

# TRAFFIC IMPACT STUDY

For

## Southmoor Residential Fountain, Colorado

February 2024

Prepared for:

HR Green, Inc.  
1975 Research Parkway, Suite 230  
Colorado Springs, Colorado 80920

Prepared by:



**SM ROCHA, LLC**  
TRAFFIC AND TRANSPORTATION CONSULTANTS

8700 Turnpike Drive, Suite 240  
Westminster, Colorado 80031  
(303) 458-9798

6 South Tejon Street, Suite 618  
Colorado Springs, Colorado 80903  
(719) 203-6639

Project Manager:  
Brandon Wilson, EIT  
Project Engineer:  
Megan Bock, EIT

Engineer in Responsible Charge:  
Fred Lantz, PE



23-091982

**Table of Contents**

**I. Introduction ..... 1**

    Project Overview..... 1

    Study Area Boundaries ..... 1

    Site Description..... 1

    Existing and Committed Surface Transportation Network.....4

**II. Existing Traffic Conditions ..... 5**

    Peak Hour Intersection Levels of Service – Existing Traffic.....7

    Existing Traffic Analysis Results .....7

**III. Future Traffic Conditions Without Proposed Development.....8**

    Peak Hour Intersection Levels of Service – Background Traffic ..... 11

    Background Traffic Analysis Results – Year 2025 ..... 11

    Background Traffic Analysis Results – Year 2043 ..... 11

**IV. Proposed Project Traffic ..... 12**

    Trip Generation..... 12

    Adjustments to Trip Generation Rates ..... 13

    Trip Distribution..... 13

    Trip Assignment..... 13

**V. Future Traffic Conditions With Proposed Developments ..... 15**

**VI. Project Impacts ..... 18**

    Peak Hour Intersection Levels of Service – Total Traffic ..... 18

    Total Traffic Analysis Results Upon Development Build-Out ..... 19

    Total Traffic Auxiliary Lane Analysis ..... 20

    Queue Length Analysis..... 20

    Recommended Improvements..... 22

**VII. Conclusion ..... 23**

**List of Figures**

Figure 1 – Location.....2  
Figure 2 – Conceptual Site Plan.....3  
Figure 3 – Existing Traffic Volumes & Intersection Geometry .....6  
Figure 4 – Background Traffic Volumes & Intersection Geometry – Year 2025.....9  
Figure 5 – Background Traffic Volumes & Intersection Geometry – Year 2043..... 10  
Figure 6 – Distribution and Site-Generated Assignment..... 14  
Figure 7 – Total Traffic Volumes & Intersection Geometry – Year 2025..... 16  
Figure 8 – Total Traffic Volumes & Intersection Geometry – Year 2043..... 17

**List of Tables**

Table 1 – Intersection Capacity Analysis Summary – Existing Traffic .....7  
Table 2 – Intersection Capacity Analysis Summary – Background Traffic – Year 2025 ..... 11  
Table 3 – Intersection Capacity Analysis Summary – Background Traffic – Year 2043 ..... 11  
Table 4 – Trip Generation Rates ..... 12  
Table 5 – Trip Generation Summary ..... 12  
Table 6 – Intersection Capacity Analysis Summary – Total Traffic – Year 2025 ..... 18  
Table 7 – Intersection Capacity Analysis Summary – Total Traffic – Year 2043 ..... 19  
Table 8 – Turn Lane Queues and Storage Requirements – Total Traffic – Year 2043.....21

**Appendices**

APPENDIX A            TRAFFIC COUNT DATA  
APPENDIX B            SIGNAL TIMING INFORMATION  
APPENDIX C            LEVEL OF SERVICE DEFINITIONS  
APPENDIX D            CAPACITY WORKSHEETS

## I. Introduction

### Project Overview

This traffic impact study is provided as a planning document and addresses the capacity, geometric, and control requirements associated with the development entitled Southmoor Residential.

This proposed residential development consists of a multifamily housing community. The development is located near the northwest corner of U.S. Highway 85 and Fontaine Boulevard in Fountain, Colorado.

### Study Area Boundaries

The study area to be examined in this analysis encompasses the Fontaine Boulevard intersections with U.S. Highway 85 and Southmoor Drive and includes the proposed site access drives.

Figure 1 illustrates location of the site and study intersections.

### Site Description

Land for the development is currently vacant and surrounded by a mix of residential, commercial, and industrial land uses.

The proposed development is understood to entail the new construction of a residential community supporting 210 apartments and 77 townhomes.

Proposed access to the development is provided at the following locations: two aligned full-movement access drives (referred to as Access A and Access B) along the future extension of Fontaine Boulevard, and one full-movement access onto Southmoor Drive (referred to as Access C and as approved within the 2009 Southmoor Ridge ODP/Preliminary Plat). An emergency-only access is also proposed onto Southmoor Drive near the northern property boundary, however was not included in this analysis in effort to provide a conservative analysis.

For purposes of this study, it is anticipated that development construction would be completed by end of Year 2025.

General site and access locations are shown on Figure 1.

A conceptual site plan is shown on Figure 2. This plan is provided for illustrative purposes only.



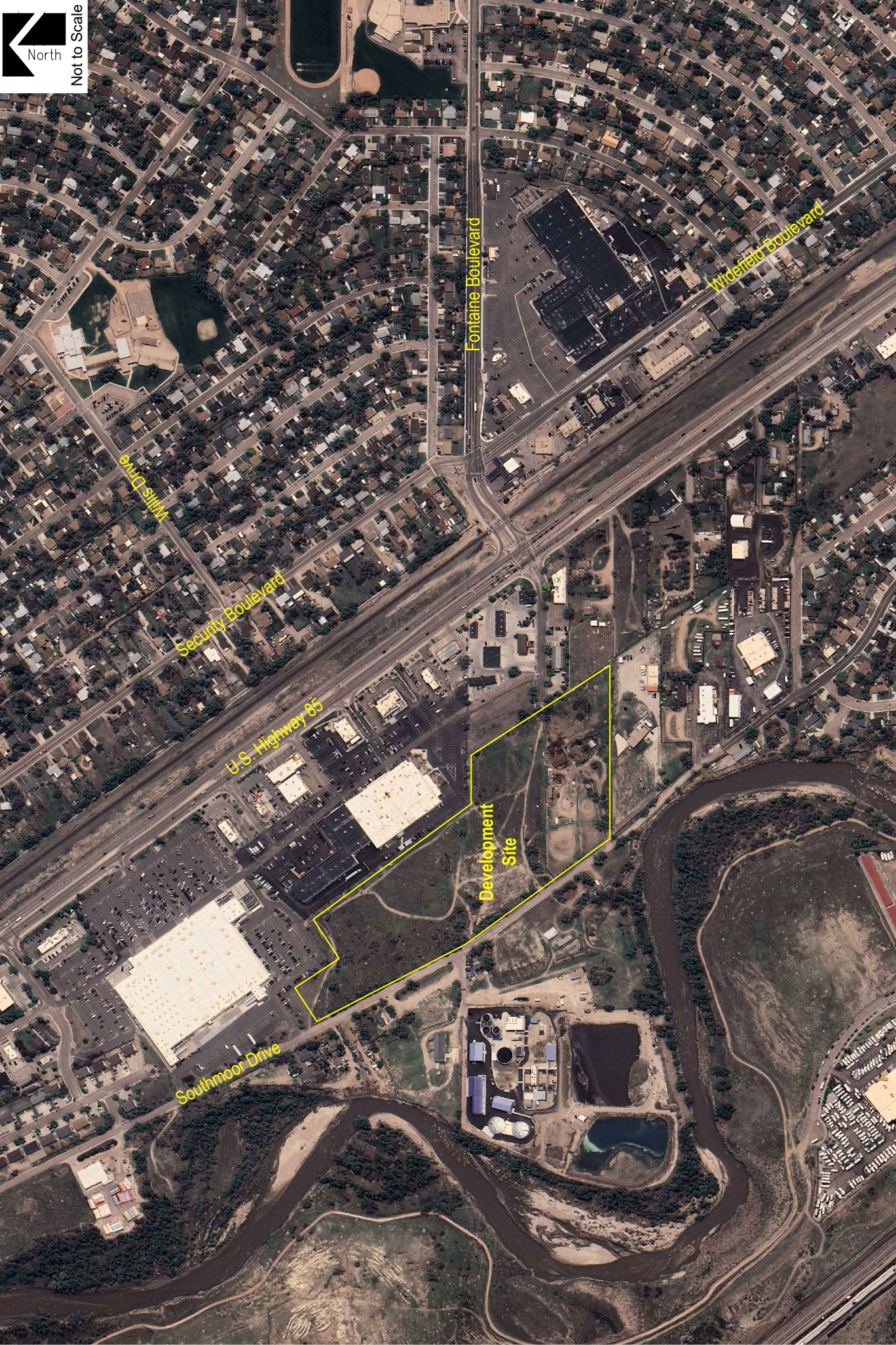


Figure 1  
SITE LOCATION







## Existing and Committed Surface Transportation Network

Within the study area, Fontaine Boulevard is the primary roadway that will accommodate traffic to and from the proposed development. The secondary roadways include U.S. Highway 85 and Southmoor Drive. A brief description of each roadway, based on the City's Transportation Master Plan (TMP)<sup>1</sup>, is provided below:

Fontaine Boulevard is an east-west major arterial roadway having two through lanes (one lane in each direction) with a combination of shared and exclusive turn lanes at the intersection within the study area. Fontaine Boulevard provides a posted speed limit of 30 MPH.

It is noted that under existing conditions, the segment of Fontaine Boulevard west of U.S. Highway 85 is unclassified in the City's MTP. However, it is assumed to operate as a minor collector roadway based on the existing average daily traffic (ADT) volume. Fontaine Boulevard ends approximately 500 feet west of the intersection with U.S. Highway 85.

Southmoor Drive is a north-south collector roadway having two through lanes (one lane in each direction) with shared turn lanes at the intersection within the study area. Southmoor Drive provides a posted speed limit of 30 MPH.

U.S. Highway 85 is a north-south principal arterial roadway having four through lanes (two lanes in each direction) with exclusive turn lanes at the intersection within the study area. The Colorado Department of Transportation (CDOT) categorizes the adjacent segment of U.S. Highway 85 as a Non-Rural Arterial (NR-B) and provides a posted speed limit of 50 MPH.

The study intersection of U.S. Highway 85 and Fontaine Boulevard is signalized. All other study intersections operate under a stop-controlled condition. A stop-controlled intersection is defined as a roadway intersection where vehicle rights-of-way are controlled by one or more "STOP" signs.

No regional or specific improvements for the above-described roadways are known to be planned or committed at this time. The study area roadways appear to be built to their ultimate cross-sections.

---

<sup>1</sup> City of Fountain Transportation Master Plan, Wilson & Company, February 22, 2022.

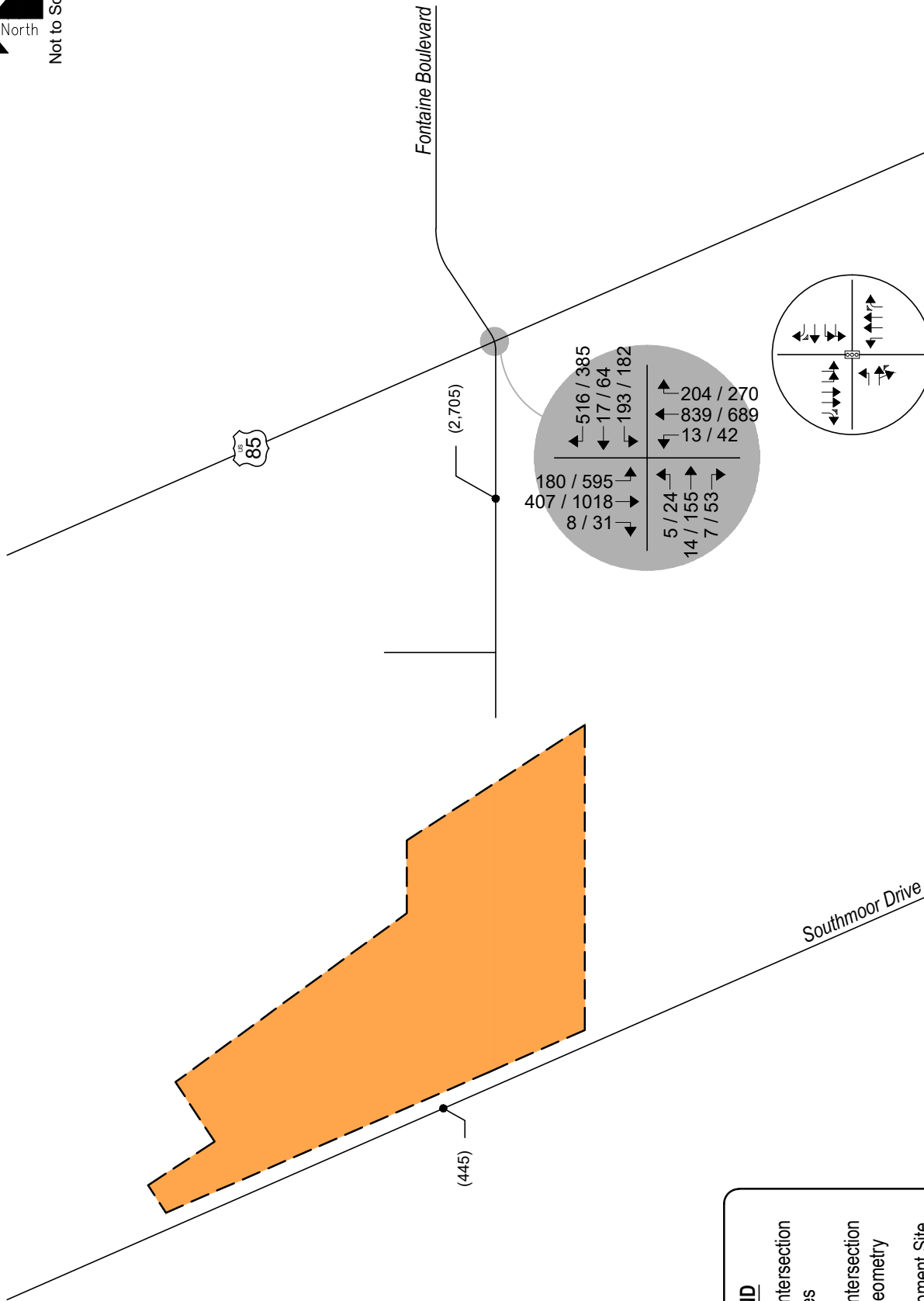
## II. Existing Traffic Conditions

Morning (AM) and afternoon (PM) peak hour traffic counts were collected at the intersection of U.S. Highway 85 and Fontaine Boulevard. ADT volumes were collected over a 24-hour period on Fontaine Boulevard and on Southmoor Drive. Counts were collected on Thursday, November 16, 2023, with AM peak hour counts being collected during the period of 7:00 a.m. to 9:00 a.m. and PM peak hour counts being collected during the period of 4:00 p.m. to 6:00 p.m.

Existing volumes and intersection geometry are shown on Figure 3. Traffic count data is included for reference in Appendix A.

Existing signal timing parameters for the U.S. Highway 85 and Fontaine Boulevard intersection were obtained from CDOT and used throughout this study to the best extent possible in order to remain consistent with existing signal coordination plans. City signal timing information received is included for reference in Appendix B.





**LEGEND**

- Study Intersection
- Study Intersection Lane Geometry
- Development Site

**Figure 3**  
**EXISTING TRAFFIC**  
 Volumes & Intersection Geometry  
 AM / PM Peak Hour  
 (ADT) : Average Daily Traffic

**SOUTHMOOR RESIDENTIAL**  
 Traffic Impact Study

**SM ROCHA, LLC**  
 Traffic and Transportation Consultants



## Peak Hour Intersection Levels of Service – Existing Traffic

The Signalized and Unsignalized Intersection Analysis techniques, as published in the Highway Capacity Manual (HCM), 6<sup>th</sup> Edition, by the Transportation Research Board and as incorporated into the SYNCHRO computer program, were used to analyze the study intersections for existing and future traffic conditions. These nationally accepted techniques allow for the determination of intersection level of service (LOS) based on the congestion and delay of each traffic movement.

Level of service is a method of measurement used by transportation professionals to quantify a driver's perception of travel conditions that include travel time, number of stops, and total amount of stopped delay experienced on a roadway network. The HCM categorizes level of service into a range from "A" which indicates little, if any, vehicle delay, to "F" which indicates a level of operation considered unacceptable to most drivers. These levels of service grades with brief descriptions of the operating condition, for unsignalized and signalized intersections, are included for reference in Appendix C and have been used throughout this study.

The level of service analyses results for existing conditions are summarized in Table 1.

Intersection capacity worksheets developed for this study are provided in Appendix D.

**Table 1 – Intersection Capacity Analysis Summary – Existing Traffic**

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
U.S. Highway 85 / Fontaine Boulevard (Signalized)	B (16.0)	C (33.2)

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)

## Existing Traffic Analysis Results

Under existing conditions, operational analysis shows that the signalized intersection of U.S. Highway 85 with Fontaine Boulevard has overall operations at LOS B during the morning peak traffic hour and LOS C during the afternoon peak traffic hour.

