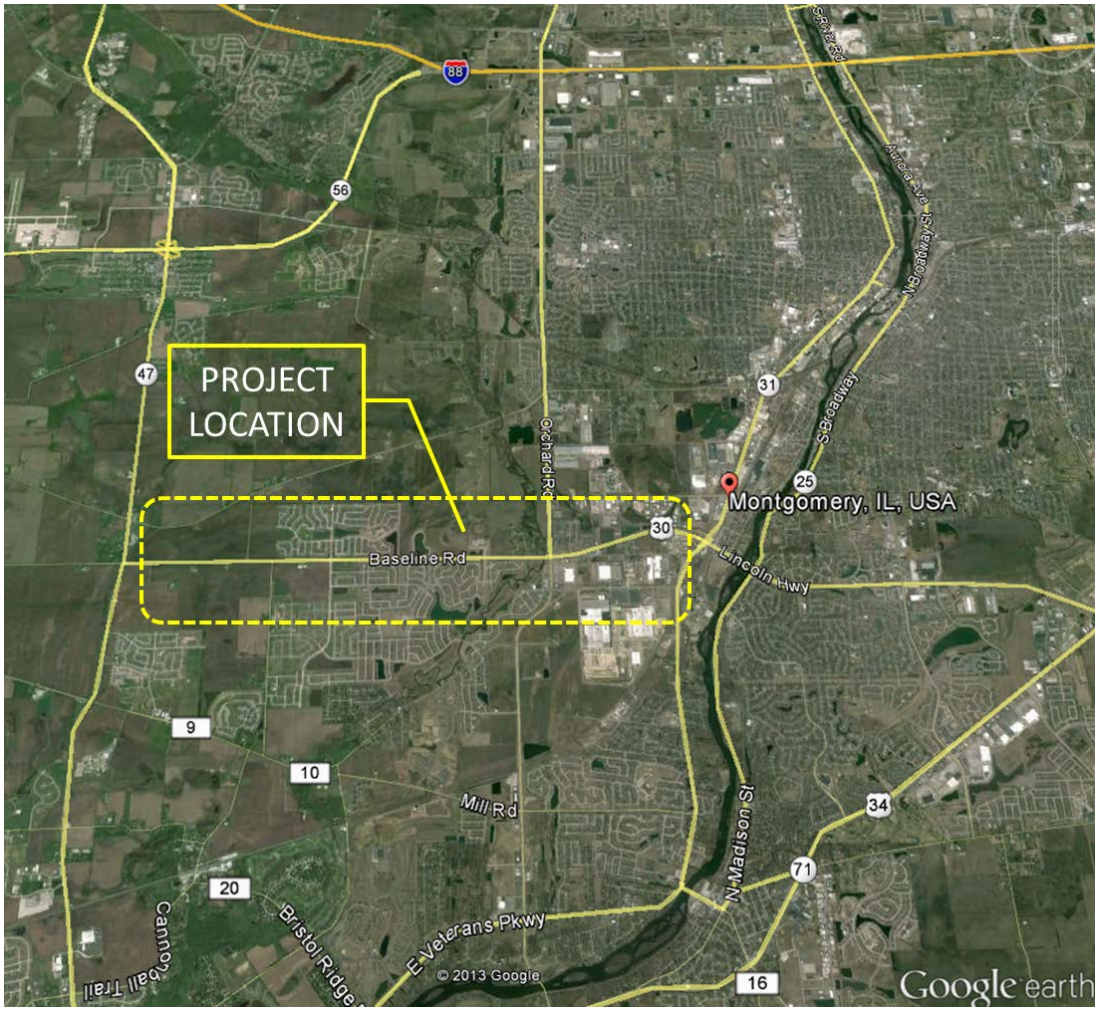
Illinois Department of Transportation

PROJECT REPORT

US ROUTE 30

ILLINOIS 47 to ILLINOIS 31



P-91-403-11
Kane & Kendall Counties

IDOT - Division of Highways - District One

May, 2018
Volume 4 of 7

Table of Contents

VOLUME 4 – SUPPLEMENTS

Crash Analysis S-1
Existing and No-Build Traffic S-2
Traffic Signal Warrants S-3

S-1

Technical Memorandum -- Crash Analysis

U.S. 30
Illinois 47 to Illinois 31
P-91-403-11

CRASH ANALYSIS OF EXISTING CONDITIONS

Prepared By:

Hutchison Engineering, Inc.

February 16, 2016

TABLE OF CONTENTS

SECTION 1 - INTRODUCTION....1
1.1 DATA COLLECTION....1
1.2 DATA PROCESSING....2
1.3 DATA ANALYSIS....2
SECTION 2 – CRASH ANALYSIS....3
2.1 CRASHES BY LOCATION....3
2.2 CRASH TYPE ANALYSIS....5
2.3 CRASH SEVERITY ANALYSIS....5
2.4 ROADWAY SURFACE CONDITION ANALYSIS....6
2.5 ROADWAY LIGHTING CONDITION ANALYSIS....7
2.6 TIME OF DAY AND DAY OF WEEK ANALYSIS....8
SECTION 3 – EXISTING ROADWAY NETWORK....10
3.1 BERTRAM ROAD....10
3.2 DICKSON ROAD....10
3.3 GORDON ROAD....10
3.4 PRESCOTT DRIVE....10
3.5 LAKEWOOD CREEK DRIVE....11
3.6 GRIFFIN DRIVE....11
3.7 BLACKBERRY ROAD....11
3.8 ORCHARD ROAD....11
3.9 HORSEMEN TRAIL....11
3.10 BASELINE ROAD CONNECTOR....12
SECTION 4 – INTERSECTION/SEGMENT ANALYSIS....13
4.1 U.S. 30 BETWEEN ILLINOIS ROUTE 47 AND BERTRAM ROAD....14
4.2 BERTRAM ROAD INTERSECTION....15
4.3 U.S. 30 BETWEEN BERTRAM ROAD AND DICKSON ROAD....15
4.4 DICKSON ROAD INTERSECTION....16
4.5 U.S. 30 BETWEEN DICKSON ROAD AND GORDON ROAD....16
4.6 GORDON ROAD INTERSECTION....17
4.7 U.S. 30 BETWEEN GORDON ROAD AND PRESCOTT DRIVE....17
4.8 PRESCOTT DRIVE INTERSECTION....18
4.9 U.S. 30 BETWEEN PRESCOTT DRIVE AND LAKEWOOD CREEK DRIVE....19
4.10 LAKEWOOD CREEK DRIVE INTERSECTION....20
4.11 U.S. 30 BETWEEN LAKEWOOD CREEK DRIVE AND GRIFFIN DRIVE....21
4.12 GRIFFIN DRIVE INTERSECTION....22

4.13 U.S. 30 BETWEEN GRIFFIN DRIVE AND BLACKBERRY ROAD 23
4.14 BLACKBERRY ROAD INTERSECTION....24
4.15 U.S. 30 BETWEEN BLACKBERRY ROAD AND ORCHARD ROAD....25
4.16 ORCHARD ROAD INTERSECTION....26
4.17 U.S. 30 BETWEEN ORCHARD ROAD AND GALENA ROAD/HORSEMEN TRAIL/BASELINE ROAD INTERSECTION....27
4.18 GALENA ROAD/HORSEMEN TRAIL/BASELINE ROAD INTERSECTION....28
4.19 U.S. 30 BETWEEN GALENA ROAD/HORSEMEN TRAIL/BASELINE ROAD AND EASTBOUND RAMP TO ILLINOIS ROUTE 31 29
SECTION 5 – PROPOSED COUNTERMEASURES 30
SECTION 6 – COMPARISON OF U.S. 30 CRASH DATA....30
5.1 COMPARISON OF CRASHES – PREDICTED VS. ACTUAL 30
SECTION 7 - CONCLUSION 32

LIST OF FIGURES

FIGURE 1 - PROJECT LOCATION MAP....2
FIGURE 2 - TOTAL CRASHES BY LOCATION (SEGMENTS AND INTERSECTIONS), 2010-2014....4
FIGURE 3 - CRASH LOCATION DIAGRAM 2010-2014....5

LIST OF TABLES

TABLE 1 - TOTAL CRASHES BY TYPE (SEGMENTS AND INTERSECTIONS), 2010-2014....6
TABLE 2 - CRASHES BY TYPE VERSUS SEVERITY (SEGMENTS AND INTERSECTIONS), 2010-2014....7
TABLE 3 - TOTAL CRASHES BY ROADWAY SURFACE CONDITION AND INJURY SEVERITY (SEGMENTS AND INTERSECTIONS), 2010-2014....8
TABLE 4 - TOTAL CRASHES BY ROADWAY LIGHTING CONDITION AND INJURY SEVERITY (SEGMENTS AND INTERSECTIONS), 2010-2014....9
TABLE 5 - TOTAL CRASHES BY TIME OF DAY AND DAY OF WEEK (SEGMENTS AND INTERSECTIONS), 2010-2014....10
TABLE 6 - CRASHES ON U.S. 30 BETWEEN ILLINOIS ROUTE 47 AND BERTRAM ROAD, 2010-2014....11
TABLE 7 - CRASHES AT THE U.S. 30/BERTRAM ROAD INTERSECTION, 2010-2014....12
TABLE 8 - CRASHES AT THE U.S 30/DICKSON ROAD INTERSECTION, 2010-2014....15
TABLE 9 - CRASHES AT THE U.S 30/GORDON ROAD INTERSECTION, 2010-2014....18
TABLE 10 - CRASHES AT THE U.S 30/PRESCOTT DRIVE INTERSECTION, 2010-2014....19
TABLE 11 - CRASHES ON U.S 30 BETWEEN PRESCOTT DRIVE AND LAKEWOOD CREEK DRIVE, 2010-2014.20
TABLE 12 - CRASHES AT THE U.S. 30/LAKEWOOD CREEK DRIVE INTERSECTION, 2010-2014....21
TABLE 13 - CRASHES ON U.S. 30 BETWEEN LAKEWOOD CREEK DRIVE AND GRIFFIN DRIVE, 2010-2014....22
TABLE 14 - CRASHES AT THE U.S. 30/GRIFFIN DRIVE INTERSECTION, 2010-2014....23
TABLE 15 - CRASHES ON U.S. 30 BETWEEN GRIFFIN DRIVE AND BLACKBERRY ROAD, 2010-2014....24
TABLE 16 - CRASHES AT THE U.S. 30/BLACKBERRY ROAD INTERSECTION, 2010-2014....25
TABLE 17 - CRASHES ON U.S. 30 BETWEEN BLACKBERRY ROAD AND ORCHARD ROAD, 2010-2014....26
TABLE 18 - CRASHES AT THE U.S. 30/ORCHARD ROAD INTERSECTION, 2010-2014....27
TABLE 19 - CRASHES ON U.S. 30 BETWEEN ORCHARD ROAD AND /GALENA ROAD/HORSEMAN TRAIL/BASELINE ROAD, 2010-2014....28
TABLE 20 - CRASHES AT THE U.S. 30/GALENA ROAD/HORSEMAN TRAIL/BASELINE ROAD INTERSECTION, 2010-2014....29
TABLE 21 - CRASHES ON U.S. 30 BETWEEN GALENA ROAD/HORSEMAN TRAIL/BASELINE ROAD AND EASTBOUND RAMP TO ILLINOIS ROUTE 31, 2010-2014....30
TABLE 22 - CRASH FREQUENCY/ CRASH RATE COMPARISON – PREDICTED VERSUS ACTUAL....32

Hutchison Engineering, Inc.

TECHNICAL MEMORANDUM

February 16, 2015

U.S. 30 between IL 47 and IL 31 – Phase I Study: Crash Analysis of Existing Conditions

SECTION 1

INTRODUCTION

The purpose of this crash analysis is to evaluate existing crash history along the U.S. 30 study corridor, to identify if the crashes in the study corridor are greater than expected in this type of facility, and if additional studies are needed to address any safety concerns in the study limits.

This report presents the findings of an assessment of crash data for U.S. 30 between IL 47 and IL 31. The study area does not include the IL 47 intersection or the IL 31 interchange. The IL 47 intersection is being studied as part of an ongoing Phase I study of IL 47 from Yorkville to Sugar Grove. The IL 31 interchange is currently under construction. The U.S. 30 study corridor generally runs east-west. It includes three signalized intersections and seven un-signalized intersections with the minor streets being stop controlled. Access to U.S. 30 is limited. IDOT controls the access rights for most of the corridor. There are few driveways which directly access the corridor. U.S. 30 has one through lane in each direction through the study area. The study area is shown in Figure 1.

Evaluating historical crash data is a three-step process: 1) Data Collection, 2) Data Processing, and 3) Data Analysis. This process is briefly described below, and the results of the analysis are included herein and in the Appendix.

1.1 DATA COLLECTION

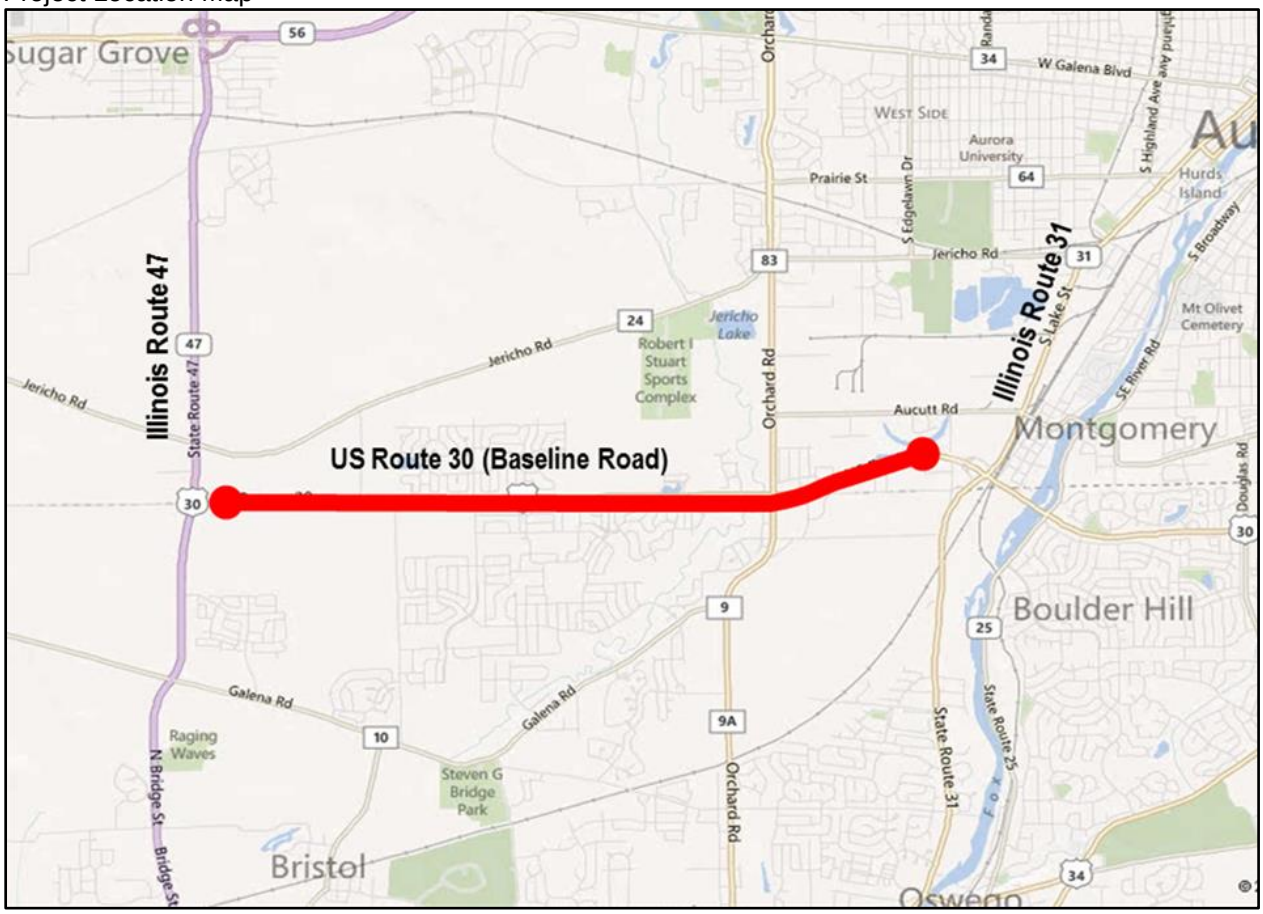
The five most recently available years of crash report data and some of the associated Traffic Crash Reports from the state and local police were obtained from the Illinois Department of Transportation (IDOT) Division of Traffic Safety. These included data for 2010 thru 2014. Site visits to inventory and observe existing conditions were also conducted. Traffic flows and vehicle maneuvers were also observed along the corridor.

1.2 DATA PROCESSING

The crash data is summarized by various categories: location of crash (intersection or segment), crash type, and severity of crashes.

Crashes are also analyzed by roadway surface condition (dry, wet, snow, ice), roadway lighting condition (dawn, daylight, dusk, darkness, darkness with lighted roadway) and by time of day and day of the week crashes occurred. This provides an indication if the roadway surface, lighting conditions and time/day are contributing factors to the crashes being experienced.

FIGURE 1
Project Location Map



Source: Microsoft Corporation / NAVTEQ

1.3 DATA ANALYSIS

Each intersection and segment is evaluated by analyzing crash patterns (number, type and severity). Whenever there are significant numbers of a certain crash type, there is likely a common reason. Crash severity, type and location are the key indicators in

evaluating the current safety condition of the route. Understanding these key indicators primarily assists in suggesting probable causes for the high concentration of crashes. The geometric layout of the roadway, traffic conditions, and other conditions including lighting were also used to develop the probable causes of the crashes.

A total of 373 crashes occurred within the study limits from January 1, 2010 through December 31, 2014. Table 1 summarizes the five-year data set by crash type, frequency and injury type and is shown graphically in Figure 2. Crash Summary Tables providing yearly totals for all tables included in this analysis are included in Appendix.

SECTION 2

CRASH ANALYSIS

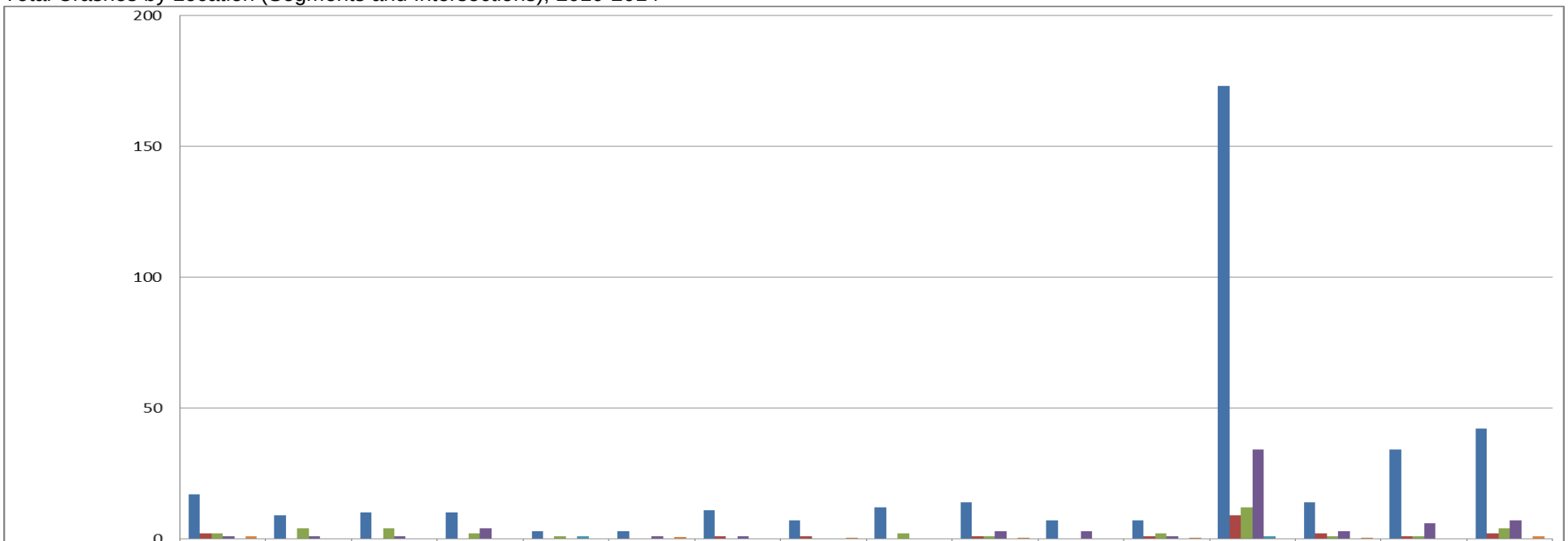
2.1 CRASHES BY LOCATION

A crash analysis was conducted along U.S. 30 from east of Illinois Route 47 to west of Illinois Route 31 using crash data provided by the Illinois Department of Transportation (IDOT). The data shown spans the years 2010 through 2014, and both intersections and segments were analyzed. For the purposes of the analyses, crashes that occurred within the proximity of 0.02 miles from the safety mile station are associated with intersection related crashes and the sections of U.S. 30 between the intersections are analyzed as segment analyses. Figures 2 and 3 provide information of the crash data that was compiled for the analysis years. It should be noted that effective January 1, 2009; the Illinois Vehicle Code was amended. House Bill 5907/Public Act 95-0754 (625 ILCS 5/7-201; 7-204; 7-212; 11-406; and 11-406.1 new) amended the way crashes were reported and the rules for completing and processing police crash reports. There is no way to predict the magnitude of the decline in total crashes (if any) caused by the law changes by type of roadway, police jurisdiction, or any other imaginable variable. There is also no way to retroactively convert crash data prior to crashes reported in 2009, therefore a comparison of crashes occurring prior to and after January 1, 2009 are not directly comparable. In addition, it appears the geometrics of the U.S. 30 at Galena Road/Horseman Trail/Baseline Road Intersection changed during the study years.

From a review of the available summarized crash data it appears that the large volume of traffic is the basis for a majority of these crashes. A review of all detailed crash reports could provide more circumstantial details but generally as the AADT increases so do the number of crashes.

FIGURE 2

Total Crashes by Location (Segments and Intersections), 2010-2014

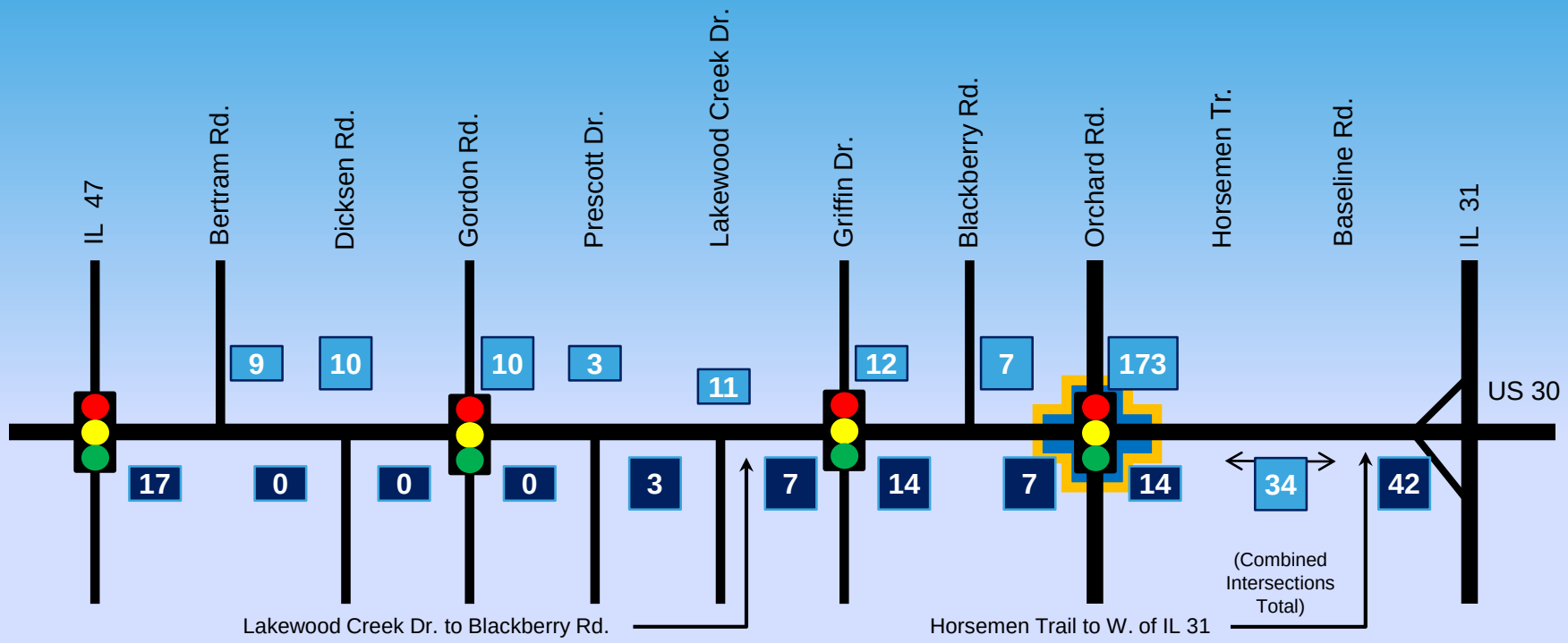


	IL Rte 47 to Bertram Rd.	Bertram Rd.	Dickson Rd.	Gordon Rd.	Prescott Dr.	Prescott Dr. to Lakewood Creek Dr.	Lakewood Creek Dr.	Lakewood Creek Dr. to Griffin Dr.	Griffin Dr.	Griffin Dr. to Blackberry Rd.	Blackberry Rd.	Blackberry Rd. to Orchard Rd.	Orchard Rd.	Orchard Dr. to Galena Rd./ Horseman Trail/ Baseline Rd.*	Galena Rd./ Horseman Trail/ Baseline Rd.*	Galena Rd./ Horseman Trail/ Baseline Rd. to Eastbound Ramp to IL Route 31*
Total Crashes (2010-2014)	17	9	10	10	3	3	11	7	12	14	7	7	173	14	34	42
Type A	2	0	0	0	0	0	1	1	0	1	0	1	9	2	1	2
Type B	2	4	4	2	1	0	0	0	2	1	0	2	12	1	1	4
Type C	1	1	1	4	0	1	1	0	0	3	3	1	34	3	6	7
Fatality	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
Segment Length	1.02					0.77		0.19		0.15		0.19		0.21		0.89

* The Safety Mile Station was changed for the Galena Road/Horseman Trail/Baseline Road Intersection in 2010

Crash Locations

FIGURE 3
Crash Location Diagram 2010-2014



Five-Year Crash Totals (2010-2014)

At Intersections

Between Intersection

Existing Signalized Intersection

Illinois 5% Crash Locations

2012 5% Intersection

IL 47 to IL 31

Illinois Department of Transportation

2.2 CRASH TYPE ANALYSIS

The most common type of crash was rear end which accounted for 55.3% of the total crashes followed by turning (19.5%); fixed object (9.7%); head on (4.9%); sideswipe – same direction (3.2%); angle (2.0%); animal (1.6 %); parked motor vehicle (1.1%); sideswipe – opposite direction; other non-collision; overturned; and other object (all types less than 1%).

Rear end collisions were the highest occurring crash type for eleven of the sixteen intersections/segments analyzed including all the signalized intersections (Gordon Road, Griffin Drive and Orchard Road).

TABLE 1
Total Crashes by Type (Segments and Intersections), 2010-2014

Crash Type	Year					Total	% of Total Crashes
	2010	2011	2012	2013	2014		
Angle	2	3	0	2	2	9	2.4
Animal	0	1	2	1	0	4	1.1
Fixed Object	5	3	7	8	9	32	8.6
Head On	2	1	4	4	3	14	3.8
Other Non-Collision	2	1	0	0	2	5	1.3
Other Object	0	0	1	1	0	2	0.5
Overturned	0	1	1	0	1	3	0.8
Parked Motor Vehicle	0	0	1	1	0	2	0.5
Pedestrian	0	0	0	0	0	0	0.0
Rear End	28	44	52	41	43	208	55.8
Sideswipe - Opposite Direction	0	0	1	0	3	4	1.1
Sideswipe - Same Direction	1	1	5	2	2	11	2.9
Turning	13	11	20	13	22	79	21.2
Total Crashes (2010-2014)	53	66	94	73	87	373	100.0

2.3 CRASH SEVERITY ANALYSIS

Crashes are categorized at five severity levels, and a brief description of each of the crash type is provided below:

- Fatal traffic crash is a crash in which at least one person dies within 30 days of the crash.
- Type A (Incapacitating injury)—A crash that involves any injury, other than fatal, that prevents the injured person from walking, driving, or normally continuing the activities he/she was capable of performing before the injury occurred. Inclusions: severe lacerations, broken/distorted limbs, skull injuries, chest injuries and abdominal injuries.

- Type B (Non-incapacitating injury)— A crash that involves any injury, other than a fatal or incapacitating injury, that is evident to observers at the scene of the crash. Inclusions: lumps on the head, abrasions, bruises, and minor lacerations.
- Type C (Reported, injury not evident) — A crash that involves any injury reported or claimed that is not listed above. Inclusions: momentary unconsciousness, claims of injuries not evident, limping, complaints of pain, nausea.
- Property Damage Only—A crash that involves no injuries or fatalities, but damage is caused to either vehicle and the costs of the damage is assessed to be greater than $1,500 when all drivers are insured, or $500 if any of the drivers are uninsured (Effective January 1, 2009).

Of the 373 total crashes in the study area, 122 crashes or 32.71% involved injuries (A, B or C type); 56 crashes or 15.01% involved A or B type injuries. There were two fatal crashes in the study period and they were both turning type crashes. Table 2 summarizes crashes by type versus the severity of the crash.

TABLE 2
Crashes by Type versus Severity (Segments and Intersections), 2010-2014

Table 2 - Total Crash Types by Frequency and Injury Severity
US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2010-2014)

				Injury Crashes			Injuries By Type			
Crash Type	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Angle	9	2.4%	4	1	1	2	1	3	3	0
Animal	4	1.1%	0	0	0	0	0	0	0	0
Fixed Object	32	8.6%	5	0	3	2	0	4	2	0
Head On	14	3.8%	11	4	4	3	10	9	6	0
Other Non-Collision	5	1.3%	1	0	1	0	0	1	0	0
Other Object	2	0.5%	0	0	0	0	0	0	0	0
Overturned	3	0.8%	1	1	0	0	1	0	0	0
Parked Motor Vehicle	2	0.5%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	208	55.8%	65	6	15	44	8	26	67	0
Sideswipe - Opposite Direction	4	1.1%	1	0	1	0	0	2	0	0
Sideswipe - Same Direction	11	2.9%	2	0	1	1	0	1	2	0
Turning	79	21.2%	33	7	10	14	8	20	23	2
Total Crashes (2010-2014)	**373**	**100%**	123	19	36	66	28	66	103	2

2.4 ROADWAY SURFACE CONDITION ANALYSIS

Table 3 summarizes the distribution of the 373 total crashes by the roadway surface condition at the time of the crash. As shown, 71.05% of all crashes occurred on a dry roadway surface. With 28.95% of crashes occurring on wet, ice, snow/slush, sand/mud/dirt, other or unknown pavement conditions, the general findings of this crash analysis suggest that wet pavement was not a significant cause for crashes within the study area.

TABLE 3
Total Crashes by Roadway Surface Condition and Injury Severity (Segments and Intersections), 2010-2014

Table 3 - Total Crashes by Roadway Surface Condition and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Roadway Surface	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Dry	265	71.05%	97	12	30	53	14	53	78	2
Wet	61	16.35%	19	4	4	11	5	6	20	0
Ice	9	2.41%	1	0	0	1	0	0	1	0
Snow or Slush	36	9.65%	8	4	2	2	10	7	4	0
Sand, Mud, Dirt	0	0.00%	0	0	0	0	0	0	0	0
Other	0	0.00%	0	0	0	0	0	0	0	0
Unknown	2	0.54%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**373**	**100%**	**125**	**20**	**36**	**67**	**29**	**66**	**103**	**2**

2.5 ROADWAY LIGHTING CONDITION ANALYSIS

Table 4 summarizes the distribution of crash data by lighting condition. As shown in the table, 65.15% of the crashes occurred in daylight conditions, 16.09% of the crashes occurred during night hours in sections without street lights and 12.06% occurred during night hours in sections which have existing street lights. The majority of the study limit along U.S. 30 is unlit. With only 16.09% of crashes occurring during darkness in the unlit sections, lighting conditions may not be a significant contributing factor to crashes.

TABLE 4
Total Crashes by Roadway Lighting Condition and Injury Severity (Segments and Intersections), 2010-2014

Table 4 - Total Crashes by Roadway Lighting Condition and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Lighting Condition	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Dawn	12	3.22%	2	0	1	1	0	2	2	0
Daylight	243	65.15%	77	14	22	41	18	41	63	0
Dusk	12	3.22%	3	0	0	3	0	0	4	0
Darkness	60	16.09%	22	2	7	13	6	13	16	0
Darkness, Lighted Road	45	12.06%	14	4	6	9	5	10	18	2
Unknown	1	0.27%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**373**	**100%**	**118**	**20**	**36**	**67**	**29**	**66**	**103**	**2**

2.6 TIME OF DAY AND DAY OF WEEK ANALYSIS

The crash data was also analyzed based on the time of day and day of week (weekday or weekend) the crashes occurred. The majority of crashes were recorded during the daytime. In addition, it is noted that the pattern of the weekday peak traffic periods coincides with the majority of the crashes recorded. The crash data for time of day and day of week is shown in Table 5.

During the weekday period, the percentage of crashes in general coincides with the peak traffic periods and extends approximately 1 hour after peak traffic periods. Based on weekday traffic data collected for the traffic studies, the crashes generally follow the pattern of observed traffic volumes using U.S. 30. Those patterns show weekday peak traffic periods are from 6:30 a.m. to 8:00 a.m. and from 3:15 p.m. to 5:45 p.m. Traffic volumes then decrease after 5:45 p.m.

The weekend time of day crash pattern shows that the highest percentage of crashes occurred in the period between 10:00 a.m. and 7:00 p.m. These patterns represent what would generally be expected with the number of crashes increasing as traffic volumes increase.

TABLE 5
Total Crashes by Time of Day and Day of Week (Segments and Intersections), 2010-2014

Table 5 - Total Crashes by Time of Day and Day of Week US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2010-2014)							
				% of day of week total*		% of Total**	
Time of Day	Weekend	Weekday	Total	Weekend	Weekday	Weekend	Weekday
12:00-12:59 a.m.	1	2	3	1.01%	0.73%	0.27%	0.54%
1:00-1:59 a.m.	5	0	5	5.05%	0.00%	1.34%	0.00%
2:00-2:59 a.m.	0	0	0	0.00%	0.00%	0.00%	0.00%
3:00-3:59 a.m.	4	0	4	4.04%	0.00%	1.07%	0.00%
4:00-4:59 a.m.	0	3	3	0.00%	1.09%	0.00%	0.80%
5:00-5:59 a.m.	0	6	6	0.00%	2.19%	0.00%	1.61%
6:00-6:59 a.m.	1	17	18	1.01%	6.20%	0.27%	4.56%
7:00-7:59 a.m.	4	22	26	4.04%	8.03%	1.07%	5.90%
8:00-8:59 a.m.	3	8	11	3.03%	2.92%	0.80%	2.14%
9:00-9:59 a.m.	1	13	14	1.01%	4.74%	0.27%	3.49%
10:00-10:59 a.m.	2	2	4	2.02%	0.73%	0.54%	0.54%
11:00 -11:59 a.m.	8	10	18	8.08%	3.65%	2.14%	2.68%
12:00-12:59 p.m.	9	5	14	9.09%	1.82%	2.41%	1.34%
1:00-1:59 p.m.	6	10	16	6.06%	3.65%	1.61%	2.68%
2:00-2:59 p.m.	6	14	20	6.06%	5.11%	1.61%	3.75%
3:00-3:59 p.m.	8	21	29	8.08%	7.66%	2.14%	5.63%
4:00-4:59 p.m.	7	37	44	7.07%	13.50%	1.88%	9.92%
5:00-5:59 p.m.	9	36	45	9.09%	13.14%	2.41%	9.65%
6:00-6:59 p.m.	4	24	28	4.04%	8.76%	1.07%	6.43%
7:00-7:59 p.m.	2	17	19	2.02%	6.20%	0.54%	4.56%
8:00-8:59 p.m.	9	9	18	9.09%	3.28%	2.41%	2.41%
9:00-9:59 p.m.	7	12	19	7.07%	4.38%	1.88%	3.22%
10:00-10:59 p.m.	3	5	8	3.03%	1.82%	0.80%	1.34%
11:00 p.m.-11:59 a.m.	0	1	1	0.00%	0.36%	0.00%	0.27%
Total Crashes (2010-2014)	99	274	373	100%	100%	27%	73%

*This percentage is the total crashes for either the weekend or weekday time period divided by the total crashes for that period.

**This percentage is the total crashes for either the weekend or weekday time period divided by the total crashes for all days of the week.

0 - 3 percent	
3.1 - 6 percent	
6.1 - 8 percent	
> 8 percent	

SECTION 3

EXISTING ROADWAY NETWORK

The U.S. 30 study corridor between IL 47 and IL 31 is a two-lane highway that is classified as a Strategic Regional Arterial (SRA). IDOT owns access rights through most of the corridor. In the corridor there are three signalized intersections and seven un-signalized intersections. There are eight private entrances, and two field entrances. The Average Annual Daily Traffic (AADT) ranges from 11,300 at the west end near IL 47 to 24,900 at the east end near the IL 31 interchange.

3.1 BERTRAM ROAD

Bertram Road is classified as a major collector. It is under the jurisdiction of Sugar Grove Township and serves an agricultural area and connects to Jericho Road to the north. It is a three-legged un-signalized intersection. There are no turn lanes on any of the approaches.

3.2 DICKSON ROAD

Dickson Road is classified as a major collector. It is a under the jurisdiction of Bristol Township and serves an agricultural area adjacent to U.S. 30 and subdivisions further south. It is a three-legged un-signalized intersection. There are no turn lanes on any of the approaches.

3.3 GORDON ROAD

Gordon Road is a classified as a minor arterial to the north and a major collector to the south. It is under the jurisdiction of the City of Montgomery and serves residential subdivisions. It is a four-legged signalized intersection. There are left and right turn lanes on both U.S. 30 approaches. On Gordon Road there are two thru lanes and a left turn lane on each approach.

3.4 PRESCOTT DRIVE

Prescott Drive is a classified as a local street. It is under the jurisdiction of the City of Montgomery and serves a residential subdivision. It is a three-legged un-signalized intersection. There is a left turn lane for westbound U.S. 30 and a right turn lane for eastbound U.S. 30. Prescott Drive has a single lane approaching U.S. 30 and left turns out of Prescott Drive are prohibited.

3.5 LAKEWOOD CREEK DRIVE

Lakewood Creek Drive is a classified as a major collector. It is under the jurisdiction of the City of Montgomery and serves a residential subdivision. It is a three-legged un-signalized intersection. There is a left turn lane for westbound U.S. 30 and a right turn lane for eastbound U.S. 30. There are two approach lanes on Lakewood Drive. One is a dedicated left turn lane and the other is a dedicated right turn lane

3.6 GRIFFIN DRIVE

Griffin Drive is a classified as a major collector. It is under the jurisdiction of the City of Montgomery and serves residential subdivisions to the south and the Village of Montgomery police station to the north. It is a four-legged signalized intersection. There are left and right turn lanes on both U.S. 30 approaches. On Griffin Drive there is a single thru lane, a left turn lane, and a right turn lane on each approach.

