None	0			0
29	None	0			0
30	None	0			0
31	None	0			0
32	None	0			0
33	None	0			0
34	None	0			0
35	None	0			0
36	None	0			0
37	None	0			0
38	None	0			0
39	None	0			0
40	None	0			0

**Sequence Configuration**

**Sequence 1**

Ring	Phases
1	1,2,a,4,b
2	6,a,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 2**

Ring	Phases
1	2,1,a,4,b
2	6,a,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 3**

Ring	Phases
1	1,2,a,4,3,b
2	5,6,a,7,8,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 4**

Ring	Phases
1	2,1,a,4,3,b
2	5,6,a,7,8,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 5**

Ring	Phases
1	1,2,a,3,4,b
2	6,5,a,7,8,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 6**

Ring	Phases
1	2,1,a,3,4,b
2	6,5,a,7,8,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 7**

Ring	Phases
1	1,2,a,4,3,b
2	6,5,a,7,8,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 8**

Ring	Phases
1	2,1,a,4,3,b
2	6,5,a,7,8,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 9**

Ring	Phases
1	1,2,a,3,4,b

**Sequence 10**

Ring	Phases
1	2,1,a,3,4,b

**Sequence 11**

Ring	Phases
1	1,2,a,4,3,b

**Sequence 12**

Ring	Phases
1	2,1,a,4,3,b

2	5,6,a,8,7,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

2	5,6,a,8,7,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

2	5,6,a,8,7,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

2	5,6,a,8,7,b
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 13**

Ring	Phases
1	1,2,a,3,4,b
2	6,5,a,8,7,b
3	
4	
5	
6	
7	
8	
9	
10	

**Sequence 14**

Ring	Phases
1	2,1,a,3,4,b
2	6,5,a,8,7,b
3	
4	
5	
6	
7	
8	
9	
10	

**Sequence 15**

Ring	Phases
1	1,2,a,4,3,b
2	6,5,a,8,7,b
3	
4	
5	
6	
7	
8	
9	
10	

**Sequence 16**

Ring	Phases
1	2,1,a,4,3,b
2	6,5,a,8,7,b
3	
4	
5	
6	
7	
8	
9	
10	

**Sequence 13**

11	
12	
13	
14	
15	
16	

**Sequence 14**

11	
12	
13	
14	
15	
16	

**Sequence 15**

11	
12	
13	
14	
15	
16	

**Sequence 16**

11	
12	
13	
14	
15	
16	

**Sequence 17**

Ring	Phases
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 18**

Ring	Phases
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 19**

Ring	Phases
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 20**

Ring	Phases
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Vehicle Detection Parameters**

Det.	Call Phs	Call Ovl	Additional Call Phase	Switch Phase	Delay	Extend	Queue Limit	No Activity	Max Presence	Erratic Counts	Failed Time	Description
1	1	0		0	0.0	0.0	0	0	0	0	0	
2	2	0		0	0.0	0.0	0	0	0	0	0	
3	2	0		0	0.0	0.0	0	0	0	0	0	
4	2	0		0	0.0	0.0	0	0	0	0	0	

5	2	0		0	0.0	0.0	0	0	0	0	0
6	2	0		0	0.0	0.0	0	0	0	0	0
7	3	0		0	0.0	0.0	0	0	0	0	0
8	4	0		0	0.0	0.0	0	0	0	0	0
9	4	0		0	0.0	0.0	0	0	0	0	0
10	4	0		0	0.0	0.0	0	0	0	0	0
11	4	0		0	0.0	0.0	0	0	0	0	0
12	4	0		0	0.0	0.0	0	0	0	0	0
13	1	0		0	0.0	0.0	0	0	0	0	0
14	3	0		0	0.0	0.0	0	0	0	0	0
15	5	0		0	0.0	0.0	0	0	0	0	0
16	6	0		0	0.0	0.0	0	0	0	0	0
17	6	0		0	0.0	0.0	0	0	0	0	0
18	6	0		0	0.0	0.0	0	0	0	0	0
19	6	0		0	0.0	0.0	0	0	0	0	0
20	6	0		0	0.0	0.0	0	0	0	0	0
21	7	0		0	0.0	0.0	0	0	0	0	0
22	8	0		0	0.0	0.0	0	0	0	0	0
23	8	0		0	0.0	0.0	0	0	0	0	0
24	8	0		0	0.0	0.0	0	0	0	0	0
25	8	0		0	0.0	0.0	0	0	0	0	0
26	8	0		0	0.0	0.0	0	0	0	0	0
27	5	0		0	0.0	0.0	0	0	0	0	0
28	7	0		0	0.0	0.0	0	0	0	0	0
29	0	0		0	0.0	0.0	0	0	0	0	0
30	0	0		0	0.0	0.0	0	0	0	0	0
31	0	0		0	0.0	0.0	0	0	0	0	0
32	0	0		0	0.0	0.0	0	0	0	0	0
33	0	0		0	0.0	0.0	0	0	0	0	0
34	0	0		0	0.0	0.0	0	0	0	0	0
35	0	0		0	0.0	0.0	0	0	0	0	0
36	0	0		0	0.0	0.0	0	0	0	0	0
37	0	0		0	0.0	0.0	0	0	0	0	0
38	0	0		0	0.0	0.0	0	0	0	0	0
39	0	0		0	0.0	0.0	0	0	0	0	0
40	0	0		0	0.0	0.0	0	0	0	0	0
41	0	0		0	0.0	0.0	0	0	0	0	0
42	0	0		0	0.0	0.0	0	0	0	0	0
43	0	0		0	0.0	0.0	0	0	0	0	0
44	0	0		0	0.0	0.0	0	0	0	0	0
45	0	0		0	0.0	0.0	0	0	0	0	0
46	0	0		0	0.0	0.0	0	0	0	0	0
47	0	0		0	0.0	0.0	0	0	0	0	0
48	0	0		0	0.0	0.0	0	0	0	0	0
49	0	0		0	0.0	0.0	0	0	0	0	0
50	0	0		0	0.0	0.0	0	0	0	0	0
51	0	0		0	0.0	0.0	0	0	0	0	0
52	0	0		0	0.0	0.0	0	0	0	0	0
53	0	0		0	0.0	0.0	0	0	0	0	0
54	0	0		0	0.0	0.0	0	0	0	0	0
55	0	0		0	0.0	0.0	0	0	0	0	0
56	0	0		0	0.0	0.0	0	0	0	0	0
57	0	0		0	0.0	0.0	0	0	0	0	0
58	0	0		0	0.0	0.0	0	0	0	0	0
59	0	0		0	0.0	0.0	0	0	0	0	0
60	0	0		0	0.0	0.0	0	0	0	0	0
61	0	0		0	0.0	0.0	0	0	0	0	0
62	0	0		0	0.0	0.0	0	0	0	0	0
63	0	0		0	0.0	0.0	0	0	0	0	0
64	0	0		0	0.0	0.0	0	0	0	0	0
65	0	0		0	0.0	0.0	0	0	0	0	0
66	0	0		0	0.0	0.0	0	0	0	0	0
67	0	0		0	0.0	0.0	0	0	0	0	0
68	0	0		0	0.0	0.0	0	0	0	0	0

69	0	0		0	0.0	0.0	0	0	0	0	0	
70	0	0		0	0.0	0.0	0	0	0	0	0	
71	0	0		0	0.0	0.0	0	0	0	0	0	
72	0	0		0	0.0	0.0	0	0	0	0	0	

**Vehicle Detection Options**

Detector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Volume Detector																				
Occupancy																				
Yellow Lock Call																				
Red Lock call																				
Passage																				
Queue																				
Call																				
Terminate																				

Detector	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Volume Detector																				
Occupancy																				
Yellow Lock Call																				
Red Lock call																				
Passage																				
Queue																				
Call																				
Terminate																				

Detector	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Volume Detector																				
Occupancy																				
Yellow Lock Call																				
Red Lock call																				
Passage																				
Queue																				
Call																				
Terminate																				

Detector	61	62	63	64	65	66	67	68	69	70	71	72
Volume Detector												
Occupancy												
Yellow Lock Call												
Red Lock call												
Passage												
Queue												
Call												
Terminate												

Data Collection Period	0
------------------------	---

**Pedestrian Detectors**

Det	Call Phase	Call Ovp	No Act	Max Presence	Erratic Count
1	0	0	0	0	0
2	2	0	0	0	0
3	0	0	0	0	0
4	4	0	0	0	0
5	0	0	0	0	0
6	6	0	0	0	0
7	0	0	0	0	0
8	8	0	0	0	0
9	0	0	0	0	0
10	0	0	0	0	0
11	0	0	0	0	0
12	0	0	0	0	0
13	0	0	0	0	0
14	0	0	0	0	0

Det	Call Phase	Call Ovp	No Act	Max Presence	Erratic Count
21	0	0	0	0	0
22	0	0	0	0	0
23	0	0	0	0	0
24	0	0	0	0	0
25	0	0	0	0	0
26	0	0	0	0	0
27	0	0	0	0	0
28	0	0	0	0	0
29	0	0	0	0	0
30	0	0	0	0	0
31	0	0	0	0	0
32	0	0	0	0	0
33	0	0	0	0	0
34	0	0	0	0	0

15	0	0	0	0	0
16	0	0	0	0	0
17	0	0	0	0	0
18	0	0	0	0	0
19	0	0	0	0	0
20	0	0	0	0	0

35	0	0	0	0	0
36	0	0	0	0	0
37	0	0	0	0	0
38	0	0	0	0	0
39	0	0	0	0	0
40	0	0	0	0	0

**Overlaps**

OLP	Type	Included Phases	Modifier Phases	Trail		Walk		Ped		Delay	Flash	Descriptions
				GRN	YEL	RED	1	Clr 1	2			
1	FYA - 4 Sec	2	1	0	0.0	0.0	0	0	0	0	0.0	On
2	Off			0	0.0	0.0	0	0	0	0	0.0	Off
3	FYA - 4 Sec	4	3	0	0.0	0.0	0	0	0	0	0.0	On
4	Off			0	0.0	0.0	0	0	0	0	0.0	Off
5	FYA - 4 Sec	6	5	0	0.0	0.0	0	0	0	0	0.0	On
6	Off			0	0.0	0.0	0	0	0	0	0.0	Off
7	FYA - 4 Sec	8	7	0	0.0	0.0	0	0	0	0	0.0	On
8	Off			0	0.0	0.0	0	0	0	0	0.0	Off
9	Off			0	0.0	0.0	0	0	0	0	0.0	Off
10	Off			0	0.0	0.0	0	0	0	0	0.0	Off
11	Off			0	0.0	0.0	0	0	0	0	0.0	Off
12	Off			0	0.0	0.0	0	0	0	0	0.0	Off
13	Off			0	0.0	0.0	0	0	0	0	0.0	Off
14	Off			0	0.0	0.0	0	0	0	0	0.0	Off
15	Off			0	0.0	0.0	0	0	0	0	0.0	Off
16	Off			0	0.0	0.0	0	0	0	0	0.0	Off
17	Off			0	0.0	0.0	0	0	0	0	0.0	Off
18	Off			0	0.0	0.0	0	0	0	0	0.0	Off
19	Off			0	0.0	0.0	0	0	0	0	0.0	Off
20	Off			0	0.0	0.0	0	0	0	0	0.0	Off
21	Off			0	0.0	0.0	0	0	0	0	0.0	Off
22	Off			0	0.0	0.0	0	0	0	0	0.0	Off
23	Off			0	0.0	0.0	0	0	0	0	0.0	Off
24	Off			0	0.0	0.0	0	0	0	0	0.0	Off
25	Off			0	0.0	0.0	0	0	0	0	0.0	Off
26	Off			0	0.0	0.0	0	0	0	0	0.0	Off
27	Off			0	0.0	0.0	0	0	0	0	0.0	Off
28	Off			0	0.0	0.0	0	0	0	0	0.0	Off
29	Off			0	0.0	0.0	0	0	0	0	0.0	Off
30	Off			0	0.0	0.0	0	0	0	0	0.0	Off
31	Off			0	0.0	0.0	0	0	0	0	0.0	Off
32	Off			0	0.0	0.0	0	0	0	0	0.0	Off

**Coordination Parameters**

Operational Mode	Correction Mode	Maximum Mode	Force Mode
Automatic	Shortway (Auto)	Per Pattern	Per Pattern

**Patterns**

Patt.	Cycle	Offset 1	Offset 2	Offset 2	Split	Sequence	Ref. Color	Max Mode	Phs	Det	Ped
									Pln	Pln	Pln
1	90	1	0	0	1	2	Yel	Inh	1	1	1
2	90	3	0	0	2	2	Yel	Inh	1	1	1
3	0	0	0	0	0	0	Yel	Inh	1	1	1
4	0	0	0	0	0	0	Yel	Inh	1	1	1
5	0	0	0	0	0	0	Yel	Inh	1	1	1
6	0	0	0	0	0	0	Yel	Inh	1	1	1
7	0	0	0	0	0	0	Yel	Inh	1	1	1
8	0	0	0	0	0	0	Yel	Inh	1	1	1
9	0	0	0	0	0	0	Yel	Inh	1	1	1
10	0	0	0	0	0	0	Yel	Inh	1	1	1
11	0	0	0	0	0	0	Yel	Inh	1	1	1
12	0	0	0	0	0	0	Yel	Inh	1	1	1
13	0	0	0	0	0	0	Yel	Inh	1	1	1
14	0	0	0	0	0	0	Yel	Inh	1	1	1
15	0	0	0	0	0	0	Yel	Inh	1	1	1
16	0	0	0	0	0	0	Yel	Inh	1	1	1



17	0	0	0	0	0	0	Yel	Inh	1	1	1
18	0	0	0	0	0	0	Yel	Inh	1	1	1
19	0	0	0	0	0	0	Yel	Inh	1	1	1
20	0	0	0	0	0	0	Yel	Inh	1	1	1
21	0	0	0	0	0	0	Yel	Inh	1	1	1
22	0	0	0	0	0	0	Yel	Inh	1	1	1
23	0	0	0	0	0	0	Yel	Inh	1	1	1
24	0	0	0	0	0	0	Yel	Inh	1	1	1
25	0	0	0	0	0	0	Yel	Inh	1	1	1
26	0	0	0	0	0	0	Yel	Inh	1	1	1
27	0	0	0	0	0	0	Yel	Inh	1	1	1
28	0	0	0	0	0	0	Yel	Inh	1	1	1
29	0	0	0	0	0	0	Yel	Inh	1	1	1
30	0	0	0	0	0	0	Yel	Inh	1	1	1
31	0	0	0	0	0	0	Yel	Inh	1	1	1
32	0	0	0	0	0	0	Yel	Inh	1	1	1
33	0	0	0	0	0	0	Yel	Inh	1	1	1
34	0	0	0	0	0	0	Yel	Inh	1	1	1
35	0	0	0	0	0	0	Yel	Inh	1	1	1
36	0	0	0	0	0	0	Yel	Inh	1	1	1
37	0	0	0	0	0	0	Yel	Inh	1	1	1
38	0	0	0	0	0	0	Yel	Inh	1	1	1
39	0	0	0	0	0	0	Yel	Inh	1	1	1
40	0	0	0	0	0	0	Yel	Inh	1	1	1
41	0	0	0	0	0	0	Yel	Inh	1	1	1
42	0	0	0	0	0	0	Yel	Inh	1	1	1
43	0	0	0	0	0	0	Yel	Inh	1	1	1
44	0	0	0	0	0	0	Yel	Inh	1	1	1
45	0	0	0	0	0	0	Yel	Inh	1	1	1
46	0	0	0	0	0	0	Yel	Inh	1	1	1
47	0	0	0	0	0	0	Yel	Inh	1	1	1
48	0	0	0	0	0	0	Yel	Inh	1	1	1
49	0	0	0	0	0	0	Yel	Inh	1	1	1
50	0	0	0	0	0	0	Yel	Inh	1	1	1
51	0	0	0	0	0	0	Yel	Inh	1	1	1
52	0	0	0	0	0	0	Yel	Inh	1	1	1
53	0	0	0	0	0	0	Yel	Inh	1	1	1
54	0	0	0	0	0	0	Yel	Inh	1	1	1
55	0	0	0	0	0	0	Yel	Inh	1	1	1
56	0	0	0	0	0	0	Yel	Inh	1	1	1
57	0	0	0	0	0	0	Yel	Inh	1	1	1
58	0	0	0	0	0	0	Yel	Inh	1	1	1
59	0	0	0	0	0	0	Yel	Inh	1	1	1
60	0	0	0	0	0	0	Yel	Inh	1	1	1
61	0	0	0	0	0	0	Yel	Inh	1	1	1
62	0	0	0	0	0	0	Yel	Inh	1	1	1
63	0	0	0	0	0	0	Yel	Inh	1	1	1
64	0	0	0	0	0	0	Yel	Inh	1	1	1
65	0	0	0	0	0	0	Yel	Inh	1	1	1
66	0	0	0	0	0	0	Yel	Inh	1	1	1
67	0	0	0	0	0	0	Yel	Inh	1	1	1
68	0	0	0	0	0	0	Yel	Inh	1	1	1
69	0	0	0	0	0	0	Yel	Inh	1	1	1
70	0	0	0	0	0	0	Yel	Inh	1	1	1
71	0	0	0	0	0	0	Yel	Inh	1	1	1
72	0	0	0	0	0	0	Yel	Inh	1	1	1
73	0	0	0	0	0	0	Yel	Inh	1	1	1
74	0	0	0	0	0	0	Yel	Inh	1	1	1
75	0	0	0	0	0	0	Yel	Inh	1	1	1
76	0	0	0	0	0	0	Yel	Inh	1	1	1
77	0	0	0	0	0	0	Yel	Inh	1	1	1
78	0	0	0	0	0	0	Yel	Inh	1	1	1
79	0	0	0	0	0	0	Yel	Inh	1	1	1

80	0	0	0	0	0	0	Yel	Inh	1	1	1
81	0	0	0	0	0	0	Yel	Inh	1	1	1
82	0	0	0	0	0	0	Yel	Inh	1	1	1
83	0	0	0	0	0	0	Yel	Inh	1	1	1
84	0	0	0	0	0	0	Yel	Inh	1	1	1
85	0	0	0	0	0	0	Yel	Inh	1	1	1
86	0	0	0	0	0	0	Yel	Inh	1	1	1
87	0	0	0	0	0	0	Yel	Inh	1	1	1
88	0	0	0	0	0	0	Yel	Inh	1	1	1
89	0	0	0	0	0	0	Yel	Inh	1	1	1
90	0	0	0	0	0	0	Yel	Inh	1	1	1
91	0	0	0	0	0	0	Yel	Inh	1	1	1
92	0	0	0	0	0	0	Yel	Inh	1	1	1
93	0	0	0	0	0	0	Yel	Inh	1	1	1
94	0	0	0	0	0	0	Yel	Inh	1	1	1
95	0	0	0	0	0	0	Yel	Inh	1	1	1
96	0	0	0	0	0	0	Yel	Inh	1	1	1
97	0	0	0	0	0	0	Yel	Inh	1	1	1
98	0	0	0	0	0	0	Yel	Inh	1	1	1
99	0	0	0	0	0	0	Yel	Inh	1	1	1
100	0	0	0	0	0	0	Yel	Inh	1	1	1
101	0	0	0	0	0	0	Yel	Inh	1	1	1
102	0	0	0	0	0	0	Yel	Inh	1	1	1
103	0	0	0	0	0	0	Yel	Inh	1	1	1
104	0	0	0	0	0	0	Yel	Inh	1	1	1
105	0	0	0	0	0	0	Yel	Inh	1	1	1
106	0	0	0	0	0	0	Yel	Inh	1	1	1
107	0	0	0	0	0	0	Yel	Inh	1	1	1
108	0	0	0	0	0	0	Yel	Inh	1	1	1
109	0	0	0	0	0	0	Yel	Inh	1	1	1
110	0	0	0	0	0	0	Yel	Inh	1	1	1
111	0	0	0	0	0	0	Yel	Inh	1	1	1
112	0	0	0	0	0	0	Yel	Inh	1	1	1
113	0	0	0	0	0	0	Yel	Inh	1	1	1
114	0	0	0	0	0	0	Yel	Inh	1	1	1
115	0	0	0	0	0	0	Yel	Inh	1	1	1
116	0	0	0	0	0	0	Yel	Inh	1	1	1
117	0	0	0	0	0	0	Yel	Inh	1	1	1
118	0	0	0	0	0	0	Yel	Inh	1	1	1
119	0	0	0	0	0	0	Yel	Inh	1	1	1
120	0	0	0	0	0	0	Yel	Inh	1	1	1
121	0	0	0	0	0	0	Yel	Inh	1	1	1
122	0	0	0	0	0	0	Yel	Inh	1	1	1
123	0	0	0	0	0	0	Yel	Inh	1	1	1
124	0	0	0	0	0	0	Yel	Inh	1	1	1
125	0	0	0	0	0	0	Yel	Inh	1	1	1
126	0	0	0	0	0	0	Yel	Inh	1	1	1
127	0	0	0	0	0	0	Yel	Inh	1	1	1
128	0	0	0	0	0	0	Yel	Inh	1	1	1

**Split Parameters**

Split 1		Coord	Ref	
PH.	Time	PH	PH	Mode
1	44			None
2	26			None
3	0			None
4	20			None
5	0			None
6	70			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None

Split 2		Coord	Ref	
PH.	Time	PH	PH	Mode
1	35			None
2	25			None
3	0			None
4	30			None
5	0			None
6	60			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None

12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 3		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 4		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 5		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 6		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 7		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 8		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 9

Split 10

PH.	Time	Coord PH	Ref PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None

PH.	Time	Coord PH	Ref PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None

Split 9

PH.	Time	Coord PH	Ref PH	Mode
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 10

PH.	Time	Coord PH	Ref PH	Mode
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 11

PH.	Time	Coord PH	Ref PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 12

PH.	Time	Coord PH	Ref PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 13

PH.	Time	Coord PH	Ref PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 14

PH.	Time	Coord PH	Ref PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 15

PH.	Time	Coord PH	Ref PH	Mode
1	0			None
2	0			None

Split 16

PH.	Time	Coord PH	Ref PH	Mode
1	0			None
2	0			None

3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 17		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 18		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 19		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None

Split 20		Coord	Ref	
PH.	Time	PH	PH	Mode
1	0			None
2	0			None
3	0			None
4	0			None
5	0			None
6	0			None

Split 19		Coord	Ref	
PH.	Time	PH	PH	Mode
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Split 20		Coord	Ref	
PH.	Time	PH	PH	Mode
7	0			None
8	0			None
9	0			None
10	0			None
11	0			None
12	0			None
13	0			None
14	0			None
15	0			None
16	0			None

Ring	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Offset																

Day Plan	1																											
Month of Year	Days of Week					Days of Month																						
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16



J	A	S	O	N	D

17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Day Plan 11

Month of Year							Days of Week							Days of Month															
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
J	A	S	O	N	D								17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		

Day Plan 12

Month of Year							Days of Week							Days of Month															
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
J	A	S	O	N	D								17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		

Day Plan 13

Month of Year							Days of Week							Days of Month															
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
J	A	S	O	N	D								17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		

Day Plan 14

Month of Year							Days of Week							Days of Month															
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
J	A	S	O	N	D								17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		

Day Plan 15

Month of Year							Days of Week							Days of Month															
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
J	A	S	O	N	D								17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		

Day Plan 1

Event	Hour	Min.	Act
1	6	0	1
2	11	30	2
3	20	0	3
4	0	0	
5	0	0	

Day Plan 2

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	

Day Plan 3

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	

Day Plan 4

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	

Day Plan 1

Event	Hour	Min.	Act
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Day Plan 2

Event	Hour	Min.	Act
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Day Plan 3

Event	Hour	Min.	Act
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Day Plan 4

Event	Hour	Min.	Act
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Day Plan 5

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	

Day Plan 6

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	

Day Plan 7

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	

Day Plan 8

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	

7	0	0	
8	0	0	
9	0	0	
10	0	0	

7	0	0	
8	0	0	
9	0	0	
10	0	0	

7	0	0	
8	0	0	
9	0	0	
10	0	0	

7	0	0	
8	0	0	
9	0	0	
10	0	0	

Day Plan 9

Day Plan 10

Day Plan 11

Day Plan 12

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Day Plan 13

Day Plan 14

Day Plan 15

Day Plan 16

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Day Plan 17

Day Plan 18

Day Plan 19

Day Plan 20

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Event	Hour	Min.	Act
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

**Actions**

Act	Pattern	Aux.			Special Functions										
		1	2	3	1	2	3	4	5	6	7	8			
1	Pattern 1														
2	Pattern 2														
3	Free														
4	None														
5	None														
6	None														
7	None														
8	None														
9	None														
10	None														
11	None														
12	None														
13	None														
14	None														
15	None														
16	None														
17	None														
18	None														
19	None														

**Actions**

Act	Pattern	Aux.			Special Functions										
		1	2	3	1	2	3	4	5	6	7	8			
33	None														
34	None														
35	None														
36	None														
37	None														
38	None														
39	None														
40	None														
41	None														
42	None														
43	None														
44	None														
45	None														
46	None														
47	None														
48	None														
49	None														
50	None														
51	None														



20	None																		
21	None																		
22	None																		
23	None																		
24	None																		
25	None																		
26	None																		
27	None																		
28	None																		
29	None																		
30	None																		
31	None																		
32	None																		

52	None																		
53	None																		
54	None																		
55	None																		
56	None																		
57	None																		
58	None																		
59	None																		
60	None																		
61	None																		
62	None																		
63	None																		
64	None																		

**Preemption Parameters**

Preempt	1	2	3	4	5	6	7	8
Link	0	0	0	0	0	0	0	0
Delay	0	0	0	0	0	0	0	0
Min Duration	0	0	0	0	0	0	0	0
Min Green	0	0	0	0	0	0	0	0
Min Walk	0	0	0	0	0	0	0	0
Ent. Ped Clear	255	255	255	255	255	255	255	255
Track Green	0	0	0	0	0	0	0	0
Dwell Green	0	0	0	0	0	0	0	0
Max Presence	0	0	0	0	0	0	0	0
Enter Yellow	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Ent. Red Clear	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5

**Preemption Parameters**

Preempt	1	2	3	4	5	6	7	8
Track Yellow	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Track Red Clear	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Exit Red	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Exit Ped Clear	255	255	255	255	255	255	255	255
Exit Yellow	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Exit Red	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Preempt	1	2	3	4	5	6	7	8
Non Lock Mem								
Not Override Flash								
NotOverrideNextPre								
Flash Dwell								

**Preemption Configuration**

Preempt	1	2	3	4	5	6	7	8
Track phase								
Dwell Phase								
Dwell Ped								
Exit Phase								
Track Overlap								
Dwell overlap								
Cycling phase								
Cycling Ped								
Cycling Overlap								

**IO Modules**

IO Mod	TYPE
1	Caltrans 332
2	None
3	None
4	None
5	None
6	None
7	None
8	None
9	None
10	None

**Channel Configuration**

Chan	Ctrl Type	Source
1	Phs Veh	1
2	Phs Veh	2
3	None	3
4	Phs Veh	4
5	None	5
6	Phs Veh	6
7	None	7
8	None	8
9	None	1
10	None	3

Chan	Ctrl Type	Source
11	None	5
12	None	7
13	None	2
14	None	4
15	Phs Ped	6
16	None	8
17	None	0
18	None	0
19	None	0
20	None	0

**Channel Options**

Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flash Yellow																
Flash Red																
Alt Flash																
Channel	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Flash Yellow																
Flash Red																
Alt Flash																

**Startup Clearance Hold Type**

1=off, 2=On, 3=Flash and 4= Alt Flash

Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Red																
Yellow																
Green																
Channel	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Red																
Yellow																
Green																

**Phase Intervals**

Interval	Description	Red	Yel	Grn	Type
1	notActive	On	Off	Off	Red
2	dltGrn	On	Off	Off	Red
3	PreGrn	Off	Off	On	Green
4	minGrn	Off	Off	On	Green
5	grnExt	Off	Off	On	Green
6	grnDwell	Off	Off	On	Green
7	preClear	Off	Off	On	Green
8	yelChange	Off	On	Off	Yellow
9	redClear	On	Off	Off	Red
10	redDwell	On	Off	Off	Red
11	Barrier	On	Off	Off	Red
12					

**Pedestrian Intervals**

Interval	Description	DWK	CLR	Wlk	Type
1	notActive	On	Off	Off	Dont Walk
2	dltPed	On	Off	Off	Dont Walk
3	walk	Off	Off	On	Walk
4	walkDwell	Off	Off	On	Walk
5	flashDtWlk	Flash	Off	Off	Ped Clear
6	dWalk	On	Off	Off	Dont Walk
7					
8					

**Countdown Display**

Display	Addr	Phase	Time
1			
2			
3			
4			
5			
6			
7			
8			

Display	Addr	Phase	Time
9			
10			
11			
12			
13			
14			
15			
16			

Display	Addr	Phase	Time
17			
18			
19			
20			
21			
22			
23			
24			

Display	Addr	Phase	Time
25			
26			
27			
28			
29			
30			
31			
32			

**Manual Control Phase Groups**

Grp 1	Grp 2	Grp 3	Grp 4	Grp 5	Grp 6	Grp 7	Grp 8
Ring	Ph	Ring	Ph	Ring	Ph	Ring	Ph
1	0	1	0	1	0	1	0
2	0	2	0	2	0	2	0
3	0	3	0	3	0	3	0
4	0	4	0	4	0	4	0
5	0	5	0	5	0	5	0
6	0	6	0	6	0	6	0
7	0	7	0	7	0	7	0
8	0	8	0	8	0	8	0
9	0	9	0	9	0	9	0
10	0	10	0	10	0	10	0
11	0	11	0	11	0	11	0
12	0	12	0	12	0	12	0
13	0	13	0	13	0	13	0
14	0	14	0	14	0	14	0
15	0	15	0	15	0	15	0
16	0	16	0	16	0	16	0

**Prioritor Settings**

Prioritor	Priority Ph	Output Dly
1		0
2		0
3		0
4		0
5		0

Enabled	Lock Out Time
No	0

6		0
7		0
8		0

**Loopback Functions**

Func	Result Function Type	Index	Source Function Type	Index	Func	Result Function Type	Index	Source Function Type	Index
1					51				
2					52				
3					53				
4					54				
5					55				
6					56				
7					57				
8					58				
9					59				
10					60				
11					61				
12					62				
13					63				
14					64				
15					65				
16					66				
17					67				
18					68				
19					69				
20					70				
21					71				
22					72				
23					73				
24					74				
25					75				
26					76				
27					77				
28					78				
29					79				
30					80				
31					81				
32					82				
33					83				
34					84				
35					85				
36					86				
37					87				
38					88				
39					89				
40					90				
41					91				
42					92				
43					93				
44					94				
45					95				
46					96				
47					97				
48					98				
49					99				
50					100				

**Peer Configuration**

Ctrl	Peer ID	IP address	SNMP Port	Hot Port	Serial Port	Serial Addr.	Master Sect.	P2P TO	Description
1	0		161	80	0	0	0	15	
2	0		161	80	0	0	0	15	
3	0		161	80	0	0	0	15	

4	0		161	80	0	0	0	15	
5	0		161	80	0	0	0	15	
6	0		161	80	0	0	0	15	
7	0		161	80	0	0	0	15	
8	0		161	80	0	0	0	15	
9	0		161	80	0	0	0	15	
10	0		161	80	0	0	0	15	
11	0		161	80	0	0	0	15	
12	0		161	80	0	0	0	15	
13	0		161	80	0	0	0	15	
14	0		161	80	0	0	0	15	
15	0		161	80	0	0	0	15	
16	0		161	80	0	0	0	15	
17	0		161	80	0	0	0	15	
18	0		161	80	0	0	0	15	
19	0		161	80	0	0	0	15	
20	0		161	80	0	0	0	15	
21	0		161	80	0	0	0	15	
22	0		161	80	0	0	0	15	
23	0		161	80	0	0	0	15	
24	0		161	80	0	0	0	15	
25	0		161	80	0	0	0	15	
26	0		161	80	0	0	0	15	
27	0		161	80	0	0	0	15	
28	0		161	80	0	0	0	15	
29	0		161	80	0	0	0	15	
30	0		161	80	0	0	0	15	
31	0		161	80	0	0	0	15	
32	0		161	80	0	0	0	15	
33	0		161	80	0	0	0	15	
34	0		161	80	0	0	0	15	
35	0		161	80	0	0	0	15	
36	0		161	80	0	0	0	15	
37	0		161	80	0	0	0	15	
38	0		161	80	0	0	0	15	
39	0		161	80	0	0	0	15	
40	0		161	80	0	0	0	15	
41	0		161	80	0	0	0	15	
42	0		161	80	0	0	0	15	
43	0		161	80	0	0	0	15	
44	0		161	80	0	0	0	15	
45	0		161	80	0	0	0	15	
46	0		161	80	0	0	0	15	
47	0		161	80	0	0	0	15	
48	0		161	80	0	0	0	15	
49	0		161	80	0	0	0	15	
50	0		161	80	0	0	0	15	
51	0		161	80	0	0	0	15	
52	0		161	80	0	0	0	15	
53	0		161	80	0	0	0	15	
54	0		161	80	0	0	0	15	
55	0		161	80	0	0	0	15	
56	0		161	80	0	0	0	15	
57	0		161	80	0	0	0	15	
58	0		161	80	0	0	0	15	
59	0		161	80	0	0	0	15	
60	0		161	80	0	0	0	15	
61	0		161	80	0	0	0	15	
62	0		161	80	0	0	0	15	
63	0		161	80	0	0	0	15	
64	0		161	80	0	0	0	15	
65	0		161	80	0	0	0	15	
66	0		161	80	0	0	0	15	
67	0		161	80	0	0	0	15	

68	0		161	80	0	0	0	15	
69	0		161	80	0	0	0	15	
70	0		161	80	0	0	0	15	
71	0		161	80	0	0	0	15	
72	0		161	80	0	0	0	15	
73	0		161	80	0	0	0	15	
74	0		161	80	0	0	0	15	
75	0		161	80	0	0	0	15	
76	0		161	80	0	0	0	15	
77	0		161	80	0	0	0	15	
78	0		161	80	0	0	0	15	
79	0		161	80	0	0	0	15	
80	0		161	80	0	0	0	15	
81	0		161	80	0	0	0	15	
82	0		161	80	0	0	0	15	
83	0		161	80	0	0	0	15	
84	0		161	80	0	0	0	15	
85	0		161	80	0	0	0	15	
86	0		161	80	0	0	0	15	
87	0		161	80	0	0	0	15	
88	0		161	80	0	0	0	15	
89	0		161	80	0	0	0	15	
90	0		161	80	0	0	0	15	
91	0		161	80	0	0	0	15	
92	0		161	80	0	0	0	15	
93	0		161	80	0	0	0	15	
94	0		161	80	0	0	0	15	
95	0		161	80	0	0	0	15	
96	0		161	80	0	0	0	15	
97	0		161	80	0	0	0	15	
98	0		161	80	0	0	0	15	
99	0		161	80	0	0	0	15	
100	0		161	80	0	0	0	15	
101	0		161	80	0	0	0	15	
102	0		161	80	0	0	0	15	
103	0		161	80	0	0	0	15	
104	0		161	80	0	0	0	15	
105	0		161	80	0	0	0	15	
106	0		161	80	0	0	0	15	
107	0		161	80	0	0	0	15	
108	0		161	80	0	0	0	15	
109	0		161	80	0	0	0	15	
110	0		161	80	0	0	0	15	
111	0		161	80	0	0	0	15	
112	0		161	80	0	0	0	15	
113	0		161	80	0	0	0	15	
114	0		161	80	0	0	0	15	
115	0		161	80	0	0	0	15	
116	0		161	80	0	0	0	15	
117	0		161	80	0	0	0	15	
118	0		161	80	0	0	0	15	
119	0		161	80	0	0	0	15	
120	0		161	80	0	0	0	15	
121	0		161	80	0	0	0	15	
122	0		161	80	0	0	0	15	
123	0		161	80	0	0	0	15	
124	0		161	80	0	0	0	15	
125	0		161	80	0	0	0	15	
126	0		161	80	0	0	0	15	
127	0		161	80	0	0	0	15	
128	0		161	80	0	0	0	15	
129	0		161	80	0	0	0	15	
130	0		161	80	0	0	0	15	