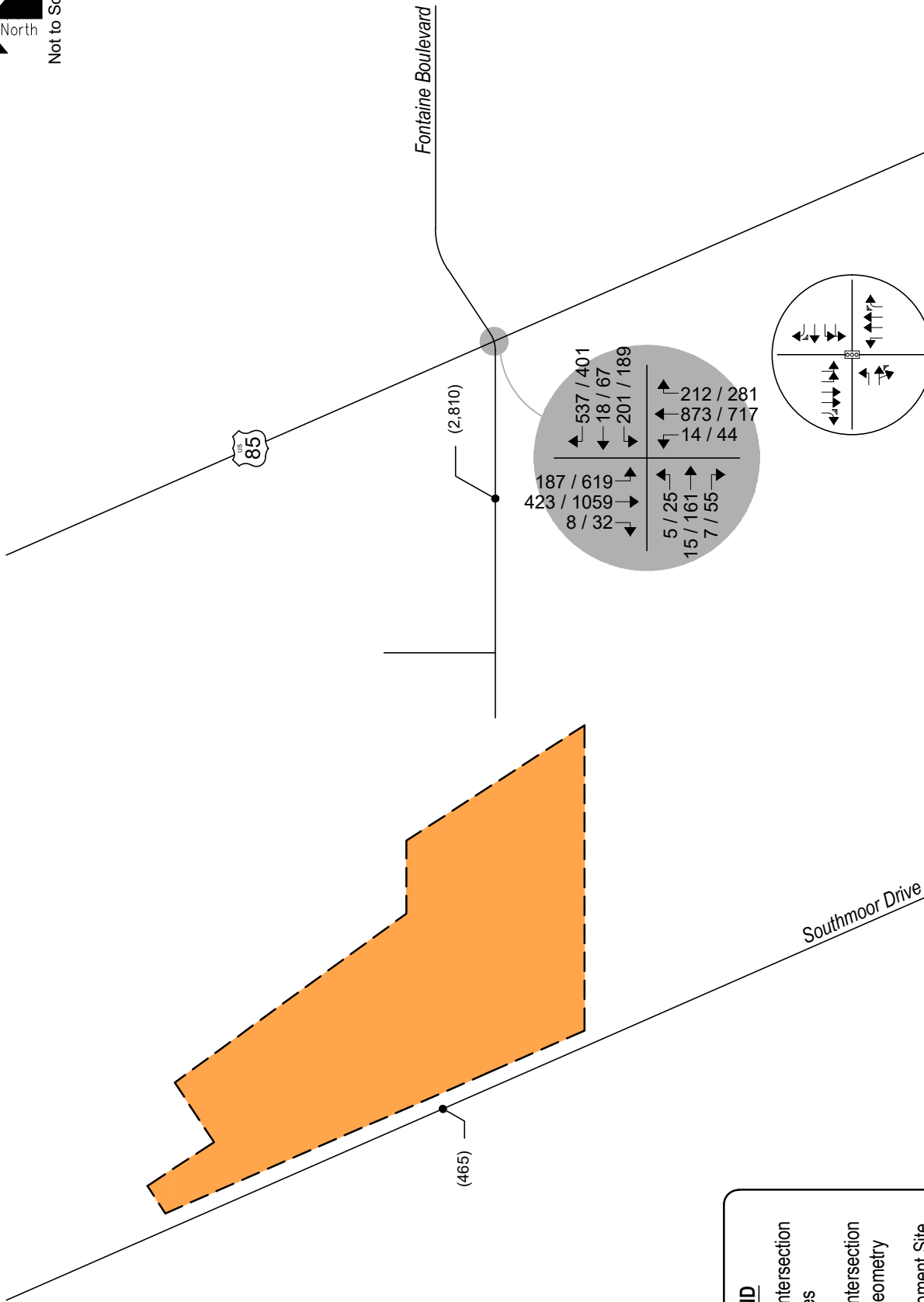
### **III. Future Traffic Conditions Without Proposed Development**

Background traffic is the traffic projected to be on area roadways without consideration of the proposed development. Background traffic includes traffic generated by development of vacant parcels in the area.

To account for projected increases in background traffic for Years 2025 and 2043, a compounded annual growth rate was determined using historical traffic data provided by CDOT's Online Transportation Information System (OTIS) along the adjacent segment of U.S. Highway 85, which shows a 20-year growth rate between one and two percent. Therefore, in order to provide for a conservative analysis, a growth rate of two percent was applied to existing traffic volumes. This annual growth rate is considered to be consistent with regional growth projections and the level of in-fill development expected within the area.

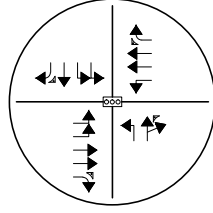
Pursuant to the non-committed area roadway improvements discussed in Section I, Year 2025 and Year 2043 background traffic conditions assume no roadway improvements to accommodate regional transportation demands. This assumption provides for a conservative analysis. Year 2043 assumes existing signal timing parameters for U.S. Highway 85 and Fontaine Boulevard with optimized intersection splits in effort to better long-term intersection performance.

Projected background traffic volumes and intersection geometry for Years 2025 and 2043 are shown on Figure 4 and Figure 5, respectively.



**LEGEND**

- Study Intersection Volumes
- Study Intersection Lane Geometry
- Development Site



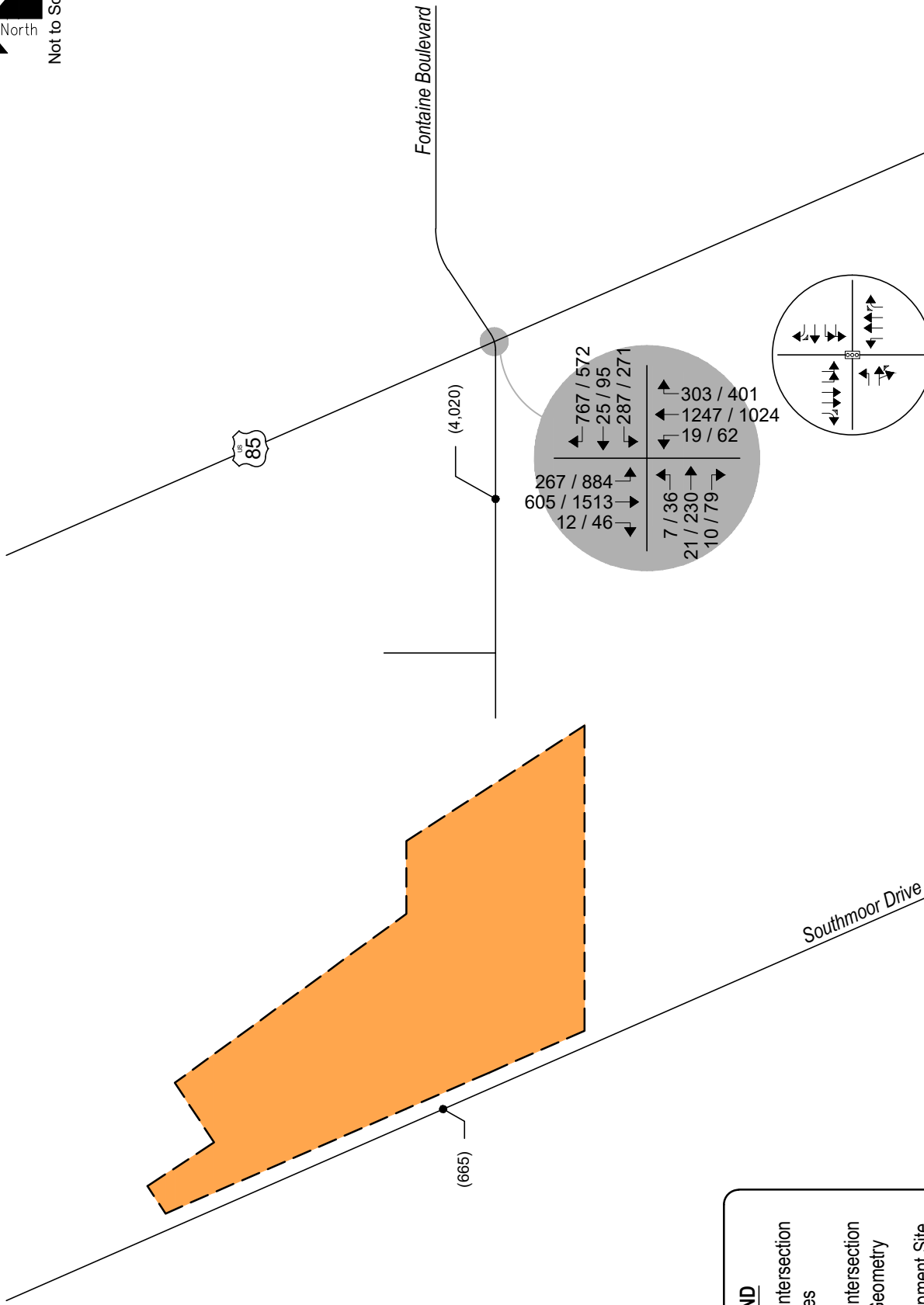
**Figure 4**  
**BACKGROUND TRAFFIC - YEAR 2025**  
 Volumes & Intersection Geometry  
 AM / PM Peak Hour  
 (ADT) : Average Daily Traffic

**SOUTHMOOR RESIDENTIAL**  
 Traffic Impact Study



**SM ROCHA, LLC**  
 Traffic and Transportation Consultants





**LEGEND**

- Study Intersection
- Study Intersection Lane Geometry
- Development Site

**SOUTHMOOR RESIDENTIAL**  
Traffic Impact Study



**SM ROCHA, LLC**  
Traffic and Transportation Consultants

**Figure 5**  
**BACKGROUND TRAFFIC - YEAR 2043**  
Volumes & Intersection Geometry  
AM / PM Peak Hour  
(ADT) : Average Daily Traffic

**Peak Hour Intersection Levels of Service – Background Traffic**

As with existing traffic conditions, the operations of study intersections were analyzed under background conditions, without the proposed development, using the SYNCHRO computer program.

Background traffic level of service analysis results for Year 2025 are listed in Table 2. Year 2043 operational results are summarized in Table 3.

Definitions of levels of service are given in Appendix C. Intersection capacity worksheets are provided in Appendix D.

**Table 2 – Intersection Capacity Analysis Summary – Background Traffic – Year 2025**

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
U.S. Highway 85 / Fontaine Boulevard (Signalized)	B (16.5)	D (36.7)

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)

**Background Traffic Analysis Results – Year 2025**

Year 2025 background traffic analysis indicates that the signalized intersection of U.S. Highway 85 with Fontaine Boulevard projects overall operations at LOS B during the morning peak traffic hour and LOS D during the afternoon peak traffic hour.

**Table 3 – Intersection Capacity Analysis Summary – Background Traffic – Year 2043**

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
U.S. Highway 85 / Fontaine Boulevard (Signalized)	B (19.9)	E (70.1)

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)

**Background Traffic Analysis Results – Year 2043**

By Year 2043 and without the proposed development, the signalized intersection of U.S. Highway 85 with Fontaine Boulevard projects overall operations at LOS B during the morning peak traffic hour and LOS E during the afternoon peak traffic hour. The LOS E operation anticipated during the afternoon peak traffic period is attributed to the southbound left turning movement. To mitigate the anticipated LOS E operation, it is recommended increasing southbound left signal split timing. This mitigation allows for overall LOS D operations during the afternoon peak traffic hour.

### IV. Proposed Project Traffic

#### Trip Generation

Standard traffic generation characteristics compiled by the Institute of Transportation Engineers (ITE) in their report entitled Trip Generation Manual, 11<sup>th</sup> Edition, were applied to the proposed land use in order to estimate average daily traffic (ADT), AM Peak Hour, and PM Peak Hour vehicle trips. A vehicle trip is defined as a one-way vehicle movement from a point of origin to a point of destination.

The ITE land use code 220 (Multifamily Housing (Low-Rise)) was used for estimating trip generation because of its conservative rates and best fit to the proposed land use description.

Trip generation rates used in this study are presented in Table 4.

**Table 4 – Trip Generation Rates**

ITE CODE	LAND USE	UNIT	TRIP GENERATION RATES						
			24 HOUR	AM PEAK HOUR			PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
220	Multifamily Housing (Low-Rise)	DU	6.74	0.10	0.30	0.40	0.32	0.19	0.51

Key: DU = Dwelling Units.  
 Note: All data and calculations above are subject to being rounded to nearest value.

Table 5 illustrates projected ADT, AM Peak Hour, and PM Peak Hour traffic volumes likely generated by the proposed development upon build-out.

**Table 5 – Trip Generation Summary**

ITE CODE	LAND USE	SIZE	DU	TOTAL TRIPS GENERATED						
				24 HOUR	AM PEAK HOUR			PM PEAK HOUR		
					ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
220	Multifamily Housing (Low-Rise)	287	DU	1,934	28	87	115	92	54	146
<i>Total:</i>				1,934	28	87	115	92	54	146

Key: DU = Dwelling Units.  
 Note: All data and calculations above are subject to being rounded to nearest value.

Upon build-out, Table 5 illustrates that the proposed development has the potential to generate approximately 1,934 daily vehicle trips with 115 of those occurring during the morning peak hour and 146 during the afternoon peak hour.

### **Adjustments to Trip Generation Rates**

A development of this type is not likely to attract trips from within area land uses nor pass-by or diverted link trips from the adjacent roadway system, therefore no trip reduction was taken in this analysis.

### **Trip Distribution**

The overall directional distribution of site-generated traffic was determined based on the location of development site within the City, proposed and existing area land uses, allowed turning movements, available roadway network, and in reference to historical traffic count data provided by CDOT's Traffic Count Database System (TCDS)<sup>2</sup>.

Overall trip distribution patterns for the development are shown on Figure 6.

### **Trip Assignment**

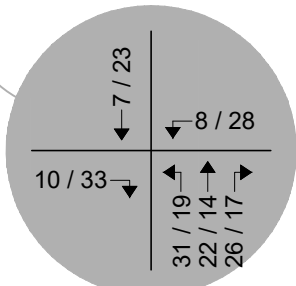
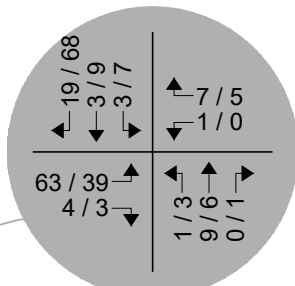
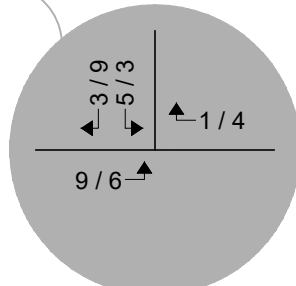
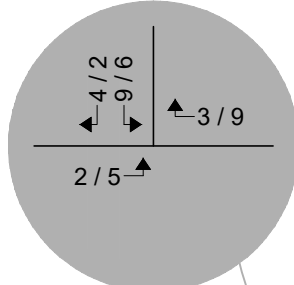
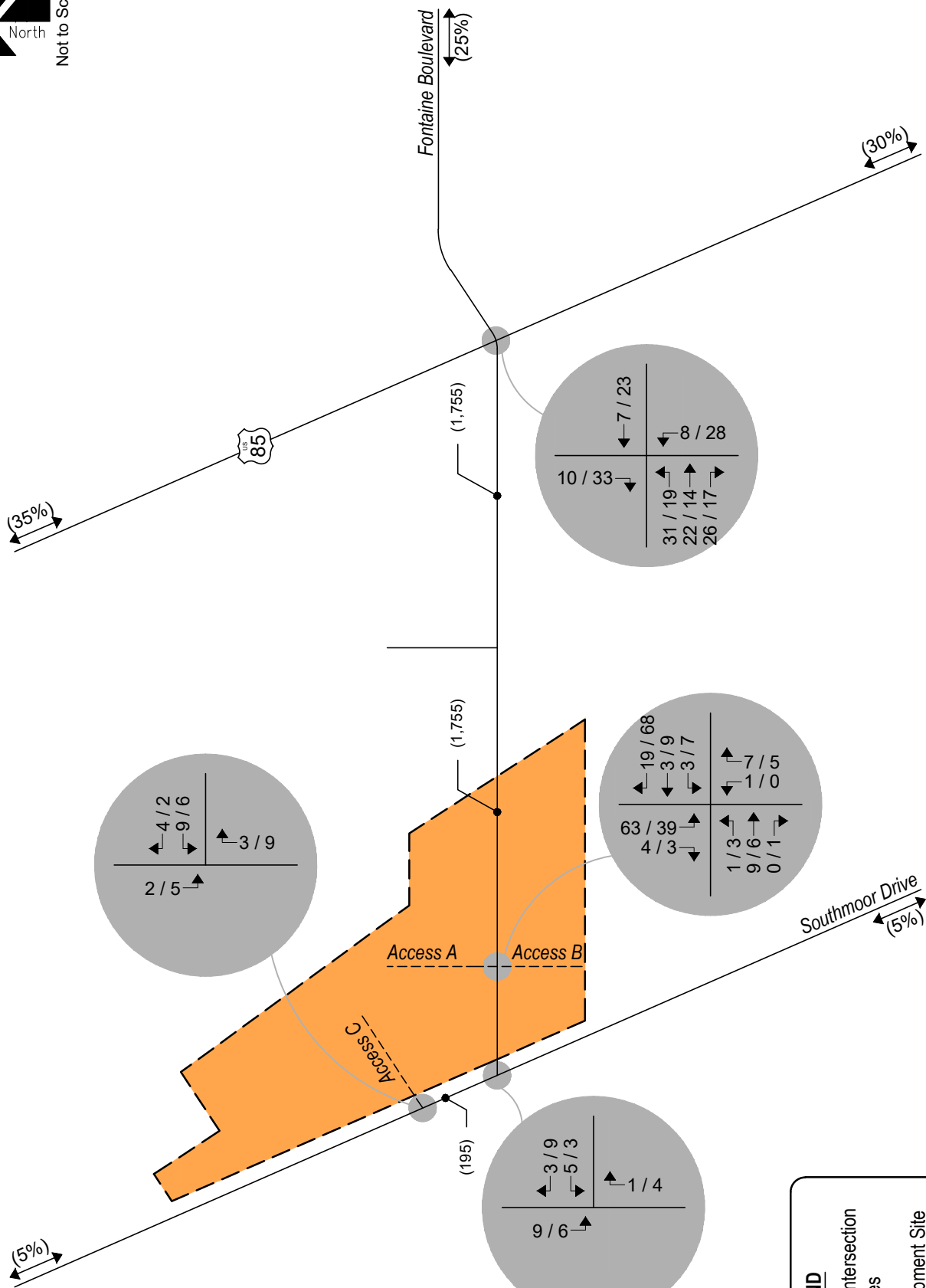
Traffic assignment is how generated and distributed vehicle trips are expected to be loaded onto the available roadway network.