3.7 BLACKBERRY ROAD

Blackberry Road is classified as a local street. It is under the jurisdiction of Sugar Grove Township and serves as the only access to a residential subdivision. It is a three-legged un-signalized intersection. There are no turn lanes on any of the approaches.

3.8 ORCHARD ROAD

Orchard Road is classified as an SRA to the north of U.S. 30 and as a minor arterial south of U.S. 30. It is under the jurisdiction of the Kane County north of U.S. 30 and Kendall County south of U.S. 30 and serves a mixture of residential, industrial, and commercial uses. It is a four-legged signalized intersection. There are left and right turn lanes on both U.S. 30 approaches. On Orchard Road two thru lanes and a left turn lane on both approaches. There is also a right turn lane on the south approach.

3.9 HORSEMEN TRAIL

Horsemen Trail is a classified as a local street. It is under the jurisdiction of the City of Montgomery and serves a commercial and industrial area. It is a three-legged un-signalized intersection. There is a left turn lane for westbound U.S. 30 and a right turn

lane for eastbound U.S. 30. Horsemen Trail has a single lane approaching U.S. 30 and left turns out of Prescott Drive are prohibited.

3.10 BASELINE ROAD CONNECTOR

The Baseline Road Connector is a classified as a local street. It is under the jurisdiction of the City of Montgomery and serves a mixture of residential, industrial, and commercial uses. It is a three-legged un-signalized intersection. There is a right turn lane for eastbound U.S. 30. Left turn lanes form U.S. 30 to Horsemen Trail are prohibited. Horsemen Trail has a single lane approaching U.S. 30 and left turns out of Prescott Drive are prohibited.

SECTION 4

INTERSECTION/SEGMENT ANALYSIS

The crash analysis study limits that include both intersections and segments listed below. The intersections analyzed include signalized and un-signalized intersections and all crashes that occurred within the proximity of 0.02 miles from the intersection safety mile station are associated with intersection related crashes.

Segment	Location
1.	U.S. 30 between Illinois Route 47 and Bertram Road
2.	Bertram Road Intersection
3.	U.S. 30 between Bertram Road and Dickson Road
4.	Dickson Road Intersection
5.	U.S. 30 between Dickson Road and Gordon Road
6.	Gordon Road Intersection
7.	U.S. 30 between Gordon Road and Prescott Drive
8.	Prescott Drive Intersection
9.	U.S. 30 between Prescott Drive and Lakewood Creek Drive
10.	Lakewood Creek Drive Intersection
11.	U.S. 30 between Lakewood Creek Drive and Griffin Drive
12.	Griffin Drive Intersection
13.	US 30 between Griffin Drive to Blackberry Road
14.	Blackberry Road Intersection
15.	U.S. 30 between Blackberry Road and Orchard Road
16.	Orchard Road Intersection
17.	U.S. 30 between Orchard Road and Galena Road/Horseman Trail/Baseline Road Intersections
18.	Galena Road/Horseman Trail/Baseline Road Intersections
19.	U.S. 30 between Galena Road/Horseman Trail/Baseline Road and Eastbound Ramp to Illinois Route 31

4.1 U.S. 30 BETWEEN ILLINOIS ROUTE 47 AND BERTRAM ROAD

This segment of U.S. 30 is a two-lane highway with aggregate shoulders. There are no turn lanes through this section of U.S. 30 and the project area consists of farmland with field entrances and a few rural residential houses with entrances. Seventeen crashes occurred along this segment of U.S. 30, resulting in 5 injury crashes. Rear end crashes were the predominant type of crash accounting for 9 crashes, or 52.94%, including 3 injury crashes. One animal and 1 head on crashes, each 5.88%, resulting in 1 injury crashes; 3 fixed object crashes, or 17.65%; 1 turning and 1 overturned crash, each 5.88%, resulting in 1 injury crash, also occurred. The Illinois Route 47 intersection is outside the project study limits, and the crash data at this intersection is not included in the analysis. This segment of U.S. 30 is not lit.

TABLE 6
Crashes on U.S. 30 between Illinois Route 47 and Bertram Road, 2010-2014

Table 6 - Total Crash Types by Frequency and Injury Severity
Crashes on US-30 between Illinois Route 47 and Bertram Road (2010-2014)

Crash Type	No. of Crashes	Frequency	Total Injury Crashes	Injury Crashes			Number of Injuries By Type			Fatalities
				A	B	C	A	B	C	
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	1	5.88%	0	0	0	0	0	0	0	0
Fixed Object	3	17.65%	0	0	0	0	0	0	0	0
Head On	1	5.88%	1	0	0	1	0	0	3	0
Other Non-Collision	1	5.88%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	1	5.88%	1	1	0	0	1	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	9	52.94%	3	1	2	0	3	6	0	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	1	5.88%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**17**	**100%**	**5**	**2**	**2**	**1**	**4**	**6**	**3**	**0**

4.2 BERTRAM ROAD INTERSECTION

The Bertram Road intersection is an unsignalized, three-leg intersection with stop sign control on Bertram Road and no turn lanes. Bertram Road connects U.S. 30 and County Highway 24 providing access to farmland. Nine crashes occurred at this intersection resulting in 5 injury crashes. Fixed object crashes were the predominant type of crash at this intersection accounting for 5 crashes, or 55.56%, including 3 injury crashes. Two turning crashes, or 22.22%; and 1 rear end crash and 1 angle crash, or 11.11% each, also occurred. There is no apparent sight distance issue at this intersection and a review of the detailed crash reports could provide more circumstantial crash details. This intersection is not lit.

TABLE 7
Crashes at the U.S. 30/Bertram Road Intersection, 2010-2014

Table 7 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Bertram Road (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	1	11.11%	2	0	1	1	0	1	1	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	5	55.56%	3	0	3	0	0	4	0	0
Head On	0	0.00%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	1	11.11%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	2	22.22%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**9**	**100%**	**5**	**0**	**4**	**1**	**0**	**5**	**1**	**0**

4.3 U.S. 30 BETWEEN BERTRAM ROAD AND DICKSON ROAD

There were no accidents in this segment during the study period.

4.4 DICKSON ROAD INTERSECTION

The Dickson Road intersection is an unsignalized, three-leg intersection with stop sign control on Dickson Road and no turn lanes. Dickson Road connects U.S. 30 and County Highway 10 and provides access to farmland and residential subdivisions. Ten crashes occurred at this intersection resulting in 5 injury crashes. Rear end crashes were the predominant type of crash at this intersection accounting for 7 crashes, or 70.00%, including 3 injury crashes. Two turning crashes, or 20.00%, including 1 injury crash, and 1 sideswipe - same direction, or 10.00%, including 1 injury also occurred. There is no apparent sight distance issue at this intersection and a review of the detailed crash reports could provide more circumstantial crash details. One street light exists along Dickson Road near the intersection.

TABLE 8
Crashes at the U.S 30/Dickson Road Intersection, 2010-2014

Table 8 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Dickson Road (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	0	0.00%	0	0	0	0	0	0	0	0
Head On	0	0.00%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	7	70.00%	3	0	3	0	0	7	0	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	1	10.00%	1	0	0	1	0	0	2	0
Turning	2	20.00%	1	0	1	0	0	2	0	0
Total Crashes (2010-2014)	**10**	**100%**	**5**	**0**	**4**	**1**	**0**	**9**	**2**	**0**

4.5 U.S. 30 BETWEEN DICKSON ROAD AND GORDON ROAD

There were no accidents in this segment during the study period.

4.6 GORDON ROAD INTERSECTION

The Gordon Road intersection is a signalized, four-leg intersection with left and right turn lanes on U.S. 30 and left turn lanes on Gordon Road. Gordon Road provides direct access to residential subdivisions. Ten crashes occurred at this intersection resulting in 4 injury crashes. Turning crashes were the predominant type of crash at this intersection accounting for 6 crashes, or 60.00%, including 2 injury crashes. Two rear end crashes, or 20.00%, including 1 injury crash; 1 parked motor vehicle crash, or 10.00%; and 1 fixed object crash, or 10.00%, including 1 injury crash, also occurred. Lighting exists only along the Gordon Road legs near the intersection.

TABLE 9
Crashes at the U.S 30/Gordon Road Intersection, 2010-2014

Table 9 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Gordon Road (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	1	10.00%	1	0	0	1	0	0	1	0
Head On	0	0.00%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	1	10.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	2	20.00%	1	0	0	1	0	0	1	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	6	60.00%	2	0	2	2	0	3	2	0
Total Crashes (2010-2014)	**10**	**100%**	**4**	**0**	**2**	**4**	**0**	**3**	**4**	**0**

4.7 U.S. 30 BETWEEN GORDON ROAD AND PRESCOTT DRIVE

There were no accidents in this segment during the study period.

4.8 PRESCOTT DRIVE INTERSECTION

The Prescott Drive intersection is an unsignalized, three-leg intersection with stop sign control on Prescott Drive and left and right turn lanes on U.S. 30. Prescott Drive provides direct access to a residential subdivision. Left turning movements from Prescott Drive to westbound U.S. 30 are restricted. Three crashes occurred at this intersection resulting in 2 injury crash and 1 fatality crash. One turning crash, or 33.33%, including 1 injury crash and the fatality crash, was the predominant type of crash at this intersection. There was one head on crash, or 33.33%, including 1 injury crash; and 1 rear end crash, or 33.33%, also occurred. One street light along Prescott Drive near the southwest quadrant of the intersection exists.

The fatal crash occurred approximately 9:37 P.M. in the evening in dark lighted roadway conditions. The pavement condition was dry. It was a turning crash that involved a westbound passenger vehicle turning in front of a motorcycle heading east. The driver of the motorcycle was unable to stop before striking the passenger vehicle. The crash resulted in the death of the driver of the motorcycle.

TABLE 10
Crashes at the U.S 30/Prescott Drive Intersection, 2010-2014

Table 10 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Prescott Drive (2010-2014)										
				Injury Crashes			**Number of Injuries By Type**			
Crash Type	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	0	0.00%	0	0	0	0	0	0	0	0
Head On	1	33.33%	1	0	1	0	0	2	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	1	33.33%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	1	33.33%	1	0	0	0	0	0	1	1
Total Crashes (2010-2014)	**3**	**100%**	**2**	**0**	**1**	**0**	**0**	**2**	**1**	**1**

4.9 U.S. 30 BETWEEN PRESCOTT DRIVE AND LAKEWOOD CREEK DRIVE

This segment of U.S. 30 is a two-lane highway with both aggregate and bituminous shoulders. There are no turn lanes through this section of U.S. 30 and the roadway segment is adjacent to backyards of a residential subdivision and farmland on the north side and backyards of a residential subdivision on the south side. There is a field entrance on the north side and an entrance to utilities located off of U.S. 30 on the south side. Three crashes occurred at this intersection resulting in 1 injury crash. Two angle crashes, or 66.67%, including 1injury crash and 1 fixed object crash, or 33.33% account for the crashes. This segment of U.S. 30 is not lit.

TABLE 11
Crashes on U.S. 30 between Prescott Drive and Lakewood Creek Drive, 2010-2014

Table 11 - Total Crash Types by Frequency and Injury Severity
Crashes on US-30 between Prescott Drive and Lakewood Creek Drive (2010-2014)

Crash Type	No. of Crashes	Frequency	Total Injury Crashes	Injury Crashes			Number of Injuries By Type			Fatalities
				A	B	C	A	B	C	
Angle	2	66.67%	1	0	0	1	0	0	2	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	1	33.33%	0	0	0	0	0	0	0	0
Head On	0	0.00%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	0	0.00%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**3**	**100%**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**0**

4.10 LAKEWOOD CREEK DRIVE INTERSECTION

The Lakewood Creek Drive intersection is an unsignalized, three-leg intersection with stop sign control on Lakewood Creek Drive and left and right turn lanes on U.S. 30. Lakewood Creek Drive provides direct access to a residential subdivision. Eleven crashes occurred at this intersection, including 2 injury crashes. Rear end crashes were the predominant type of crash at this intersection accounting for 7 crashes, or 63.64%, including 1 injury crash. Turning, head on, fixed object and other object crashes account for the remaining 4 crashes, each making up 9.09% of the crashes. The turning crash was also an injury crashes. This intersection has one street light in the landscape median of Lakewood Creek Drive.

TABLE 12
Crashes at the U.S. 30/Lakewood Creek Drive Intersection, 2010-2014

Table 12 - Total Crash Types by Frequency and Injury Severity
Crashes on US-30 at Lakewood Creek Drive (2010-2014)

Crash Type	No. of Crashes	Frequency	Total Injury Crashes	Injury Crashes			Number of Injuries By Type			Fatalities
				A	B	C	A	B	C	
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	1	9.09%	0	0	0	0	0	0	0	0
Head On	1	9.09%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	1	9.09%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	7	63.64%	1	1	0	0	1	1	2	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	1	9.09%	1	0	0	1	0	0	1	0
Total Crashes (2010-2014)	**11**	**100%**	**2**	**1**	**0**	**1**	**1**	**1**	**3**	**0**

4.11 U.S. 30 BETWEEN LAKEWOOD CREEK DRIVE AND GRIFFIN DRIVE

This segment of U.S. 30 is a two-lane highway with both aggregate and bituminous shoulders. There are no turn lanes through this section of U.S. 30, and a painted median exists on either end of the segment that provides widening for turn lanes at Lakewood Creek Drive and Griffin Drive. The roadway segment is adjacent to farmland on the north side and backyards of a residential subdivision on the south side. Seven crashes occurred in this section of U.S. 30, resulting in 1 injury crash. Head on crashes were the predominant type of crash accounting for 3, or 42.86%, resulting in 1 injury crash. Two fixed object crashes, or 28.57%, and 1 animal crash and 1 other object crash, each accounting for 14.29% of the crashes, also occurred. U.S. 30 is not lit.

TABLE 13
Crashes on U.S. 30 between Lakewood Creek Drive and Griffin Drive, 2010-2014

Table 13 - Total Crash Types by Frequency and Injury Severity
Crashes on US-30 between Lakewood Creek Drive and Griffin Drive (2010-2014)

Crash Type	No. of Crashes	Frequency	Total Injury Crashes	Injury Crashes			Number of Injuries By Type			Fatalities
				A	B	C	A	B	C	
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	1	14.29%	0	0	0	0	0	0	0	0
Fixed Object	2	28.57%	0	0	0	0	0	0	0	0
Head On	3	42.86%	1	1	0	0	3	0	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	1	14.29%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	0	0.00%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**7**	**100%**	**1**	**1**	**0**	**0**	**3**	**0**	**0**	**0**

4.12 GRIFFIN DRIVE INTERSECTION

The Griffin Drive intersection is a signalized four-leg intersection with left and right turn lanes on U.S. 30 and a left turn lane on the north leg of Griffin Drive and left and right turn lanes on the south leg of Griffin Drive. Griffin Drive provides direct access to a Civic Center to the north and a residential subdivision to the south. Twelve crashes occurred at this intersection resulting in 2 injury crashes. Rear end crashes were the predominant type of crashes at this intersection accounting for 10 crashes, or 83.33%, including 2 injury crashes. Turning crashes account for the remaining 2 crashes, or 16.67%. There are two streets lights along Griffin Drive, one near the northwest quadrant and one near the southwest quadrant of the intersection.

TABLE 14
Crashes at the U.S. 30/Griffin Drive Intersection, 2010-2014

Table 14 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Griffin Drive (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	0	0.00%	0	0	0	0	0	0	0	0
Head On	0	0.00%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	10	83.33%	2	0	2	0	0	2	0	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	2	16.67%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**12**	**100%**	**2**	**0**	**2**	**0**	**0**	**2**	**0**	**0**

4.13 U.S. 30 BETWEEN GRIFFIN DRIVE AND BLACKBERRY ROAD

This segment of U.S. 30 is a two-lane highway with both aggregate and bituminous shoulders. There are no turn lanes through this section of U.S. 30 and the roadway segment is adjacent to backyards of a residential subdivision and farmland on the north side and backyards of a residential subdivision on the south. Fourteen crashes occurred in this segment of U.S. 30, including five injury crashes. Five rear end crashes, or 35.71%, including 1 injury crash, 4 fixed object crashes, or 28.57%, 2 head on crashes, or 14.29%, including 2 injury crashes, and 1 overturned, 1 sideswipe - opposite direction, and 1 turning crash, or 7.14% each, accounting for 2 injury crashes, occurred. U.S 30 is not lit.

TABLE 15
Crashes on U.S. 30 between Griffin Drive and Blackberry Road, 2010-2014

Table 15 - Total Crash Types by Frequency and Injury Severity
Crashes on US-30 between Griffin Drive and Blackberry Road (2010-2014)

Crash Type	No. of Crashes	Frequency	Total Injury Crashes	Injury Crashes			Number of Injuries By Type			Fatalities
				A	B	C	A	B	C	
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	4	28.57%	0	0	0	0	0	0	0	0
Head On	2	14.29%	2	0	0	2	0	0	3	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	1	7.14%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	5	35.71%	1	0	0	1	0	0	1	0
Sideswipe - Opposite Direction	1	7.14%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	1	7.14%	2	1	1	0	1	1	0	0
Total Crashes (2010-2014)	**14**	**100%**	**5**	**1**	**1**	**3**	**1**	**1**	**4**	**0**

4.14 BLACKBERRY ROAD INTERSECTION

The Blackberry Road intersection is an unsignalized three-leg intersection with stop sign control on Blackberry Road and no turn lanes. Blackberry Road provides direct access to a residential subdivision. On the opposite side of Blackberry Road an existing entrance to a cemetery exists. Seven crashes occurred at this intersection, resulting in 3 injury crashes. Rear end crashes were the predominant type of crash at this intersection accounting for 6 crashes, or 85.71%, including the 3 injury crashes. One animal crash, or 14.29%, also occurred. There is no apparent sight distance issue at this intersection and a review of the detailed crash reports could provide more circumstantial crash details. There is one street light along Blackberry Road near the intersection.

TABLE 16
Crashes at the U.S. 30/Blackberry Road Intersection, 2010-2014

Table 16 - Total Crash Types by Frequency and Injury Severity
Crashes on US-30 at Blackberry Road (2010-2014)

Crash Type	No. of Crashes	Frequency	Total Injury Crashes	Injury Crashes			Number of Injuries By Type			Fatalities
				A	B	C	A	B	C	
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	1	14.29%	0	0	0	0	0	0	0	0
Fixed Object	0	0.00%	0	0	0	0	0	0	0	0
Head On	0	0.00%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	6	85.71%	3	0	0	3	0	0	4	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	0	0.00%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**7**	**100%**	**3**	**0**	**0**	**3**	**0**	**0**	**4**	**0**

4.15 U.S. 30 BETWEEN BLACKBERRY ROAD AND ORCHARD ROAD

This segment of U.S. 30 is a two-lane highway with bituminous shoulders. There are no turn lanes through this segment; however there is a variable width painted median between the eastbound and westbound lanes. Existing guardrail exists on both sides of U.S. 30 offering protection from Blackberry Creek. The project area consists of fields on either side of U.S. 30, residential housing on the north side and Blackberry Creek crosses under U.S. 30. There is one entrance on the north side. There were 7 rear end crashes through this segment of U.S. 30, including 4 injury crashes. This segment of U.S. 30 is not lit.

TABLE 17
Crashes on U.S. 30 between Blackberry Road and Orchard Road, 2010-2014

Table 17 - Total Crash Types by Frequency and Injury Severity
Crashes on US-30 between Blackberry Road and Orchard Road (2010-2014)

Crash Type	No. of Crashes	Frequency	Total Injury Crashes	Injury Crashes			Number of Injuries By Type			Fatalities
				A	B	C	A	B	C	
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	0	0.00%	0	0	0	0	0	0	0	0
Head On	0	0.00%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	7	100.00%	4	1	2	1	1	2	1	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	0	0.00%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**7**	**100%**	**4**	**1**	**2**	**1**	**1**	**2**	**1**	**0**

4.16 ORCHARD ROAD INTERSECTION

The Orchard Road intersection is a signalized four-leg intersection with left and right turn lanes on U.S. 30 and a left turn lane on the north leg of Orchard Road and left and right turn lanes on the south leg of Orchard Road. To the north, Orchard Road provides access to farmland, a residential subdivision and warehouse facilities; and to the south commercial development. There were 173 crashes at this intersection, resulting in 54 injury crashes and 1 fatal crash. Rear end crashes were the predominant type of crash accounting for 98 crashes, or 56.65%, including 30 injury crashes. Turning type crashes were the second highest type of crash at 54 crashes, or 31.21%, including 19 injury crashes and the 1 fatal crash. There were also 7 sideswipe – same direction crashes, or 4.05%, including 1 injury crash; 6 angle crashes, or 3.47%; including 1 injury crash; 3 fixed object crashes, or 1.73%; 2 sideswipe – opposite direction crashes, or 1.16%, and 1 head on crash, or 0.58%, including 1 injury crash. Other non-collision, and parked motor vehicle crashes account for 1 crash each, or 0.58% each of the crashes.

The fatal crash occurred approximately 8:18 P.M. in the evening in darkness, lighted roadway conditions. The pavement condition was dry. It was a turning crash that involved a multi-unit truck turning from the north leg of Orchard Road onto eastbound U.S. 30. The truck struck a van headed northbound on Orchard resulting in the death of the driver of the van. Eye witnesses indicated the signal was yellow for both directions when the crash occurred.

TABLE 18
Crashes at the U.S. 30/Orchard Road Intersection, 2010-2014

Table 18 - Total Crash Types by Frequency and Injury Severity
Crashes on US-30 at Orchard Road (2010-2014)

Crash Type	No. of Crashes	Frequency	Total Injury Crashes	Injury Crashes			Number of Injuries By Type			Fatalities
				A	B	C	A	B	C	
Angle	6	3.47%	1	1	0	0	1	2	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	3	1.73%	1	1	0	0	1	0	0	0
Head On	1	0.58%	1	1	0	0	1	0	0	0
Other Non-Collision	1	0.58%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	1	0.58%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	98	56.65%	30	1	5	24	1	7	39	0
Sideswipe - Opposite Direction	2	1.16%	1	0	1	0	0	2	0	0
Sideswipe - Same Direction	7	4.05%	1	0	1	0	0	1	0	0
Turning	54	31.21%	19	5	5	10	6	10	18	1
Total Crashes (2010-2014)	**173**	**100%**	**54**	**9**	**12**	**34**	**10**	**22**	**57**	**1**

4.17 U.S. 30 BETWEEN ORCHARD ROAD AND GALENA ROAD/HORSEMEN TRAIL/BASELINE ROAD INTERSECTION

This segment of U.S. 30 is a two-lane highway with bituminous shoulders. Left and right lanes extend from the intersection of Orchard Road and a painted median and a right turn lane extends from the intersection of Galena Road/Horseman Trail/Baseline Road through this segment. There is a field along the north side and commercial developments exist along the south side of U.S. 30. Fourteen crashes occurred through this segment of U.S. 30; which resulted in 6 injury crashes. Rear end crashes were the predominant type of crashes accounting for 11 crashes, or 78.57%, including 5 injury crashes. The remaining crashes include 1 fixed object crash, 1 other non- collision injury crash and 1 sideswipe – same direction crash, each make up 7.14% of crashes. Other non-collision crash includes the remaining injury crash. This segment of U.S. 30 is not lit.

TABLE 19
Crashes on U.S. 30 between Orchard Road and Galena Road/Horsemen Trail/Baseline Road, 2010-2014

Table 19 - Total Crash Types by Frequency and Injury Severity
Crashes on US-30 between Orchard Road and Galena Road/Horseman Trail/Baseline Road (2010-2014)

Crash Type	No. of Crashes	Frequency	Total Injury Crashes	Injury Crashes			Number of Injuries By Type			Fatalities
				A	B	C	A	B	C	
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	1	7.14%	0	0	0	0	0	0	0	0
Head On	0	0.00%	0	0	0	0	0	0	0	0
Other Non-Collision	1	7.14%	1	0	1	0	0	1	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	11	78.57%	5	2	0	3	2	0	6	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	1	7.14%	0	0	0	0	0	0	0	0
Turning	0	0.00%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**14**	**100%**	**6**	**2**	**1**	**3**	**2**	**1**	**6**	**0**

4.18 GALENA ROAD/HORSEMEN TRAIL/BASELINE ROAD INTERSECTION

The Galena Road/Horseman Trail/Baseline Road intersection consists of two unsignalized three-leg intersections with stop sign control on both Horseman Trail and Baseline Road, which are spaced approximately 400 feet apart. It appears that the geometrics of this intersection have changed during the study year. Currently, left and right turn lanes exist on U.S. 30 at Horseman Trail and left turn movements from Horseman Trail to westbound U.S. 30 are restricted. Baseline Road, located to the east of Horseman Trail, is a right-in right-out movement and there is a right turn lane on U.S. 30 that begins halfway between Horseman Trail and Baseline Road. Horseman Trail provides access to commercial development and Baseline Road provides access to commercial and residential development and warehouse facilities. There were 34 crashes at this intersection, resulting in 7 injury crashes. Rear end crashes were the predominant type of crash accounting for 23 crashes, or 67.65%, including 5 injury crashes. Fixed object type crashes were the second highest type of crashes at 4, or 11.76%. Three turning type crashes, or 8.82%, including 1 injury crash, and 2 sideswipe – same direction crashes, or 5.88% of crashes; and 1 animal crash and 1 head on crash, or 3.03% each, also occurred. This intersection is not lit.

TABLE 20
Crashes at the U.S. 30/Galena Road/Horseman Trail/Baseline Road Intersection, 2010-2014

Table 20 - Total Crash Types by Frequency and Injury Severity
Crashes on US-30 at Galena Road/Horseman Trail/Baseline Road (2010-2014)

Crash Type	No. of Crashes	Frequency	Total Injury Crashes	Injury Crashes			Number of Injuries By Type			Fatalities
				A	B	C	A	B	C	
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	1	2.94%	0	0	0	0	0	0	0	0
Fixed Object	4	11.76%	0	0	0	0	0	0	0	0
Head On	1	2.94%	1	0	1	0	0	2	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	23	67.65%	5	0	0	6	0	0	7	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	2	5.88%	0	0	0	0	0	0	0	0
Turning	3	8.82%	1	1	0	0	1	0	0	0
Total Crashes (2010-2014)	**34**	**100%**	**7**	**1**	**1**	**6**	**1**	**2**	**7**	**0**

4.19 U.S. 30 BETWEEN GALENA ROAD/HORSEMEN TRAIL/BASELINE ROAD AND EASTBOUND RAMP TO ILLINOIS ROUTE 31

This segment of U.S. 30 is a two-lane highway with both aggregate and bituminous shoulders and through a section of this segment curb and gutter exists on the south side. There are no turn lanes through this segment of U.S. 30 and the land use varies throughout; including commercial and residential development, wooded areas, farmland and ponds. There are 5 entrances within this segment of U.S. 30. There were 42 crashes including 13 injury crashes. Rear end crashes were the predominant crash type, accounting for 21 crashes, or 50.00%, including 5 injury crashes. Seven fixed object crashes, or 16.67%, including 1 injury crash; 6 turning crashes, or 14.29%, including 3 injury crashes; 4 head on crashes, or 9.52%, including 4 injury crashes; 2 other non-collision crashes, or 4.76%; 1 overturned crash and 1 sideswipe -opposite direction, each accounting for 2.38% of crashes, also occurred. This segment of U.S. 30 is not lit.

TABLE 21
Crashes on U.S. 30 between Galena Road/Horseman Trail/Baseline Road and Eastbound Ramp to Illinois Route 31, 2010-2014

Table 21 - Total Crash Types by Frequency and Injury Severity
Crashes on US-30 between Galena Road/Horseman Trail/Baseline Road and Eastbound Ramp to Illinois Route 31 (2010-2014)

Crash Type	No. of Crashes	Frequency	Total Injury Crashes	Injury Crashes			Number of Injuries By Type			Fatalities
				A	B	C	A	B	C	
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	7	16.67%	1	0	0	1	0	0	1	0
Head On	4	9.52%	4	2	2	0	6	5	0	0
Other Non-Collision	2	4.76%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	1	2.38%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	21	50.00%	5	0	1	4	0	1	5	0
Sideswipe - Opposite Direction	1	2.38%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	6	14.29%	3	0	1	2	0	4	2	0
Total Crashes (2010-2014)	**42**	**100%**	**13**	**2**	**4**	**7**	**6**	**10**	**8**	**0**

SECTION 5

PROPOSED COUNTERMEASURES

Proposed countermeasures vary depending on the type of crash. On this segment of U.S. 30 the types of crashes are consistent between the roadway segments and between the different intersections.

In the roadway segments the predominant type of crash is rear-end collisions followed by fixed object and head on. Countermeasures that should be considered for the roadway segments include addition of through lanes and turn lanes to improve traffic operations and reduce rear-end crashes; construct a median to separate traffic and reduce head-on crashes; and construct paved shoulders to reduce fixed object crashes.

In the intersections the predominant type of crash is again rear-end crashes followed by turning crashes. Countermeasures that should be considered at the intersection are include addition of through lanes and/or turn lanes to improve traffic operations, signal timing and visibility improvements, improve intersection sight distance and manage access through the use of raised curb or barrier medians.

SECTION 6

COMPARISON OF U.S. 30 CRASH DATA

To better understand the results of the crash analyses, the Highway Safety Manual (HSM 2010) methodologies were applied. The HSM methodologies applied in this study are primarily used to identify if the crash experience in the study corridor is below or above the predicted experience.

5.1 COMPARISON OF CRASHES – PREDICTED VS. ACTUAL

The methodologies presented for Urban and Suburban arterials in chapter 12 of the 2010 HSM were applied to develop the predicted crash frequency and predicted crash rates for the study area, and compared with the actual crash history data. Since the Annual Average Daily Traffic (AADT) is greater than 17,800 in the study corridor, the two-lane rural highway methodologies presented in chapter 10 of the HSM were not used. The predicted and actual crash frequency and crash rates are presented in Table 16 below. In summary, the number of crashes per year in the study corridor is higher than the predicted values. The actual crash rates (crashes per year per mile) are generally less than the predicted in the segment portions of U.S. 30, and the actual crash frequency (number of crashes per year) is greater than predicted at eight out of the nine intersections. The U.S. 30 intersections at Orchard Road and the Horsemen Trail/Baseline Road Connector have significantly larger number of crashes than

predicted, an indicator of safety concerns at those intersections. The worksheet calculations pertaining to the below results are presented in Appendix B.

TABLE 22
Crash Frequency/ Crash Rate Comparison – Predicted versus Actual

	Total		**Fatal and Injury**		**PDO**	
	Predicted	Actual	Predicted	Actual	Predicted	Actual
Crash Frequency (crashes per year) by severity level - **Project Study Corridor** (U.S. 30, Between IL 47 and IL 31)	38.4	74.6	12.0	24.6	26.4	50.0
Crash Rates(crashes per year per mile) by severity level at **Roadway Segments**						
IL 47 to Bertram Rd	2.8	3.4	0.8	1.0	2.0	2.4
Bertram Road to Dickson Rd	2.7	0.0	0.7	0.0	1.9	0.0
Dickson Rd to Gordon Rd	2.9	0.0	0.8	0.0	2.1	0.0
Gordon Rd to Prescott Dr	2.8	0.0	0.8	0.0	2.0	0.0
Prescott Dr to Lakewood Creek Dr	2.7	1.2	0.7	0.4	2.0	0.8
Lakewood Creek Dr to Griffin Dr	2.8	2.8	0.8	0.4	2.0	2.4
Griffin Dr to Blackberry Creek Rd	5.5	0.8	1.5	0.4	4.0	0.4
Blackberry Creek Rd Orchard Rd	6.5	7.0	1.8	4.0	4.7	3.0
Orchard Rd to Horseman Tr / Baseline Rd	9.3	14.0	2.6	6.0	6.8	8.0
Horseman Tr / Baseline Rd to IL 31	7.4	8.4	2.0	2.6	5.4	5.8
Crash Frequency (crashes per year) by severity level – **U.S. 30 Intersections at**						
Bertram Rd	1.3	1.8	0.5	1.0	0.8	0.8
Dickson Rd	1.4	2.0	0.5	1.0	0.9	1.0
Gordon Rd	1.8	2.0	0.6	0.8	1.2	1.2
Prescott Dr	0.7	0.6	0.3	0.4	0.4	0.2
Lakewood Creek Dr	1.0	2.2	0.4	0.4	0.6	1.8
Griffin Dr	2.4	2.4	0.8	0.4	1.6	2.0
Blackberry Rd	1.1	1.4	0.5	0.6	0.6	0.8
Orchard Rd	5.1	34.6	1.7	10.8	3.4	23.8
Horseman Tr / Baseline Rd	2.0	6.8	0.7	1.4	1.3	5.4

SECTION 7

CONCLUSION

The crash history of the study area indicates a high number of crashes during the five-year analysis period, from 2010 – 2014, on U.S. 30 between IL 47 and IL 31. Overall, the actual number of crashes per year was higher than the predicted crashes for this facility. In addition, the actual number of crashes per year was significantly higher at U.S. 30/Orchard Road and U.S. 30/Horsemen Trail/Baseline Road Connector intersections. Many of these crashes might be attributed to the poor traffic operations in the area with significant traffic backups observed, lack of turn lanes at intersections, sight distance or visibility issues at some intersections, and driver's inattention/distraction. The predominant accident type in both roadway segments and at intersections is rear-end collisions constituting about 55% of the total crashes, which might be caused by vehicles stopping to make a turn or stopping to wait behind a turning vehicle. There were a total of 373 reported crashes constituting two fatal, 19 Type A, 36 Type B, 66 Type C, and 250 PDO crashes.

It is recommended that measures be considered to reduce crashes within the study limits including adding through lanes and/or turn lanes, install a median, construct paved shoulders, intersection improvements, improving sight distances at intersections, and access management.

CRASH SUMMARY TABLES WITH YEARLY TOTALS

Table 1 - Total Crash Types by Frequency and Injury Severity; US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2010-2014)

- Table 1a –2010
- Table 1b – 2011
- Table 1c – 2012
- Table 1d – 2013
- Table 1e – 2014

Table 2 - Total Crashes by Roadway Surface Condition and Injury Severity; US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2010-2014)

- Table 2a – 2010
- Table 2b – 2011
- Table 2c – 2012
- Table 2d – 2013
- Table 2e – 2014

Table 3 - Total Crashes by Roadway Lighting Condition and Injury Severity; US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2010-2014)

- Table 3a – 2010
- Table 3b – 2011
- Table 3c – 2012
- Table 3d – 2013
- Table 3e - 2014

Table 4 - Total Crashes by Time of Day and Day of Week; US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2010-2014)

- Table 4a – 2010
- Table 4b – 2011
- Table 4c – 2012
- Table 4d – 2013
- Table 4e – 2014

Table 5 - Total Crash Types by Frequency and Injury Severity; Crashes on US-30 between Illinois Route 47 and Bertram Road (2010-2014)

- Table 5a – 2010
- Table 5b – 2011
- Table 5c – 2012
- Table 5d – 2013
- Table 5e – 2014

Appendix A

Table 6 - Total Crash Types by Frequency and Injury Severity; Crashes on US-30 at Bertram Road (2010-2014)
Table 6a – 2010
Table 6b – 2011
Table 6c – 2012
Table 6d – 2013
Table 6e – 2014

Table 7 - Total Crash Types by Frequency and Injury Severity; Crashes on US-30 at Dickson Road (2010-2014)
Table 7a – 2010
Table 7b – 2011
Table 7c – 2012
Table 7d – 2013
Table 7e – 2014

Table 8 - Total Crash Types by Frequency and Injury Severity; Crashes on US-30 at Gordon Road (2010-2014)
Table 8a – 2010
Table 8b – 2011
Table 8c – 2012
Table 8d – 2013
Table 8e – 2014

Table 9 - Total Crash Types by Frequency and Injury Severity; Crashes on US-30 at Prescott Road (2010-2014)
Table 9a – 2010
Table 9b – 2011
Table 9c – 2012
Table 9d – 2013
Table 9e – 2014

Table 10 - Total Crash Types by Frequency and Injury Severity; Crashes on US-30 between Prescott Drive and Lakewood Creek Drive (2010-2014)
Table 10a – 2010
Table 10b – 2011
Table 10c – 2012
Table 10d – 2013
Table 10e – 2014

Table 11 - Total Crash Types by Frequency and Injury Severity; Crashes on US-30 at Lakewood Creek Drive (2010-2014)
Table 11a – 2010
Table 11b – 2011
Table 11c – 2012
Table 11d – 2013
Table 11e – 2014

Appendix A

Table 12 - Total Crash Types by Frequency and Injury Severity; Crashes on US-30 between Lakewood Creek Drive and Griffin Drive (2010-2014)
Table 12a – 2010
Table 12b – 2011
Table 12c – 2012
Table 12d – 2013
Table 12e – 2014

Table 13 - Total Crash Types by Frequency and Injury Severity; Crashes on US-30 at Griffin Drive (2010-2014)
Table 13a – 2010
Table 13b – 2011
Table 13c – 2012
Table 13d – 2013
Table 13e – 2014

Table 14 - Total Crash Types by Frequency and Injury Severity; Crashes on US-30 between Griffin Drive and Blackberry Road (2010-2014)
Table 14a – 2010
Table 14b – 2011
Table 14c – 2012
Table 14d – 2013
Table 14e – 2014

Table 15 - Total Crash Types by Frequency and Injury Severity; Crashes on US-30 at Blackberry Road (2010-2014)
Table 15a – 2010
Table 15b – 2011
Table 15c – 2012
Table 15d – 2013
Table 15e – 2014

Table 16 - Total Crash Types by Frequency and Injury Severity; Crashes on US-30 between Blackberry Road and Orchard Road (2010-2014)
Table 16a – 2010
Table 16b – 2011
Table 16c – 2012
Table 16d – 2013
Table 16e – 2014

Table 17 - Total Crash Types by Frequency and Injury Severity; Crashes on US-30 at Orchard Drive (2010-2014)
Table 17a – 2010
Table 17b – 2011
Table 17c – 2012
Table 17d – 2013
Table 17e – 2014

Appendix A

Table 18 - Total Crash Types by Frequency and Injury Severity; Crashes on US-30 between Orchard Road and Galena Road/Horseman Trail/Baseline Road (2010-2014)

Table 18a – 2010
Table 18b – 2011
Table 18c – 2012
Table 18d – 2013
Table 18e – 2014

Table 19 - Total Crash Types by Frequency and Injury Severity; Crashes on US-30 at Galena Road/Horseman Trail/Baseline Road (2010-2014)

Table 19a – 2010
Table 19b – 2011
Table 19c – 2012
Table 19d – 2013
Table 19e – 2014

Table 20 - Total Crash Types by Frequency and Injury Severity; Crashes on US-30 between Galena Road/Horseman Trail/Baseline Road and Eastbound Ramp to Illinois Route 31 (2010-2014)

Table 20a – 2010
Table 20b – 2011
Table 20c – 2012
Table 20d – 2013
Table 20e – 2014

Table 21 - Crashes at Intersections and Segments

Appendix A

Table 1 - Total Crash Types by Frequency and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Angle	9	2.4%	4	1	1	2	1	3	3	0
Animal	4	1.1%	0	0	0	0	0	0	0	0
Fixed Object	32	8.6%	5	0	3	2	0	4	2	0
Head On	14	3.8%	11	4	4	3	10	9	6	0
Other Non-Collision	5	1.3%	1	0	1	0	0	1	0	0
Other Object	2	0.5%	0	0	0	0	0	0	0	0
Overturned	3	0.8%	1	1	0	0	1	0	0	0
Parked Motor Vehicle	2	0.5%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	208	55.8%	65	6	15	44	8	26	67	0
Sideswipe - Opposite Direction	4	1.1%	1	0	1	0	0	2	0	0
Sideswipe - Same Direction	11	2.9%	2	0	1	1	0	1	2	0
Turning	79	21.2%	33	7	10	14	8	20	23	2
Total Crashes (2010-2014)	**373**	**100%**	123	19	36	66	28	66	103	2