131	0		161	80	0	0	0	15	
132	0		161	80	0	0	0	15	
133	0		161	80	0	0	0	15	
134	0		161	80	0	0	0	15	
135	0		161	80	0	0	0	15	
136	0		161	80	0	0	0	15	
137	0		161	80	0	0	0	15	
138	0		161	80	0	0	0	15	
139	0		161	80	0	0	0	15	
140	0		161	80	0	0	0	15	
141	0		161	80	0	0	0	15	
142	0		161	80	0	0	0	15	
143	0		161	80	0	0	0	15	
144	0		161	80	0	0	0	15	
145	0		161	80	0	0	0	15	
146	0		161	80	0	0	0	15	
147	0		161	80	0	0	0	15	
148	0		161	80	0	0	0	15	
149	0		161	80	0	0	0	15	
150	0		161	80	0	0	0	15	
151	0		161	80	0	0	0	15	
152	0		161	80	0	0	0	15	
153	0		161	80	0	0	0	15	
154	0		161	80	0	0	0	15	
155	0		161	80	0	0	0	15	
156	0		161	80	0	0	0	15	
157	0		161	80	0	0	0	15	
158	0		161	80	0	0	0	15	
159	0		161	80	0	0	0	15	
160	0		161	80	0	0	0	15	
161	0		161	80	0	0	0	15	
162	0		161	80	0	0	0	15	
163	0		161	80	0	0	0	15	
164	0		161	80	0	0	0	15	
165	0		161	80	0	0	0	15	
166	0		161	80	0	0	0	15	
167	0		161	80	0	0	0	15	
168	0		161	80	0	0	0	15	
169	0		161	80	0	0	0	15	
170	0		161	80	0	0	0	15	
171	0		161	80	0	0	0	15	
172	0		161	80	0	0	0	15	
173	0		161	80	0	0	0	15	
174	0		161	80	0	0	0	15	
175	0		161	80	0	0	0	15	
176	0		161	80	0	0	0	15	
177	0		161	80	0	0	0	15	
178	0		161	80	0	0	0	15	
179	0		161	80	0	0	0	15	
180	0		161	80	0	0	0	15	
181	0		161	80	0	0	0	15	
182	0		161	80	0	0	0	15	
183	0		161	80	0	0	0	15	
184	0		161	80	0	0	0	15	
185	0		161	80	0	0	0	15	
186	0		161	80	0	0	0	15	
187	0		161	80	0	0	0	15	
188	0		161	80	0	0	0	15	
189	0		161	80	0	0	0	15	
190	0		161	80	0	0	0	15	
191	0		161	80	0	0	0	15	
192	0		161	80	0	0	0	15	
193	0		161	80	0	0	0	15	
194	0		161	80	0	0	0	15	

195	0		161	80	0	0	0	15	
196	0		161	80	0	0	0	15	
197	0		161	80	0	0	0	15	
198	0		161	80	0	0	0	15	
199	0		161	80	0	0	0	15	
200	0		161	80	0	0	0	15	
201	0		161	80	0	0	0	15	
202	0		161	80	0	0	0	15	
203	0		161	80	0	0	0	15	
204	0		161	80	0	0	0	15	
205	0		161	80	0	0	0	15	
206	0		161	80	0	0	0	15	
207	0		161	80	0	0	0	15	
208	0		161	80	0	0	0	15	
209	0		161	80	0	0	0	15	
210	0		161	80	0	0	0	15	
211	0		161	80	0	0	0	15	
212	0		161	80	0	0	0	15	
213	0		161	80	0	0	0	15	
214	0		161	80	0	0	0	15	
215	0		161	80	0	0	0	15	
216	0		161	80	0	0	0	15	
217	0		161	80	0	0	0	15	
218	0		161	80	0	0	0	15	
219	0		161	80	0	0	0	15	
220	0		161	80	0	0	0	15	
221	0		161	80	0	0	0	15	
222	0		161	80	0	0	0	15	
223	0		161	80	0	0	0	15	
224	0		161	80	0	0	0	15	
225	0		161	80	0	0	0	15	
226	0		161	80	0	0	0	15	
227	0		161	80	0	0	0	15	
228	0		161	80	0	0	0	15	
229	0		161	80	0	0	0	15	
230	0		161	80	0	0	0	15	
231	0		161	80	0	0	0	15	
232	0		161	80	0	0	0	15	
233	0		161	80	0	0	0	15	
234	0		161	80	0	0	0	15	
235	0		161	80	0	0	0	15	
236	0		161	80	0	0	0	15	
237	0		161	80	0	0	0	15	
238	0		161	80	0	0	0	15	
239	0		161	80	0	0	0	15	
240	0		161	80	0	0	0	15	
241	0		161	80	0	0	0	15	
242	0		161	80	0	0	0	15	
243	0		161	80	0	0	0	15	
244	0		161	80	0	0	0	15	
245	0		161	80	0	0	0	15	
246	0		161	80	0	0	0	15	
247	0		161	80	0	0	0	15	
248	0		161	80	0	0	0	15	
249	0		161	80	0	0	0	15	
250	0		161	80	0	0	0	15	
251	0		161	80	0	0	0	15	
252	0		161	80	0	0	0	15	
253	0		161	80	0	0	0	15	
254	0		161	80	0	0	0	15	
255	0		161	80	0	0	0	15	

**Section Configuration**

--	--	--	--	--	--	--	--	--	--

Section	Control	Poll	Req #	Fail Time	Algorithm Period	Description
1	None	60	1	300	240	
2	None	60	1	300	240	
3	None	60	1	300	240	
4	None	60	1	300	240	
5	None	60	1	300	240	
6	None	60	1	300	240	
7	None	60	1	300	240	
8	None	60	1	300	240	
9	None	60	1	300	240	
10	None	60	1	300	240	
11	None	60	1	300	240	
12	None	60	1	300	240	
13	None	60	1	300	240	
14	None	60	1	300	240	
15	None	60	1	300	240	
16	None	60	1	300	240	

**User Program Info**

Pgrm	Description
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	



## **APPENDIX D – Existing Synchro Outputs**

HCM 6th Roundabout  
 1: Woodcarver Road/Old Denver Road & Baptist Road

11/11/2021

Intersection				
Intersection Delay, s/veh	4.2			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	119	245	13	167
Demand Flow Rate, veh/h	121	250	13	170
Vehicles Circulating, veh/h	188	15	278	106
Vehicles Exiting, veh/h	88	276	31	159
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.1	4.2	3.6	4.1
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	121	250	13	170
Cap Entry Lane, veh/h	1139	1359	1039	1238
Entry HV Adj Factor	0.982	0.981	0.992	0.981
Flow Entry, veh/h	119	245	13	167
Cap Entry, veh/h	1119	1334	1031	1215
V/C Ratio	0.106	0.184	0.013	0.137
Control Delay, s/veh	4.1	4.2	3.6	4.1
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

HCM 6th TWSC  
3: Terrazzo Drive & Baptist Road

11/11/2021

**Intersection**

Int Delay, s/veh 4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗		
Traffic Vol, veh/h	0	280	23	118	212	0	11	1	153	33	4	1
Future Vol, veh/h	0	280	23	118	212	0	11	1	153	33	4	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	160	-	-	420	-	-	135	-	0	255	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	304	25	128	230	0	12	1	166	36	4	1

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	230	0	0	329
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.14	-	-	4.14
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22
Pot Cap-1 Maneuver	1335	-	-	1227
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1335	-	-	1227
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3	10.8	20
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	301	282	850	1335	-	-	1227	-	-	266	323
HCM Lane V/C Ratio	0.04	0.004	0.196	-	-	-	0.105	-	-	0.135	0.017
HCM Control Delay (s)	17.5	17.8	10.3	0	-	-	8.3	-	-	20.6	16.3
HCM Lane LOS	C	C	B	A	-	-	A	-	-	C	C
HCM 95th %tile Q(veh)	0.1	0	0.7	0	-	-	0.3	-	-	0.5	0.1

# Timings

## 4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Configurations	↑↑↑↑	↑	↔↔	↑↑	↔	↔
Traffic Volume (vph)	187	282	694	296	130	0
Future Volume (vph)	187	282	694	296	130	0
Turn Type	NA	Perm	Prot	NA	Split	NA
Protected Phases	2		1	6	4	4
Permitted Phases		2				
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	6.0	6.0	19.0	19.0	6.0	6.0
Minimum Split (s)	12.0	12.0	25.0	25.0	12.0	12.0
Total Split (s)	30.0	30.0	38.0	68.0	22.0	22.0
Total Split (%)	33.3%	33.3%	42.2%	75.6%	24.4%	24.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Act Effct Green (s)	30.6	30.6	25.4	62.0	16.0	16.0
Actuated g/C Ratio	0.34	0.34	0.28	0.69	0.18	0.18
v/c Ratio	0.09	0.41	0.78	0.13	0.45	0.13
Control Delay	21.7	5.0	25.9	1.5	38.3	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	5.0	25.9	1.5	38.3	0.4
LOS	C	A	C	A	D	A
Approach Delay	11.6			18.6		22.4
Approach LOS	B			B		C

### Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 35 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 17.1

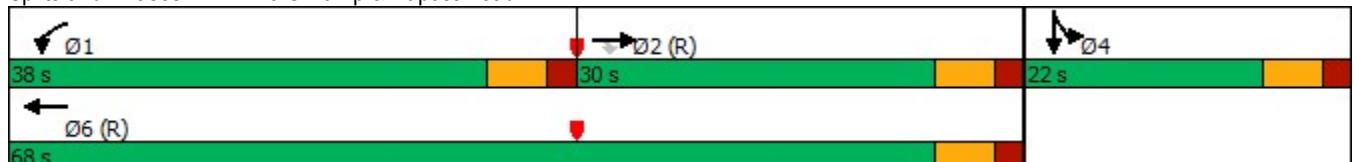
Intersection LOS: B

Intersection Capacity Utilization 59.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: I-25 S Ramp & Baptist Road



Queues

4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	203	307	754	322	141	102
v/c Ratio	0.09	0.41	0.78	0.13	0.45	0.13
Control Delay	21.7	5.0	25.9	1.5	38.3	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	5.0	25.9	1.5	38.3	0.4
Queue Length 50th (ft)	22	0	99	3	72	0
Queue Length 95th (ft)	39	60	108	14	131	0
Internal Link Dist (ft)	557			464		409
Turn Bay Length (ft)		375				
Base Capacity (vph)	2180	741	1220	2437	314	773
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	0.09	0.41	0.62	0.13	0.45	0.13

Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 4: I-25 S Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑					↘	↗	
Traffic Volume (vph)	0	187	282	694	296	0	0	0	0	130	0	94
Future Volume (vph)	0	187	282	694	296	0	0	0	0	130	0	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Lane Util. Factor		0.86	1.00	0.97	0.95					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	3539					1770	1583	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	3539					1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	203	307	754	322	0	0	0	0	141	0	102
RTOR Reduction (vph)	0	0	203	0	0	0	0	0	0	0	84	0
Lane Group Flow (vph)	0	203	104	754	322	0	0	0	0	141	18	0
Turn Type		NA	Perm	Prot	NA					Split	NA	
Protected Phases		2		1	6					4	4	
Permitted Phases			2									
Actuated Green, G (s)		30.6	30.6	25.4	62.0					16.0	16.0	
Effective Green, g (s)		30.6	30.6	25.4	62.0					16.0	16.0	
Actuated g/C Ratio		0.34	0.34	0.28	0.69					0.18	0.18	
Clearance Time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		2178	538	968	2437					314	281	
v/s Ratio Prot		0.03		c0.22	0.09					c0.08	0.01	
v/s Ratio Perm			c0.07									
v/c Ratio		0.09	0.19	0.78	0.13					0.45	0.06	
Uniform Delay, d1		20.2	21.0	29.7	4.8					33.1	30.8	
Progression Factor		1.00	1.00	0.68	0.29					1.00	1.00	
Incremental Delay, d2		0.1	0.8	3.9	0.1					4.6	0.4	
Delay (s)		20.3	21.8	24.0	1.5					37.6	31.2	
Level of Service		C	C	C	A					D	C	
Approach Delay (s)		21.2			17.3			0.0			34.9	
Approach LOS		C			B			A			C	

Intersection Summary		
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.46	
Actuated Cycle Length (s)	90.0	Sum of lost time (s) 18.0
Intersection Capacity Utilization	59.5%	ICU Level of Service B
Analysis Period (min)	15	

c Critical Lane Group

# Timings

## 5: I-25 N Ramp & Baptist Road

11/11/2021

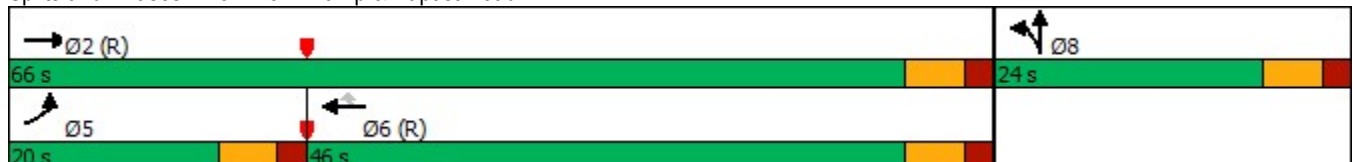


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↶	↶↶	↶↶↶	↷	↶	↶	↷
Traffic Volume (vph)	111	204	843	304	162	1	337
Future Volume (vph)	111	204	843	304	162	1	337
Turn Type	Prot	NA	NA	Perm	Split	NA	Free
Protected Phases	5	2	6		8	8	
Permitted Phases				6			Free
Detector Phase	5	2	6	6	8	8	
Switch Phase							
Minimum Initial (s)	6.0	19.0	19.0	19.0	6.0	6.0	
Minimum Split (s)	12.0	25.0	46.0	46.0	24.0	24.0	
Total Split (s)	20.0	66.0	46.0	46.0	24.0	24.0	
Total Split (%)	22.2%	73.3%	51.1%	51.1%	26.7%	26.7%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	
Act Effct Green (s)	8.5	60.0	45.5	45.5	18.0	18.0	90.0
Actuated g/C Ratio	0.09	0.67	0.51	0.51	0.20	0.20	1.00
v/c Ratio	0.37	0.09	0.28	0.34	0.26	0.26	0.23
Control Delay	32.1	10.3	13.4	2.6	32.9	32.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.1	10.3	13.4	2.6	32.9	32.9	0.3
LOS	C	B	B	A	C	C	A
Approach Delay		18.0	10.5			11.0	
Approach LOS		B	B			B	

### Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.37  
 Intersection Signal Delay: 11.8  
 Intersection Capacity Utilization 59.5%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service B

### Splits and Phases: 5: I-25 N Ramp & Baptist Road



# Queues

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	121	222	916	330	88	89	366
v/c Ratio	0.37	0.09	0.28	0.34	0.26	0.26	0.23
Control Delay	32.1	10.3	13.4	2.6	32.9	32.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.1	10.3	13.4	2.6	32.9	32.9	0.3
Queue Length 50th (ft)	29	18	83	0	45	45	0
Queue Length 95th (ft)	53	65	110	43	89	90	0
Internal Link Dist (ft)		464	805			356	
Turn Bay Length (ft)	570						
Base Capacity (vph)	534	2359	3236	962	336	337	1583
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.09	0.28	0.34	0.26	0.26	0.23

### Intersection Summary



# HCM Signalized Intersection Capacity Analysis

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑			↑↑↑	↖	↖	↖	↖			
Traffic Volume (vph)	111	204	0	0	843	304	162	1	337	0	0	0
Future Volume (vph)	111	204	0	0	843	304	162	1	337	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	4.0			
Lane Util. Factor	0.97	0.95			0.86	1.00	0.95	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3433	3539			6408	1583	1681	1686	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3433	3539			6408	1583	1681	1686	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	121	222	0	0	916	330	176	1	366	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	163	0	0	0	0	0	0
Lane Group Flow (vph)	121	222	0	0	916	167	88	89	366	0	0	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Free			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			Free			
Actuated Green, G (s)	8.5	60.0			45.5	45.5	18.0	18.0	90.0			
Effective Green, g (s)	8.5	60.0			45.5	45.5	18.0	18.0	90.0			
Actuated g/C Ratio	0.09	0.67			0.51	0.51	0.20	0.20	1.00			
Clearance Time (s)	6.0	6.0			6.0	6.0	6.0	6.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	324	2359			3239	800	336	337	1583			
v/s Ratio Prot	0.04	0.06			c0.14		0.05	0.05				
v/s Ratio Perm						0.11			c0.23			
v/c Ratio	0.37	0.09			0.28	0.21	0.26	0.26	0.23			
Uniform Delay, d1	38.3	5.3			12.8	12.3	30.4	30.4	0.0			
Progression Factor	0.77	1.89			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.7	0.1			0.2	0.6	1.9	1.9	0.3			
Delay (s)	30.0	10.2			13.1	12.9	32.3	32.3	0.3			
Level of Service	C	B			B	B	C	C	A			
Approach Delay (s)		17.2			13.0			10.8			0.0	
Approach LOS		B			B			B			A	

Intersection Summary		
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.30	B
Actuated Cycle Length (s)	90.0	Sum of lost time (s)
Intersection Capacity Utilization	59.5%	ICU Level of Service
Analysis Period (min)	15	B

c Critical Lane Group

HCM 6th Roundabout  
 1: Woodcarver Road/Old Denver Road & Baptist Road

11/11/2021

Intersection				
Intersection Delay, s/veh	4.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	121	380	23	160
Demand Flow Rate, veh/h	123	388	23	163
Vehicles Circulating, veh/h	155	25	264	153
Vehicles Exiting, veh/h	161	262	14	260
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.0	5.3	3.6	4.3
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	123	388	23	163
Cap Entry Lane, veh/h	1178	1345	1054	1180
Entry HV Adj Factor	0.983	0.980	0.994	0.981
Flow Entry, veh/h	121	380	23	160
Cap Entry, veh/h	1158	1318	1048	1158
V/C Ratio	0.104	0.288	0.022	0.138
Control Delay, s/veh	4.0	5.3	3.6	4.3
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

HCM 6th TWSC  
3: Terrazzo Drive & Baptist Road

11/11/2021

**Intersection**

Int Delay, s/veh 3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗		
Traffic Vol, veh/h	1	252	25	136	412	0	21	1	134	22	1	2
Future Vol, veh/h	1	252	25	136	412	0	21	1	134	22	1	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	160	-	-	420	-	-	135	-	0	255	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	274	27	148	448	0	23	1	146	24	1	2

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	448	0	0	301
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.14	-	-	4.14
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22
Pot Cap-1 Maneuver	1109	-	-	1257
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1109	-	-	1257
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2	11.6	26.3
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	245	204	868	1109	-	-	1257	-	-	181	396
HCM Lane V/C Ratio	0.093	0.005	0.168	0.001	-	-	0.118	-	-	0.132	0.008
HCM Control Delay (s)	21.2	22.7	10	8.2	-	-	8.2	-	-	27.9	14.2
HCM Lane LOS	C	C	B	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.3	0	0.6	0	-	-	0.4	-	-	0.4	0

# Timings

## 4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Configurations	↑↑↑↑	↑	↔↔	↑↑	↔	↔
Traffic Volume (vph)	187	239	552	475	299	0
Future Volume (vph)	187	239	552	475	299	0
Turn Type	NA	Perm	Prot	NA	Split	NA
Protected Phases	2		1	6	4	4
Permitted Phases		2				
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	6.0	6.0	19.0	19.0	6.0	6.0
Minimum Split (s)	12.0	12.0	25.0	25.0	12.0	12.0
Total Split (s)	25.0	25.0	31.0	56.0	34.0	34.0
Total Split (%)	27.8%	27.8%	34.4%	62.2%	37.8%	37.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Act Effct Green (s)	22.7	22.7	21.3	50.0	28.0	28.0
Actuated g/C Ratio	0.25	0.25	0.24	0.56	0.31	0.31
v/c Ratio	0.13	0.44	0.74	0.26	0.59	0.20
Control Delay	27.0	6.6	32.1	12.8	31.4	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	6.6	32.1	12.8	31.4	0.6
LOS	C	A	C	B	C	A
Approach Delay	15.6			23.2		22.0
Approach LOS	B			C		C

### Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 35 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 21.2

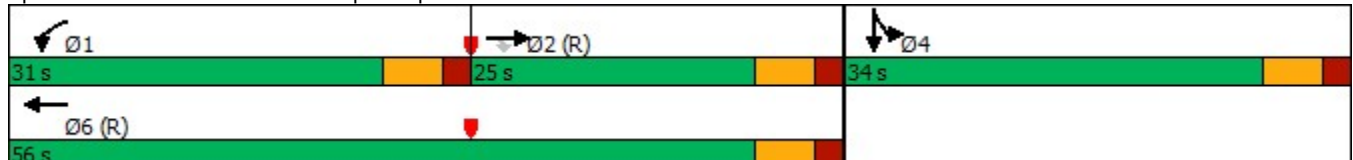
Intersection LOS: C

Intersection Capacity Utilization 62.2%

ICU Level of Service B

Analysis Period (min) 15

### Splits and Phases: 4: I-25 S Ramp & Baptist Road



Queues

4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	203	260	600	516	325	143
v/c Ratio	0.13	0.44	0.74	0.26	0.59	0.20
Control Delay	27.0	6.6	32.1	12.8	31.4	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	6.6	32.1	12.8	31.4	0.6
Queue Length 50th (ft)	25	0	174	48	155	0
Queue Length 95th (ft)	43	61	223	63	243	0
Internal Link Dist (ft)	557			464		409
Turn Bay Length (ft)		375				
Base Capacity (vph)	1613	593	953	1966	550	717
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	0.13	0.44	0.63	0.26	0.59	0.20

Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 4: I-25 S Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑					↘	↗	
Traffic Volume (vph)	0	187	239	552	475	0	0	0	0	299	0	132
Future Volume (vph)	0	187	239	552	475	0	0	0	0	299	0	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Lane Util. Factor		0.86	1.00	0.97	0.95					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	3539					1770	1583	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	3539					1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	203	260	600	516	0	0	0	0	325	0	143
RTOR Reduction (vph)	0	0	194	0	0	0	0	0	0	0	99	0
Lane Group Flow (vph)	0	203	66	600	516	0	0	0	0	325	44	0
Turn Type		NA	Perm	Prot	NA					Split	NA	
Protected Phases		2		1	6					4	4	
Permitted Phases			2									
Actuated Green, G (s)		22.7	22.7	21.3	50.0					28.0	28.0	
Effective Green, g (s)		22.7	22.7	21.3	50.0					28.0	28.0	
Actuated g/C Ratio		0.25	0.25	0.24	0.56					0.31	0.31	
Clearance Time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1616	399	812	1966					550	492	
v/s Ratio Prot		0.03		c0.17	c0.15					c0.18	0.03	
v/s Ratio Perm			0.04									
v/c Ratio		0.13	0.16	0.74	0.26					0.59	0.09	
Uniform Delay, d1		26.0	26.3	31.8	10.4					26.2	22.0	
Progression Factor		1.00	1.00	0.83	1.19					1.00	1.00	
Incremental Delay, d2		0.2	0.9	3.4	0.3					4.6	0.4	
Delay (s)		26.1	27.1	30.0	12.7					30.8	22.3	
Level of Service		C	C	C	B					C	C	
Approach Delay (s)		26.7			22.0			0.0			28.2	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

# Timings

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↷	↑↑	↑↑↑	↷	↶	↶	↷
Traffic Volume (vph)	66	405	734	203	294	1	971
Future Volume (vph)	66	405	734	203	294	1	971
Turn Type	Prot	NA	NA	Perm	Split	NA	Free
Protected Phases	5	2	6		8	8	
Permitted Phases				6			Free
Detector Phase	5	2	6	6	8	8	
Switch Phase							
Minimum Initial (s)	6.0	19.0	19.0	19.0	6.0	6.0	
Minimum Split (s)	12.0	25.0	46.0	46.0	24.0	24.0	
Total Split (s)	20.0	66.0	46.0	46.0	24.0	24.0	
Total Split (%)	22.2%	73.3%	51.1%	51.1%	26.7%	26.7%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	
Act Effct Green (s)	7.4	60.0	49.0	49.0	18.0	18.0	90.0
Actuated g/C Ratio	0.08	0.67	0.54	0.54	0.20	0.20	1.00
v/c Ratio	0.26	0.19	0.23	0.23	0.48	0.48	0.67
Control Delay	37.7	9.4	11.5	2.4	37.3	37.3	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.7	9.4	11.5	2.4	37.3	37.3	2.2
LOS	D	A	B	A	D	D	A
Approach Delay		13.4	9.6			10.4	
Approach LOS		B	A			B	

### Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 10.6

Intersection LOS: B

Intersection Capacity Utilization 62.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: I-25 N Ramp & Baptist Road



# Queues

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	72	440	798	221	160	161	1055
v/c Ratio	0.26	0.19	0.23	0.23	0.48	0.48	0.67
Control Delay	37.7	9.4	11.5	2.4	37.3	37.3	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.7	9.4	11.5	2.4	37.3	37.3	2.2
Queue Length 50th (ft)	16	55	68	0	85	86	0
Queue Length 95th (ft)	m31	79	91	34	150	150	0
Internal Link Dist (ft)		464	805			356	
Turn Bay Length (ft)	570						
Base Capacity (vph)	534	2359	3490	963	336	337	1583
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.19	0.23	0.23	0.48	0.48	0.67

### Intersection Summary

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



# HCM Signalized Intersection Capacity Analysis

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑			↑↑↑	↖	↖	↖	↖			
Traffic Volume (vph)	66	405	0	0	734	203	294	1	971	0	0	0
Future Volume (vph)	66	405	0	0	734	203	294	1	971	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	4.0			
Lane Util. Factor	0.97	0.95			0.86	1.00	0.95	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3433	3539			6408	1583	1681	1686	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3433	3539			6408	1583	1681	1686	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	440	0	0	798	221	320	1	1055	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	104	0	0	0	0	0	0
Lane Group Flow (vph)	72	440	0	0	798	117	160	161	1055	0	0	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Free			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			Free			
Actuated Green, G (s)	6.2	60.0			47.8	47.8	18.0	18.0	90.0			
Effective Green, g (s)	6.2	60.0			47.8	47.8	18.0	18.0	90.0			
Actuated g/C Ratio	0.07	0.67			0.53	0.53	0.20	0.20	1.00			
Clearance Time (s)	6.0	6.0			6.0	6.0	6.0	6.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	236	2359			3403	840	336	337	1583			
v/s Ratio Prot	0.02	0.12			0.12		0.10	0.10				
v/s Ratio Perm						0.07			c0.67			
v/c Ratio	0.31	0.19			0.23	0.14	0.48	0.48	0.67			
Uniform Delay, d1	39.9	5.7			11.3	10.7	31.8	31.8	0.0			
Progression Factor	0.93	1.60			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.7	0.2			0.2	0.3	4.8	4.8	2.2			
Delay (s)	37.7	9.3			11.5	11.0	36.6	36.6	2.2			
Level of Service	D	A			B	B	D	D	A			
Approach Delay (s)		13.3			11.4			10.3			0.0	
Approach LOS		B			B			B			A	

Intersection Summary		
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.83	B
Actuated Cycle Length (s)	90.0	Sum of lost time (s)
Intersection Capacity Utilization	62.2%	18.0
Analysis Period (min)	15	ICU Level of Service
		B

c Critical Lane Group

**APPENDIX E - Background (without site development) Synchro  
Outputs**

HCM 6th Roundabout  
 1: Woodcarver Road/Old Denver Road & Baptist Road

11/11/2021

Intersection				
Intersection Delay, s/veh	4.2			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	120	248	13	170
Demand Flow Rate, veh/h	122	253	13	173
Vehicles Circulating, veh/h	191	15	282	107
Vehicles Exiting, veh/h	89	280	31	161
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.2	4.2	3.6	4.1
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	122	253	13	173
Cap Entry Lane, veh/h	1136	1359	1035	1237
Entry HV Adj Factor	0.982	0.982	0.992	0.982
Flow Entry, veh/h	120	248	13	170
Cap Entry, veh/h	1115	1334	1027	1214
V/C Ratio	0.107	0.186	0.013	0.140
Control Delay, s/veh	4.2	4.2	3.6	4.1
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

# Timings

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	Ø7
Lane Configurations	↑↑	↑	↗↖	↑↓	↖	↑	↗	↖	↓	
Traffic Volume (vph)	283	23	118	215	11	1	153	33	4	
Future Volume (vph)	283	23	118	215	11	1	153	33	4	
Turn Type	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	4		3	8	5	2		1	6	7
Permitted Phases		4	8		2		2	6		
Detector Phase	4	4	3	8	5	2	2	1	6	
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	9.5	22.5	22.5	9.5	22.5	9.5
Total Split (s)	24.0	24.0	10.0	24.5	10.0	26.0	26.0	10.0	26.0	9.5
Total Split (%)	34.3%	34.3%	14.3%	35.0%	14.3%	37.1%	37.1%	14.3%	37.1%	14%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Act Effct Green (s)	11.5	11.5	20.6	19.5	39.3	36.9	36.9	40.8	39.3	
Actuated g/C Ratio	0.16	0.16	0.29	0.28	0.56	0.53	0.53	0.58	0.56	
v/c Ratio	0.53	0.06	0.19	0.24	0.01	0.00	0.18	0.04	0.00	
Control Delay	29.7	0.3	18.1	18.7	8.1	14.0	1.4	8.0	11.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	29.7	0.3	18.1	18.7	8.1	14.0	1.4	8.0	11.0	
LOS	C	A	B	B	A	B	A	A	B	
Approach Delay	27.5			18.5		1.9			8.3	
Approach LOS	C			B		A			A	

### Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 18.0

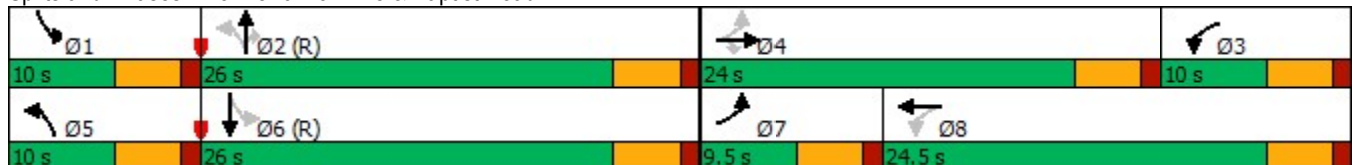
Intersection LOS: B

Intersection Capacity Utilization 32.7%

ICU Level of Service A

Analysis Period (min) 15

### Splits and Phases: 3: Terrazzo Drive & Baptist Road



Queues

3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	308	25	128	234	12	1	166	36	5
v/c Ratio	0.53	0.06	0.19	0.24	0.01	0.00	0.18	0.04	0.00
Control Delay	29.7	0.3	18.1	18.7	8.1	14.0	1.4	8.0	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.7	0.3	18.1	18.7	8.1	14.0	1.4	8.0	11.0
Queue Length 50th (ft)	64	0	20	38	2	0	0	6	1
Queue Length 95th (ft)	95	0	35	58	10	3	15	20	7
Internal Link Dist (ft)	423			557		495			367
Turn Bay Length (ft)		310	420		135			255	
Base Capacity (vph)	985	559	675	1106	819	982	945	823	1014
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.04	0.19	0.21	0.01	0.00	0.18	0.04	0.00

Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	283	23	118	215	0	11	1	153	33	4	1
Future Volume (vph)	0	283	23	118	215	0	11	1	153	33	4	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		0.95	1.00	0.97	0.95		1.00	1.00	1.00	1.00	1.00	
Fr <sub>t</sub>		1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.97	
Fl <sub>t</sub> Protected		1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3539	1583	3433	3539		1770	1863	1583	1770	1807	
Fl <sub>t</sub> Permitted		1.00	1.00	0.52	1.00		0.75	1.00	1.00	0.72	1.00	
Satd. Flow (perm)		3539	1583	1875	3539		1405	1863	1583	1350	1807	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	308	25	128	234	0	12	1	166	36	4	1
RTOR Reduction (vph)	0	0	21	0	0	0	0	0	87	0	1	0
Lane Group Flow (vph)	0	308	4	128	234	0	12	1	79	36	4	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)		11.5	11.5	20.4	20.4		34.6	33.3	33.3	37.6	34.8	
Effective Green, g (s)		11.5	11.5	20.4	20.4		34.6	33.3	33.3	37.6	34.8	
Actuated g/C Ratio		0.16	0.16	0.29	0.29		0.49	0.48	0.48	0.54	0.50	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		581	260	644	1031		701	886	753	741	898	
v/s Ratio Prot		c0.09		0.01	c0.07		0.00	0.00		c0.00	0.00	
v/s Ratio Perm			0.00	0.05			0.01		c0.05	0.02		
v/c Ratio		0.53	0.02	0.20	0.23		0.02	0.00	0.10	0.05	0.01	
Uniform Delay, d <sub>1</sub>		26.8	24.5	19.7	18.8		9.0	9.6	10.1	7.7	8.9	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d <sub>2</sub>		0.9	0.0	0.2	0.1		0.0	0.0	0.3	0.0	0.0	
Delay (s)		27.7	24.5	19.9	18.9		9.0	9.6	10.4	7.7	8.9	
Level of Service		C	C	B	B		A	A	B	A	A	
Approach Delay (s)		27.5		19.3			10.3			7.8		
Approach LOS		C		B			B			A		

Intersection Summary		
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.22	B
Actuated Cycle Length (s)	70.0	Sum of lost time (s)
Intersection Capacity Utilization	32.7%	18.0
Analysis Period (min)	15	ICU Level of Service
		A

c Critical Lane Group

# Timings

## 4: I-25 S Ramp & Baptist Road

11/11/2021

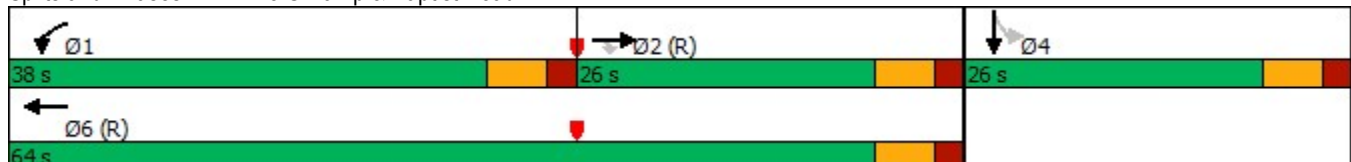


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Configurations	↑↑↑↑	↑	↔↔	↑↑	↔	↔
Traffic Volume (vph)	189	282	694	300	130	0
Future Volume (vph)	189	282	694	300	130	0
Turn Type	NA	Perm	Prot	NA	Perm	NA
Protected Phases	2		1	6		4
Permitted Phases		2			4	
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	6.0	6.0	19.0	19.0	6.0	6.0
Minimum Split (s)	24.0	24.0	25.0	25.0	24.0	24.0
Total Split (s)	26.0	26.0	38.0	64.0	26.0	26.0
Total Split (%)	28.9%	28.9%	42.2%	71.1%	28.9%	28.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Act Effct Green (s)	26.6	26.6	25.4	58.0	20.0	20.0
Actuated g/C Ratio	0.30	0.30	0.28	0.64	0.22	0.22
v/c Ratio	0.11	0.45	0.78	0.14	0.36	0.13
Control Delay	24.6	5.8	44.2	5.2	32.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	5.8	44.2	5.2	32.7	0.3
LOS	C	A	D	A	C	A
Approach Delay	13.4			32.5		19.1
Approach LOS	B			C		B

### Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 25.4  
 Intersection LOS: C  
 Intersection Capacity Utilization 59.5%  
 ICU Level of Service B  
 Analysis Period (min) 15

### Splits and Phases: 4: I-25 S Ramp & Baptist Road



Queues

4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	205	307	754	326	141	102
v/c Ratio	0.11	0.45	0.78	0.14	0.36	0.13
Control Delay	24.6	5.8	44.2	5.2	32.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	5.8	44.2	5.2	32.7	0.3
Queue Length 50th (ft)	24	0	240	28	68	0
Queue Length 95th (ft)	42	64	300	41	123	0
Internal Link Dist (ft)	557			464		409
Turn Bay Length (ft)		375				
Base Capacity (vph)	1895	684	1220	2280	393	795
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	0.11	0.45	0.62	0.14	0.36	0.13

Intersection Summary



HCM Signalized Intersection Capacity Analysis  
 4: I-25 S Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑					↘	↗	
Traffic Volume (vph)	0	189	282	694	300	0	0	0	0	130	0	94
Future Volume (vph)	0	189	282	694	300	0	0	0	0	130	0	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Lane Util. Factor		0.86	1.00	0.97	0.95					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	3539					1770	1583	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	3539					1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	205	307	754	326	0	0	0	0	141	0	102
RTOR Reduction (vph)	0	0	216	0	0	0	0	0	0	0	79	0
Lane Group Flow (vph)	0	205	91	754	326	0	0	0	0	141	23	0
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2		1	6						4	
Permitted Phases			2									4
Actuated Green, G (s)		26.6	26.6	25.4	58.0					20.0	20.0	
Effective Green, g (s)		26.6	26.6	25.4	58.0					20.0	20.0	
Actuated g/C Ratio		0.30	0.30	0.28	0.64					0.22	0.22	
Clearance Time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1893	467	968	2280					393	351	
v/s Ratio Prot		0.03		c0.22	0.09						0.01	
v/s Ratio Perm			c0.06							c0.08		
v/c Ratio		0.11	0.19	0.78	0.14					0.36	0.06	
Uniform Delay, d1		23.1	23.7	29.7	6.3					29.6	27.6	
Progression Factor		1.00	1.00	1.30	0.81					1.00	1.00	
Incremental Delay, d2		0.1	0.9	3.9	0.1					2.5	0.4	
Delay (s)		23.2	24.6	42.7	5.2					32.1	28.0	
Level of Service		C	C	D	A					C	C	
Approach Delay (s)		24.0			31.4			0.0			30.4	
Approach LOS		C			C			A			C	