Applying trip distribution patterns to site-generated traffic provides the overall site-generated trip assignments shown on Figure 6.

---

<sup>2</sup> Transportation Data Management System, MS2, 2022.





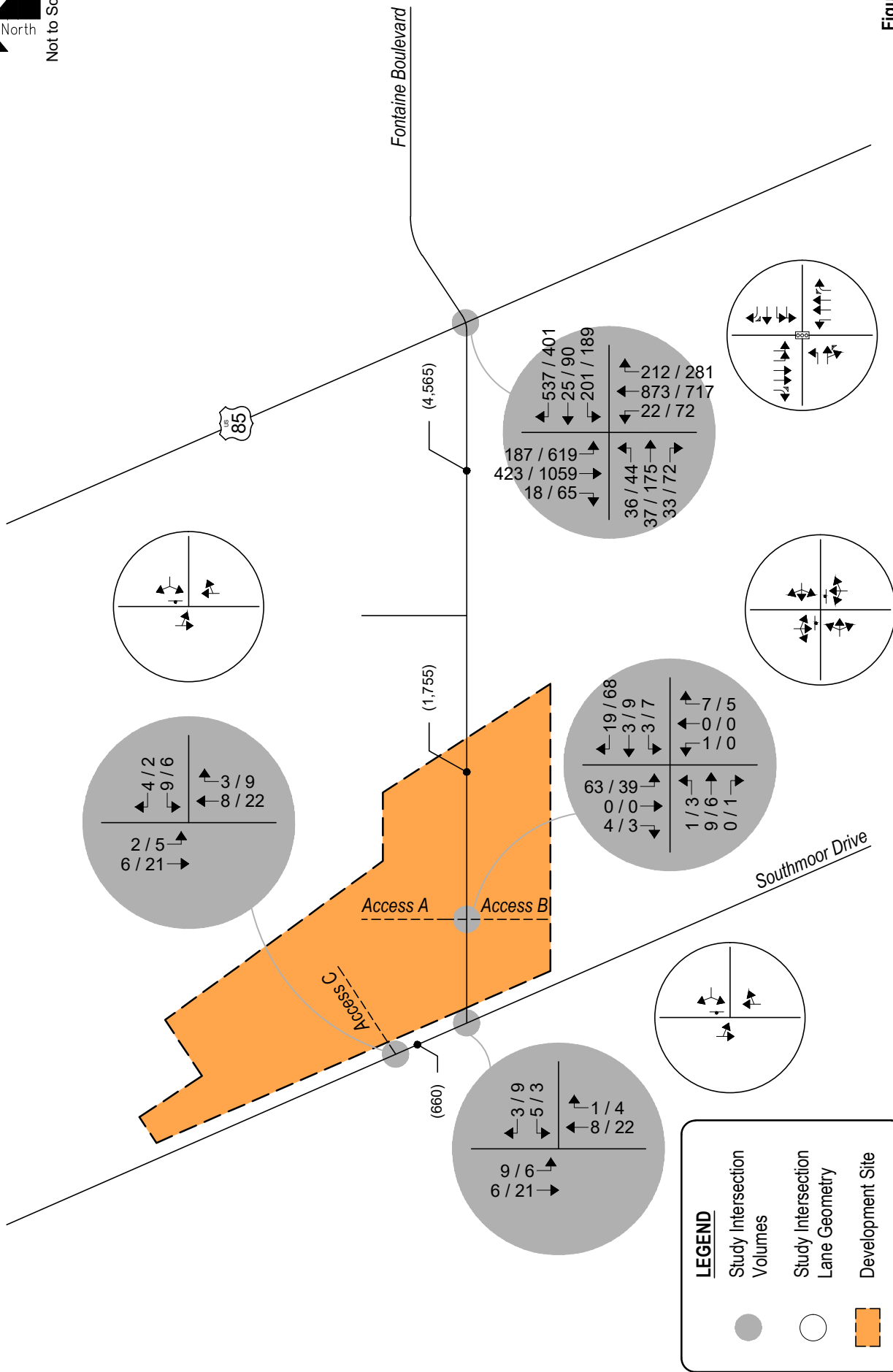
## **V. Future Traffic Conditions With Proposed Developments**

Total traffic is the traffic projected to be on area roadways with consideration of the proposed development. Total traffic includes background traffic projections for Years 2025 and 2043 with consideration of site-generated traffic. For analysis purposes, it was assumed that development construction would be completed by end of Year 2025.

Year 2025 total traffic conditions assumes the extension of Fontaine Boulevard to the west, connecting to Southmoor Drive. The new section of Fontaine Boulevard is expected to operate as a minor collector roadway which will allow on-street parking, supported by the estimated daily traffic volumes illustrated in Figures 7 and 8. Any additional roadway improvements associated with site development are expected to be limited to site access and frontage as required by the governing agency.

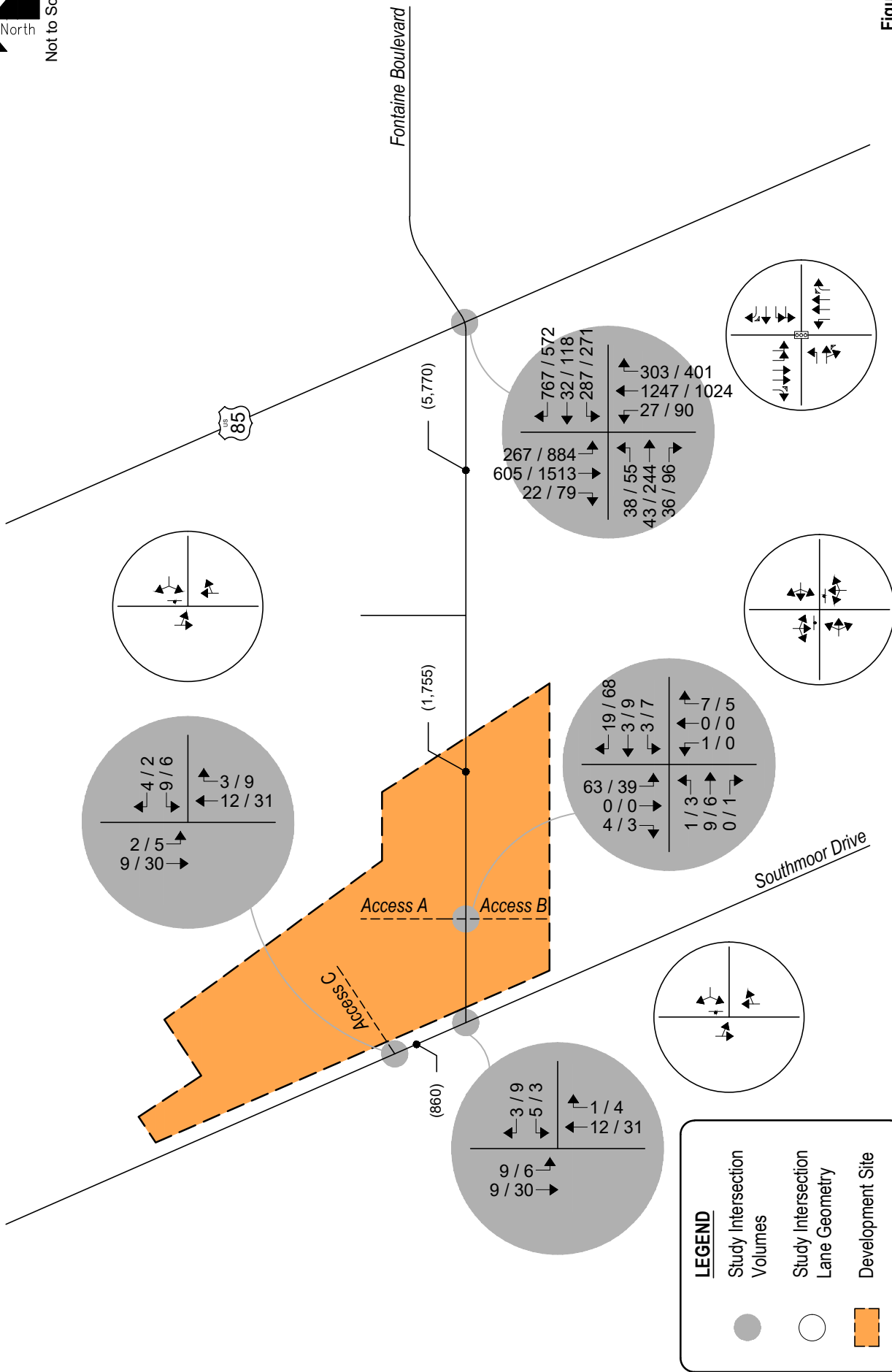
Projected Year 2025 total traffic volumes and intersection geometry are shown in Figure 7.

Figure 8 shows projected total traffic volumes and intersection geometry for Year 2043.



**Figure 7**  
**TOTAL TRAFFIC - YEAR 2025**  
Volumes & Intersection Geometry  
AM / PM Peak Hour  
(ADT) : Average Daily Traffic





**Figure 8**  
**TOTAL TRAFFIC - YEAR 2043**  
 Volumes & Intersection Geometry  
 AM / PM Peak Hour  
 (ADT) : Average Daily Traffic

**SOUTHMOOR RESIDENTIAL**  
 Traffic Impact Study

**SM ROCHA, LLC**  
 Traffic and Transportation Consultants





## VI. Project Impacts

The analyses and procedures described in this study were performed in accordance with the latest HCM and are based upon the worst-case conditions that occur during a typical weekday upon build-out of site development and analyzed land uses. Therefore, study intersections are likely to operate with traffic conditions better than those described within this study, which represent the peak hours of weekday operations only.

### Peak Hour Intersection Levels of Service – Total Traffic

As with background traffic, the operations of the study intersections were analyzed under projected total traffic conditions using the SYNCHRO computer program. Total traffic level of service analysis results for Years 2025 and 2043 are summarized in Table 6 and Table 7, respectively.

Definitions of levels of service are given in Appendix C. Intersection capacity worksheets are provided in Appendix D.

**Table 6 – Intersection Capacity Analysis Summary – Total Traffic – Year 2025**

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
U.S. Highway 85 / Fontaine Boulevard (Signalized)	B (19.3)	D (48.9)
Southmoor Drive / Fontaine Boulevard (Stop-Controlled)		
Westbound Left and Right	A	A
Southbound Left and Through	A	A
Fontaine Boulevard / Access A / Access B (Stop-Controlled)		
Eastbound Left, Through, and Right	A	A
Westbound Left, Through, and Right	A	A
Northbound Left, Through, and Right	A	A
Southbound Left, Through, and Right	A	A
Southmoor Drive / Access C (Stop-Controlled)		
Westbound Left and Right	A	A
Southbound Left and Through	A	A

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)  
 Stop-Controlled Intersection: Level of Service

**Table 7 – Intersection Capacity Analysis Summary – Total Traffic – Year 2043**

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
U.S. Highway 85 / Fontaine Boulevard (Signalized)	C (23.2)	E (73.4)
Southmoor Drive / Fontaine Boulevard (Stop-Controlled)		
Westbound Left and Right	A	A
Southbound Left and Through	A	A
Fontaine Boulevard / Access A / Access B (Stop-Controlled)		
Eastbound Left, Through, and Right	A	A
Westbound Left, Through, and Right	A	A
Northbound Left, Through, and Right	A	A
Southbound Left, Through, and Right	A	A
Southmoor Drive / Access C (Stop-Controlled)		
Westbound Left and Right	A	A
Southbound Left and Through	A	A

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)  
 Stop-Controlled Intersection: Level of Service

**Total Traffic Analysis Results Upon Development Build-Out**

Table 7 illustrates how, by Year 2043 and upon development build-out, the signalized intersection of U.S. Highway 85 with Fontaine Boulevard projects overall operations at LOS C during the morning peak traffic hour and LOS E during the afternoon peak traffic hour. The LOS E operation anticipated during the afternoon peak traffic period is attributed to the southbound left turning movement. To mitigate the anticipated LOS E operation, it is recommended increasing southbound left signal split timing. This mitigation allows for overall LOS D operations during both peak traffic hours.

The stop-controlled intersection of Fontaine Boulevard with Southmoor Drive is projected to have turning movement operations at LOS A for both peak traffic hours.

The stop-controlled intersection of Fontaine Boulevard with Access A and Access B expects turning movement operations at LOS A for both peak traffic hours.

The stop-controlled intersection of Southmoor Drive with Access C projects turning movement operations at LOS A during both peak traffic hours.

### **Total Traffic Auxiliary Lane Analysis**

Auxiliary lanes for the study intersections are to be based on the City of Colorado Springs' Traffic Criteria Manual<sup>3</sup>.

Considering development build-out, an evaluation of auxiliary lane requirements, pursuant to Section 8.1, Table 2 of the City of Colorado Springs' Traffic Criteria Manual, reveals that left and right turn deceleration lanes at the site access drives are not required due to Fontaine Boulevard and Southmoor Drive being classified as collector roadways.

### **Queue Length Analysis**

Queue lengths for the study intersections were analyzed using Year 2043 total traffic conditions. The analysis yields estimate of 95<sup>th</sup> percentile queue lengths, which have only a five percent probability of being exceeded during the analysis time period. An average vehicle length of 25 feet was assumed. Queue lengths were modeled and are included with the Synchro worksheets in Appendix D.

Table 8 summarizes the 95<sup>th</sup> percentile queue results in comparison to the projected storage requirements for turn movements within study area for Year 2043.

---

<sup>3</sup> Engineering Criteria Manual, Section III: Traffic Criteria Manual, City of Colorado Springs City Engineering, July 2010.

**Table 8 – Turn Lane Queues and Storage Requirements – Total Traffic – Year 2043**

Intersection	Turn Movement		Existing Turn Lane Length (feet)	AM Peak Hour		PM Peak Hour		Recommended Turn Lane Length (feet)
				95th Percentile Queue Length (feet)	Vehicle Equivalent (vehicles)	95th Percentile Queue Length (feet)	Vehicle Equivalent (vehicles)	
<b>Signalized Intersections</b>								
U.S. Highway 85 / Fontaine Boulevard	EB	L	50'	66'	3	92'	4	95'
		T,R	-	117'	5	492'	20	-
	WB	L	115' x2	158'	7	217'	9	115' x2
		T	-	50'	2	136'	6	-
		R	145'	0'	0	0'	0	145'
	NB	L	145'	16'	1	65'	3	145'
		T	-	472'	19	526'	22	-
		R	515'	46'	2	226'	10	515'
	SB	L	625' x2	153'	7	500'	20	625' x2
		T	-	160'	7	671'	27	-
R		290'	0'	0	0'	0	290'	
<b>Stop-Controlled Intersections</b>								
Southmoor Drive / Fontaine Boulevard	WB	L,R	-	0'	0	0'	0	-
	NB	T,R	-	0'	0	0'	0	-
	SB	L,T	-	0'	0	0'	0	-
Access A / Access B / Fontaine Boulevard	EB	L,T,R	-	0'	0	0'	0	-
	WB	L,T,R	-	0'	0	0'	0	-
	NB	L,T,R	-	0'	0	0'	0	-
	SB	L,T,R	-	5'	1	5'	1	-
Access C / Southmoor Drive	WB	L,R	-	0'	0	0'	0	-
	NB	T,R	-	0'	0	0'	0	-
	SB	L,T	-	0'	0	0'	0	-

Note: Turn Lane Length does not include taper length.  
 x2 = Dual Turn Lanes.

As Table 8 shows, the majority of turn lane lengths at the study intersections have sufficient storage to accommodate future traffic volumes. However, at the U.S. Highway 85 and Fontaine Boulevard intersection, projected vehicle queues for the eastbound left movement has potential to exceed existing turn lane lengths. As a result, the eastbound left turn deceleration lane may need to be lengthened by approximately 50 feet in order to accommodate projected vehicle queuing. Through inspection of existing conditions, it is assumed this improvement can be accomplished through a matter of restriping only.

## **Recommended Improvements**

Roadway and intersection improvement recommendations were assessed pursuant to roadway descriptions discussed in Section I, projected peak hour traffic volumes, level of service results, projected 95th percentile queue lengths, and per requirements defined within the City of Colorado Springs' Traffic Criteria Manual.