Table 1b - Total Crash Types by Frequency and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2010)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Angle	2	3.8%	1	0	0	1	0	0	2	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	5	9.4%	2	0	2	0	0	2	0	0
Head On	2	3.8%	2	2	0	0	6	0	0	0
Other Non-Collision	2	3.8%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	28	52.8%	11	0	1	10	0	1	16	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	1	1.9%	0	0	0	0	0	0	0	0
Turning	13	24.5%	4	1	2	1	2	7	4	0
Total Crashes (2010)	**53**	**100%**	**20**	**3**	**5**	**12**	**8**	**10**	**22**	**0**

Table 1c - Total Crash Types by Frequency and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2011)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Angle	3	4.5%	1	1	0	0	1	2	0	0
Animal	1	1.5%	0	0	0	0	0	0	0	0
Fixed Object	3	4.5%	1	0	0	1	0	0	1	0
Head On	1	1.5%	1	1	0	0	1	0	0	0
Other Non-Collision	1	1.5%	1	0	1	0	0	1	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	1	1.5%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	44	66.7%	17	4	2	11	4	5	18	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	1	1.5%	0	0	0	0	0	0	0	0
Turning	11	16.7%	1	1	0	0	1	0	0	0
Total Crashes (2011)	**66**	**100%**	**22**	**7**	**3**	**12**	**7**	**8**	**19**	**0**

Table 1d - Total Crash Types by Frequency and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2012)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	2	2.1%	0	0	0	0	0	0	0	0
Fixed Object	7	7.4%	1	0	0	1	0	0	1	0
Head On	4	4.3%	2	0	2	0	0	4	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	1	1.1%	0	0	0	0	0	0	0	0
Overturned	1	1.1%	1	1	0	0	1	0	0	0
Parked Motor Vehicle	1	1.1%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	52	55.3%	14	2	3	9	4	10	15	0
Sideswipe - Opposite Direction	1	1.1%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	5	5.3%	1	0	1	0	0	1	0	0
Turning	20	21.3%	8	0	2	4	0	5	6	2
Total Crashes (2012)	**94**	**100%**	**27**	**3**	**8**	**14**	**5**	**20**	**22**	**2**

Table 1e - Total Crash Types by Frequency and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2013)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	2	2.7%	0	0	0	0	0	0	0	0
Animal	1	1.4%	0	0	0	0	0	0	0	0
Fixed Object	8	11.0%	0	0	0	0	0	0	0	0
Head On	4	5.5%	3	1	1	1	3	2	3	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	1	1.4%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	1	1.4%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	41	56.2%	12	0	4	8	0	5	11	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	2	2.7%	0	0	0	0	0	0	0	0
Turning	13	17.8%	5	0	1	4	0	2	6	0
Total Crashes (2013)	**73**	**100%**	**20**	**1**	**6**	**13**	**3**	**9**	**20**	**0**

Table 1e - Total Crash Types by Frequency and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Angle	2	2.3%	2	0	1	1	0	1	1	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	9	10.3%	1	0	1	0	0	2	0	0
Head On	3	3.4%	3	0	1	2	0	3	3	0
Other Non-Collision	2	2.3%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	1	1.1%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	43	49.4%	11	0	5	6	0	5	7	0
Sideswipe - Opposite Direction	3	3.4%	1	0	1	0	0	2	0	0
Sideswipe - Same Direction	2	2.3%	1	0	0	1	0	0	2	0
Turning	22	25.3%	15	5	5	5	5	6	7	0
Total Crashes (2014)	**87**	**100%**	**34**	**5**	**14**	**15**	**5**	**19**	**20**	**0**

Table 2 - Total Crashes by Roadway Surface Condition and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Roadway Surface	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Dry	265	71.05%	97	12	30	53	14	53	78	2
Wet	61	16.35%	19	4	4	11	5	6	20	0
Ice	9	2.41%	1	0	0	1	0	0	1	0
Snow or Slush	36	9.65%	8	4	2	2	10	7	4	0
Sand, Mud, Dirt	0	0.00%	0	0	0	0	0	0	0	0
Other	0	0.00%	0	0	0	0	0	0	0	0
Unknown	2	0.54%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**373**	**100%**	**125**	**20**	**36**	**67**	**29**	**66**	**103**	**2**

Table 2b - Total Crashes by Roadway Surface Condition and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2010)										
				Injury Crashes			Number of Injuries By Type			
Roadway Surface	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Dry	34	64.2%	13	0	5	8	0	10	14	0
Wet	9	17.0%	4	1	0	3	2	0	6	0
Ice	0	0.0%	0	0	0	0	0	0	0	0
Snow or Slush	8	15.1%	3	2	0	1	6	0	2	0
Sand, Mud, Dirt	0	0.0%	0	0	0	0	0	0	0	0
Other	0	0.0%	0	0	0	0	0	0	0	0
Unknown	2	3.8%	0	0	0	0	0	0	0	0
Total Crashes (2010)	**53**	**100%**	**20**	**3**	**5**	**12**	**8**	**10**	**22**	**0**

Table 2c - Total Crashes by Roadway Surface Condition and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2011)										
				Injury Crashes			Number of Injuries By Type			
Roadway Surface	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Dry	49	74.2%	16	4	3	9	4	6	12	0
Wet	13	19.7%	4	2	0	2	2	0	6	0
Ice	3	4.5%	1	0	0	1	0	0	1	0
Snow or Slush	1	1.5%	1	1	0	0	1	2	0	0
Sand, Mud, Dirt	0	0.0%	0	0	0	0	0	0	0	0
Other	0	0.0%	0	0	0	0	0	0	0	0
Unknown	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2011)	**66**	**100%**	**22**	**7**	**3**	**12**	**7**	**8**	**19**	**0**

Table 2d - Total Crashes by Roadway Surface Condition and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2012)										
				Injury Crashes			Number of Injuries By Type			
Roadway Surface	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Dry	75	79.8%	25	3	7	13	5	19	21	2
Wet	12	12.8%	2	0	1	1	0	1	1	0
Ice	2	2.1%	0	0	0	0	0	0	0	0
Snow or Slush	5	5.3%	0	0	0	0	0	0	0	0
Sand, Mud, Dirt	0	0.0%	0	0	0	0	0	0	0	0
Other	0	0.0%	0	0	0	0	0	0	0	0
Unknown	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2012)	**94**	**100%**	**27**	**3**	**8**	**14**	**5**	**20**	**22**	**2**

Table 2e - Total Crashes by Roadway Surface Condition and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2013)										
				Injury Crashes			Number of Injuries By Type			
Roadway Surface	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Dry	46	63.0%	13	0	4	9	0	5	15	0
Wet	18	24.7%	5	0	1	4	0	2	5	0
Ice	1	1.4%	0	0	0	0	0	0	0	0
Snow or Slush	8	11.0%	2	1	1	0	3	2	0	0
Sand, Mud, Dirt	0	0.0%	0	0	0	0	0	0	0	0
Other	0	0.0%	0	0	0	0	0	0	0	0
Unknown	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2013)	**73**	**100%**	**20**	**1**	**6**	**13**	**3**	**9**	**20**	**0**

Table 2e - Total Crashes by Roadway Surface Condition and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2014)										
				Injury Crashes			Number of Injuries By Type			
Roadway Surface	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Dry	61	70.1%	30	5	11	14	5	13	16	0
Wet	9	10.3%	4	1	2	1	1	3	2	0
Ice	3	3.4%	0	0	0	0	0	0	0	0
Snow or Slush	14	16.1%	2	0	1	1	0	3	2	0
Sand, Mud, Dirt	0	0.0%	0	0	0	0	0	0	0	0
Other	0	0.0%	0	0	0	0	0	0	0	0
Unknown	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2014)	**87**	**100%**	**36**	**6**	**14**	**16**	**6**	**19**	**20**	**0**

Table 3 - Total Crashes by Roadway Lighting Condition and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Lighting Condition	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Dawn	12	3.22%	2	0	1	1	0	2	2	0
Daylight	243	65.15%	77	14	22	41	18	41	63	0
Dusk	12	3.22%	3	0	0	3	0	0	4	0
Darkness	60	16.09%	22	2	7	13	6	13	16	0
Darkness, Lighted Road	45	12.06%	14	4	6	9	5	10	18	2
Unknown	1	0.27%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**373**	**100%**	**118**	**20**	**36**	**67**	**29**	**66**	**103**	**2**

Table 3b - Total Crashes by Roadway Lighting Condition and Injury Severity
US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2010)

Lighting Condition	No. of Crashes	Frequency	Total Injury Crashes	Injury Crashes			Number of Injuries By Type			Fatalities
				A	B	C	A	B	C	
Dawn	2	3.8%	0	0	0	0	0	0	0	0
Daylight	35	66.0%	11	1	2	8	3	7	15	0
Dusk	3	5.7%	1	0	0	1	0	0	1	0
Darkness	10	18.9%	6	1	3	2	3	3	2	0
Darkness, Lighted Road	3	5.7%	2	1	0	1	2	0	4	0
Unknown	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2010)	**53**	**100%**	**20**	**3**	**5**	**12**	**8**	**10**	**22**	**0**

Table 3c - Total Crashes by Roadway Lighting Condition and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2011)										
				Injury Crashes			Number of Injuries By Type			
Lighting Condition	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Dawn	2	3.0%	0	0	0	0	0	0	0	0
Daylight	47	71.2%	16	5	2	9	5	7	16	0
Dusk	1	1.5%	0	0	0	0	0	0	0	0
Darkness	10	15.2%	4	0	1	3	0	1	3	0
Darkness, Lighted Road	6	9.1%	2	2	0	0	2	0	0	0
Unknown	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2011)	**66**	**100%**	**22**	**7**	**3**	**12**	**7**	**8**	**19**	**0**

Table 3d - Total Crashes by Roadway Lighting Condition and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2012)										
				Injury Crashes			Number of Injuries By Type			
Lighting Condition	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Dawn	1	1.1%	0	0	0	0	0	0	0	0
Daylight	59	62.8%	14	3	5	6	5	11	11	0
Dusk	5	5.3%	2	0	0	2	0	0	3	0
Darkness	16	17.0%	5	0	2	3	0	6	3	0
Darkness, Lighted Road	12	12.8%	6	0	1	3	0	3	5	2
Unknown	1	1.1%	0	0	0	0	0	0	0	0
Total Crashes (2012)	**94**	**100%**	**27**	**3**	**8**	**14**	**5**	**20**	**22**	**2**

Table 3e - Total Crashes by Roadway Lighting Condition and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2013)										
				Injury Crashes			Number of Injuries By Type			
Lighting Condition	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Dawn	7	9.6%	2	0	1	1	0	2	2	0
Daylight	46	63.0%	14	0	5	9	0	7	11	0
Dusk	0	0.0%	0	0	0	0	0	0	0	0
Darkness	13	17.8%	3	1	0	2	3	0	3	0
Darkness, Lighted Road	7	9.6%	1	0	0	1	0	0	4	0
Unknown	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2013)	**73**	**100%**	**20**	**1**	**6**	**13**	**3**	**9**	**20**	**0**

Table 3e - Total Crashes by Roadway Lighting Condition and Injury Severity US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2014)										
				Injury Crashes			Number of Injuries By Type			
Lighting Condition	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Dawn	0	0.0%	0	0	0	0	0	0	0	0
Daylight	56	64.4%	22	5	8	9	5	9	10	0
Dusk	3	3.4%	0	0	0	0	0	0	0	0
Darkness	11	12.6%	4	0	1	3	0	3	5	0
Darkness, Lighted Road	17	19.5%	3	1	5	4	1	7	5	0
Unknown	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2014)	**87**	**100%**	**29**	**6**	**14**	**16**	**6**	**19**	**20**	**0**

Table 4 - Total Crashes by Time of Day and Day of Week
US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2010-2014)

Time of Day	Weekend	Weekday	Total	% of day of week total*		% of Total**	
				Weekend	Weekday	Weekend	Weekday
12:00-12:59 a.m.	1	2	3	1.01%	0.73%	0.27%	0.54%
1:00-1:59 a.m.	5	0	5	5.05%	0.00%	1.34%	0.00%
2:00-2:59 a.m.	0	0	0	0.00%	0.00%	0.00%	0.00%
3:00-3:59 a.m.	4	0	4	4.04%	0.00%	1.07%	0.00%
4:00-4:59 a.m.	0	3	3	0.00%	1.09%	0.00%	0.80%
5:00-5:59 a.m.	0	6	6	0.00%	2.19%	0.00%	1.61%
6:00-6:59 a.m.	1	17	18	1.01%	6.20%	0.27%	4.56%
7:00-7:59 a.m.	4	22	26	4.04%	8.03%	1.07%	5.90%
8:00-8:59 a.m.	3	8	11	3.03%	2.92%	0.80%	2.14%
9:00-9:59 a.m.	1	13	14	1.01%	4.74%	0.27%	3.49%
10:00-10:59 a.m.	2	2	4	2.02%	0.73%	0.54%	0.54%
11:00 -11:59 a.m.	8	10	18	8.08%	3.65%	2.14%	2.68%
12:00-12:59 p.m.	9	5	14	9.09%	1.82%	2.41%	1.34%
1:00-1:59 p.m.	6	10	16	6.06%	3.65%	1.61%	2.68%
2:00-2:59 p.m.	6	14	20	6.06%	5.11%	1.61%	3.75%
3:00-3:59 p.m.	8	21	29	8.08%	7.66%	2.14%	5.63%
4:00-4:59 p.m.	7	37	44	7.07%	13.50%	1.88%	9.92%
5:00-5:59 p.m.	9	36	45	9.09%	13.14%	2.41%	9.65%
6:00-6:59 p.m.	4	24	28	4.04%	8.76%	1.07%	6.43%
7:00-7:59 p.m.	2	17	19	2.02%	6.20%	0.54%	4.56%
8:00-8:59 p.m.	9	9	18	9.09%	3.28%	2.41%	2.41%
9:00-9:59 p.m.	7	12	19	7.07%	4.38%	1.88%	3.22%
10:00-10:59 p.m.	3	5	8	3.03%	1.82%	0.80%	1.34%
11:00 p.m.-11:59 a.m.	0	1	1	0.00%	0.36%	0.00%	0.27%
Total Crashes (2010-2014)	99	274	373	100%	100%	27%	73%

*This percentage is the total crashes for either the weekend or weekday time period divided by the total crashes for that period.

**This percentage is the total crashes for either the weekend or weekday time period divided by the total crashes for all days of the week.

0 - 3 percent	
3.1 - 6 percent	
6.1 - 8 percent	
> 8 percent	

Table 4b - Total Crashes by Time of Day and Day of Week
US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2010)

Time of Day	Weekend	Weekday	Total	% of day of week total*		% of Total**	
				Weekend	Weekday	Weekend	Weekday
12:00-12:59 a.m.	0	1	1	0.0%	2.4%	0.0%	1.9%
1:00-1:59 a.m.	1	0	1	9.1%	0.0%	1.9%	0.0%
2:00-2:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
3:00-3:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
4:00-4:59 a.m.	0	1	1	0.0%	2.4%	0.0%	1.9%
5:00-5:59 a.m.	0	1	1	0.0%	2.4%	0.0%	1.9%
6:00-6:59 a.m.	1	1	2	9.1%	2.4%	1.9%	1.9%
7:00-7:59 a.m.	0	3	3	0.0%	7.1%	0.0%	5.7%
8:00-8:59 a.m.	0	1	1	0.0%	2.4%	0.0%	1.9%
9:00-9:59 a.m.	0	5	5	0.0%	11.9%	0.0%	9.4%
10:00-10:59 a.m.	1	0	1	9.1%	0.0%	1.9%	0.0%
11:00 -11:59 a.m.	2	0	2	18.2%	0.0%	3.8%	0.0%
12:00-12:59 p.m.	1	0	1	9.1%	0.0%	1.9%	0.0%
1:00-1:59 p.m.	1	0	1	9.1%	0.0%	1.9%	0.0%
2:00-2:59 p.m.	1	3	4	9.1%	7.1%	1.9%	5.7%
3:00-3:59 p.m.	1	4	5	9.1%	9.5%	1.9%	7.5%
4:00-4:59 p.m.	1	5	6	9.1%	11.9%	1.9%	9.4%
5:00-5:59 p.m.	1	7	8	9.1%	16.7%	1.9%	13.2%
6:00-6:59 p.m.	0	3	3	0.0%	7.1%	0.0%	5.7%
7:00-7:59 p.m.	0	3	3	0.0%	7.1%	0.0%	5.7%
8:00-8:59 p.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
9:00-9:59 p.m.	0	3	3	0.0%	7.1%	0.0%	5.7%
10:00-10:59 p.m.	0	1	1	0.0%	2.4%	0.0%	1.9%
11:00 p.m.-11:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
Total Crashes (2010)	11	42	53	100%	100%	21%	79%

*This percentage is the total crashes for either the weekend or weekday time period divided by the total crashes for that period.

**This percentage is the total crashes for either the weekend or weekday time period divided by the total crashes for all days of the week.

0 - 3 percent	
3.1 - 6 percent	
6.1 - 8 percent	
> 8 percent	

Table 4c - Total Crashes by Time of Day and Day of Week
US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2011)

Time of Day	Weekend	Weekday	Total	% of day of week total*		% of Total**	
				Weekend	Weekday	Weekend	Weekday
12:00-12:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
1:00-1:59 a.m.	1	0	1	5.9%	0.0%	1.5%	0.0%
2:00-2:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
3:00-3:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
4:00-4:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
5:00-5:59 a.m.	0	1	1	0.0%	2.0%	0.0%	1.5%
6:00-6:59 a.m.	0	6	6	0.0%	12.2%	0.0%	9.1%
7:00-7:59 a.m.	1	2	3	5.9%	4.1%	1.5%	3.0%
8:00-8:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
9:00-9:59 a.m.	1	2	3	5.9%	4.1%	1.5%	3.0%
10:00-10:59 a.m.	1	1	2	5.9%	2.0%	1.5%	1.5%
11:00 -11:59 a.m.	0	2	2	0.0%	4.1%	0.0%	3.0%
12:00-12:59 p.m.	1	1	2	5.9%	2.0%	1.5%	1.5%
1:00-1:59 p.m.	1	3	4	5.9%	6.1%	1.5%	4.5%
2:00-2:59 p.m.	2	2	4	11.8%	4.1%	3.0%	3.0%
3:00-3:59 p.m.	3	5	8	17.6%	10.2%	4.5%	7.6%
4:00-4:59 p.m.	0	7	7	0.0%	14.3%	0.0%	10.6%
5:00-5:59 p.m.	1	4	5	5.9%	8.2%	1.5%	6.1%
6:00-6:59 p.m.	1	4	5	5.9%	8.2%	1.5%	6.1%
7:00-7:59 p.m.	0	3	3	0.0%	6.1%	0.0%	4.5%
8:00-8:59 p.m.	3	2	5	17.6%	4.1%	4.5%	3.0%
9:00-9:59 p.m.	0	1	1	0.0%	2.0%	0.0%	1.5%
10:00-10:59 p.m.	1	3	4	5.9%	6.1%	1.5%	4.5%
11:00 p.m.-11:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
Total Crashes (2011)	17	49	66	100%	100%	26%	74%

*This percentage is the total crashes for either the weekend or weekday time period divided by the total crashes for that period.

**This percentage is the total crashes for either the weekend or weekday time period divided by the total crashes for all days of the week.

0 - 3 percent	
3.1 - 6 percent	
6.1 - 8 percent	
> 8 percent	

Table 4d - Total Crashes by Time of Day and Day of Week
US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2012)

Time of Day	Weekend	Weekday	Total	% of day of week total*		% of Total**	
				Weekend	Weekday	Weekend	Weekday
12:00-12:59 a.m.	1	0	1	4.3%	0.0%	1.1%	0.0%
1:00-1:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
2:00-2:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
3:00-3:59 a.m.	2	0	2	8.7%	0.0%	2.1%	0.0%
4:00-4:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
5:00-5:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
6:00-6:59 a.m.	0	1	1	0.0%	1.4%	0.0%	1.1%
7:00-7:59 a.m.	0	6	6	0.0%	8.5%	0.0%	6.4%
8:00-8:59 a.m.	1	1	2	4.3%	1.4%	1.1%	1.1%
9:00-9:59 a.m.	0	2	2	0.0%	2.8%	0.0%	2.1%
10:00-10:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
11:00 -11:59 a.m.	0	5	5	0.0%	7.0%	0.0%	5.3%
12:00-12:59 p.m.	4	0	4	17.4%	0.0%	4.3%	0.0%
1:00-1:59 p.m.	0	3	3	0.0%	4.2%	0.0%	3.2%
2:00-2:59 p.m.	1	4	5	4.3%	5.6%	1.1%	4.3%
3:00-3:59 p.m.	4	5	9	17.4%	7.0%	4.3%	5.3%
4:00-4:59 p.m.	2	14	16	8.7%	19.7%	2.1%	14.9%
5:00-5:59 p.m.	3	10	13	13.0%	14.1%	3.2%	10.6%
6:00-6:59 p.m.	0	7	7	0.0%	9.9%	0.0%	7.4%
7:00-7:59 p.m.	1	4	5	4.3%	5.6%	1.1%	4.3%
8:00-8:59 p.m.	2	4	6	8.7%	5.6%	2.1%	4.3%
9:00-9:59 p.m.	2	4	6	8.7%	5.6%	2.1%	4.3%
10:00-10:59 p.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
11:00 p.m.-11:59 a.m.	0	1	1	0.0%	1.4%	0.0%	1.1%
Total Crashes (2012)	23	71	94	100%	100%	24%	76%

*This percentage is the total crashes for either the weekend or weekday time period divided by the total crashes for that period.

**This percentage is the total crashes for either the weekend or weekday time period divided by the total crashes for all days of the week.

0 - 3 percent	
3.1 - 6 percent	
6.1 - 8 percent	
> 8 percent	

Table 4e - Total Crashes by Time of Day and Day of Week
US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2013)

Time of Day	Weekend	Weekday	Total	% of day of week total*		% of Total**	
				Weekend	Weekday	Weekend	Weekday
12:00-12:59 a.m.	0	1	1	0.0%	1.9%	0.0%	1.4%
1:00-1:59 a.m.	1	0	1	5.3%	0.0%	1.4%	0.0%
2:00-2:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
3:00-3:59 a.m.	1	0	1	5.3%	0.0%	1.4%	0.0%
4:00-4:59 a.m.	0	1	1	0.0%	1.9%	0.0%	1.4%
5:00-5:59 a.m.	0	2	2	0.0%	3.7%	0.0%	2.7%
6:00-6:59 a.m.	0	5	5	0.0%	9.3%	0.0%	6.8%
7:00-7:59 a.m.	3	6	9	15.8%	11.1%	4.1%	8.2%
8:00-8:59 a.m.	2	4	6	10.5%	7.4%	2.7%	5.5%
9:00-9:59 a.m.	0	2	2	0.0%	3.7%	0.0%	2.7%
10:00-10:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
11:00 -11:59 a.m.	3	1	4	15.8%	1.9%	4.1%	1.4%
12:00-12:59 p.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
1:00-1:59 p.m.	0	1	1	0.0%	1.9%	0.0%	1.4%
2:00-2:59 p.m.	1	3	4	5.3%	5.6%	1.4%	4.1%
3:00-3:59 p.m.	0	3	3	0.0%	5.6%	0.0%	4.1%
4:00-4:59 p.m.	2	3	5	10.5%	5.6%	2.7%	4.1%
5:00-5:59 p.m.	1	8	9	5.3%	14.8%	1.4%	11.0%
6:00-6:59 p.m.	1	5	6	5.3%	9.3%	1.4%	6.8%
7:00-7:59 p.m.	0	5	5	0.0%	9.3%	0.0%	6.8%
8:00-8:59 p.m.	1	2	3	5.3%	3.7%	1.4%	2.7%
9:00-9:59 p.m.	1	1	2	5.3%	1.9%	1.4%	1.4%
10:00-10:59 p.m.	2	1	3	10.5%	1.9%	2.7%	1.4%
11:00 p.m.-11:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
Total Crashes (2013)	19	54	73	100%	100%	26%	74%

*This percentage is the total crashes for either the weekend or weekday time period divided by the total crashes for that period.

**This percentage is the total crashes for either the weekend or weekday time period divided by the total crashes for all days of the week.

0 - 3 percent	
3.1 - 6 percent	
6.1 - 8 percent	
> 8 percent	

Table 4e - Total Crashes by Time of Day and Day of Week
US-30 between Illinois Route 47 and Eastbound Ramp to Illinois Route 31 (2014)

			% of day of week total*			% of Total**	
Time of Day	Weekend	Weekday	Total	Weekend	Weekday	Weekend	Weekday
12:00-12:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
1:00-1:59 a.m.	2	0	2	6.9%	0.0%	2.3%	0.0%
2:00-2:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
3:00-3:59 a.m.	1	0	1	3.4%	0.0%	1.1%	0.0%
4:00-4:59 a.m.	0	1	1	0.0%	1.7%	0.0%	1.1%
5:00-5:59 a.m.	0	2	2	0.0%	3.4%	0.0%	2.3%
6:00-6:59 a.m.	0	4	4	0.0%	6.9%	0.0%	4.6%
7:00-7:59 a.m.	0	5	5	0.0%	8.6%	0.0%	5.7%
8:00-8:59 a.m.	0	2	2	0.0%	3.4%	0.0%	2.3%
9:00-9:59 a.m.	0	2	2	0.0%	3.4%	0.0%	2.3%
10:00-10:59 a.m.	0	1	1	0.0%	1.7%	0.0%	1.1%
11:00 -11:59 a.m.	3	2	5	10.3%	3.4%	3.4%	2.3%
12:00-12:59 p.m.	3	4	7	10.3%	6.9%	3.4%	4.6%
1:00-1:59 p.m.	4	3	7	13.8%	5.2%	4.6%	3.4%
2:00-2:59 p.m.	1	2	3	3.4%	3.4%	1.1%	2.3%
3:00-3:59 p.m.	0	4	4	0.0%	6.9%	0.0%	4.6%
4:00-4:59 p.m.	2	8	10	6.9%	13.8%	2.3%	9.2%
5:00-5:59 p.m.	3	7	10	10.3%	12.1%	3.4%	8.0%
6:00-6:59 p.m.	2	5	7	6.9%	8.6%	2.3%	5.7%
7:00-7:59 p.m.	1	2	3	3.4%	3.4%	1.1%	2.3%
8:00-8:59 p.m.	3	1	4	10.3%	1.7%	3.4%	1.1%
9:00-9:59 p.m.	4	3	7	13.8%	5.2%	4.6%	3.4%
10:00-10:59 p.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
11:00 p.m.-11:59 a.m.	0	0	0	0.0%	0.0%	0.0%	0.0%
Total Crashes (2014)	29	58	87	100%	100%	33%	67%

*This percentage is the total crashes for either the weekend or weekday time period divided by the total crashes for that period.

**This percentage is the total crashes for either the weekend or weekday time period divided by the total crashes for all days of the week.

0 - 3 percent	
3.1 - 6 percent	
6.1 - 8 percent	
> 8 percent	

Table 5 - Total Crash Types by Frequency and Injury Severity
Crashes on US-30 between Illinois Route 47 and Bertram Road (2010-2014)

Crash Type	No. of Crashes	Frequency	Total Injury Crashes	Injury Crashes			Number of Injuries By Type			Fatalities
				A	B	C	A	B	C	
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	1	5.88%	0	0	0	0	0	0	0	0
Fixed Object	3	17.65%	0	0	0	0	0	0	0	0
Head On	1	5.88%	1	0	0	1	0	0	3	0
Other Non-Collision	1	5.88%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	1	5.88%	1	1	0	0	1	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	9	52.94%	3	1	2	0	3	6	0	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	1	5.88%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**17**	**100%**	**5**	**2**	**2**	**1**	**4**	**6**	**3**	**0**

Table 5b - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Illinois Route 47 and Bertram Road (2010)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	1	100.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2010)	**1**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 5c - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Illinois Route 47 and Bertram Road (2011)										
				Injury Crashes			Number of Injuries By Type			
Crash Type		Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2011)	**0**	**0%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 5d - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Illinois Route 47 and Bertram Road (2012)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	1	16.7%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	1	16.7%	1	1	0	0	1	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	4	66.7%	2	1	1	0	3	5	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2012)	**6**	**100%**	**3**	**2**	**1**	**0**	**4**	**5**	**0**	**0**

Table 5e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Illinois Route 47 and Bertram Road (2013)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	2	25.0%	0	0	0	0	0	0	0	0
Head On	1	12.5%	1	0	0	1	0	0	3	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	4	50.0%	1	0	1	0	0	1	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	1	12.5%	0	0	0	0	0	0	0	0
Total Crashes (2013)	**8**	**100%**	**2**	**0**	**1**	**1**	**0**	**1**	**3**	**0**

Table 5e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Illinois Route 47 and Bertram Road (2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	1	50.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	1	50.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2014)	**2**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 6 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Bertram Road (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	1	11.11%	2	0	1	1	0	1	1	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	5	55.56%	3	0	3	0	0	4	0	0
Head On	0	0.00%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	1	11.11%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	2	22.22%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**9**	**100%**	**5**	**0**	**4**	**1**	**0**	**5**	**1**	**0**

Table 6b - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Bertram Road (2010)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	3	100.0%	2	0	2	0	0	2	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2010)	**3**	**100%**	**2**	**0**	**2**	**0**	**0**	**2**	**0**	**0**

Table 6c - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Bertram Road (2011)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	1	50.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	1	50.0%	0	0	0	0	0	0	0	0
Total Crashes (2011)	**2**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 6d - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Bertram Road (2012)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	1	100.0%	0	0	0	0	0	0	0	0
Total Crashes (2012)	**1**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 6e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Bertram Road (2013)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	1	100.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2013)	**1**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 6e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Bertram Road (2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	1	50.0%	2	0	1	1	0	1	1	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	1	50.0%	1	0	1	0	0	2	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2014)	**2**	**100%**	**3**	**0**	**2**	**1**	**0**	**3**	**1**	**0**

Table 7 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Dickson Road (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	0	0.00%	0	0	0	0	0	0	0	0
Head On	0	0.00%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	7	70.00%	3	0	3	0	0	7	0	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	1	10.00%	1	0	0	1	0	0	2	0
Turning	2	20.00%	1	0	1	0	0	2	0	0
Total Crashes (2010-2014)	**10**	**100%**	**5**	**0**	**4**	**1**	**0**	**9**	**2**	**0**

Table 7b - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Dickson Road (2010)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	1	100.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2010)	**1**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 7c - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Dickson Road (2011)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0	0	0	0	0	0	0	0	0
Animal	0	0	0	0	0	0	0	0	0	0
Fixed Object	0	0	0	0	0	0	0	0	0	0
Head On	0	0	0	0	0	0	0	0	0	0
Other Non-Collision	0	0	0	0	0	0	0	0	0	0
Other Object	0	0	0	0	0	0	0	0	0	0
Overturned	0	0	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0	0	0	0	0	0	0	0	0
Pedestrian	0	0	0	0	0	0	0	0	0	0
Rear End	0	0	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0	0	0	0	0	0	0	0	0
Turning	0	0	0	0	0	0	0	0	0	0
Total Crashes (2011)	**0**	**0%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 7d - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Dickson Road (2012)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	1	33.3%	1	0	1	0	0	4	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	2	66.7%	1	0	1	0	0	2	0	0
Total Crashes (2012)	**3**	**100%**	**2**	**0**	**2**	**0**	**0**	**6**	**0**	**0**

Table 7e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Dickson Road (2013)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	1	100.0%	1	0	1	0	0	2	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2013)	**1**	**100%**	**1**	**0**	**1**	**0**	**0**	**2**	**0**	**0**

Table 7e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Dickson Road (2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	4	80.0%	1	0	1	0	0	1	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	1	20.0%	1	0	0	1	0	0	2	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2014)	**5**	**100%**	**2**	**0**	**1**	**1**	**0**	**1**	**2**	**0**

Table 8 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Gordon Road (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	1	10.00%	1	0	0	1	0	0	1	0
Head On	0	0.00%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	1	10.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	2	20.00%	1	0	0	1	0	0	1	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	6	60.00%	2	0	2	2	0	3	2	0
Total Crashes (2010-2014)	**10**	**100%**	**4**	**0**	**2**	**4**	**0**	**3**	**4**	**0**

Table 8b - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Gordon Road (2010)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2010)	**0**	**0%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 8c - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Gordon Road (2011)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	1	50.0%	1	0	0	1	0	0	1	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	1	50.0%	0	0	0	0	0	0	0	0
Total Crashes (2011)	**2**	100.0%	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**0**

Table 8d - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Gordon Road (2012)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	1	100.0%	1	0	0	1	0	0	1	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2012)	**1**	100.0%	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**0**

Table 8e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Gordon Road (2013)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	1	25.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	1	25.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	2	50.0%	2	0	1	1	0	2	1	0
Total Crashes (2013)	**4**	**100%**	**2**	**0**	**1**	**1**	**0**	**2**	**1**	**0**

Table 8e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Gordon Road (2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	3	100.0%	0	0	1	1	0	1	1	0
Total Crashes (2014)	**3**	**100%**	**0**	**0**	**1**	**1**	**0**	**1**	**1**	**0**

Table 9 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Prescott Drive (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	0	0.00%	0	0	0	0	0	0	0	0
Head On	1	33.33%	1	0	1	0	0	2	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	1	33.33%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	1	33.33%	1	0	0	0	0	0	1	1
Total Crashes (2010-2014)	**3**	**100%**	**2**	**0**	**1**	**0**	**0**	**2**	**1**	**1**

Table 9b - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Prescott Drive (2010)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2010)	**0**	**0%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 9c - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Prescott Drive (2011)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2011)	**0**	**0%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 9d - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Prescott Drive (2012)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	1	50.0%	1	0	1	0	0	2	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	1	50.0%	1	0	0	0	0	0	1	1
Total Crashes (2012)	**2**	**100%**	**2**	**0**	**1**	**0**	**0**	**2**	**1**	**1**

Table 9e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Prescott Drive (2013)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	1	100.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2013)	**1**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 9e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Prescott Drive (2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	#DIV/0!	0	0	0	0	0	0	0	0
Animal	0	#DIV/0!	0	0	0	0	0	0	0	0
Fixed Object	0	#DIV/0!	0	0	0	0	0	0	0	0
Head On	0	#DIV/0!	0	0	0	0	0	0	0	0
Other Non-Collision	0	#DIV/0!	0	0	0	0	0	0	0	0
Other Object	0	#DIV/0!	0	0	0	0	0	0	0	0
Overturned	0	#DIV/0!	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	#DIV/0!	0	0	0	0	0	0	0	0
Pedestrian	0	#DIV/0!	0	0	0	0	0	0	0	0
Rear End	0	#DIV/0!	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	#DIV/0!	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	#DIV/0!	0	0	0	0	0	0	0	0
Turning	0	#DIV/0!	0	0	0	0	0	0	0	0
Total Crashes (2014)	**0**	**#DIV/0!**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 10 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Prescott Drive and Lakewood Creek Drive (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Angle	2	66.67%	1	0	0	1	0	0	2	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	1	33.33%	0	0	0	0	0	0	0	0
Head On	0	0.00%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	0	0.00%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**3**	**100%**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**0**

Table 10b - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Prescott Road and Lakewood Creek Drive (2010)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	1	100.0%	1	0	0	1	0	0	2	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2010)	**1**	**100%**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**0**

Table 10c - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Prescott Drive and Lakewood Creek Drive (2011)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2011)	**0**	**0%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 10d - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Prescott Drive and Lakewood Creek Drive (2012)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2012)	**0**	**0%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 10e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Prescott Drive and Lakewood Creek Drive (2013)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	1	100.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2013)	**1**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 10e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Prescott Drive and Lakewood Creek Drive (2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	1	100.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2014)	**1**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 11 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Lakewood Creek Drive (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	1	9.09%	0	0	0	0	0	0	0	0
Head On	1	9.09%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	1	9.09%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	7	63.64%	1	1	0	0	1	1	2	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	1	9.09%	1	0	0	1	0	0	1	0
Total Crashes (2010-2014)	**11**	**100%**	**2**	**1**	**0**	**1**	**1**	**1**	**3**	**0**

Table 11b - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Lakewood Creek Drive (2010)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2010)	**0**	**0%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 11c - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Lakewood Creek Drive (2011)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	4	80.0%	1	1	0	0	1	1	2	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	1	20.0%	1	0	0	1	0	0	1	0
Total Crashes (2011)	**5**	**100%**	**2**	**1**	**0**	**1**	**1**	**1**	**3**	**0**

Table 11d - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Lakewood Creek Drive (2012)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	1	50.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	1	50.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2012)	**2**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 11e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Lakewood Creek Drive (2013)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	1	33.3%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	2	66.7%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2013)	**3**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 11e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Lakewood Creek Drive (2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	1	100.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2014)	**1**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 12 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Lakewood Creek Drive and Griffin Drive (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	1	14.29%	0	0	0	0	0	0	0	0
Fixed Object	2	28.57%	0	0	0	0	0	0	0	0
Head On	3	42.86%	1	1	0	0	3	0	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	1	14.29%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	0	0.00%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**7**	**100%**	**1**	**1**	**0**	**0**	**3**	**0**	**0**	**0**

Table 12b - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Lakewood Creek Drive and Griffin Drive (2010)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2010)	**0**	**0%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 12c - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Lakewood Creek Drive and Griffin Drive (2011)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	1	100.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2011)	**1**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 12d - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Lakewood Creek Drive and Griffin Drive (2012)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	2	100.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2012)	**2**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 12e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Lakewood Creek Drive and Griffin Drive (2013)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	1	50.0%	1	1	0	0	3	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	1	50.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2013)	**2**	**100%**	**1**	**1**	**0**	**0**	**3**	**0**	**0**	**0**

Table 12e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Lakewood Creek Drive and Griffin Drive (2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	2	100.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2014)	**2**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 13 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Griffin Drive (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	0	0.00%	0	0	0	0	0	0	0	0
Head On	0	0.00%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	10	83.33%	2	0	2	0	0	2	0	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	2	16.67%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**12**	**100%**	**2**	**0**	**2**	**0**	**0**	**2**	**0**	**0**

Table 13b - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Griffin Drive (2010)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2010)	**0**	**0%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 13c - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Griffin Drive (2011)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	2	66.7%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	1	33.3%	0	0	0	0	0	0	0	0
Total Crashes (2011)	**3**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 13d - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Griffin Drive (2012)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	2	100.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2012)	**2**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 13e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Griffin Drive (2013)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	4	80.0%	1	0	1	0	0	1	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	1	20.0%	0	0	0	0	0	0	0	0
Total Crashes (2013)	**5**	**100%**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**0**

Table 13e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Griffin Drive (2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	2	100.0%	1	0	1	0	0	1	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2014)	**2**	**100%**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**0**

Table 14 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Griffin Drive and Blackberry Road (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	4	28.57%	0	0	0	0	0	0	0	0
Head On	2	14.29%	2	0	0	2	0	0	3	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	1	7.14%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	5	35.71%	1	0	0	1	0	0	1	0
Sideswipe - Opposite Direction	1	7.14%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	1	7.14%	2	1	1	0	1	1	0	0
Total Crashes (2010-2014)	**14**	**100%**	**5**	**1**	**1**	**3**	**1**	**1**	**4**	**0**

Table 14b - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Griffin Drive and Blackberry Road (2010)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2010)	**0**	**0%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 14c - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Griffin Drive and Blackberry Road (2011)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	1	100.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2011)	**1**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 14d - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Griffin Drive and Blackberry Road (2012)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	2	66.7%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	1	33.3%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2012)	**3**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 14e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Griffin Drive and Blackberry Road (2013)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	1	50.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	1	50.0%	1	0	0	1	0	0	1	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2013)	**2**	**100%**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**0**