**Intersection Summary**

HCM 2000 Control Delay	29.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

# Timings

## 5: I-25 N Ramp & Baptist Road

11/11/2021

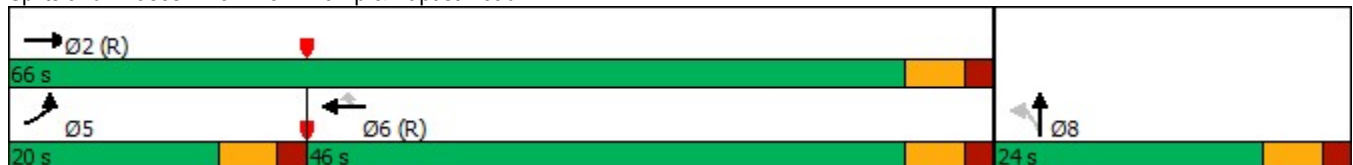


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↶	↶↶	↶↶↶	↷	↶	↶	↷
Traffic Volume (vph)	111	206	853	304	162	1	337
Future Volume (vph)	111	206	853	304	162	1	337
Turn Type	Prot	NA	NA	Perm	Perm	NA	Free
Protected Phases	5	2	6			8	
Permitted Phases				6	8		Free
Detector Phase	5	2	6	6	8	8	
Switch Phase							
Minimum Initial (s)	6.0	19.0	19.0	19.0	6.0	6.0	
Minimum Split (s)	12.0	25.0	25.0	25.0	24.0	24.0	
Total Split (s)	20.0	66.0	46.0	46.0	24.0	24.0	
Total Split (%)	22.2%	73.3%	51.1%	51.1%	26.7%	26.7%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	
Act Effct Green (s)	8.5	60.0	45.5	45.5	18.0	18.0	90.0
Actuated g/C Ratio	0.09	0.67	0.51	0.51	0.20	0.20	1.00
v/c Ratio	0.37	0.09	0.29	0.34	0.26	0.26	0.23
Control Delay	53.3	4.7	13.4	2.6	32.9	32.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.3	4.7	13.4	2.6	32.9	32.9	0.3
LOS	D	A	B	A	C	C	A
Approach Delay		21.7	10.6			11.0	
Approach LOS		C	B			B	

### Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.37  
 Intersection Signal Delay: 12.5  
 Intersection LOS: B  
 Intersection Capacity Utilization 59.5%  
 ICU Level of Service B  
 Analysis Period (min) 15

### Splits and Phases: 5: I-25 N Ramp & Baptist Road



# Queues

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	121	224	927	330	88	89	366
v/c Ratio	0.37	0.09	0.29	0.34	0.26	0.26	0.23
Control Delay	53.3	4.7	13.4	2.6	32.9	32.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.3	4.7	13.4	2.6	32.9	32.9	0.3
Queue Length 50th (ft)	39	10	84	0	45	45	0
Queue Length 95th (ft)	68	27	111	43	89	90	0
Internal Link Dist (ft)		464	805			356	
Turn Bay Length (ft)	570						
Base Capacity (vph)	534	2359	3236	962	336	337	1583
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.09	0.29	0.34	0.26	0.26	0.23

### Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕			↕↕↕	↖	↖	↖	↖			
Traffic Volume (vph)	111	206	0	0	853	304	162	1	337	0	0	0
Future Volume (vph)	111	206	0	0	853	304	162	1	337	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	4.0			
Lane Util. Factor	0.97	0.95			0.86	1.00	0.95	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3433	3539			6408	1583	1681	1686	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3433	3539			6408	1583	1681	1686	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	121	224	0	0	927	330	176	1	366	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	163	0	0	0	0	0	0
Lane Group Flow (vph)	121	224	0	0	927	167	88	89	366	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Free			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		Free			
Actuated Green, G (s)	8.5	60.0			45.5	45.5	18.0	18.0	90.0			
Effective Green, g (s)	8.5	60.0			45.5	45.5	18.0	18.0	90.0			
Actuated g/C Ratio	0.09	0.67			0.51	0.51	0.20	0.20	1.00			
Clearance Time (s)	6.0	6.0			6.0	6.0	6.0	6.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	324	2359			3239	800	336	337	1583			
v/s Ratio Prot	0.04	0.06			c0.14							
v/s Ratio Perm						0.11	0.05	0.05	c0.23			
v/c Ratio	0.37	0.09			0.29	0.21	0.26	0.26	0.23			
Uniform Delay, d1	38.3	5.3			12.9	12.3	30.4	30.4	0.0			
Progression Factor	1.33	0.85			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.7	0.1			0.2	0.6	1.9	1.9	0.3			
Delay (s)	51.4	4.6			13.1	12.9	32.3	32.3	0.3			
Level of Service	D	A			B	B	C	C	A			
Approach Delay (s)		21.0			13.0			10.8			0.0	
Approach LOS		C			B			B			A	

Intersection Summary		
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.30	B
Actuated Cycle Length (s)	90.0	Sum of lost time (s)
Intersection Capacity Utilization	59.5%	ICU Level of Service
Analysis Period (min)	15	B

c Critical Lane Group

# HCM Unsignalized Intersection Capacity Analysis

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	283	23	118	215	0	11	1	153	33	4	1
Future Volume (Veh/h)	0	283	23	118	215	0	11	1	153	33	4	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	0	308	25	128	234	0	12	1	166	36	4	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)					637							
pX, platoon unblocked												
vC, conflicting volume	234			333			684	798	154	810	823	117
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	234			333			684	798	154	810	823	117
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			90			96	100	81	82	99	100
cM capacity (veh/h)	1331			1223			304	284	864	201	275	913

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2	NB 3	SB 1
Volume Total	0	154	154	25	64	64	156	78	12	1	166	36
Volume Left	0	0	0	0	64	64	0	0	12	0	0	36
Volume Right	0	0	0	25	0	0	0	0	0	0	166	0
cSH	1700	1700	1700	1700	1223	1223	1700	1700	304	284	864	201
Volume to Capacity	0.00	0.09	0.09	0.01	0.10	0.10	0.09	0.05	0.04	0.00	0.19	0.18
Queue Length 95th (ft)	0	0	0	0	9	9	0	0	3	0	18	16
Control Delay (s)	0.0	0.0	0.0	0.0	8.3	8.3	0.0	0.0	17.3	17.7	10.2	26.8
Lane LOS					A	A			C	C	B	D
Approach Delay (s)	0.0				2.9				10.7			25.5
Approach LOS									B			D

Intersection Summary												
Average Delay				4.4								
Intersection Capacity Utilization			30.6%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM 6th Roundabout  
 1: Woodcarver Road/Old Denver Road & Baptist Road

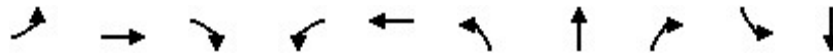
11/11/2021

Intersection				
Intersection Delay, s/veh	4.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	123	385	23	162
Demand Flow Rate, veh/h	125	393	23	165
Vehicles Circulating, veh/h	157	25	268	155
Vehicles Exiting, veh/h	163	266	14	263
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.0	5.3	3.6	4.3
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	125	393	23	165
Cap Entry Lane, veh/h	1176	1345	1050	1178
Entry HV Adj Factor	0.983	0.980	0.994	0.981
Flow Entry, veh/h	123	385	23	162
Cap Entry, veh/h	1156	1318	1044	1156
V/C Ratio	0.106	0.292	0.022	0.140
Control Delay, s/veh	4.0	5.3	3.6	4.3
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

# Timings

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↑↑	↗	↖↗	↑↑	↖	↑	↗	↖	↗
Traffic Volume (vph)	1	255	25	136	417	21	1	134	22	1
Future Volume (vph)	1	255	25	136	417	21	1	134	22	1
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4		3	8	5	2		1	6
Permitted Phases	4		4	8		2		2	6	
Detector Phase	7	4	4	3	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5	9.5	22.5
Total Split (s)	9.5	22.6	22.6	13.0	26.1	9.6	24.9	24.9	9.5	24.8
Total Split (%)	13.6%	32.3%	32.3%	18.6%	37.3%	13.7%	35.6%	35.6%	13.6%	35.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	11.3	11.3	11.3	19.4	18.3	39.0	36.4	36.4	39.1	36.4
Actuated g/C Ratio	0.16	0.16	0.16	0.28	0.26	0.56	0.52	0.52	0.56	0.52
v/c Ratio	0.01	0.49	0.07	0.21	0.49	0.03	0.00	0.16	0.03	0.00
Control Delay	23.0	29.6	0.4	20.3	23.4	8.7	15.0	0.9	8.6	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	29.6	0.4	20.3	23.4	8.7	15.0	0.9	8.6	12.3
LOS	C	C	A	C	C	A	B	A	A	B
Approach Delay		27.0			22.7		2.0			9.0
Approach LOS		C			C		A			A

### Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 20.3

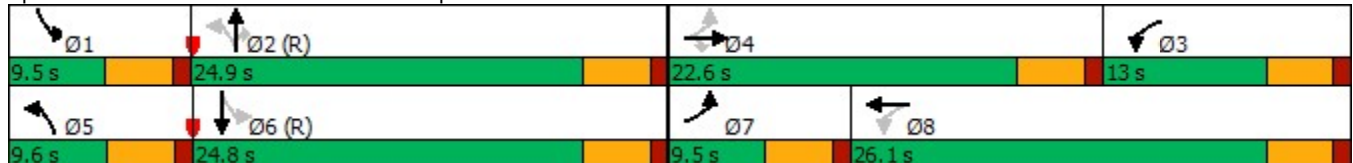
Intersection LOS: C

Intersection Capacity Utilization 34.8%

ICU Level of Service A

Analysis Period (min) 15

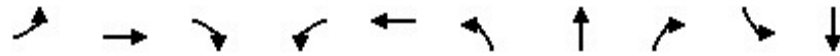
### Splits and Phases: 3: Terrazzo Drive & Baptist Road



Queues

3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1	277	27	148	453	23	1	146	24	3
v/c Ratio	0.01	0.49	0.07	0.21	0.49	0.03	0.00	0.16	0.03	0.00
Control Delay	23.0	29.6	0.4	20.3	23.4	8.7	15.0	0.9	8.6	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	29.6	0.4	20.3	23.4	8.7	15.0	0.9	8.6	12.3
Queue Length 50th (ft)	0	58	0	24	82	4	0	0	4	0
Queue Length 95th (ft)	4	88	0	46	127	16	4	8	17	6
Internal Link Dist (ft)		423			557		495			367
Turn Bay Length (ft)	160		310	420		135			255	
Base Capacity (vph)	191	915	530	820	1096	815	968	935	817	872
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	0.01	0.30	0.05	0.18	0.41	0.03	0.00	0.16	0.03	0.00

Intersection Summary



# HCM Signalized Intersection Capacity Analysis

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘↗	↑↑		↘	↑	↗	↘	↗	
Traffic Volume (vph)	1	255	25	136	417	0	21	1	134	22	1	2
Future Volume (vph)	1	255	25	136	417	0	21	1	134	22	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1770	1863	1583	1770	1676	
Flt Permitted	0.39	1.00	1.00	0.58	1.00		0.76	1.00	1.00	0.76	1.00	
Satd. Flow (perm)	723	3539	1583	2101	3539		1408	1863	1583	1410	1676	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	277	27	148	453	0	23	1	146	24	1	2
RTOR Reduction (vph)	0	0	23	0	0	0	0	0	83	0	1	0
Lane Group Flow (vph)	1	277	4	148	453	0	23	1	63	24	2	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	11.3	11.3	11.3	18.3	18.3		32.7	30.1	30.1	32.7	30.1	
Effective Green, g (s)	11.3	11.3	11.3	18.3	18.3		32.7	30.1	30.1	32.7	30.1	
Actuated g/C Ratio	0.16	0.16	0.16	0.26	0.26		0.47	0.43	0.43	0.47	0.43	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	131	571	255	701	925		671	801	680	672	720	
v/s Ratio Prot	0.00	c0.08		0.02	c0.13		0.00	0.00		c0.00	0.00	
v/s Ratio Perm	0.00		0.00	0.03			0.01		c0.04	0.02		
v/c Ratio	0.01	0.49	0.02	0.21	0.49		0.03	0.00	0.09	0.04	0.00	
Uniform Delay, d1	24.9	26.7	24.7	20.5	21.9		10.1	11.4	11.8	10.1	11.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.7	0.0	0.2	0.4		0.0	0.0	0.3	0.0	0.0	
Delay (s)	24.9	27.4	24.7	20.7	22.3		10.1	11.4	12.1	10.1	11.4	
Level of Service	C	C	C	C	C		B	B	B	B	B	
Approach Delay (s)		27.1			21.9			11.8			10.2	
Approach LOS		C			C			B			B	

Intersection Summary		
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.26	
Actuated Cycle Length (s)	70.0	Sum of lost time (s) 18.0
Intersection Capacity Utilization	34.8%	ICU Level of Service A
Analysis Period (min)	15	

c Critical Lane Group

# Timings

## 4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Configurations	↑↑↑↑	↑	↙↘	↑↑	↙	↘
Traffic Volume (vph)	189	239	552	481	299	0
Future Volume (vph)	189	239	552	481	299	0
Turn Type	NA	Perm	Prot	NA	Perm	NA
Protected Phases	2		1	6		4
Permitted Phases		2			4	
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	6.0	6.0	19.0	19.0	6.0	6.0
Minimum Split (s)	24.0	24.0	25.0	25.0	24.0	24.0
Total Split (s)	30.0	30.0	28.0	58.0	32.0	32.0
Total Split (%)	33.3%	33.3%	31.1%	64.4%	35.6%	35.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Act Effct Green (s)	25.5	25.5	20.5	52.0	26.0	26.0
Actuated g/C Ratio	0.28	0.28	0.23	0.58	0.29	0.29
v/c Ratio	0.11	0.41	0.77	0.26	0.64	0.21
Control Delay	24.5	5.7	32.4	7.4	34.5	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	5.7	32.4	7.4	34.5	0.7
LOS	C	A	C	A	C	A
Approach Delay	14.0			20.8		24.2
Approach LOS	B			C		C

### Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 35 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 20.0

Intersection LOS: C

Intersection Capacity Utilization 62.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: I-25 S Ramp & Baptist Road



Queues

4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	205	260	600	523	325	143
v/c Ratio	0.11	0.41	0.77	0.26	0.64	0.21
Control Delay	24.5	5.7	32.4	7.4	34.5	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	5.7	32.4	7.4	34.5	0.7
Queue Length 50th (ft)	25	0	90	33	160	0
Queue Length 95th (ft)	40	57	229	51	252	0
Internal Link Dist (ft)	557			464		409
Turn Bay Length (ft)		375				
Base Capacity (vph)	1812	633	839	2044	511	696
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	0.11	0.41	0.72	0.26	0.64	0.21

Intersection Summary

HCM Signalized Intersection Capacity Analysis  
 4: I-25 S Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑					↘	↗	
Traffic Volume (vph)	0	189	239	552	481	0	0	0	0	299	0	132
Future Volume (vph)	0	189	239	552	481	0	0	0	0	299	0	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Lane Util. Factor		0.86	1.00	0.97	0.95					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	3539					1770	1583	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	3539					1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	205	260	600	523	0	0	0	0	325	0	143
RTOR Reduction (vph)	0	0	186	0	0	0	0	0	0	0	102	0
Lane Group Flow (vph)	0	205	74	600	523	0	0	0	0	325	41	0
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2		1	6							4
Permitted Phases			2							4		
Actuated Green, G (s)		25.5	25.5	20.5	52.0					26.0	26.0	
Effective Green, g (s)		25.5	25.5	20.5	52.0					26.0	26.0	
Actuated g/C Ratio		0.28	0.28	0.23	0.58					0.29	0.29	
Clearance Time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1815	448	781	2044					511	457	
v/s Ratio Prot		0.03		c0.17	c0.15							0.03
v/s Ratio Perm			0.05							c0.18		
v/c Ratio		0.11	0.16	0.77	0.26					0.64	0.09	
Uniform Delay, d1		23.9	24.2	32.5	9.4					27.9	23.4	
Progression Factor		1.00	1.00	0.78	0.75					1.00	1.00	
Incremental Delay, d2		0.1	0.8	4.4	0.3					5.9	0.4	
Delay (s)		24.0	25.0	29.9	7.3					33.8	23.8	
Level of Service		C	C	C	A					C	C	
Approach Delay (s)		24.6			19.4			0.0			30.7	
Approach LOS		C			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

# Timings

## 5: I-25 N Ramp & Baptist Road

11/11/2021

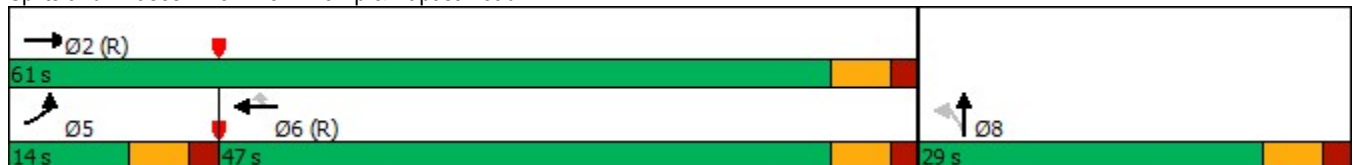


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↷	↶↷	↶↷↶	↷	↶	↶	↷
Traffic Volume (vph)	66	410	743	203	294	1	971
Future Volume (vph)	66	410	743	203	294	1	971
Turn Type	Prot	NA	NA	Perm	Perm	NA	Free
Protected Phases	5	2	6			8	
Permitted Phases				6	8		Free
Detector Phase	5	2	6	6	8	8	
Switch Phase							
Minimum Initial (s)	6.0	19.0	19.0	19.0	6.0	6.0	
Minimum Split (s)	12.0	25.0	46.0	46.0	24.0	24.0	
Total Split (s)	14.0	61.0	47.0	47.0	29.0	29.0	
Total Split (%)	15.6%	67.8%	52.2%	52.2%	32.2%	32.2%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	
Act Effct Green (s)	7.2	55.0	44.2	44.2	23.0	23.0	90.0
Actuated g/C Ratio	0.08	0.61	0.49	0.49	0.26	0.26	1.00
v/c Ratio	0.26	0.21	0.26	0.25	0.37	0.37	0.67
Control Delay	38.0	13.3	14.3	2.9	30.6	30.6	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	13.3	14.3	2.9	30.6	30.6	2.2
LOS	D	B	B	A	C	C	A
Approach Delay		16.8	11.8			8.9	
Approach LOS		B	B			A	

### Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.67  
 Intersection Signal Delay: 11.3  
 Intersection Capacity Utilization 62.2%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service B

### Splits and Phases: 5: I-25 N Ramp & Baptist Road



# Queues

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	72	446	808	221	160	161	1055
v/c Ratio	0.26	0.21	0.26	0.25	0.37	0.37	0.67
Control Delay	38.0	13.3	14.3	2.9	30.6	30.6	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	13.3	14.3	2.9	30.6	30.6	2.2
Queue Length 50th (ft)	15	58	78	0	78	78	0
Queue Length 95th (ft)	m30	90	102	38	138	140	0
Internal Link Dist (ft)		464	805			356	
Turn Bay Length (ft)	570						
Base Capacity (vph)	305	2162	3148	890	429	430	1583
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.21	0.26	0.25	0.37	0.37	0.67

### Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑			↑↑↑↑	↖	↖	↖	↖			
Traffic Volume (vph)	66	410	0	0	743	203	294	1	971	0	0	0
Future Volume (vph)	66	410	0	0	743	203	294	1	971	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	4.0			
Lane Util. Factor	0.97	0.95			0.86	1.00	0.95	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3433	3539			6408	1583	1681	1686	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3433	3539			6408	1583	1681	1686	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	446	0	0	808	221	320	1	1055	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	115	0	0	0	0	0	0
Lane Group Flow (vph)	72	446	0	0	808	106	160	161	1055	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Free			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		Free			
Actuated Green, G (s)	6.0	55.0			43.0	43.0	23.0	23.0	90.0			
Effective Green, g (s)	6.0	55.0			43.0	43.0	23.0	23.0	90.0			
Actuated g/C Ratio	0.07	0.61			0.48	0.48	0.26	0.26	1.00			
Clearance Time (s)	6.0	6.0			6.0	6.0	6.0	6.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	228	2162			3061	756	429	430	1583			
v/s Ratio Prot	0.02	0.13			0.13							
v/s Ratio Perm						0.07	0.10	0.10	c0.67			
v/c Ratio	0.32	0.21			0.26	0.14	0.37	0.37	0.67			
Uniform Delay, d1	40.0	7.8			14.0	13.1	27.6	27.6	0.0			
Progression Factor	0.92	1.67			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.7	0.2			0.2	0.4	2.5	2.5	2.2			
Delay (s)	37.7	13.2			14.3	13.5	30.0	30.1	2.2			
Level of Service	D	B			B	B	C	C	A			
Approach Delay (s)		16.6			14.1			8.7			0.0	
Approach LOS		B			B			A			A	

Intersection Summary		
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.83	B
Actuated Cycle Length (s)	90.0	Sum of lost time (s)
Intersection Capacity Utilization	62.2%	18.0
Analysis Period (min)	15	ICU Level of Service
		B

c Critical Lane Group

# HCM Unsignalized Intersection Capacity Analysis

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	255	25	136	417	0	21	1	134	22	1	2
Future Volume (Veh/h)	1	255	25	136	417	0	21	1	134	22	1	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	1	277	27	148	453	0	23	1	146	24	1	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)					637							
pX, platoon unblocked	0.99						0.99	0.99		0.99	0.99	0.99
vC, conflicting volume	453			304			804	1028	138	1036	1055	226
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	428			304			782	1008	138	1017	1036	199
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			88			91	100	83	83	100	100
cM capacity (veh/h)	1117			1254			254	208	884	144	201	801
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2	NB 3	SB 1
Volume Total	1	138	138	27	74	74	302	151	23	1	146	24
Volume Left	1	0	0	0	74	74	0	0	23	0	0	24
Volume Right	0	0	0	27	0	0	0	0	0	0	146	0
cSH	1117	1700	1700	1700	1254	1254	1700	1700	254	208	884	144
Volume to Capacity	0.00	0.08	0.08	0.02	0.12	0.12	0.18	0.09	0.09	0.00	0.17	0.17
Queue Length 95th (ft)	0	0	0	0	10	10	0	0	7	0	15	14
Control Delay (s)	8.2	0.0	0.0	0.0	8.3	8.3	0.0	0.0	20.6	22.4	9.9	35.0
Lane LOS	A				A	A			C	C	A	E
Approach Delay (s)	0.0				2.0				11.4			32.7
Approach LOS									B			D
Intersection Summary												
Average Delay			3.7									
Intersection Capacity Utilization			32.7%		ICU Level of Service				A			
Analysis Period (min)			15									



HCM 6th Roundabout  
 1: Woodcarver Road/Old Denver Road & Baptist Road

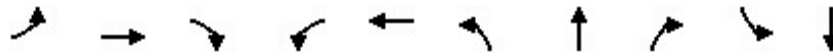
11/11/2021

Intersection				
Intersection Delay, s/veh	7.3			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	460	507	34	276
Demand Flow Rate, veh/h	469	518	34	281
Vehicles Circulating, veh/h	294	56	709	232
Vehicles Exiting, veh/h	219	687	54	342
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.9	6.7	6.0	5.8
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	469	518	34	281
Cap Entry Lane, veh/h	1022	1303	670	1089
Entry HV Adj Factor	0.980	0.979	0.993	0.981
Flow Entry, veh/h	460	507	34	276
Cap Entry, veh/h	1002	1276	665	1069
V/C Ratio	0.459	0.397	0.051	0.258
Control Delay, s/veh	8.9	6.7	6.0	5.8
LOS	A	A	A	A
95th %tile Queue, veh	2	2	0	1

# Timings

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↶	↗	↘	↶↗	↗↘	↶	↗	↘	↶	↗
Traffic Volume (vph)	43	611	23	118	437	11	13	153	106	7
Future Volume (vph)	43	611	23	118	437	11	13	153	106	7
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4		3	8	5	2		1	6
Permitted Phases	4		4	8		2		2	6	
Detector Phase	7	4	4	3	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5	9.5	22.5
Total Split (s)	9.5	24.0	24.0	10.0	24.5	10.0	26.0	26.0	10.0	26.0
Total Split (%)	13.6%	34.3%	34.3%	14.3%	35.0%	14.3%	37.1%	37.1%	14.3%	37.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	17.7	17.7	17.7	21.1	20.0	31.3	26.8	26.8	34.4	33.3
Actuated g/C Ratio	0.25	0.25	0.25	0.30	0.29	0.45	0.38	0.38	0.49	0.48
v/c Ratio	0.22	0.74	0.05	0.22	0.68	0.02	0.02	0.22	0.18	0.03
Control Delay	21.5	29.4	0.2	20.6	21.6	10.9	17.2	1.7	11.8	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	29.4	0.2	20.6	21.6	10.9	17.2	1.7	11.8	8.9
LOS	C	C	A	C	C	B	B	A	B	A
Approach Delay		27.9			21.5		3.4			11.3
Approach LOS		C			C		A			B

### Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 21.4

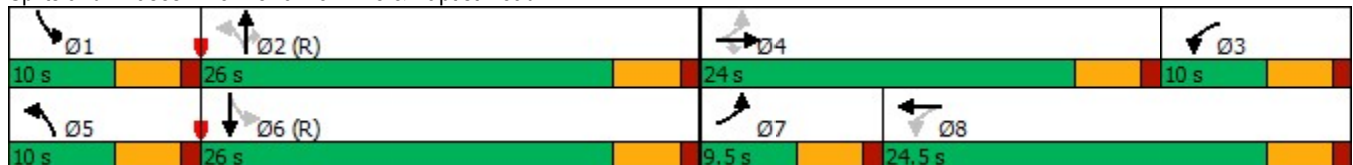
Intersection LOS: C

Intersection Capacity Utilization 47.3%

ICU Level of Service A

Analysis Period (min) 15

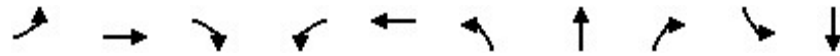
### Splits and Phases: 3: Terrazzo Drive & Baptist Road



Queues

3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	47	664	25	128	723	12	14	166	115	26
v/c Ratio	0.22	0.74	0.05	0.22	0.68	0.02	0.02	0.22	0.18	0.03
Control Delay	21.5	29.4	0.2	20.6	21.6	10.9	17.2	1.7	11.8	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	29.4	0.2	20.6	21.6	10.9	17.2	1.7	11.8	8.9
Queue Length 50th (ft)	15	134	0	21	118	3	4	0	27	2
Queue Length 95th (ft)	38	187	0	39	174	11	16	16	56	18
Internal Link Dist (ft)		423			557		495			367
Turn Bay Length (ft)	160		310	420		135			255	
Base Capacity (vph)	218	985	559	578	1120	646	714	751	641	802
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	0.22	0.67	0.04	0.22	0.65	0.02	0.02	0.22	0.18	0.03

Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘↗	↑↑		↘	↑	↗	↘	↗	
Traffic Volume (vph)	43	611	23	118	437	228	11	13	153	106	7	17
Future Volume (vph)	43	611	23	118	437	228	11	13	153	106	7	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3357		1770	1863	1583	1770	1669	
Flt Permitted	0.27	1.00	1.00	0.38	1.00		0.74	1.00	1.00	0.65	1.00	
Satd. Flow (perm)	507	3539	1583	1384	3357		1379	1863	1583	1209	1669	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	664	25	128	475	248	12	14	166	115	8	18
RTOR Reduction (vph)	0	0	19	0	96	0	0	0	109	0	11	0
Lane Group Flow (vph)	47	664	6	128	627	0	12	14	57	115	15	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	17.7	17.7	17.7	20.0	20.0		25.3	24.2	24.2	32.7	27.9	
Effective Green, g (s)	17.7	17.7	17.7	20.0	20.0		25.3	24.2	24.2	32.7	27.9	
Actuated g/C Ratio	0.25	0.25	0.25	0.29	0.29		0.36	0.35	0.35	0.47	0.40	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	182	894	400	550	959		504	644	547	603	665	
v/s Ratio Prot	0.01	c0.19		0.02	c0.19		0.00	0.01		c0.01	0.01	
v/s Ratio Perm	0.05		0.00	0.05			0.01		0.04	c0.08		
v/c Ratio	0.26	0.74	0.02	0.23	0.65		0.02	0.02	0.10	0.19	0.02	
Uniform Delay, d1	20.9	24.1	19.6	20.1	22.0		14.4	15.1	15.5	10.7	12.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	3.4	0.0	0.2	1.6		0.0	0.1	0.4	0.2	0.1	
Delay (s)	21.7	27.4	19.6	20.3	23.6		14.4	15.2	15.9	10.9	12.8	
Level of Service	C	C	B	C	C		B	B	B	B	B	
Approach Delay (s)		26.8			23.1			15.8			11.2	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

# Timings

## 4: I-25 S Ramp & Baptist Road

11/11/2021

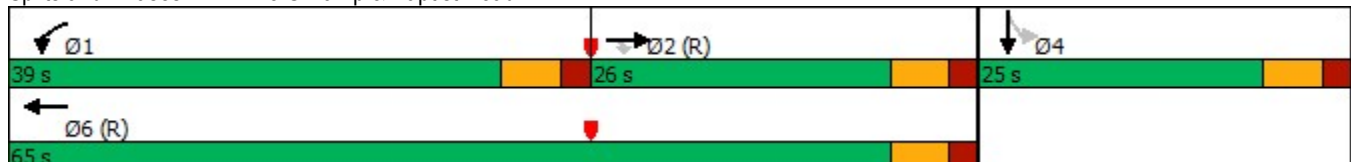


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Configurations	↑↑↑↑	↗	↖↗	↑↑	↗	↗
Traffic Volume (vph)	387	483	694	593	130	0
Future Volume (vph)	387	483	694	593	130	0
Turn Type	NA	Perm	Prot	NA	Perm	NA
Protected Phases	2		1	6		4
Permitted Phases		2			4	
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	6.0	6.0	19.0	19.0	6.0	6.0
Minimum Split (s)	24.0	24.0	25.0	25.0	24.0	24.0
Total Split (s)	26.0	26.0	39.0	65.0	25.0	25.0
Total Split (%)	28.9%	28.9%	43.3%	72.2%	27.8%	27.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Act Effct Green (s)	27.5	27.5	25.5	59.0	19.0	19.0
Actuated g/C Ratio	0.31	0.31	0.28	0.66	0.21	0.21
v/c Ratio	0.21	0.66	0.78	0.28	0.38	0.48
Control Delay	24.6	10.3	43.8	5.1	33.9	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	10.3	43.8	5.1	33.9	5.9
LOS	C	B	D	A	C	A
Approach Delay	16.6			26.0		15.3
Approach LOS	B			C		B

### Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 21.2  
 Intersection LOS: C  
 Intersection Capacity Utilization 79.9%  
 ICU Level of Service D  
 Analysis Period (min) 15

### Splits and Phases: 4: I-25 S Ramp & Baptist Road



Queues

4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	421	525	754	645	141	277
v/c Ratio	0.21	0.66	0.78	0.28	0.38	0.48
Control Delay	24.6	10.3	43.8	5.1	33.9	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	10.3	43.8	5.1	33.9	5.9
Queue Length 50th (ft)	52	34	243	53	69	0
Queue Length 95th (ft)	78	154	302	61	125	49
Internal Link Dist (ft)	557			464		409
Turn Bay Length (ft)		375				
Base Capacity (vph)	1959	791	1258	2320	373	574
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	0.21	0.66	0.60	0.28	0.38	0.48

Intersection Summary

HCM Signalized Intersection Capacity Analysis  
 4: I-25 S Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑					↘	↗	
Traffic Volume (vph)	0	387	483	694	593	0	0	0	0	130	0	255
Future Volume (vph)	0	387	483	694	593	0	0	0	0	130	0	255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Lane Util. Factor		0.86	1.00	0.97	0.95					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	3539					1770	1583	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	3539					1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	421	525	754	645	0	0	0	0	141	0	277
RTOR Reduction (vph)	0	0	308	0	0	0	0	0	0	0	219	0
Lane Group Flow (vph)	0	421	217	754	645	0	0	0	0	141	58	0
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2		1	6							4
Permitted Phases			2							4		
Actuated Green, G (s)		27.5	27.5	25.5	59.0					19.0	19.0	
Effective Green, g (s)		27.5	27.5	25.5	59.0					19.0	19.0	
Actuated g/C Ratio		0.31	0.31	0.28	0.66					0.21	0.21	
Clearance Time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1958	483	972	2320					373	334	
v/s Ratio Prot		0.07		c0.22	0.18						0.04	
v/s Ratio Perm			c0.14							c0.08		
v/c Ratio		0.22	0.45	0.78	0.28					0.38	0.18	
Uniform Delay, d1		23.2	25.2	29.6	6.5					30.4	29.1	
Progression Factor		1.00	1.00	1.31	0.72					1.00	1.00	
Incremental Delay, d2		0.3	3.0	3.6	0.3					2.9	1.1	
Delay (s)		23.5	28.2	42.5	5.0					33.3	30.2	
Level of Service		C	C	D	A					C	C	
Approach Delay (s)		26.1			25.2			0.0			31.3	
Approach LOS		C			C			A			C	

**Intersection Summary**

HCM 2000 Control Delay	26.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

# Timings

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↷	↑↑	↑↑↑	↷	↶	↶	↷
Traffic Volume (vph)	287	229	934	304	391	1	337
Future Volume (vph)	287	229	934	304	391	1	337
Turn Type	Prot	NA	NA	Perm	Perm	NA	Free
Protected Phases	5	2	6			8	
Permitted Phases				6	8		Free
Detector Phase	5	2	6	6	8	8	
Switch Phase							
Minimum Initial (s)	6.0	19.0	19.0	19.0	6.0	6.0	
Minimum Split (s)	18.0	25.0	36.0	36.0	24.0	24.0	
Total Split (s)	30.0	66.0	36.0	36.0	24.0	24.0	
Total Split (%)	33.3%	73.3%	40.0%	40.0%	26.7%	26.7%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	
Act Effct Green (s)	13.5	60.0	40.5	40.5	18.0	18.0	90.0
Actuated g/C Ratio	0.15	0.67	0.45	0.45	0.20	0.20	1.00
v/c Ratio	0.61	0.11	0.35	0.37	0.63	0.64	0.23
Control Delay	53.0	5.3	17.0	3.3	42.4	42.6	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.0	5.3	17.0	3.3	42.4	42.6	0.3
LOS	D	A	B	A	D	D	A
Approach Delay		31.8	13.6			23.0	
Approach LOS		C	B			C	

### Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 20.2

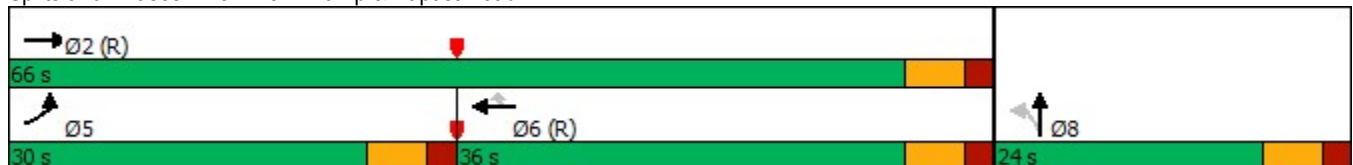
Intersection LOS: C

Intersection Capacity Utilization 79.9%

ICU Level of Service D

Analysis Period (min) 15

### Splits and Phases: 5: I-25 N Ramp & Baptist Road





# Queues

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	312	249	1015	330	212	214	366
v/c Ratio	0.61	0.11	0.35	0.37	0.63	0.64	0.23
Control Delay	53.0	5.3	17.0	3.3	42.4	42.6	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.0	5.3	17.0	3.3	42.4	42.6	0.3
Queue Length 50th (ft)	100	20	106	0	116	117	0
Queue Length 95th (ft)	143	30	142	49	195	197	0
Internal Link Dist (ft)		464	805			356	
Turn Bay Length (ft)	570						
Base Capacity (vph)	915	2359	2885	894	336	337	1583
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.11	0.35	0.37	0.63	0.64	0.23

### Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕			↑↑↑	↖	↖	↖	↖			
Traffic Volume (vph)	287	229	0	0	934	304	391	1	337	0	0	0
Future Volume (vph)	287	229	0	0	934	304	391	1	337	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	4.0			
Lane Util. Factor	0.97	0.95			0.86	1.00	0.95	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3433	3539			6408	1583	1681	1686	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3433	3539			6408	1583	1681	1686	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	312	249	0	0	1015	330	425	1	366	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	182	0	0	0	0	0	0
Lane Group Flow (vph)	312	249	0	0	1015	149	212	214	366	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Free			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		Free			
Actuated Green, G (s)	13.5	60.0			40.5	40.5	18.0	18.0	90.0			
Effective Green, g (s)	13.5	60.0			40.5	40.5	18.0	18.0	90.0			
Actuated g/C Ratio	0.15	0.67			0.45	0.45	0.20	0.20	1.00			
Clearance Time (s)	6.0	6.0			6.0	6.0	6.0	6.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	514	2359			2883	712	336	337	1583			
v/s Ratio Prot	c0.09	0.07			c0.16							
v/s Ratio Perm						0.09	0.13	0.13	0.23			
v/c Ratio	0.61	0.11			0.35	0.21	0.63	0.64	0.23			
Uniform Delay, d1	35.8	5.4			16.2	15.0	33.0	33.0	0.0			
Progression Factor	1.35	0.96			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	2.0	0.1			0.3	0.7	8.7	8.8	0.3			
Delay (s)	50.4	5.2			16.5	15.7	41.7	41.8	0.3			
Level of Service	D	A			B	B	D	D	A			
Approach Delay (s)		30.4			16.3			22.6			0.0	
Approach LOS		C			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Roundabout  
 1: Woodcarver Road/Old Denver Road & Baptist Road

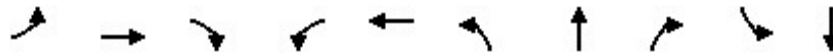
11/11/2021

Intersection				
Intersection Delay, s/veh	11.7			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	373	885	79	364
Demand Flow Rate, veh/h	381	903	81	371
Vehicles Circulating, veh/h	362	92	660	588
Vehicles Exiting, veh/h	597	649	82	407
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.4	13.6	6.5	11.9
Approach LOS	A	B	A	B
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	381	903	81	371
Cap Entry Lane, veh/h	954	1256	704	758
Entry HV Adj Factor	0.980	0.980	0.981	0.980
Flow Entry, veh/h	373	885	79	364
Cap Entry, veh/h	935	1231	691	742
V/C Ratio	0.399	0.719	0.115	0.490
Control Delay, s/veh	8.4	13.6	6.5	11.9
LOS	A	B	A	B
95th %tile Queue, veh	2	7	0	3

# Timings

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↶	↶↶	↶	↶↶	↶↶	↶	↶	↶	↶	↶
Traffic Volume (vph)	35	570	25	136	815	21	8	134	299	15
Future Volume (vph)	35	570	25	136	815	21	8	134	299	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4		3	8	5	2		1	6
Permitted Phases	4		4	8		2		2	6	
Detector Phase	7	4	4	3	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5	9.5	22.5
Total Split (s)	9.5	22.6	22.6	13.0	26.1	9.6	24.9	24.9	9.5	24.8
Total Split (%)	13.6%	32.3%	32.3%	18.6%	37.3%	13.7%	35.6%	35.6%	13.6%	35.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	19.3	19.3	19.3	25.9	25.9	25.9	20.6	20.6	29.5	27.5
Actuated g/C Ratio	0.28	0.28	0.28	0.37	0.37	0.37	0.29	0.29	0.42	0.39
v/c Ratio	0.18	0.63	0.05	0.19	0.83	0.04	0.02	0.23	0.61	0.13
Control Delay	21.9	26.3	0.2	17.6	28.3	12.0	17.9	1.4	22.2	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	26.3	0.2	17.6	28.3	12.0	17.9	1.4	22.2	7.3
LOS	C	C	A	B	C	B	B	A	C	A
Approach Delay		25.1			27.0		3.6			19.0
Approach LOS		C			C		A			B

### Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 23.5

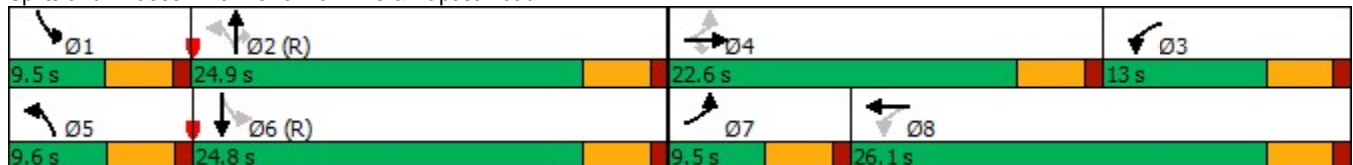
Intersection LOS: C

Intersection Capacity Utilization 66.7%

ICU Level of Service C

Analysis Period (min) 15

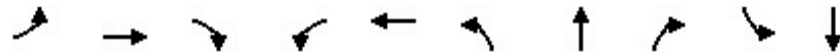
### Splits and Phases: 3: Terrazzo Drive & Baptist Road



Queues

3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	38	620	27	148	1074	23	9	146	325	89
v/c Ratio	0.18	0.63	0.05	0.19	0.83	0.04	0.02	0.23	0.61	0.13
Control Delay	21.9	26.3	0.2	17.6	28.3	12.0	17.9	1.4	22.2	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	26.3	0.2	17.6	28.3	12.0	17.9	1.4	22.2	7.3
Queue Length 50th (ft)	12	126	0	18	180	6	3	0	94	4
Queue Length 95th (ft)	34	180	0	43	#368	18	12	8	#174	35
Internal Link Dist (ft)		423			557		495			367
Turn Bay Length (ft)	160		310	420		135			255	
Base Capacity (vph)	214	996	563	787	1296	517	548	631	534	686
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	0.18	0.62	0.05	0.19	0.83	0.04	0.02	0.23	0.61	0.13

Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘↗	↑↑		↘	↑	↗	↘	↗	
Traffic Volume (vph)	35	570	25	136	815	173	21	8	134	299	15	67
Future Volume (vph)	35	570	25	136	815	173	21	8	134	299	15	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3446		1770	1863	1583	1770	1634	
Flt Permitted	0.23	1.00	1.00	0.41	1.00		0.70	1.00	1.00	0.61	1.00	
Satd. Flow (perm)	431	3539	1583	1487	3446		1303	1863	1583	1134	1634	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	620	27	148	886	188	23	9	146	325	16	73
RTOR Reduction (vph)	0	0	20	0	23	0	0	0	109	0	50	0
Lane Group Flow (vph)	38	620	7	148	1051	0	23	9	37	325	39	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	19.3	19.3	19.3	25.9	25.9		19.9	17.9	17.9	28.3	22.1	
Effective Green, g (s)	19.3	19.3	19.3	25.9	25.9		19.9	17.9	17.9	28.3	22.1	
Actuated g/C Ratio	0.28	0.28	0.28	0.37	0.37		0.28	0.26	0.26	0.40	0.32	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	157	975	436	789	1275		383	476	404	514	515	
v/s Ratio Prot	0.01	c0.18		0.02	c0.30		0.00	0.00		c0.06	0.02	
v/s Ratio Perm	0.06		0.00	0.05			0.02		0.02	c0.20		
v/c Ratio	0.24	0.64	0.02	0.19	0.82		0.06	0.02	0.09	0.63	0.08	
Uniform Delay, d1	20.1	22.3	18.4	15.6	20.0		18.2	19.5	19.9	16.6	16.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	1.4	0.0	0.1	4.5		0.1	0.1	0.5	2.5	0.3	
Delay (s)	20.9	23.6	18.5	15.7	24.4		18.2	19.6	20.3	19.1	17.1	
Level of Service	C	C	B	B	C		B	B	C	B	B	
Approach Delay (s)		23.3			23.4			20.0			18.7	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

# Timings

## 4: I-25 S Ramp & Baptist Road

11/11/2021

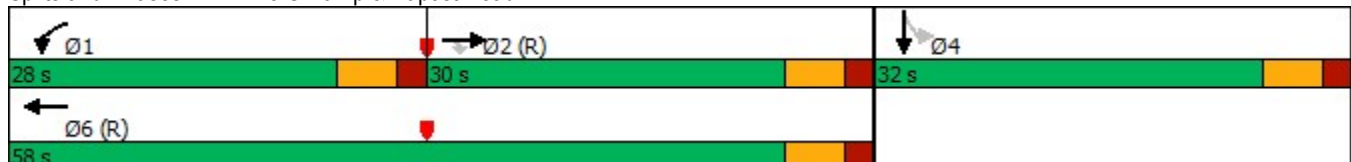


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Configurations	↑↑↑↑	↗	↖↗	↑↑	↘	↘
Traffic Volume (vph)	466	552	552	821	299	0
Future Volume (vph)	466	552	552	821	299	0
Turn Type	NA	Perm	Prot	NA	Perm	NA
Protected Phases	2		1	6		4
Permitted Phases		2			4	
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	6.0	6.0	19.0	19.0	6.0	6.0
Minimum Split (s)	24.0	24.0	25.0	25.0	24.0	24.0
Total Split (s)	30.0	30.0	28.0	58.0	32.0	32.0
Total Split (%)	33.3%	33.3%	31.1%	64.4%	35.6%	35.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Act Effct Green (s)	25.5	25.5	20.5	52.0	26.0	26.0
Actuated g/C Ratio	0.28	0.28	0.23	0.58	0.29	0.29
v/c Ratio	0.28	0.68	0.77	0.44	0.64	0.71
Control Delay	25.9	7.0	33.0	15.1	34.5	25.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.9	7.0	33.0	15.1	34.5	25.9
LOS	C	A	C	B	C	C
Approach Delay	15.7			22.3		29.8
Approach LOS	B			C		C

### Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 35 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.77  
 Intersection Signal Delay: 21.7  
 Intersection Capacity Utilization 87.6%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service E

### Splits and Phases: 4: I-25 S Ramp & Baptist Road



# Queues

## 4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	507	600	600	892	325	396
v/c Ratio	0.28	0.68	0.77	0.44	0.64	0.71
Control Delay	25.9	7.0	33.0	15.1	34.5	25.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.9	7.0	33.0	15.1	34.5	25.9
Queue Length 50th (ft)	65	0	132	211	160	128
Queue Length 95th (ft)	90	90	234	274	252	236
Internal Link Dist (ft)	557			464		409
Turn Bay Length (ft)		375				
Base Capacity (vph)	1812	878	839	2044	511	559
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	0.28	0.68	0.72	0.44	0.64	0.71

### Intersection Summary



HCM Signalized Intersection Capacity Analysis  
 4: I-25 S Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑					↘	↗	
Traffic Volume (vph)	0	466	552	552	821	0	0	0	0	299	0	364
Future Volume (vph)	0	466	552	552	821	0	0	0	0	299	0	364
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Lane Util. Factor		0.86	1.00	0.97	0.95					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	3539					1770	1583	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	3539					1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	507	600	600	892	0	0	0	0	325	0	396
RTOR Reduction (vph)	0	0	430	0	0	0	0	0	0	0	102	0
Lane Group Flow (vph)	0	507	170	600	892	0	0	0	0	325	294	0
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2		1	6							4
Permitted Phases			2							4		
Actuated Green, G (s)		25.5	25.5	20.5	52.0					26.0	26.0	
Effective Green, g (s)		25.5	25.5	20.5	52.0					26.0	26.0	
Actuated g/C Ratio		0.28	0.28	0.23	0.58					0.29	0.29	
Clearance Time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1815	448	781	2044					511	457	
v/s Ratio Prot		0.08		c0.17	c0.25						c0.19	
v/s Ratio Perm			0.11							0.18		
v/c Ratio		0.28	0.38	0.77	0.44					0.64	0.64	
Uniform Delay, d1		25.1	25.9	32.5	10.7					27.9	28.0	
Progression Factor		1.00	1.00	0.82	1.33					1.00	1.00	
Incremental Delay, d2		0.4	2.4	4.1	0.6					5.9	6.8	
Delay (s)		25.5	28.3	30.7	14.9					33.8	34.8	
Level of Service		C	C	C	B					C	C	
Approach Delay (s)		27.0			21.3			0.0			34.4	
Approach LOS		C			C			A			C	

Intersection Summary		
HCM 2000 Control Delay	26.0	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.62	
Actuated Cycle Length (s)	90.0	Sum of lost time (s) 18.0
Intersection Capacity Utilization	87.6%	ICU Level of Service E
Analysis Period (min)	15	

c Critical Lane Group

# Timings

## 5: I-25 N Ramp & Baptist Road

11/11/2021

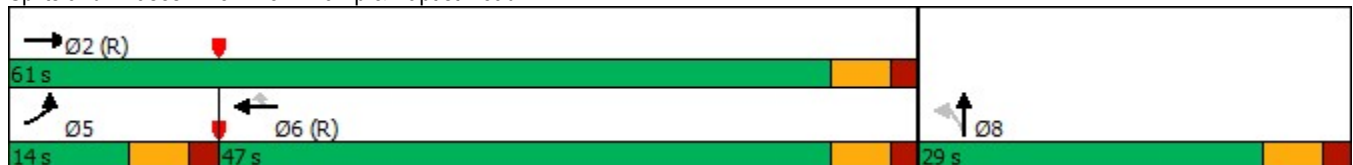


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	269	490	803	203	582	1	971
Future Volume (vph)	269	490	803	203	582	1	971
Turn Type	Prot	NA	NA	Perm	Perm	NA	Free
Protected Phases	5	2	6			8	
Permitted Phases				6	8		Free
Detector Phase	5	2	6	6	8	8	
Switch Phase							
Minimum Initial (s)	6.0	19.0	19.0	19.0	6.0	6.0	
Minimum Split (s)	12.0	25.0	46.0	46.0	24.0	24.0	
Total Split (s)	14.0	61.0	47.0	47.0	29.0	29.0	
Total Split (%)	15.6%	67.8%	52.2%	52.2%	32.2%	32.2%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	
Act Effct Green (s)	8.0	55.0	41.0	41.0	23.0	23.0	90.0
Actuated g/C Ratio	0.09	0.61	0.46	0.46	0.26	0.26	1.00
v/c Ratio	0.96	0.25	0.30	0.26	0.74	0.74	0.67
Control Delay	75.2	21.2	15.8	3.0	42.6	42.7	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.2	21.2	15.8	3.0	42.6	42.7	2.2
LOS	E	C	B	A	D	D	A
Approach Delay		40.3	13.2			17.4	
Approach LOS		D	B			B	

### Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 21.4  
 Intersection Capacity Utilization 87.6%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service E

### Splits and Phases: 5: I-25 N Ramp & Baptist Road



# Queues

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	292	533	873	221	316	318	1055
v/c Ratio	0.96	0.25	0.30	0.26	0.74	0.74	0.67
Control Delay	75.2	21.2	15.8	3.0	42.6	42.7	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.2	21.2	15.8	3.0	42.6	42.7	2.2
Queue Length 50th (ft)	76	131	87	0	173	174	0
Queue Length 95th (ft)	#165	174	110	38	#296	#300	0
Internal Link Dist (ft)		464	805			356	
Turn Bay Length (ft)	570						
Base Capacity (vph)	305	2162	2919	841	429	430	1583
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.25	0.30	0.26	0.74	0.74	0.67

### Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕			↑↑↑	↖	↖	↖	↖			
Traffic Volume (vph)	269	490	0	0	803	203	582	1	971	0	0	0
Future Volume (vph)	269	490	0	0	803	203	582	1	971	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	4.0			
Lane Util. Factor	0.97	0.95			0.86	1.00	0.95	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3433	3539			6408	1583	1681	1686	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3433	3539			6408	1583	1681	1686	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	292	533	0	0	873	221	633	1	1055	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	120	0	0	0	0	0	0
Lane Group Flow (vph)	292	533	0	0	873	101	316	318	1055	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Free			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		Free			
Actuated Green, G (s)	8.0	55.0			41.0	41.0	23.0	23.0	90.0			
Effective Green, g (s)	8.0	55.0			41.0	41.0	23.0	23.0	90.0			
Actuated g/C Ratio	0.09	0.61			0.46	0.46	0.26	0.26	1.00			
Clearance Time (s)	6.0	6.0			6.0	6.0	6.0	6.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	305	2162			2919	721	429	430	1583			
v/s Ratio Prot	0.09	0.15			0.14							
v/s Ratio Perm						0.06	0.19	0.19	c0.67			
v/c Ratio	0.96	0.25			0.30	0.14	0.74	0.74	0.67			
Uniform Delay, d1	40.8	8.0			15.4	14.2	30.7	30.8	0.0			
Progression Factor	0.79	2.59			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	37.9	0.3			0.3	0.4	10.8	10.9	2.2			
Delay (s)	70.2	21.0			15.7	14.6	41.5	41.6	2.2			
Level of Service	E	C			B	B	D	D	A			
Approach Delay (s)		38.4			15.5			17.0			0.0	
Approach LOS		D			B			B			A	

Intersection Summary		
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.83	
Actuated Cycle Length (s)	90.0	Sum of lost time (s) 18.0
Intersection Capacity Utilization	87.6%	ICU Level of Service E
Analysis Period (min)	15	

c Critical Lane Group

## **APPENDIX F – Pipeline Development Excerpts**

**Table 1**  
**Trip Generation Estimate**  
**Forest Lakes Fil 6**

Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates <sup>(1)</sup>				Total Trips Generated					
			Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour	
				In	Out	In	Out		In	Out	In	Out
210	Single-Family Detached Housing	68 DU <sup>(2)</sup>	9.44	0.19	0.56	0.62	0.37	642	13	38	42	25

Notes:  
 (1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)  
 (2) DU = dwelling unit

Source: LSC Transportation Consultants, Inc. Sep-20

KNOW ALL MEN BY THESE PRESENTS:

THAT FLRD #2, LLC, A COLORADO LIMITED LIABILITY COMPANY BEING THE OWNER OF THE FOLLOWING DESCRIBED TRACT OF LAND TO WIT:

LEGAL DESCRIPTION:

TRACT B AS PLATTED IN FOREST LAKES FILING NO. 5 RECORDED UNDER RECEPTION NO. 220714540 RECORDS OF EL PASO COUNTY, COLORADO.

CONTAINING A CALCULATED AREA OF 1.716 ACRES

TOGETHER WITH

A PARCEL OF LAND BEING A PORTION OF THE SOUTHWEST QUARTER OF SECTION 28 AND THE SOUTHEAST QUARTER OF SECTION 29 ALL IN TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE SIXTH PRINCIPAL MERIDIAN, EL PASO COUNTY, COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: A PORTION OF THE NORTHERLY BOUNDARY OF FOREST LAKES FILING NO. 1 RECORDED UNDER RECEPTION NO. 206712407 RECORDS OF EL PASO COUNTY, COLORADO, BEING MONUMENTED AT BOTH ENDS BY A NO. 4 REBAR AND RED PLASTIC SURVEYORS CAP STAMPED "ROCKWELL PLS 19586" ASSUMED TO BEAR N89°29'26"E, A DISTANCE OF 3103.31 FEET.

COMMENCING AT THE NORTHWESTERLY CORNER OF FOREST LAKES FILING NO. 1 RECORDED UNDER RECEPTION NO. 220714540 RECORDS OF EL PASO COUNTY, COLORADO, SAID POINT BEING ON THE NORTH LINE OF THE SOUTHWEST QUARTER OF SECTION 28, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE SIXTH PRINCIPAL MERIDIAN, EL PASO COUNTY, COLORADO, SAID POINT BEING THE POINT OF BEGINNING;

THENCE, ON THE WESTERLY BOUNDARY OF SAID FOREST LAKES FILING NO. 1, THE FOLLOWING (9) NINE COURSES:

- 1. S04°27'43"E, A DISTANCE OF 339.79 FEET;
2. S38°59'42"W, A DISTANCE OF 180.21 FEET TO A POINT ON CURVE;
3. ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS N21°35'30"E, HAVING A DELTA OF 01°06'06", A RADIUS OF 370.00 FEET AND A DISTANCE OF 7.11 FEET TO A POINT OF REVERSE CURVE;
4. ON THE ARC OF A CURVE TO THE RIGHT HAVING A DELTA OF 31°25'41", A RADIUS OF 330.00 FEET AND A DISTANCE OF 181.01 FEET TO A POINT OF TANGENT;
5. ON THE ARC OF A CURVE TO THE LEFT HAVING A DELTA OF 32°16'24", A RADIUS OF 120.00 FEET AND A DISTANCE OF 67.59 FEET TO A POINT OF TANGENT;
6. S70°21'22"E, A DISTANCE OF 52.28 FEET TO A POINT OF CURVE;
7. ON THE ARC OF A CURVE TO THE RIGHT HAVING A DELTA OF 27°30'55", A RADIUS OF 215.00 FEET AND A DISTANCE OF 103.25 FEET TO A POINT OF TANGENT;
8. S42°50'27"E, A DISTANCE OF 31.85 FEET TO A POINT ON CURVE;
9. ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS N47°10'02"E, HAVING A DELTA OF 47°22'46", A RADIUS OF 110.00 FEET AND A DISTANCE OF 90.96 FEET TO A POINT ON CURVE SAID POINT BEING ON THE NORTHERLY BOUNDARY OF FOREST LAKES FILING NO. 5 RECORDED UNDER RECEPTION NO. 220714540;

THENCE ON THE NORTHERLY, EASTERLY AND WESTERLY BOUNDARY OF SAID FOREST LAKES FILING NO. 5, THE FOLLOWING (10) TEN COURSES:

- 1. S89°46'48"W, A DISTANCE OF 183.07 FEET TO A POINT OF CURVE;
2. ON THE ARC OF A CURVE TO THE RIGHT HAVING A DELTA OF 44°35'14", A RADIUS OF 170.00 FEET AND A DISTANCE OF 132.29 FEET TO A POINT OF REVERSE CURVE;
3. ON THE ARC OF A CURVE TO THE LEFT HAVING A DELTA OF 68°49'01", A RADIUS OF 610.00 FEET AND A DISTANCE OF 732.66 FEET TO A POINT OF REVERSE CURVE;
4. ON THE ARC OF A CURVE TO THE RIGHT HAVING A DELTA OF 05°11'19", A RADIUS OF 2970.00 FEET AND A DISTANCE OF 268.96 FEET TO A POINT ON CURVE;
5. N19°15'40"W, A DISTANCE OF 195.00 FEET;
6. S71°35'22"W, A DISTANCE OF 82.41 FEET;
7. S73°15'37"W, A DISTANCE OF 79.43 FEET;
8. S74°54'03"W, A DISTANCE OF 79.46 FEET;
9. S14°22'43"E, A DISTANCE OF 180.00 FEET;
10. S14°17'53"E, A DISTANCE OF 90.00 FEET TO A POINT ON CURVE;

THENCE ON THE ARC OF CURVE TO THE RIGHT WHOSE CENTER BEARS N14°17'53"W HAVING A DELTA OF 02°49'14", A RADIUS OF 3045.00 FEET AND A DISTANCE OF 149.89 FEET TO A POINT OF TANGENT; THENCE S78°32'06"W, A DISTANCE OF 126.34 FEET; THENCE S11°27'54"E, A DISTANCE OF 120.00 FEET; THENCE S06°00'12"W, A DISTANCE OF 190.00 FEET; THENCE S16°36'58"W, A DISTANCE OF 85.00 FEET; THENCE S35°54'31"W, A DISTANCE OF 123.00 FEET; THENCE S73°26'22"W, A DISTANCE OF 186.50 FEET; THENCE S13°23'21"W, A DISTANCE OF 143.85 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF A CURVE TO THE RIGHT HAVING A DELTA OF 93°21'59", A RADIUS OF 345.00 FEET AND A DISTANCE OF 562.19 FEET TO A POINT OF TANGENT; THENCE N73°14'40"W, A DISTANCE OF 87.48 FEET; THENCE N47°10'45"W, A DISTANCE OF 60.00 FEET TO A POINT ON CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS N47°10'45"W HAVING A DELTA OF 29°25'54", A RADIUS OF 270.00 FEET AND A DISTANCE OF 138.69 FEET TO A POINT OF TANGENT; THENCE N13°23'21"E, A DISTANCE OF 187.58 FEET; THENCE N76°36'39"W, A DISTANCE OF 12.00 FEET; THENCE N13°23'21"E, A DISTANCE OF 112.00 FEET; THENCE N76°36'39"W, A DISTANCE OF 138.00 FEET; THENCE N13°23'21"E, A DISTANCE OF 72.42 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF A CURVE TO THE RIGHT HAVING A DELTA OF 22°26'27", A RADIUS OF 680.00 FEET AND A DISTANCE OF 266.33 FEET TO A POINT ON CURVE; THENCE N54°10'11"W, A DISTANCE OF 55.57 FEET; THENCE N80°01'15"W, A DISTANCE OF 99.34 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF A CURVE TO THE RIGHT HAVING A DELTA OF 29°11'30", A RADIUS OF 365.00 FEET AND A DISTANCE OF 185.96 FEET TO A POINT OF TANGENT; THENCE N50°49'45"W, A DISTANCE OF 148.00 FEET; THENCE N39°10'15"E, A DISTANCE OF 140.00 FEET TO A POINT ON CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS S39°10'15"W HAVING A DELTA OF 16°43'30", A RADIUS OF 325.00 FEET AND A DISTANCE OF 94.87 FEET TO A POINT OF TANGENT; THENCE N67°33'15"W, A DISTANCE OF 216.00 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF A CURVE TO THE RIGHT HAVING A DELTA OF 40°00'20", A RADIUS OF 225.00 FEET AND A DISTANCE OF 157.10 FEET TO A POINT OF REVERSE CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT HAVING A DELTA OF 62°03'00", A RADIUS OF 175.00 FEET AND A DISTANCE OF 189.52 FEET TO A POINT ON CURVE; THENCE S00°24'05"W, A DISTANCE OF 5.00 FEET; THENCE N89°35'55"W, A DISTANCE OF 271.00 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT HAVING A DELTA OF 47°41'21", A RADIUS OF 525.00 FEET AND A DISTANCE OF 436.97 FEET TO A POINT ON CURVE; THENCE S47°17'16"E, A DISTANCE OF 170.00 FEET TO A POINT ON CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS S47°17'16"E HAVING A DELTA OF 25°13'46", A RADIUS OF 355.00 FEET AND A DISTANCE OF 156.32 FEET TO A POINT ON CURVE; THENCE N72°31'01"W, A DISTANCE OF 170.00 FEET TO A POINT ON CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS S72°31'01"E HAVING A DELTA OF 03°15'17", A RADIUS OF 625.00 FEET AND A DISTANCE OF 29.82 FEET TO A POINT ON CURVE; THENCE N75°46'18"W, A DISTANCE OF 581.80 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF SECTION 29, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE SIXTH PRINCIPAL MERIDIAN, EL PASO COUNTY, COLORADO; THENCE N00°13'11"E, ON THE WEST LINE OF SAID SOUTHEAST QUARTER OF SECTION 29, A DISTANCE OF 572.93 FEET TO THE CENTER QUARTER CORNER OF SAID SECTION 29; THENCE N89°40'43"E, ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SAID SECTION 29, A DISTANCE OF 2638.56 FEET TO THE WEST QUARTER CORNER OF SECTION 28; THENCE N89°29'26"E, ON THE NORTH LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 28, A DISTANCE OF 1718.18 FEET TO THE POINT OF BEGINNING.

CONTAINING A CALCULATED AREA OF 79.168 ACRES.

CONTAINING A TOTAL CALCULATED AREA OF 80.884 ACRES.

PCDD FILE NO. \_\_\_\_\_

FOREST LAKES FILING NO. 6

A REPLAT OF TRACT B AS PLATTED IN FOREST LAKES FILING NO. 5 RECORDED UNDER RECEPTION NO. 220714540 RECORDS OF EL PASO COUNTY, COLORADO TOGETHER WITH A PORTION OF THE SOUTHWEST QUARTER OF SECTION 28 AND THE SOUTHEAST QUARTER OF SECTION 29, ALL IN TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE SIXTH PRINCIPAL MERIDIAN, EL PASO COUNTY, COLORADO

ACCEPTANCE CERTIFICATE FOR TRACTS

THE DEDICATION OF TRACTS A, C AND D WITH USES STATED IN THE TRACT TABLE, ARE HEREBY ACCEPTED FOR OWNERSHIP AND MAINTENANCE BY THE FOREST LAKES METROPOLITAN DISTRICT.

BY: \_\_\_\_\_ AS \_\_\_\_\_ OF FOREST LAKES METROPOLITAN DISTRICT.

STATE OF COLORADO )
COUNTY OF EL PASO ) ss
THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, A.D. BY \_\_\_\_\_ OF FOREST LAKES METROPOLITAN DISTRICT.

WITNESS MY HAND AND OFFICIAL SEAL. MY COMMISSION EXPIRES: \_\_\_\_\_ NOTARY PUBLIC

OWNER'S CERTIFICATE:

THE UNDERSIGNED, BEING ALL THE OWNER, MORTGAGE, BENEFICIARY OF DEEDS OF TRUST AND HOLDER OF OTHER INTERESTS IN THE LAND DESCRIBED HEREIN, HAVE LAID OUT, SUBDIVIDED, AND REPLATTED SAID LANDS INTO LOTS, STREETS, TRACTS AND EASEMENTS AS SHOWN HEREON UNDER THE NAME AND SUBDIVISION OF FOREST LAKES FILING NO. 6. ALL PUBLIC IMPROVEMENTS SO PLATTED ARE HEREBY DEDICATED TO PUBLIC USE AND SAID OWNER DOES HEREBY COVENANT AND AGREE THAT THE PUBLIC IMPROVEMENTS WILL BE CONSTRUCTED TO EL PASO COUNTY STANDARDS AND THAT PROPER DRAINAGE AND EROSION CONTROL FOR SAME WILL BE PROVIDED AT SAID OWNER'S EXPENSE, ALL TO THE SATISFACTION OF THE BOARD OF COUNTY COMMISSIONERS OF EL PASO COUNTY, COLORADO. UPON ACCEPTANCE BY RESOLUTION, ALL PUBLIC IMPROVEMENTS SO DEDICATED WILL BECOME MATTERS OF MAINTENANCE BY EL PASO COUNTY, COLORADO. THE UTILITY EASEMENTS SHOWN HEREON ARE HEREBY DEDICATED FOR PUBLIC UTILITIES AND COMMUNICATIONS SYSTEMS AND OTHER PURPOSES AS SHOWN HEREON. THE ENTITIES RESPONSIBLE FOR PROVIDING THE SERVICES FOR WHICH THE EASEMENTS ARE ESTABLISHED ARE HEREBY GRANTED THE PERPETUAL RIGHT OF INGRESS AND EGRESS FROM AND TO ADJACENT PROPERTIES FOR INSTALLATION, MAINTENANCE, AND REPLACEMENT OF UTILITY LINES AND RELATED FACILITIES.

OWNER:

FLRD #2, LLC, A COLORADO LIMITED LIABILITY COMPANY, HAS EXECUTED THIS INSTRUMENT THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, A.D.

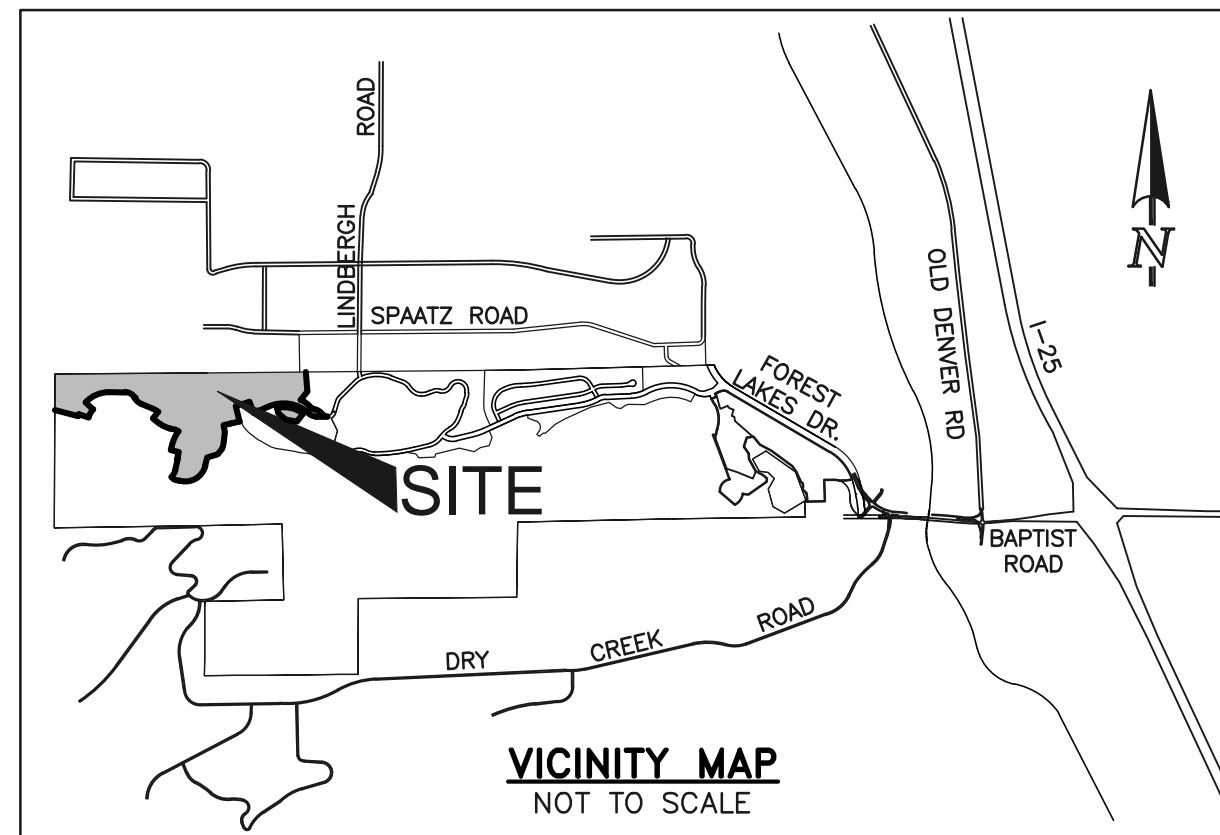
BY: \_\_\_\_\_ AS \_\_\_\_\_ OF FLRD #2, LLC A COLORADO LIMITED LIABILITY COMPANY

STATE OF COLORADO )
COUNTY OF EL PASO ) ss
THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, A.D. BY \_\_\_\_\_ AS \_\_\_\_\_ OF FLRD #2, LLC, A COLORADO LIMITED LIABILITY COMPANY

WITNESS MY HAND AND OFFICIAL SEAL. MY COMMISSION EXPIRES: \_\_\_\_\_ NOTARY PUBLIC

GENERAL NOTES:

- 1. THE DATE OF PREPARATION AUGUST 14, 2020.
2. THE TRACT OF LAND HEREIN PLATTED LIES WITHIN THE SOUTHWEST QUARTER OF SECTION 28 AND THE SOUTHEAST QUARTER OF SECTION 29, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE SIXTH PRINCIPAL MERIDIAN.
3. FLOODPLAIN STATEMENT: NO PORTION OF THIS SITE, FOREST LAKES FILING NO. 6, IS WITHIN A DESIGNATED F.E.M.A. FLOODPLAIN AS DETERMINED BY THE FLOOD INSURANCE RATE MAP, MAP NUMBERS 08041C0256G, 08041C0259G, 08041C0266G AND 08041C0267G, DATED DECEMBER 7, 2018. (ZONE X)
4. THE ADDRESSES ( ) EXHIBITED ON THIS PLAT ARE FOR INFORMATIONAL PURPOSES ONLY. THEY ARE NOT THE LEGAL DESCRIPTION AND ARE SUBJECT TO CHANGE.
5. WATER SERVICE SHALL BE SUPPLIED BY FOREST LAKES METROPOLITAN DISTRICT.
6. SEWER SERVICE SHALL BE SUPPLIED BY FOREST LAKES METROPOLITAN DISTRICT.
7. ELECTRIC SERVICES SHALL BE SUPPLIED BY (MVEA) MOUNTAIN VIEW ELECTRIC ASSOCIATION.
8. GAS SERVICES SHALL BE SUPPLIED BY BLACK HILLS ENERGY.
9. FIRE PROTECTION BY THE TRI-LAKES MONUMENT FIRE PROTECTION DISTRICT.
10. ALL STRUCTURAL FOUNDATIONS SHALL BE LOCATED AND DESIGNED BY A PROFESSIONAL ENGINEER, CURRENTLY LICENSED IN THE STATE OF COLORADO.
11. THE FOLLOWING REPORTS HAVE BEEN SUBMITTED IN ASSOCIATION WITH THE PRELIMINARY PLAN AND/OR FINAL PLAT FOR THIS SUBDIVISION AND ARE ON FILE AT THE COUNTY PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT: TRANSPORTATION IMPACT ANALYSIS; PRELIMINARY/FINAL DRAINAGE REPORT; SOIL, GEOLOGY AND GEOLOGICAL HAZARD STUDY; WATER AVAILABILITY STUDY; NATURAL FEATURES REPORT; SUBDIVISION OR PROJECT PERCOLATION TEST RESULTS; EROSION CONTROL REPORT.
12. PRIOR TO THE ESTABLISHMENT OF ANY DRIVEWAY, AN ACCESS PERMIT MUST BE GRANTED BY THE EL PASO COUNTY.
13. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH TO DETERMINE OWNERSHIP OR EASEMENTS OR RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHT-OF-WAY AND TITLE OF RECORD, CLASSIC CONSULTING ENGINEERS AND SURVEYORS AND THE SURVEYOR OF RECORD RELIED UPON COMMITMENTS FOR TITLE INSURANCE ISSUED BY CAPSTONE TITLE, AGENT FOR STEWART TITLE GUARANTY COMPANY, ORDER NO. 200554 WITH AN EFFECTIVE DATE OF FEBRUARY 29, 2020 AT 8:00 A.M.
14. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND BOUNDARY MONUMENT OR ACCESSORY, COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO CRS 18-6-508.
15. TRACT A IS FOR OPEN SPACE, TRAILS, DRAINAGE, PUBLIC UTILITIES AND EMERGENCY ACCESS ROAD AND SHALL BE OWNED AND MAINTAINED BY THE FOREST LAKES METROPOLITAN DISTRICT TO BE CONVEYED BY SEPARATE INSTRUMENT.
16. TRACT B OPEN SPACE, TRAILS, PUBLIC UTILITIES, DRAINAGE AND WATER TANK AND SHALL BE OWNED AND MAINTAINED BY THE FOREST LAKES METROPOLITAN DISTRICT TO BE CONVEYED BY SEPARATE INSTRUMENT.