Per the analysis performed within this study, it is concluded that no improvements to the study intersections nor the existing and future roadway network are recommended upon build-out of this development.

As illustrated in Figure 8, long-term total traffic conditions project an average daily traffic volume of approximately 1,755 trips/day on Fontaine Boulevard along the property's frontage. In comparison to roadway design criteria and standards for minor collector roadways defined within the City's TMP, it is concluded that on-street parking is permitted along Fontaine Boulevard.

## VII. Conclusion

This traffic impact study addressed the capacity, geometric, and control requirements associated with the development entitled Southmoor Residential. This proposed residential development consists of a multifamily housing community. The development is located near the northwest corner of U.S. Highway 85 and Fontaine Boulevard in Fountain, Colorado.

The study area examined in this analysis encompassed the Fontaine Boulevard intersections with U.S. Highway 85 and Southmoor Drive and included the proposed site access drives.

Analysis was conducted for critical AM Peak Hour and PM Peak Hour traffic operations for existing traffic conditions, Year 2025 and Year 2043 background traffic conditions, and Year 2025 and Year 2043 total traffic conditions.

Analysis of existing traffic conditions indicates that the signalized intersection of U.S. Highway 85 with Fontaine Boulevard has overall operations at LOS B during the morning peak traffic hour and LOS C during the afternoon peak traffic hour.

Without the proposed development, Year 2025 background operational analysis shows that the signalized intersection of U.S. Highway 85 with Fontaine Boulevard projects overall operations at LOS B during the morning peak traffic hour and LOS D during the afternoon peak traffic hour.

By Year 2043 and without the proposed development, the signalized intersection of U.S. Highway 85 with Fontaine Boulevard projects overall operations at LOS B during the morning peak traffic hour and LOS E during the afternoon peak traffic hour. The LOS E operation anticipated during the afternoon peak traffic period is attributed to the southbound left turning movement. To mitigate the anticipated LOS E operation, it is recommended increasing southbound left signal split timing. This mitigation allows for overall LOS D operations during the afternoon peak traffic hour.

Analysis of future traffic conditions indicates that the addition of site-generated traffic is expected to create minimal negative impact to traffic operations for the existing and surrounding roadway system upon roadway and intersection control improvements assumed within this analysis. With all conservative assumptions defined in this analysis, the study intersections are projected to operate at future levels of service comparable to Year 2043 background traffic conditions. Proposed site accesses have long-term operations at LOS A during peak traffic periods and upon build-out.

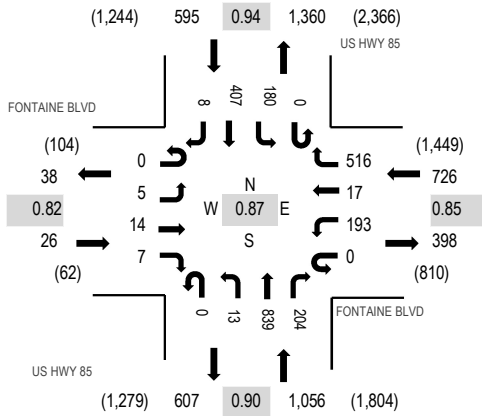
The submittal of a new CDOT access permit is anticipated with the development of this site and will be coordinated through CDOT staff.

## **APPENDIX A**

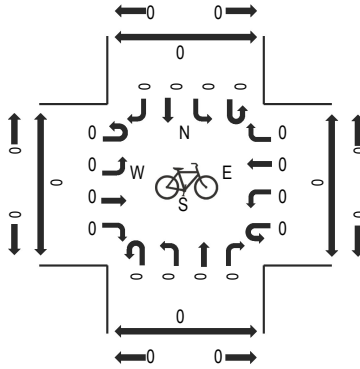
### **Traffic Count Data**



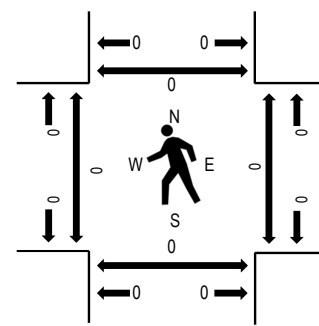
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians

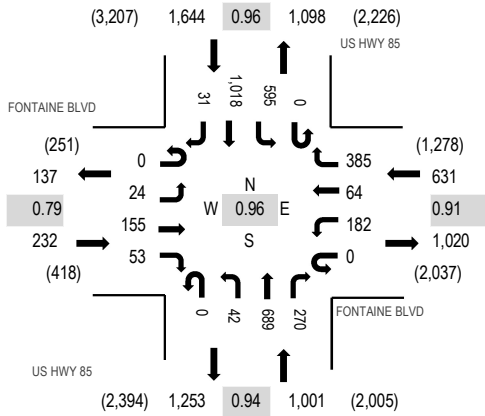


Note: Total study counts contained in parentheses.

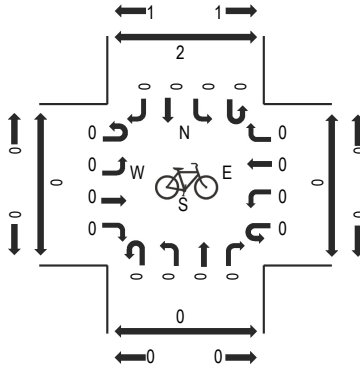
### Traffic Counts - Motorized Vehicles

Interval Start Time	FONTAINE BLVD Eastbound				FONTAINE BLVD Westbound				US HWY 85 Northbound				US HWY 85 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	2	2	1	0	54	3	119	0	1	201	55	0	48	104	1	591	2,403	0	0	0	0
7:15 AM	0	0	7	2	0	64	4	147	0	2	246	45	0	34	137	2	690	2,385	0	0	0	0
7:30 AM	0	1	3	2	0	31	6	130	0	2	219	51	0	51	78	4	578	2,204	0	0	0	0
7:45 AM	0	2	2	2	0	44	4	120	0	8	173	53	0	47	88	1	544	2,179	0	0	0	0
8:00 AM	0	2	3	6	0	56	7	118	0	7	146	55	0	57	113	3	573	2,156	0	0	0	2
8:15 AM	0	1	7	2	0	59	7	111	0	7	126	41	0	52	94	2	509		0	0	0	0
8:30 AM	0	1	3	3	0	55	9	121	0	6	149	49	0	52	102	3	553		0	0	0	0
8:45 AM	0	1	5	2	0	64	10	106	0	4	124	34	0	54	116	1	521		0	0	1	0
Count Total	0	10	32	20	0	427	50	972	0	37	1,384	383	0	395	832	17	4,559		0	0	1	2
Peak Hour	0	5	14	7	0	193	17	516	0	13	839	204	0	180	407	8	2,403		0	0	0	0

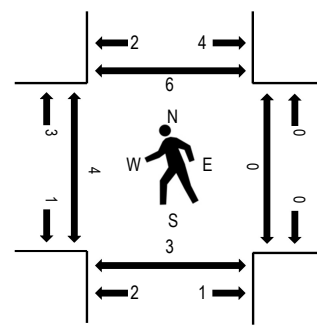
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	FONTAINE BLVD Eastbound				FONTAINE BLVD Westbound				US HWY 85 Northbound			US HWY 85 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	7	29	17	0	57	15	113	0	18	189	75	0	167	244	5	936	3,458	0	1	0	1
4:15 PM	0	7	25	7	0	45	14	104	0	10	193	75	0	145	239	8	872	3,385	0	0	0	1
4:30 PM	0	6	22	10	0	39	14	113	0	7	169	69	0	146	208	5	808	3,423	0	1	0	4
4:45 PM	0	6	21	14	0	48	19	90	0	15	170	66	0	133	256	4	842	3,508	0	0	0	2
5:00 PM	0	7	36	8	0	42	16	96	0	6	194	62	0	121	265	10	863	3,450	1	0	0	1
5:15 PM	0	5	53	20	0	57	14	94	0	11	161	67	0	177	239	12	910		1	0	3	2
5:30 PM	0	6	45	11	0	35	15	105	0	10	164	75	0	164	258	5	893		2	0	0	1
5:45 PM	0	5	41	10	0	40	7	86	0	7	136	56	0	167	225	4	784		0	1	0	3
Count Total	0	49	272	97	0	363	114	801	0	84	1,376	545	0	1,220	1,934	53	6,908		4	3	3	15
Peak Hour	0	24	155	53	0	182	64	385	0	42	689	270	0	595	1,018	31	3,508		4	0	3	6

Start Time	16-Nov-23 Thu	EB	WB	Total
12:00 AM		7	2	9
01:00		3	2	5
02:00		2	0	2
03:00		0	0	0
04:00		1	1	2
05:00		0	6	6
06:00		10	19	29
07:00		26	38	64
08:00		36	66	102
09:00		50	61	111
10:00		82	86	168
11:00		<b>116</b>	<b>106</b>	<b>222</b>
12:00 PM		90	109	199
01:00		80	87	167
02:00		93	81	174
03:00		120	91	211
04:00		171	<b>134</b>	305
05:00		<b>247</b>	117	<b>364</b>
06:00		102	96	198
07:00		78	43	121
08:00		47	39	86
09:00		49	30	79
10:00		38	17	55
11:00		13	11	24
Total		1461	1242	2703
Percent		54.1%	45.9%	
AM Peak	-	11:00	11:00	-
Vol.	-	116	106	-
PM Peak	-	17:00	16:00	-
Vol.	-	247	134	-
Grand Total		1461	1242	2703
Percent		54.1%	45.9%	
ADT		ADT 2,703	ADT 2,703	AADT 2,703

Start Time	16-Nov-23 Thu	NB	SB	Total
12:00 AM		7	2	9
01:00		3	2	5
02:00		2	0	2
03:00		0	0	0
04:00		0	2	2
05:00		0	1	1
06:00		0	1	1
07:00		2	5	7
08:00		8	6	14
09:00		6	5	11
10:00		5	13	18
11:00		15	5	20
12:00 PM		9	13	22
01:00		7	14	21
02:00		15	8	23
03:00		32	26	58
04:00		21	20	41
05:00		22	16	38
06:00		14	21	35
07:00		27	14	41
08:00		15	11	26
09:00		12	12	24
10:00		6	8	14
11:00		7	6	13
<b>Total</b>		<b>235</b>	<b>211</b>	<b>446</b>
<b>Percent</b>		<b>52.7%</b>	<b>47.3%</b>	
<b>AM Peak</b>	-	11:00	10:00	-
<b>Vol.</b>	-	15	13	-
<b>PM Peak</b>	-	15:00	15:00	-
<b>Vol.</b>	-	32	26	-
<b>Grand Total</b>		<b>235</b>	<b>211</b>	<b>446</b>
<b>Percent</b>		<b>52.7%</b>	<b>47.3%</b>	
<b>ADT</b>		<b>ADT 446</b>	<b>ADT 446</b>	<b>AADT 446</b>

## **APPENDIX B**

### **Signal Timing Information**



Ped Service Limit	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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Pre Clearance 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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clear Ext Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clear Ext Pass	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Jump	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adv Warning Ext	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	X	X	X	X	X	X	X	X												
Auto Flash Ent.		X				X														
Auto Flash Exit		X				X														
Non Actuated I																				
Non Actuated II																				
Non Lock Mem	X	X	X	X	X	X	X	X												
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																				
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																				
Coord Ped Yield																				
Ped Recycle																				
Coutdown																				

**No Serve Phases**

Sequence 1		Sequence 2		Sequence 3		Sequence 4	
Ph.	No Serve Phases	Ph.	No Serve Phases	Ph.	No Serve Phases	Ph.	No Serve Phases
1		1		1		1	
2		2		2		2	



3		3		3		3	
4		4		4		4	
5		5		5		5	
6		6		6		6	
7		7		7		7	
8		8		8		8	

Sequence 1		Sequence 2		Sequence 3		Sequence 4	
9		9		9		9	
10		10		10		10	
11		11		11		11	
12		12		12		12	
13		13		13		13	
14		14		14		14	
15		15		15		15	
16		16		16		16	

**Phase Configuration**

Ph.	Startup	Ring	Concurrent	Startup Min	Description
1	Phase Not On	1	5,6	0	SBLT
2	Green No Walk	1	5,6	0	NB
3	Phase Not On	1	7,8	0	EBLT
4	Phase Not On	1	7,8	0	WB
5	Phase Not On	2	1,2	0	NBLT
6	Green No Walk	2	1,2	0	SB
7	Phase Not On	2	3,4	0	EB
8	Phase Not On	2	3,4	0	WBLT
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	

**Sequence Configuration**

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

15	
16	

15	
16	

15	
16	

15	
16	

**Sequence 5**

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

**Sequence 6**

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

**Sequence 7**

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

**Sequence 8**

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

**Sequence 5**

7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 6**

7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 7**

7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 8**

7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 9**

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

**Sequence 10**

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

**Sequence 11**

Ring	Phases
1	1,2,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	

**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	

**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	
11	
12	

**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	
11	
12	

**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	
11	
12	

**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	
11	
12	

13	
14	
15	
16	

13	
14	
15	
16	

13	
14	
15	
16	

13	
14	
15	
16	

**Sequence 17**

Ring	Phases
1	
2	
3	
4	
5	
6	
7	
8	

**Sequence 18**

Ring	Phases
1	
2	
3	
4	
5	
6	
7	
8	

**Sequence 19**

Ring	Phases
1	
2	
3	
4	
5	
6	
7	
8	

**Sequence 20**

Ring	Phases
1	
2	
3	
4	
5	
6	
7	
8	

**Sequence 17**

9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 18**

9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 19**

9	
10	
11	
12	
13	
14	
15	
16	

**Sequence 20**

9	
10	
11	
12	
13	
14	
15	
16	

**Global Phase Recalls**

Phase	1										2									
	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
Min																				
Max	X					X														
Ped																				
Act Walk Rest																				

**Global Veh Det Diagnostics**

Global No Activity	0
Global Max Presence	0
Global Erractic Count	0
Global Failed Recall	None
Detector Reset Enable	Enabled

**Global Ped Det Diagnostics**

Global No Activity	0
Global Max Presence	0
Global Erractic Count	0

**Global Pri/Pre Det Diag**

Global No Activity	0
Global Max Presence	0
Global Erractic Count	0

**Vehicle Detection Parameters**

Det.	Call Phs	Call Ped	Call Ovl	Add Call Phases	Sw Phs	Queue		Ext Hold	No Activity	Max Pres	Erratic Counts	Failed Time	Failed Recall	Fail Link	Description	
						Delay	Extend									
1	1	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
2	2	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
3	2	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
4	2	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
5	2	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
6	2	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
7	3	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
8	4	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
9	4	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
10	4	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
11	4	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
12	4	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
13	1	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
14	3	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
15	5	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	

16	6	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
17	6	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
18	6	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
19	6	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
20	6	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
21	7	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
22	8	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
23	8	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
24	8	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
25	8	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
26	8	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
27	5	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
28	7	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
29	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
30	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
31	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
32	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	

Det.	Call	Call	Call	Add Call	Sw			Queue	Ext	No	Max	Erratic	Failed	Failed	Fail	Description
	Phs	Ped	Ovl			Phs	Delay									
33	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
34	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
35	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
36	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
37	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
38	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
39	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
40	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
41	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
42	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
43	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
44	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
45	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
46	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
47	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
48	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
49	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
50	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
51	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
52	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
53	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
54	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
55	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
56	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
57	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
58	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
59	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
60	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
61	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
62	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
63	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
64	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
65	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
66	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
67	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
68	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	
69	0	0	0		0	0.0	0.0	0	0.0	0	0	0	0	None	0	

70	0	0	0	0	0	0.0	0.0	0	0.0	0	0	0	0	0	0	None	0
71	0	0	0	0	0	0.0	0.0	0	0.0	0	0	0	0	0	0	None	0
72	0	0	0	0	0	0.0	0.0	0	0.0	0	0	0	0	0	0	None	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																				
Extend	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Added Initial																				
Queue																				
Call	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Terminate																				
Min Green 2																				
Protected Perm																				
Disable Dly Lead																				
Disable TS2 Diag																				

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																				
Extend	X	X	X	X	X	X	X	X												
Added Initial																				
Queue																				
Call	X	X	X	X	X	X	X	X												
Terminate																				
Min Green 2																				
Protected Perm																				
Disable Dly Lead																				
Disable TS2 Diag																				

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																				
Extend																				
Added Initial																				
Queue																				
Call																				
Terminate																				
Min Green 2																				
Protected Perm																				
Disable Dly Lead																				
Disable TS2 Diag																				

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

Data Collection Period	0
Number of Periods	1

Call																			
Terminate																			
Min Green 2																			
Protected Perm																			
Disable Dly Lead																			
Disable TS2 Diag																			

Speed Detectors				Min Log	Max Log	Car Length	Det Length	Trail Det	Trap Length
Det	Enable	Type	Units						
1		Single	Inches	5	80	0	0	0	0
2		Single	Inches	5	80	0	0	0	0
3		Single	Inches	5	80	0	0	0	0
4		Single	Inches	5	80	0	0	0	0
5		Single	Inches	5	80	0	0	0	0
6		Single	Inches	5	80	0	0	0	0
7		Single	Inches	5	80	0	0	0	0
8		Single	Inches	5	80	0	0	0	0