Table 14e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Griffin Drive and Blackberry Road (2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	1	12.5%	0	0	0	0	0	0	0	0
Head On	2	25.0%	2	0	0	2	0	0	3	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	1	12.5%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	2	25.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	1	12.5%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	1	12.5%	2	1	1	0	1	1	0	0
Total Crashes (2014)	**8**	**100%**	**4**	**1**	**1**	**2**	**1**	**1**	**3**	**0**

Table 15 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Blackberry Road (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	1	14.29%	0	0	0	0	0	0	0	0
Fixed Object	0	0.00%	0	0	0	0	0	0	0	0
Head On	0	0.00%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	6	85.71%	3	0	0	3	0	0	4	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	0	0.00%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**7**	**100%**	**3**	**0**	**0**	**3**	**0**	**0**	**4**	**0**

Table 15b - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Blackberry Road (2010)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2010)	**0**	**0%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 15c - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Blackberry Road (2011)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	2	100.0%	2	0	0	2	0	0	3	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2011)	**2**	**100%**	**2**	**0**	**0**	**2**	**0**	**0**	**3**	**0**

Table 15d - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Blackberry Road (2012)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	1	50.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	1	50.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2012)	**2**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 15e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Blackberry Road (2013)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	1	100.0%	1	0	0	1	0	0	1	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2013)	**1**	**100%**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**0**

Table 15e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Blackberry Road (2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	2	100.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2014)	**2**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 16 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Blackberry Road and Orchard Road (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	0	0.00%	0	0	0	0	0	0	0	0
Head On	0	0.00%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	7	100.00%	4	1	2	1	1	2	1	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	0	0.00%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**7**	**100%**	**4**	**1**	**2**	**1**	**1**	**2**	**1**	**0**

Table 16b - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Blackberry Road and Orchard Road (2010)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2010)	**0**	**0%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 16c - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Blackberry Road and Orchard Road (2011)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	1	100.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2011)	**1**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 16d - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Blackberry Road and Orchard Road (2012)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	2	100.0%	2	1	1	0	1	1	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2012)	**2**	**100%**	**2**	**1**	**1**	**0**	**1**	**1**	**0**	**0**

Table 16e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Blackberry Road and Orchard Road (2013)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	1	100.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2013)	**1**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 16e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Blackberry Road and Orchard Road (2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	3	100.0%	2	0	1	1	0	1	1	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2014)	**3**	**100%**	**2**	**0**	**1**	**1**	**0**	**1**	**1**	**0**

Table 17 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Orchard Road (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	6	3.47%	1	1	0	0	1	2	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	3	1.73%	1	1	0	0	1	0	0	0
Head On	1	0.58%	1	1	0	0	1	0	0	0
Other Non-Collision	1	0.58%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	1	0.58%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	98	56.65%	30	1	5	24	1	7	39	0
Sideswipe - Opposite Direction	2	1.16%	1	0	1	0	0	2	0	0
Sideswipe - Same Direction	7	4.05%	1	0	1	0	0	1	0	0
Turning	54	31.21%	19	5	5	10	6	10	18	1
Total Crashes (2010-2014)	**173**	**100%**	**54**	**9**	**12**	**34**	**10**	**22**	**57**	**1**

Table 17b - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Orchard Road (2010)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	1	3.6%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	1	3.6%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	15	53.6%	7	0	1	6	0	1	11	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	1	3.6%	0	0	0	0	0	0	0	0
Turning	10	35.7%	3	1	1	1	2	3	4	0
Total Crashes (2010)	**28**	**100%**	**10**	**1**	**2**	**7**	**2**	**4**	**15**	**0**

Table 17c - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Orchard Road (2011)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	3	10.7%	1	1	0	0	1	2	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	1	3.6%	1	1	0	0	1	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	17	60.7%	8	1	2	5	1	4	9	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	1	3.6%	0	0	0	0	0	0	0	0
Turning	6	21.4%	1	1	0	0	1	0	0	0
Total Crashes (2011)	**28**	**100%**	**11**	**4**	**2**	**5**	**4**	**6**	**9**	**0**

Table 17d - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Orchard Road (2012)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	2	4.2%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	1	2.1%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	28	58.3%	7	0	0	7	0	0	13	0
Sideswipe - Opposite Direction	1	2.1%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	3	6.3%	1	0	1	0	0	1	0	0
Turning	13	27.1%	5	0	1	3	0	3	4	1
Total Crashes (2012)	**48**	**100%**	**13**	**0**	**2**	**10**	**0**	**4**	**17**	**1**

Table 17e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Orchard Road (2013)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	2	7.4%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	15	55.6%	3	0	0	3	0	0	3	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	1	3.7%	0	0	0	0	0	0	0	0
Turning	9	33.3%	3	0	0	3	0	0	5	0
Total Crashes (2013)	**27**	**100%**	**6**	**0**	**0**	**6**	**0**	**0**	**8**	**0**

Table 17e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Orchard Road (2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	1	2.4%	1	1	0	0	1	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	23	54.8%	5	0	2	3	0	2	3	0
Sideswipe - Opposite Direction	1	2.4%	1	0	1	0	0	2	0	0
Sideswipe - Same Direction	1	2.4%	0	0	0	0	0	0	0	0
Turning	16	38.1%	7	3	3	3	3	4	5	0
Total Crashes (2014)	**42**	**100%**	**14**	**4**	**6**	**6**	**4**	**8**	**8**	**0**

Table 18 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Orchard Road and Galena Road/Horseman Trail/Baseline Road (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	1	7.14%	0	0	0	0	0	0	0	0
Head On	0	0.00%	0	0	0	0	0	0	0	0
Other Non-Collision	1	7.14%	1	0	1	0	0	1	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	11	78.57%	5	2	0	3	2	0	6	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	1	7.14%	0	0	0	0	0	0	0	0
Turning	0	0.00%	0	0	0	0	0	0	0	0
Total Crashes (2010-2014)	**14**	**100%**	**6**	**2**	**1**	**3**	**2**	**1**	**6**	**0**

Table 18b - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Orchard Road and Galena Road/Horseman Trail/Baseline Road (2010)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2010)	**0**	**0%**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 18c - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Orchard Road and Galena Road/Horseman Trail/Baseline Road (2011)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	1	14.3%	1	0	1	0	0	1	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	6	85.7%	2	2	0	0	2	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2011)	**7**	**100%**	**3**	**2**	**1**	**0**	**2**	**1**	**0**	**0**

Table 18d - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Orchard Road and Galena Road/Horseman Trail/Baseline Road (2012)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	1	20.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	3	60.0%	1	0	0	1	0	0	1	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	1	20.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2012)	**5**	**100%**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**0**

Table 18e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Orchard Road and Galena Road/Horseman Trail/Baseline Road (2013)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	2	100.0%	2	0	0	2	0	0	5	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2013)	**2**	**100%**	**2**	**0**	**0**	**2**	**0**	**0**	**5**	**0**

Table 18e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Orchard Road and Galena Road/Horseman Trail/Baseline Road (2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	#DIV/0!	0	0	0	0	0	0	0	0
Animal	0	#DIV/0!	0	0	0	0	0	0	0	0
Fixed Object	0	#DIV/0!	0	0	0	0	0	0	0	0
Head On	0	#DIV/0!	0	0	0	0	0	0	0	0
Other Non-Collision	0	#DIV/0!	0	0	0	0	0	0	0	0
Other Object	0	#DIV/0!	0	0	0	0	0	0	0	0
Overturned	0	#DIV/0!	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	#DIV/0!	0	0	0	0	0	0	0	0
Pedestrian	0	#DIV/0!	0	0	0	0	0	0	0	0
Rear End	0	#DIV/0!	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	#DIV/0!	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	#DIV/0!	0	0	0	0	0	0	0	0
Turning	0	#DIV/0!	0	0	0	0	0	0	0	0
Total Crashes (2014)	**0**	**#DIV/0!**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 19 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Galena Road/Horseman Trail/Baseline Road (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	1	2.94%	0	0	0	0	0	0	0	0
Fixed Object	4	11.76%	0	0	0	0	0	0	0	0
Head On	1	2.94%	1	0	1	0	0	2	0	0
Other Non-Collision	0	0.00%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	0	0.00%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	23	67.65%	5	0	0	6	0	0	7	0
Sideswipe - Opposite Direction	0	0.00%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	2	5.88%	0	0	0	0	0	0	0	0
Turning	3	8.82%	1	1	0	0	1	0	0	0
Total Crashes (2010-2014)	**34**	**100%**	**7**	**1**	**1**	**6**	**1**	**2**	**7**	**0**

Table 19b - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Galena Road/Horseman Trail/Baseline Road (2010)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	8	88.9%	2	0	0	2	0	0	2	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	1	11.1%	0	0	0	0	0	0	0	0
Total Crashes (2010)	**9**	**100%**	**2**	**0**	**0**	**2**	**0**	**0**	**2**	**0**

Table 19c - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Galena Road/Horseman Trail/Baseline Road (2011)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	1	16.7%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	4	66.7%	1	0	0	1	0	0	1	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	1	16.7%	0	0	0	0	0	0	0	0
Total Crashes (2011)	**6**	**100%**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**0**

Table 19d - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Galena Road/Horseman Trail/Baseline Road (2012)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	1	20.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	3	60.0%	1	0	0	1	0	0	1	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	1	20.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2012)	**5**	**100%**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**0**

Table 19e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Galena Road/Horseman Trail/Baseline Road (2013)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	1	11.1%	0	0	0	0	0	0	0	0
Fixed Object	2	22.2%	0	0	0	0	0	0	0	0
Head On	1	11.1%	1	0	1	0	0	2	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	4	44.4%	1	0	0	1	0	0	1	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	1	11.1%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2013)	**9**	**100%**	**2**	**0**	**1**	**1**	**0**	**2**	**1**	**0**

Table 19e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 at Galena Road/Horseman Trail/Baseline Road (2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	4	80.0%	0	0	0	1	0	0	2	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	1	20.0%	1	1	0	0	1	0	0	0
Total Crashes (2014)	**5**	**100%**	**1**	**1**	**0**	**1**	**1**	**0**	**2**	**0**

Table 20 - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Galena Road/Horseman Trail/Baseline Road and Eastbound Ramp to Illinois Route 31 (2010-2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Angle	0	0.00%	0	0	0	0	0	0	0	0
Animal	0	0.00%	0	0	0	0	0	0	0	0
Fixed Object	7	16.67%	1	0	0	1	0	0	1	0
Head On	4	9.52%	4	2	2	0	6	5	0	0
Other Non-Collision	2	4.76%	0	0	0	0	0	0	0	0
Other Object	0	0.00%	0	0	0	0	0	0	0	0
Overturned	1	2.38%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.00%	0	0	0	0	0	0	0	0
Pedestrian	0	0.00%	0	0	0	0	0	0	0	0
Rear End	21	50.00%	5	0	1	4	0	1	5	0
Sideswipe - Opposite Direction	1	2.38%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.00%	0	0	0	0	0	0	0	0
Turning	6	14.29%	3	0	1	2	0	4	2	0
Total Crashes (2010-2014)	**42**	**100%**	**13**	**2**	**4**	**7**	**6**	**10**	**8**	**0**

Table 20b - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Galena Road/Horseman Trail/Baseline Road and Eastbound Ramp to Illinois Route 31 (2010)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	1	10.0%	0	0	0	0	0	0	0	0
Head On	2	20.0%	2	2	0	0	6	0	0	0
Other Non-Collision	1	10.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	4	40.0%	2	0	0	2	0	0	3	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	2	20.0%	1	0	1	0	0	4	0	0
Total Crashes (2010)	**10**	**100%**	**5**	**2**	**1**	**2**	**6**	**4**	**3**	**0**

Table 20c - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Galena Road/Horseman Trail/Baseline Road and Eastbound Ramp to Illinois Route 31 (2011)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	1	12.5%	1	0	0	1	0	0	1	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	1	12.5%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	6	75.0%	1	0	0	1	0	0	1	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2011)	**8**	**100%**	**2**	**0**	**0**	**2**	**0**	**0**	**2**	**0**

Table 20d - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Galena Road/Horseman Trail/Baseline Road and Eastbound Ramp to Illinois Route 31 (2012)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	**No. of Crashes**	**Frequency**	**Total Injury Crashes**	**A**	**B**	**C**	**A**	**B**	**C**	**Fatalities**
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	0	0.0%	0	0	0	0	0	0	0	0
Head On	1	10.0%	1	0	1	0	0	2	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	6	60.0%	0	0	0	0	0	0	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	3	30.0%	1	0	0	1	0	0	1	0
Total Crashes (2012)	**10**	**100%**	**2**	**0**	**1**	**1**	**0**	**2**	**1**	**0**

Table 20e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Galena Road/Horseman Trail/Baseline Road and Eastbound Ramp to Illinois Route 31 (2013)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	2	40.0%	0	0	0	0	0	0	0	0
Head On	0	0.0%	0	0	0	0	0	0	0	0
Other Non-Collision	0	0.0%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	3	60.0%	1	0	1	0	0	1	0	0
Sideswipe - Opposite Direction	0	0.0%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	0	0.0%	0	0	0	0	0	0	0	0
Total Crashes (2013)	**5**	**100%**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**0**

Table 20e - Total Crash Types by Frequency and Injury Severity Crashes on US-30 between Galena Road/Horseman Trail/Baseline Road and Eastbound Ramp to Illinois Route 31 (2014)										
				Injury Crashes			Number of Injuries By Type			
Crash Type	No. of Crashes	Frequency	Total Injury Crashes	A	B	C	A	B	C	Fatalities
Angle	0	0.0%	0	0	0	0	0	0	0	0
Animal	0	0.0%	0	0	0	0	0	0	0	0
Fixed Object	3	33.3%	0	0	0	0	0	0	0	0
Head On	1	11.1%	1	0	1	0	0	3	0	0
Other Non-Collision	1	11.1%	0	0	0	0	0	0	0	0
Other Object	0	0.0%	0	0	0	0	0	0	0	0
Overturned	0	0.0%	0	0	0	0	0	0	0	0
Parked Motor Vehicle	0	0.0%	0	0	0	0	0	0	0	0
Pedestrian	0	0.0%	0	0	0	0	0	0	0	0
Rear End	2	22.2%	1	0	0	1	0	0	1	0
Sideswipe - Opposite Direction	1	11.1%	0	0	0	0	0	0	0	0
Sideswipe - Same Direction	0	0.0%	0	0	0	0	0	0	0	0
Turning	1	11.1%	1	0	0	1	0	0	1	0
Total Crashes (2014)	**9**	**100%**	**3**	**0**	**1**	**2**	**0**	**3**	**2**	**0**

Table 21 - Crashes at Intersections and Segments

Intersection/Segment	Total Crashes (2010-2014)	2010	2011	2012	2013	2014	Injury Crashes			
							Type A	Type B	Type C	Fatalities
Between Illinois Route 47 and Bertram Road	17	1	0	6	8	2	2	2	1	0
Bertram Road	9	3	2	1	1	2	0	4	1	0
Dickson Road	10	1	0	3	1	5	0	4	1	0
Gordon Road	10	0	2	1	4	3	0	2	4	0
Prescott Drive	3	0	0	2	1	0	0	1	0	1
Between Prescott Drive and Lakewood Creek Drive	3	1	0	0	1	1	0	0	1	0
Lakewood Creek Drive	11	0	5	2	3	1	1	0	1	0
Between Lakewood Creek Drive and Griffin Drive	7	0	1	2	2	2	1	0	0	0
Griffin Drive	12	0	3	2	5	2	0	2	0	0
Between Griffin Drive and Blackbery Road	14	0	1	3	2	8	1	1	3	0
Blackberry Road	7	0	2	2	1	2	0	0	3	0
Between Blackberry Road to Orchard Road	7	0	1	2	1	3	1	2	1	0
Orchard Road	173	28	28	48	27	42	9	12	34	1
Between Orchard Road and Galena Road/Horseman Trail/Baseline Road	14	0	7	5	2	0	2	1	3	0
Galena Road/Horseman Trail/Baseline Road	34	9	6	5	9	5	1	1	6	0
Between Galena Road/Horseman Trail/Baseline Road and Eastbound Ramp to Illinois Route 31	42	10	8	10	5	9	2	4	7	0
Totals	**373**	**53**	**66**	**94**	**73**	**87**	**20**	**36**	**66**	**2**

HSM PREDICTIVE METHOD CALCULATIONS

Highway Safety Manual (HSM), Chapter 12 – Predictive Method for Urban and Rural Arterials – Overview of the spreadsheet tool

Worksheet 1A through 1L – HSM Predictive Method Calculations for Roadway Segments

- U.S. 30 between Illinois Route 47 and Bertram Road
- U.S. 30 between Bertram Road and Dickson Road
- U.S. 30 between Dickson Road and Gordon Road
- U.S. 30 between Gordon Road and Prescott Drive
- U.S. 30 between Prescott Drive and Lakewood Creek Drive
- U.S. 30 between Lakewood Creek Drive and Griffin Drive
- U.S. 30 between Griffin Drive to Blackberry Road
- U.S. 30 between Blackberry Road and Orchard Road
- U.S. 30 between Orchard Road and Galena Road/Horseman Trail/Baseline Road Intersections
- U.S. 30 between Galena Road/Horsemen Trail/Baseline Road and EB Ramp to Illinois Route 31

Worksheet 2A through 2L – HSM Predictive Method Calculations for Intersections

- Bertram Road Intersection
- Dickson Road Intersection
- Gordon Road Intersection
- Prescott Drive Intersection
- Lakewood Creek Drive Intersection
- Griffin Drive Intersection
- Blackberry Road Intersection
- Orchard Road Intersection
- Galena Road/Horseman Trail/Baseline Road Intersections

Appendix B

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Roadway Section	IL 47 to Betram
Agency or Company	HEI	Jurisdiction	IDOT
State	Illinois	Analysis Year	2013
Date Performed	01/21/13		

Input Data	Base Conditions	Site Conditions
Segment Name	--	Segment 1
Roadway type (2U, 3T, 4U, 4D, ST)	--	2U
Length of segment, L (mi)	--	1
AADT (veh/day)	--	11,300
Type of on-street parking (none/parallel/angle)	None	None
Proportion of curb length with on-street parking ($0.5\ L_{pk}/L$)	--	0
Median width (ft) - for divided only	15	Not Present
Lighting (present / not present)	Not Present	Not Present
Auto speed enforcement (present / not present)	Not Present	Not Present
Major commercial driveways (number)	--	0
Minor commercial driveways (number)	--	0
Major industrial / institutional driveways (number)	--	0
Minor industrial / institutional driveways (number)	--	0
Major residential driveways (number)	--	0
Minor residential driveways (number)	--	3
Other driveways (number)	--	0
Speed Category	--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)	0	81
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]	30	30
Calibration Factor, Cr	1.00	1.00

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.15	1.00	1.00	1.00	1.15

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-15.22	1.68	0.84	1.582	1.000	1.582	1.15	1.00	1.823
Fatal and Injury (FI)	-16.22	1.66	0.65	0.483	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.293	0.464	1.15	1.00	0.534
Property Damage Only (PDO)	-15.62	1.69	0.87	1.164	$(5)_{TOTAL}-(5)_{FI}$ / 0.707	1.118	1.15	1.00	1.288

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.534	1.000	1.288	1.823
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.730	0.390	0.778	1.002	1.392
Head-on collision	0.068	0.036	0.004	0.005	0.041
Angle collision	0.085	0.045	0.079	0.102	0.147
Sideswipe, same direction	0.015	0.008	0.031	0.040	0.048
Sideswipe, opposite direction	0.073	0.039	0.055	0.071	0.110
Other multiple-vehicle collision	0.029	0.015	0.053	0.068	0.084

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.47	0.56	0.81	0.784	1.000	0.784	1.15	1.00	0.903
Fatal and Injury (FI)	-3.96	0.23	0.50	0.163	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.218	0.171	1.15	1.00	0.197
Property Damage Only (PDO)	-6.51	0.64	0.87	0.584	$(5)_{TOTAL}-(5)_{FI}$ / 0.782	0.613	1.15	1.00	0.706

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.197	1.000	0.706	0.903
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.026	0.005	0.066	0.047	0.052
Collision with fixed object	0.723	0.142	0.759	0.536	0.678
Collision with other object	0.010	0.002	0.013	0.009	0.011
Other single-vehicle collision	0.241	0.047	0.162	0.114	0.162

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.158	1.000	0.000	--
Minor commercial	0	0.050	1.000	0.000	
Major industrial/institutional	0	0.172	1.000	0.000	
Minor industrial/institutional	0	0.023	1.000	0.000	
Major residential	0	0.083	1.000	0.000	
Minor residential	3	0.016	1.000	0.036	
Other	0	0.025	1.000	0.000	
Total	--	--	--	0.036	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.036	1.000	0.036	1.15	1.00	0.042
Fatal and injury (FI)	--	0.323	0.012	1.15	1.00	0.013
Property damage only (PDO)	--	0.677	0.024	1.15	1.00	0.028

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.823	0.903	0.042	2.767	0.005	1.00	0.014
Fatal and injury (FI)	--	--	--	--	--	1.00	0.014

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.823	0.903	0.042	2.767	0.004	1.00	0.011
Fatal and injury (FI)	--	--	--	--	--	1.00	0.011

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.390	1.002	1.392
Head-on collisions (from Worksheet 1D)	0.036	0.005	0.041
Angle collisions (from Worksheet 1D)	0.045	0.102	0.147
Sideswipe, same direction (from Worksheet 1D)	0.008	0.040	0.048
Sideswipe, opposite direction (from Worksheet 1D)	0.039	0.071	0.110
Driveway-related collisions (from Worksheet 1H)	0.013	0.028	0.042
Other multiple-vehicle collision (from Worksheet 1D)	0.015	0.068	0.084
Subtotal	0.548	1.317	1.864
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.005	0.047	0.052
Collision with fixed object (from Worksheet 1F)	0.142	0.536	0.678
Collision with other object (from Worksheet 1F)	0.002	0.009	0.011
Other single-vehicle collision (from Worksheet 1F)	0.047	0.114	0.162
Collision with pedestrian (from Worksheet 1I)	0.014	0.000	0.014
Collision with bicycle (from Worksheet 1J)	0.011	0.000	0.011
Subtotal	0.222	0.706	0.928
Total	0.770	2.022	2.792

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	2.8	1.00	2.8
Fatal and injury (FI)	0.8	1.00	0.8
Property damage only (PDO)	2.0	1.00	2.0

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Roadway Section	Betram to Dickson
Agency or Company	HEI	Jurisdiction	IDOT
State	Illinois	Analysis Year	2013
Date Performed	01/21/13		

Input Data	Base Conditions	Site Conditions
Segment Name	--	Segment 1
Roadway type (2U, 3T, 4U, 4D, ST)	--	2U
Length of segment, L (mi)	--	0.2
AADT (veh/day)	--	11,300
Type of on-street parking (none/parallel/angle)	None	None
Proportion of curb length with on-street parking ($0.5\ L_{pk}/L$)	--	0
Median width (ft) - for divided only	15	Not Present
Lighting (present / not present)	Not Present	Not Present
Auto speed enforcement (present / not present)	Not Present	Not Present
Major commercial driveways (number)	--	0
Minor commercial driveways (number)	--	0
Major industrial / institutional driveways (number)	--	0
Minor industrial / institutional driveways (number)	--	0
Major residential driveways (number)	--	0
Minor residential driveways (number)	--	0
Other driveways (number)	--	0
Speed Category	--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)	0	65
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]	30	30
Calibration Factor, Cr	1.00	1.00

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.11	1.00	1.00	1.00	1.11

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-15.22	1.68	0.84	0.316	1.000	0.316	1.11	1.00	0.351
Fatal and Injury (FI)	-16.22	1.66	0.65	0.097	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.293	0.093	1.11	1.00	0.103
Property Damage Only (PDO)	-15.62	1.69	0.87	0.233	$(5)_{TOTAL}-(5)_{FI}$ / 0.707	0.224	1.11	1.00	0.248

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.103	1.000	0.248	0.351
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.730	0.075	0.778	0.193	0.268
Head-on collision	0.068	0.007	0.004	0.001	0.008
Angle collision	0.085	0.009	0.079	0.020	0.028
Sideswipe, same direction	0.015	0.002	0.031	0.008	0.009
Sideswipe, opposite direction	0.073	0.008	0.055	0.014	0.021
Other multiple-vehicle collision	0.029	0.003	0.053	0.013	0.016

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.47	0.56	0.81	0.157	1.000	0.157	1.11	1.00	0.174
Fatal and Injury (FI)	-3.96	0.23	0.50	0.033	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.218	0.034	1.11	1.00	0.038
Property Damage Only (PDO)	-6.51	0.64	0.87	0.117	$(5)_{TOTAL}-(5)_{FI}$ / 0.782	0.123	1.11	1.00	0.136

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.038	1.000	0.136	0.174
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.026	0.001	0.066	0.009	0.010
Collision with fixed object	0.723	0.027	0.759	0.103	0.131
Collision with other object	0.010	0.000	0.013	0.002	0.002
Other single-vehicle collision	0.241	0.009	0.162	0.022	0.031

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.158	1.000	0.000	--
Minor commercial	0	0.050	1.000	0.000	
Major industrial/institutional	0	0.172	1.000	0.000	
Minor industrial/institutional	0	0.023	1.000	0.000	
Major residential	0	0.083	1.000	0.000	
Minor residential	0	0.016	1.000	0.000	
Other	0	0.025	1.000	0.000	
Total	--	--	--	0.000	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	1.11	1.00	0.000
Fatal and injury (FI)	--	0.323	0.000	1.11	1.00	0.000
Property damage only (PDO)	--	0.677	0.000	1.11	1.00	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	0.351	0.174	0.000	0.525	0.005	1.00	0.003
Fatal and injury (FI)	--	--	--	--	--	1.00	0.003

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	0.351	0.174	0.000	0.525	0.004	1.00	0.002
Fatal and injury (FI)	--	--	--	--	--	1.00	0.002

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.075	0.193	0.268
Head-on collisions (from Worksheet 1D)	0.007	0.001	0.008
Angle collisions (from Worksheet 1D)	0.009	0.020	0.028
Sideswipe, same direction (from Worksheet 1D)	0.002	0.008	0.009
Sideswipe, opposite direction (from Worksheet 1D)	0.008	0.014	0.021
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.003	0.013	0.016
Subtotal	0.103	0.248	0.351
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.001	0.009	0.010
Collision with fixed object (from Worksheet 1F)	0.027	0.103	0.131
Collision with other object (from Worksheet 1F)	0.000	0.002	0.002
Other single-vehicle collision (from Worksheet 1F)	0.009	0.022	0.031
Collision with pedestrian (from Worksheet 1I)	0.003	0.000	0.003
Collision with bicycle (from Worksheet 1J)	0.002	0.000	0.002
Subtotal	0.043	0.136	0.179
Total	0.146	0.384	0.530

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	0.5	0.20	2.7
Fatal and injury (FI)	0.1	0.20	0.7
Property damage only (PDO)	0.4	0.20	1.9

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Roadway Section	Dickson to Gordon
Agency or Company	HEI	Jurisdiction	IDOT
State	Illinois	Analysis Year	2013
Date Performed	01/21/13		

Input Data	Base Conditions	Site Conditions
Segment Name	--	Segment 1
Roadway type (2U, 3T, 4U, 4D, ST)	--	2U
Length of segment, L (mi)	--	0.5
AADT (veh/day)	--	11,300
Type of on-street parking (none/parallel/angle)	None	None
Proportion of curb length with on-street parking ($0.5\ L_{pk}/L$)	--	0
Median width (ft) - for divided only	15	Not Present
Lighting (present / not present)	Not Present	Not Present
Auto speed enforcement (present / not present)	Not Present	Not Present
Major commercial driveways (number)	--	0
Minor commercial driveways (number)	--	0
Major industrial / institutional driveways (number)	--	0
Minor industrial / institutional driveways (number)	--	0
Major residential driveways (number)	--	0
Minor residential driveways (number)	--	1
Other driveways (number)	--	0
Speed Category	--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)	0	108
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]	30	30
Calibration Factor, Cr	1.00	1.00

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.22	1.00	1.00	1.00	1.22

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-15.22	1.68	0.84	0.791	1.000	0.791	1.22	1.00	0.967
Fatal and Injury (FI)	-16.22	1.66	0.65	0.241	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.293	0.232	1.22	1.00	0.284
Property Damage Only (PDO)	-15.62	1.69	0.87	0.582	$(5)_{TOTAL}-(5)_{FI}$ / 0.707	0.559	1.22	1.00	0.684

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.284	1.000	0.684	0.967
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.730	0.207	0.778	0.532	0.739
Head-on collision	0.068	0.019	0.004	0.003	0.022
Angle collision	0.085	0.024	0.079	0.054	0.078
Sideswipe, same direction	0.015	0.004	0.031	0.021	0.025
Sideswipe, opposite direction	0.073	0.021	0.055	0.038	0.058
Other multiple-vehicle collision	0.029	0.008	0.053	0.036	0.044

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.47	0.56	0.81	0.392	1.000	0.392	1.22	1.00	0.479
Fatal and Injury (FI)	-3.96	0.23	0.50	0.082	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.218	0.085	1.22	1.00	0.105
Property Damage Only (PDO)	-6.51	0.64	0.87	0.292	$(5)_{TOTAL}-(5)_{FI}$ / 0.782	0.306	1.22	1.00	0.375

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.105	1.000	0.375	0.479
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.026	0.003	0.066	0.025	0.027
Collision with fixed object	0.723	0.076	0.759	0.284	0.360
Collision with other object	0.010	0.001	0.013	0.005	0.006
Other single-vehicle collision	0.241	0.025	0.162	0.061	0.086

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.158	1.000	0.000	--
Minor commercial	0	0.050	1.000	0.000	
Major industrial/institutional	0	0.172	1.000	0.000	
Minor industrial/institutional	0	0.023	1.000	0.000	
Major residential	0	0.083	1.000	0.000	
Minor residential	1	0.016	1.000	0.012	
Other	0	0.025	1.000	0.000	
Total	--	--	--	0.012	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.012	1.000	0.012	1.22	1.00	0.015
Fatal and injury (FI)	--	0.323	0.004	1.22	1.00	0.005
Property damage only (PDO)	--	0.677	0.008	1.22	1.00	0.010

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	0.967	0.479	0.015	1.461	0.005	1.00	0.007
Fatal and injury (FI)	--	--	--	--	--	1.00	0.007

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	0.967	0.479	0.015	1.461	0.004	1.00	0.006
Fatal and injury (FI)	--	--	--	--	--	1.00	0.006

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.207	0.532	0.739
Head-on collisions (from Worksheet 1D)	0.019	0.003	0.022
Angle collisions (from Worksheet 1D)	0.024	0.054	0.078
Sideswipe, same direction (from Worksheet 1D)	0.004	0.021	0.025
Sideswipe, opposite direction (from Worksheet 1D)	0.021	0.038	0.058
Driveway-related collisions (from Worksheet 1H)	0.005	0.010	0.015
Other multiple-vehicle collision (from Worksheet 1D)	0.008	0.036	0.044
Subtotal	0.288	0.693	0.982
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.003	0.025	0.027
Collision with fixed object (from Worksheet 1F)	0.076	0.284	0.360
Collision with other object (from Worksheet 1F)	0.001	0.005	0.006
Other single-vehicle collision (from Worksheet 1F)	0.025	0.061	0.086
Collision with pedestrian (from Worksheet 1I)	0.007	0.000	0.007
Collision with bicycle (from Worksheet 1J)	0.006	0.000	0.006
Subtotal	0.118	0.375	0.492
Total	0.406	1.068	1.474

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.5	0.50	2.9
Fatal and injury (FI)	0.4	0.50	0.8
Property damage only (PDO)	1.1	0.50	2.1

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Roadway Section	Gordon to Prescott
Agency or Company	HEI	Jurisdiction	IDOT
State	Illinois	Analysis Year	2013
Date Performed	01/21/13		

Input Data	Base Conditions	Site Conditions
Segment Name	--	Segment 1
Roadway type (2U, 3T, 4U, 4D, ST)	--	2U
Length of segment, L (mi)	--	0.3
AADT (veh/day)	--	11,300
Type of on-street parking (none/parallel/angle)	None	None
Proportion of curb length with on-street parking ($0.5\ L_{pk}/L$)	--	0
Median width (ft) - for divided only	15	Not Present
Lighting (present / not present)	Not Present	Not Present
Auto speed enforcement (present / not present)	Not Present	Not Present
Major commercial driveways (number)	--	0
Minor commercial driveways (number)	--	0
Major industrial / institutional driveways (number)	--	0
Minor industrial / institutional driveways (number)	--	0
Major residential driveways (number)	--	0
Minor residential driveways (number)	--	1
Other driveways (number)	--	0
Speed Category	--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)	0	76
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]	30	30
Calibration Factor, Cr	1.00	1.00

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.14	1.00	1.00	1.00	1.14

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-15.22	1.68	0.84	0.475	1.000	0.475	1.14	1.00	0.541
Fatal and Injury (FI)	-16.22	1.66	0.65	0.145	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.293	0.139	1.14	1.00	0.159
Property Damage Only (PDO)	-15.62	1.69	0.87	0.349	$(5)_{TOTAL}-(5)_{FI}$ / 0.707	0.335	1.14	1.00	0.382

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.159	1.000	0.382	0.541
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.730	0.116	0.778	0.297	0.413
Head-on collision	0.068	0.011	0.004	0.002	0.012
Angle collision	0.085	0.013	0.079	0.030	0.044
Sideswipe, same direction	0.015	0.002	0.031	0.012	0.014
Sideswipe, opposite direction	0.073	0.012	0.055	0.021	0.033
Other multiple-vehicle collision	0.029	0.005	0.053	0.020	0.025

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.47	0.56	0.81	0.235	1.000	0.235	1.14	1.00	0.268
Fatal and Injury (FI)	-3.96	0.23	0.50	0.049	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.218	0.051	1.14	1.00	0.058
Property Damage Only (PDO)	-6.51	0.64	0.87	0.175	$(5)_{TOTAL}-(5)_{FI}$ / 0.782	0.184	1.14	1.00	0.209

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.058	1.000	0.209	0.268
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.026	0.002	0.066	0.014	0.015
Collision with fixed object	0.723	0.042	0.759	0.159	0.201
Collision with other object	0.010	0.001	0.013	0.003	0.003
Other single-vehicle collision	0.241	0.014	0.162	0.034	0.048

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.158	1.000	0.000	--
Minor commercial	0	0.050	1.000	0.000	
Major industrial/institutional	0	0.172	1.000	0.000	
Minor industrial/institutional	0	0.023	1.000	0.000	
Major residential	0	0.083	1.000	0.000	
Minor residential	1	0.016	1.000	0.012	
Other	0	0.025	1.000	0.000	
Total	--	--	--	0.012	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.012	1.000	0.012	1.14	1.00	0.014
Fatal and injury (FI)	--	0.323	0.004	1.14	1.00	0.004
Property damage only (PDO)	--	0.677	0.008	1.14	1.00	0.009

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	0.541	0.268	0.014	0.822	0.005	1.00	0.004
Fatal and injury (FI)	--	--	--	--	--	1.00	0.004

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	0.541	0.268	0.014	0.822	0.004	1.00	0.003
Fatal and injury (FI)	--	--	--	--	--	1.00	0.003

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.116	0.297	0.413
Head-on collisions (from Worksheet 1D)	0.011	0.002	0.012
Angle collisions (from Worksheet 1D)	0.013	0.030	0.044
Sideswipe, same direction (from Worksheet 1D)	0.002	0.012	0.014
Sideswipe, opposite direction (from Worksheet 1D)	0.012	0.021	0.033
Driveway-related collisions (from Worksheet 1H)	0.004	0.009	0.014
Other multiple-vehicle collision (from Worksheet 1D)	0.005	0.020	0.025
Subtotal	0.163	0.391	0.554
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.002	0.014	0.015
Collision with fixed object (from Worksheet 1F)	0.042	0.159	0.201
Collision with other object (from Worksheet 1F)	0.001	0.003	0.003
Other single-vehicle collision (from Worksheet 1F)	0.014	0.034	0.048
Collision with pedestrian (from Worksheet 1I)	0.004	0.000	0.004
Collision with bicycle (from Worksheet 1J)	0.003	0.000	0.003
Subtotal	0.066	0.209	0.275
Total	0.229	0.601	0.830

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	0.8	0.30	2.8
Fatal and injury (FI)	0.2	0.30	0.8
Property damage only (PDO)	0.6	0.30	2.0

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Roadway Section	Prescott to Lakewood
Agency or Company	HEI	Jurisdiction	IDOT
State	Illinois	Analysis Year	2013
Date Performed	01/21/13		

Input Data	Base Conditions	Site Conditions
Segment Name	--	Segment 1
Roadway type (2U, 3T, 4U, 4D, ST)	--	2U
Length of segment, L (mi)	--	0.5
AADT (veh/day)	--	11,300
Type of on-street parking (none/parallel/angle)	None	None
Proportion of curb length with on-street parking ($0.5\ L_{pk}/L$)	--	0
Median width (ft) - for divided only	15	Not Present
Lighting (present / not present)	Not Present	Not Present
Auto speed enforcement (present / not present)	Not Present	Not Present
Major commercial driveways (number)	--	0
Minor commercial driveways (number)	--	0
Major industrial / institutional driveways (number)	--	0
Minor industrial / institutional driveways (number)	--	0
Major residential driveways (number)	--	0
Minor residential driveways (number)	--	0
Other driveways (number)	--	1
Speed Category	--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)	0	66
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]	30	30
Calibration Factor, Cr	1.00	1.00

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.11	1.00	1.00	1.00	1.11

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-15.22	1.68	0.84	0.791	1.000	0.791	1.11	1.00	0.880
Fatal and Injury (FI)	-16.22	1.66	0.65	0.241	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.293	0.232	1.11	1.00	0.258
Property Damage Only (PDO)	-15.62	1.69	0.87	0.582	$(5)_{TOTAL}-(5)_{FI}$ / 0.707	0.559	1.11	1.00	0.622

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.258	1.000	0.622	0.880
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.730	0.188	0.778	0.484	0.673
Head-on collision	0.068	0.018	0.004	0.002	0.020
Angle collision	0.085	0.022	0.079	0.049	0.071
Sideswipe, same direction	0.015	0.004	0.031	0.019	0.023
Sideswipe, opposite direction	0.073	0.019	0.055	0.034	0.053
Other multiple-vehicle collision	0.029	0.007	0.053	0.033	0.040

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.47	0.56	0.81	0.392	1.000	0.392	1.11	1.00	0.436
Fatal and Injury (FI)	-3.96	0.23	0.50	0.082	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.218	0.085	1.11	1.00	0.095
Property Damage Only (PDO)	-6.51	0.64	0.87	0.292	$(5)_{TOTAL}-(5)_{FI}$ / 0.782	0.306	1.11	1.00	0.341

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.095	1.000	0.341	0.436
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.026	0.002	0.066	0.023	0.025
Collision with fixed object	0.723	0.069	0.759	0.259	0.328
Collision with other object	0.010	0.001	0.013	0.004	0.005
Other single-vehicle collision	0.241	0.023	0.162	0.055	0.078

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.158	1.000	0.000	--
Minor commercial	0	0.050	1.000	0.000	
Major industrial/institutional	0	0.172	1.000	0.000	
Minor industrial/institutional	0	0.023	1.000	0.000	
Major residential	0	0.083	1.000	0.000	
Minor residential	0	0.016	1.000	0.000	
Other	1	0.025	1.000	0.019	
Total	--	--	--	0.019	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.019	1.000	0.019	1.11	1.00	0.021
Fatal and injury (FI)	--	0.323	0.006	1.11	1.00	0.007
Property damage only (PDO)	--	0.677	0.013	1.11	1.00	0.014