GENERAL NOTES: (CONTINUED)

- 17. TRACT C IS FOR OPEN SPACE, TRAILS, MAILBOXES AND PARKING AND SHALL BE OWNED AND MAINTAINED BY THE FOREST LAKES METROPOLITAN DISTRICT TO BE CONVEYED BY SEPARATE INSTRUMENT.
18. TRACT D IS FOR OPEN SPACE, TRAILS, PUBLIC UTILITIES, DRAINAGE AND SHALL BE OWNED AND MAINTAINED BY THE FOREST LAKES METROPOLITAN DISTRICT TO BE CONVEYED BY SEPARATE INSTRUMENT.
19. ALL PROPERTY OWNERS ARE RESPONSIBLE FOR MAINTAINING PROPER STORM WATER DRAINAGE IN AND THROUGH THEIR PROPERTY. PUBLIC DRAINAGE EASEMENTS SHALL BE MAINTAINED BY THE INDIVIDUAL LOT OWNERS UNLESS OTHERWISE INDICATED. STRUCTURES, FENCES, MATERIALS OR LANDSCAPING THAT COULD IMPEDE THE FLOW OR RUNOFF SHALL NOT BE PLACED IN THE DRAINAGE EASEMENTS.
20. NO LOT OR INTEREST THEREIN SHALL BE SOLD, CONVEYED, OR TRANSFERRED WHETHER BY DEED OR BY CONTRACT, NOR SHALL BUILDING PERMITS BE ISSUED, UNTIL AND UNLESS EITHER THE REQUIRED PUBLIC AND COMMON DEVELOPMENT IMPROVEMENTS HAVE BEEN CONSTRUCTED AND COMPLETED AND PRELIMINARILY ACCEPTED IN ACCORDANCE WITH THE SUBDIVISION IMPROVEMENTS AGREEMENT BETWEEN THE APPLICANT/OWNER AND EL PASO COUNTY AS RECORDED UNDER RECEPTION NO. \_\_\_\_\_ IN THE OFFICE OF THE CLERK AND RECORDED OF EL PASO COUNTY, COLORADO OR, IN THE ALTERNATIVE, OTHER COLLATERAL IS PROVIDED TO MAKE PROVISION FOR THE COMPLETION OF SAID IMPROVEMENTS IN ACCORDANCE WITH THE EL PASO COUNTY LAND DEVELOPMENT CODE AND ENGINEERING CRITERIA MANUAL. ANY SUCH ALTERNATIVE COLLATERAL MUST BE APPROVED BY THE BOARD OF COUNTY COMMISSIONERS OR, IF PERMITTED BY THE SUBDIVISION IMPROVEMENTS AGREEMENT, THE DIRECTOR, AND MEET THE POLICY AND PROCEDURE REQUIREMENTS OF EL PASO COUNTY PRIOR TO THE RELEASE BY THE COUNTY OF ANY LOTS FOR SALE, CONVEYANCE OR TRANSFER.
21. ALL PROPERTY WITHIN THIS SUBDIVISION IS INCLUDED IN THE FOREST LAKES METROPOLITAN DISTRICT BY INSTRUMENTS RECORDED IN BOOK 5065 AT PAGE 1279 AND BOOK 5165 AT PAGE 326 AND AS AMENDED.
22. THE FOREST LAKES METROPOLITAN DISTRICT WILL BE RESPONSIBLE FOR MAINTENANCE OF THE ROADS UNTIL PRELIMINARY ACCEPTANCE OF THE PUBLIC IMPROVEMENTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, AND THE SUBDIVISION IMPROVEMENTS AGREEMENT.
23. ALL PROPERTY WITHIN THIS SUBDIVISION IS SUBJECT TO ROAD IMPACT FEES IN ACCORDANCE WITH EL PASO COUNTY ROAD IMPACT FEE PROGRAM RESOLUTION (RESOLUTION NO. 18-471). AS AMENDED, AT THE TIME OF BUILDING PERMIT APPLICATION.
24. UNLESS SHOWN OTHERWISE, THE FOLLOWING EASEMENTS ARE HEREBY PLATTED:
A. A 10.00 FOOT WIDE PUBLIC UTILITY AND DRAINAGE EASEMENT ALONG THE FRONT LINES OF EACH LOT.
B. A 7.50 FOOT WIDE PUBLIC UTILITY AND DRAINAGE EASEMENT ALONG THE REAR LINES OF EACH LOT.
C. A 5.00 FOOT WIDE PUBLIC UTILITY AND DRAINAGE EASEMENT ALONG BOTH SIDE LOT LINES OF EACH LOT.
D. A 10.00 FOOT WIDE PUBLIC UTILITY AND DRAINAGE EASEMENT ALONG STREETS, WHEN FRONT EASEMENT IS NOT APPROPRIATE.
E. A 20.00 FOOT WIDE PUBLIC UTILITY AND DRAINAGE EASEMENT ALONG PERIMETER OF SUBDIVISION.
25. THE SOLE RESPONSIBILITY FOR THE SURFACE MAINTENANCE OF EASEMENTS IS HEREBY VESTED WITH THE INDIVIDUAL PROPERTY OWNER UNLESS OTHERWISE NOTED.
26. MAILBOXES SHALL BE INSTALLED IN ACCORDANCE WITH ALL EL PASO COUNTY AND UNITED STATES POSTAL SERVICE REGULATIONS.
27. THE TOTAL NUMBER OF LOTS BEING PLATTED IS 68 LOTS. THE TOTAL NUMBER OF TRACTS BEING PLATTED IS 4 TRACTS.
28. PURSUANT TO RESOLUTION \_\_\_\_\_, APPROVED BY THE BOARD OF DIRECTORS, EL PASO COUNTY PUBLIC IMPROVEMENT DISTRICT AND RECORDED IN THE RECORDS OF THE EL PASO COUNTY CLERK AND RECORDER AT RECEPTION NO. \_\_\_\_\_ THE PARCELS WITHIN THE PLATTED BOUNDARIES OF FOREST LAKES FILING NO. 6 ARE INCLUDED WITHIN THE BOUNDARIES OF THE EL PASO COUNTY PUBLIC IMPROVEMENT DISTRICT NO. 3 AND AS SUCH IS SUBJECT TO APPLICABLE ROAD IMPACT FEES AND MILL LEVY.
29. DEVELOPER SHALL COMPLY WITH FEDERAL AND STATE LAWS, REGULATIONS, ORDINANCES, REVIEW AND PERMIT REQUIREMENTS, AND OTHER AGENCY REQUIREMENTS, IF ANY, OF A APPLICABLE AGENCIES INCLUDING, BUT NOT LIMITED TO, THE COLORADO DEPARTMENT OF PARKS AND WILDLIFE, COLORADO DEPARTMENT OF TRANSPORTATION, U.S. ARMY CORP. OF ENGINEERS, THE U.S. FISH & WILDLIFE SERVICE AND/OR COLORADO DEPARTMENT OF WILDLIFE REGARDING THE ENDANGERED SPECIES ACT.
30. THE PROPERTY WITHIN THIS SUBDIVISION IS INCLUDED IN PINON PINES METROPOLITAN DISTRICT NO. 2 BY INSTRUMENTS RECORDED UNDER RECEPTION NOS. 204033348 & 208042748.
31. GEOLOGIC HAZARDS DISCLOSURE STATEMENT: AREAS OF THE PROPOSED SUBDIVISION HAVE BEEN FOUND TO BE IMPACTED BY GEOLOGIC CONDITIONS INCLUDING SHALLOW GROUNDWATER, EXPANSIVE SOILS AND BEDROCK, AND POTENTIAL FOR FLOOD, EROSION AND DEBRIS FLOW. THESE CONDITIONS CAN BE MITIGATED BY AVOIDANCE, REGRADING, PROPER ENGINEERING DESIGN, AND CONSTRUCTION TECHNIQUES. A MAP OF THE HAZARD AREAS AND PROPOSED MITIGATION MEASURES CAN BE FOUND IN THE GEOLOGIC HAZARDS EVALUATION AND PRELIMINARY GEOTECHNICAL INVESTIGATION PREPARED BY CTL THOMSON INC., DATED JULY 18, 2018 AND IS HELD IN THE FOREST LAKES FILINGS 5, 6, & 7 PUD/PRELIMINARY PLAN AMENDMENT FILE (PUDSP-18-001) AT THE EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT. A DEBRIS FLOW/MUD FLOW ANALYSIS PREPARED BY CTL THOMPSON INC., DATED AUGUST 6, 2018 IS ALSO HELD IN THIS FILE. THE PROPOSED LOT LAYOUT AND DRAINAGE DESIGN ADDRESSES THE RECOMMENDATIONS OF THAT ANALYSIS.
32. ALL PROPERTY WITHIN THIS SUBDIVISION IS TO BE INCLUDED IN THE FOREST LAKES HOMEOWNERS ASSOCIATION. THE DECLARATION OF COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS FOR FOREST LAKES RESIDENTIAL ARE RECORDED UNDER RECEPTION NO. 215119474 AND AS AMENDED.
33. ALL PROPERTY WITHIN THIS SUBDIVISION IS WITHIN THE FOREST LAKES PUD AS RECORDED UNDER RECEPTION NO. 219053733 AND AMENDED BY RECEPTION NO. 219159875.

SUMMARY TABLE:

Table with 5 columns: LOTS/TRACTS, AREA, PERCENTAGE, OWNER, MAINTENANCE. Rows include Tract A, Tract B, Tract C, Tract D, Lots (68 Total), Public R.O.W., and Total.

SURVEYOR'S STATEMENT:

I, DOUGLAS P. REINELT, A DULY LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THIS PLAT TRULY AND CORRECTLY REPRESENTS THE RESULTS OF A SURVEY MADE ON DATE OF SURVEY, BY ME OR UNDER MY DIRECT SUPERVISION AND THAT ALL MONUMENTS EXIST AS SHOWN HEREON; THAT MATHEMATICAL CLOSURE ERRORS ARE LESS THAN 1:10,000; AND THAT SAID PLAT HAS BEEN PREPARED IN FULL COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO DEALING WITH MONUMENTS, SUBDIVISION, OR SURVEYING OF LAND AND ALL APPLICABLE PROVISION OF THE EL PASO COUNTY LAND DEVELOPMENT CODE.

I ATTEST THE ABOVE ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.

DOUGLAS P. REINELT, PROFESSIONAL LAND SURVEYOR
COLORADO P.L.S. NO. 30118
FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

NOTICE:

ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT, MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

COUNTY APPROVAL CERTIFICATE:

THIS PLAT FOR FOREST LAKES FILING NO. 6 WAS APPROVED FOR FILING BY THE EXECUTIVE DIRECTOR OF THE EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, SUBJECT TO ANY CONDITIONS SPECIFIED HEREON AND ANY CONDITIONS INCLUDED IN THE (NAME OF DOCUMENT TO BE DETERMINED). THE DEDICATIONS OF LAND TO THE PUBLIC (STREETS AND EASEMENTS) ARE ACCEPTED, BUT PUBLIC IMPROVEMENTS THEREON WILL NOT BECOME MAINTENANCE RESPONSIBILITY OF EL PASO COUNTY UNTIL PRELIMINARY ACCEPTANCE OF THE PUBLIC IMPROVEMENTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE AND ENGINEERING CRITERIA MANUAL AND THE SUBDIVISION IMPROVEMENTS AGREEMENT.

EXECUTIVE DIRECTOR OF PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT DATE

COUNTY ASSESSOR DATE

CLERK AND RECORDER:

STATE OF COLORADO )
COUNTY OF EL PASO ) ss

I HEREBY CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD IN MY OFFICE AT \_\_\_\_\_ O'CLOCK \_\_\_\_\_M THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, A.D., AND IS DULY RECORDED AT RECEPTION NO. \_\_\_\_\_ OF THE RECORDS OF EL PASO COUNTY, COLORADO.

CHUCK BROERMAN, RECORDER

BY: \_\_\_\_\_ DEPUTY

FEE: \_\_\_\_\_

SURCHARGE: \_\_\_\_\_

SCHOOL FEE: DISTRICT 38

BRIDGE FEE: \_\_\_\_\_

URBAN PARK FEE: LAND IN LIEU OF FEES

REGIONAL PARK FEE: LAND IN LIEU OF FEES

DRAINAGE FEE: BEAVER CREEK BASIN

OWNER:

FLRD #2, LLC
6385 CORPORATE DRIVE, SUITE 200
COLORADO SPRINGS, CO 80919
719-592-9333

Table with 3 columns: NO, REVISION, DATE

PRELIMINARY
THIS DOCUMENT HAS NOT BEEN PLAT CHECKED

FOREST LAKES FILING NO. 6
JOB NO. 1175.60
AUGUST 14, 2020
SHEET 1 OF 6



Santa Fe Park

**Table 2: Detailed Trip Generation Estimate**

Land Use Code	Land Use Description	Acres	FAR	Trip Generation Units	Trip Generation Rates <sup>1</sup>					Total Trips Generated					Pass-By Trips <sup>2</sup>	New External Trips Generated Average Weekday Traffic
					Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out	Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out		
820 <sup>3</sup>	Shopping Center	7.4	0.2	75 KSF <sup>4</sup>	65.92	1.56	0.96	2.81	3.05	4,944	117	72	211	228	34%	3,263
130	Industrial Park	43.8	0.25	475 KSF	3.37	0.32	0.08	0.08	0.32	1,601	154	36	40	150	0%	1,601
<b>Total Trip Generation Estimate</b>										<b>6,545</b>	<b>271</b>	<b>108</b>	<b>251</b>	<b>378</b>		<b>4,864</b>

Notes:

<sup>1</sup> Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)

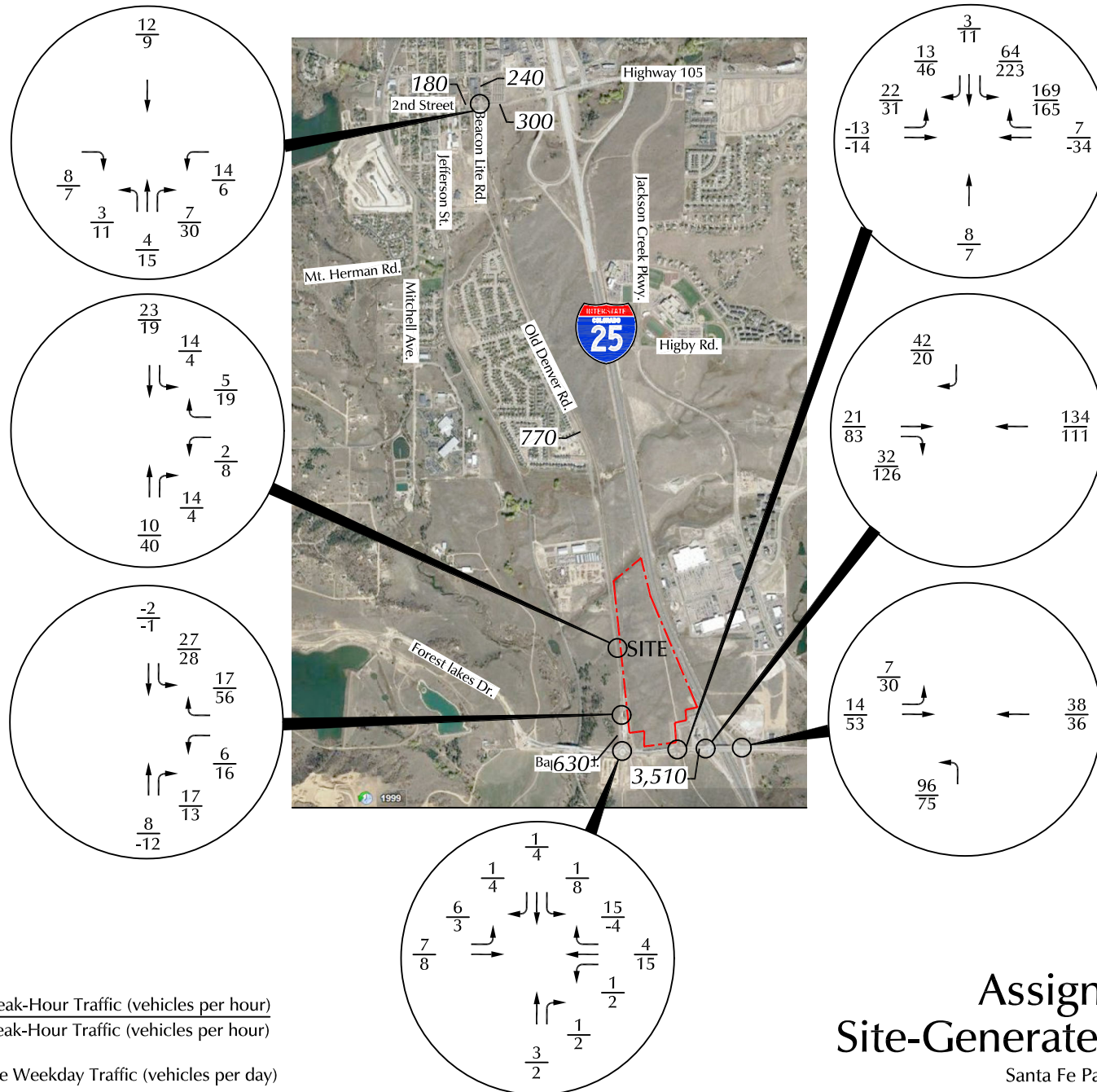
<sup>2</sup> Source: "Trip Generation Handbook - An ITE Proposed Recommended Practice, Third Edition September 2017" by ITE

<sup>3</sup> Shopping Center trip generation rates shown were calculated using the fitted curve equation based on the square footage

<sup>4</sup> KSF = one thousand square feet of floor space

Source: LSC Transportation Consultants, Inc.





LEGEND:



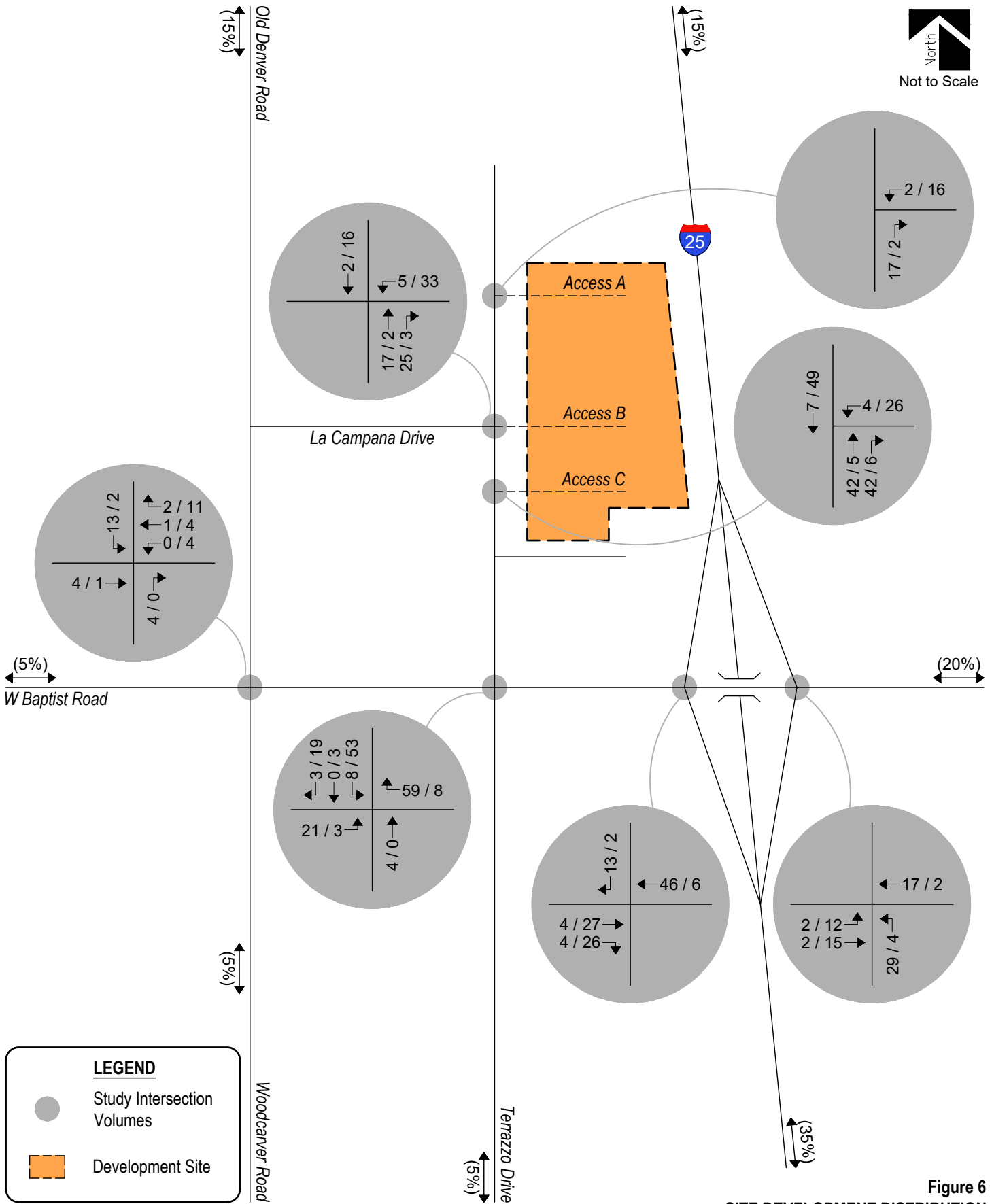
$\frac{XX}{XX}$  = AM Weekday Peak-Hour Traffic (vehicles per hour)  
 $\frac{XX}{XX}$  = PM Weekday Peak-Hour Traffic (vehicles per hour)

XXX = Average Weekday Traffic (vehicles per day)

Figure 7

# Assignment of Site-Generated Traffic

Santa Fe Park (LSC #194840)



**Figure 6**  
**SITE DEVELOPMENT DISTRIBUTION**  
(%) : Overall  
**SITE-GENERATED**  
AM / PM Peak Hour



**Table 2  
Trip Generation Estimate  
Willow Springs Ranch**

Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates <sup>(1)</sup>				Total Trips Generated					
			Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out	Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out
<b>Proposed Land Use</b>												
<b>North Site</b>												
210	Single-Family Detached Housing	281 DU <sup>(2)</sup>	9.44	0.19	0.56	0.62	0.37	2,653	52	156	175	103
<b>South Site</b>												
210	Single-Family Detached Housing	119 DU	9.44	0.19	0.56	0.62	0.37	1,123	22	66	74	44
<b>Total</b>		<b>400 DU</b>						<b>3,776</b>	<b>74</b>	<b>222</b>	<b>249</b>	<b>147</b>

Notes:

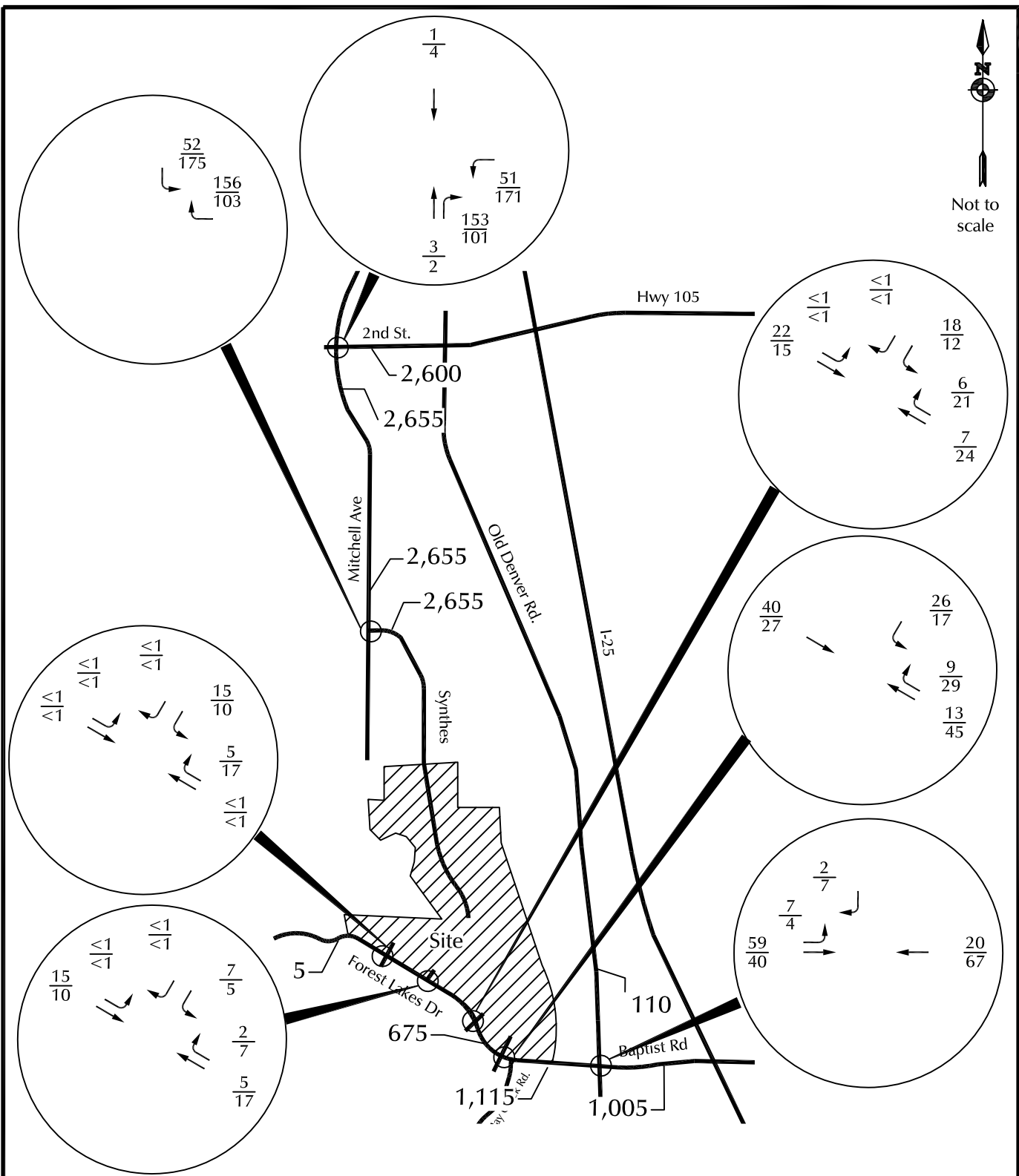
(1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)

(2) DU = dwelling unit

Source: LSC Transportation Consultants, Inc.



Not to scale



LEGEND:  $\frac{XX}{XX}$  = AM Peak-Hour Traffic (veh/hr)  
 $\frac{XX}{XX}$  = PM Peak-Hour Traffic (veh/hr)

XXX = Average Weekday Daily Traffic (vehicles per day)

Figure 6

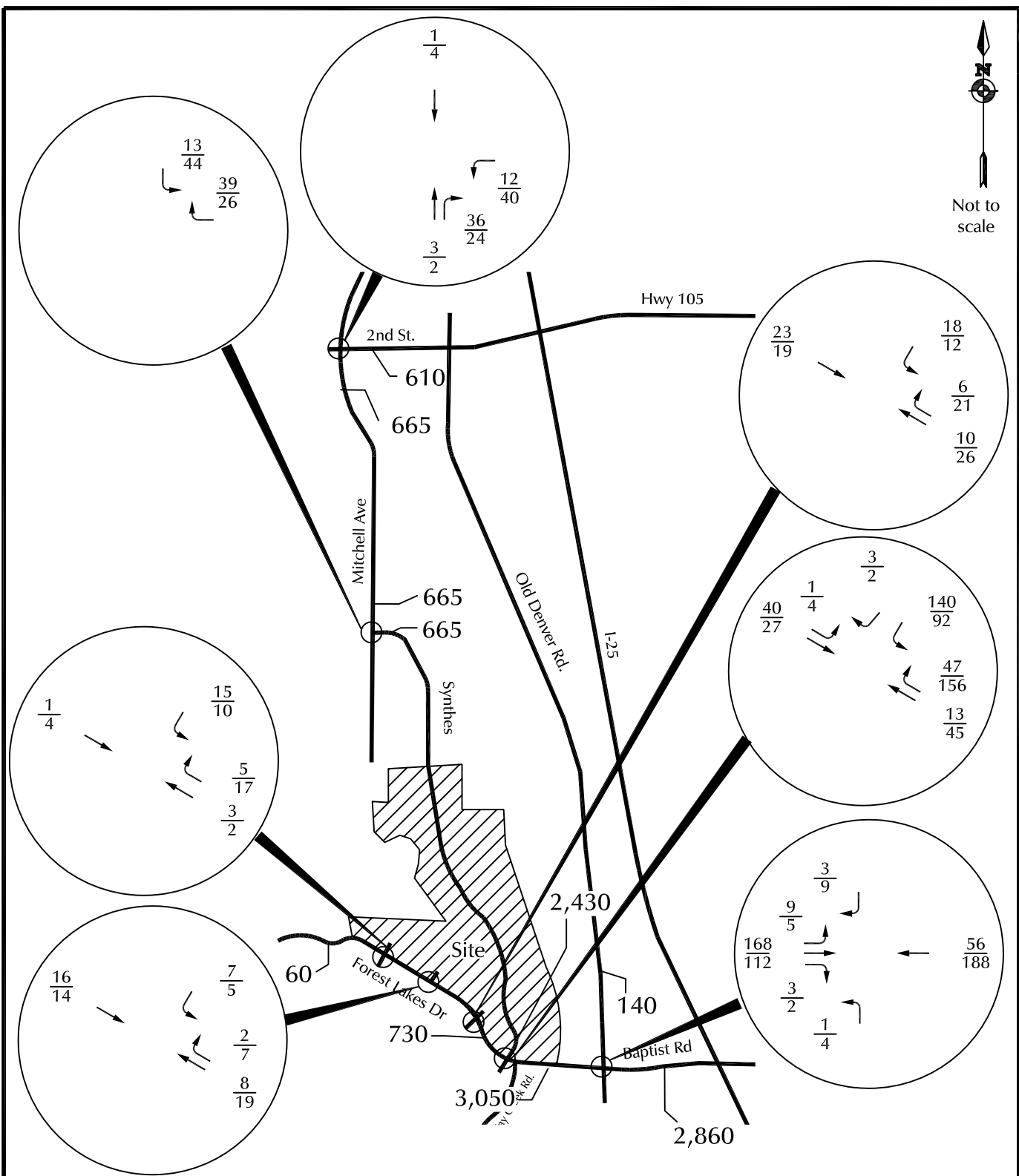
# Short-Term Site-Generated Traffic prior to Collector Connection

Willow Springs Ranch (LSC# 194550)





Not to scale



LEGEND:  $\frac{XX}{XX}$  = AM Peak-Hour Traffic (veh/hr)  
 $\frac{XX}{XX}$  = PM Peak-Hour Traffic (veh/hr)

XXX = Average Weekday Daily Traffic (vehicles per day)

Figure 7

# Long-Term Site-Generated Traffic with Collector Connection

Willow Springs Ranch (LSC# 194550)



**Table 2  
Nexus Industrial  
Trip Generation Estimates**

Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates <sup>(1)</sup>				Total Trips Generated					
			Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour	
				In	Out	In	Out		In	Out		
770	Business Park	130 KSF <sup>(2)</sup>	16.12	1.20	0.21	0.37	1.06	2,096	156	28	49	138

Notes:  
(1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)  
(2) KSF = thousand square feet of floor space

Source: LSC Transportation Consultants, Inc.



Figure 5

# Directional Distribution of Site-Generated Traffic

Nexus Industrial (LSC #174370)



LEGEND:  
 XX% = Percent Directional Distribution

**Table 2  
Wagons West  
Trip Generation Estimates**

Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates <sup>(1)</sup>				Total Trips Generated					
			Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour	
				In	Out	In	Out		In	Out	In	Out
210	Single-Family Detached Housing	54 DU <sup>(2)</sup>	9.52	0.19	0.56	0.63	0.37	514	10	30	34	20
230	Residential Condominium/Townhouse	77 DU	5.81	0.07	0.37	0.35	0.17	447	6	28	27	13
								<b>961</b>	<b>16</b>	<b>58</b>	<b>61</b>	<b>33</b>

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

Source: LSC Transportation Consultants, Inc.