**Pedestrian Detectors**

Det	Call Phs	Call Ovp	Add Call Phs	Walk 2	Clear 2	No Act	Max Pres	Erratic Count
1	0	0		0	0	0	0	0
2	2	0		0	0	0	0	0
3	0	0		0	0	0	0	0
4	4	0		0	0	0	0	0
5	0	0		0	0	0	0	0
6	6	0		0	0	0	0	0
7	0	0		0	0	0	0	0
8	8	0		0	0	0	0	0
9	0	0		0	0	0	0	0
10	0	0		0	0	0	0	0
11	0	0		0	0	0	0	0
12	0	0		0	0	0	0	0
13	0	0		0	0	0	0	0
14	0	0		0	0	0	0	0
15	0	0		0	0	0	0	0
16	0	0		0	0	0	0	0
17	0	0		0	0	0	0	0
18	0	0		0	0	0	0	0
19	0	0		0	0	0	0	0
20	0	0		0	0	0	0	0

Det	Call Phs	Call Ovp	Add Call Phs	Walk 2	Clear 2	No Act	Max Pres	Erratic Count
21	0	0		0	0	0	0	0
22	0	0		0	0	0	0	0
23	0	0		0	0	0	0	0
24	0	0		0	0	0	0	0
25	0	0		0	0	0	0	0
26	0	0		0	0	0	0	0
27	0	0		0	0	0	0	0
28	0	0		0	0	0	0	0
29	0	0		0	0	0	0	0
30	0	0		0	0	0	0	0
31	0	0		0	0	0	0	0
32	0	0		0	0	0	0	0
33	0	0		0	0	0	0	0
34	0	0		0	0	0	0	0
35	0	0		0	0	0	0	0
36	0	0		0	0	0	0	0
37	0	0		0	0	0	0	0
38	0	0		0	0	0	0	0
39	0	0		0	0	0	0	0
40	0	0		0	0	0	0	0

**Pri/Pre Detectors**

Det	Description	Low Call	High Call	Low Num	High Num	Lead/Trail	Arrival Time	Pri Delay	Delay	Ext	Min On	Pri Ovp	No Act	Max Pres	Erratic Count
1		None	None	0	0	None	0	0	0	0	0		0	0	0
2		None	None	0	0	None	0	0	0	0	0		0	0	0
3		None	None	0	0	None	0	0	0	0	0		0	0	0
4		None	None	0	0	None	0	0	0	0	0		0	0	0
5		None	None	0	0	None	0	0	0	0	0		0	0	0
6		None	None	0	0	None	0	0	0	0	0		0	0	0
7		None	None	0	0	None	0	0	0	0	0		0	0	0
8		None	None	0	0	None	0	0	0	0	0		0	0	0

**Overlaps**

OLP	Enabled	Type	Included Phs	Modifier Phs	Modifier Ovlp	Neg Phases	Inhibit Neg Phs	Neg Ovlp
1	Enabled	Off	2	1				
2	Enabled	Off						

3	Enabled	Off	4	3			
4	Enabled	Off					
5	Enabled	FYA - 4 Sec	6	5			
6	Enabled	Off					
7	Enabled	Off	8	7			
8	Enabled	Off					
9	Enabled	Off					
10	Enabled	Off					
11	Enabled	Off					
12	Enabled	Off					
13	Enabled	Off					
14	Enabled	Off					
15	Enabled	Off					
16	Enabled	Off					

OLP	TrG Omit Phs	Negative Peds	Neg Ped Ovtps	Grn Sup Phs	N Ped Phs Calls	Description
1						
2						
3						
4						
5						
6						

OLP	TrG Omit Phs	Negative Peds	Neg Ped Ovtps	Grn Sup Phs	N Ped Phs Calls	Description
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						

OLP	Trail	Trail	Trail	Walk	Ped	Walk	Ped	Delay	Flash	Min	Mx Grn	Red	Flash	Flash	Walk
	GRN	YEL	RED	1	Clr 1	2	Clr 2			Green	Ext	Revert	Inactive	Alt	Rest
1	0	0.0	0.0	0	0	0	0	0.0	On	0	0	0.0	Off	Off	Off
2	0	0.0	0.0	0	0	0	0	0.0	Off	0	0	0.0	Off	Off	Off
3	0	0.0	0.0	0	0	0	0	0.0	On	0	0	0.0	Off	Off	Off
4	0	0.0	0.0	0	0	0	0	0.0	Off	0	0	0.0	Off	Off	Off
5	0	0.0	0.0	0	0	0	0	0.0	On	0	0	0.0	Off	Off	Off
6	0	0.0	0.0	0	0	0	0	0.0	Off	0	0	0.0	Off	Off	Off
7	0	0.0	0.0	0	0	0	0	0.0	On	0	0	0.0	Off	Off	Off
8	0	0.0	0.0	0	0	0	0	0.0	Off	0	0	0.0	Off	Off	Off
9	0	0.0	0.0	0	0	0	0	0.0	Off	0	0	0.0	Off	Off	Off
10	0	0.0	0.0	0	0	0	0	0.0	Off	0	0	0.0	Off	Off	Off
11	0	0.0	0.0	0	0	0	0	0.0	Off	0	0	0.0	Off	Off	Off
12	0	0.0	0.0	0	0	0	0	0.0	Off	0	0	0.0	Off	Off	Off
13	0	0.0	0.0	0	0	0	0	0.0	Off	0	0	0.0	Off	Off	Off
14	0	0.0	0.0	0	0	0	0	0.0	Off	0	0	0.0	Off	Off	Off
15	0	0.0	0.0	0	0	0	0	0.0	Off	0	0	0.0	Off	Off	Off
16	0	0.0	0.0	0	0	0	0	0.0	Off	0	0	0.0	Off	Off	Off

Overlap Options																
Overlap	1	2	3	4	5	6	7	8	9	1	1	1	1	1	1	1
Startup Call																
Recall																

Overlap	1	2	3	4	5	6	7	8	9	1	1	1	1	1	1	1
Call for Service																
Trail Grn Bridge																



No Veh Reserv																				
No Hold Trail Exit																				
Ped Recycle																				
No Yellow Protect																				
No Bridging																				
LRT Prepare Go																				

FYA Prot. Red Cl																				
Phs Intvl Override																				
Queue Jump																				
No FYA Ped Wlk																				
Term After Call																				

### Custom Overlap Rules

Rule	Custom Ovlp	Incl. State	Mod. State	Neg. State	Output	Flash
1	Disable	Any		Any	Not Set	Not Set
2	Disable	Any		Any	Not Set	Not Set
3	Disable	Any		Any	Not Set	Not Set
4	Disable	Any		Any	Not Set	Not Set
5	Disable	Any		Any	Not Set	Not Set
6	Disable	Any		Any	Not Set	Not Set
7	Disable	Any		Any	Not Set	Not Set
8	Disable	Any		Any	Not Set	Not Set
9	Disable	Any		Any	Not Set	Not Set
10	Disable	Any		Any	Not Set	Not Set

### Coordination Parameters

Operational Mode	Automatic	Maximum Mode	Per Pattern	Max Cyc Limit %	15
Coordination Mode	Pattern	Force Mode	Per Pattern	Min Cyc Limit %	15
Correction Mode	Shortway (Auto)	Transition Cover Ped	Pattern	Max Dwell	0

Patt.	Cycle	Offset					Ref Col	Coord Mode	Force Mode	Max Mode	Trans Ped	Min Perm	Phs Pln	Det Pln	Ped Pln	Ovlp Pln	Pri Pln	Description
		1	2	3	Split	Seq												
1	100	90	0	0	1	1	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
2	90	26	0	0	2	1	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
3	0	0	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
4	0	0	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
5	0	0	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
6	0	0	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
7	0	0	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
8	0	0	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
9	0	0	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
10	0	0	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
11	0	0	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
12	0	0	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
13	0	0	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
14	0	0	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
15	0	0	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
16	0	0	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
17	0	0	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
18	0	0	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
19	0	0	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	
20	0	0	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	1	1	1	1	1	

### Split Parameters

Split 1				Coord PH	Ref PH	Cover Ped	Force Off Mode	Mode	Pri	Pri	Pri
PH.	Time	Min	Max						Min	Max	F. Off
1	20	0	0				Fix	None	0	0	Float
2	35	0	0	X	X		Fix	Min Rcl	0	0	Float
3	25	0	0				Fix	None	0	0	Float
4	20	0	0				Fix	None	0	0	Float
5	12	0	0				Fix	None	0	0	Float
6	43	0	0	X	X		Fix	Min Rcl	0	0	Float

7	15	0	0				Fix	None	0	0	Float
8	30	0	0				Fix	None	0	0	Float
9	0	0	0				Fix	None	0	0	Float
10	0	0	0				Fix	None	0	0	Float
11	0	0	0				Fix	None	0	0	Float
12	0	0	0				Fix	None	0	0	Float
13	0	0	0				Fix	None	0	0	Float
14	0	0	0				Fix	None	0	0	Float
15	0	0	0				Fix	None	0	0	Float
16	0	0	0				Fix	None	0	0	Float

Split 2

PH.	Time	Min	Max	Coord	Ref	Cover	Force Off	Mode	Mode	Pri	Pri	Pri
				PH	PH	Ped	Mode			Min	Max	F. Off
1	15	0	0				Fix	None		0	0	Float
2	35	0	0	X	X		Fix	Min Rcl		0	0	Float
3	20	0	0				Fix	None		0	0	Float
4	20	0	0				Fix	None		0	0	Float
5	12	0	0				Fix	None		0	0	Float
6	38	0	0	X	X		Fix	Min Rcl		0	0	Float
7	15	0	0				Fix	None		0	0	Float
8	25	0	0				Fix	None		0	0	Float
9	0	0	0				Fix	None		0	0	Float
10	0	0	0				Fix	None		0	0	Float
11	0	0	0				Fix	None		0	0	Float
12	0	0	0				Fix	None		0	0	Float
13	0	0	0				Fix	None		0	0	Float
14	0	0	0				Fix	None		0	0	Float
15	0	0	0				Fix	None		0	0	Float
16	0	0	0				Fix	None		0	0	Float

Split 3

PH.	Time	Min	Max	Coord	Ref	Cover	Force Off	Mode	Mode	Pri	Pri	Pri
				PH	PH	Ped	Mode			Min	Max	F. Off
1	0	0	0				Fix	None		0	0	Float
2	0	0	0	X	X		Fix	None		0	0	Float
3	0	0	0				Fix	None		0	0	Float
4	0	0	0				Fix	None		0	0	Float
5	0	0	0				Fix	None		0	0	Float
6	0	0	0	X	X		Fix	None		0	0	Float
7	0	0	0				Fix	None		0	0	Float
8	0	0	0				Fix	None		0	0	Float
9	0	0	0				Fix	None		0	0	Float
10	0	0	0				Fix	None		0	0	Float
11	0	0	0				Fix	None		0	0	Float
12	0	0	0				Fix	None		0	0	Float
13	0	0	0				Fix	None		0	0	Float
14	0	0	0				Fix	None		0	0	Float
15	0	0	0				Fix	None		0	0	Float
16	0	0	0				Fix	None		0	0	Float

Split 4

PH.	Time	Min	Max	Coord	Ref	Cover	Force Off	Mode	Mode	Pri	Pri	Pri
				PH	PH	Ped	Mode			Min	Max	F. Off
1	0	0	0				Fix	None		0	0	Float
2	0	0	0				Fix	None		0	0	Float
3	0	0	0				Fix	None		0	0	Float
4	0	0	0				Fix	None		0	0	Float
5	0	0	0				Fix	None		0	0	Float
6	0	0	0				Fix	None		0	0	Float
7	0	0	0				Fix	None		0	0	Float

8	0	0	0				Fix	None	0	0	Float
9	0	0	0				Fix	None	0	0	Float
10	0	0	0				Fix	None	0	0	Float
11	0	0	0				Fix	None	0	0	Float
12	0	0	0				Fix	None	0	0	Float
13	0	0	0				Fix	None	0	0	Float
14	0	0	0				Fix	None	0	0	Float
15	0	0	0				Fix	None	0	0	Float
16	0	0	0				Fix	None	0	0	Float

Split 5

PH.	Time	Min	Max	Coord PH	Ref PH	Cover Ped	Force Off Mode	Pri			
								Mode	Min	Max	F. Off
1	0	0	0				Fix	None	0	0	Float
2	0	0	0				Fix	None	0	0	Float
3	0	0	0				Fix	None	0	0	Float
4	0	0	0				Fix	None	0	0	Float
5	0	0	0				Fix	None	0	0	Float
6	0	0	0				Fix	None	0	0	Float
7	0	0	0				Fix	None	0	0	Float
8	0	0	0				Fix	None	0	0	Float
9	0	0	0				Fix	None	0	0	Float
10	0	0	0				Fix	None	0	0	Float
11	0	0	0				Fix	None	0	0	Float
12	0	0	0				Fix	None	0	0	Float
13	0	0	0				Fix	None	0	0	Float
14	0	0	0				Fix	None	0	0	Float
15	0	0	0				Fix	None	0	0	Float
16	0	0	0				Fix	None	0	0	Float

Split 6

PH.	Time	Min	Max	Coord PH	Ref PH	Cover Ped	Force Off Mode	Pri			
								Mode	Min	Max	F. Off
1	0	0	0				Fix	None	0	0	Float
2	0	0	0				Fix	None	0	0	Float

Split 6

PH.	Time	Min	Max	Coord PH	Ref PH	Cover Ped	Force Off Mode	Pri			
								Mode	Min	Max	F. Off
3	0	0	0				Fix	None	0	0	Float
4	0	0	0				Fix	None	0	0	Float
5	0	0	0				Fix	None	0	0	Float
6	0	0	0				Fix	None	0	0	Float
7	0	0	0				Fix	None	0	0	Float
8	0	0	0				Fix	None	0	0	Float
9	0	0	0				Fix	None	0	0	Float
10	0	0	0				Fix	None	0	0	Float
11	0	0	0				Fix	None	0	0	Float
12	0	0	0				Fix	None	0	0	Float
13	0	0	0				Fix	None	0	0	Float
14	0	0	0				Fix	None	0	0	Float
15	0	0	0				Fix	None	0	0	Float
16	0	0	0				Fix	None	0	0	Float

Split 7

PH.	Time	Min	Max	Coord PH	Ref PH	Cover Ped	Force Off Mode	Pri			
								Mode	Min	Max	F. Off
1	0	0	0				Fix	None	0	0	Float
2	0	0	0				Fix	None	0	0	Float
3	0	0	0				Fix	None	0	0	Float
4	0	0	0				Fix	None	0	0	Float

5	0	0	0				Fix	None	0	0	Float
6	0	0	0				Fix	None	0	0	Float
7	0	0	0				Fix	None	0	0	Float
8	0	0	0				Fix	None	0	0	Float
9	0	0	0				Fix	None	0	0	Float
10	0	0	0				Fix	None	0	0	Float
11	0	0	0				Fix	None	0	0	Float
12	0	0	0				Fix	None	0	0	Float
13	0	0	0				Fix	None	0	0	Float
14	0	0	0				Fix	None	0	0	Float
15	0	0	0				Fix	None	0	0	Float
16	0	0	0				Fix	None	0	0	Float

Split 8

				Coord	Ref	Cover	Force Off				
PH.	Time	Min	Max	PH	PH	Ped	Mode	Mode	Pri Min	Pri Max	Pri F. Off
1	0	0	0				Fix	None	0	0	Float
2	0	0	0				Fix	None	0	0	Float
3	0	0	0				Fix	None	0	0	Float
4	0	0	0				Fix	None	0	0	Float
5	0	0	0				Fix	None	0	0	Float
6	0	0	0				Fix	None	0	0	Float
7	0	0	0				Fix	None	0	0	Float
8	0	0	0				Fix	None	0	0	Float
9	0	0	0				Fix	None	0	0	Float
10	0	0	0				Fix	None	0	0	Float
11	0	0	0				Fix	None	0	0	Float
12	0	0	0				Fix	None	0	0	Float
13	0	0	0				Fix	None	0	0	Float
14	0	0	0				Fix	None	0	0	Float
15	0	0	0				Fix	None	0	0	Float
16	0	0	0				Fix	None	0	0	Float

Split 9

				Coord	Ref	Cover	Force Off				
PH.	Time	Min	Max	PH	PH	Ped	Mode	Mode	Pri Min	Pri Max	Pri F. Off
1	0	0	0				Fix	None	0	0	Float
2	0	0	0				Fix	None	0	0	Float
3	0	0	0				Fix	None	0	0	Float
4	0	0	0				Fix	None	0	0	Float

Split 9

				Coord	Ref	Cover	Force Off				
PH.	Time	Min	Max	PH	PH	Ped	Mode	Mode	Pri Min	Pri Max	Pri F. Off
5	0	0	0				Fix	None	0	0	Float
6	0	0	0				Fix	None	0	0	Float
7	0	0	0				Fix	None	0	0	Float
8	0	0	0				Fix	None	0	0	Float
9	0	0	0				Fix	None	0	0	Float
10	0	0	0				Fix	None	0	0	Float
11	0	0	0				Fix	None	0	0	Float
12	0	0	0				Fix	None	0	0	Float
13	0	0	0				Fix	None	0	0	Float
14	0	0	0				Fix	None	0	0	Float
15	0	0	0				Fix	None	0	0	Float
16	0	0	0				Fix	None	0	0	Float

Split 10

				Coord	Ref	Cover	Force Off				
PH.	Time	Min	Max	PH	PH	Ped	Mode	Mode	Pri Min	Pri Max	Pri F. Off
1	0	0	0				Fix	None	0	0	Float
2	0	0	0				Fix	None	0	0	Float