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	0.880	0.436	0.021	1.338	0.005	1.00	0.007
Fatal and injury (FI)	--	--	--	--	--	1.00	0.007

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	0.880	0.436	0.021	1.338	0.004	1.00	0.005
Fatal and injury (FI)	--	--	--	--	--	1.00	0.005

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.188	0.484	0.673
Head-on collisions (from Worksheet 1D)	0.018	0.002	0.020
Angle collisions (from Worksheet 1D)	0.022	0.049	0.071
Sideswipe, same direction (from Worksheet 1D)	0.004	0.019	0.023
Sideswipe, opposite direction (from Worksheet 1D)	0.019	0.034	0.053
Driveway-related collisions (from Worksheet 1H)	0.007	0.014	0.021
Other multiple-vehicle collision (from Worksheet 1D)	0.007	0.033	0.040
Subtotal	0.265	0.636	0.901
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.002	0.023	0.025
Collision with fixed object (from Worksheet 1F)	0.069	0.259	0.328
Collision with other object (from Worksheet 1F)	0.001	0.004	0.005
Other single-vehicle collision (from Worksheet 1F)	0.023	0.055	0.078
Collision with pedestrian (from Worksheet 1I)	0.007	0.000	0.007
Collision with bicycle (from Worksheet 1J)	0.005	0.000	0.005
Subtotal	0.107	0.341	0.448
Total	0.372	0.977	1.350

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.3	0.50	2.7
Fatal and injury (FI)	0.4	0.50	0.7
Property damage only (PDO)	1.0	0.50	2.0

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Roadway Section	Lakewood to Griffin
Agency or Company	HEI	Jurisdiction	IDOT
State	Illinois	Analysis Year	2013
Date Performed	01/21/13		

Input Data	Base Conditions	Site Conditions
Segment Name	--	Segment 1
Roadway type (2U, 3T, 4U, 4D, ST)	--	2U
Length of segment, L (mi)	--	0.5
AADT (veh/day)	--	11,300
Type of on-street parking (none/parallel/angle)	None	None
Proportion of curb length with on-street parking ($0.5\ L_{pk}/L$)	--	0
Median width (ft) - for divided only	15	Not Present
Lighting (present / not present)	Not Present	Not Present
Auto speed enforcement (present / not present)	Not Present	Not Present
Major commercial driveways (number)	--	0
Minor commercial driveways (number)	--	0
Major industrial / institutional driveways (number)	--	0
Minor industrial / institutional driveways (number)	--	0
Major residential driveways (number)	--	0
Minor residential driveways (number)	--	0
Other driveways (number)	--	0
Speed Category	--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)	0	82
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]	30	30
Calibration Factor, Cr	1.00	1.00

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.15	1.00	1.00	1.00	1.15

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-15.22	1.68	0.84	0.791	1.000	0.791	1.15	1.00	0.913
Fatal and Injury (FI)	-16.22	1.66	0.65	0.241	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.293	0.232	1.15	1.00	0.268
Property Damage Only (PDO)	-15.62	1.69	0.87	0.582	$(5)_{TOTAL}-(5)_{FI}$ / 0.707	0.559	1.15	1.00	0.646

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.268	1.000	0.646	0.913
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.730	0.195	0.778	0.502	0.698
Head-on collision	0.068	0.018	0.004	0.003	0.021
Angle collision	0.085	0.023	0.079	0.051	0.074
Sideswipe, same direction	0.015	0.004	0.031	0.020	0.024
Sideswipe, opposite direction	0.073	0.020	0.055	0.036	0.055
Other multiple-vehicle collision	0.029	0.008	0.053	0.034	0.042

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.47	0.56	0.81	0.392	1.000	0.392	1.15	1.00	0.452
Fatal and Injury (FI)	-3.96	0.23	0.50	0.082	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.218	0.085	1.15	1.00	0.099
Property Damage Only (PDO)	-6.51	0.64	0.87	0.292	$(5)_{TOTAL}-(5)_{FI}$ / 0.782	0.306	1.15	1.00	0.354

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.099	1.000	0.354	0.452
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.026	0.003	0.066	0.023	0.026
Collision with fixed object	0.723	0.071	0.759	0.268	0.340
Collision with other object	0.010	0.001	0.013	0.005	0.006
Other single-vehicle collision	0.241	0.024	0.162	0.057	0.081

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15{,}000)^t$	from Table 12-7
Major commercial	0	0.158	1.000	0.000	--
Minor commercial	0	0.050	1.000	0.000	
Major industrial/institutional	0	0.172	1.000	0.000	
Minor industrial/institutional	0	0.023	1.000	0.000	
Major residential	0	0.083	1.000	0.000	
Minor residential	0	0.016	1.000	0.000	
Other	0	0.025	1.000	0.000	
Total	--	--	--	0.000	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	1.15	1.00	0.000
Fatal and injury (FI)	--	0.323	0.000	1.15	1.00	0.000
Property damage only (PDO)	--	0.677	0.000	1.15	1.00	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	0.913	0.452	0.000	1.366	0.005	1.00	0.007
Fatal and injury (FI)	--	--	--	--	--	1.00	0.007

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	0.913	0.452	0.000	1.366	0.004	1.00	0.005
Fatal and injury (FI)	--	--	--	--	--	1.00	0.005

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.195	0.502	0.698
Head-on collisions (from Worksheet 1D)	0.018	0.003	0.021
Angle collisions (from Worksheet 1D)	0.023	0.051	0.074
Sideswipe, same direction (from Worksheet 1D)	0.004	0.020	0.024
Sideswipe, opposite direction (from Worksheet 1D)	0.020	0.036	0.055
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.008	0.034	0.042
Subtotal	0.268	0.646	0.913
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.003	0.023	0.026
Collision with fixed object (from Worksheet 1F)	0.071	0.268	0.340
Collision with other object (from Worksheet 1F)	0.001	0.005	0.006
Other single-vehicle collision (from Worksheet 1F)	0.024	0.057	0.081
Collision with pedestrian (from Worksheet 1I)	0.007	0.000	0.007
Collision with bicycle (from Worksheet 1J)	0.005	0.000	0.005
Subtotal	0.111	0.354	0.465
Total	0.379	0.999	1.378

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.4	0.50	2.8
Fatal and injury (FI)	0.4	0.50	0.8
Property damage only (PDO)	1.0	0.50	2.0

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Roadway Section	Griffin Blackberry
Agency or Company	HEI	Jurisdiction	IDOT
State	Illinois	Analysis Year	2013
Date Performed	01/21/13		

Input Data	Base Conditions	Site Conditions
Segment Name	--	Segment 1
Roadway type (2U, 3T, 4U, 4D, ST)	--	2U
Length of segment, L (mi)	--	0.5
AADT (veh/day)	--	19,400
Type of on-street parking (none/parallel/angle)	None	None
Proportion of curb length with on-street parking ($0.5\ L_{pk}/L$)	--	0
Median width (ft) - for divided only	15	Not Present
Lighting (present / not present)	Not Present	Not Present
Auto speed enforcement (present / not present)	Not Present	Not Present
Major commercial driveways (number)	--	0
Minor commercial driveways (number)	--	0
Major industrial / institutional driveways (number)	--	0
Minor industrial / institutional driveways (number)	--	0
Major residential driveways (number)	--	0
Minor residential driveways (number)	--	0
Other driveways (number)	--	0
Speed Category	--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)	0	58
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]	30	30
Calibration Factor, Cr	1.00	1.00

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.09	1.00	1.00	1.00	1.09

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-15.22	1.68	0.84	1.961	1.000	1.961	1.09	1.00	2.142
Fatal and Injury (FI)	-16.22	1.66	0.65	0.592	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.290	0.568	1.09	1.00	0.621
Property Damage Only (PDO)	-15.62	1.69	0.87	1.451	$(5)_{TOTAL}-(5)_{FI}$ / 0.710	1.393	1.09	1.00	1.521

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.621	1.000	1.521	2.142
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.730	0.453	0.778	1.183	1.637
Head-on collision	0.068	0.042	0.004	0.006	0.048
Angle collision	0.085	0.053	0.079	0.120	0.173
Sideswipe, same direction	0.015	0.009	0.031	0.047	0.056
Sideswipe, opposite direction	0.073	0.045	0.055	0.084	0.129
Other multiple-vehicle collision	0.029	0.018	0.053	0.081	0.099

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.47	0.56	0.81	0.530	1.000	0.530	1.09	1.00	0.579
Fatal and Injury (FI)	-3.96	0.23	0.50	0.092	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.183	0.097	1.09	1.00	0.106
Property Damage Only (PDO)	-6.51	0.64	0.87	0.413	$(5)_{TOTAL}-(5)_{FI}$ / 0.817	0.433	1.09	1.00	0.473

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.106	1.000	0.473	0.579
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.026	0.003	0.066	0.031	0.034
Collision with fixed object	0.723	0.077	0.759	0.359	0.436
Collision with other object	0.010	0.001	0.013	0.006	0.007
Other single-vehicle collision	0.241	0.026	0.162	0.077	0.102

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.158	1.000	0.000	--
Minor commercial	0	0.050	1.000	0.000	
Major industrial/institutional	0	0.172	1.000	0.000	
Minor industrial/institutional	0	0.023	1.000	0.000	
Major residential	0	0.083	1.000	0.000	
Minor residential	0	0.016	1.000	0.000	
Other	0	0.025	1.000	0.000	
Total	--	--	--	0.000	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	1.09	1.00	0.000
Fatal and injury (FI)	--	0.323	0.000	1.09	1.00	0.000
Property damage only (PDO)	--	0.677	0.000	1.09	1.00	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	2.142	0.579	0.000	2.721	0.005	1.00	0.014
Fatal and injury (FI)	--	--	--	--	--	1.00	0.014

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	2.142	0.579	0.000	2.721	0.004	1.00	0.011
Fatal and injury (FI)	--	--	--	--	--	1.00	0.011

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.453	1.183	1.637
Head-on collisions (from Worksheet 1D)	0.042	0.006	0.048
Angle collisions (from Worksheet 1D)	0.053	0.120	0.173
Sideswipe, same direction (from Worksheet 1D)	0.009	0.047	0.056
Sideswipe, opposite direction (from Worksheet 1D)	0.045	0.084	0.129
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.018	0.081	0.099
Subtotal	0.621	1.521	2.142
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.003	0.031	0.034
Collision with fixed object (from Worksheet 1F)	0.077	0.359	0.436
Collision with other object (from Worksheet 1F)	0.001	0.006	0.007
Other single-vehicle collision (from Worksheet 1F)	0.026	0.077	0.102
Collision with pedestrian (from Worksheet 1I)	0.014	0.000	0.014
Collision with bicycle (from Worksheet 1J)	0.011	0.000	0.011
Subtotal	0.130	0.473	0.604
Total	0.751	1.995	2.746

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	2.7	0.50	5.5
Fatal and injury (FI)	0.8	0.50	1.5
Property damage only (PDO)	2.0	0.50	4.0

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Roadway Section	Blackberry to Orchard
Agency or Company	HEI	Jurisdiction	IDOT
State	Illinois	Analysis Year	2013
Date Performed	01/21/13		

Input Data	Base Conditions	Site Conditions
Segment Name	--	Segment 1
Roadway type (2U, 3T, 4U, 4D, ST)	--	2U
Length of segment, L (mi)	--	0.2
AADT (veh/day)	--	19,400
Type of on-street parking (none/parallel/angle)	None	None
Proportion of curb length with on-street parking ($0.5\ L_{pk}/L$)	--	0
Median width (ft) - for divided only	15	Not Present
Lighting (present / not present)	Not Present	Not Present
Auto speed enforcement (present / not present)	Not Present	Not Present
Major commercial driveways (number)	--	0
Minor commercial driveways (number)	--	0
Major industrial / institutional driveways (number)	--	0
Minor industrial / institutional driveways (number)	--	0
Major residential driveways (number)	--	0
Minor residential driveways (number)	--	1
Other driveways (number)	--	0
Speed Category	--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)	0	125
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]	30	30
Calibration Factor, Cr	1.00	1.00

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.27	1.00	1.00	1.00	1.27

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-15.22	1.68	0.84	0.784	1.000	0.784	1.27	1.00	0.994
Fatal and Injury (FI)	-16.22	1.66	0.65	0.237	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.290	0.227	1.27	1.00	0.288
Property Damage Only (PDO)	-15.62	1.69	0.87	0.580	$(5)_{TOTAL}-(5)_{FI}$ / 0.710	0.557	1.27	1.00	0.706

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.288	1.000	0.706	0.994
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.730	0.210	0.778	0.549	0.759
Head-on collision	0.068	0.020	0.004	0.003	0.022
Angle collision	0.085	0.024	0.079	0.056	0.080
Sideswipe, same direction	0.015	0.004	0.031	0.022	0.026
Sideswipe, opposite direction	0.073	0.021	0.055	0.039	0.060
Other multiple-vehicle collision	0.029	0.008	0.053	0.037	0.046

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.47	0.56	0.81	0.212	1.000	0.212	1.27	1.00	0.269
Fatal and Injury (FI)	-3.96	0.23	0.50	0.037	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.183	0.039	1.27	1.00	0.049
Property Damage Only (PDO)	-6.51	0.64	0.87	0.165	$(5)_{TOTAL}-(5)_{FI}$ / 0.817	0.173	1.27	1.00	0.220

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.049	1.000	0.220	0.269
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.026	0.001	0.066	0.014	0.016
Collision with fixed object	0.723	0.036	0.759	0.167	0.202
Collision with other object	0.010	0.000	0.013	0.003	0.003
Other single-vehicle collision	0.241	0.012	0.162	0.036	0.047

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.158	1.000	0.000	--
Minor commercial	0	0.050	1.000	0.000	
Major industrial/institutional	0	0.172	1.000	0.000	
Minor industrial/institutional	0	0.023	1.000	0.000	
Major residential	0	0.083	1.000	0.000	
Minor residential	1	0.016	1.000	0.021	
Other	0	0.025	1.000	0.000	
Total	--	--	--	0.021	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.021	1.000	0.021	1.27	1.00	0.026
Fatal and injury (FI)	--	0.323	0.007	1.27	1.00	0.008
Property damage only (PDO)	--	0.677	0.014	1.27	1.00	0.018

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	0.994	0.269	0.026	1.289	0.005	1.00	0.006
Fatal and injury (FI)	--	--	--	--	--	1.00	0.006

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	0.994	0.269	0.026	1.289	0.004	1.00	0.005
Fatal and injury (FI)	--	--	--	--	--	1.00	0.005

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.210	0.549	0.759
Head-on collisions (from Worksheet 1D)	0.020	0.003	0.022
Angle collisions (from Worksheet 1D)	0.024	0.056	0.080
Sideswipe, same direction (from Worksheet 1D)	0.004	0.022	0.026
Sideswipe, opposite direction (from Worksheet 1D)	0.021	0.039	0.060
Driveway-related collisions (from Worksheet 1H)	0.008	0.018	0.026
Other multiple-vehicle collision (from Worksheet 1D)	0.008	0.037	0.046
Subtotal	0.297	0.724	1.020
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.001	0.014	0.016
Collision with fixed object (from Worksheet 1F)	0.036	0.167	0.202
Collision with other object (from Worksheet 1F)	0.000	0.003	0.003
Other single-vehicle collision (from Worksheet 1F)	0.012	0.036	0.047
Collision with pedestrian (from Worksheet 1I)	0.006	0.000	0.006
Collision with bicycle (from Worksheet 1J)	0.005	0.000	0.005
Subtotal	0.061	0.220	0.280
Total	0.357	0.943	1.300

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.3	0.20	6.5
Fatal and injury (FI)	0.4	0.20	1.8
Property damage only (PDO)	0.9	0.20	4.7

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Roadway Section	Orchard to Horsemen/Baseline Rd. Connector
Agency or Company	HEI	Jurisdiction	IDOT
State	Illinois	Analysis Year	2013
Date Performed	01/21/13		

Input Data	Base Conditions	Site Conditions
Segment Name	--	Segment 1
Roadway type (2U, 3T, 4U, 4D, ST)	--	2U
Length of segment, L (mi)	--	0.2
AADT (veh/day)	--	24,500
Type of on-street parking (none/parallel/angle)	None	None
Proportion of curb length with on-street parking ($0.5\ L_{pk}/L$)	--	0
Median width (ft) - for divided only	15	Not Present
Lighting (present / not present)	Not Present	Not Present
Auto speed enforcement (present / not present)	Not Present	Not Present
Major commercial driveways (number)	--	0
Minor commercial driveways (number)	--	0
Major industrial / institutional driveways (number)	--	0
Minor industrial / institutional driveways (number)	--	0
Major residential driveways (number)	--	0
Minor residential driveways (number)	--	0
Other driveways (number)	--	0
Speed Category	--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)	0	145
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]	30	30
Calibration Factor, Cr	1.00	1.00

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.32	1.00	1.00	1.00	1.32

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-15.22	1.68	0.84	1.161	1.000	1.161	1.32	1.00	1.531
Fatal and Injury (FI)	-16.22	1.66	0.65	0.349	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.288	0.335	1.32	1.00	0.442
Property Damage Only (PDO)	-15.62	1.69	0.87	0.861	$(5)_{TOTAL}-(5)_{FI}$ / 0.712	0.826	1.32	1.00	1.090

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.442	1.000	1.090	1.531
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.730	0.322	0.778	0.848	1.170
Head-on collision	0.068	0.030	0.004	0.004	0.034
Angle collision	0.085	0.038	0.079	0.086	0.124
Sideswipe, same direction	0.015	0.007	0.031	0.034	0.040
Sideswipe, opposite direction	0.073	0.032	0.055	0.060	0.092
Other multiple-vehicle collision	0.029	0.013	0.053	0.058	0.071

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.47	0.56	0.81	0.242	1.000	0.242	1.32	1.00	0.319
Fatal and Injury (FI)	-3.96	0.23	0.50	0.039	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.169	0.041	1.32	1.00	0.054
Property Damage Only (PDO)	-6.51	0.64	0.87	0.192	$(5)_{TOTAL}-(5)_{FI}$ / 0.831	0.201	1.32	1.00	0.265

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.054	1.000	0.265	0.319
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.026	0.001	0.066	0.017	0.019
Collision with fixed object	0.723	0.039	0.759	0.201	0.240
Collision with other object	0.010	0.001	0.013	0.003	0.004
Other single-vehicle collision	0.241	0.013	0.162	0.043	0.056

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.158	1.000	0.000	--
Minor commercial	0	0.050	1.000	0.000	
Major industrial/institutional	0	0.172	1.000	0.000	
Minor industrial/institutional	0	0.023	1.000	0.000	
Major residential	0	0.083	1.000	0.000	
Minor residential	0	0.016	1.000	0.000	
Other	0	0.025	1.000	0.000	
Total	--	--	--	0.000	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	1.32	1.00	0.000
Fatal and injury (FI)	--	0.323	0.000	1.32	1.00	0.000
Property damage only (PDO)	--	0.677	0.000	1.32	1.00	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.531	0.319	0.000	1.850	0.005	1.00	0.009
Fatal and injury (FI)	--	--	--	--	--	1.00	0.009

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.531	0.319	0.000	1.850	0.004	1.00	0.007
Fatal and injury (FI)	--	--	--	--	--	1.00	0.007

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.322	0.848	1.170
Head-on collisions (from Worksheet 1D)	0.030	0.004	0.034
Angle collisions (from Worksheet 1D)	0.038	0.086	0.124
Sideswipe, same direction (from Worksheet 1D)	0.007	0.034	0.040
Sideswipe, opposite direction (from Worksheet 1D)	0.032	0.060	0.092
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.013	0.058	0.071
Subtotal	0.442	1.090	1.531
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.001	0.017	0.019
Collision with fixed object (from Worksheet 1F)	0.039	0.201	0.240
Collision with other object (from Worksheet 1F)	0.001	0.003	0.004
Other single-vehicle collision (from Worksheet 1F)	0.013	0.043	0.056
Collision with pedestrian (from Worksheet 1I)	0.009	0.000	0.009
Collision with bicycle (from Worksheet 1J)	0.007	0.000	0.007
Subtotal	0.071	0.265	0.336
Total	0.512	1.355	1.867

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.9	0.20	9.3
Fatal and injury (FI)	0.5	0.20	2.6
Property damage only (PDO)	1.4	0.20	6.8

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Roadway Section	Horsmen / Baseline Rd. Connector to IL 31
Agency or Company	HEI	Jurisdiction	IDOT
State	Illinois	Analysis Year	2013
Date Performed	01/21/13		

Input Data	Base Conditions	Site Conditions
Segment Name	--	Segment 1
Roadway type (2U, 3T, 4U, 4D, ST)	--	2U
Length of segment, L (mi)	--	1
AADT (veh/day)	--	24,900
Type of on-street parking (none/parallel/angle)	None	None
Proportion of curb length with on-street parking ($0.5\ L_{pk}/L$)	--	0
Median width (ft) - for divided only	15	Not Present
Lighting (present / not present)	Not Present	Not Present
Auto speed enforcement (present / not present)	Not Present	Not Present
Major commercial driveways (number)	--	0
Minor commercial driveways (number)	--	1
Major industrial / institutional driveways (number)	--	0
Minor industrial / institutional driveways (number)	--	0
Major residential driveways (number)	--	0
Minor residential driveways (number)	--	2
Other driveways (number)	--	0
Speed Category	--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)	0	24
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]	30	30
Calibration Factor, Cr	1.00	1.00

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	1.00	1.00	1.00

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-15.22	1.68	0.84	5.966	1.000	5.966	1.00	1.00	5.987
Fatal and Injury (FI)	-16.22	1.66	0.65	1.792	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.288	1.720	1.00	1.00	1.726
Property Damage Only (PDO)	-15.62	1.69	0.87	4.425	$(5)_{TOTAL}-(5)_{FI}$ / 0.712	4.246	1.00	1.00	4.261

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	1.726	1.000	4.261	5.987
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.730	1.260	0.778	3.315	4.575
Head-on collision	0.068	0.117	0.004	0.017	0.134
Angle collision	0.085	0.147	0.079	0.337	0.483
Sideswipe, same direction	0.015	0.026	0.031	0.132	0.158
Sideswipe, opposite direction	0.073	0.126	0.055	0.234	0.360
Other multiple-vehicle collision	0.029	0.050	0.053	0.226	0.276

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.47	0.56	0.81	1.220	1.000	1.220	1.00	1.00	1.224
Fatal and Injury (FI)	-3.96	0.23	0.50	0.196	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.168	0.205	1.00	1.00	0.206
Property Damage Only (PDO)	-6.51	0.64	0.87	0.969	$(5)_{TOTAL}-(5)_{FI}$ / 0.832	1.015	1.00	1.00	1.019

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.206	1.000	1.019	1.224
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.026	0.005	0.066	0.067	0.073
Collision with fixed object	0.723	0.149	0.759	0.773	0.922
Collision with other object	0.010	0.002	0.013	0.013	0.015
Other single-vehicle collision	0.241	0.050	0.162	0.165	0.215

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.158	1.000	0.000	--
Minor commercial	1	0.050	1.000	0.083	
Major industrial/institutional	0	0.172	1.000	0.000	
Minor industrial/institutional	0	0.023	1.000	0.000	
Major residential	0	0.083	1.000	0.000	
Minor residential	2	0.016	1.000	0.053	
Other	0	0.025	1.000	0.000	
Total	--	--	--	0.136	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.136	1.000	0.136	1.00	1.00	0.137
Fatal and injury (FI)	--	0.323	0.044	1.00	1.00	0.044
Property damage only (PDO)	--	0.677	0.092	1.00	1.00	0.092

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	5.987	1.224	0.137	7.348	0.005	1.00	0.037
Fatal and injury (FI)	--	--	--	--	--	1.00	0.037

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	5.987	1.224	0.137	7.348	0.004	1.00	0.029
Fatal and injury (FI)	--	--	--	--	--	1.00	0.029

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	1.260	3.315	4.575
Head-on collisions (from Worksheet 1D)	0.117	0.017	0.134
Angle collisions (from Worksheet 1D)	0.147	0.337	0.483
Sideswipe, same direction (from Worksheet 1D)	0.026	0.132	0.158
Sideswipe, opposite direction (from Worksheet 1D)	0.126	0.234	0.360
Driveway-related collisions (from Worksheet 1H)	0.044	0.092	0.137
Other multiple-vehicle collision (from Worksheet 1D)	0.050	0.226	0.276
Subtotal	1.770	4.353	6.123
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.005	0.067	0.073
Collision with fixed object (from Worksheet 1F)	0.149	0.773	0.922
Collision with other object (from Worksheet 1F)	0.002	0.013	0.015
Other single-vehicle collision (from Worksheet 1F)	0.050	0.165	0.215
Collision with pedestrian (from Worksheet 1I)	0.037	0.000	0.037
Collision with bicycle (from Worksheet 1J)	0.029	0.000	0.029
Subtotal	0.272	1.019	1.290
Total	2.042	5.372	7.414

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	7.4	1.00	7.4
Fatal and injury (FI)	2.0	1.00	2.0
Property damage only (PDO)	5.4	1.00	5.4

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Major Road	US 30
Agency or Company	HEI	Minor Road	Betram Road
State	Illinois	Jurisdiction	IDOT
Date Performed	01/21/13	Analysis Year	2013

Input Data	Base Conditions	Site Conditions
Intersection Name	--	Intersection 1
Intersection type (3ST, 3SG, 4ST, 4SG)	--	3ST
AADT $_{major}$ (veh/day)	--	11,300
AADT $_{minor}$ (veh/day)	--	1,800
Intersection lighting (present/not present)	Not Present	Not Present
Calibration factor, C_i	1.00	1.00
Data for unsignalized intersections only:	--	--
Number of major-road approaches with left-turn lanes (0,1,2)	0	0
Number of major-road approaches with right-turn lanes (0,1,2)	0	0
Data for signalized intersections only:	--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]	0	0
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]	0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]	--	
Type of left-turn signal phasing for Leg #1	Permissive	Not Applicable
Type of left-turn signal phasing for Leg #2	--	
Type of left-turn signal phasing for Leg #3	--	
Type of left-turn signal phasing for Leg #4 (if applicable)	--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]	0	0
Intersection red light cameras (present/not present)	Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only		
Maximum number of lanes crossed by a pedestrian (n_{lanesx})	--	
Number of bus stops within 300 m (1,000 ft) of the intersection	0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)	Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of intersection	0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
1.00	1.00	1.00	1.00	1.00	1.00	1.00

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-13.36	1.11	0.41	0.80	1.075	1.000	1.075	1.00	1.00	1.075
Fatal and Injury (FI)	-14.01	1.16	0.30	0.69	0.392	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.360	0.387	1.00	1.00	0.387
Property Damage Only (PDO)	-15.38	1.20	0.51	0.77	0.699	$(5)_{TOTAL}-(5)_{FI}$ / 0.640	0.688	1.00	1.00	0.688

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.387	1.000	0.688	1.075
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.421	0.163	0.440	0.303	0.466
Head-on collision	0.045	0.017	0.023	0.016	0.033
Angle collision	0.343	0.133	0.262	0.180	0.313
Sideswipe	0.126	0.049	0.040	0.028	0.076
Other multiple-vehicle collision	0.065	0.025	0.235	0.162	0.187

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, Ci**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-6.81	0.16	0.51	1.14	0.224	1.000	0.224	1.00	1.00	0.224
Fatal and Injury (FI)	--	--	--	--	0.070	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.318	0.071	1.00	1.00	0.071
Property Damage Only (PDO)	-8.36	0.25	0.55	1.29	0.149	$(5)_{TOTAL}-(5)_{FI}$ / 0.682	0.153	1.00	1.00	0.153

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.071	1.000	0.153	0.224
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.003	0.000	0.001
Collision with animal	0.003	0.000	0.018	0.003	0.003
Collision with fixed object	0.762	0.054	0.834	0.128	0.182
Collision with other object	0.090	0.006	0.092	0.014	0.021
Other single-vehicle collision	0.039	0.003	0.023	0.004	0.006
Single-vehicle noncollision	0.105	0.008	0.030	0.005	0.012

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	1.075	0.224	1.299	0.021	1.00	0.027
Fatal and injury (FI)	--	--	--	--	1.00	0.027

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	Predicted N_{pedi}
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	1.075	0.224	1.299	0.016	1.00	0.021
Fatal and injury (FI)	--	--	--	--	1.00	0.021

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.163	0.303	0.466
Head-on collisions (from Worksheet 2D)	0.017	0.016	0.033
Angle collisions (from Worksheet 2D)	0.133	0.180	0.313
Sideswipe (from Worksheet 2D)	0.049	0.028	0.076
Other multiple-vehicle collision (from Worksheet 2D)	0.025	0.162	0.187
Subtotal	0.387	0.688	1.075
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.001
Collision with animal (from Worksheet 2F)	0.000	0.003	0.003
Collision with fixed object (from Worksheet 2F)	0.054	0.128	0.182
Collision with other object (from Worksheet 2F)	0.006	0.014	0.021
Other single-vehicle collision (from Worksheet 2F)	0.003	0.004	0.006
Single-vehicle noncollision (from Worksheet 2F)	0.008	0.005	0.012
Collision with pedestrian (from Worksheet 2G or 2I)	0.027	0.000	0.027
Collision with bicycle (from Worksheet 2J)	0.021	0.000	0.021
Subtotal	0.120	0.153	0.273
Total	0.506	0.841	1.348

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	1.3
Fatal and injury (FI)	0.5
Property damage only (PDO)	0.8

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Major Road	US 30
Agency or Company	HEI	Minor Road	Dickson Road
State	Illinois	Jurisdiction	IDOT
Date Performed	01/21/13	Analysis Year	2013

Input Data	Base Conditions	Site Conditions
Intersection Name	--	Intersection 1
Intersection type (3ST, 3SG, 4ST, 4SG)	--	3ST
AADT $_{major}$ (veh/day)	--	11,300
AADT $_{minor}$ (veh/day)	--	1,950
Intersection lighting (present/not present)	Not Present	Not Present
Calibration factor, C_i	1.00	1.00
Data for unsignalized intersections only:	--	--
Number of major-road approaches with left-turn lanes (0,1,2)	0	0
Number of major-road approaches with right-turn lanes (0,1,2)	0	0
Data for signalized intersections only:	--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]	0	0
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]	0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]	--	
Type of left-turn signal phasing for Leg #1	Permissive	Not Applicable
Type of left-turn signal phasing for Leg #2	--	
Type of left-turn signal phasing for Leg #3	--	
Type of left-turn signal phasing for Leg #4 (if applicable)	--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]	0	0
Intersection red light cameras (present/not present)	Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only		
Maximum number of lanes crossed by a pedestrian (n_{lanesx})	--	
Number of bus stops within 300 m (1,000 ft) of the intersection	0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)	Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of intersection	0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
1.00	1.00	1.00	1.00	1.00	1.00	1.00

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-13.36	1.11	0.41	0.80	1.111	1.000	1.111	1.00	1.00	1.111
Fatal and Injury (FI)	-14.01	1.16	0.30	0.69	0.402	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.356	0.395	1.00	1.00	0.395
Property Damage Only (PDO)	-15.38	1.20	0.51	0.77	0.728	$(5)_{TOTAL}-(5)_{FI}$ / 0.644	0.716	1.00	1.00	0.716

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.395	1.000	0.716	1.111
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.421	0.166	0.440	0.315	0.481
Head-on collision	0.045	0.018	0.023	0.016	0.034
Angle collision	0.343	0.136	0.262	0.188	0.323
Sideswipe	0.126	0.050	0.040	0.029	0.078
Other multiple-vehicle collision	0.065	0.026	0.235	0.168	0.194

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, Ci**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-6.81	0.16	0.51	1.14	0.234	1.000	0.234	1.00	1.00	0.234
Fatal and Injury (FI)	--	--	--	--	0.072	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.318	0.074	1.00	1.00	0.074
Property Damage Only (PDO)	-8.36	0.25	0.55	1.29	0.156	$(5)_{TOTAL}-(5)_{FI}$ / 0.682	0.160	1.00	1.00	0.160

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.074	1.000	0.160	0.234
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.003	0.000	0.001
Collision with animal	0.003	0.000	0.018	0.003	0.003
Collision with fixed object	0.762	0.057	0.834	0.133	0.190
Collision with other object	0.090	0.007	0.092	0.015	0.021
Other single-vehicle collision	0.039	0.003	0.023	0.004	0.007
Single-vehicle noncollision	0.105	0.008	0.030	0.005	0.013

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	1.111	0.234	1.345	0.021	1.00	0.028
Fatal and injury (FI)	--	--	--	--	1.00	0.028

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	Predicted N_{pedi}
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	1.111	0.234	1.345	0.016	1.00	0.022
Fatal and injury (FI)	--	--	--	--	1.00	0.022

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.166	0.315	0.481
Head-on collisions (from Worksheet 2D)	0.018	0.016	0.034
Angle collisions (from Worksheet 2D)	0.136	0.188	0.323
Sideswipe (from Worksheet 2D)	0.050	0.029	0.078
Other multiple-vehicle collision (from Worksheet 2D)	0.026	0.168	0.194
Subtotal	0.395	0.716	1.111
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.001
Collision with animal (from Worksheet 2F)	0.000	0.003	0.003
Collision with fixed object (from Worksheet 2F)	0.057	0.133	0.190
Collision with other object (from Worksheet 2F)	0.007	0.015	0.021
Other single-vehicle collision (from Worksheet 2F)	0.003	0.004	0.007
Single-vehicle noncollision (from Worksheet 2F)	0.008	0.005	0.013
Collision with pedestrian (from Worksheet 2G or 2I)	0.028	0.000	0.028
Collision with bicycle (from Worksheet 2J)	0.022	0.000	0.022
Subtotal	0.124	0.160	0.284
Total	0.519	0.875	1.394

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	1.4
Fatal and injury (FI)	0.5
Property damage only (PDO)	0.9

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Major Road	US 30
Agency or Company	HEI	Minor Road	Gordon Road
State	Illinois	Jurisdiction	IDOT
Date Performed	01/21/13	Analysis Year	2013

Input Data	Base Conditions	Site Conditions
Intersection Name	--	Intersection 1
Intersection type (3ST, 3SG, 4ST, 4SG)	--	4SG
AADT $_{major}$ (veh/day)	--	11,300
AADT $_{minor}$ (veh/day)	--	6,000
Intersection lighting (present/not present)	Not Present	Not Present
Calibration factor, C_i	1.00	1.00
Data for unsignalized intersections only:	--	--
Number of major-road approaches with left-turn lanes (0,1,2)	0	0
Number of major-road approaches with right-turn lanes (0,1,2)	0	0
Data for signalized intersections only:	--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]	0	4
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]	0	2
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]	--	4
Type of left-turn signal phasing for Leg #1	Permissive	Protected / Permissive
Type of left-turn signal phasing for Leg #2	--	Protected / Permissive
Type of left-turn signal phasing for Leg #3	--	Protected / Permissive
Type of left-turn signal phasing for Leg #4 (if applicable)	--	Protected / Permissive
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]	0	0
Intersection red light cameras (present/not present)	Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only		2
Maximum number of lanes crossed by a pedestrian (n_{lanesx})	--	6
Number of bus stops within 300 m (1,000 ft) of the intersection	0	1
Schools within 300 m (1,000 ft) of the intersection (present/not present)	Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of intersection	0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.66	0.96	0.92	1.00	1.00	1.00	0.58

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.99	1.07	0.23	0.39	2.709	1.000	2.709	0.58	1.00	1.583
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	0.808	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.310	0.840	0.58	1.00	0.491
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	1.799	$(5)_{TOTAL}-(5)_{FI}$ / 0.690	1.870	0.58	1.00	1.093

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.491	1.000	1.093	1.583
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.450	0.221	0.483	0.528	0.748
Head-on collision	0.049	0.024	0.030	0.033	0.057
Angle collision	0.347	0.170	0.244	0.267	0.437
Sideswipe	0.099	0.049	0.032	0.035	0.084
Other multiple-vehicle collision	0.055	0.027	0.211	0.231	0.258

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, Ci**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.220	1.000	0.220	0.58	1.00	0.128
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.066	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.304	0.067	0.58	1.00	0.039
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.152	$(5)_{TOTAL}-(5)_{FI}$ / 0.696	0.153	0.58	1.00	0.089

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.039	1.000	0.089	0.128
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.002	0.000	0.002	0.000	0.000
Collision with fixed object	0.744	0.029	0.870	0.078	0.107
Collision with other object	0.072	0.003	0.070	0.006	0.009
Other single-vehicle collision	0.040	0.002	0.023	0.002	0.004
Single-vehicle noncollision	0.141	0.006	0.034	0.003	0.009

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
2.78	1.00	1.00	2.78

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	Predicted N_{pedi}
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.005	2.78	1.00	0.015
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.015

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	1.583	0.128	1.712	0.015	1.00	0.026
Fatal and injury (FI)	--	--	--	--	1.00	0.026

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.221	0.528	0.748
Head-on collisions (from Worksheet 2D)	0.024	0.033	0.057
Angle collisions (from Worksheet 2D)	0.170	0.267	0.437
Sideswipe (from Worksheet 2D)	0.049	0.035	0.084
Other multiple-vehicle collision (from Worksheet 2D)	0.027	0.231	0.258
Subtotal	0.491	1.093	1.583
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.029	0.078	0.107
Collision with other object (from Worksheet 2F)	0.003	0.006	0.009
Other single-vehicle collision (from Worksheet 2F)	0.002	0.002	0.004
Single-vehicle noncollision (from Worksheet 2F)	0.006	0.003	0.009
Collision with pedestrian (from Worksheet 2G or 2I)	0.015	0.000	0.015
Collision with bicycle (from Worksheet 2J)	0.026	0.000	0.026
Subtotal	0.079	0.089	0.169
Total	0.570	1.182	1.752

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	1.8
Fatal and injury (FI)	0.6
Property damage only (PDO)	1.2

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Major Road	US 30
Agency or Company	HEI	Minor Road	Prescott Drive
State	Illinois	Jurisdiction	IDOT
Date Performed	01/21/13	Analysis Year	2013

Input Data	Base Conditions	Site Conditions
Intersection Name	--	Intersection 1
Intersection type (3ST, 3SG, 4ST, 4SG)	--	3ST
AADT $_{major}$ (veh/day)	--	11,300
AADT $_{minor}$ (veh/day)	--	1,400
Intersection lighting (present/not present)	Not Present	Not Present
Calibration factor, C_i	1.00	1.00
Data for unsignalized intersections only:	--	--
Number of major-road approaches with left-turn lanes (0,1,2)	0	1
Number of major-road approaches with right-turn lanes (0,1,2)	0	1
Data for signalized intersections only:	--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]	0	0
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]	0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]	--	
Type of left-turn signal phasing for Leg #1	Permissive	Not Applicable
Type of left-turn signal phasing for Leg #2	--	
Type of left-turn signal phasing for Leg #3	--	
Type of left-turn signal phasing for Leg #4 (if applicable)	--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]	0	0
Intersection red light cameras (present/not present)	Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only		
Maximum number of lanes crossed by a pedestrian (n_{lanesx})	--	
Number of bus stops within 300 m (1,000 ft) of the intersection	0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)	Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of intersection	0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF* $_{COMB}$
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.67	1.00	0.86	1.00	1.00	1.00	0.58

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-13.36	1.11	0.41	0.80	0.970	1.000	0.970	0.58	1.00	0.559
Fatal and Injury (FI)	-14.01	1.16	0.30	0.69	0.364	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.372	0.361	0.58	1.00	0.208
Property Damage Only (PDO)	-15.38	1.20	0.51	0.77	0.615	$(5)_{TOTAL}-(5)_{FI}$ / 0.628	0.609	0.58	1.00	0.351