Figure 5  
**Directional Distribution  
of Site-Generated Traffic**  
Wagons West (LSC #174270)

LEGEND:  
 = Percent Directional Distribution





## **APPENDIX G – Future (with site development) Synchro Outputs**

HCM 6th Roundabout  
 1: Woodcarver Road/Old Denver Road & Baptist Road

11/11/2021

Intersection				
Intersection Delay, s/veh	4.3			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	125	271	13	187
Demand Flow Rate, veh/h	127	276	13	190
Vehicles Circulating, veh/h	208	15	304	112
Vehicles Exiting, veh/h	94	302	31	179
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.3	4.4	3.7	4.3
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	127	276	13	190
Cap Entry Lane, veh/h	1116	1359	1012	1231
Entry HV Adj Factor	0.982	0.983	0.992	0.983
Flow Entry, veh/h	125	271	13	187
Cap Entry, veh/h	1096	1335	1004	1210
V/C Ratio	0.114	0.203	0.013	0.154
Control Delay, s/veh	4.3	4.4	3.7	4.3
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	1

**Intersection**

Int Delay, s/veh 2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑↑		↑
Traffic Vol, veh/h	83	190	0	248	0	176
Future Vol, veh/h	83	190	0	248	0	176
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	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	90	207	0	270	0	191

**Major/Minor**

	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 194
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.23
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.319
Pot Cap-1 Maneuver	-	-	0 - 0 847
Stage 1	-	-	0 - 0
Stage 2	-	-	0 - 0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 847
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

**Approach**

	EB	WB	NB
HCM Control Delay, s	0	0	10.5
HCM LOS			B

**Minor Lane/Major Mvmt**

	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	847	-	-	-
HCM Lane V/C Ratio	0.226	-	-	-
HCM Control Delay (s)	10.5	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.9	-	-	-

# Timings

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	Ø7
Lane Configurations	↑↑	↑	↖↗	↑↓	↖	↑	↗	↖	↓	
Traffic Volume (vph)	459	23	372	46	200	1	229	33	4	
Future Volume (vph)	459	23	372	46	200	1	229	33	4	
Turn Type	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	4		3	8	5	2		1	6	7
Permitted Phases		4	8		2		2	6		
Detector Phase	4	4	3	8	5	2	2	1	6	
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	9.5	22.5	22.5	9.5	22.5	9.5
Total Split (s)	22.5	22.5	13.0	26.0	10.0	25.0	25.0	9.5	24.5	9.5
Total Split (%)	32.1%	32.1%	18.6%	37.1%	14.3%	35.7%	35.7%	13.6%	35.0%	14%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Act Effct Green (s)	15.0	15.0	25.0	25.0	34.9	31.4	31.4	29.2	22.8	
Actuated g/C Ratio	0.21	0.21	0.36	0.36	0.50	0.45	0.45	0.42	0.33	
v/c Ratio	0.66	0.05	0.65	0.04	0.33	0.00	0.29	0.06	0.01	
Control Delay	29.3	0.2	26.5	13.7	11.8	16.0	3.9	10.2	16.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	29.3	0.2	26.5	13.7	11.8	16.0	3.9	10.2	16.8	
LOS	C	A	C	B	B	B	A	B	B	
Approach Delay	27.9			25.1		7.6			11.0	
Approach LOS	C			C		A			B	

### Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 20.2

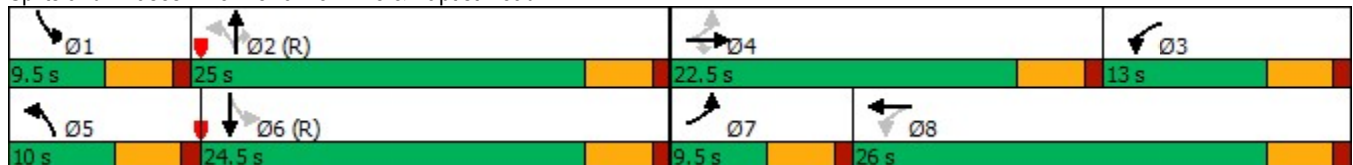
Intersection LOS: C

Intersection Capacity Utilization 52.3%

ICU Level of Service A

Analysis Period (min) 15

### Splits and Phases: 3: Terrazzo Drive & Baptist Road



# Queues

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	499	25	404	50	217	1	249	36	5
v/c Ratio	0.66	0.05	0.65	0.04	0.33	0.00	0.29	0.06	0.01
Control Delay	29.3	0.2	26.5	13.7	11.8	16.0	3.9	10.2	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.3	0.2	26.5	13.7	11.8	16.0	3.9	10.2	16.8
Queue Length 50th (ft)	104	0	63	7	48	0	0	7	1
Queue Length 95th (ft)	143	0	89	16	95	4	47	22	8
Internal Link Dist (ft)	423			557		495			367
Turn Bay Length (ft)		310	420		135			255	
Base Capacity (vph)	910	528	769	1266	659	835	847	619	590
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.05	0.53	0.04	0.33	0.00	0.29	0.06	0.01

### Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↗	↘	↖↖	↗↗		↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	0	459	23	372	46	0	200	1	229	33	4	1
Future Volume (vph)	0	459	23	372	46	0	200	1	229	33	4	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		0.95	1.00	0.97	0.95		1.00	1.00	1.00	1.00	1.00	
Fr <sub>t</sub>		1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.97	
Fl <sub>t</sub> Protected		1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3539	1583	3433	3539		1770	1863	1583	1770	1807	
Fl <sub>t</sub> Permitted		1.00	1.00	0.35	1.00		0.63	1.00	1.00	0.76	1.00	
Satd. Flow (perm)		3539	1583	1270	3539		1174	1863	1583	1410	1807	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	499	25	404	50	0	217	1	249	36	4	1
RTOR Reduction (vph)	0	0	20	0	0	0	0	0	147	0	1	0
Lane Group Flow (vph)	0	499	5	404	50	0	217	1	102	36	4	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)		15.0	15.0	25.0	25.0		36.0	28.7	28.7	25.6	22.8	
Effective Green, g (s)		15.0	15.0	25.0	25.0		36.0	28.7	28.7	25.6	22.8	
Actuated g/C Ratio		0.21	0.21	0.36	0.36		0.51	0.41	0.41	0.37	0.33	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		758	339	623	1263		677	763	649	530	588	
v/s Ratio Prot		0.14		c0.05	0.01		c0.04	0.00		0.00	0.00	
v/s Ratio Perm			0.00	c0.18			c0.12		0.06	0.02		
v/c Ratio		0.66	0.02	0.65	0.04		0.32	0.00	0.16	0.07	0.01	
Uniform Delay, d1		25.2	21.7	23.1	14.7		9.6	12.2	13.0	14.4	16.0	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		2.1	0.0	2.3	0.0		0.3	0.0	0.5	0.1	0.0	
Delay (s)		27.2	21.7	25.4	14.7		9.9	12.2	13.5	14.4	16.0	
Level of Service		C	C	C	B		A	B	B	B	B	
Approach Delay (s)		27.0		24.3			11.8				14.6	
Approach LOS		C		C			B				B	

Intersection Summary		
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.51	
Actuated Cycle Length (s)	70.0	Sum of lost time (s) 18.0
Intersection Capacity Utilization	52.3%	ICU Level of Service A
Analysis Period (min)	15	

c Critical Lane Group



# Timings

## 4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Configurations	↑↑↑↑	↗	↖↗	↑↑	↘	↘
Traffic Volume (vph)	237	319	694	348	130	0
Future Volume (vph)	237	319	694	348	130	0
Turn Type	NA	Perm	Prot	NA	Perm	NA
Protected Phases	2		1	6		4
Permitted Phases		2			4	
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	6.0	6.0	19.0	19.0	6.0	6.0
Minimum Split (s)	24.0	24.0	25.0	25.0	24.0	24.0
Total Split (s)	28.0	28.0	30.0	58.0	32.0	32.0
Total Split (%)	31.1%	31.1%	33.3%	64.4%	35.6%	35.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Act Effct Green (s)	23.2	23.2	22.8	52.0	26.0	26.0
Actuated g/C Ratio	0.26	0.26	0.25	0.58	0.29	0.29
v/c Ratio	0.16	0.52	0.87	0.18	0.28	0.18
Control Delay	26.6	6.4	34.6	6.5	26.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.6	6.4	34.6	6.5	26.5	0.5
LOS	C	A	C	A	C	A
Approach Delay	15.0			25.2		13.5
Approach LOS	B			C		B

### Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 35 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 20.5

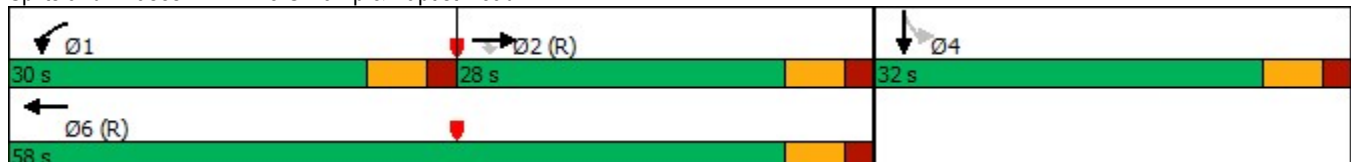
Intersection LOS: C

Intersection Capacity Utilization 62.7%

ICU Level of Service B

Analysis Period (min) 15

### Splits and Phases: 4: I-25 S Ramp & Baptist Road



Queues

4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	258	347	754	378	141	142
v/c Ratio	0.16	0.52	0.87	0.18	0.28	0.18
Control Delay	26.6	6.4	34.6	6.5	26.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.6	6.4	34.6	6.5	26.5	0.5
Queue Length 50th (ft)	33	0	215	23	62	0
Queue Length 95th (ft)	50	66	#298	32	111	0
Internal Link Dist (ft)	557			464		409
Turn Bay Length (ft)		375				
Base Capacity (vph)	1648	665	915	2044	511	791
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	0.16	0.52	0.82	0.18	0.28	0.18

Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

## 4: I-25 S Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑					↘	↗	
Traffic Volume (vph)	0	237	319	694	348	0	0	0	0	130	0	131
Future Volume (vph)	0	237	319	694	348	0	0	0	0	130	0	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Lane Util. Factor		0.86	1.00	0.97	0.95					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	3539					1770	1583	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	3539					1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	258	347	754	378	0	0	0	0	141	0	142
RTOR Reduction (vph)	0	0	258	0	0	0	0	0	0	0	101	0
Lane Group Flow (vph)	0	258	89	754	378	0	0	0	0	141	41	0
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2		1	6							4
Permitted Phases			2							4		
Actuated Green, G (s)		23.2	23.2	22.8	52.0					26.0	26.0	
Effective Green, g (s)		23.2	23.2	22.8	52.0					26.0	26.0	
Actuated g/C Ratio		0.26	0.26	0.25	0.58					0.29	0.29	
Clearance Time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1651	408	869	2044					511	457	
v/s Ratio Prot		0.04		c0.22	0.11						0.03	
v/s Ratio Perm			c0.06							c0.08		
v/c Ratio		0.16	0.22	0.87	0.18					0.28	0.09	
Uniform Delay, d1		25.8	26.3	32.2	9.0					24.7	23.4	
Progression Factor		1.00	1.00	0.72	0.70					1.00	1.00	
Incremental Delay, d2		0.2	1.2	8.9	0.2					1.3	0.4	
Delay (s)		26.0	27.5	32.0	6.4					26.1	23.7	
Level of Service		C	C	C	A					C	C	
Approach Delay (s)		26.9			23.5			0.0			24.9	
Approach LOS		C			C			A			C	

### Intersection Summary

HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Queues

5: I-25 N Ramp & Baptist Road

11/11/2021



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	161	236	939	330	108	109	366
v/c Ratio	0.45	0.10	0.30	0.35	0.32	0.32	0.23
Control Delay	26.5	17.1	13.9	2.7	33.9	34.0	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	17.1	13.9	2.7	33.9	34.0	0.3
Queue Length 50th (ft)	36	50	87	0	55	55	0
Queue Length 95th (ft)	59	78	113	43	105	107	0
Internal Link Dist (ft)		464	805			356	
Turn Bay Length (ft)	570						
Base Capacity (vph)	419	2359	3182	952	336	337	1583
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.10	0.30	0.35	0.32	0.32	0.23

Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑			↑↑↑	↖	↖	↖	↖			
Traffic Volume (vph)	148	217	0	0	864	304	199	1	337	0	0	0
Future Volume (vph)	148	217	0	0	864	304	199	1	337	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	4.0			
Lane Util. Factor	0.97	0.95			0.86	1.00	0.95	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3433	3539			6408	1583	1681	1686	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3433	3539			6408	1583	1681	1686	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	161	236	0	0	939	330	216	1	366	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	166	0	0	0	0	0	0
Lane Group Flow (vph)	161	236	0	0	939	164	108	109	366	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Free			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		Free			
Actuated Green, G (s)	9.3	60.0			44.7	44.7	18.0	18.0	90.0			
Effective Green, g (s)	9.3	60.0			44.7	44.7	18.0	18.0	90.0			
Actuated g/C Ratio	0.10	0.67			0.50	0.50	0.20	0.20	1.00			
Clearance Time (s)	6.0	6.0			6.0	6.0	6.0	6.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	354	2359			3182	786	336	337	1583			
v/s Ratio Prot	c0.05	0.07			c0.15							
v/s Ratio Perm						0.10	0.06	0.06	0.23			
v/c Ratio	0.45	0.10			0.30	0.21	0.32	0.32	0.23			
Uniform Delay, d1	38.0	5.4			13.4	12.7	30.8	30.8	0.0			
Progression Factor	0.59	3.15			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.9	0.1			0.2	0.6	2.5	2.5	0.3			
Delay (s)	23.5	16.9			13.6	13.3	33.3	33.3	0.3			
Level of Service	C	B			B	B	C	C	A			
Approach Delay (s)		19.6			13.5			12.6			0.0	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Roundabout  
 1: Woodcarver Road/Old Denver Road & Baptist Road

11/11/2021

Intersection				
Intersection Delay, s/veh	4.9			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	128	406	23	178
Demand Flow Rate, veh/h	130	414	23	181
Vehicles Circulating, veh/h	173	25	289	161
Vehicles Exiting, veh/h	169	287	14	278
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.1	5.5	3.7	4.5
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	130	414	23	181
Cap Entry Lane, veh/h	1157	1345	1028	1171
Entry HV Adj Factor	0.983	0.981	0.994	0.983
Flow Entry, veh/h	128	406	23	178
Cap Entry, veh/h	1137	1319	1021	1151
V/C Ratio	0.112	0.308	0.022	0.155
Control Delay, s/veh	4.1	5.5	3.7	4.5
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	1

HCM 6th TWSC  
2: Site Access & Baptist Road

11/11/2021

**Intersection**

Int Delay, s/veh 1.8

**Movement** EBT EBR WBL WBT NBL NBR

Lane Configurations	↑			↑↑		↑
Traffic Vol, veh/h	98	161	0	459	0	151
Future Vol, veh/h	98	161	0	459	0	151
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	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	107	175	0	499	0	164

**Major/Minor** Major1 Major2 Minor1

Conflicting Flow All	0	0	-	-	-	195
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	-	0	-	0	846
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	846
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

**Approach** EB WB NB

HCM Control Delay, s	0	0	10.3
HCM LOS			B

**Minor Lane/Major Mvmt** NBLn1 EBT EBR WBT

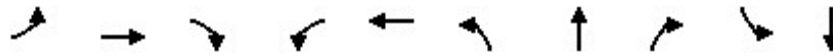
Capacity (veh/h)	846	-	-	-
HCM Lane V/C Ratio	0.194	-	-	-
HCM Control Delay (s)	10.3	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.7	-	-	-



# Timings

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↑↑	↗	↖↗	↑↑	↖	↑	↗	↖	↗
Traffic Volume (vph)	1	406	25	353	275	181	1	200	22	1
Future Volume (vph)	1	406	25	353	275	181	1	200	22	1
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4		3	8	5	2		1	6
Permitted Phases	4		4	8		2		2	6	
Detector Phase	7	4	4	3	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5	9.5	22.5
Total Split (s)	9.5	22.5	22.5	12.0	25.0	10.6	26.0	26.0	9.5	24.9
Total Split (%)	13.6%	32.1%	32.1%	17.1%	35.7%	15.1%	37.1%	37.1%	13.6%	35.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	14.1	14.1	14.1	22.6	22.6	35.6	32.4	32.4	29.5	23.9
Actuated g/C Ratio	0.20	0.20	0.20	0.32	0.32	0.51	0.46	0.46	0.42	0.34
v/c Ratio	0.00	0.62	0.06	0.54	0.26	0.30	0.00	0.25	0.04	0.01
Control Delay	20.0	29.0	0.2	23.6	18.2	11.8	16.0	3.3	10.3	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.0	29.0	0.2	23.6	18.2	11.8	16.0	3.3	10.3	14.3
LOS	B	C	A	C	B	B	B	A	B	B
Approach Delay		27.3			21.2		7.4			10.8
Approach LOS		C			C		A			B

### Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 19.2

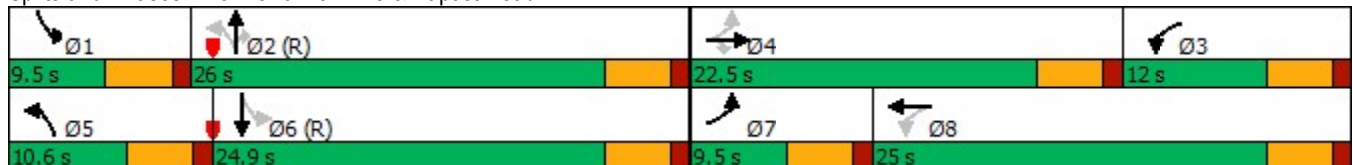
Intersection LOS: B

Intersection Capacity Utilization 49.2%

ICU Level of Service A

Analysis Period (min) 15

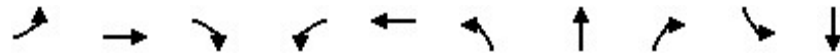
### Splits and Phases: 3: Terrazzo Drive & Baptist Road



Queues

3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1	441	27	384	299	197	1	217	24	3
v/c Ratio	0.00	0.62	0.06	0.54	0.26	0.30	0.00	0.25	0.04	0.01
Control Delay	20.0	29.0	0.2	23.6	18.2	11.8	16.0	3.3	10.3	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.0	29.0	0.2	23.6	18.2	11.8	16.0	3.3	10.3	14.3
Queue Length 50th (ft)	0	92	0	62	47	42	0	0	5	0
Queue Length 95th (ft)	4	126	0	103	82	92	4	38	18	6
Internal Link Dist (ft)		423			557		495			367
Turn Bay Length (ft)	160		310	420		135			255	
Base Capacity (vph)	216	910	528	796	1147	657	862	858	624	573
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	0.00	0.48	0.05	0.48	0.26	0.30	0.00	0.25	0.04	0.01

Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘↗	↑↑		↘	↑	↗	↘	↗	
Traffic Volume (vph)	1	406	25	353	275	0	181	1	200	22	1	2
Future Volume (vph)	1	406	25	353	275	0	181	1	200	22	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3539		1770	1863	1583	1770	1676	
Flt Permitted	0.37	1.00	1.00	0.50	1.00		0.62	1.00	1.00	0.76	1.00	
Satd. Flow (perm)	693	3539	1583	1793	3539		1152	1863	1583	1410	1676	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	441	27	384	299	0	197	1	217	24	1	2
RTOR Reduction (vph)	0	0	22	0	0	0	0	0	136	0	1	0
Lane Group Flow (vph)	1	441	5	384	299	0	197	1	81	24	2	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	14.1	14.1	14.1	22.6	22.6		32.9	26.1	26.1	22.6	20.3	
Effective Green, g (s)	14.1	14.1	14.1	22.6	22.6		32.9	26.1	26.1	22.6	20.3	
Actuated g/C Ratio	0.20	0.20	0.20	0.32	0.32		0.47	0.37	0.37	0.32	0.29	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	154	712	318	801	1142		612	694	590	467	486	
v/s Ratio Prot	0.00	c0.12		c0.07	0.08		c0.04	0.00		0.00	0.00	
v/s Ratio Perm	0.00		0.00	0.09			c0.11		0.05	0.01		
v/c Ratio	0.01	0.62	0.02	0.48	0.26		0.32	0.00	0.14	0.05	0.00	
Uniform Delay, d1	22.5	25.5	22.4	20.4	17.5		11.2	13.8	14.5	16.3	17.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	1.6	0.0	0.5	0.1		0.3	0.0	0.5	0.0	0.0	
Delay (s)	22.5	27.1	22.4	20.9	17.7		11.5	13.8	15.0	16.3	17.7	
Level of Service	C	C	C	C	B		B	B	B	B	B	
Approach Delay (s)		26.8			19.5			13.3			16.5	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

# Timings

## 4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Configurations	↑↑↑↑	↑	↔↔	↑↑	↔	↔
Traffic Volume (vph)	231	272	552	523	299	0
Future Volume (vph)	231	272	552	523	299	0
Turn Type	NA	Perm	Prot	NA	Perm	NA
Protected Phases	2		1	6		4
Permitted Phases		2			4	
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	6.0	6.0	19.0	19.0	6.0	6.0
Minimum Split (s)	24.0	24.0	25.0	25.0	24.0	24.0
Total Split (s)	32.0	32.0	27.0	59.0	31.0	31.0
Total Split (%)	35.6%	35.6%	30.0%	65.6%	34.4%	34.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Act Effct Green (s)	26.9	26.9	20.1	53.0	25.0	25.0
Actuated g/C Ratio	0.30	0.30	0.22	0.59	0.28	0.28
v/c Ratio	0.13	0.44	0.78	0.27	0.66	0.27
Control Delay	23.5	5.3	34.1	6.7	36.4	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	5.3	34.1	6.7	36.4	1.0
LOS	C	A	C	A	D	A
Approach Delay	13.7			20.8		23.8
Approach LOS	B			C		C

### Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 35 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 19.7

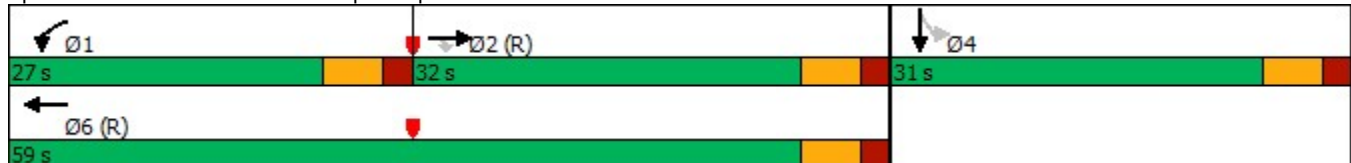
Intersection LOS: B

Intersection Capacity Utilization 64.2%

ICU Level of Service C

Analysis Period (min) 15

### Splits and Phases: 4: I-25 S Ramp & Baptist Road



Queues

4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	251	296	600	568	325	179
v/c Ratio	0.13	0.44	0.78	0.27	0.66	0.27
Control Delay	23.5	5.3	34.1	6.7	36.4	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	5.3	34.1	6.7	36.4	1.0
Queue Length 50th (ft)	30	0	174	28	163	0
Queue Length 95th (ft)	46	58	232	50	256	0
Internal Link Dist (ft)	557			464		409
Turn Bay Length (ft)		375				
Base Capacity (vph)	1912	680	801	2084	491	665
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	0.13	0.44	0.75	0.27	0.66	0.27

Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 4: I-25 S Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑					↘	↗	
Traffic Volume (vph)	0	231	272	552	523	0	0	0	0	299	0	165
Future Volume (vph)	0	231	272	552	523	0	0	0	0	299	0	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Lane Util. Factor		0.86	1.00	0.97	0.95					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	3539					1770	1583	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	3539					1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	251	296	600	568	0	0	0	0	325	0	179
RTOR Reduction (vph)	0	0	208	0	0	0	0	0	0	0	129	0
Lane Group Flow (vph)	0	251	88	600	568	0	0	0	0	325	50	0
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2		1	6							4
Permitted Phases			2							4		
Actuated Green, G (s)		26.9	26.9	20.1	53.0					25.0	25.0	
Effective Green, g (s)		26.9	26.9	20.1	53.0					25.0	25.0	
Actuated g/C Ratio		0.30	0.30	0.22	0.59					0.28	0.28	
Clearance Time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1915	473	766	2084					491	439	
v/s Ratio Prot		0.04		c0.17	c0.16							0.03
v/s Ratio Perm			0.06							c0.18		
v/c Ratio		0.13	0.19	0.78	0.27					0.66	0.11	
Uniform Delay, d1		23.0	23.4	32.9	9.1					28.8	24.2	
Progression Factor		1.00	1.00	0.80	0.70					1.00	1.00	
Incremental Delay, d2		0.1	0.9	5.1	0.3					6.9	0.5	
Delay (s)		23.2	24.3	31.5	6.6					35.6	24.8	
Level of Service		C	C	C	A					D	C	
Approach Delay (s)		23.8			19.4			0.0			31.8	
Approach LOS		C			B			A			C	

Intersection Summary		
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.56	
Actuated Cycle Length (s)	90.0	Sum of lost time (s) 18.0
Intersection Capacity Utilization	64.2%	ICU Level of Service C
Analysis Period (min)	15	

c Critical Lane Group

# Timings

## 5: I-25 N Ramp & Baptist Road

11/11/2021

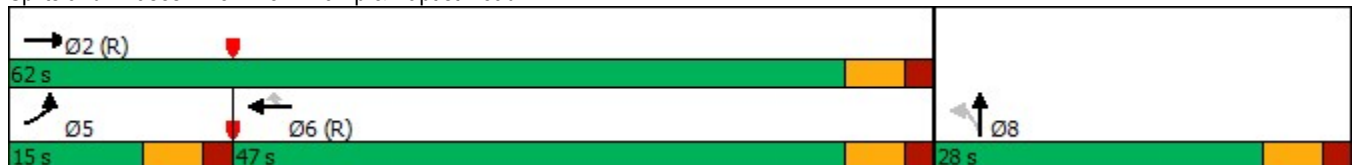


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↷	↶↷	↶↷↶↷	↷	↶	↶	↷
Traffic Volume (vph)	99	419	752	203	327	1	971
Future Volume (vph)	99	419	752	203	327	1	971
Turn Type	Prot	NA	NA	Perm	Perm	NA	Free
Protected Phases	5	2	6			8	
Permitted Phases				6	8		Free
Detector Phase	5	2	6	6	8	8	
Switch Phase							
Minimum Initial (s)	6.0	19.0	19.0	19.0	6.0	6.0	
Minimum Split (s)	12.0	25.0	46.0	46.0	24.0	24.0	
Total Split (s)	15.0	62.0	47.0	47.0	28.0	28.0	
Total Split (%)	16.7%	68.9%	52.2%	52.2%	31.1%	31.1%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	
Act Effct Green (s)	7.9	56.0	44.5	44.5	22.0	22.0	90.0
Actuated g/C Ratio	0.09	0.62	0.49	0.49	0.24	0.24	1.00
v/c Ratio	0.36	0.21	0.26	0.25	0.43	0.43	0.67
Control Delay	41.5	13.3	14.2	2.9	32.6	32.7	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	13.3	14.2	2.9	32.6	32.7	2.2
LOS	D	B	B	A	C	C	A
Approach Delay		18.7	11.8			9.9	
Approach LOS		B	B			A	

### Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.67  
 Intersection Signal Delay: 12.2  
 Intersection Capacity Utilization 64.2%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service C

### Splits and Phases: 5: I-25 N Ramp & Baptist Road



Queues

5: I-25 N Ramp & Baptist Road

11/11/2021



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	108	455	817	221	177	179	1055
v/c Ratio	0.36	0.21	0.26	0.25	0.43	0.43	0.67
Control Delay	41.5	13.3	14.2	2.9	32.6	32.7	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	13.3	14.2	2.9	32.6	32.7	2.2
Queue Length 50th (ft)	26	65	79	0	89	90	0
Queue Length 95th (ft)	m46	87	103	38	154	155	0
Internal Link Dist (ft)		464	805			356	
Turn Bay Length (ft)	570						
Base Capacity (vph)	343	2202	3168	894	410	412	1583
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.21	0.26	0.25	0.43	0.43	0.67

Intersection Summary

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



# HCM Signalized Intersection Capacity Analysis

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑			↑↑↑↑	↖	↗	↖	↗			
Traffic Volume (vph)	99	419	0	0	752	203	327	1	971	0	0	0
Future Volume (vph)	99	419	0	0	752	203	327	1	971	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	4.0			
Lane Util. Factor	0.97	0.95			0.86	1.00	0.95	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3433	3539			6408	1583	1681	1686	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3433	3539			6408	1583	1681	1686	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	108	455	0	0	817	221	355	1	1055	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	115	0	0	0	0	0	0
Lane Group Flow (vph)	108	455	0	0	817	106	177	179	1055	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Free			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		Free			
Actuated Green, G (s)	6.7	56.0			43.3	43.3	22.0	22.0	90.0			
Effective Green, g (s)	6.7	56.0			43.3	43.3	22.0	22.0	90.0			
Actuated g/C Ratio	0.07	0.62			0.48	0.48	0.24	0.24	1.00			
Clearance Time (s)	6.0	6.0			6.0	6.0	6.0	6.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	255	2202			3082	761	410	412	1583			
v/s Ratio Prot	0.03	0.13			0.13							
v/s Ratio Perm						0.07	0.11	0.11	c0.67			
v/c Ratio	0.42	0.21			0.27	0.14	0.43	0.43	0.67			
Uniform Delay, d1	39.8	7.4			13.9	13.0	28.7	28.7	0.0			
Progression Factor	1.00	1.76			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	1.0	0.2			0.2	0.4	3.3	3.3	2.2			
Delay (s)	40.9	13.2			14.1	13.4	32.0	32.1	2.2			
Level of Service	D	B			B	B	C	C	A			
Approach Delay (s)		18.5			13.9			9.8			0.0	
Approach LOS		B			B			A			A	

Intersection Summary		
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.83	B
Actuated Cycle Length (s)	90.0	Sum of lost time (s)
Intersection Capacity Utilization	64.2%	ICU Level of Service
Analysis Period (min)	15	C

c Critical Lane Group

HCM 6th Roundabout  
 1: Woodcarver Road/Old Denver Road & Baptist Road

11/11/2021

Intersection				
Intersection Delay, s/veh	7.6			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	468	539	34	300
Demand Flow Rate, veh/h	478	550	34	305
Vehicles Circulating, veh/h	318	56	742	240
Vehicles Exiting, veh/h	227	720	54	366
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.4	7.0	6.2	6.1
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	478	550	34	305
Cap Entry Lane, veh/h	998	1303	647	1080
Entry HV Adj Factor	0.980	0.980	0.993	0.983
Flow Entry, veh/h	468	539	34	300
Cap Entry, veh/h	978	1277	643	1061
V/C Ratio	0.479	0.422	0.053	0.282
Control Delay, s/veh	9.4	7.0	6.2	6.1
LOS	A	A	A	A
95th %tile Queue, veh	3	2	0	1

HCM 6th TWSC  
2: Site Access & Baptist Road

11/11/2021

**Intersection**

Int Delay, s/veh 2.7

**Movement** EBT EBR WBL WBT NBL NBR

Lane Configurations	↑			↑↑		↑
Traffic Vol, veh/h	433	218	0	495	0	208
Future Vol, veh/h	433	218	0	495	0	208
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	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	471	237	0	538	0	226

**Major/Minor** Major1 Major2 Minor1

Conflicting Flow All	0	0	-	-	-	590
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	-	0	-	0	507
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	507
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

**Approach** EB WB NB

HCM Control Delay, s	0	0	17.7
HCM LOS			C

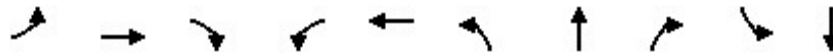
**Minor Lane/Major Mvmt** NBLn1 EBT EBR WBT

Capacity (veh/h)	507	-	-	-
HCM Lane V/C Ratio	0.446	-	-	-
HCM Control Delay (s)	17.7	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	2.3	-	-	-

# Timings

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘↗	↑↑	↘	↑	↗	↘	↗
Traffic Volume (vph)	43	819	23	424	248	227	13	248	106	7
Future Volume (vph)	43	819	23	424	248	227	13	248	106	7
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4		3	8	5	2		1	6
Permitted Phases	4		4	8		2		2	6	
Detector Phase	7	4	4	3	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5	9.5	22.5
Total Split (s)	9.5	22.5	22.5	13.0	26.0	10.0	25.0	25.0	9.5	24.5
Total Split (%)	13.6%	32.1%	32.1%	18.6%	37.1%	14.3%	35.7%	35.7%	13.6%	35.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	18.0	18.0	18.0	24.2	24.2	28.1	23.1	23.1	25.7	20.1
Actuated g/C Ratio	0.26	0.26	0.26	0.35	0.35	0.40	0.33	0.33	0.37	0.29
v/c Ratio	0.22	0.98	0.05	0.78	0.40	0.45	0.02	0.38	0.21	0.05
Control Delay	22.5	53.0	0.2	35.2	10.4	17.2	17.9	4.6	13.5	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	53.0	0.2	35.2	10.4	17.2	17.9	4.6	13.5	11.1
LOS	C	D	A	D	B	B	B	A	B	B
Approach Delay		50.1			22.1		10.8			13.1
Approach LOS		D			C		B			B

### Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 29.6

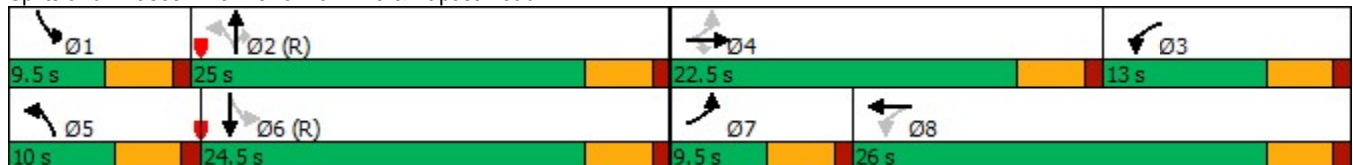
Intersection LOS: C

Intersection Capacity Utilization 65.2%

ICU Level of Service C

Analysis Period (min) 15

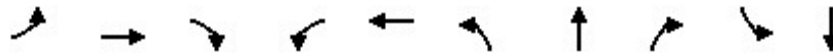
### Splits and Phases: 3: Terrazzo Drive & Baptist Road



Queues

3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	47	890	25	461	518	247	14	270	115	26
v/c Ratio	0.22	0.98	0.05	0.78	0.40	0.45	0.02	0.38	0.21	0.05
Control Delay	22.5	53.0	0.2	35.2	10.4	17.2	17.9	4.6	13.5	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	53.0	0.2	35.2	10.4	17.2	17.9	4.6	13.5	11.1
Queue Length 50th (ft)	15	200	0	80	45	68	4	0	29	2
Queue Length 95th (ft)	39	#320	0	#132	84	118	16	49	59	19
Internal Link Dist (ft)		423			557		495			367
Turn Bay Length (ft)	160		310	420		135			255	
Base Capacity (vph)	218	910	528	648	1295	545	615	703	541	492
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	0.22	0.98	0.05	0.71	0.40	0.45	0.02	0.38	0.21	0.05

Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	819	23	424	248	228	227	13	248	106	7	17
Future Volume (vph)	43	819	23	424	248	228	227	13	248	106	7	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3285		1770	1863	1583	1770	1669	
Flt Permitted	0.27	1.00	1.00	0.27	1.00		0.66	1.00	1.00	0.75	1.00	
Satd. Flow (perm)	497	3539	1583	964	3285		1237	1863	1583	1394	1669	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	890	25	461	270	248	247	14	270	115	8	18
RTOR Reduction (vph)	0	0	19	0	162	0	0	0	191	0	13	0
Lane Group Flow (vph)	47	890	6	461	356	0	247	14	79	115	13	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	18.0	18.0	18.0	24.2	24.2		26.9	20.4	20.4	22.7	18.3	
Effective Green, g (s)	18.0	18.0	18.0	24.2	24.2		26.9	20.4	20.4	22.7	18.3	
Actuated g/C Ratio	0.26	0.26	0.26	0.35	0.35		0.38	0.29	0.29	0.32	0.26	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	182	910	407	657	1135		524	542	461	475	436	
v/s Ratio Prot	0.01	c0.25		c0.09	0.11		c0.04	0.01		0.02	0.01	
v/s Ratio Perm	0.06		0.00	0.15			c0.14		0.05	0.06		
v/c Ratio	0.26	0.98	0.02	0.70	0.31		0.47	0.03	0.17	0.24	0.03	
Uniform Delay, d1	20.3	25.8	19.4	23.6	16.8		15.6	17.7	18.5	17.1	19.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	24.3	0.0	3.4	0.2		0.7	0.1	0.8	0.3	0.1	
Delay (s)	21.1	50.1	19.4	27.0	17.0		16.2	17.8	19.3	17.4	19.4	
Level of Service	C	D	B	C	B		B	B	B	B	B	
Approach Delay (s)		47.9			21.7			17.8			17.7	
Approach LOS		D			C			B			B	

Intersection Summary		
HCM 2000 Control Delay	30.3	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.72	
Actuated Cycle Length (s)	70.0	Sum of lost time (s) 18.0
Intersection Capacity Utilization	65.2%	ICU Level of Service C
Analysis Period (min)	15	

c Critical Lane Group

# Timings

## 4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Configurations	↑↑↑↑	↑	↙↘	↑↑	↙	↘
Traffic Volume (vph)	452	533	694	659	130	0
Future Volume (vph)	452	533	694	659	130	0
Turn Type	NA	Perm	Prot	NA	Perm	NA
Protected Phases	2		1	6		4
Permitted Phases		2			4	
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	6.0	6.0	19.0	19.0	6.0	6.0
Minimum Split (s)	24.0	24.0	25.0	25.0	24.0	24.0
Total Split (s)	28.0	28.0	30.0	58.0	32.0	32.0
Total Split (%)	31.1%	31.1%	33.3%	64.4%	35.6%	35.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Act Effct Green (s)	23.2	23.2	22.8	52.0	26.0	26.0
Actuated g/C Ratio	0.26	0.26	0.25	0.58	0.29	0.29
v/c Ratio	0.30	0.69	0.87	0.35	0.28	0.55
Control Delay	27.8	7.6	35.4	11.4	26.5	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.8	7.6	35.4	11.4	26.5	13.3
LOS	C	A	D	B	C	B
Approach Delay	16.9			23.7		17.2
Approach LOS	B			C		B

### Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 35 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 20.3

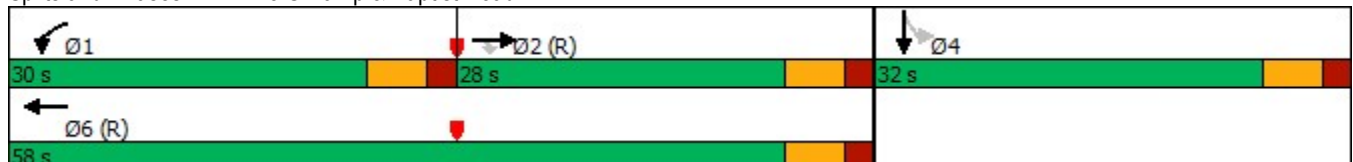
Intersection LOS: C

Intersection Capacity Utilization 86.7%

ICU Level of Service E

Analysis Period (min) 15

### Splits and Phases: 4: I-25 S Ramp & Baptist Road



# Queues

## 4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	491	579	754	716	141	333
v/c Ratio	0.30	0.69	0.87	0.35	0.28	0.55
Control Delay	27.8	7.6	35.4	11.4	26.5	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.8	7.6	35.4	11.4	26.5	13.3
Queue Length 50th (ft)	66	0	120	75	62	51
Queue Length 95th (ft)	90	91	#300	93	111	134
Internal Link Dist (ft)	557			464		409
Turn Bay Length (ft)		375				
Base Capacity (vph)	1648	837	915	2044	511	610
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	0.30	0.69	0.82	0.35	0.28	0.55