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

Day Plan  On

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

Event	Hour	Min.	Act
1	5	30	1
2	9	0	2
3	14	0	1
4	18	0	2
5	20	0	10
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Day Plan

Event	Hour	Min.	Act
1	8	0	2
2	19	0	10
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

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

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

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

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

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

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

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

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

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

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

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

Day Plan

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

Day Plan

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

Day Plan

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





3	None	
4	None	
5	None	
6	None	
7	None	
8	None	
9	None	
10	None	

3	None	
4	None	
5	None	
6	None	
7	None	
8	None	
9	None	
10	None	

**Master Sections By TOD**

Action	1	2	3	4	5	6	7	8	9	0	1
Master Section 1											
Master Section 2											
Master Section 3											
Master Section 4											
Master Section 5											
Master Section 6											
Master Section 7											
Master Section 8											
Master Section 9											
Master Section 10											
Master Section 11											
Master Section 12											
Master Section 13											
Master Section 14											
Master Section 15											
Master Section 16											

**Queue Responsive By TOD**

Action	1	2	3	4	5	6	7	8	9	0	1
Queue Resp Plan 1											
Queue Resp Plan 2											
Queue Resp Plan 3											
Queue Resp Plan 4											
Queue Resp Plan 5											
Queue Resp Plan 6											
Queue Resp Plan 7											
Queue Resp Plan 8											
Queue Resp Plan 9											
Queue Resp Plan 10											
Queue Resp Plan 11											
Queue Resp Plan 12											
Queue Resp Plan 13											
Queue Resp Plan 14											
Queue Resp Plan 15											
Queue Resp Plan 16											

**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 Presence	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Presence	0	0	60	60	60	60	0	0
Enter Min Green	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
Min Walk	0	0	0	0	0	0	0	0
Ent. Ped Clear	255	255	255	255	255	255	255	255
Track Green	34	0	0	0	0	0	0	0
Max Track Grn	0	0	0	0	0	0	0	0
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
Track 2 Green	0	0	0	0	0	0	0	0
Track 2 Yellow	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Track 2 Red	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Track Ext Gate Dn	0	0	0	0	0	0	0	0
Dwell Green	1	0	1	1	1	1	0	0
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
Dwell Ext Time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Exit Green	0	0	0	0	0	0	0	0
Exit Max Time	0	0	0	0	0	0	0	0

Preempt	1	2	3	4	5	6	7	8
Non Lock Mem								
Not Override Flash								
NotOverrideNextPre								
Flash Dwell								
Ped Recycle								
Imm Ped Clear								
Dwell Only Status								
All Red Flash Dwell								
Allow All Overlaps								
Req All Red Entry								
Req Gate Dwn Trck Exit								
Req Gate Up Dwl Exit								
Normal On/Off Input								
Track Clear Override								
Aux Function 1								
Aux Function 2								
Aux Function 3								
Special Function 1								
Special Function 2								
Special Function 3								
Special Function 4								
Special Function 5								
Special Function 6								
Special Function 7								
Special Function 8								

Require CRC  
Disabled

Pre	1	2	3	4	5	6	7	8
-----	---	---	---	---	---	---	---	---

Pre	1	2	3	4	5	6	7	8
-----	---	---	---	---	---	---	---	---

Pre	1	2	3	4	5	6	7	8
-----	---	---	---	---	---	---	---	---

Pre	1	2	3	4	5	6	7	8
-----	---	---	---	---	---	---	---	---





### Peer Configuration

Ctrl	Peer ID	Device Type	IP address	IP Port	Http Port	Serial Port	Serial Addr.	Master Sect.	P2P TO	Description
1	0	Peer MaxTime		161	80	0	0	0	15	
2	0	Peer MaxTime		161	80	0	0	0	15	
3	0	Peer MaxTime		161	80	0	0	0	15	
4	0	Peer MaxTime		161	80	0	0	0	15	
5	0	Peer MaxTime		161	80	0	0	0	15	
6	0	Peer MaxTime		161	80	0	0	0	15	
7	0	Peer MaxTime		161	80	0	0	0	15	
8	0	Peer MaxTime		161	80	0	0	0	15	
9	0	Peer MaxTime		161	80	0	0	0	15	
10	0	Peer MaxTime		161	80	0	0	0	15	

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

## **APPENDIX C**

### **Level of Service Definitions**

The following information is referenced from the Highway Capacity Manual: A Guide for Multimodal Mobility Analysis, 6<sup>th</sup> Edition, Transportation Research Board, 2016: Chapter 19 – Signalized Intersections.

### **Motorized Vehicle Level of Service (LOS) for Signalized Intersections**

Levels of service are defined to represent reasonable ranges in control delay.

**LOS A** Describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

**LOS B** Describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

**LOS C** Describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

**LOS D** Describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

**LOS E** Describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

**LOS F** Describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio <sup>a</sup>	
	$v/c \leq 1.0$	$v/c > 1.0$
≤ 10	A	F
> 10 – 20	B	F
> 20 – 35	C	F
> 35 – 55	D	F
> 55 – 80	E	F
> 80	F	F

Note: <sup>a</sup> For approach-based and intersectionwide assessments, LOS is defined solely by control delay.

The following information is referenced from the Highway Capacity Manual: A Guide for Multimodal Mobility Analysis, 6<sup>th</sup> Edition, Transportation Research Board, 2016: Chapter 20 – Two-Way Stop-Controlled Intersections, Chapter 21 – All-Way Stop-Controlled Intersections, and Chapter 22 - Roundabouts.

**Motorized Vehicle Level of Service (LOS) for Unsignalized & Roundabout Intersections**

LOS is a quantitative stratification of performance measure(s) representing quality of service. Quality of service describes how well a transportation facility or service operates from a traveler’s perspective. LOS is measured on an A – F scale, with LOS A representing the best operating conditions from a traveler’s perspective.

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio <sup>a</sup>	
	v/c ≤ 1.0	v/c > 1.0
0 – 10	A	F
> 10 – 15	B	F
> 15 – 25	C	F
> 25 – 35	D	F
> 35 – 50	E	F
> 50	F	F

Note: The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole.

<sup>a</sup> For approaches and intersectionwide assessment, LOS is defined solely by control delay.



































## **APPENDIX D**

### **Capacity Worksheets**

Timings  
1: U.S. Highway 85 & Fontaine Boulevard

Existing Traffic Conditions  
AM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Configurations				 		 	 	 	 	 	 	 	
Traffic Volume (vph)	5	14	7	193	17	516	180	407	8	13	839	204	
Future Volume (vph)	5	14	7	193	17	516	180	407	8	13	839	204	
Satd. Flow (prot)	1770	1766	0	3433	1863	1583	3433	3539	1583	1770	3539	1583	
Flt Permitted	0.950			0.950			0.950			0.496			
Satd. Flow (perm)	1770	1766	0	3433	1863	1583	3433	3539	1583	924	3539	1583	
Satd. Flow (RTOR)		8				561			229			295	
Lane Group Flow (vph)	5	23	0	210	18	561	196	442	9	14	912	222	
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7			3	8		1	6		5	2		
Permitted Phases		4				Free			6	2		2	
Detector Phase	7	4		3	8		1	6	6	5	2	2	
Switch Phase													
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	10.0	10.0	5.0	10.0	10.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		11.0	17.0	17.0	11.0	17.0	17.0	
Total Split (s)	15.0	20.0		25.0	30.0		20.0	43.0	43.0	12.0	35.0	35.0	
Total Split (%)	15.0%	20.0%		25.0%	30.0%		20.0%	43.0%	43.0%	12.0%	35.0%	35.0%	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	5.0	5.0	3.0	5.0	5.0	
All-Red Time (s)	3.0	2.0		3.0	2.0		3.0	2.0	2.0	3.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	7.0	7.0	6.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	C-Min	
Act Effct Green (s)	5.9	6.5		11.4	14.4	100.0	11.0	67.6	67.6	59.9	53.1	53.1	
Actuated g/C Ratio	0.06	0.06		0.11	0.14	1.00	0.11	0.68	0.68	0.60	0.53	0.53	
v/c Ratio	0.05	0.19		0.54	0.07	0.35	0.52	0.18	0.01	0.02	0.49	0.23	
Control Delay	45.0	36.2		46.6	35.0	0.6	46.7	8.6	0.0	8.0	18.2	1.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.0	36.2		46.6	35.0	0.6	46.7	8.6	0.0	8.0	18.2	1.3	
LOS	D	D		D	C	A	D	A	A	A	B	A	
Approach Delay		37.8			13.6			20.0			14.8		
Approach LOS		D			B			B			B		
Queue Length 50th (ft)	3	9		65	10	0	61	34	0	2	158	0	
Queue Length 95th (ft)	15	34		99	30	0	94	123	0	12	321	15	
Internal Link Dist (ft)		487			530			328			251		
Turn Bay Length (ft)	50			115		145	625		290	145		515	
Base Capacity (vph)	159	254		652	454	1583	480	2392	1144	608	1879	978	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.03	0.09		0.32	0.04	0.35	0.41	0.18	0.01	0.02	0.49	0.23	

**Intersection Summary**









Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 90 (90%), Referenced to phase 2:NWTL and 6:SET, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated

Timings  
 1: U.S. Highway 85 & Fontaine Boulevard

Existing Traffic Conditions  
 AM Peak Hour
































Maximum v/c Ratio: 0.54	Intersection LOS: B
Intersection Signal Delay: 16.0	ICU Level of Service B
Intersection Capacity Utilization 56.3%	
Analysis Period (min) 15	

Splits and Phases: 1: U.S. Highway 85 & Fontaine Boulevard

 Ø1	 Ø2 (R)	 Ø3	 Ø4
20 s	35 s	25 s	20 s
 Ø5	 Ø6 (T)	 Ø7	 Ø8
12 s	43 s	15 s	30 s

Timings  
1: U.S. Highway 85 & Fontaine Boulevard

Existing Traffic Conditions  
PM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Configurations				 		 	 	 	 		 	 	
Traffic Volume (vph)	24	155	53	182	64	385	595	1018	31	42	689	270	
Future Volume (vph)	24	155	53	182	64	385	595	1018	31	42	689	270	
Satd. Flow (prot)	1770	1792	0	3433	1863	1583	3433	3539	1583	1770	3539	1583	
Flt Permitted	0.950			0.950			0.950			0.200			
Satd. Flow (perm)	1770	1792	0	3433	1863	1583	3433	3539	1583	373	3539	1583	
Satd. Flow (RTOR)		14				418			229			295	
Lane Group Flow (vph)	26	226	0	198	70	418	647	1107	34	46	749	293	
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7			3	8		1	6		5	2		
Permitted Phases		4				Free			6	2		2	
Detector Phase	7	4		3	8		1	6	6	5	2	2	
Switch Phase													
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	10.0	10.0	5.0	10.0	10.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		11.0	17.0	17.0	11.0	17.0	17.0	
Total Split (s)	15.0	20.0		25.0	30.0		20.0	43.0	43.0	12.0	35.0	35.0	
Total Split (%)	15.0%	20.0%		25.0%	30.0%		20.0%	43.0%	43.0%	12.0%	35.0%	35.0%	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	5.0	5.0	3.0	5.0	5.0	
All-Red Time (s)	3.0	2.0		3.0	2.0		3.0	2.0	2.0	3.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	7.0	7.0	6.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	C-Min	
Act Effct Green (s)	7.0	17.3		11.1	28.6	100.0	21.0	45.3	45.3	32.7	25.6	25.6	
Actuated g/C Ratio	0.07	0.17		0.11	0.29	1.00	0.21	0.45	0.45	0.33	0.26	0.26	
v/c Ratio	0.21	0.70		0.52	0.13	0.26	0.90	0.69	0.04	0.22	0.83	0.47	
Control Delay	47.2	48.4		46.6	28.3	0.4	58.2	27.2	0.1	16.9	43.5	6.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.2	48.4		46.6	28.3	0.4	58.2	27.2	0.1	16.9	43.5	6.0	
LOS	D	D		D	C	A	E	C	A	B	D	A	
Approach Delay		48.3			16.6			37.9			32.3		
Approach LOS		D			B			D			C		
Queue Length 50th (ft)	16	126		62	29	0	~240	326	0	14	229	0	
Queue Length 95th (ft)	42	207		94	72	0	#390	#441	0	34	298	60	
Internal Link Dist (ft)		487			530			328			251		
Turn Bay Length (ft)	50			115		145	625		290	145		515	
Base Capacity (vph)	159	327		652	533	1583	720	1601	841	208	990	655	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.16	0.69		0.30	0.13	0.26	0.90	0.69	0.04	0.22	0.76	0.45	

Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 90 (90%), Referenced to phase 2:NWTL and 6:SET, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated

Timings  
 1: U.S. Highway 85 & Fontaine Boulevard

Existing Traffic Conditions  
 PM Peak Hour

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 33.2

Intersection LOS: C

Intersection Capacity Utilization 73.4%

ICU Level of Service D

Analysis Period (min) 15

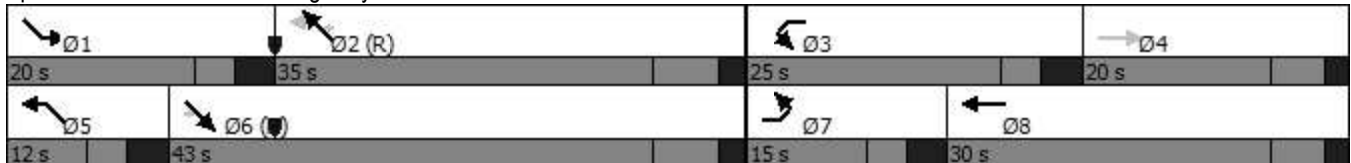
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: U.S. Highway 85 & Fontaine Boulevard



Timings  
1: U.S. Highway 85 & Fontaine Boulevard

Background Traffic Conditions  
AM Peak Hour - Year 2025

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	5	15	7	201	18	537	187	423	8	14	873	212
Future Volume (vph)	5	15	7	201	18	537	187	423	8	14	873	212
Satd. Flow (prot)	1770	1770	0	3433	1863	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.487		
Satd. Flow (perm)	1770	1770	0	3433	1863	1583	3433	3539	1583	907	3539	1583
Satd. Flow (RTOR)		8				584			229			295
Lane Group Flow (vph)	5	24	0	218	20	584	203	460	9	15	949	230
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7			3	8		1	6		5	2	
Permitted Phases		4				Free			6	2		2
Detector Phase	7	4		3	8		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.0	11.0		11.0	11.0		11.0	17.0	17.0	11.0	17.0	17.0
Total Split (s)	15.0	20.0		25.0	30.0		20.0	43.0	43.0	12.0	35.0	35.0
Total Split (%)	15.0%	20.0%		25.0%	30.0%		20.0%	43.0%	43.0%	12.0%	35.0%	35.0%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	3.0	2.0		3.0	2.0		3.0	2.0	2.0	3.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	7.0	7.0	6.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	5.9	6.6		11.6	14.6	100.0	11.2	64.9	64.9	59.5	52.6	52.6
Actuated g/C Ratio	0.06	0.07		0.12	0.15	1.00	0.11	0.65	0.65	0.60	0.53	0.53
v/c Ratio	0.05	0.20		0.55	0.07	0.37	0.53	0.20	0.01	0.03	0.51	0.24
Control Delay	45.0	36.7		46.6	34.8	0.7	46.6	10.2	0.0	8.1	19.0	1.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.0	36.7		46.6	34.8	0.7	46.6	10.2	0.0	8.1	19.0	1.5
LOS	D	D		D	C	A	D	B	A	A	B	A
Approach Delay		38.1			13.7			21.1			15.5	
Approach LOS		D			B			C			B	
Queue Length 50th (ft)	3	10		68	12	0	63	35	0	2	170	0
Queue Length 95th (ft)	15	35		102	32	0	97	130	0	12	342	19
Internal Link Dist (ft)		487			530			328			251	
Turn Bay Length (ft)	50			115		145	625		290	145		515
Base Capacity (vph)	159	254		652	455	1583	482	2298	1108	594	1862	972
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.09		0.33	0.04	0.37	0.42	0.20	0.01	0.03	0.51	0.24

Intersection Summary









Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 90 (90%), Referenced to phase 2:NWTL and 6:SET, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated

Timings  
 1: U.S. Highway 85 & Fontaine Boulevard

Background Traffic Conditions  
 AM Peak Hour - Year 2025
























Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 16.5	Intersection LOS: B
Intersection Capacity Utilization 57.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: U.S. Highway 85 & Fontaine Boulevard