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.208	1.000	0.351	0.559
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.421	0.087	0.440	0.154	0.242
Head-on collision	0.045	0.009	0.023	0.008	0.017
Angle collision	0.343	0.071	0.262	0.092	0.163
Sideswipe	0.126	0.026	0.040	0.014	0.040
Other multiple-vehicle collision	0.065	0.014	0.235	0.082	0.096

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, Ci**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-6.81	0.16	0.51	1.14	0.197	1.000	0.197	0.58	1.00	0.114
Fatal and Injury (FI)	--	--	--	--	0.061	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.321	0.063	0.58	1.00	0.036
Property Damage Only (PDO)	-8.36	0.25	0.55	1.29	0.130	$(5)_{TOTAL}-(5)_{FI}$ / 0.679	0.134	0.58	1.00	0.077

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.036	1.000	0.077	0.114
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.003	0.000	0.000
Collision with animal	0.003	0.000	0.018	0.001	0.002
Collision with fixed object	0.762	0.028	0.834	0.064	0.092
Collision with other object	0.090	0.003	0.092	0.007	0.010
Other single-vehicle collision	0.039	0.001	0.023	0.002	0.003
Single-vehicle noncollision	0.105	0.004	0.030	0.002	0.006

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	0.559	0.114	0.673	0.021	1.00	0.014
Fatal and injury (FI)	--	--	--	--	1.00	0.014

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	Predicted N_{pedi}
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	0.559	0.114	0.673	0.016	1.00	0.011
Fatal and injury (FI)	--	--	--	--	1.00	0.011

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.087	0.154	0.242
Head-on collisions (from Worksheet 2D)	0.009	0.008	0.017
Angle collisions (from Worksheet 2D)	0.071	0.092	0.163
Sideswipe (from Worksheet 2D)	0.026	0.014	0.040
Other multiple-vehicle collision (from Worksheet 2D)	0.014	0.082	0.096
Subtotal	0.208	0.351	0.559
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.002
Collision with fixed object (from Worksheet 2F)	0.028	0.064	0.092
Collision with other object (from Worksheet 2F)	0.003	0.007	0.010
Other single-vehicle collision (from Worksheet 2F)	0.001	0.002	0.003
Single-vehicle noncollision (from Worksheet 2F)	0.004	0.002	0.006
Collision with pedestrian (from Worksheet 2G or 2I)	0.014	0.000	0.014
Collision with bicycle (from Worksheet 2J)	0.011	0.000	0.011
Subtotal	0.061	0.077	0.139
Total	0.269	0.428	0.697

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	0.7
Fatal and injury (FI)	0.3
Property damage only (PDO)	0.4

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Major Road	US 30
Agency or Company	HEI	Minor Road	Lakewood Creek Drive
State	Illinois	Jurisdiction	IDOT
Date Performed	01/21/13	Analysis Year	2013

Input Data	Base Conditions	Site Conditions
Intersection Name	--	Intersection 1
Intersection type (3ST, 3SG, 4ST, 4SG)	--	3ST
AADT $_{major}$ (veh/day)	--	11,300
AADT $_{minor}$ (veh/day)	--	3,500
Intersection lighting (present/not present)	Not Present	Not Present
Calibration factor, C_i	1.00	1.00
Data for unsignalized intersections only:	--	--
Number of major-road approaches with left-turn lanes (0,1,2)	0	1
Number of major-road approaches with right-turn lanes (0,1,2)	0	1
Data for signalized intersections only:	--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]	0	0
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]	0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]	--	
Type of left-turn signal phasing for Leg #1	Permissive	Not Applicable
Type of left-turn signal phasing for Leg #2	--	
Type of left-turn signal phasing for Leg #3	--	
Type of left-turn signal phasing for Leg #4 (if applicable)	--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]	0	0
Intersection red light cameras (present/not present)	Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only		
Maximum number of lanes crossed by a pedestrian (n_{lanesx})	--	
Number of bus stops within 300 m (1,000 ft) of the intersection	0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)	Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of intersection	0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.67	1.00	0.86	1.00	1.00	1.00	0.58

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-13.36	1.11	0.41	0.80	1.412	1.000	1.412	0.58	1.00	0.814
Fatal and Injury (FI)	-14.01	1.16	0.30	0.69	0.479	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.328	0.463	0.58	1.00	0.267
Property Damage Only (PDO)	-15.38	1.20	0.51	0.77	0.981	$(5)_{TOTAL}-(5)_{FI}$ / 0.672	0.949	0.58	1.00	0.547

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.267	1.000	0.547	0.814
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.421	0.112	0.440	0.241	0.353
Head-on collision	0.045	0.012	0.023	0.013	0.025
Angle collision	0.343	0.092	0.262	0.143	0.235
Sideswipe	0.126	0.034	0.040	0.022	0.055
Other multiple-vehicle collision	0.065	0.017	0.235	0.128	0.146

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, Ci**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-6.81	0.16	0.51	1.14	0.315	1.000	0.315	0.58	1.00	0.182
Fatal and Injury (FI)	--	--	--	--	0.098	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.313	0.099	0.58	1.00	0.057
Property Damage Only (PDO)	-8.36	0.25	0.55	1.29	0.215	$(5)_{TOTAL}-(5)_{FI}$ / 0.687	0.217	0.58	1.00	0.125

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.057	1.000	0.125	0.182
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.003	0.000	0.000
Collision with animal	0.003	0.000	0.018	0.002	0.002
Collision with fixed object	0.762	0.043	0.834	0.104	0.147
Collision with other object	0.090	0.005	0.092	0.011	0.017
Other single-vehicle collision	0.039	0.002	0.023	0.003	0.005
Single-vehicle noncollision	0.105	0.006	0.030	0.004	0.010

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	0.814	0.182	0.995	0.021	1.00	0.021
Fatal and injury (FI)	--	--	--	--	1.00	0.021

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	Predicted N_{pedi}
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	0.814	0.182	0.995	0.016	1.00	0.016
Fatal and injury (FI)	--	--	--	--	1.00	0.016

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.112	0.241	0.353
Head-on collisions (from Worksheet 2D)	0.012	0.013	0.025
Angle collisions (from Worksheet 2D)	0.092	0.143	0.235
Sideswipe (from Worksheet 2D)	0.034	0.022	0.055
Other multiple-vehicle collision (from Worksheet 2D)	0.017	0.128	0.146
Subtotal	0.267	0.547	0.814
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.002	0.002
Collision with fixed object (from Worksheet 2F)	0.043	0.104	0.147
Collision with other object (from Worksheet 2F)	0.005	0.011	0.017
Other single-vehicle collision (from Worksheet 2F)	0.002	0.003	0.005
Single-vehicle noncollision (from Worksheet 2F)	0.006	0.004	0.010
Collision with pedestrian (from Worksheet 2G or 2I)	0.021	0.000	0.021
Collision with bicycle (from Worksheet 2J)	0.016	0.000	0.016
Subtotal	0.094	0.125	0.218
Total	0.360	0.671	1.032

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	1.0
Fatal and injury (FI)	0.4
Property damage only (PDO)	0.7

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Major Road	US 30
Agency or Company	HEI	Minor Road	Griffin Drive
State	Illinois	Jurisdiction	IDOT
Date Performed	01/21/13	Analysis Year	2013

Input Data	Base Conditions	Site Conditions
Intersection Name	--	Intersection 1
Intersection type (3ST, 3SG, 4ST, 4SG)	--	4SG
AADT $_{major}$ (veh/day)	--	19,400
AADT $_{minor}$ (veh/day)	--	2,300
Intersection lighting (present/not present)	Not Present	Not Present
Calibration factor, C_i	1.00	1.00
Data for unsignalized intersections only:	--	--
Number of major-road approaches with left-turn lanes (0,1,2)	0	0
Number of major-road approaches with right-turn lanes (0,1,2)	0	0
Data for signalized intersections only:	--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]	0	4
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]	0	3
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]	--	4
Type of left-turn signal phasing for Leg #1	Permissive	Protected / Permissive
Type of left-turn signal phasing for Leg #2	--	Protected / Permissive
Type of left-turn signal phasing for Leg #3	--	Protected / Permissive
Type of left-turn signal phasing for Leg #4 (if applicable)	--	Protected / Permissive
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]	0	0
Intersection red light cameras (present/not present)	Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only		2
Maximum number of lanes crossed by a pedestrian (n_{lanesx})	--	6
Number of bus stops within 300 m (1,000 ft) of the intersection	0	1
Schools within 300 m (1,000 ft) of the intersection (present/not present)	Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of intersection	0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF* $_{COMB}$
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.66	0.96	0.88	1.00	1.00	1.00	0.56

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.99	1.07	0.23	0.39	3.875	1.000	3.875	0.56	1.00	2.173
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	1.238	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.333	1.290	0.56	1.00	0.724
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	2.480	$(5)_{TOTAL}-(5)_{FI}$ / 0.667	2.585	0.56	1.00	1.450

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type(FI)**	**Predicted N *bimv* (FI) (crashes/year)**	**Proportion of Collision Type (PDO)**	**Predicted N *bimv* (PDO) (crashes/year)**	**Predicted N *bimv* (TOTAL) (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.724	1.000	1.450	2.173
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.450	0.326	0.483	0.700	1.026
Head-on collision	0.049	0.035	0.030	0.043	0.079
Angle collision	0.347	0.251	0.244	0.354	0.605
Sideswipe	0.099	0.072	0.032	0.046	0.118
Other multiple-vehicle collision	0.055	0.040	0.211	0.306	0.346

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, Ci**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.245	1.000	0.245	0.56	1.00	0.137
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.063	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.258	0.063	0.56	1.00	0.035
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.182	$(5)_{TOTAL}-(5)_{FI}$ / 0.742	0.182	0.56	1.00	0.102

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.035	1.000	0.102	0.137
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.002	0.000	0.002	0.000	0.000
Collision with fixed object	0.744	0.026	0.870	0.089	0.115
Collision with other object	0.072	0.003	0.070	0.007	0.010
Other single-vehicle collision	0.040	0.001	0.023	0.002	0.004
Single-vehicle noncollision	0.141	0.005	0.034	0.003	0.008

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
2.78	1.00	1.00	2.78

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	Predicted N_{pedi}
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.004	2.78	1.00	0.011
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.011

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	2.173	0.137	2.311	0.015	1.00	0.035
Fatal and injury (FI)	--	--	--	--	1.00	0.035

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.326	0.700	1.026
Head-on collisions (from Worksheet 2D)	0.035	0.043	0.079
Angle collisions (from Worksheet 2D)	0.251	0.354	0.605
Sideswipe (from Worksheet 2D)	0.072	0.046	0.118
Other multiple-vehicle collision (from Worksheet 2D)	0.040	0.306	0.346
Subtotal	0.724	1.450	2.173
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.026	0.089	0.115
Collision with other object (from Worksheet 2F)	0.003	0.007	0.010
Other single-vehicle collision (from Worksheet 2F)	0.001	0.002	0.004
Single-vehicle noncollision (from Worksheet 2F)	0.005	0.003	0.008
Collision with pedestrian (from Worksheet 2G or 2I)	0.011	0.000	0.011
Collision with bicycle (from Worksheet 2J)	0.035	0.000	0.035
Subtotal	0.081	0.102	0.183
Total	0.805	1.552	2.356

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	2.4
Fatal and injury (FI)	0.8
Property damage only (PDO)	1.6

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Major Road	US 30
Agency or Company	HEI	Minor Road	Blackberry Road
State	Illinois	Jurisdiction	IDOT
Date Performed	01/21/13	Analysis Year	2013

Input Data	Base Conditions	Site Conditions
Intersection Name	--	Intersection 1
Intersection type (3ST, 3SG, 4ST, 4SG)	--	3ST
AADT $_{major}$ (veh/day)	--	19,400
AADT $_{minor}$ (veh/day)	--	300
Intersection lighting (present/not present)	Not Present	Not Present
Calibration factor, C_i	1.00	1.00
Data for unsignalized intersections only:	--	--
Number of major-road approaches with left-turn lanes (0,1,2)	0	0
Number of major-road approaches with right-turn lanes (0,1,2)	0	0
Data for signalized intersections only:	--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]	0	
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]	0	
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]	--	
Type of left-turn signal phasing for Leg #1	Permissive	
Type of left-turn signal phasing for Leg #2	--	
Type of left-turn signal phasing for Leg #3	--	
Type of left-turn signal phasing for Leg #4 (if applicable)	--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]	0	
Intersection red light cameras (present/not present)	Not Present	
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only		
Maximum number of lanes crossed by a pedestrian (n_{lanesx})	--	
Number of bus stops within 300 m (1,000 ft) of the intersection	0	
Schools within 300 m (1,000 ft) of the intersection (present/not present)	Not Present	
Number of alcohol sales establishments within 300 m (1,000 ft) of intersection	0	

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
1.00	1.00	1.00	1.00	1.00	1.00	1.00

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-13.36	1.11	0.41	0.80	0.940	1.000	0.940	1.00	1.00	0.940
Fatal and Injury (FI)	-14.01	1.16	0.30	0.69	0.429	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.445	0.418	1.00	1.00	0.418
Property Damage Only (PDO)	-15.38	1.20	0.51	0.77	0.536	$(5)_{TOTAL}-(5)_{FI}$ 0.555	0.522	1.00	1.00	0.522

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.418	1.000	0.522	0.940
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.421	0.176	0.440	0.230	0.406
Head-on collision	0.045	0.019	0.023	0.012	0.031
Angle collision	0.343	0.143	0.262	0.137	0.280
Sideswipe	0.126	0.053	0.040	0.021	0.074
Other multiple-vehicle collision	0.065	0.027	0.235	0.123	0.150

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, Ci**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-6.81	0.16	0.51	1.14	0.098	1.000	0.098	1.00	1.00	0.098
Fatal and Injury (FI)	--	--	--	--	0.030	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.323	0.032	1.00	1.00	0.032
Property Damage Only (PDO)	-8.36	0.25	0.55	1.29	0.064	$(5)_{TOTAL}-(5)_{FI}$ 0.677	0.066	1.00	1.00	0.066

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.032	1.000	0.066	0.098
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.003	0.000	0.000
Collision with animal	0.003	0.000	0.018	0.001	0.001
Collision with fixed object	0.762	0.024	0.834	0.055	0.080
Collision with other object	0.090	0.003	0.092	0.006	0.009
Other single-vehicle collision	0.039	0.001	0.023	0.002	0.003
Single-vehicle noncollision	0.105	0.003	0.030	0.002	0.005

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	0.940	0.098	1.038	0.021	1.00	0.022
Fatal and injury (FI)	--	--	--	--	1.00	0.022

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	Predicted N_{pedi}
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	0.940	0.098	1.038	0.016	1.00	0.017
Fatal and injury (FI)	--	--	--	--	1.00	0.017

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.176	0.230	0.406
Head-on collisions (from Worksheet 2D)	0.019	0.012	0.031
Angle collisions (from Worksheet 2D)	0.143	0.137	0.280
Sideswipe (from Worksheet 2D)	0.053	0.021	0.074
Other multiple-vehicle collision (from Worksheet 2D)	0.027	0.123	0.150
Subtotal	0.418	0.522	0.940
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.024	0.055	0.080
Collision with other object (from Worksheet 2F)	0.003	0.006	0.009
Other single-vehicle collision (from Worksheet 2F)	0.001	0.002	0.003
Single-vehicle noncollision (from Worksheet 2F)	0.003	0.002	0.005
Collision with pedestrian (from Worksheet 2G or 2I)	0.022	0.000	0.022
Collision with bicycle (from Worksheet 2J)	0.017	0.000	0.017
Subtotal	0.070	0.066	0.137
Total	0.488	0.588	1.076

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	1.1
Fatal and injury (FI)	0.5
Property damage only (PDO)	0.6

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Major Road	Orchard Road
Agency or Company	HEI	Minor Road	US 30
State	Illinois	Jurisdiction	IDOT
Date Performed	01/21/13	Analysis Year	2013

Input Data	Base Conditions	Site Conditions
Intersection Name	--	Intersection 1
Intersection type (3ST, 3SG, 4ST, 4SG)	--	4SG
AADT $_{major}$ (veh/day)	--	26,400
AADT $_{minor}$ (veh/day)	--	24,000
Intersection lighting (present/not present)	Not Present	Present
Calibration factor, C_i	1.00	1.00
Data for unsignalized intersections only:	--	--
Number of major-road approaches with left-turn lanes (0,1,2)	0	
Number of major-road approaches with right-turn lanes (0,1,2)	0	
Data for signalized intersections only:	--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]	0	4
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]	0	3
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]	--	4
Type of left-turn signal phasing for Leg #1	Permissive	Protected / Permissive
Type of left-turn signal phasing for Leg #2	--	Protected / Permissive
Type of left-turn signal phasing for Leg #3	--	Protected / Permissive
Type of left-turn signal phasing for Leg #4 (if applicable)	--	Protected / Permissive
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]	0	0
Intersection red light cameras (present/not present)	Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only		2
Maximum number of lanes crossed by a pedestrian (n_{lanesx})	--	6
Number of bus stops within 300 m (1,000 ft) of the intersection	0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)	Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of intersection	0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF* $_{COMB}$
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.66	0.96	0.88	1.00	0.91	1.00	0.51

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.99	1.07	0.23	0.39	9.240	1.000	9.240	0.51	1.00	4.720
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	2.982	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.333	3.081	0.51	1.00	1.574
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	5.962	$(5)_{TOTAL}-(5)_{FI}$ / 0.667	6.159	0.51	1.00	3.146

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	1.574	1.000	3.146	4.720
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.450	0.708	0.483	1.520	2.228
Head-on collision	0.049	0.077	0.030	0.094	0.172
Angle collision	0.347	0.546	0.244	0.768	1.314
Sideswipe	0.099	0.156	0.032	0.101	0.256
Other multiple-vehicle collision	0.055	0.087	0.211	0.664	0.750

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, Ci**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.569	1.000	0.569	0.51	1.00	0.291
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.143	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.255	0.145	0.51	1.00	0.074
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.416	$(5)_{TOTAL}-(5)_{FI}$ / 0.745	0.424	0.51	1.00	0.216

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.074	1.000	0.216	0.291
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.002	0.000	0.002	0.000	0.001
Collision with fixed object	0.744	0.055	0.870	0.188	0.244
Collision with other object	0.072	0.005	0.070	0.015	0.020
Other single-vehicle collision	0.040	0.003	0.023	0.005	0.008
Single-vehicle noncollision	0.141	0.010	0.034	0.007	0.018

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	Predicted N_{pedi}
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.009	1.00	1.00	0.009
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.009

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	4.720	0.291	5.011	0.015	1.00	0.075
Fatal and injury (FI)	--	--	--	--	1.00	0.075

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.708	1.520	2.228
Head-on collisions (from Worksheet 2D)	0.077	0.094	0.172
Angle collisions (from Worksheet 2D)	0.546	0.768	1.314
Sideswipe (from Worksheet 2D)	0.156	0.101	0.256
Other multiple-vehicle collision (from Worksheet 2D)	0.087	0.664	0.750
Subtotal	1.574	3.146	4.720
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.001
Collision with fixed object (from Worksheet 2F)	0.055	0.188	0.244
Collision with other object (from Worksheet 2F)	0.005	0.015	0.020
Other single-vehicle collision (from Worksheet 2F)	0.003	0.005	0.008
Single-vehicle noncollision (from Worksheet 2F)	0.010	0.007	0.018
Collision with pedestrian (from Worksheet 2G or 2I)	0.009	0.000	0.009
Collision with bicycle (from Worksheet 2J)	0.075	0.000	0.075
Subtotal	0.159	0.216	0.375
Total	1.733	3.363	5.095

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	5.1
Fatal and injury (FI)	1.7
Property damage only (PDO)	3.4

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Project Description	US 30 from IL 47 to IL 31	Roadway	US 30
Analyst	D.Draper	Major Road	US 30
Agency or Company	HEI	Minor Road	Horsemen / Baseline Rd. Connector
State	Illinois	Jurisdiction	IDOT
Date Performed	01/21/13	Analysis Year	2013

Input Data	Base Conditions	Site Conditions
Intersection Name	--	Intersection 1
Intersection type (3ST, 3SG, 4ST, 4SG)	--	3ST
AADT $_{major}$ (veh/day)	--	24,500
AADT $_{minor}$ (veh/day)	--	2,650
Intersection lighting (present/not present)	Not Present	Not Present
Calibration factor, C_i	1.00	1.00
Data for unsignalized intersections only:	--	--
Number of major-road approaches with left-turn lanes (0,1,2)	0	1
Number of major-road approaches with right-turn lanes (0,1,2)	0	1
Data for signalized intersections only:	--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]	0	
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]	0	
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]	--	
Type of left-turn signal phasing for Leg #1	Permissive	
Type of left-turn signal phasing for Leg #2	--	
Type of left-turn signal phasing for Leg #3	--	
Type of left-turn signal phasing for Leg #4 (if applicable)	--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]	0	
Intersection red light cameras (present/not present)	Not Present	
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only		
Maximum number of lanes crossed by a pedestrian (n_{lanesx})	--	
Number of bus stops within 300 m (1,000 ft) of the intersection	0	
Schools within 300 m (1,000 ft) of the intersection (present/not present)	Not Present	
Number of alcohol sales establishments within 300 m (1,000 ft) of intersection	0	

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.67	1.00	0.86	1.00	1.00	1.00	0.58

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}*(5)$	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-13.36	1.11	0.41	0.80	2.974	1.000	2.974	0.58	1.00	1.718
Fatal and Injury (FI)	-14.01	1.16	0.30	0.69	1.081	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.334	0.994	0.58	1.00	0.574
Property Damage Only (PDO)	-15.38	1.20	0.51	0.77	2.155	$(5)_{TOTAL}-(5)_{FI}$ / 0.666	1.980	0.58	1.00	1.144

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.574	1.000	1.144	1.718
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.421	0.242	0.440	0.503	0.745
Head-on collision	0.045	0.026	0.023	0.026	0.052
Angle collision	0.343	0.197	0.262	0.300	0.497
Sideswipe	0.126	0.072	0.040	0.046	0.118
Other multiple-vehicle collision	0.065	0.037	0.235	0.269	0.306

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, Ci**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}*(5)$	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-6.81	0.16	0.51	1.14	0.309	1.000	0.309	0.58	1.00	0.179
Fatal and Injury (FI)	--	--	--	--	0.096	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ / 0.300	0.093	0.58	1.00	0.054
Property Damage Only (PDO)	-8.36	0.25	0.55	1.29	0.224	$(5)_{TOTAL}-(5)_{FI}$ / 0.700	0.217	0.58	1.00	0.125

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.054	1.000	0.125	0.179
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.003	0.000	0.000
Collision with animal	0.003	0.000	0.018	0.002	0.002
Collision with fixed object	0.762	0.041	0.834	0.104	0.145
Collision with other object	0.090	0.005	0.092	0.012	0.016
Other single-vehicle collision	0.039	0.002	0.023	0.003	0.005
Single-vehicle noncollision	0.105	0.006	0.030	0.004	0.009

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	1.718	0.179	1.897	0.021	1.00	0.040
Fatal and injury (FI)	--	--	--	--	1.00	0.040

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	Predicted N_{pedi}
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	1.718	0.179	1.897	0.016	1.00	0.030
Fatal and injury (FI)	--	--	--	--	1.00	0.030

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.242	0.503	0.745
Head-on collisions (from Worksheet 2D)	0.026	0.026	0.052
Angle collisions (from Worksheet 2D)	0.197	0.300	0.497
Sideswipe (from Worksheet 2D)	0.072	0.046	0.118
Other multiple-vehicle collision (from Worksheet 2D)	0.037	0.269	0.306
Subtotal	0.574	1.144	1.718
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.002	0.002
Collision with fixed object (from Worksheet 2F)	0.041	0.104	0.145
Collision with other object (from Worksheet 2F)	0.005	0.012	0.016
Other single-vehicle collision (from Worksheet 2F)	0.002	0.003	0.005
Single-vehicle noncollision (from Worksheet 2F)	0.006	0.004	0.009
Collision with pedestrian (from Worksheet 2G or 2I)	0.040	0.000	0.040
Collision with bicycle (from Worksheet 2J)	0.030	0.000	0.030
Subtotal	0.124	0.125	0.249
Total	0.698	1.269	1.967

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	2.0
Fatal and injury (FI)	0.7
Property damage only (PDO)	1.3

S-2

Technical Memorandum – Existing and No-Build Traffic

U.S. 30
Illinois 47 to Illinois 31
P-91-403-11

TRAFFIC STUDY
EXISTING (2012) AND 2040 NO-BUILD

Prepared By:

Hutchison Engineering, Inc.

May 09, 2013

TABLE OF CONTENTS

SECTION 1 - DESCRIPTION OF STUDY AREA 1
SECTION 2 – PROJECT APPROACH 2
2.1 EXISTING TRAFFIC AND OPERATIONAL CONDITIONS 3
2.2 FUTURE TRAFFIC ASSIGNMENTS 3
SECTION 3 – EXISTING TRAFFIC AND OPERATION CONDITIONS 3
3.1 DATA COLLECTION 3
3.2 OPERATIONAL ANALYSIS ASSUMPTIONS 4
3.3 OPERATIONAL ANALYSIS RESULTS 4
3.3.1 SIGNALIZED INTERSECTIONS 4
3.3.2 ARTERIAL CAPACITY AND OPERATION 6
3.3.3 FIELD OBSERVATIONS 7
3.3.4 EXISTING ADT 10
SECTION 4 – FUTURE TRAFFIC ASSIGNMENTS 11
4.1 GROWTH FACTORS 11
4.2 U.S. 30 BETWEEN ILLINOIS ROUTE 47 AND BERTRAM ROAD 11
SECTION 5 – STUDY CONCLUSIONS 13
APPENDICES 14

LIST OF FIGURES

FIGURE 1 - PROJECT LOCATION MAP 2

LIST OF TABLES

TABLE 1 - RESULTS OF 2012 EXISTING CONDITIONS OPERATIONS & CAPACITY ANALYSES 6
TABLE 2 - EXISTING SEGMENT OPERATION AND CAPACITY ANALYSIS 7
TABLE 3 - RESULTS OF THE 2040 NO-BUILD OPERATIONS & CAPACITY ANALYSES 12

Hutchison Engineering, Inc.

TECHNICAL MEMORANDUM

May 9, 2013

U.S. 30 Traffic Study from IL 47 to IL 31

The purpose of this traffic study was to evaluate existing and projected future traffic conditions along U.S. 30, and to assess the need for improvements.

SECTION 1

DESCRIPTION OF STUDY AREA

The project study area includes U.S. 30 (Baseline Road) from east of Illinois Route 47 to west of the Illinois Route 31 interchange, a length of about 4.5 miles. U.S. 30 through the study area generally runs east-west. See Figure 1 on page 2 for Project Location Map.

The U.S. 30 study corridor between IL 47 and IL 31 is a two-lane highway that is classified as a Strategic Regional Arterial (SRA). IDOT owns access rights through most of the corridor. The Average Annual Daily Traffic (AADT) ranges from 11,300 at the west end near Illinois Route 47 to 24,900 at the east end near the Illinois Route 31 interchange.

The existing land use from IL 47 to Dickson Road is agricultural. East of Dickson Road to Blackberry Creek is a mixture between residential and agricultural use. East of Orchard Road the land is generally commercial and industrial south of U.S. 30 with some residential and agricultural mixed in. On the north side the land use is more residential and agricultural until just west of the IL 31 interchange where it becomes industrial. Many of the residential subdivisions were developed with setbacks to accommodate future expansion of U.S. 30.

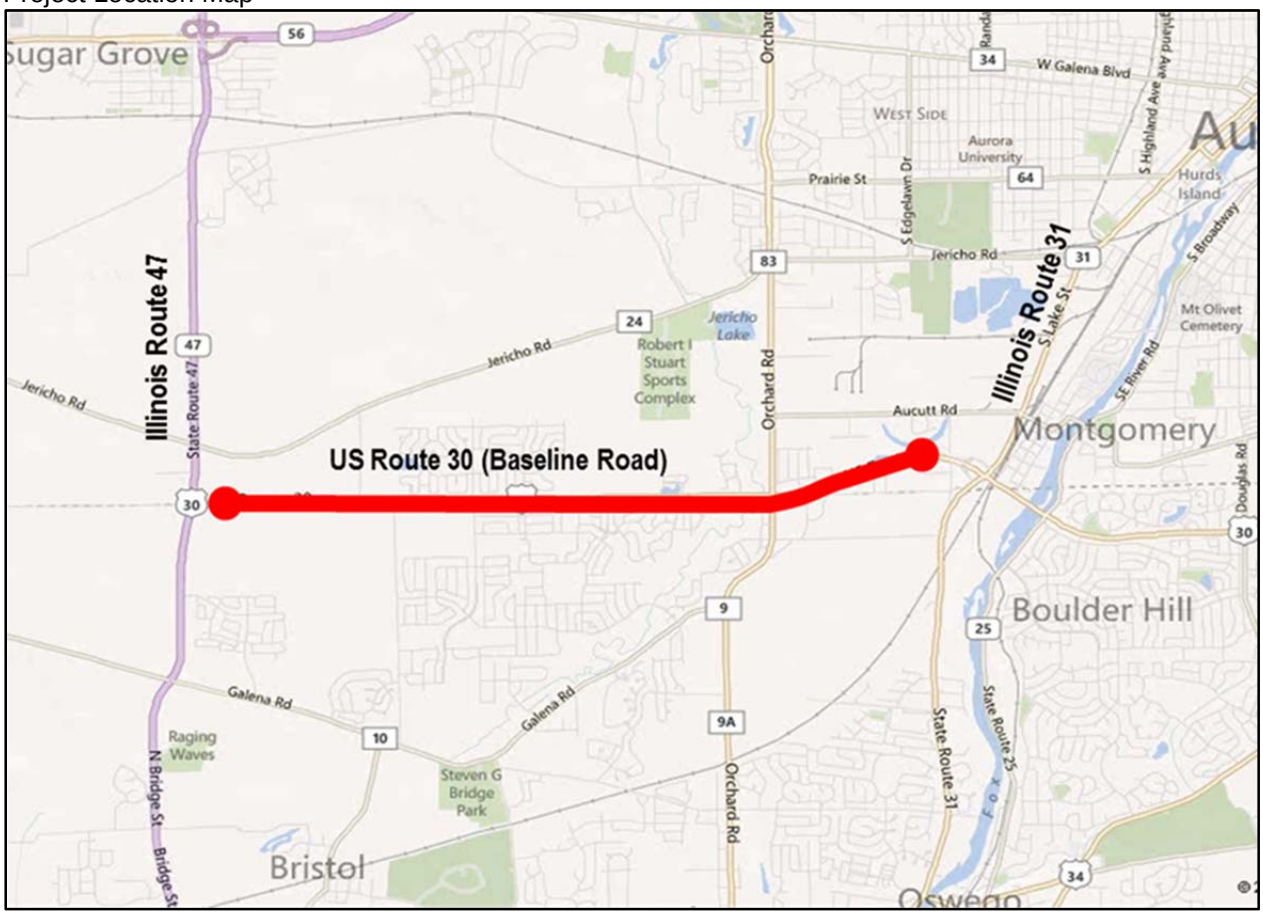
The posted speed limits of U.S. 30 are 55 mph from IL 47 to Orchard Road. East of Orchard Road to west of the IL 31 interchange the speed limit is 50 mph and it drops to 45 mph at the east end of the project where it approaches the interchange area.

The roadway generally consists of one 12 foot lane in each direction with 10 feet wide aggregate shoulders. There are three signalized intersections with turn lanes located at

Gordon Road, Griffin Drive and Orchard Road. There are a total of seven un-signalized intersections.

Significant features along the corridor include Blackberry Creek, the Blackberry Trail Forest Preserve, Jacob Keck Memorial Cemetery and the Orchard Road Corridor. Stuart Sports Complex property abuts the corridor but there are no existing facilities near the corridor.

FIGURE 1
Project Location Map



Source: Microsoft Corporation / NAVTEQ

SECTION 2

PROJECT APPROACH

The general approach for the study is described below.

2.1 EXISTING TRAFFIC AND OPERATIONAL CONDITIONS

Traffic data were collected, compiled, and analyzed to describe the traffic conditions at signalized and signalized intersections within the study area. Operational performance was analyzed in two ways. Synchro network analysis was used to evaluate performance of individual intersections.

2.2 FUTURE TRAFFIC ASSIGNMENTS

Future traffic demand was projected comparing existing average daily traffic (ADT) volumes with the 2040 ADT data provided by CMAP. Growth factors were applied to existing traffic volumes to calculate future traffic volumes along the roadway network. The peak hour traffic volumes were balanced along the corridor considering the Orchard Road intersection as the focal intersection within the study area.

Existing peak hour factor (PHF) and heavy vehicle percentages were used for the future traffic assignments. Synchro network analysis was used to evaluate performance of individual intersections. Highway Capacity Software (HCS) was used to analyze roadway segments.

SECTION 3

EXISTING TRAFFIC AND OPERATION CONDITIONS

3.1 DATA COLLECTION

Traffic count data were obtained along the study corridor in April and May 2012. Traffic was counted only on weekdays (Tuesday through Thursday) for a 12-hour period between 6 AM and 6 PM and recorded in 15-minute time increments to enable identification of peak hours. Turning movement counts were collected for the three signalized and seven un-signalized intersections listed above.

Following compilation of traffic count data, AM and PM peak hours were identified for each intersection. Based on the data collected, the AM peak hour in the 4.5-rnile corridor occurred between 6:30 and 8:00 AM, while the PM peak hour occurred

between 3:15 and 5:45 PM. The individual peak hour traffic data at each intersection were used to develop the peak hour traffic volumes for analyzing traffic along the corridor.

Once the peak hours were determined, traffic was balanced across the network. The Orchard Road intersection was used as the focal intersection of the study area, and the approach volumes to this intersection were used to balance rest of the intersection movements along the corridor. For each intersection approach, the total approach volume was balanced with the upstream intersection exiting traffic. Traffic volumes were balanced between intersections such that the volume exiting an upstream intersection would equal the volume entering the downstream intersection. Balanced existing AM and PM peak hours were posted to schematics of the corridor and are presented in Exhibits 1 through 3. The raw traffic data is presented in Appendix F. Existing peak hour volume exhibits are presented in the Appendix E.

Field reviews were performed at all the studied intersections to gather geometric layout, including lane arrangements, turn bay lengths, and other relevant data.

3.2 OPERATIONAL ANALYSIS ASSUMPTIONS

Required input parameters for the Synchro simulations were established. Specifically, the following were established based on a review of traffic counts, field observations, and engineering judgment:

- The peak hour factor (PHF), the measure of variability of demand during the peak hour, was calculated for each intersection based on counts collected
- The percentage of heavy vehicles in the existing traffic mix was calculated for each approach at each signalized intersection in the study area
- The maximum green times were estimated.
- Ideal saturation flow – 1,900 vehicles per hour per lane.

3.3 OPERATIONAL ANALYSIS RESULTS

Operational characteristics of signalized and un-signalized intersections were evaluated for the existing (2012) traffic.

3.3.1 SIGNALIZED INTERSECTIONS

For signalized intersections, both level of service (LOS) and volume to capacity (v/c) ratio are indicative of an intersection's operation. LOS is defined in terms of control delay per vehicle. Control delay includes a vehicle's initial deceleration delay at a signal, queue move-up time, stopped delay, and final acceleration delay. Overall intersection

LOS ranges from A (less than 10 seconds of control delay per vehicle) to F (greater than 80 seconds of control delay per vehicle). LOS C for the entire intersection and LOS D for individual movements generally are considered acceptable for peak hour operation in urban/suburban areas. The v/c ratio compares the demand flow rate of traffic approaching an intersection to its practical capacity. This is also a measure of the operation characteristic of a signalized intersection. Intersections with critical v/c ratios approaching or exceeding 1.0 represent locations where queues develop and vehicles wait through more than one cycle to clear the intersection.

The capacity of an intersection is defined as the maximum rate of flow that can pass through a given lane group under prevailing traffic and roadway conditions. The evaluation of traffic operations at a signalized intersection, therefore, must consider both LOS and capacity. It is possible, for example, to have delays in the range of LOS F (unacceptable) while the v/c ratio is less than 1.0. The reverse is also possible. Thus, the designation LOS F does not automatically imply that the intersection is over capacity. Nor does an LOS better than E automatically imply that there is unused capacity.

Exhibits 1 through 3 show the operational performance of the signalized intersections under existing conditions. The cycle lengths at each of these signalized intersections were estimated.

Table 1 summarizes results of the 2012 existing conditions operations and capacity analyses and presents LOS, v/c ratio, and queues of the movements operating at LOS E or F. As the queues extend beyond the tum bays, they block other movements and cause problems throughout the network. Shared tum and through lanes that serve as de facto tum lanes may back up, and are also listed below. Existing condition analysis reports may be found in Appendix A.

TABLE 1
Results of 2012 Existing Conditions Operations & Capacity Analyses

Intersection	Intersection LOS AM (PM) Peak Hour	Movements Operating at LOS E or F; V/C Ratio> 0.8 AM(PM)	95th Percentile Queue (ft.)	Approximate Existing Turn Bay Length (ft.)
Bertram Road (un-signalized)	C (A)	SB LT - D(F)	374	N/A
Dickson Road (un-signalized)	E (D)	NB LT - F(D)	312	N/A
Gordon Road (signalized)	F (B)	SB RT - F(C)	364	225
Prescott Drive (un-signalized)	A (B)	None	21	N/A
Lakewood Creek Drive (un-signalized)	B (B)	NB LT - C(F)	70	55
Griffin Drive (signalized)	D (C)	NB RT - F(F)	180	190
Blackberry Road (un-signalized)	C (C)	SB LT - D(F)	35	N/A
Orchard Road (signalized)	F (F)	EB THRU - F(F)	588	N/A
		EB RT - C(F)	558	150
		WB THRU - F(F)	598	N/A
		WB RT - F(F)	552	250
		NB THRU - F(F)	850	N/A
		NB RT - F(F)	374	160
		SB THRU -C(F)	446	N/A
		SB RT - C(F)	726	N/A
Horsemen Tr/Galena Rd (un-signalized)	E (C)	NB RT - F(D)	162	N/A
Baseline Connector Road (un-signalized)	C (A)	NB RT - E(D)	8	N/A

3.3.2 ARTERIAL CAPACITY AND OPERATION

The capacity of arterial streets with closely spaced intersections is generally governed by the operation of its signalized intersections. Arterial performance is also influenced by such factors as the number of continuous through lanes, cross-section design, the

presence of on-street parking, driveway density, and adjacent land use. Lower arterial capacity often is observed when a corridor has no median, many access points, and limited turn bays, which means turning vehicles block and limit the number of available through lanes.

The average travel speed is the determinant of the operating LOS. A summary of LOS and average travel speed for three segments of U.S. 30 is provided in Table 2. The majority of currently operate LOS D or below during the peak hours with average travel speed decreasing across the corridor from west to east. The segment of U.S. 30 between the Griffin Drive intersection and the Horsemen Trail/Baseline Road Connector intersections is not analyzed as a corridor, as the individual intersections are closely spaced. Segment capacity analysis reports may be found in Appendix B.

TABLE 2
Existing Segment Operation and Capacity Analysis

Segment	Direction	Segment LOS AM (PM)	Average Travel Speed (mph) AM(PM)
IL 47 to Gordon Road	Eastbound	B (D)	44.7 (44.5)
	Westbound	D (C)	43.9 (44.8)
Gordon Road to Griffin Drive	Eastbound	D (D)	42.4 (42.8)
	Westbound	C (D)	43.6 (42.4)
Horsemen Trail/Baseline Road Connector to IL 31	Eastbound	E (E)	34.8 (33.1)
	Westbound	D (E)	35.2 (33.0)

3.3.3 FIELD OBSERVATIONS

In the study corridor along U.S. 30, the AM peak hour typically performs more poorly than does the PM peak hour traffic along U.S. 30 for eastbound traffic. The PM peak hour typically performs more poorly than does the AM peak hour traffic along U.S. 30 for westbound traffic.