### Intersection Summary

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



HCM Signalized Intersection Capacity Analysis  
 4: I-25 S Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑					↘	↗	
Traffic Volume (vph)	0	452	533	694	659	0	0	0	0	130	0	306
Future Volume (vph)	0	452	533	694	659	0	0	0	0	130	0	306
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Lane Util. Factor		0.86	1.00	0.97	0.95					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	3539					1770	1583	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	3539					1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	491	579	754	716	0	0	0	0	141	0	333
RTOR Reduction (vph)	0	0	430	0	0	0	0	0	0	0	154	0
Lane Group Flow (vph)	0	491	149	754	716	0	0	0	0	141	179	0
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2		1	6							4
Permitted Phases			2							4		
Actuated Green, G (s)		23.2	23.2	22.8	52.0					26.0	26.0	
Effective Green, g (s)		23.2	23.2	22.8	52.0					26.0	26.0	
Actuated g/C Ratio		0.26	0.26	0.25	0.58					0.29	0.29	
Clearance Time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1651	408	869	2044					511	457	
v/s Ratio Prot		0.08		c0.22	c0.20							c0.11
v/s Ratio Perm			0.09							0.08		
v/c Ratio		0.30	0.37	0.87	0.35					0.28	0.39	
Uniform Delay, d1		26.8	27.4	32.2	10.1					24.7	25.7	
Progression Factor		1.00	1.00	0.77	1.08					1.00	1.00	
Incremental Delay, d2		0.5	2.5	8.4	0.4					1.3	2.5	
Delay (s)		27.3	29.9	33.0	11.3					26.1	28.2	
Level of Service		C	C	C	B					C	C	
Approach Delay (s)		28.7			22.4			0.0			27.6	
Approach LOS		C			C			A			C	

Intersection Summary		
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.54	
Actuated Cycle Length (s)	90.0	Sum of lost time (s) 18.0
Intersection Capacity Utilization	86.7%	ICU Level of Service E
Analysis Period (min)	15	

c Critical Lane Group

# Timings

## 5: I-25 N Ramp & Baptist Road

11/11/2021

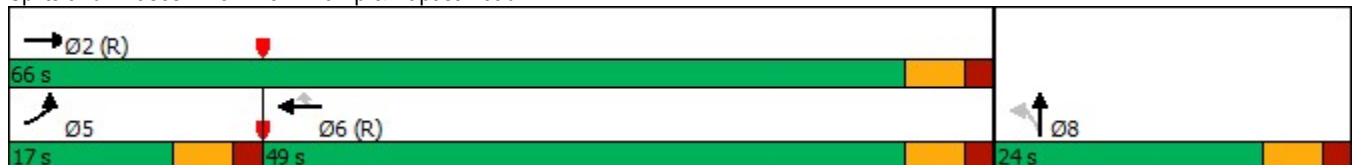


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↔↔	↑↑	↑↑↑	↔	↔	↑	↔
Traffic Volume (vph)	337	243	949	304	442	1	337
Future Volume (vph)	337	243	949	304	442	1	337
Turn Type	Prot	NA	NA	Perm	Perm	NA	Free
Protected Phases	5	2	6			8	
Permitted Phases				6	8		Free
Detector Phase	5	2	6	6	8	8	
Switch Phase							
Minimum Initial (s)	6.0	19.0	19.0	19.0	6.0	6.0	
Minimum Split (s)	12.0	25.0	46.0	46.0	24.0	24.0	
Total Split (s)	17.0	66.0	49.0	49.0	24.0	24.0	
Total Split (%)	18.9%	73.3%	54.4%	54.4%	26.7%	26.7%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	
Act Effct Green (s)	11.0	60.0	43.0	43.0	18.0	18.0	90.0
Actuated g/C Ratio	0.12	0.67	0.48	0.48	0.20	0.20	1.00
v/c Ratio	0.87	0.11	0.34	0.36	0.71	0.72	0.23
Control Delay	48.9	19.9	15.0	2.8	47.0	47.0	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.9	19.9	15.0	2.8	47.0	47.0	0.3
LOS	D	B	B	A	D	D	A
Approach Delay		36.7	12.0			26.8	
Approach LOS		D	B			C	

### Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 21.9  
 Intersection Capacity Utilization 86.7%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service E

### Splits and Phases: 5: I-25 N Ramp & Baptist Road



# Queues

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	366	264	1032	330	240	241	366
v/c Ratio	0.87	0.11	0.34	0.36	0.71	0.72	0.23
Control Delay	48.9	19.9	15.0	2.8	47.0	47.0	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.9	19.9	15.0	2.8	47.0	47.0	0.3
Queue Length 50th (ft)	108	67	102	0	134	135	0
Queue Length 95th (ft)	#186	106	125	43	#243	#244	0
Internal Link Dist (ft)		464	805			356	
Turn Bay Length (ft)	570						
Base Capacity (vph)	419	2359	3061	928	336	337	1583
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.11	0.34	0.36	0.71	0.72	0.23

### Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕			↑↑↑	↖	↖	↖	↖			
Traffic Volume (vph)	337	243	0	0	949	304	442	1	337	0	0	0
Future Volume (vph)	337	243	0	0	949	304	442	1	337	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	4.0			
Lane Util. Factor	0.97	0.95			0.86	1.00	0.95	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3433	3539			6408	1583	1681	1686	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3433	3539			6408	1583	1681	1686	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	366	264	0	0	1032	330	480	1	366	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	172	0	0	0	0	0	0
Lane Group Flow (vph)	366	264	0	0	1032	158	240	241	366	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Free			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		Free			
Actuated Green, G (s)	11.0	60.0			43.0	43.0	18.0	18.0	90.0			
Effective Green, g (s)	11.0	60.0			43.0	43.0	18.0	18.0	90.0			
Actuated g/C Ratio	0.12	0.67			0.48	0.48	0.20	0.20	1.00			
Clearance Time (s)	6.0	6.0			6.0	6.0	6.0	6.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	419	2359			3061	756	336	337	1583			
v/s Ratio Prot	c0.11	0.07			c0.16							
v/s Ratio Perm						0.10	0.14	0.14	0.23			
v/c Ratio	0.87	0.11			0.34	0.21	0.71	0.72	0.23			
Uniform Delay, d1	38.8	5.4			14.6	13.6	33.6	33.6	0.0			
Progression Factor	0.66	3.64			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	17.5	0.1			0.3	0.6	12.2	12.2	0.3			
Delay (s)	43.2	19.7			14.9	14.3	45.8	45.8	0.3			
Level of Service	D	B			B	B	D	D	A			
Approach Delay (s)		33.4			14.8			26.2			0.0	
Approach LOS		C			B			C			A	

### Intersection Summary

HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Roundabout  
 1: Woodcarver Road/Old Denver Road & Baptist Road

11/11/2021

Intersection				
Intersection Delay, s/veh	12.4			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	380	911	79	383
Demand Flow Rate, veh/h	388	929	81	390
Vehicles Circulating, veh/h	381	92	686	595
Vehicles Exiting, veh/h	604	675	82	426
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.8	14.4	6.7	12.6
Approach LOS	A	B	A	B
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	388	929	81	390
Cap Entry Lane, veh/h	936	1256	685	752
Entry HV Adj Factor	0.980	0.980	0.981	0.981
Flow Entry, veh/h	380	911	79	383
Cap Entry, veh/h	917	1232	673	738
V/C Ratio	0.415	0.739	0.118	0.519
Control Delay, s/veh	8.8	14.4	6.7	12.6
LOS	A	B	A	B
95th %tile Queue, veh	2	7	0	3

HCM 6th TWSC  
2: Site Access & Baptist Road

11/11/2021

**Intersection**

Int Delay, s/veh 1.6

**Movement** EBT EBR WBL WBT NBL NBR

Lane Configurations	↑			↑↑		↑
Traffic Vol, veh/h	427	182	0	929	0	173
Future Vol, veh/h	427	182	0	929	0	173
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	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	464	198	0	1010	0	188

**Major/Minor** Major1 Major2 Minor1

Conflicting Flow All	0	0	-	-	-	563
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	-	0	-	0	525
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	525
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

**Approach** EB WB NB

HCM Control Delay, s	0	0	15.6
HCM LOS			C

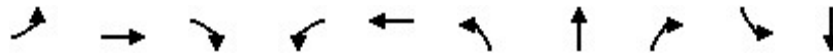
**Minor Lane/Major Mvmt** NBLn1 EBT EBR WBT

Capacity (veh/h)	525	-	-	-
HCM Lane V/C Ratio	0.358	-	-	-
HCM Control Delay (s)	15.6	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	1.6	-	-	-

# Timings

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘↗	↑↑	↘	↑	↗	↘	↗
Traffic Volume (vph)	35	743	25	391	657	202	8	213	299	15
Future Volume (vph)	35	743	25	391	657	202	8	213	299	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4		3	8	5	2		1	6
Permitted Phases	4		4	8		2		2	6	
Detector Phase	7	4	4	3	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5	9.5	22.5
Total Split (s)	9.5	22.5	22.5	11.0	24.0	11.6	27.0	27.0	9.5	24.9
Total Split (%)	13.6%	32.1%	32.1%	15.7%	34.3%	16.6%	38.6%	38.6%	13.6%	35.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	17.9	17.9	17.9	24.9	24.9	29.7	22.5	22.5	25.8	20.5
Actuated g/C Ratio	0.26	0.26	0.26	0.36	0.36	0.42	0.32	0.32	0.37	0.29
v/c Ratio	0.18	0.89	0.05	0.77	0.72	0.39	0.02	0.35	0.60	0.17
Control Delay	21.9	39.3	0.2	36.5	24.6	14.3	16.4	4.4	20.7	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	39.3	0.2	36.5	24.6	14.3	16.4	4.4	20.7	7.8
LOS	C	D	A	D	C	B	B	A	C	A
Approach Delay		37.3			28.4		9.4			17.9
Approach LOS		D			C		A			B

### Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 26.7

Intersection LOS: C

Intersection Capacity Utilization 66.2%

ICU Level of Service C

Analysis Period (min) 15

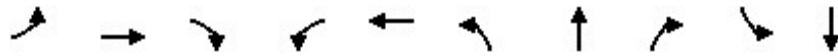
### Splits and Phases: 3: Terrazzo Drive & Baptist Road



Queues

3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	38	808	27	425	902	220	9	232	325	89
v/c Ratio	0.18	0.89	0.05	0.77	0.72	0.39	0.02	0.35	0.60	0.17
Control Delay	21.9	39.3	0.2	36.5	24.6	14.3	16.4	4.4	20.7	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	39.3	0.2	36.5	24.6	14.3	16.4	4.4	20.7	7.8
Queue Length 50th (ft)	12	176	0	60	146	56	3	0	89	5
Queue Length 95th (ft)	34	#277	0	#146	#300	99	12	43	148	35
Internal Link Dist (ft)		423			557		495			367
Turn Bay Length (ft)	160		310	420		135			255	
Base Capacity (vph)	213	910	528	561	1251	561	598	667	544	530
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	0.18	0.89	0.05	0.76	0.72	0.39	0.02	0.35	0.60	0.17

Intersection Summary

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



# HCM Signalized Intersection Capacity Analysis

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	743	25	391	657	173	202	8	213	299	15	67
Future Volume (vph)	35	743	25	391	657	173	202	8	213	299	15	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3429		1770	1863	1583	1770	1634	
Flt Permitted	0.25	1.00	1.00	0.25	1.00		0.63	1.00	1.00	0.75	1.00	
Satd. Flow (perm)	469	3539	1583	909	3429		1178	1863	1583	1400	1634	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	808	27	425	714	188	220	9	232	325	16	73
RTOR Reduction (vph)	0	0	20	0	30	0	0	0	166	0	54	0
Lane Group Flow (vph)	38	808	7	425	872	0	220	9	66	325	35	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	17.9	17.9	17.9	24.9	24.9		27.0	19.8	19.8	23.2	17.9	
Effective Green, g (s)	17.9	17.9	17.9	24.9	24.9		27.0	19.8	19.8	23.2	17.9	
Actuated g/C Ratio	0.26	0.26	0.26	0.36	0.36		0.39	0.28	0.28	0.33	0.26	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	157	904	404	647	1219		515	526	447	492	417	
v/s Ratio Prot	0.01	c0.23		0.08	c0.25		0.04	0.00		c0.05	0.02	
v/s Ratio Perm	0.05		0.00	0.15			0.12		0.04	c0.17		
v/c Ratio	0.24	0.89	0.02	0.66	0.72		0.43	0.02	0.15	0.66	0.08	
Uniform Delay, d1	20.8	25.1	19.5	22.7	19.5		15.1	18.1	18.8	19.5	19.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	11.2	0.0	2.4	2.0		0.6	0.1	0.7	3.3	0.4	
Delay (s)	21.7	36.3	19.5	25.1	21.5		15.7	18.1	19.5	22.8	20.2	
Level of Service	C	D	B	C	C		B	B	B	C	C	
Approach Delay (s)		35.2			22.7			17.6			22.2	
Approach LOS		D			C			B			C	

### Intersection Summary

HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

# Timings

## 4: I-25 S Ramp & Baptist Road

11/11/2021



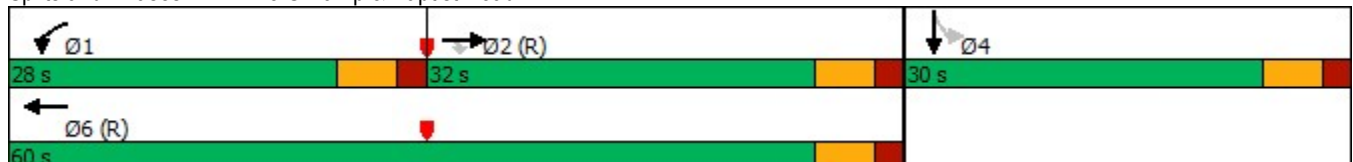
Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Configurations	↑↑↑↑	↑	↙↘	↑↑	↙	↘
Traffic Volume (vph)	520	594	552	875	299	0
Future Volume (vph)	520	594	552	875	299	0
Turn Type	NA	Perm	Prot	NA	Perm	NA
Protected Phases	2		1	6		4
Permitted Phases		2			4	
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	6.0	6.0	19.0	19.0	6.0	6.0
Minimum Split (s)	12.0	12.0	25.0	25.0	12.0	12.0
Total Split (s)	32.0	32.0	28.0	60.0	30.0	30.0
Total Split (%)	35.6%	35.6%	31.1%	66.7%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Act Effect Green (s)	27.5	27.5	20.5	54.0	24.0	24.0
Actuated g/C Ratio	0.31	0.31	0.23	0.60	0.27	0.27
v/c Ratio	0.29	0.73	0.77	0.45	0.69	0.85
Control Delay	24.6	9.2	33.0	13.3	38.4	38.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	9.2	33.0	13.3	38.4	38.3
LOS	C	A	C	B	D	D
Approach Delay	16.4			20.9		38.4
Approach LOS	B			C		D

### Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 35 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 23.1  
 Intersection Capacity Utilization 92.8%  
 Analysis Period (min) 15

Intersection LOS: C  
 ICU Level of Service F

### Splits and Phases: 4: I-25 S Ramp & Baptist Road



Queues

4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	565	646	600	951	325	441
v/c Ratio	0.29	0.73	0.77	0.45	0.69	0.85
Control Delay	24.6	9.2	33.0	13.3	38.4	38.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	9.2	33.0	13.3	38.4	38.3
Queue Length 50th (ft)	70	24	137	212	166	169
Queue Length 95th (ft)	96	143	m226	275	261	#337
Internal Link Dist (ft)	557			464		409
Turn Bay Length (ft)		375				
Base Capacity (vph)	1955	891	839	2123	472	521
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	0.73	0.72	0.45	0.69	0.85

Intersection Summary

# 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.

# HCM Signalized Intersection Capacity Analysis

## 4: I-25 S Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑					↘	↗	
Traffic Volume (vph)	0	520	594	552	875	0	0	0	0	299	0	406
Future Volume (vph)	0	520	594	552	875	0	0	0	0	299	0	406
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Lane Util. Factor		0.86	1.00	0.97	0.95					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	3539					1770	1583	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	3539					1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	565	646	600	951	0	0	0	0	325	0	441
RTOR Reduction (vph)	0	0	408	0	0	0	0	0	0	0	99	0
Lane Group Flow (vph)	0	565	238	600	951	0	0	0	0	325	342	0
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2		1	6							4
Permitted Phases			2							4		
Actuated Green, G (s)		27.5	27.5	20.5	54.0					24.0	24.0	
Effective Green, g (s)		27.5	27.5	20.5	54.0					24.0	24.0	
Actuated g/C Ratio		0.31	0.31	0.23	0.60					0.27	0.27	
Clearance Time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1958	483	781	2123					472	422	
v/s Ratio Prot		0.09		c0.17	0.27						c0.22	
v/s Ratio Perm			c0.15							0.18		
v/c Ratio		0.29	0.49	0.77	0.45					0.69	0.81	
Uniform Delay, d1		23.8	25.5	32.5	9.8					29.6	30.9	
Progression Factor		1.00	1.00	0.83	1.27					1.00	1.00	
Incremental Delay, d2		0.4	3.6	3.9	0.6					8.0	15.4	
Delay (s)		24.2	29.1	30.8	13.1					37.6	46.3	
Level of Service		C	C	C	B					D	D	
Approach Delay (s)		26.8			19.9			0.0			42.6	
Approach LOS		C			B			A			D	

Intersection Summary		
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.68	
Actuated Cycle Length (s)	90.0	Sum of lost time (s) 18.0
Intersection Capacity Utilization	92.8%	ICU Level of Service F
Analysis Period (min)	15	

c Critical Lane Group

# Timings

## 5: I-25 N Ramp & Baptist Road

11/11/2021

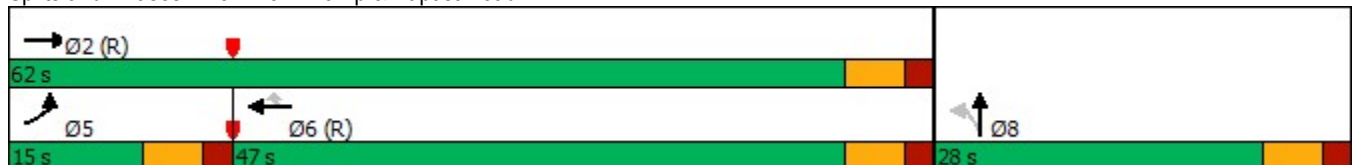


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↶	↶↶	↶↶↶	↷	↶	↶	↷
Traffic Volume (vph)	311	502	815	203	624	1	971
Future Volume (vph)	311	502	815	203	624	1	971
Turn Type	Prot	NA	NA	Perm	Perm	NA	Free
Protected Phases	5	2	6			8	
Permitted Phases				6	8		Free
Detector Phase	5	2	6	6	8	8	
Switch Phase							
Minimum Initial (s)	6.0	19.0	19.0	19.0	6.0	6.0	
Minimum Split (s)	12.0	25.0	46.0	46.0	24.0	24.0	
Total Split (s)	15.0	62.0	47.0	47.0	28.0	28.0	
Total Split (%)	16.7%	68.9%	52.2%	52.2%	31.1%	31.1%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	
Act Effct Green (s)	9.0	56.0	41.0	41.0	22.0	22.0	90.0
Actuated g/C Ratio	0.10	0.62	0.46	0.46	0.24	0.24	1.00
v/c Ratio	0.99	0.25	0.30	0.26	0.83	0.83	0.67
Control Delay	79.8	20.3	15.8	3.0	50.8	50.6	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.8	20.3	15.8	3.0	50.8	50.6	2.2
LOS	E	C	B	A	D	D	A
Approach Delay		43.1	13.3			21.2	
Approach LOS		D	B			C	

### Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 24.0  
 Intersection LOS: C  
 Intersection Capacity Utilization 92.8%  
 ICU Level of Service F  
 Analysis Period (min) 15

### Splits and Phases: 5: I-25 N Ramp & Baptist Road



# Queues

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	338	546	886	221	339	340	1055
v/c Ratio	0.99	0.25	0.30	0.26	0.83	0.83	0.67
Control Delay	79.8	20.3	15.8	3.0	50.8	50.6	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.8	20.3	15.8	3.0	50.8	50.6	2.2
Queue Length 50th (ft)	90	123	89	0	192	192	0
Queue Length 95th (ft)	#187	168	112	38	#343	#343	0
Internal Link Dist (ft)		464	805			356	
Turn Bay Length (ft)	570						
Base Capacity (vph)	343	2202	2919	841	410	412	1583
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.25	0.30	0.26	0.83	0.83	0.67

### Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑			↑↑↑↑	↖	↗	↖	↗			
Traffic Volume (vph)	311	502	0	0	815	203	624	1	971	0	0	0
Future Volume (vph)	311	502	0	0	815	203	624	1	971	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	4.0			
Lane Util. Factor	0.97	0.95			0.86	1.00	0.95	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3433	3539			6408	1583	1681	1686	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3433	3539			6408	1583	1681	1686	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	338	546	0	0	886	221	678	1	1055	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	120	0	0	0	0	0	0
Lane Group Flow (vph)	338	546	0	0	886	101	339	340	1055	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Free			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		Free			
Actuated Green, G (s)	9.0	56.0			41.0	41.0	22.0	22.0	90.0			
Effective Green, g (s)	9.0	56.0			41.0	41.0	22.0	22.0	90.0			
Actuated g/C Ratio	0.10	0.62			0.46	0.46	0.24	0.24	1.00			
Clearance Time (s)	6.0	6.0			6.0	6.0	6.0	6.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	343	2202			2919	721	410	412	1583			
v/s Ratio Prot	0.10	0.15			0.14							
v/s Ratio Perm						0.06	0.20	0.20	c0.67			
v/c Ratio	0.99	0.25			0.30	0.14	0.83	0.83	0.67			
Uniform Delay, d1	40.4	7.6			15.5	14.2	32.2	32.2	0.0			
Progression Factor	0.84	2.62			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	42.3	0.2			0.3	0.4	17.2	17.0	2.2			
Delay (s)	76.2	20.1			15.7	14.6	49.4	49.1	2.2			
Level of Service	E	C			B	B	D	D	A			
Approach Delay (s)		41.6			15.5			20.7			0.0	
Approach LOS		D			B			C			A	

Intersection Summary		
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.83	
Actuated Cycle Length (s)	90.0	Sum of lost time (s) 18.0
Intersection Capacity Utilization	92.8%	ICU Level of Service F
Analysis Period (min)	15	

c Critical Lane Group





HCM 6th Roundabout  
 1: Woodcarver Road/Old Denver Road & Baptist Road

11/11/2021

Intersection				
Intersection Delay, s/veh	11.5			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	556	647	87	434
Demand Flow Rate, veh/h	567	659	89	442
Vehicles Circulating, veh/h	498	111	884	339
Vehicles Exiting, veh/h	283	862	181	431
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	16.8	9.0	8.6	9.1
Approach LOS	C	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	567	659	89	442
Cap Entry Lane, veh/h	830	1232	560	977
Entry HV Adj Factor	0.980	0.981	0.981	0.982
Flow Entry, veh/h	556	647	87	434
Cap Entry, veh/h	814	1209	550	958
V/C Ratio	0.683	0.535	0.159	0.453
Control Delay, s/veh	16.8	9.0	8.6	9.1
LOS	C	A	A	A
95th %tile Queue, veh	6	3	1	2

HCM 6th TWSC  
2: Site Access & Baptist Road

11/11/2021

**Intersection**

Int Delay, s/veh 3

**Movement** EBT EBR WBL WBT NBL NBR

Lane Configurations	↑			↑↑		↑
Traffic Vol, veh/h	560	218	0	593	0	208
Future Vol, veh/h	560	218	0	593	0	208
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	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	609	237	0	645	0	226

**Major/Minor** Major1 Major2 Minor1

Conflicting Flow All	0	0	-	-	-	728
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	-	0	-	0	422
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	422
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

**Approach** EB WB NB

HCM Control Delay, s	0	0	23
HCM LOS			C

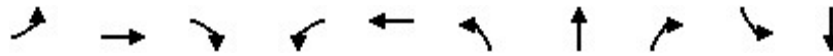
**Minor Lane/Major Mvmt** NBLn1 EBT EBR WBT

Capacity (veh/h)	422	-	-	-
HCM Lane V/C Ratio	0.536	-	-	-
HCM Control Delay (s)	23	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	3.1	-	-	-

# Timings

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘↗	↑↑	↘	↑	↗	↘	↗
Traffic Volume (vph)	43	948	23	424	346	227	13	248	108	7
Future Volume (vph)	43	948	23	424	346	227	13	248	108	7
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4		3	8	5	2		1	6
Permitted Phases	4		4	8		2		2	6	
Detector Phase	7	4	4	3	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5	9.5	22.5
Total Split (s)	9.5	22.5	22.5	13.0	26.0	10.0	25.0	25.0	9.5	24.5
Total Split (%)	13.6%	32.1%	32.1%	18.6%	37.1%	14.3%	35.7%	35.7%	13.6%	35.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	18.0	18.0	18.0	24.2	24.2	28.1	23.1	23.1	25.7	20.1
Actuated g/C Ratio	0.26	0.26	0.26	0.35	0.35	0.40	0.33	0.33	0.37	0.29
v/c Ratio	0.22	1.13	0.05	0.78	0.48	0.45	0.02	0.38	0.22	0.05
Control Delay	22.5	100.4	0.2	35.2	13.0	17.2	17.9	4.6	13.5	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	100.4	0.2	35.2	13.0	17.2	17.9	4.6	13.5	11.1
LOS	C	F	A	D	B	B	B	A	B	B
Approach Delay		94.8			22.5		10.8			13.1
Approach LOS		F			C		B			B

### Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 47.7

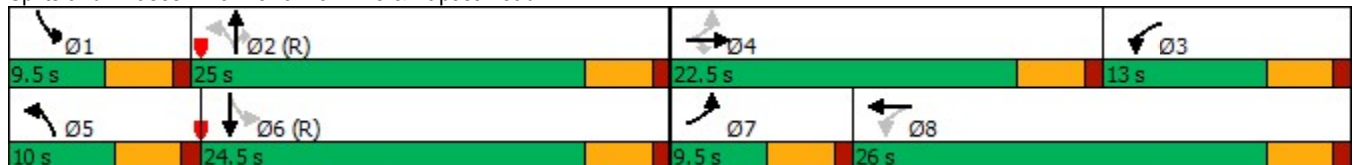
Intersection LOS: D

Intersection Capacity Utilization 68.8%

ICU Level of Service C

Analysis Period (min) 15

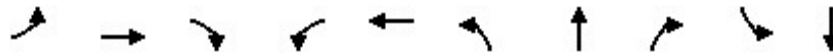
### Splits and Phases: 3: Terrazzo Drive & Baptist Road



Queues

3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	47	1030	25	461	624	247	14	270	117	26
v/c Ratio	0.22	1.13	0.05	0.78	0.48	0.45	0.02	0.38	0.22	0.05
Control Delay	22.5	100.4	0.2	35.2	13.0	17.2	17.9	4.6	13.5	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	100.4	0.2	35.2	13.0	17.2	17.9	4.6	13.5	11.1
Queue Length 50th (ft)	15	~277	0	80	69	68	4	0	30	2
Queue Length 95th (ft)	39	#392	0	#132	116	118	16	49	60	19
Internal Link Dist (ft)		423			557		495			367
Turn Bay Length (ft)	160		310	420		135			255	
Base Capacity (vph)	218	910	528	648	1299	545	615	703	541	492
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	0.22	1.13	0.05	0.71	0.48	0.45	0.02	0.38	0.22	0.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	948	23	424	346	228	227	13	248	108	7	17
Future Volume (vph)	43	948	23	424	346	228	227	13	248	108	7	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3328		1770	1863	1583	1770	1669	
Flt Permitted	0.27	1.00	1.00	0.27	1.00		0.66	1.00	1.00	0.75	1.00	
Satd. Flow (perm)	497	3539	1583	964	3328		1237	1863	1583	1394	1669	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	1030	25	461	376	248	247	14	270	117	8	18
RTOR Reduction (vph)	0	0	19	0	150	0	0	0	191	0	13	0
Lane Group Flow (vph)	47	1030	6	461	474	0	247	14	79	117	13	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	18.0	18.0	18.0	24.2	24.2		26.9	20.4	20.4	22.7	18.3	
Effective Green, g (s)	18.0	18.0	18.0	24.2	24.2		26.9	20.4	20.4	22.7	18.3	
Actuated g/C Ratio	0.26	0.26	0.26	0.35	0.35		0.38	0.29	0.29	0.32	0.26	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	182	910	407	657	1150		524	542	461	475	436	
v/s Ratio Prot	0.01	c0.29		c0.09	0.14		c0.04	0.01		0.02	0.01	
v/s Ratio Perm	0.06		0.00	0.15			c0.14		0.05	0.06		
v/c Ratio	0.26	1.13	0.02	0.70	0.41		0.47	0.03	0.17	0.25	0.03	
Uniform Delay, d1	20.6	26.0	19.4	25.4	17.5		15.6	17.7	18.5	17.1	19.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	73.1	0.0	3.4	0.2		0.7	0.1	0.8	0.3	0.1	
Delay (s)	21.4	99.1	19.4	28.8	17.7		16.2	17.8	19.3	17.4	19.4	
Level of Service	C	F	B	C	B		B	B	B	B	B	
Approach Delay (s)		94.0			22.4			17.8			17.7	
Approach LOS		F			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	48.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

# Timings

## 4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Configurations	↑↑↑↑	↗	↖↗	↑↑	↗	↗
Traffic Volume (vph)	520	589	694	720	130	0
Future Volume (vph)	520	589	694	720	130	0
Turn Type	NA	Perm	Prot	NA	Perm	NA
Protected Phases	2		1	6		4
Permitted Phases		2			4	
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	6.0	6.0	19.0	19.0	6.0	6.0
Minimum Split (s)	24.0	24.0	25.0	25.0	24.0	24.0
Total Split (s)	28.0	28.0	30.0	58.0	32.0	32.0
Total Split (%)	31.1%	31.1%	33.3%	64.4%	35.6%	35.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Act Effct Green (s)	23.2	23.2	22.8	52.0	26.0	26.0
Actuated g/C Ratio	0.26	0.26	0.25	0.58	0.29	0.29
v/c Ratio	0.34	0.76	0.87	0.38	0.28	0.64
Control Delay	28.2	11.5	35.1	12.1	26.5	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.2	11.5	35.1	12.1	26.5	19.7
LOS	C	B	D	B	C	B
Approach Delay	19.3			23.4		21.6
Approach LOS	B			C		C

### Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 35 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 21.6

Intersection LOS: C

Intersection Capacity Utilization 92.8%

ICU Level of Service F

Analysis Period (min) 15

### Splits and Phases: 4: I-25 S Ramp & Baptist Road



# Queues

## 4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	565	640	754	783	141	378
v/c Ratio	0.34	0.76	0.87	0.38	0.28	0.64
Control Delay	28.2	11.5	35.1	12.1	26.5	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.2	11.5	35.1	12.1	26.5	19.7
Queue Length 50th (ft)	77	27	121	84	62	93
Queue Length 95th (ft)	103	158	#300	104	111	192
Internal Link Dist (ft)	557			464		409
Turn Bay Length (ft)		375				
Base Capacity (vph)	1648	837	915	2044	511	588
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	0.34	0.76	0.82	0.38	0.28	0.64

### Intersection Summary

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

HCM Signalized Intersection Capacity Analysis  
 4: I-25 S Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑					↘	↗	
Traffic Volume (vph)	0	520	589	694	720	0	0	0	0	130	0	348
Future Volume (vph)	0	520	589	694	720	0	0	0	0	130	0	348
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Lane Util. Factor		0.86	1.00	0.97	0.95					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	3539					1770	1583	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	3539					1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	565	640	754	783	0	0	0	0	141	0	378
RTOR Reduction (vph)	0	0	430	0	0	0	0	0	0	0	131	0
Lane Group Flow (vph)	0	565	210	754	783	0	0	0	0	141	247	0
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2		1	6							4
Permitted Phases			2							4		
Actuated Green, G (s)		23.2	23.2	22.8	52.0					26.0	26.0	
Effective Green, g (s)		23.2	23.2	22.8	52.0					26.0	26.0	
Actuated g/C Ratio		0.26	0.26	0.25	0.58					0.29	0.29	
Clearance Time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1651	408	869	2044					511	457	
v/s Ratio Prot		0.09		c0.22	0.22							c0.16
v/s Ratio Perm			c0.13							0.08		
v/c Ratio		0.34	0.52	0.87	0.38					0.28	0.54	
Uniform Delay, d1		27.2	28.6	32.2	10.3					24.7	27.0	
Progression Factor		1.00	1.00	0.76	1.11					1.00	1.00	
Incremental Delay, d2		0.6	4.6	8.2	0.5					1.3	4.5	
Delay (s)		27.8	33.2	32.8	11.9					26.1	31.5	
Level of Service		C	C	C	B					C	C	
Approach Delay (s)		30.6			22.1			0.0			30.0	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



# Timings

## 5: I-25 N Ramp & Baptist Road

11/11/2021

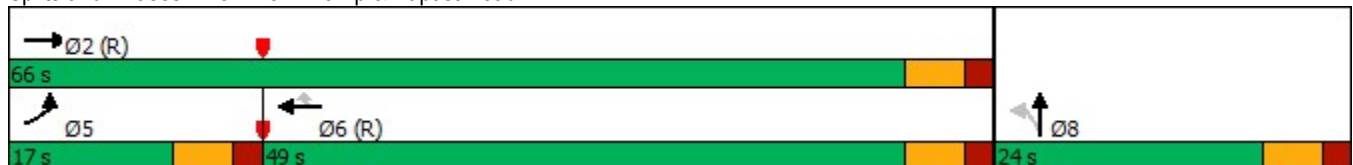


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↷	↶↷	↶↷↶↷	↷	↶	↶	↷
Traffic Volume (vph)	393	255	1001	304	485	1	337
Future Volume (vph)	393	255	1001	304	485	1	337
Turn Type	Prot	NA	NA	Perm	Perm	NA	Free
Protected Phases	5	2	6			8	
Permitted Phases				6	8		Free
Detector Phase	5	2	6	6	8	8	
Switch Phase							
Minimum Initial (s)	6.0	19.0	19.0	19.0	6.0	6.0	
Minimum Split (s)	12.0	25.0	46.0	46.0	24.0	24.0	
Total Split (s)	17.0	66.0	49.0	49.0	24.0	24.0	
Total Split (%)	18.9%	73.3%	54.4%	54.4%	26.7%	26.7%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	
Act Effct Green (s)	11.0	60.0	43.0	43.0	18.0	18.0	90.0
Actuated g/C Ratio	0.12	0.67	0.48	0.48	0.20	0.20	1.00
v/c Ratio	1.02	0.12	0.36	0.36	0.78	0.79	0.23
Control Delay	77.8	20.6	15.2	2.8	52.1	52.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.8	20.6	15.2	2.8	52.1	52.4	0.3
LOS	E	C	B	A	D	D	A
Approach Delay		55.3	12.3			31.0	
Approach LOS		E	B			C	

### Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.02  
 Intersection Signal Delay: 27.9  
 Intersection LOS: C  
 Intersection Capacity Utilization 92.8%  
 ICU Level of Service F  
 Analysis Period (min) 15

### Splits and Phases: 5: I-25 N Ramp & Baptist Road



# Queues

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	427	277	1088	330	263	265	366
v/c Ratio	1.02	0.12	0.36	0.36	0.78	0.79	0.23
Control Delay	77.8	20.6	15.2	2.8	52.1	52.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.8	20.6	15.2	2.8	52.1	52.4	0.3
Queue Length 50th (ft)	~139	74	108	0	150	151	0
Queue Length 95th (ft)	#230	114	133	43	#277	#280	0
Internal Link Dist (ft)		464	805			356	
Turn Bay Length (ft)	570						
Base Capacity (vph)	419	2359	3061	928	336	337	1583
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.12	0.36	0.36	0.78	0.79	0.23

### Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕			↑↑↑	↖	↖	↖	↖			
Traffic Volume (vph)	393	255	0	0	1001	304	485	1	337	0	0	0
Future Volume (vph)	393	255	0	0	1001	304	485	1	337	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	4.0			
Lane Util. Factor	0.97	0.95			0.86	1.00	0.95	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3433	3539			6408	1583	1681	1686	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3433	3539			6408	1583	1681	1686	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	427	277	0	0	1088	330	527	1	366	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	172	0	0	0	0	0	0
Lane Group Flow (vph)	427	277	0	0	1088	158	263	265	366	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Free			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		Free			
Actuated Green, G (s)	11.0	60.0			43.0	43.0	18.0	18.0	90.0			
Effective Green, g (s)	11.0	60.0			43.0	43.0	18.0	18.0	90.0			
Actuated g/C Ratio	0.12	0.67			0.48	0.48	0.20	0.20	1.00			
Clearance Time (s)	6.0	6.0			6.0	6.0	6.0	6.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	419	2359			3061	756	336	337	1583			
v/s Ratio Prot	c0.12	0.08			c0.17							
v/s Ratio Perm						0.10	0.16	0.16	0.23			
v/c Ratio	1.02	0.12			0.36	0.21	0.78	0.79	0.23			
Uniform Delay, d1	39.5	5.4			14.8	13.6	34.1	34.2	0.0			
Progression Factor	0.67	3.75			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	48.0	0.1			0.3	0.6	16.5	16.7	0.3			
Delay (s)	74.5	20.4			15.1	14.3	50.7	50.9	0.3			
Level of Service	E	C			B	B	D	D	A			
Approach Delay (s)		53.2			14.9			30.1			0.0	
Approach LOS		D			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Roundabout  
 1: Woodcarver Road/Old Denver Road & Baptist Road