 Ø1	 Ø2 (R)	 Ø3	 Ø4
20 s	35 s	25 s	20 s
 Ø5	 Ø6 (T)	 Ø7	 Ø8
12 s	43 s	15 s	30 s

Timings  
1: U.S. Highway 85 & Fontaine Boulevard

Background Traffic Conditions  
PM Peak Hour - Year 2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	25	161	55	189	67	401	619	1059	32	44	717	281
Future Volume (vph)	25	161	55	189	67	401	619	1059	32	44	717	281
Satd. Flow (prot)	1770	1792	0	3433	1863	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.169		
Satd. Flow (perm)	1770	1792	0	3433	1863	1583	3433	3539	1583	315	3539	1583
Satd. Flow (RTOR)		14				436			229			305
Lane Group Flow (vph)	27	235	0	205	73	436	673	1151	35	48	779	305
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7			3	8		1	6		5	2	
Permitted Phases		4				Free			6	2		2
Detector Phase	7	4		3	8		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.0	11.0		11.0	11.0		11.0	17.0	17.0	11.0	17.0	17.0
Total Split (s)	15.0	20.0		25.0	30.0		20.0	43.0	43.0	12.0	35.0	35.0
Total Split (%)	15.0%	20.0%		25.0%	30.0%		20.0%	43.0%	43.0%	12.0%	35.0%	35.0%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	3.0	2.0		3.0	2.0		3.0	2.0	2.0	3.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	7.0	7.0	6.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	7.1	17.8		11.3	26.8	100.0	19.8	44.5	44.5	33.1	26.1	26.1
Actuated g/C Ratio	0.07	0.18		0.11	0.27	1.00	0.20	0.44	0.44	0.33	0.26	0.26
v/c Ratio	0.22	0.71		0.53	0.15	0.28	0.99	0.73	0.04	0.25	0.85	0.48
Control Delay	47.4	48.7		46.6	30.0	0.4	75.3	28.7	0.1	17.7	44.4	6.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.4	48.7		46.6	30.0	0.4	75.3	28.7	0.1	17.7	44.4	6.1
LOS	D	D		D	C	A	E	C	A	B	D	A
Approach Delay		48.5			16.7			45.1			33.0	
Approach LOS		D			B			D			C	
Queue Length 50th (ft)	17	131		64	37	0	~271	353	0	15	241	0
Queue Length 95th (ft)	43	#218		97	74	0	#409	#491	0	34	312	62
Internal Link Dist (ft)		487			530			328			251	
Turn Bay Length (ft)	50			115		145	625		290	145		515
Base Capacity (vph)	159	332		652	499	1583	680	1575	831	194	990	662
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.71		0.31	0.15	0.28	0.99	0.73	0.04	0.25	0.79	0.46

**Intersection Summary**  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 90 (90%), Referenced to phase 2:NWTL and 6:SET, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated

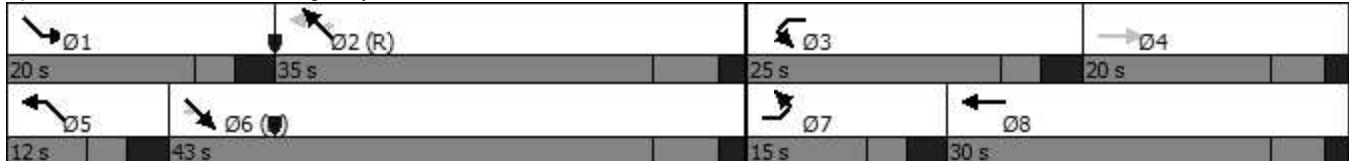


Timings  
 1: U.S. Highway 85 & Fontaine Boulevard

Background Traffic Conditions  
 PM Peak Hour - Year 2025
























Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 36.7 Intersection LOS: D  
 Intersection Capacity Utilization 75.5% ICU Level of Service D  
 Analysis Period (min) 15  
 ~ 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.

Splits and Phases: 1: U.S. Highway 85 & Fontaine Boulevard



Timings  
1: U.S. Highway 85 & Fontaine Boulevard

Background Traffic Conditions  
AM Peak Hour - Year 2043

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	7	21	10	287	25	767	267	605	12	19	1247	303
Future Volume (vph)	7	21	10	287	25	767	267	605	12	19	1247	303
Satd. Flow (prot)	1770	1771	0	3433	1863	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.402		
Satd. Flow (perm)	1770	1771	0	3433	1863	1583	3433	3539	1583	749	3539	1583
Satd. Flow (RTOR)		11				305			229			329
Lane Group Flow (vph)	8	34	0	312	27	834	290	658	13	21	1355	329
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7			3	8		1	6		5	2	
Permitted Phases		4				Free			6	2		2
Detector Phase	7	4		3	8		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.0	11.0		11.0	11.0		11.0	17.0	17.0	11.0	17.0	17.0
Total Split (s)	11.0	11.0		18.0	18.0		17.0	60.0	60.0	11.0	54.0	54.0
Total Split (%)	11.0%	11.0%		18.0%	18.0%		17.0%	60.0%	60.0%	11.0%	54.0%	54.0%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	3.0	2.0		3.0	2.0		3.0	2.0	2.0	3.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	7.0	7.0	6.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	5.4	5.2		12.1	16.5	100.0	11.1	63.9	63.9	57.4	51.2	51.2
Actuated g/C Ratio	0.05	0.05		0.12	0.16	1.00	0.11	0.64	0.64	0.57	0.51	0.51
v/c Ratio	0.09	0.33		0.75	0.09	0.53	0.76	0.29	0.01	0.04	0.75	0.34
Control Delay	47.3	43.5		54.9	35.8	1.3	57.1	10.1	0.0	7.1	23.7	2.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	43.5		54.9	35.8	1.3	57.1	10.1	0.0	7.1	23.7	2.8
LOS	D	D		D	D	A	E	B	A	A	C	A
Approach Delay		44.2			16.3			24.1			19.5	
Approach LOS		D			B			C			B	
Queue Length 50th (ft)	5	14		100	13	0	94	91	0	4	383	0
Queue Length 95th (ft)	20	46		#158	41	0	#153	160	0	12	472	46
Internal Link Dist (ft)		487			530			328			251	
Turn Bay Length (ft)	50			115		145	625		290	145		515
Base Capacity (vph)	94	103		424	312	1583	387	2261	1094	483	1816	972
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.33		0.74	0.09	0.53	0.75	0.29	0.01	0.04	0.75	0.34

Intersection Summary


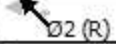






Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 0 (0%), Referenced to phase 2:NWTL and 6:SET, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated

Timings  
 1: U.S. Highway 85 & Fontaine Boulevard

Background Traffic Conditions  
 AM Peak Hour - Year 2043
























Maximum v/c Ratio: 0.76  
 Intersection Signal Delay: 19.9 Intersection LOS: B  
 Intersection Capacity Utilization 72.8% ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: U.S. Highway 85 & Fontaine Boulevard

 Ø1	 Ø2 (R)	 Ø3	 Ø4
17 s	54 s	18 s	11 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
11 s	60 s	11 s	18 s

Timings  
1: U.S. Highway 85 & Fontaine Boulevard

Background Traffic Conditions  
PM Peak Hour - Year 2043

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	36	230	79	271	95	572	884	1513	46	69	1024	401
Future Volume (vph)	36	230	79	271	95	572	884	1513	46	69	1024	401
Satd. Flow (prot)	1770	1792	0	3433	1863	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.140		
Satd. Flow (perm)	1770	1792	0	3433	1863	1583	3433	3539	1583	261	3539	1583
Satd. Flow (RTOR)		14				550			164			229
Lane Group Flow (vph)	39	336	0	295	103	622	961	1645	50	75	1113	436
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7			3	8		1	6		5	2	
Permitted Phases		4				Free			6	2		2
Detector Phase	7	4		3	8		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.0	11.0		11.0	11.0		11.0	17.0	17.0	11.0	17.0	17.0
Total Split (s)	12.0	20.0		12.0	20.0		30.0	57.0	57.0	11.0	38.0	38.0
Total Split (%)	12.0%	20.0%		12.0%	20.0%		30.0%	57.0%	57.0%	11.0%	38.0%	38.0%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	3.0	2.0		3.0	2.0		3.0	2.0	2.0	3.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	7.0	7.0	6.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	5.9	14.0		6.0	18.8	100.0	24.0	52.2	52.2	37.0	31.0	31.0
Actuated g/C Ratio	0.06	0.14		0.06	0.19	1.00	0.24	0.52	0.52	0.37	0.31	0.31
v/c Ratio	0.38	1.28		1.44	0.29	0.39	1.17	0.89	0.06	0.44	1.01	0.67
Control Delay	55.8	188.4		258.7	40.1	0.7	123.9	29.8	0.1	20.9	66.0	19.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	188.4		258.7	40.1	0.7	123.9	29.8	0.1	20.9	66.0	19.7
LOS	E	F		F	D	A	F	C	A	C	E	B
Approach Delay		174.6			79.3			63.3			51.5	
Approach LOS		F			E			E			D	
Queue Length 50th (ft)	24	~267		~131	61	0	~377	495	0	17	~382	112
Queue Length 95th (ft)	59	#442		#217	113	0	#500	#671	0	35	#526	226
Internal Link Dist (ft)		487			530			328			251	
Turn Bay Length (ft)	50			115		145	625		290	145		515
Base Capacity (vph)	106	262		205	350	1583	823	1847	904	172	1097	648
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	1.28		1.44	0.29	0.39	1.17	0.89	0.06	0.44	1.01	0.67

Intersection Summary


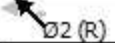






Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 90 (90%), Referenced to phase 2:NWTL and 6:SET, Start of Green  
 Natural Cycle: 140  
 Control Type: Actuated-Coordinated

Timings  
 1: U.S. Highway 85 & Fontaine Boulevard

Background Traffic Conditions  
 PM Peak Hour - Year 2043
























Maximum v/c Ratio: 1.44	
Intersection Signal Delay: 70.1	Intersection LOS: E
Intersection Capacity Utilization 99.0%	ICU Level of Service F
Analysis Period (min) 15	
~ 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.	

Splits and Phases: 1: U.S. Highway 85 & Fontaine Boulevard

 Ø1 30 s		 Ø2 (R) 38 s		 Ø3 12 s		 Ø4 20 s	
 Ø5 11 s		 Ø6 (R) 57 s		 Ø7 12 s		 Ø8 20 s	

Timings  
1: U.S. Highway 85 & Fontaine Boulevard

Total Traffic Conditions  
AM Peak Hour - Year 2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	36	37	33	201	25	537	187	423	18	22	873	212
Future Volume (vph)	36	37	33	201	25	537	187	423	18	22	873	212
Satd. Flow (prot)	1770	1730	0	3433	1863	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.487		
Satd. Flow (perm)	1770	1730	0	3433	1863	1583	3433	3539	1583	907	3539	1583
Satd. Flow (RTOR)		36				544			229			295
Lane Group Flow (vph)	39	76	0	218	27	584	203	460	20	24	949	230
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7			3	8		1	6		5	2	
Permitted Phases		4				Free			6	2		2
Detector Phase	7	4		3	8		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.0	11.0		11.0	11.0		11.0	17.0	17.0	11.0	17.0	17.0
Total Split (s)	15.0	20.0		25.0	30.0		20.0	43.0	43.0	12.0	35.0	35.0
Total Split (%)	15.0%	20.0%		25.0%	30.0%		20.0%	43.0%	43.0%	12.0%	35.0%	35.0%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	3.0	2.0		3.0	2.0		3.0	2.0	2.0	3.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	7.0	7.0	6.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	7.4	8.1		11.6	14.8	100.0	11.2	58.5	58.5	53.5	46.4	46.4
Actuated g/C Ratio	0.07	0.08		0.12	0.15	1.00	0.11	0.58	0.58	0.54	0.46	0.46
v/c Ratio	0.30	0.44		0.55	0.10	0.37	0.53	0.22	0.02	0.04	0.58	0.26
Control Delay	49.4	33.4		46.6	37.2	0.7	46.6	13.0	0.1	9.8	23.7	1.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	33.4		46.6	37.2	0.7	46.6	13.0	0.1	9.8	23.7	1.7
LOS	D	C		D	D	A	D	B	A	A	C	A
Approach Delay		38.8			13.9			22.6			19.2	
Approach LOS		D			B			C			B	
Queue Length 50th (ft)	24	25		68	16	0	63	62	0	5	234	0
Queue Length 95th (ft)	57	67		102	39	0	97	140	0	18	361	20
Internal Link Dist (ft)		487			530			328			251	
Turn Bay Length (ft)	50			115		145	625		290	145		515
Base Capacity (vph)	159	273		652	447	1583	482	2070	1021	541	1641	892
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.28		0.33	0.06	0.37	0.42	0.22	0.02	0.04	0.58	0.26

**Intersection Summary**









Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 90 (90%), Referenced to phase 2:NWTL and 6:SET, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated

Timings  
 1: U.S. Highway 85 & Fontaine Boulevard

Total Traffic Conditions  
 AM Peak Hour - Year 2025

Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 19.3	Intersection LOS: B
Intersection Capacity Utilization 57.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: U.S. Highway 85 & Fontaine Boulevard

 Ø1	 Ø2 (R)	 Ø3	 Ø4
20 s	35 s	25 s	20 s
 Ø5	 Ø6 (T)	 Ø7	 Ø8
12 s	43 s	15 s	30 s

HCM 6th TWSC  
2: Southmoor Drive & Fontaine Boulevard

Total Traffic Conditions  
AM Peak Hour - Year 2025

Intersection						
Int Delay, s/veh	4.2					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations	T			T		
Traffic Vol, veh/h	5	3	9	6	8	1
Future Vol, veh/h	5	3	9	6	8	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	3	10	7	9	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	37	10	10	0	0
Stage 1	10	-	-	-	-
Stage 2	27	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	975	1071	1610	-	-
Stage 1	1013	-	-	-	-
Stage 2	996	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	969	1071	1610	-	-
Mov Cap-2 Maneuver	969	-	-	-	-
Stage 1	1007	-	-	-	-
Stage 2	996	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, s	8.6	4.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	1005	1610
HCM Lane V/C Ratio	-	-	0.009	0.006
HCM Control Delay (s)	-	-	8.6	7.2
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0



HCM 6th TWSC  
3: Access B/Access A & Fontaine Boulevard

Total Traffic Conditions  
AM Peak Hour - Year 2025

Intersection												
Int Delay, s/veh	6.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	1	9	0	3	3	19	1	0	7	63	0	4
Future Vol, veh/h	1	9	0	3	3	19	1	0	7	63	0	4
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	-	-	-	-	-	-	-	-	-	-	-	-
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	10	0	3	3	21	1	0	8	68	0	4

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	24	0	0	10	0	0	34	42	10	36	32	14
Stage 1	-	-	-	-	-	-	12	12	-	20	20	-
Stage 2	-	-	-	-	-	-	22	30	-	16	12	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1591	-	-	1610	-	-	973	850	1071	970	861	1066
Stage 1	-	-	-	-	-	-	1009	886	-	999	879	-
Stage 2	-	-	-	-	-	-	996	870	-	1004	886	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1591	-	-	1610	-	-	967	847	1071	961	858	1066
Mov Cap-2 Maneuver	-	-	-	-	-	-	967	847	-	961	858	-
Stage 1	-	-	-	-	-	-	1008	885	-	998	877	-
Stage 2	-	-	-	-	-	-	990	868	-	996	885	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0.7		0.9		8.4		9	
HCM LOS					A		A	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1057	1591	-	-	1610	-	-	967
HCM Lane V/C Ratio	0.008	0.001	-	-	0.002	-	-	0.075
HCM Control Delay (s)	8.4	7.3	0	-	7.2	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2

HCM 6th TWSC  
4: Southmoor Drive & Access C

Total Traffic Conditions  
AM Peak Hour - Year 2025

Intersection						
Int Delay, s/veh	3.9					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations	T			T		
Traffic Vol, veh/h	9	4	2	6	8	3
Future Vol, veh/h	9	4	2	6	8	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
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	10	4	2	7	9	3

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	22	11	12	0	0
Stage 1	11	-	-	-	-
Stage 2	11	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	995	1070	1607	-	-
Stage 1	1012	-	-	-	-
Stage 2	1012	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	994	1070	1607	-	-
Mov Cap-2 Maneuver	994	-	-	-	-
Stage 1	1011	-	-	-	-
Stage 2	1012	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, s	8.6	1.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	1016	1607
HCM Lane V/C Ratio	-	-	0.014	0.001
HCM Control Delay (s)	-	-	8.6	7.2
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Timings  
1: U.S. Highway 85 & Fontaine Boulevard

Total Traffic Conditions  
PM Peak Hour - Year 2025

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	44	175	72	189	90	401	619	1059	65	72	717	281
Future Volume (vph)	44	175	72	189	90	401	619	1059	65	72	717	281
Satd. Flow (prot)	1770	1781	0	3433	1863	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.165		
Satd. Flow (perm)	1770	1781	0	3433	1863	1583	3433	3539	1583	307	3539	1583
Satd. Flow (RTOR)		17				436			229			305
Lane Group Flow (vph)	48	268	0	205	98	436	673	1151	71	78	779	305
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7			3	8		1	6		5	2	
Permitted Phases		4				Free			6	2		2
Detector Phase	7	4		3	8		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.0	11.0		11.0	11.0		11.0	17.0	17.0	11.0	17.0	17.0
Total Split (s)	15.0	20.0		25.0	30.0		20.0	43.0	43.0	12.0	35.0	35.0
Total Split (%)	15.0%	20.0%		25.0%	30.0%		20.0%	43.0%	43.0%	12.0%	35.0%	35.0%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	3.0	2.0		3.0	2.0		3.0	2.0	2.0	3.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	7.0	7.0	6.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	7.7	20.6		11.3	29.1	100.0	16.4	39.3	39.3	33.9	26.7	26.7
Actuated g/C Ratio	0.08	0.21		0.11	0.29	1.00	0.16	0.39	0.39	0.34	0.27	0.27
v/c Ratio	0.35	0.71		0.53	0.18	0.28	1.20	0.83	0.09	0.40	0.82	0.47
Control Delay	50.6	46.3		46.6	29.9	0.4	144.0	34.8	0.2	21.5	42.6	6.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.6	46.3		46.6	29.9	0.4	144.0	34.8	0.2	21.5	42.6	6.0
LOS	D	D		D	C	A	F	C	A	C	D	A
Approach Delay		47.0			17.1			72.3			31.5	
Approach LOS		D			B			E			C	
Queue Length 50th (ft)	29	148		64	50	0	~297	361	0	26	241	0
Queue Length 95th (ft)	65	#278		97	95	0	#409	#491	0	51	312	62
Internal Link Dist (ft)		487			530			328			251	
Turn Bay Length (ft)	50			115		145	625		290	145		515
Base Capacity (vph)	159	380		652	541	1583	562	1392	761	194	990	662
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.71		0.31	0.18	0.28	1.20	0.83	0.09	0.40	0.79	0.46

Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 90 (90%), Referenced to phase 2:NWTL and 6:SET, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated

Timings  
 1: U.S. Highway 85 & Fontaine Boulevard

Total Traffic Conditions  
 PM Peak Hour - Year 2025

Maximum v/c Ratio: 1.20

Intersection Signal Delay: 48.9

Intersection LOS: D

Intersection Capacity Utilization 77.3%

ICU Level of Service D

Analysis Period (min) 15

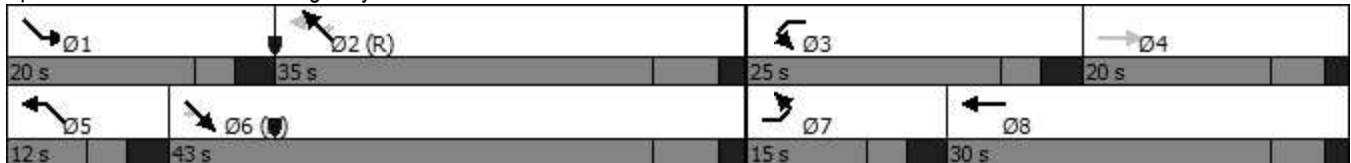
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: U.S. Highway 85 & Fontaine Boulevard



HCM 6th TWSC  
2: Southmoor Drive & Fontaine Boulevard

Total Traffic Conditions  
PM Peak Hour - Year 2025

Intersection						
Int Delay, s/veh	2.3					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations	T			T		
Traffic Vol, veh/h	3	9	6	21	22	4
Future Vol, veh/h	3	9	6	21	22	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
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	3	10	7	23	24	4

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	63	26	28	0	0
Stage 1	26	-	-	-	-
Stage 2	37	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	943	1050	1585	-	-
Stage 1	997	-	-	-	-
Stage 2	985	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	939	1050	1585	-	-
Mov Cap-2 Maneuver	939	-	-	-	-
Stage 1	993	-	-	-	-
Stage 2	985	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, s	8.6	1.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	1020	1585
HCM Lane V/C Ratio	-	-	0.013	0.004
HCM Control Delay (s)	-	-	8.6	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th TWSC  
 3: Access B/Access A & Fontaine Boulevard

Total Traffic Conditions  
 PM Peak Hour - Year 2025

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	3	6	1	7	9	68	0	0	5	39	0	3
Future Vol, veh/h	3	6	1	7	9	68	0	0	5	39	0	3
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	-	-	-	-	-	-	-	-	-	-	-	-
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	3	7	1	8	10	74	0	0	5	42	0	3

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	84	0	0	8	0	0	79	114	8	79	77	47
Stage 1	-	-	-	-	-	-	14	14	-	63	63	-
Stage 2	-	-	-	-	-	-	65	100	-	16	14	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1513	-	-	1612	-	-	910	776	1074	910	813	1022
Stage 1	-	-	-	-	-	-	1006	884	-	948	842	-
Stage 2	-	-	-	-	-	-	946	812	-	1004	884	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1513	-	-	1612	-	-	902	771	1074	901	807	1022
Mov Cap-2 Maneuver	-	-	-	-	-	-	902	771	-	901	807	-
Stage 1	-	-	-	-	-	-	1004	882	-	946	838	-
Stage 2	-	-	-	-	-	-	938	808	-	997	882	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	2.2		0.6		8.4		9.2	
HCM LOS					A		A	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1074	1513	-	-	1612	-	-	909
HCM Lane V/C Ratio	0.005	0.002	-	-	0.005	-	-	0.05
HCM Control Delay (s)	8.4	7.4	0	-	7.2	0	-	9.2
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2

HCM 6th TWSC  
4: Southmoor Drive & Access C

Total Traffic Conditions  
PM Peak Hour - Year 2025

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	6	2	5	21	22	9
Future Vol, veh/h	6	2	5	21	22	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
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	7	2	5	23	24	10
























Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	62	29	34	0	0
Stage 1	29	-	-	-	-
Stage 2	33	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	944	1046	1578	-	-
Stage 1	994	-	-	-	-
Stage 2	989	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	941	1046	1578	-	-
Mov Cap-2 Maneuver	941	-	-	-	-
Stage 1	991	-	-	-	-
Stage 2	989	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, s	8.8	1.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	965	1578
HCM Lane V/C Ratio	-	-	0.009	0.003
HCM Control Delay (s)	-	-	8.8	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Timings  
1: U.S. Highway 85 & Fontaine Boulevard

Total Traffic Conditions  
AM Peak Hour - Year 2043

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	38	43	36	287	32	767	267	605	22	27	1247	303
Future Volume (vph)	38	43	36	287	32	767	267	605	22	27	1247	303
Satd. Flow (prot)	1770	1736	0	3433	1863	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.402		
Satd. Flow (perm)	1770	1736	0	3433	1863	1583	3433	3539	1583	749	3539	1583
Satd. Flow (RTOR)		31				305			229			329
Lane Group Flow (vph)	41	86	0	312	35	834	290	658	24	29	1355	329
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7			3	8		1	6		5	2	
Permitted Phases		4				Free			6	2		2
Detector Phase	7	4		3	8		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.0	11.0		11.0	11.0		11.0	17.0	17.0	11.0	17.0	17.0
Total Split (s)	11.0	11.0		18.0	18.0		17.0	60.0	60.0	11.0	54.0	54.0
Total Split (%)	11.0%	11.0%		18.0%	18.0%		17.0%	60.0%	60.0%	11.0%	54.0%	54.0%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	3.0	2.0		3.0	2.0		3.0	2.0	2.0	3.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	7.0	7.0	6.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	5.6	5.8		12.1	17.1	100.0	11.1	56.5	56.5	52.3	46.0	46.0
Actuated g/C Ratio	0.06	0.06		0.12	0.17	1.00	0.11	0.56	0.56	0.52	0.46	0.46
v/c Ratio	0.42	0.67		0.75	0.11	0.53	0.76	0.33	0.02	0.07	0.83	0.36
Control Delay	59.2	56.9		54.9	39.7	1.3	57.4	12.8	0.0	7.5	29.1	3.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.2	56.9		54.9	39.7	1.3	57.4	12.8	0.0	7.5	29.1	3.0
LOS	E	E		D	D	A	E	B	A	A	C	A
Approach Delay		57.6			16.6			25.8			23.7	
Approach LOS		E			B			C			C	
Queue Length 50th (ft)	26	35		100	20	0	94	123	0	6	383	0
Queue Length 95th (ft)	#66	#117		#158	50	0	#153	160	0	16	472	46
Internal Link Dist (ft)		487			530			328			251	
Turn Bay Length (ft)	50			115		145	625		290	145		515
Base Capacity (vph)	98	129		424	318	1583	385	2005	996	445	1669	920
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.67		0.74	0.11	0.53	0.75	0.33	0.02	0.07	0.81	0.36

Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 0 (0%), Referenced to phase 2:NWTL and 6:SET, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated


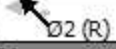








Timings  
 1: U.S. Highway 85 & Fontaine Boulevard

Total Traffic Conditions  
 AM Peak Hour - Year 2043

Maximum v/c Ratio: 0.83  
 Intersection Signal Delay: 23.2 Intersection LOS: C  
 Intersection Capacity Utilization 72.8% ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: U.S. Highway 85 & Fontaine Boulevard

 Ø1	 Ø2 (R)	 Ø3	 Ø4
17 s	54 s	18 s	11 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
11 s	60 s	11 s	18 s

HCM 6th TWSC  
2: Southmoor Drive & Fontaine Boulevard

Total Traffic Conditions  
AM Peak Hour - Year 2043

Intersection						
Int Delay, s/veh	3.4					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations	T			T		
Traffic Vol, veh/h	5	3	9	9	12	1
Future Vol, veh/h	5	3	9	9	12	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	3	10	10	13	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	44	14	14	0	0
Stage 1	14	-	-	-	-
Stage 2	30	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	967	1066	1604	-	-
Stage 1	1009	-	-	-	-
Stage 2	993	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	961	1066	1604	-	-
Mov Cap-2 Maneuver	961	-	-	-	-
Stage 1	1003	-	-	-	-
Stage 2	993	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, s	8.6	3.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	998	1604
HCM Lane V/C Ratio	-	-	0.009	0.006
HCM Control Delay (s)	-	-	8.6	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th TWSC  
3: Access B/Access A & Fontaine Boulevard

Total Traffic Conditions  
AM Peak Hour - Year 2043

Intersection												
Int Delay, s/veh	6.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	1	9	0	3	3	19	1	0	7	63	0	4
Future Vol, veh/h	1	9	0	3	3	19	1	0	7	63	0	4
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	-	-	-	-	-	-	-	-	-	-	-	-
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	10	0	3	3	21	1	0	8	68	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	24	0	0	10	0	0	34	42	10	36	32	14
Stage 1	-	-	-	-	-	-	12	12	-	20	20	-
Stage 2	-	-	-	-	-	-	22	30	-	16	12	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1591	-	-	1610	-	-	973	850	1071	970	861	1066
Stage 1	-	-	-	-	-	-	1009	886	-	999	879	-
Stage 2	-	-	-	-	-	-	996	870	-	1004	886	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1591	-	-	1610	-	-	967	847	1071	961	858	1066
Mov Cap-2 Maneuver	-	-	-	-	-	-	967	847	-	961	858	-
Stage 1	-	-	-	-	-	-	1008	885	-	998	877	-
Stage 2	-	-	-	-	-	-	990	868	-	996	885	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.9			8.4			9		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1057	1591	-	-	1610	-	-	967
HCM Lane V/C Ratio	0.008	0.001	-	-	0.002	-	-	0.075
HCM Control Delay (s)	8.4	7.3	0	-	7.2	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2

HCM 6th TWSC  
4: Southmoor Drive & Access C

Total Traffic Conditions  
AM Peak Hour - Year 2043

Intersection						
Int Delay, s/veh	3.2					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	9	4	2	9	12	3
Future Vol, veh/h	9	4	2	9	12	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
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	10	4	2	10	13	3
























Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	29	15	16	0	0
Stage 1	15	-	-	-	-
Stage 2	14	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	986	1065	1602	-	-
Stage 1	1008	-	-	-	-
Stage 2	1009	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	985	1065	1602	-	-
Mov Cap-2 Maneuver	985	-	-	-	-
Stage 1	1007	-	-	-	-
Stage 2	1009	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, s	8.6	1.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	1008	1602
HCM Lane V/C Ratio	-	-	0.014	0.001
HCM Control Delay (s)	-	-	8.6	7.2
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Timings  
1: U.S. Highway 85 & Fontaine Boulevard

Total Traffic Conditions  
PM Peak Hour - Year 2043

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	55	244	96	271	118	572	884	1513	79	90	1024	401
Future Volume (vph)	55	244	96	271	118	572	884	1513	79	90	1024	401
Satd. Flow (prot)	1770	1785	0	3433	1863	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.134		
Satd. Flow (perm)	1770	1785	0	3433	1863	1583	3433	3539	1583	250	3539	1583
Satd. Flow (RTOR)		16				535			164			229
Lane Group Flow (vph)	60	369	0	295	128	622	961	1645	86	98	1113	436
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7			3	8		1	6		5	2	
Permitted Phases		4				Free			6	2		2
Detector Phase	7	4		3	8		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.0	11.0		11.0	11.0		11.0	17.0	17.0	11.0	17.0	17.0
Total Split (s)	12.0	20.0		12.0	20.0		30.0	57.0	57.0	11.0	38.0	38.0
Total Split (%)	12.0%	20.0%		12.0%	20.0%		30.0%	57.0%	57.0%	11.0%	38.0%	38.0%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	3.0	2.0		3.0	2.0		3.0	2.0	2.0	3.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	7.0	7.0	6.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	5.9	14.0		6.0	16.4	100.0	24.0	52.2	52.2	37.0	31.0	31.0
Actuated g/C Ratio	0.06	0.14		0.06	0.16	1.00	0.24	0.52	0.52	0.37	0.31	0.31
v/c Ratio	0.57	1.40		1.44	0.42	0.39	1.17	0.89	0.10	0.58	1.01	0.67
Control Delay	67.8	235.7		258.7	44.0	0.7	123.9	29.8	0.2	30.1	66.0	19.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	235.7		258.7	44.0	0.7	123.9	29.8	0.2	30.1	66.0	19.7
LOS	E	F		F	D	A	F	C	A	C	E	B
Approach Delay		212.2			78.8			62.4			51.6	
Approach LOS		F			E			E			D	
Queue Length 50th (ft)	38	~310		~131	76	0	~377	495	0	23	~382	112
Queue Length 95th (ft)	#92	#492		#217	136	0	#500	#671	0	#65	#526	226
Internal Link Dist (ft)		487			530			328			251	
Turn Bay Length (ft)	50			115		145	625		290	145		515
Base Capacity (vph)	106	263		205	305	1583	823	1847	904	168	1097	648
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	1.40		1.44	0.42	0.39	1.17	0.89	0.10	0.58	1.01	0.67

Intersection Summary


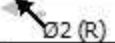






Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 90 (90%), Referenced to phase 2:NWTL and 6:SET, Start of Green  
 Natural Cycle: 140  
 Control Type: Actuated-Coordinated

Timings  
 1: U.S. Highway 85 & Fontaine Boulevard

Total Traffic Conditions  
 PM Peak Hour - Year 2043

Maximum v/c Ratio: 1.44  
 Intersection Signal Delay: 73.4 Intersection LOS: E  
 Intersection Capacity Utilization 100.8% ICU Level of Service G  
 Analysis Period (min) 15  
 ~ 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.

Splits and Phases: 1: U.S. Highway 85 & Fontaine Boulevard

 Ø1 30 s		 Ø2 (R) 38 s		 Ø3 12 s		 Ø4 20 s	
 Ø5 11 s		 Ø6 (R) 57 s		 Ø7 12 s		 Ø8 20 s	

HCM 6th TWSC  
2: Southmoor Drive & Fontaine Boulevard

Total Traffic Conditions  
PM Peak Hour - Year 2043

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations	T			T		
Traffic Vol, veh/h	3	9	6	30	31	4
Future Vol, veh/h	3	9	6	30	31	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
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	3	10	7	33	34	4

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	83	36	38	0	0
Stage 1	36	-	-	-	-
Stage 2	47	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	919	1037	1572	-	-
Stage 1	986	-	-	-	-
Stage 2	975	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	914	1037	1572	-	-
Mov Cap-2 Maneuver	914	-	-	-	-
Stage 1	981	-	-	-	-
Stage 2	975	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, s	8.6	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	1003	1572
HCM Lane V/C Ratio	-	-	0.013	0.004
HCM Control Delay (s)	-	-	8.6	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th TWSC  
3: Access B/Access A & Fontaine Boulevard

Total Traffic Conditions  
PM Peak Hour - Year 2043

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	3	6	1	7	9	68	0	0	5	39	0	3
Future Vol, veh/h	3	6	1	7	9	68	0	0	5	39	0	3
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	-	-	-	-	-	-	-	-	-	-	-	-
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	3	7	1	8	10	74	0	0	5	42	0	3

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	84	0	0	8	0	0	79	114	8	79	77	47
Stage 1	-	-	-	-	-	-	14	14	-	63	63	-
Stage 2	-	-	-	-	-	-	65	100	-	16	14	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1513	-	-	1612	-	-	910	776	1074	910	813	1022
Stage 1	-	-	-	-	-	-	1006	884	-	948	842	-
Stage 2	-	-	-	-	-	-	946	812	-	1004	884	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1513	-	-	1612	-	-	902	771	1074	901	807	1022
Mov Cap-2 Maneuver	-	-	-	-	-	-	902	771	-	901	807	-
Stage 1	-	-	-	-	-	-	1004	882	-	946	838	-
Stage 2	-	-	-	-	-	-	938	808	-	997	882	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	2.2		0.6		8.4		9.2	
HCM LOS					A		A	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1074	1513	-	-	1612	-	-	909
HCM Lane V/C Ratio	0.005	0.002	-	-	0.005	-	-	0.05
HCM Control Delay (s)	8.4	7.4	0	-	7.2	0	-	9.2
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2



HCM 6th TWSC  
4: Southmoor Drive & Access C

Total Traffic Conditions  
PM Peak Hour - Year 2043

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	6	2	5	30	31	9
Future Vol, veh/h	6	2	5	30	31	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
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	7	2	5	33	34	10

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	82	39	44	0	0
Stage 1	39	-	-	-	-
Stage 2	43	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	920	1033	1564	-	-
Stage 1	983	-	-	-	-
Stage 2	979	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	917	1033	1564	-	-
Mov Cap-2 Maneuver	917	-	-	-	-
Stage 1	980	-	-	-	-
Stage 2	979	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, s	8.9	1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	943	1564
HCM Lane V/C Ratio	-	-	0.009	0.003
HCM Control Delay (s)	-	-	8.9	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0