Bertram Road

Bertram Road is classified as a major collector. It is a township road serving an agricultural area and connects to Jericho Road to the north. It is a three-legged un-signalized intersection. There are no turn lanes on any of the approaches. During the AM peak hour the westbound right turn movement is significant. However, no operational issues were noted. In the PM peak that movement is reversed with a large volume of southbound traffic making left turns onto U.S. 30. Traffic making this left-turn

movement finds limited gaps to make the movement due to the density of the U.S. 30 traffic flow.

Dickson Road

Dickson Road is classified as a major collector. It is a township road serving an agricultural area adjacent to U.S. 30 and subdivisions further south. It is a three-legged un-signalized intersection. There are no turn lanes on any of the approaches. During the AM peak hour the northbound left turn movement is significant. Traffic making this left-turn movement finds limited gaps to make the movement due to the density of the U.S. 30 traffic flow. In the PM peak no operational issues were noted.

Gordon Road

Gordon Road is a classified as a minor arterial to the north and a major collector to the south. It is a city street serving residential subdivisions. The north leg of the intersection serves as the only access point for the subdivision onto U.S. 30 and does not currently connect to Jericho Road. It is a four-legged signalized intersection. In addition there is a school located in the subdivision. There are left and right turn lanes on both U.S. 30 approaches. On Gordon Road there are two thru lanes and a left turn lane on each approach. Operationally, the intersection operates well with the exception of the southbound right turn movement which experiences some back-ups in the AM peak hour due to the large volume of vehicle turning west.

Prescott Drive

Prescott Drive is a classified as a local street. It is a city street serving a residential subdivision. It is a three-legged un-signalized intersection. There is a left turn lane for westbound U.S. 30 and a right turn lane for eastbound U.S. 30. Prescott Drive has a single lane approaching U.S. 30 and left turns out of Prescott Drive are prohibited. There were no observed operational concerns.

Lakewood Creek Drive

Lakewood Creek Drive is a classified as a major collector. It is a city street serving a residential subdivision. It is a three-legged un-signalized intersection. There is a left turn lane for westbound U.S. 30 and a right turn lane for eastbound U.S. 30. There are two approach lanes on Lakewood Drive. One is a dedicated left turn lane and the other is a dedicated right turn lane. In the AM peak no operational issues were noted. During the PM peak hour the northbound left turn movement experiences delays. Traffic making this left-turn movement finds limited gaps to make the movement due to the density of the U.S. 30 traffic flow.

Griffin Drive

Griffin Drive is a classified as a major collector. It is a city street serving residential subdivisions to the south and the Village of Montgomery police station to the north. It is a four-legged signalized intersection. There are left and right turn lanes on both U.S. 30 approaches. On Griffin Drive there is a single thru lane, a left turn lane, and a right turn lane on each approach. Operationally, the intersection operates well with the exception of the northbound right turn movement which experiences some back-ups in the AM and PM peak hour due to the large volume of vehicle turning west and density of U.S. 30 traffic. However, the queues were well within the right turn lane bay.

Blackberry Road

Blackberry Road is classified as a local street. It is a township road and serves as the only access to a residential subdivision. It is a three-legged un-signalized intersection. There are no turn lanes on any of the approaches. It is located 1,000 feet west of Orchard Road. Peak hour traffic from and to Blackberry Road is less than 50 vehicles. Despite the low volume southbound left turn lanes are significantly delayed in both the AM and PM. Furthermore the operation of this intersection is negatively impacted by the close proximity of the Orchard Road intersection which often experiences significant eastbound queues which sometimes back up to Blackberry Road. Traffic making this left-turn movement finds limited gaps to make the movement due to the density of the U.S. 30 traffic flow.

Orchard Road

Orchard Road is classified as an SRA to the north of U.S. 30 and as a minor arterial south of U.S. 30. It is a county highway serving a mixture of residential, industrial, and commercial uses. It is a four-legged signalized intersection. There are left and right turn lanes on both U.S. 30 approaches. On Orchard Road two thru lanes and a left turn lane on both approaches. There is also a right turn lane on the south approach. It should be noted that this intersection was observed while Orchard Road was under construction north of the intersection. Regardless, the observations most likely reflect most of the operational concerns that exist at this intersection under normal circumstances. The main exception would be the northbound movements. At the time this intersection was observed the right turn lane was closed and the right turn lane was converted into a right turn lane. North of the intersection the right thru lane was closed for staging of construction on Orchard Road north of U.S. 30.

Eastbound Approach – The eastbound traffic experiences significant delays and queues up to approximately 1000 feet during the AM and PM peak hour. This negatively impacted the southbound left turn movement off of Blackberry Road. The length of the right turn bay is limited by the width bridge carrying U.S. 30 over Blackberry Creek just west of the intersection and appears to have been added after construction of the bridge in an effort to improve intersection operations. Left and right turn movements were impacted by the eastbound approach queuing.

Westbound Approach – The westbound traffic experiences significant delays and queues during the AM and PM peak hours. Left and right turn movements were impacted by the eastbound approach queuing.

Northbound Approach – The northbound traffic experiences significant delays and queues during the AM and PM peak hours. The queuing extended past Brentwood Avenue. Left and right turn movements were impacted by the eastbound approach queuing.

Southbound Approach – As mentioned above the right thru lane was converted into a right turn lane which reduced the number of thru lanes to one. Therefore, no further observations were made on this leg of the intersection.

Horsemen Trail

Horsemen Trail is a classified as a local street. It is a city street serving a commercial and industrial area. It is a three-legged un-signalized intersection. There is a left turn lane for westbound U.S. 30 and a right turn lane for eastbound U.S. 30. Horsemen Trail has a single lane approaching U.S. 30 and left turns out of Prescott Drive are prohibited. Operationally the northbound right turn movement experiences delays in the peak hour due to the density of the U.S. 30 traffic eastbound flow which limits gaps to make the turn movement.

Baseline Road Connector

The Baseline Road Connector is a classified as a local street. It is a city street serving a mixture of residential, industrial, and commercial uses. It is a three-legged un-signalized intersection. There is a right turn lane for eastbound U.S. 30. Left turn lanes form U.S. 30 to Horsemen Trail are prohibited. Horsemen Trail has a single lane approaching U.S. 30 and left turns out of Prescott Drive are prohibited. Operationally the northbound right turn movement experiences delays in the peak hour due to the density of the U.S. 30 traffic eastbound flow which limits gaps to make the turn movement.

3.3.4 EXISTING ADT

Appendix D contains an exhibit showing the existing (2011) ADT volumes from the IDOT website. Existing ADT values range from 11,300 at the western end of the corridor to 24,900 at the east end of the corridor.

SECTION 4

FUTURE TRAFFIC ASSIGNEMENTS

The next step in the analysis was to determine future traffic under the no-build scenario. This step included development of growth factors and balanced 2040 peak hour volumes.

4.1 GROWTH FACTORS

IDOT requested and obtained CMAP 2040 ADT traffic volumes for the corridor (see Appendix D). CMAP computed growth along the corridor for the no-build condition varies from 37 to 95 percent on the study corridor over 29 years, which equates to annual growth rates in the range of 1 to 2.3 percent. Corridor growth rates are shown in Appendix E. Projected 2040 roadway and intersection peak hour volumes may be found in Appendix E.

4.2 U.S. 30 BETWEEN ILLINOIS ROUTE 47 AND BERTRAM ROAD

4.2 No-Build Network, Design Year 2040
A capacity and operational analysis was performed on the no-build network to assess performance of the existing facility with the traffic forecast for 2040.

The *Highway Capacity Manual 2010* reporting procedures were used to determine the LOS, 95th percentile queue and critical v/c ratio because of the wide acceptance of the *Highway Capacity Manual* procedures.

Table 3 summarizes results of the 2040 no-build operations and capacity analyses and presents LOS, and queues of the movements operating at LOS E or F. Queues observed to equal or exceed the length of existing tum bays are listed in Table 2. If the queues extend beyond the existing turn bays, they block other movements and cause problems throughout the network. Shared tum and through lanes that serve as de facto tum (lanes may back up and are also shown in Table 2. 2040 No-Build analysis reports may be found in Appendix C.

TABLE 3
Results of the 2040 No-Build Operations & Capacity Analyses

Intersection	Intersection LOS	Movements operating at LOS E or F; V/C Ratio> 0.8	95th Percentile Queue (ft.)	Approximate Existing Turn Bay Length (ft.)
Bertram Road (un-signalized)	F (F)	SB LT - F(F)	*	N/A
Dickson Road (un-signalized)	F (F)	NB LT - F(D)	*	N/A
Gordon Road (signalized)	F (D)	NB LT - E(C)	110	105
		NB RT - F(F)	96	105
		SB LT - D(F)	162	225
		SB RT - F(F)	316	N/A
Prescott Drive (un-signalized)	E (C)	NB RT - F(C)	224	N/A
Lakewood Creek Drive (un-signalized)	F (F)	NB LT - F(F)	153	55
		NB RT - F(F)	1092	
Griffin Drive (signalized)	F (E)	EB THRU - F(C)	2040	N/A
		NB THRU - E(A)	692	N/A
		NB LT - E(E)	4	190
		NB RT - F(F)	486	190
		SB LT - E(E)	16	190
Blackberry Road (un-signalized)	F (F)	SB LT - D(F)	327	N/A
Orchard Road (signalized)	F (F)	EB THRU - F(F)	1148	N/A
		EB RT - C(F)	1078	150
		WB THRU - F(F)	1280	N/A
		WB RT - F(F)	1208	250
		NB THRU - F(F)	1772	N/A
		NB RT - F(F)	906	150
		SB THRU -F(F)	896	N/A
		SB RT - F(F)	1286	N/A
Horsemen Tr/Galena Rd (un-signalized)	F (F)	WB LT - F(F)	676	235
		NB RT - F(F)		
Baseline Connector Road (un-signalized)	F (F)	NB RT - F(F)	602	N/A

* - Beyond Program Limits

SECTION 5

STUDY CONCLUSIONS

The traffic operations analyses indicate that the study corridor operates poorly under existing conditions, with moderate to high congestion at the intersections and along the corridor. This congestion is primarily the result of insufficient capacity and inadequate laneage at the intersections. In the 2040 design year under a no-build scenario, traffic congestion is predicted to increase significantly throughout the corridor and traffic capacity and operations are predicted to deteriorate as a result.

In conclusion, it is recommended that roadway improvement alternatives be developed and evaluated to address current and future operational deficiencies and associated congestion.

APPENDICES

A. Existing Conditions - Synchro Reports for AM & PM Peak Hours for U.S. 30 Intersections at:
    a. Bertram Road
    b. Dickson Road
    c. Gordon Road
    d. Prescott Drive
    e. Lakewood Creek Drive
    f. Griffin Drive
    g. Blackberry Road
    h. Orchard Road
    i. Horsemen Trail (Galena Road)
    j. Baseline Connector Road

B. U.S. 30 HCS Directional Two-Lane Segment Analysis Reports – Existing Conditions

C. Future (No-Build) Conditions in year 2040 for U.S 30 Intersections at:
    a. Bertram Road
    b. Dickson Road
    c. Gordon Road
    d. Prescott Drive
    e. Lakewood Creek Drive
    f. Griffin Drive
    g. Blackberry Road
    h. Orchard Road
    i. Horsemen Trail (Galena Road)
    j. Baseline Connector Road

D. ADT Data
    a. Existing and Projected ADT Exhibit
    b. 2040 ADT Projections from CMAP

E. Existing and Projected Peak Hour Volumes
    a. Existing (2012) Roadway Peak Hour Volumes Exhibit
    b. Projected (2040) Roadway Peak Hour Volumes Exhibit
    c. Existing (2012) and Projected (2040) Intersection Peak Hour Volumes Exhibits
    d. Growth Rates

F. Existing Traffic Counts
    a. Raw Traffic Field Counts, 12 hour data

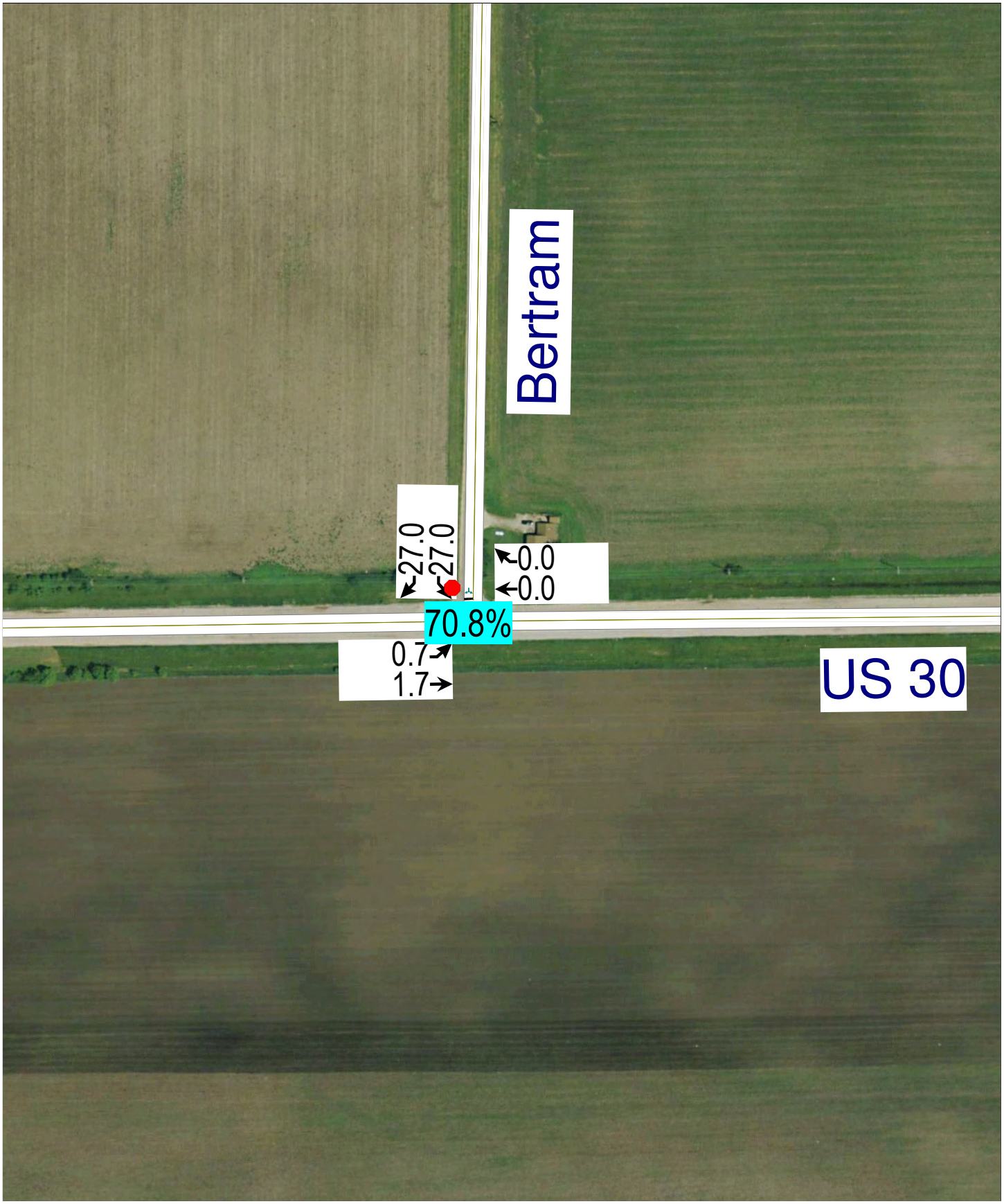
EXISTING CONDITIONS – SYNCHRO REPORTS
FOR AM AND PM PEAK HOURS
AT US 30 INTERSECTIONS

Appendix A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	36	322	504	560	40	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	36	322	504	560	40	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1064				1178	784
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1064				1178	784
tC, single (s)	4.1				6.4	6.4
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.5
p0 queue free %	95				80	98
cM capacity (veh/h)	662				197	370

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	358	1064	46
Volume Left	36	0	40
Volume Right	0	560	6
cSH	662	1700	209
Volume to Capacity	0.05	0.63	0.22
Queue Length 95th (ft)	4	0	20
Control Delay (s)	1.7	0.0	27.0
Lane LOS	A		D
Approach Delay (s)	1.7	0.0	27.0
Approach LOS			D

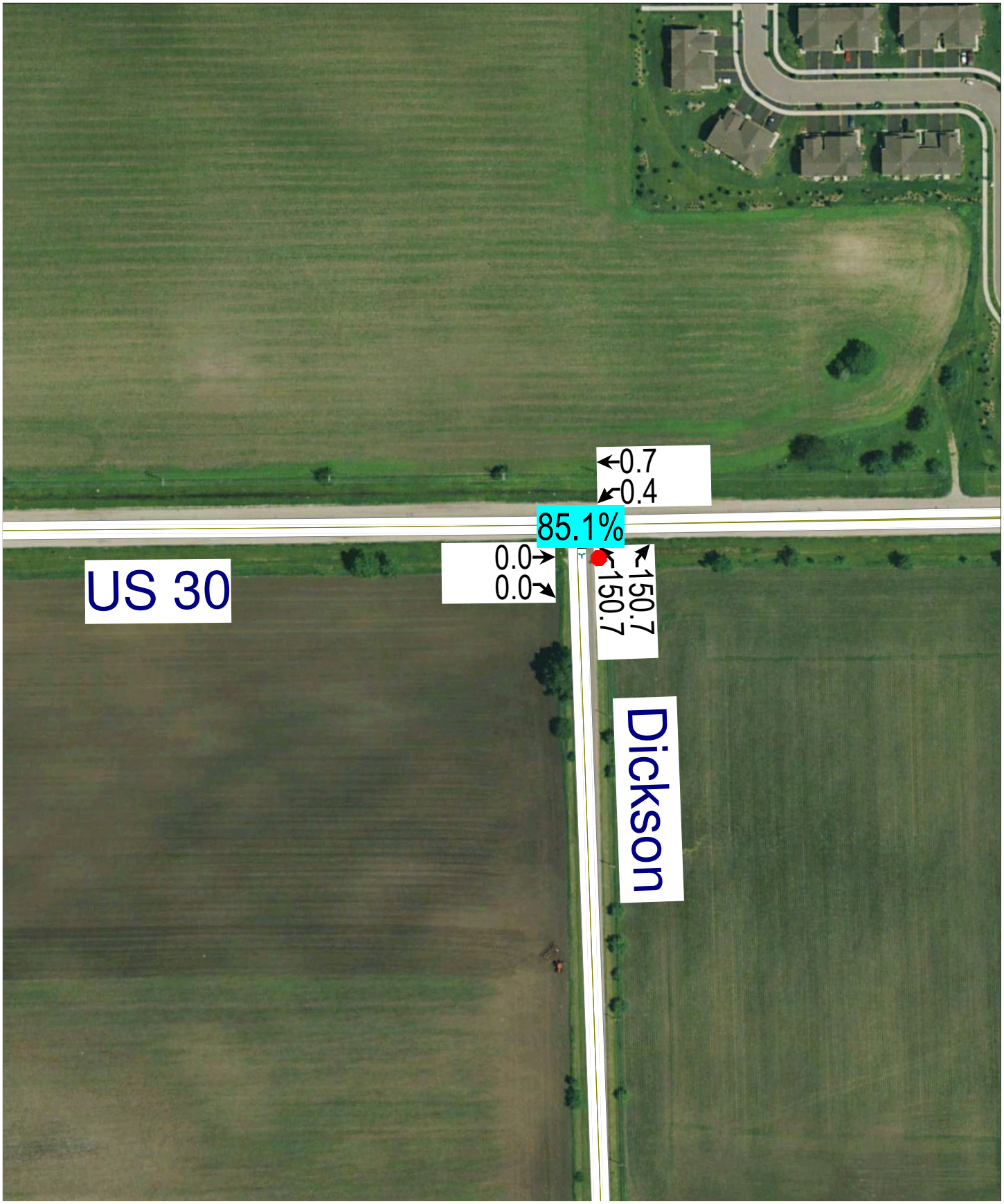
Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		


Bertram
27.0
27.0
0.0
0.0
70.8%
0.7
1.7
US 30

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	336	17	34	749	233	35
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	336	17	34	749	233	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			353		1162	344
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			353		1162	344
tC, single (s)			4.1		6.4	6.3
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			97		0	95
cM capacity (veh/h)			1217		212	683

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	353	783	268
Volume Left	0	34	233
Volume Right	17	0	35
cSH	1700	1217	233
Volume to Capacity	0.21	0.03	1.15
Queue Length 95th (ft)	0	2	312
Control Delay (s)	0.0	0.7	150.7
Lane LOS		A	F
Approach Delay (s)	0.0	0.7	150.7
Approach LOS			F

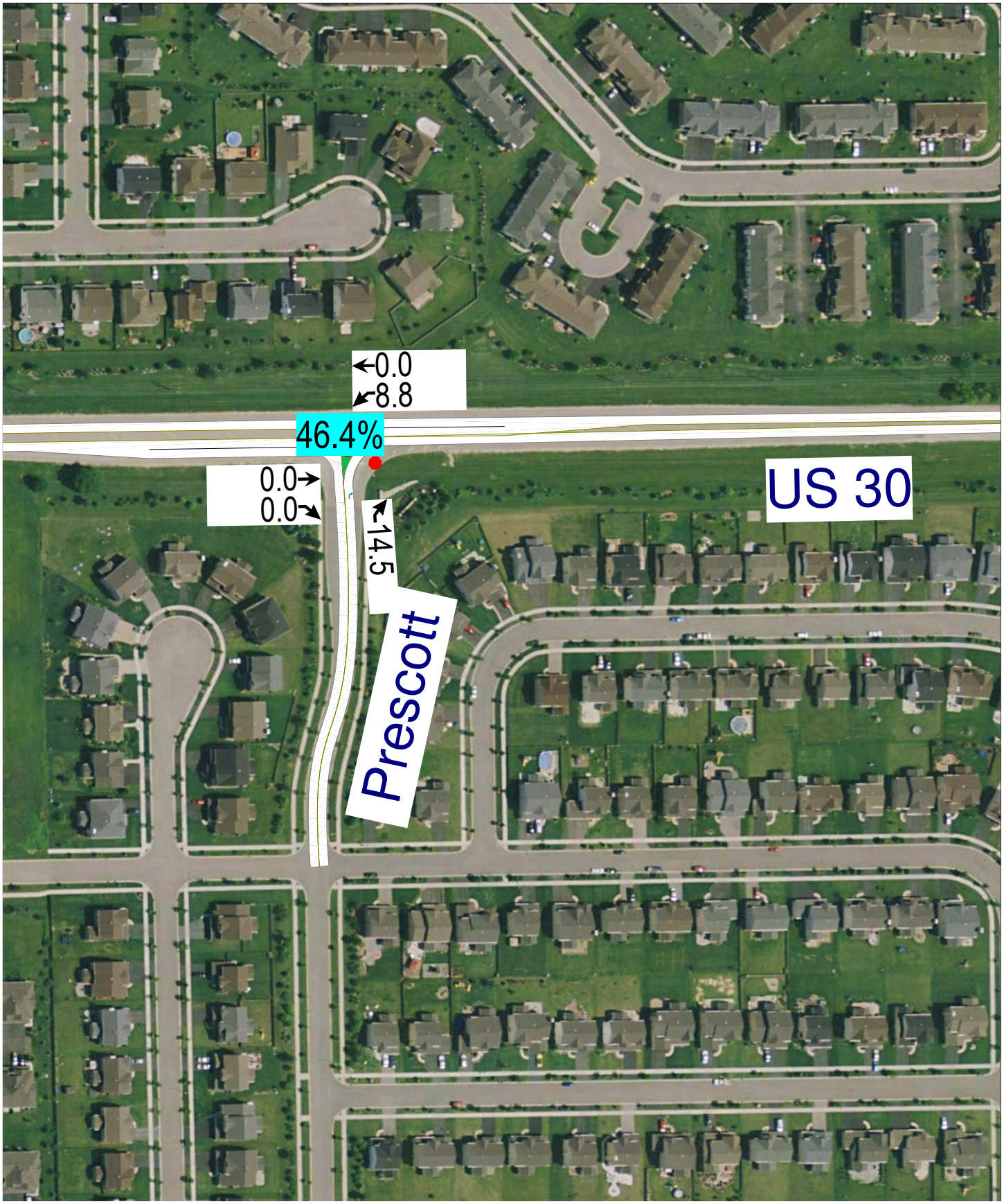
Intersection Summary			
Average Delay	29.2		
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		


0.7
0.4
85.1%
0.0
0.0
150.7
150.7
US 30
Dickson

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	627	4	16	396	0	108
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	627	4	16	396	0	108
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			631		1055	627
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			631		1055	627
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	78
cM capacity (veh/h)			961		248	487

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	627	4	16	396	108
Volume Left	0	0	16	0	0
Volume Right	0	4	0	0	108
cSH	1700	1700	961	1700	487
Volume to Capacity	0.37	0.00	0.02	0.23	0.22
Queue Length 95th (ft)	0	0	1	0	21
Control Delay (s)	0.0	0.0	8.8	0.0	14.5
Lane LOS			A		B
Approach Delay (s)	0.0		0.3		14.5
Approach LOS					B

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		


0.0
8.8
46.4%
0.0
0.0
14.5
US 30
Prescott

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	653	7	48	345	29	236
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	653	7	48	345	29	236
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			660		1094	653
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			660		1094	653
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			95		87	49
cM capacity (veh/h)			905		223	466

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	653	7	48	345	29	236
Volume Left	0	0	48	0	29	0
Volume Right	0	7	0	0	0	236
cSH	1700	1700	905	1700	223	466
Volume to Capacity	0.38	0.00	0.05	0.20	0.13	0.51
Queue Length 95th (ft)	0	0	4	0	11	70
Control Delay (s)	0.0	0.0	9.2	0.0	23.5	20.4
Lane LOS			A		C	C
Approach Delay (s)	0.0		1.1		20.8	
Approach LOS					C	

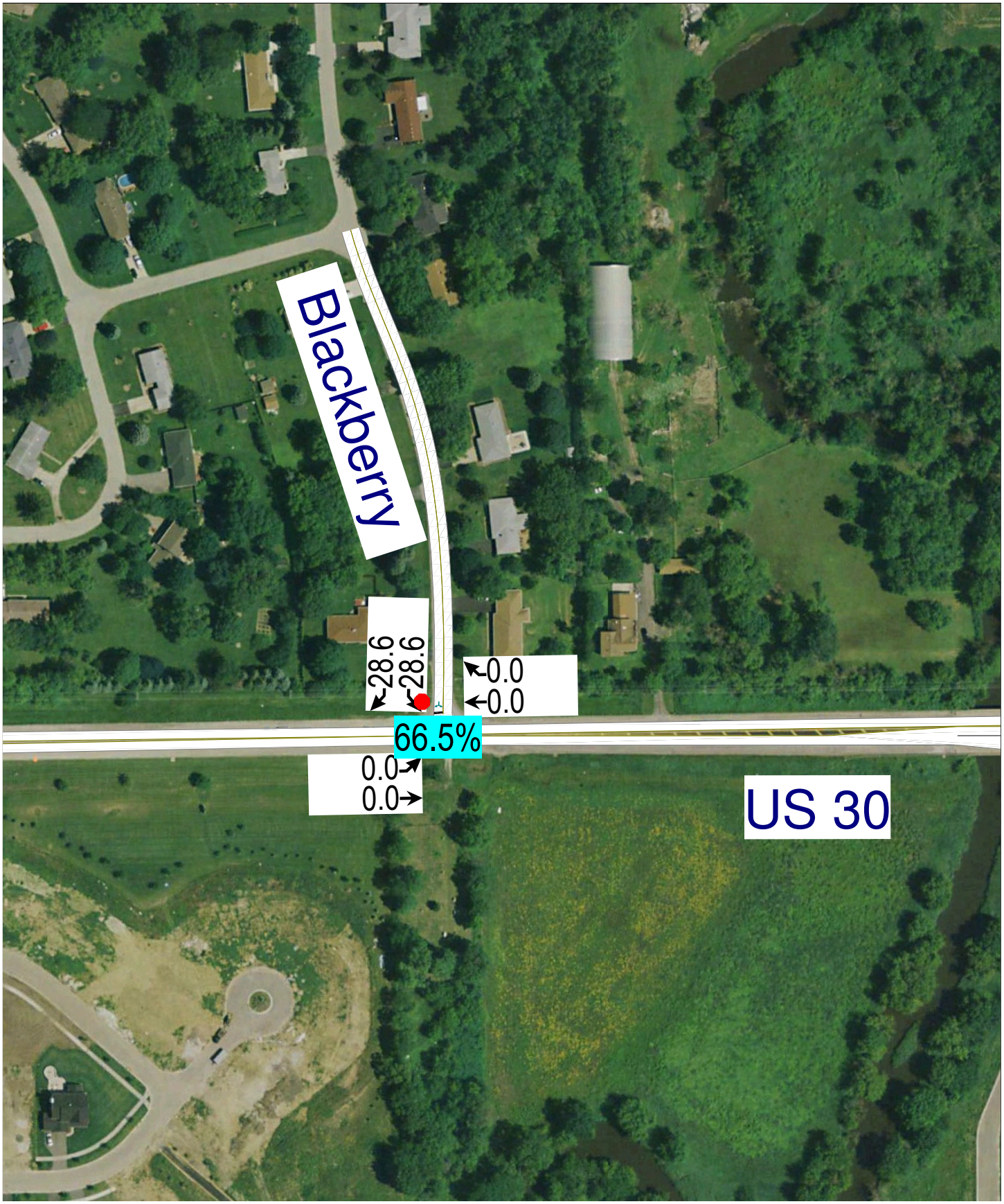
Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

0.0
9.2
55.6%
0.0
0.0
20.4
23.5
US 30
Lakewood Creek

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1	1058	395	3	13	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1	1058	395	3	13	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1028			
pX, platoon unblocked	0.87				0.87	0.87
vC, conflicting volume	398				1456	396
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	236				1450	235
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				90	99
cM capacity (veh/h)	1171				127	706

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1059	398	19
Volume Left	1	0	13
Volume Right	0	3	6
cSH	1171	1700	171
Volume to Capacity	0.00	0.23	0.11
Queue Length 95th (ft)	0	0	9
Control Delay (s)	0.0	0.0	28.6
Lane LOS	A		D
Approach Delay (s)	0.0	0.0	28.6
Approach LOS			D

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		


Blackberry
28.6
28.6
0.0
0.0
66.5%
0.0
0.0
US 30

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1341	35	88	736	0	116
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1341	35	88	736	0	116
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1124					
pX, platoon unblocked			0.54		0.54	0.54
vC, conflicting volume			1376		2253	1341
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1270		2898	1205
tC, single (s)			4.2		6.4	6.3
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.4
p0 queue free %			69		100	2
cM capacity (veh/h)			281		7	118

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	1341	35	88	736	116
Volume Left	0	0	88	0	0
Volume Right	0	35	0	0	116
cSH	1700	1700	281	1700	118
Volume to Capacity	0.79	0.02	0.31	0.43	0.98
Queue Length 95th (ft)	0	0	33	0	162
Control Delay (s)	0.0	0.0	23.6	0.0	148.5
Lane LOS			C		F
Approach Delay (s)	0.0		2.5		148.5
Approach LOS					F

Intersection Summary			
Average Delay	8.3		
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1429	25	0	820	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1429	25	0	820	0	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1454		2249	1429
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1454		2249	1429
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	97
cM capacity (veh/h)			465		46	165

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	1429	25	820	5
Volume Left	0	0	0	0
Volume Right	0	25	0	5
cSH	1700	1700	1700	165
Volume to Capacity	0.84	0.01	0.48	0.03
Queue Length 95th (ft)	0	0	0	2
Control Delay (s)	0.0	0.0	0.0	27.5
Lane LOS				D
Approach Delay (s)	0.0		0.0	27.5
Approach LOS				D

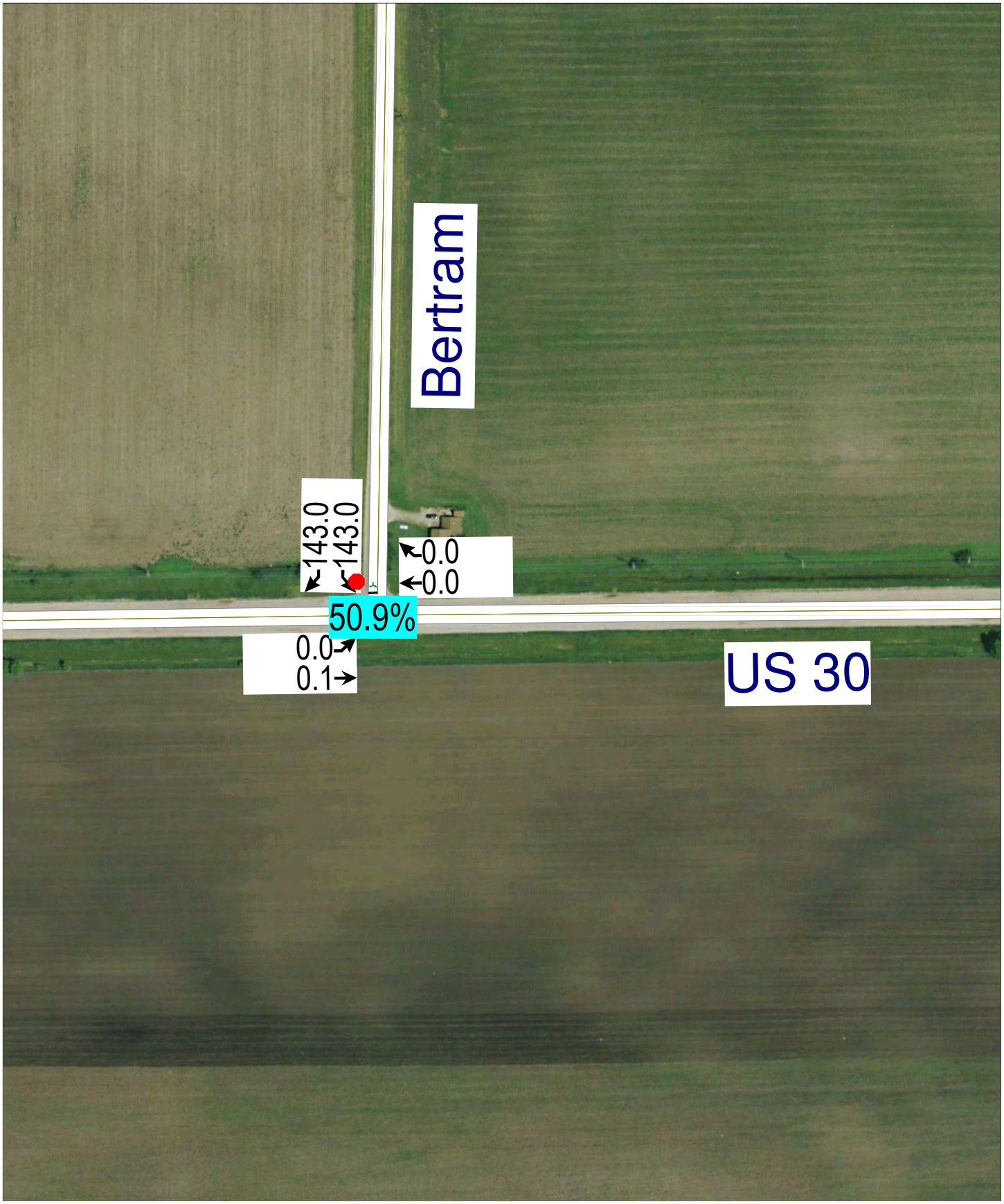
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		

US 30
0.0
0.0
23.6
85.2%
84.4%
0.0
0.0
27.5
0.0
0.0
148.5
Baseline Conn
Horsemen Trail

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	3	435	435	55	278	42
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	473	473	60	302	46
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	533				982	503
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	533				982	503
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				0	92
cM capacity (veh/h)	1045				278	573

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	476	533	348
Volume Left	3	0	302
Volume Right	0	60	46
cSH	1045	1700	298
Volume to Capacity	0.00	0.31	1.17
Queue Length 95th (ft)	0	0	374
Control Delay (s)	0.1	0.0	143.0
Lane LOS	A		F
Approach Delay (s)	0.1	0.0	143.0
Approach LOS			F

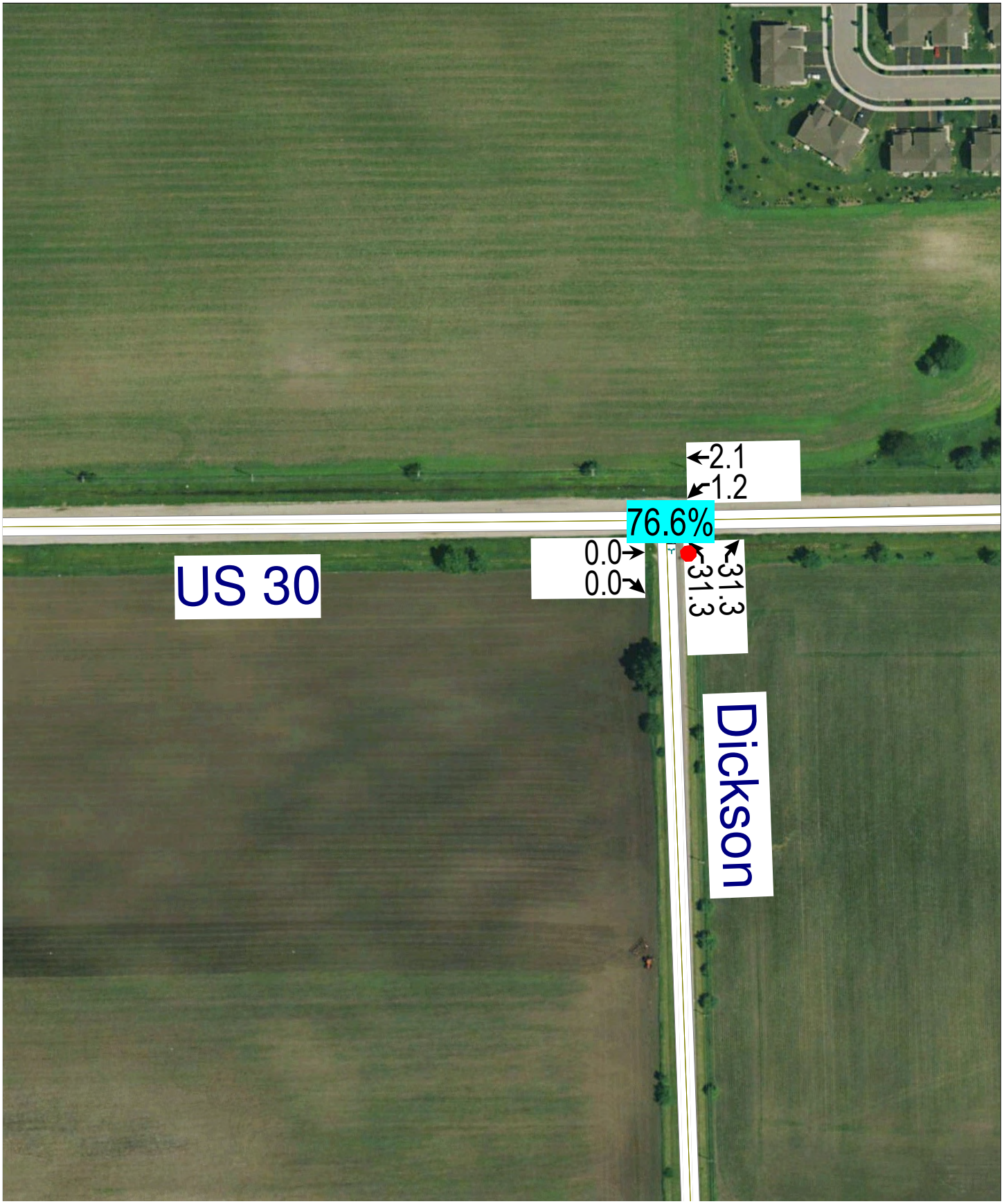
Intersection Summary			
Average Delay	36.7		
Intersection Capacity Utilization	50.9%	ICU Level of Service	A
Analysis Period (min)	15		