11/11/2021

Intersection				
Intersection Delay, s/veh	26.5			
Intersection LOS	D			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	416	1060	189	441
Demand Flow Rate, veh/h	425	1081	192	450
Vehicles Circulating, veh/h	458	202	750	731
Vehicles Exiting, veh/h	723	740	132	552
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	10.7	38.2	9.6	20.4
Approach LOS	B	E	A	C
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	425	1081	192	450
Cap Entry Lane, veh/h	865	1123	642	655
Entry HV Adj Factor	0.979	0.981	0.983	0.981
Flow Entry, veh/h	416	1060	189	441
Cap Entry, veh/h	846	1101	631	642
V/C Ratio	0.491	0.963	0.299	0.687
Control Delay, s/veh	10.7	38.2	9.6	20.4
LOS	B	E	A	C
95th %tile Queue, veh	3	18	1	5

HCM 6th TWSC  
2: Site Access & Baptist Road

11/11/2021

**Intersection**

Int Delay, s/veh 1.5

**Movement** EBT EBR WBL WBT NBL NBR

Lane Configurations	↑			↑↑		↑
Traffic Vol, veh/h	486	182	0	1071	0	173
Future Vol, veh/h	486	182	0	1071	0	173
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	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	528	198	0	1164	0	188

**Major/Minor** Major1 Major2 Minor1

Conflicting Flow All	0	0	-	-	-	627
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	-	0	-	0	483
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	483
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

**Approach** EB WB NB

HCM Control Delay, s	0	0	17.1
HCM LOS			C

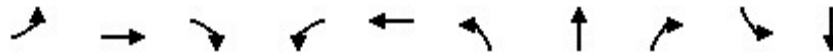
**Minor Lane/Major Mvmt** NBLn1 EBT EBR WBT

Capacity (veh/h)	483	-	-	-
HCM Lane V/C Ratio	0.389	-	-	-
HCM Control Delay (s)	17.1	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	1.8	-	-	-

# Timings

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘↗	↑↑	↘	↑	↗	↘	↗
Traffic Volume (vph)	35	802	25	391	797	202	8	213	300	15
Future Volume (vph)	35	802	25	391	797	202	8	213	300	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4		3	8	5	2		1	6
Permitted Phases	4		4	8		2		2	6	
Detector Phase	7	4	4	3	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5	9.5	22.5
Total Split (s)	9.5	22.5	22.5	11.0	24.0	11.6	27.0	27.0	9.5	24.9
Total Split (%)	13.6%	32.1%	32.1%	15.7%	34.3%	16.6%	38.6%	38.6%	13.6%	35.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	18.0	18.0	18.0	25.2	25.2	29.6	22.5	22.5	25.4	20.4
Actuated g/C Ratio	0.26	0.26	0.26	0.36	0.36	0.42	0.32	0.32	0.36	0.29
v/c Ratio	0.18	0.96	0.05	0.76	0.83	0.40	0.02	0.35	0.61	0.17
Control Delay	21.9	49.0	0.2	35.7	30.1	14.5	16.4	4.4	21.2	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	49.0	0.2	35.7	30.1	14.5	16.4	4.4	21.2	7.8
LOS	C	D	A	D	C	B	B	A	C	A
Approach Delay		46.5			31.7		9.4			18.4
Approach LOS		D			C		A			B

### Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 31.1

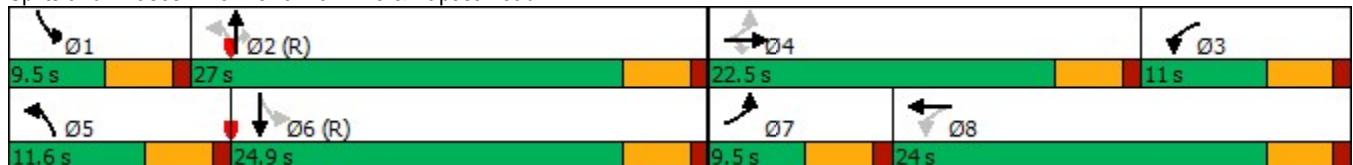
Intersection LOS: C

Intersection Capacity Utilization 67.9%

ICU Level of Service C

Analysis Period (min) 15

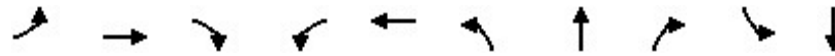
### Splits and Phases: 3: Terrazzo Drive & Baptist Road



# Queues

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	38	872	27	425	1054	220	9	232	326	89
v/c Ratio	0.18	0.96	0.05	0.76	0.83	0.40	0.02	0.35	0.61	0.17
Control Delay	21.9	49.0	0.2	35.7	30.1	14.5	16.4	4.4	21.2	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	49.0	0.2	35.7	30.1	14.5	16.4	4.4	21.2	7.8
Queue Length 50th (ft)	12	194	0	60	186	56	3	0	89	5
Queue Length 95th (ft)	34	#310	0	#146	#383	99	12	43	149	35
Internal Link Dist (ft)		423			557		495			367
Turn Bay Length (ft)	160		310	420		135			255	
Base Capacity (vph)	212	910	528	560	1263	553	598	667	534	527
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	0.18	0.96	0.05	0.76	0.83	0.40	0.02	0.35	0.61	0.17

### Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

## 3: Terrazzo Drive & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	802	25	391	797	173	202	8	213	300	15	67
Future Volume (vph)	35	802	25	391	797	173	202	8	213	300	15	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3445		1770	1863	1583	1770	1634	
Flt Permitted	0.25	1.00	1.00	0.25	1.00		0.63	1.00	1.00	0.75	1.00	
Satd. Flow (perm)	466	3539	1583	903	3445		1164	1863	1583	1400	1634	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	872	27	425	866	188	220	9	232	326	16	73
RTOR Reduction (vph)	0	0	20	0	24	0	0	0	166	0	55	0
Lane Group Flow (vph)	38	872	7	425	1030	0	220	9	66	326	34	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	18.0	18.0	18.0	25.2	25.2		26.9	19.8	19.8	22.7	17.7	
Effective Green, g (s)	18.0	18.0	18.0	25.2	25.2		26.9	19.8	19.8	22.7	17.7	
Actuated g/C Ratio	0.26	0.26	0.26	0.36	0.36		0.38	0.28	0.28	0.32	0.25	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	157	910	407	657	1240		508	526	447	480	413	
v/s Ratio Prot	0.01	c0.25		0.08	c0.30		c0.04	0.00		c0.05	0.02	
v/s Ratio Perm	0.06		0.00	0.15			0.12		0.04	c0.17		
v/c Ratio	0.24	0.96	0.02	0.65	0.83		0.43	0.02	0.15	0.68	0.08	
Uniform Delay, d1	20.8	25.6	19.4	23.2	20.5		15.2	18.1	18.8	19.9	20.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	20.2	0.0	2.2	4.9		0.6	0.1	0.7	3.8	0.4	
Delay (s)	21.6	45.8	19.4	25.4	25.3		15.8	18.1	19.5	23.7	20.4	
Level of Service	C	D	B	C	C		B	B	B	C	C	
Approach Delay (s)		44.0			25.4			17.7			23.0	
Approach LOS		D			C			B			C	

Intersection Summary		
HCM 2000 Control Delay	29.3	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.82	
Actuated Cycle Length (s)	70.0	Sum of lost time (s) 18.0
Intersection Capacity Utilization	67.9%	ICU Level of Service C
Analysis Period (min)	15	

c Critical Lane Group



# Timings

## 4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Configurations	↑↑↑↑	↑	↙↘	↑↑	↙	↘
Traffic Volume (vph)	554	616	552	962	299	0
Future Volume (vph)	554	616	552	962	299	0
Turn Type	NA	Perm	Prot	NA	Perm	NA
Protected Phases	2		1	6		4
Permitted Phases		2			4	
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	6.0	6.0	19.0	19.0	6.0	6.0
Minimum Split (s)	12.0	12.0	25.0	25.0	12.0	12.0
Total Split (s)	32.0	32.0	28.0	60.0	30.0	30.0
Total Split (%)	35.6%	35.6%	31.1%	66.7%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Act Effct Green (s)	27.5	27.5	20.5	54.0	24.0	24.0
Actuated g/C Ratio	0.31	0.31	0.23	0.60	0.27	0.27
v/c Ratio	0.31	0.75	0.77	0.49	0.69	1.00
Control Delay	24.8	10.6	32.7	14.4	38.4	69.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.8	10.6	32.7	14.4	38.4	69.0
LOS	C	B	C	B	D	E
Approach Delay	17.3			21.1		57.0
Approach LOS	B			C		E

### Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 35 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 27.7

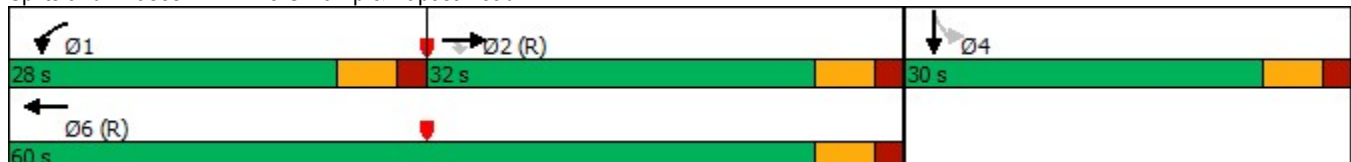
Intersection LOS: C

Intersection Capacity Utilization 97.7%

ICU Level of Service F

Analysis Period (min) 15

### Splits and Phases: 4: I-25 S Ramp & Baptist Road



# Queues

## 4: I-25 S Ramp & Baptist Road

11/11/2021



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	602	670	600	1046	325	504
v/c Ratio	0.31	0.75	0.77	0.49	0.69	1.00
Control Delay	24.8	10.6	32.7	14.4	38.4	69.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.8	10.6	32.7	14.4	38.4	69.0
Queue Length 50th (ft)	76	34	136	242	166	~237
Queue Length 95th (ft)	102	170	m191	m295	261	#448
Internal Link Dist (ft)	557			464		409
Turn Bay Length (ft)		375				
Base Capacity (vph)	1955	891	839	2123	472	502
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	0.31	0.75	0.72	0.49	0.69	1.00

### Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 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.

# HCM Signalized Intersection Capacity Analysis

## 4: I-25 S Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑					↘	↗	
Traffic Volume (vph)	0	554	616	552	962	0	0	0	0	299	0	464
Future Volume (vph)	0	554	616	552	962	0	0	0	0	299	0	464
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Lane Util. Factor		0.86	1.00	0.97	0.95					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	3539					1770	1583	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	3539					1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	602	670	600	1046	0	0	0	0	325	0	504
RTOR Reduction (vph)	0	0	408	0	0	0	0	0	0	0	80	0
Lane Group Flow (vph)	0	602	262	600	1046	0	0	0	0	325	424	0
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2		1	6						4	
Permitted Phases			2							4		
Actuated Green, G (s)		27.5	27.5	20.5	54.0					24.0	24.0	
Effective Green, g (s)		27.5	27.5	20.5	54.0					24.0	24.0	
Actuated g/C Ratio		0.31	0.31	0.23	0.60					0.27	0.27	
Clearance Time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1958	483	781	2123					472	422	
v/s Ratio Prot		0.09		c0.17	0.30						c0.27	
v/s Ratio Perm			c0.17							0.18		
v/c Ratio		0.31	0.54	0.77	0.49					0.69	1.00	
Uniform Delay, d1		24.0	26.0	32.5	10.2					29.6	33.0	
Progression Factor		1.00	1.00	0.82	1.32					1.00	1.00	
Incremental Delay, d2		0.4	4.3	3.8	0.7					8.0	45.0	
Delay (s)		24.4	30.3	30.6	14.2					37.6	78.0	
Level of Service		C	C	C	B					D	E	
Approach Delay (s)		27.5			20.1			0.0			62.2	
Approach LOS		C			C			A			E	

Intersection Summary		
HCM 2000 Control Delay	31.9	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.76	
Actuated Cycle Length (s)	90.0	Sum of lost time (s) 18.0
Intersection Capacity Utilization	97.7%	ICU Level of Service F
Analysis Period (min)	15	

c Critical Lane Group

# Timings

## 5: I-25 N Ramp & Baptist Road

11/11/2021

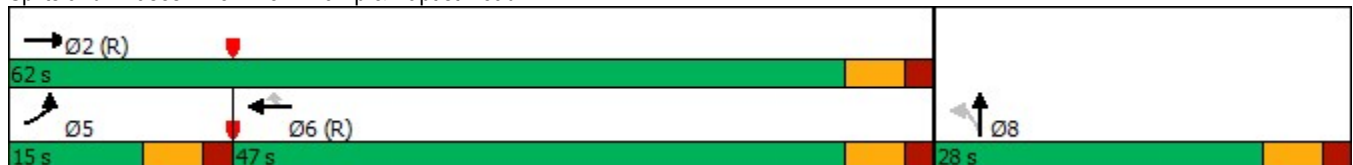


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↷	↶↷	↶↷↶↷	↷	↶	↶	↷
Traffic Volume (vph)	333	527	861	203	681	1	971
Future Volume (vph)	333	527	861	203	681	1	971
Turn Type	Prot	NA	NA	Perm	Perm	NA	Free
Protected Phases	5	2	6			8	
Permitted Phases				6	8		Free
Detector Phase	5	2	6	6	8	8	
Switch Phase							
Minimum Initial (s)	6.0	19.0	19.0	19.0	6.0	6.0	
Minimum Split (s)	12.0	25.0	46.0	46.0	24.0	24.0	
Total Split (s)	15.0	62.0	47.0	47.0	28.0	28.0	
Total Split (%)	16.7%	68.9%	52.2%	52.2%	31.1%	31.1%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	
Act Effct Green (s)	9.0	56.0	41.0	41.0	22.0	22.0	90.0
Actuated g/C Ratio	0.10	0.62	0.46	0.46	0.24	0.24	1.00
v/c Ratio	1.06	0.26	0.32	0.26	0.90	0.90	0.67
Control Delay	97.3	20.9	16.0	3.0	60.4	60.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.3	20.9	16.0	3.0	60.4	60.0	2.2
LOS	F	C	B	A	E	E	A
Approach Delay		50.5	13.5			26.2	
Approach LOS		D	B			C	

### Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.06  
 Intersection Signal Delay: 28.2  
 Intersection Capacity Utilization 97.7%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service F

### Splits and Phases: 5: I-25 N Ramp & Baptist Road



# Queues

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	362	573	936	221	370	371	1055
v/c Ratio	1.06	0.26	0.32	0.26	0.90	0.90	0.67
Control Delay	97.3	20.9	16.0	3.0	60.4	60.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.3	20.9	16.0	3.0	60.4	60.0	2.2
Queue Length 50th (ft)	~112	134	95	0	214	215	0
Queue Length 95th (ft)	#204	181	118	38	#387	#387	0
Internal Link Dist (ft)		464	805			356	
Turn Bay Length (ft)	570						
Base Capacity (vph)	343	2202	2919	841	410	412	1583
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.06	0.26	0.32	0.26	0.90	0.90	0.67

### Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 5: I-25 N Ramp & Baptist Road

11/11/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑			↑↑↑	↖	↖	↖	↖			
Traffic Volume (vph)	333	527	0	0	861	203	681	1	971	0	0	0
Future Volume (vph)	333	527	0	0	861	203	681	1	971	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	4.0			
Lane Util. Factor	0.97	0.95			0.86	1.00	0.95	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3433	3539			6408	1583	1681	1686	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3433	3539			6408	1583	1681	1686	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	362	573	0	0	936	221	740	1	1055	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	120	0	0	0	0	0	0
Lane Group Flow (vph)	362	573	0	0	936	101	370	371	1055	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Free			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		Free			
Actuated Green, G (s)	9.0	56.0			41.0	41.0	22.0	22.0	90.0			
Effective Green, g (s)	9.0	56.0			41.0	41.0	22.0	22.0	90.0			
Actuated g/C Ratio	0.10	0.62			0.46	0.46	0.24	0.24	1.00			
Clearance Time (s)	6.0	6.0			6.0	6.0	6.0	6.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	343	2202			2919	721	410	412	1583			
v/s Ratio Prot	0.11	0.16			0.15							
v/s Ratio Perm						0.06	c0.22	0.22	c0.67			
v/c Ratio	1.06	0.26			0.32	0.14	0.90	0.90	0.67			
Uniform Delay, d1	40.5	7.7			15.6	14.2	33.0	32.9	0.0			
Progression Factor	0.83	2.66			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	61.8	0.3			0.3	0.4	25.6	25.3	2.2			
Delay (s)	95.5	20.7			15.9	14.6	58.6	58.2	2.2			
Level of Service	F	C			B	B	E	E	A			
Approach Delay (s)		49.7			15.7			25.4			0.0	
Approach LOS		D			B			C			A	

Intersection Summary		
HCM 2000 Control Delay	28.3	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.85	
Actuated Cycle Length (s)	90.0	Sum of lost time (s) 18.0
Intersection Capacity Utilization	97.7%	ICU Level of Service F
Analysis Period (min)	15	

c Critical Lane Group

## **APPENDIX H – Signal Warrant Outputs**

**Warrants Summary Report****3: Terrazzo Drive & Baptist Road****Intersection Information**

	<b>Major Street</b>	<b>Minor Street</b>
<b>Street Name</b>	Baptist Road	Terrazzo Drive
<b>Direction</b>	EB/WB	NB/SB
<b>Number of Lanes</b>	2	2
<b>Approach Speed</b>	40	25

<b>Warrant</b>	<b>Met?</b>	<b>Notes</b>
<b>Warrant 1, Eight-Hour Vehicular Volume</b>		
	No	
Condition A or B Met?	No	0 Hours met (8 required)
Condition A and B Met?	No	0 Hours met (8 required)
<b>Warrant 2, Four-Hour Vehicular Volume</b>		
	No	0 Hours met (4 required)
<b>Warrant 3, Peak Hour</b>		
	No	
Condition A Met?	No	0 Hours met (1 required)
Condition B Met?	No	0 Hours met (1 required)
<b>Warrant 4, Pedestrian Volume</b>		
	No	
Peds > 100 Condition	No	0 Hours met (4 required)
Peds > 190 Condition	No	0 Hours met (1 required)
<b>Warrant 5, School Crossing</b>		
	No	



# Warrants Summary Report

## 3: Terrazzo Drive & Baptist Road

### Warrant 6, Coordinated Signal System

No

### Warrant 7, Crash Experience

No

Traffic Volume Condi **No** 1 Hours met (8 required)

Ped Condition? **No** 0 Hours met (8 required)

### Warrant 8, Roadway Network

No

## Warrant 3: Peak Hour

### 3: Terrazzo Drive & Baptist Road

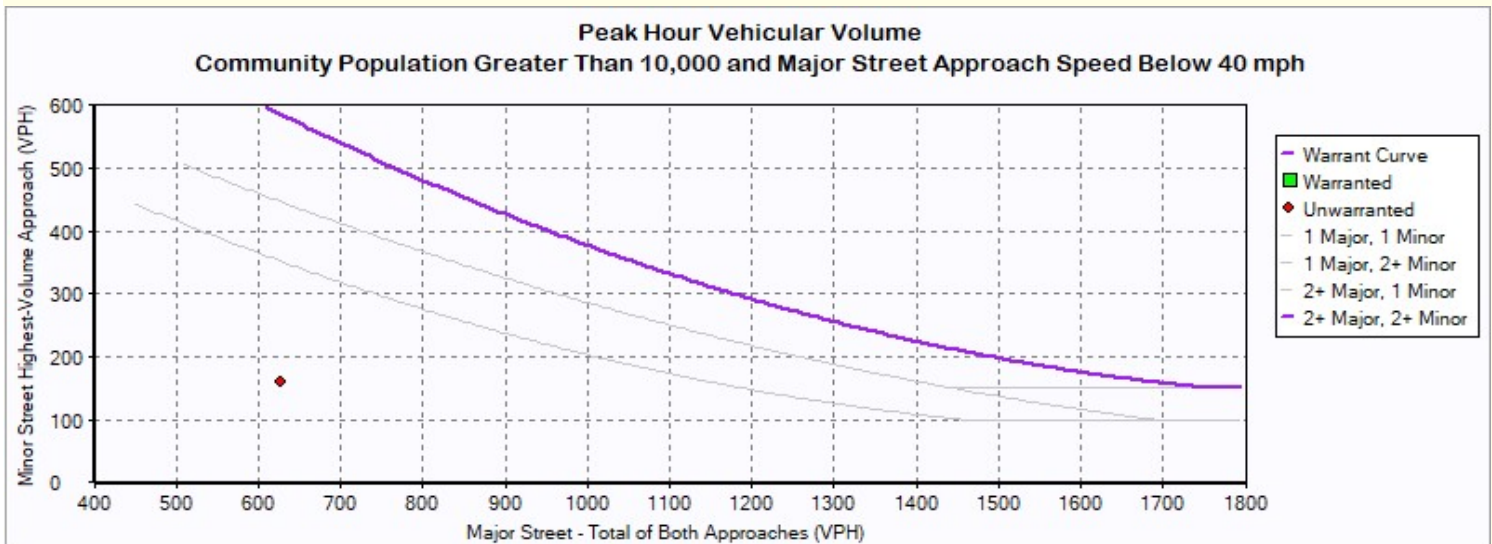
#### Intersection Information

	Major Street	Minor Street
Street Name	Baptist Road	Terrazzo Drive
Direction	EB/WB	NB/SB
Number of Lanes	2	2
Approach Speed	40	25

Warrant 3 Met? **No**

#### Details

Low Population?	<b>No</b>		
Condition A Met?	<b>No</b>	Condition B Met?	<b>No</b>
Notes	0 Hours met (1 required)	Notes	0 Hours met (1 required)
Minor Approach Time Delay Condition Met?	<b>Not Met</b>		
Minor Approach Volume Condition Met?	<b>Met</b>		
Total Entering Intersection Volume Condition Met?	<b>Not Met</b>		



## Warrant 3: Peak Hour

### 3: Terrazzo Drive & Baptist Road

<b>Hour</b>	<b>Major Street</b> Total All Approaches (vph)	<b>Minor Street</b> Highest Volume Approach (vph)
0:00	628	160

**Warrants Summary Report****3: Terrazzo Drive & Baptist Road****Intersection Information**

	<b>Major Street</b>	<b>Minor Street</b>
<b>Street Name</b>	Baptist Road	Terrazzo Drive
<b>Direction</b>	EB/WB	NB/SB
<b>Number of Lanes</b>	2	2
<b>Approach Speed</b>	40	25

<b>Warrant</b>	<b>Met?</b>	<b>Notes</b>
<b>Warrant 1, Eight-Hour Vehicular Volume</b>		
	No	
Condition A or B Met?	No	0 Hours met (8 required)
Condition A and B Met?	No	0 Hours met (8 required)
<b>Warrant 2, Four-Hour Vehicular Volume</b>		
	No	0 Hours met (4 required)
<b>Warrant 3, Peak Hour</b>		
	No	
Condition A Met?	No	0 Hours met (1 required)
Condition B Met?	No	0 Hours met (1 required)
<b>Warrant 4, Pedestrian Volume</b>		
	No	
Peds > 100 Condition	No	0 Hours met (4 required)
Peds > 190 Condition	No	0 Hours met (1 required)
<b>Warrant 5, School Crossing</b>		
	No	

# Warrants Summary Report

## 3: Terrazzo Drive & Baptist Road

### Warrant 6, Coordinated Signal System

No

### Warrant 7, Crash Experience

No

Traffic Volume Condi **No** 1 Hours met (8 required)

Ped Condition? **No** 0 Hours met (8 required)

### Warrant 8, Roadway Network

No

# Warrant 3: Peak Hour

## 3: Terrazzo Drive & Baptist Road

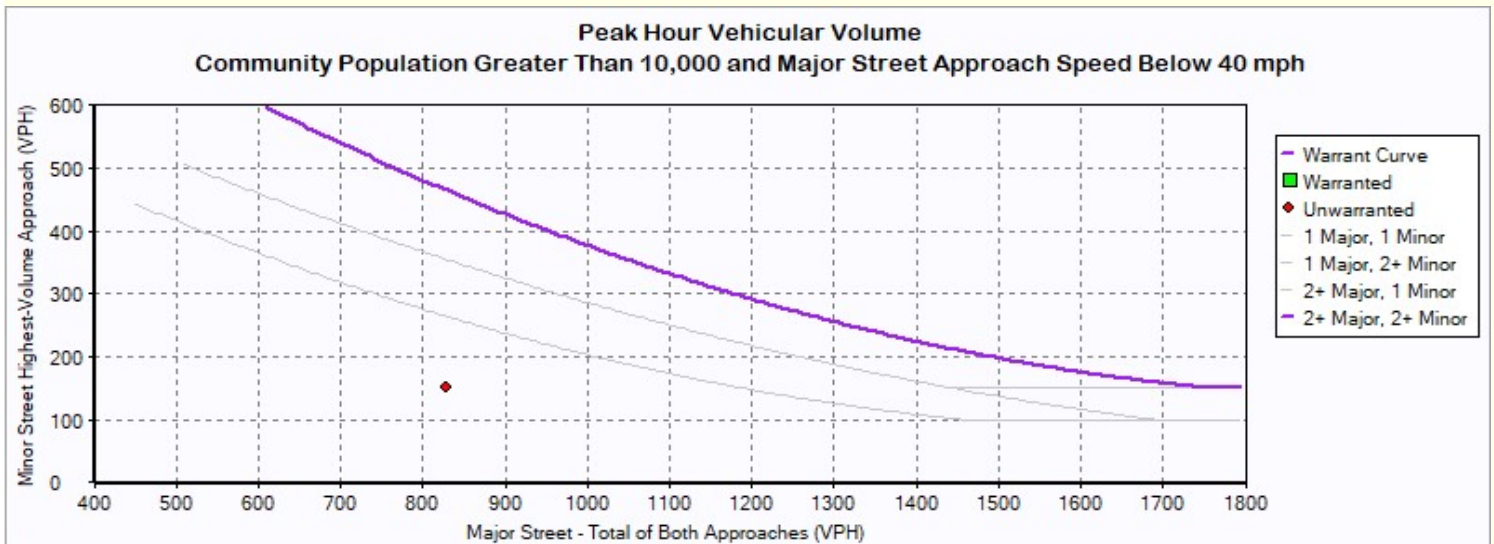
### Intersection Information

	Major Street	Minor Street
Street Name	Baptist Road	Terrazzo Drive
Direction	EB/WB	NB/SB
Number of Lanes	2	2
Approach Speed	40	25

Warrant 3 Met? **No**

### Details

Low Population?	<b>No</b>		
Condition A Met?	<b>No</b>	Condition B Met?	<b>No</b>
Notes	0 Hours met (1 required)	Notes	0 Hours met (1 required)
Minor Approach Time Delay Condition Met?	<b>Not Met</b>		
Minor Approach Volume Condition Met?	<b>Met</b>		
Total Entering Intersection Volume Condition Met?	<b>Not Met</b>		



## Warrant 3: Peak Hour

### 3: Terrazzo Drive & Baptist Road

<b>Hour</b>	<b>Major Street</b> Total All Approaches (vph)	<b>Minor Street</b> Highest Volume Approach (vph)
0:00	828	152

# Warrants Summary Report

## 3: Terrazzo Drive & Baptist Road

### Intersection Information

	Major Street	Minor Street
Street Name	Baptist Road	Terrazzo Drive
Direction	EB/WB	NB/SB
Number of Lanes	2	2
Approach Speed	40	25

Warrant	Met?	Notes
<b>Warrant 1, Eight-Hour Vehicular Volume</b>		
	No	
Condition A or B Met?	No	1 Hours met (8 required)
Condition A and B Met?	No	1 Hours met (8 required)
<b>Warrant 2, Four-Hour Vehicular Volume</b>		
	No	1 Hours met (4 required)
<b>Warrant 3, Peak Hour</b>		
	No	
Condition A Met?	No	0 Hours met (1 required)
Condition B Met?	No	0 Hours met (1 required)
<b>Warrant 4, Pedestrian Volume</b>		
	No	
Peds > 100 Condition	No	0 Hours met (4 required)
Peds > 190 Condition	No	0 Hours met (1 required)
<b>Warrant 5, School Crossing</b>		
	No	



# Warrants Summary Report

## 3: Terrazzo Drive & Baptist Road

### Warrant 6, Coordinated Signal System

No

### Warrant 7, Crash Experience

No

Traffic Volume Condi **No** 1 Hours met (8 required)

Ped Condition? **No** 0 Hours met (8 required)

### Warrant 8, Roadway Network

No

## Warrant 3: Peak Hour

### 3: Terrazzo Drive & Baptist Road

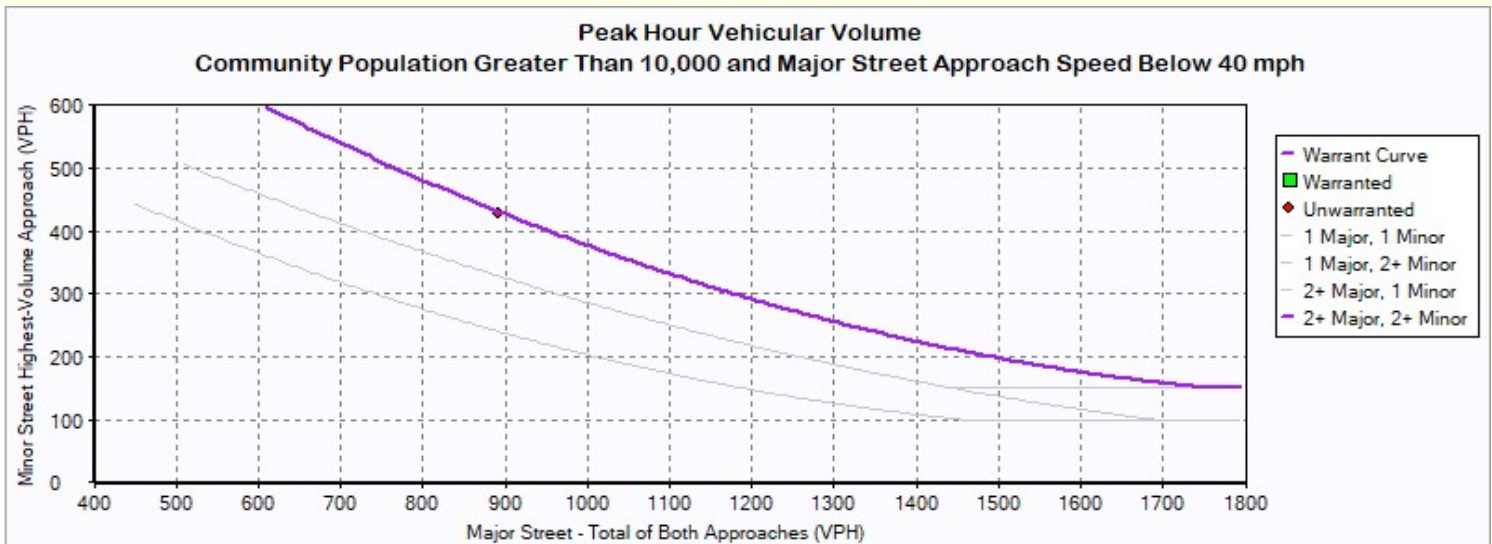
#### Intersection Information

	Major Street	Minor Street
Street Name	Baptist Road	Terrazzo Drive
Direction	EB/WB	NB/SB
Number of Lanes	2	2
Approach Speed	40	25

Warrant 3 Met? **No**

#### Details

Low Population?	<b>No</b>		
Condition A Met?	<b>No</b>	Condition B Met?	<b>No</b>
Notes	0 Hours met (1 required)	Notes	0 Hours met (1 required)
Minor Approach Time Delay Condition Met?	<b>Not Met</b>		
Minor Approach Volume Condition Met?	<b>Met</b>		
Total Entering Intersection Volume Condition Met?	<b>Not Met</b>		



## Warrant 3: Peak Hour

### 3: Terrazzo Drive & Baptist Road

<b>Hour</b>	<b>Major Street</b> Total All Approaches (vph)	<b>Minor Street</b> Highest Volume Approach (vph)
0:00	892	428

# Warrants Summary Report

## 3: Terrazzo Drive & Baptist Road

### Intersection Information

	Major Street	Minor Street
Street Name	Baptist Road	Terrazzo Drive
Direction	EB/WB	NB/SB
Number of Lanes	2	2
Approach Speed	40	25

Warrant	Met?	Notes
<b>Warrant 1, Eight-Hour Vehicular Volume</b>		
	No	
Condition A or B Met?	No	1 Hours met (8 required)
Condition A and B Met?	No	1 Hours met (8 required)
<b>Warrant 2, Four-Hour Vehicular Volume</b>		
	No	1 Hours met (4 required)
<b>Warrant 3, Peak Hour</b>		
	Yes	
Condition A Met?	No	0 Hours met (1 required)
Condition B Met?	Yes	1 Hours met (1 required)
<b>Warrant 4, Pedestrian Volume</b>		
	No	
Peds > 100 Condition	No	0 Hours met (4 required)
Peds > 190 Condition	No	0 Hours met (1 required)
<b>Warrant 5, School Crossing</b>		
	No	

# Warrants Summary Report

## 3: Terrazzo Drive & Baptist Road

### Warrant 6, Coordinated Signal System

No

### Warrant 7, Crash Experience

No

Traffic Volume Condi **No** 1 Hours met (8 required)

Ped Condition? **No** 0 Hours met (8 required)

### Warrant 8, Roadway Network

Yes

## Warrant 3: Peak Hour

### 3: Terrazzo Drive & Baptist Road

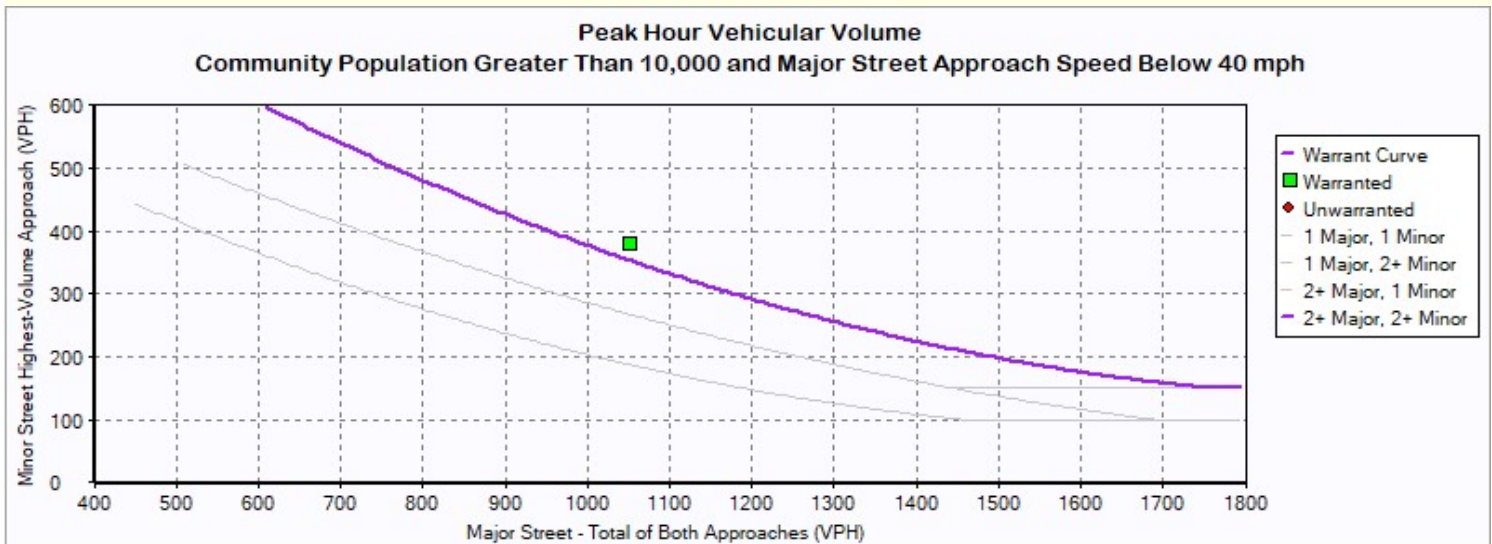
#### Intersection Information

	Major Street	Minor Street
Street Name	Baptist Road	Terrazzo Drive
Direction	EB/WB	NB/SB
Number of Lanes	2	2
Approach Speed	40	25

Warrant 3 Met? Yes

#### Details

Low Population?	<span style="background-color: #FF6347; padding: 2px;">No</span>		
Condition A Met?	<span style="background-color: #FF6347; padding: 2px;">No</span>	Condition B Met?	<span style="background-color: #90EE90; padding: 2px;">Yes</span>
Notes	0 Hours met (1 required)	Notes	1 Hours met (1 required)
Minor Approach Time Delay Condition Met?	<span style="background-color: #FF6347; padding: 2px;">Not Met</span>		
Minor Approach Volume Condition Met?	<span style="background-color: #90EE90; padding: 2px;">Met</span>		
Total Entering Intersection Volume Condition Met?	<span style="background-color: #FF6347; padding: 2px;">Not Met</span>		



## Warrant 3: Peak Hour

### 3: Terrazzo Drive & Baptist Road

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
0:00	1,052	380