Bertram
143.0
143.0
0.0
0.0
50.9%
0.0
0.1
US 30

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	689	158	52	438	27	31
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	766	176	58	487	30	34
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			941		1456	853
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			941		1456	853
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		77	90
cM capacity (veh/h)			728		133	356

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	941	544	64
Volume Left	0	58	30
Volume Right	176	0	34
cSH	1700	728	200
Volume to Capacity	0.55	0.08	0.32
Queue Length 95th (ft)	0	6	33
Control Delay (s)	0.0	2.1	31.3
Lane LOS		A	D
Approach Delay (s)	0.0	2.1	31.3
Approach LOS			D

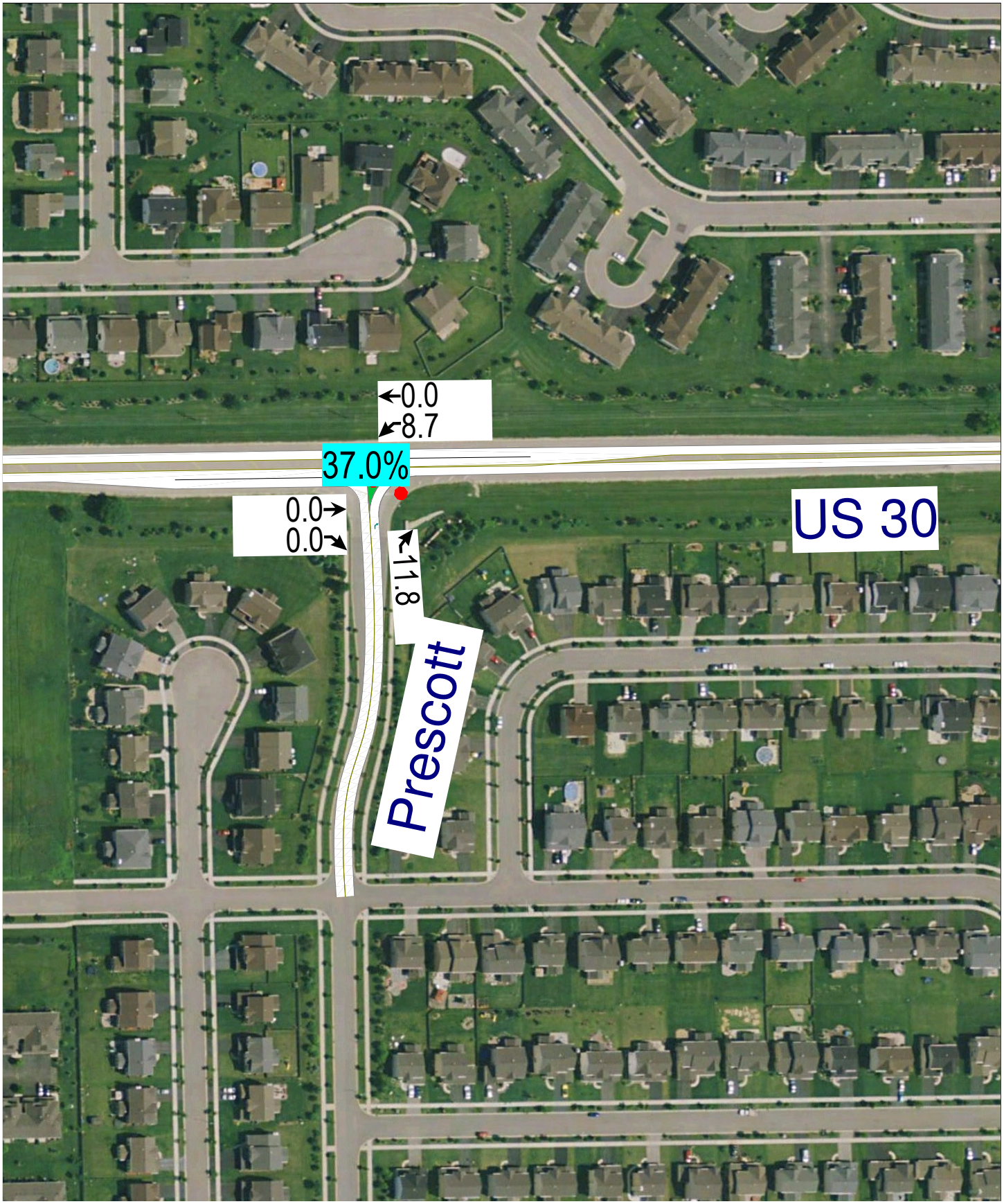
Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		


2.1
1.2
76.6%
0.0
0.0
31.3
31.3
US 30
Dickson

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	487	11	85	602	0	35
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	513	12	89	634	0	37
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			524		1325	513
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			524		1325	513
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		100	93
cM capacity (veh/h)			1053		159	565

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	513	12	89	634	37
Volume Left	0	0	89	0	0
Volume Right	0	12	0	0	37
cSH	1700	1700	1053	1700	565
Volume to Capacity	0.30	0.01	0.08	0.37	0.07
Queue Length 95th (ft)	0	0	7	0	5
Control Delay (s)	0.0	0.0	8.7	0.0	11.8
Lane LOS			A		B
Approach Delay (s)	0.0		1.1		11.8
Approach LOS					B

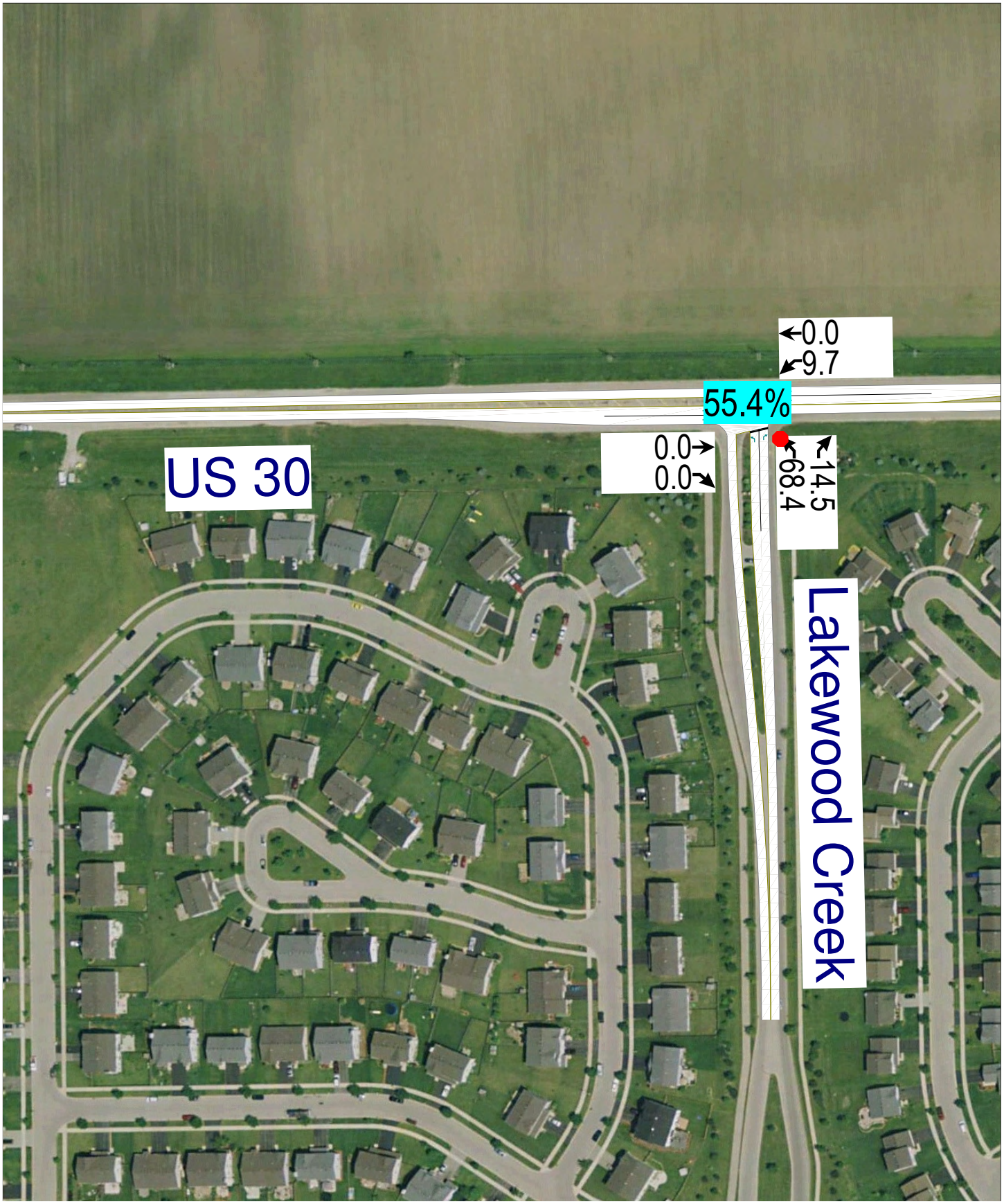
Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	37.0%	ICU Level of Service	A
Analysis Period (min)	15		


0.0
8.7
37.0%
0.0
0.0
11.8
US 30
Prescott

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	555	27	232	781	7	150
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	561	27	234	789	7	152
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			588		1818	561
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			588		1818	561
tC, single (s)			4.1		6.5	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.3
p0 queue free %			76		89	71
cM capacity (veh/h)			992		64	529

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	561	27	234	789	7	152
Volume Left	0	0	234	0	7	0
Volume Right	0	27	0	0	0	152
cSH	1700	1700	992	1700	64	529
Volume to Capacity	0.33	0.02	0.24	0.46	0.11	0.29
Queue Length 95th (ft)	0	0	23	0	9	29
Control Delay (s)	0.0	0.0	9.7	0.0	68.4	14.5
Lane LOS			A		F	B
Approach Delay (s)	0.0		2.2		16.9	
Approach LOS					C	

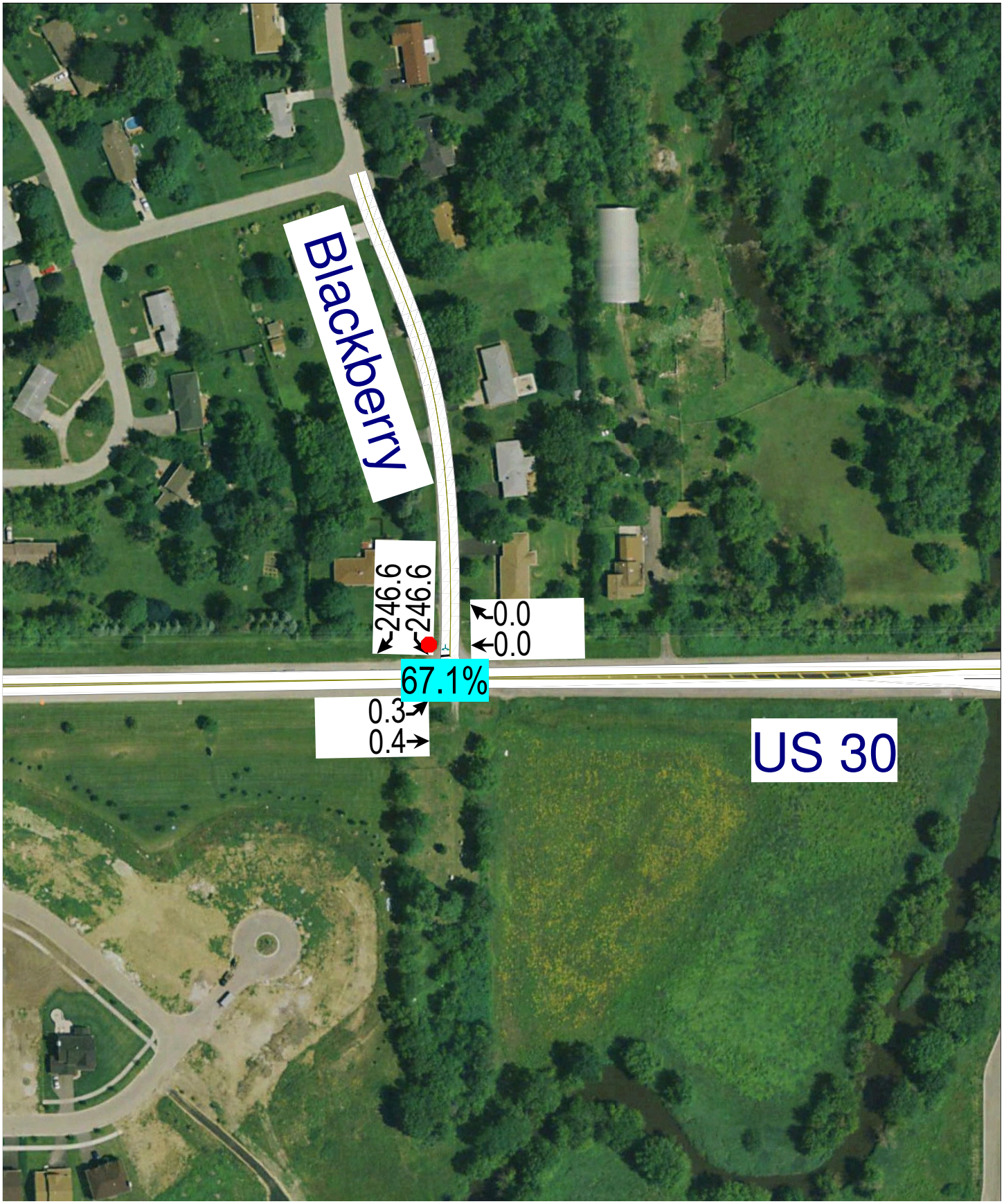
Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		


Lakewood Creek
14.5
68.4
0.0
0.0
55.4%
0.0
9.7
US 30

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	4	795	1073	10	8	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	883	1192	11	9	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1028			
pX, platoon unblocked	0.60				0.60	0.60
vC, conflicting volume	1203				2090	1198
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1008				2478	999
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				55	99
cM capacity (veh/h)	419				20	180

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	888	1203	11
Volume Left	4	0	9
Volume Right	0	11	2
cSH	419	1700	24
Volume to Capacity	0.01	0.71	0.46
Queue Length 95th (ft)	1	0	35
Control Delay (s)	0.4	0.0	246.6
Lane LOS	A		F
Approach Delay (s)	0.4	0.0	246.6
Approach LOS			F

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		


Blackberry
246.6
246.6
0.0
0.0
67.1%
0.3
0.4
US 30

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	959	97	196	1206	0	131
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	969	98	198	1218	0	132
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1124					
pX, platoon unblocked			0.60		0.60	0.60
vC, conflicting volume			1067		2583	969
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			779		3302	616
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			61		100	55
cM capacity (veh/h)			504		4	297

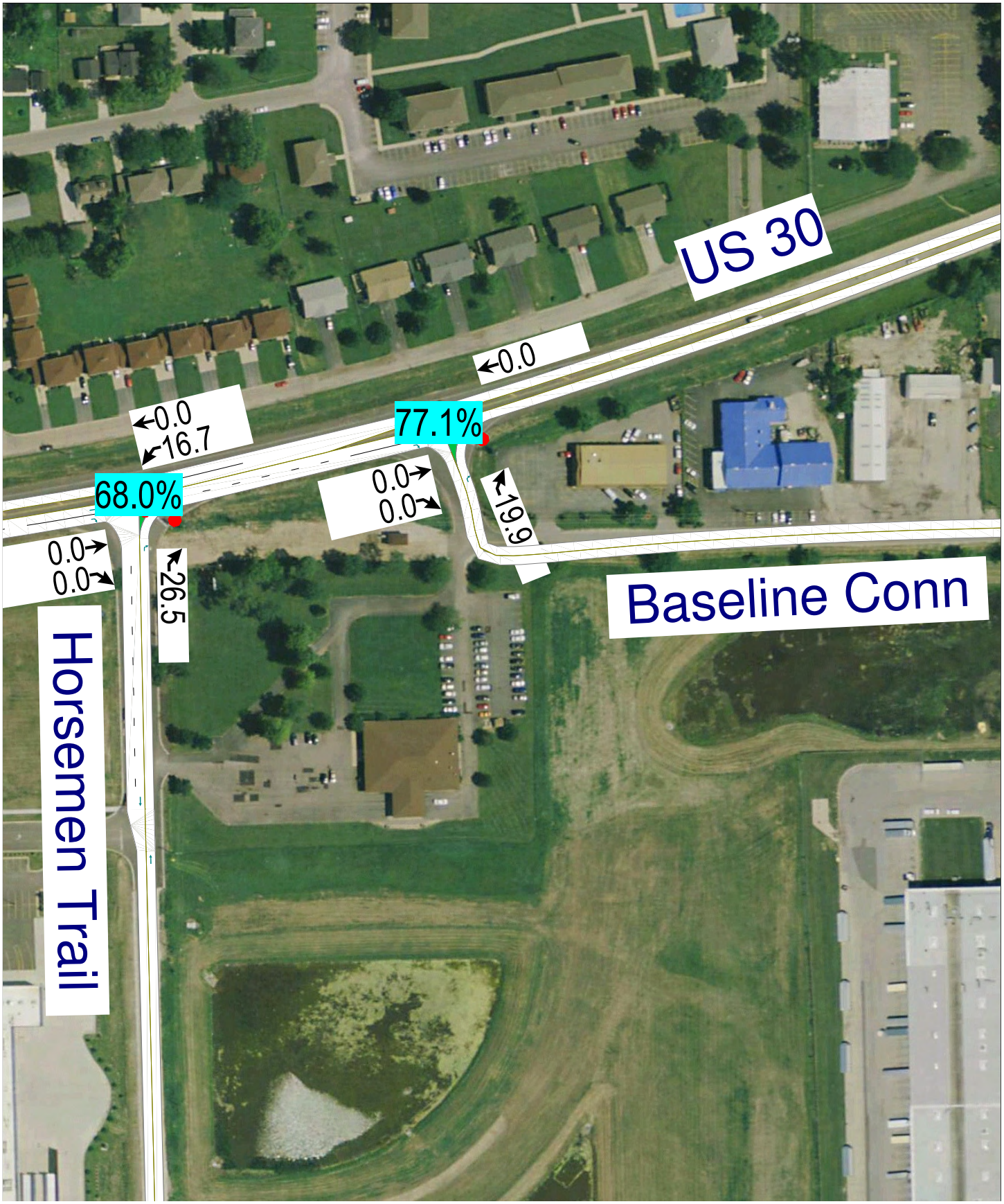
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	969	98	198	1218	132
Volume Left	0	0	198	0	0
Volume Right	0	98	0	0	132
cSH	1700	1700	504	1700	297
Volume to Capacity	0.57	0.06	0.39	0.72	0.45
Queue Length 95th (ft)	0	0	46	0	54
Control Delay (s)	0.0	0.0	16.7	0.0	26.5
Lane LOS			C		D
Approach Delay (s)	0.0		2.3		26.5
Approach LOS					D

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1067	23	0	1402	0	27
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	1078	23	0	1416	0	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1101		2494	1078
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1101		2494	1078
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	90
cM capacity (veh/h)			642		32	268

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	1078	23	1416	27
Volume Left	0	0	0	0
Volume Right	0	23	0	27
cSH	1700	1700	1700	268
Volume to Capacity	0.63	0.01	0.83	0.10
Queue Length 95th (ft)	0	0	0	8
Control Delay (s)	0.0	0.0	0.0	19.9
Lane LOS				C
Approach Delay (s)	0.0		0.0	19.9
Approach LOS				C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		


US 30
0.0
0.0
16.7
77.1%
68.0%
0.0
0.0
19.9
0.0
0.0
26.5
Baseline Conn
Horsemen Trail

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	53	304	4	24	400	55	172	19	80	206	14	247
Movement Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj. Factor (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj. Factors	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Sat. Flow Rate, veh/h/ln	1638	1792	1429	1583	1759	1792	1900	1791	1791	1900	1851	1851
Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Lane Assignment												
Capacity, veh/h	290	616	417	343	573	496	319	130	110	325	134	114
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion Arriving On Green	0.03	0.34	0.34	0.01	0.33	0.33	0.08	0.07	0.07	0.08	0.07	0.07
Lane Group Delay, s/veh	12.8	17.2	12.0	12.7	23.2	13.5	23.9	24.6	33.9	26.9	24.3	559.7
Lane Group LOS	B	B	B	B	C	B	C	C	C	C	C	F
Approach Volume, veh/h		361			479			271			467	
Approach Delay, s/veh		16.5			21.6			26.9			308.7	
Approach LOS		B			C			C			F	

Timer:	1	2	3	4	5	6	7	8
Assigned Phase	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	4.0	1.1	3.0	1.1	4.0
Phase Duration (G+Y+Rc), s	7.80	25.99	11.00	10.50	8.79	25.00	11.00	10.50
Change Period (Y+Rc), s	7.00	7.00	6.50	6.50	7.00	7.00	6.50	6.50
Max. Allowable Headway (MAH), s	3.70	0.02	3.73	0.30	3.69	0.02	3.73	0.30
Maximum Green Setting (Gmax), s	4.00	18.00	4.50	16.50	4.00	18.00	4.50	16.50
Max. Queue Clearance Time (g_c+I1), s	2.59	0.00	6.50	0.00	3.21	0.00	6.50	0.00
Green Extension Time (g_e), s	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Probability of Phase Call (p_c)	0.308	1.000	0.929	1.000	0.557	1.000	0.958	1.000
Probability of Max Out (p_x)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000

Left-Turn Movement Data				
Assigned Movement	1	3	5	7
Mvmt. Sat Flow, veh/h	1507.94	1809.52	1559.93	1809.52

Through Movement Data				
Assigned Movement	2	4	6	8
Mvmt. Sat Flow, veh/h	1214.29	1851.06	1523.58	1791.26

Right-Turn Movement Data				
Assigned Movement	12	14	16	18
Mvmt. Sat Flow, veh/h	1214.29	1573.40	1523.58	1522.57

Left Lane Group Data								
Assigned Movement	1	0	3	0	5	0	7	0
Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Group	1	0	1	0	1	0	1	0
Group Volume (v), veh/h	24.0	0.0	172.0	0.0	53.0	0.0	206.0	0.0
Group Sat. Flow (s), veh/h/ln	1507.9	0.0	1809.5	0.0	1559.9	0.0	1809.5	0.0
Queue Serve Time (g_s), s	0.6	0.0	4.5	0.0	1.2	0.0	4.5	0.0

Cycle Queue Clear Time (g_c), s	0.6	0.0	4.5	0.0	1.2	0.0	4.5	0.0
Perm LT Sat Flow Rate (s_l), veh/h/ln	910.3	0.0	1136.2	0.0	862.3	0.0	1316.6	0.0
Shared LT Sat Flow (s_sh), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Eff. Green (g_p), s	18.0	0.0	4.0	0.0	19.0	0.0	4.0	0.0
Perm LT Serve Time (g_u), s	11.6	0.0	2.0	0.0	7.0	0.0	2.0	0.0
Perm LT Que Serve Time (g_ps), s	0.2	0.0	1.1	0.0	0.8	0.0	2.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion LT Inside Lane (P_L)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Lane Group Capacity (c), veh/h	342.7	0.0	318.6	0.0	290.4	0.0	325.1	0.0
Volume-to-Capacity Ratio (X)	0.070	0.000	0.540	0.000	0.183	0.000	0.634	0.000
Available Capacity (c_a), veh/h	429.9	0.0	318.6	0.0	352.6	0.0	325.1	0.0
Upstream Filter Factor (I)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Uniform Delay (d1), s/veh	12.6	0.0	22.1	0.0	12.5	0.0	22.9	0.0
Incremental Delay (d2), s/veh	0.1	0.0	1.8	0.0	0.3	0.0	4.0	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	12.7	0.0	23.9	0.0	12.8	0.0	26.9	0.0
First-Term Queue (Q1), veh/ln	0.1	0.0	1.8	0.0	0.3	0.0	2.2	0.0
Second-Term Queue (Q2), veh/ln	0.0	0.0	0.2	0.0	0.0	0.0	0.4	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Percentile Back of Queue (Q%), veh/ln	0.2	0.0	2.0	0.0	0.3	0.0	2.6	0.0
Percentile Storage Ratio (RQ%)	0.02	0.00	0.50	0.00	0.05	0.00	0.28	0.00
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Movement	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Group	0	1	0	1	0	1	0	1
Group Volume (v), veh/h	0.0	304.0	0.0	14.0	0.0	400.0	0.0	19.0
Group Sat. Flow (s), veh/h/ln	0.0	1792.5	0.0	1851.1	0.0	1759.3	0.0	1791.3
Queue Serve Time (g_s), s	0.0	7.4	0.0	0.4	0.0	11.0	0.0	0.5
Cycle Queue Clear Time (g_c), s	0.0	7.4	0.0	0.4	0.0	11.0	0.0	0.5
Lane Group Capacity (c), veh/h	0.0	615.7	0.0	133.9	0.0	572.7	0.0	129.6
Volume-to-Capacity Ratio (X)	0.000	0.494	0.000	0.105	0.000	0.698	0.000	0.147
Available Capacity (c_a), veh/h	0.0	615.7	0.0	552.4	0.0	572.7	0.0	534.5
Upstream Filter Factor (I)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	14.3	0.0	24.0	0.0	16.3	0.0	24.0
Incremental Delay (d2), s/veh	0.0	2.8	0.0	0.3	0.0	6.9	0.0	0.5
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.2	0.0	24.3	0.0	23.2	0.0	24.6
First-Term Queue (Q1), veh/ln	0.0	2.2	0.0	0.2	0.0	3.3	0.0	0.2
Second-Term Queue (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	1.1	0.0	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	2.7	0.0	0.2	0.0	4.4	0.0	0.2

Percentile Storage Ratio (RQ%)	0.00	0.03	0.00	0.01	0.00	0.07	0.00	0.01
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

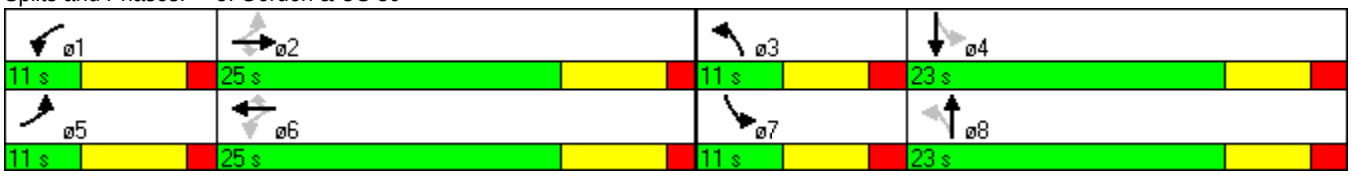
Right Lane Group Data								
Assigned Movement	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		T+R
Lanes in Group	0	1	0	1	0	1	0	1
Group Volume (v), veh/h	0.0	4.0	0.0	247.0	0.0	55.0	0.0	80.0
Group Sat. Flow (s), veh/h/ln	0.0	1214.3	0.0	1573.4	0.0	1523.6	0.0	1522.6
Queue Serve Time (g_s), s	0.0	0.1	0.0	4.0	0.0	1.4	0.0	2.8
Cycle Queue Clear Time (g_c), s	0.0	0.1	0.0	4.0	0.0	1.4	0.0	2.8
Prot RT Sat Flow Rate (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff. Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion RT Outside Lane (P_R)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Lane Group Capacity (c), veh/h	0.0	417.1	0.0	113.8	0.0	496.0	0.0	110.1
Volume-to-Capacity Ratio (X)	0.000	0.010	0.000	2.170	0.000	0.111	0.000	0.726
Available Capacity (c_a), veh/h	0.0	417.1	0.0	469.5	0.0	496.0	0.0	454.4
Upstream Filter Factor (I)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	12.0	0.0	25.6	0.0	13.0	0.0	25.1
Incremental Delay (d2), s/veh	0.0	0.0	0.0	534.1	0.0	0.5	0.0	8.8
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.0	0.0	559.7	0.0	13.5	0.0	33.9
First-Term Queue (Q1), veh/ln	0.0	0.0	0.0	1.3	0.0	0.4	0.0	0.9
Second-Term Queue (Q2), veh/ln	0.0	0.0	0.0	16.9	0.0	0.1	0.0	0.3
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	0.0	0.0	18.2	0.0	0.5	0.0	1.2
Percentile Storage Ratio (RQ%)	0.00	0.01	0.00	0.58	0.00	0.06	0.00	0.03
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Control Delay	106.3
HCM 2010 Level of Service	F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	53	304	4	24	400	55	172	19	206	14
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0
Minimum Split (s)	11.0	23.0	23.0	11.0	23.0	23.0	10.5	22.5	10.5	22.5
Total Split (s)	11.0	25.0	25.0	11.0	25.0	25.0	11.0	23.0	11.0	23.0
Total Split (%)	15.7%	35.7%	35.7%	15.7%	35.7%	35.7%	15.7%	32.9%	15.7%	32.9%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	23.3	22.6	22.6	20.8	18.7	18.7	10.0	6.6	10.0	6.6
Actuated g/C Ratio	0.44	0.42	0.42	0.39	0.35	0.35	0.19	0.12	0.19	0.12
v/c Ratio	0.15	0.38	0.01	0.06	0.62	0.08	0.63	0.22	0.72	0.43
Control Delay	10.1	14.6	0.0	9.5	23.3	0.2	29.4	10.6	34.3	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.1	14.6	0.0	9.5	23.3	0.2	29.4	10.6	34.3	7.3
LOS	B	B	A	A	C	A	C	B	C	A
Approach Delay		13.8			19.9			22.5		19.2
Approach LOS		B			B			C		B

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 53.4	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 18.8	Intersection LOS: B
Intersection Capacity Utilization 63.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Gordon & US 30



Gordon
63.4%
Gordon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	1016	0	21	446	8	7	1	131	8	0	3
Movement Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj. Factor (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj. Factors	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Sat. Flow Rate, veh/h/ln	1900	1845	0	1545	1810	1357	1900	1900	1792	1900	0	1900
Lanes	1	1	1	1	1	1	1	1	1	1	1	0
Lane Assignment												
Capacity, veh/h	559	1114	0	160	1109	707	132	90	72	165	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion Arriving On Green	0.00	0.60	0.00	0.01	0.61	0.61	0.00	0.05	0.05	0.00	0.00	0.05
Lane Group Delay, s/veh	6.9	26.9	0.0	16.6	9.2	6.1	36.8	36.9	418.5	36.7	0.0	0.0
Lane Group LOS	A	C		B	A	A	D	D	F	D		
Approach Volume, veh/h		1020			475			139			11	
Approach Delay, s/veh		26.8			9.4			396.5			26.7	
Approach LOS		C			A			F			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phase	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration (G+Y+Rc), s	7.92	56.00	6.84	10.39	7.18	56.74	6.89	10.34
Change Period (Y+Rc), s	7.00	7.00	6.50	6.50	7.00	7.00	6.50	6.50
Max. Allowable Headway (MAH), s	3.71	0.00	3.80	0.33	3.64	0.00	3.80	0.33
Maximum Green Setting (Gmax), s	4.00	49.00	4.00	16.00	4.00	49.00	4.00	16.00
Max. Queue Clearance Time (g_c+I1), s	2.44	0.00	2.30	0.00	2.07	0.00	2.34	0.00
Green Extension Time (g_e), s	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Probability of Phase Call (p_c)	0.377	1.000	0.146	0.960	0.086	1.000	0.165	0.959
Probability of Max Out (p_x)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000

Left-Turn Movement Data				
Assigned Movement	1	3	5	7
Mvmt. Sat Flow, veh/h	1471.16	1809.52	1809.52	1809.52

Through Movement Data				
Assigned Movement	2	4	6	8
Mvmt. Sat Flow, veh/h	0.00	0.00	1153.57	1523.58

Right-Turn Movement Data				
Assigned Movement	12	14	16	18
Mvmt. Sat Flow, veh/h	0.00	0.00	1153.57	1523.58

Left Lane Group Data								
Assigned Movement	1	0	3	0	5	0	7	0
Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Group	1	0	1	0	1	0	1	0
Group Volume (v), veh/h	21.0	0.0	7.0	0.0	4.0	0.0	8.0	0.0
Group Sat. Flow (s), veh/h/ln	1471.2	0.0	1809.5	0.0	1809.5	0.0	1809.5	0.0
Queue Serve Time (g_s), s	0.4	0.0	0.3	0.0	0.1	0.0	0.3	0.0

Cycle Queue Clear Time (g_c), s	0.4	0.0	0.3	0.0	0.1	0.0	0.3	0.0
Perm LT Sat Flow Rate (s_l), veh/h/ln	458.3	0.0	1436.1	0.0	958.9	0.0	1438.7	0.0
Shared LT Sat Flow (s_sh), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Eff. Green (g_p), s	49.7	0.0	3.8	0.0	49.0	0.0	3.9	0.0
Perm LT Serve Time (g_u), s	9.6	0.0	2.0	0.0	39.5	0.0	3.8	0.0
Perm LT Que Serve Time (g_ps), s	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion LT Inside Lane (P_L)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Lane Group Capacity (c), veh/h	159.6	0.0	131.6	0.0	559.1	0.0	164.7	0.0
Volume-to-Capacity Ratio (X)	0.132	0.000	0.053	0.000	0.007	0.000	0.049	0.000
Available Capacity (c_a), veh/h	215.4	0.0	213.3	0.0	644.4	0.0	245.2	0.0
Upstream Filter Factor (I)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Uniform Delay (d1), s/veh	16.2	0.0	36.7	0.0	6.9	0.0	36.6	0.0
Incremental Delay (d2), s/veh	0.4	0.0	0.2	0.0	0.0	0.0	0.1	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	16.6	0.0	36.8	0.0	6.9	0.0	36.7	0.0
First-Term Queue (Q1), veh/ln	0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.0
Second-Term Queue (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Percentile Back of Queue (Q%), veh/ln	0.3	0.0	0.1	0.0	0.0	0.0	0.2	0.0
Percentile Storage Ratio (RQ%)	0.05	0.00	0.02	0.00	0.00	0.00	0.02	0.00
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Movement	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Group	0	1	0	0	0	1	0	1
Group Volume (v), veh/h	0.0	1016.0	0.0	0.0	0.0	446.0	0.0	1.0
Group Sat. Flow (s), veh/h/ln	0.0	1844.7	0.0	0.0	0.0	1809.5	0.0	1900.0
Queue Serve Time (g_s), s	0.0	39.4	0.0	0.0	0.0	10.3	0.0	0.0
Cycle Queue Clear Time (g_c), s	0.0	39.4	0.0	0.0	0.0	10.3	0.0	0.0
Lane Group Capacity (c), veh/h	0.0	1113.9	0.0	0.0	0.0	1109.3	0.0	89.8
Volume-to-Capacity Ratio (X)	0.000	0.912	0.000	0.000	0.000	0.402	0.000	0.011
Available Capacity (c_a), veh/h	0.0	1113.9	0.0	0.0	0.0	1109.3	0.0	374.6
Upstream Filter Factor (I)	0.000	1.000	0.000	0.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	14.2	0.0	0.0	0.0	8.1	0.0	36.8
Incremental Delay (d2), s/veh	0.0	12.7	0.0	0.0	0.0	1.1	0.0	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.9	0.0	0.0	0.0	9.2	0.0	36.9
First-Term Queue (Q1), veh/ln	0.0	11.1	0.0	0.0	0.0	2.8	0.0	0.0
Second-Term Queue (Q2), veh/ln	0.0	3.9	0.0	0.0	0.0	0.3	0.0	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	15.0	0.0	0.0	0.0	3.1	0.0	0.0

Percentile Storage Ratio (RQ%)	0.00	0.16	0.00	0.00	0.00	0.04	0.00	0.00
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Movement	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Group	0	1	0	1	0	1	0	1
Group Volume (v), veh/h	0.0	0.0	0.0	3.0	0.0	8.0	0.0	131.0
Group Sat. Flow (s), veh/h/ln	0.0	0.0	0.0	0.0	0.0	1153.6	0.0	1523.6
Queue Serve Time (g_s), s	0.0	49.0	0.0	3.9	0.0	0.2	0.0	3.8
Cycle Queue Clear Time (g_c), s	0.0	49.0	0.0	3.9	0.0	0.2	0.0	3.8
Prot RT Sat Flow Rate (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff. Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion RT Outside Lane (P_R)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Lane Group Capacity (c), veh/h	0.0	0.0	0.0	0.0	0.0	707.2	0.0	72.0
Volume-to-Capacity Ratio (X)	0.000	0.000	0.000	0.000	0.000	0.011	0.000	1.818
Available Capacity (c_a), veh/h	0.0	0.0	0.0	0.0	0.0	707.2	0.0	300.4
Upstream Filter Factor (I)	0.000	0.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	6.1	0.0	38.7
Incremental Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	379.9
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	6.1	0.0	418.5
First-Term Queue (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
Second-Term Queue (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	9.0
Percentile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.24
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.7
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Intersection Summary								
HCM 2010 Control Delay		53.0						
HCM 2010 Level of Service		D						

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	4	1016	21	446	8	7	1	131	8	0
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2	1	6		3	8		7	4
Permitted Phases	2		6		6	8		8	4	
Detector Phase	5	2	1	6	6	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
Minimum Split (s)	11.0	23.0	11.0	23.0	23.0	10.5	22.5	22.5	10.5	22.5
Total Split (s)	11.0	56.0	11.0	56.0	56.0	10.5	22.5	22.5	10.5	22.5
Total Split (%)	11.0%	56.0%	11.0%	56.0%	56.0%	10.5%	22.5%	22.5%	10.5%	22.5%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	2.5
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)	7.0	7.0	7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	Max	None	None	None	None	None
Act Effct Green (s)	57.1	55.6	58.5	57.8	57.8	6.6	5.9	5.9	6.6	5.9
Actuated g/C Ratio	0.70	0.69	0.72	0.71	0.71	0.08	0.07	0.07	0.08	0.07
v/c Ratio	0.01	0.76	0.12	0.33	0.01	0.05	0.01	0.46	0.06	0.01
Control Delay	4.5	16.7	5.6	6.8	0.0	32.3	37.0	7.1	32.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.5	16.7	5.6	6.8	0.0	32.3	37.0	7.1	32.5	0.0
LOS	A	B	A	A	A	C	D	A	C	A
Approach Delay		16.6		6.7			8.6			23.6
Approach LOS		B		A			A			C

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 81.1
Natural Cycle: 100
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 13.1 — Intersection LOS: B
Intersection Capacity Utilization 78.9% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 12: Griffin & US 30

Griffin
78.9%
Griffin

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	277	689	127	113	304	267	58	623	412	246	425	57
Movement Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj. Factor (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj. Factors	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Sat. Flow Rate, veh/h/ln	1863	1830	1830	1743	1743	1776	1759	1792	1863	1792	1774	1774
Lanes	1	2	0	1	1	1	1	2	1	1	2	0
Lane Assignment												
Capacity, veh/h	342	336	62	313	148	129	274	290	135	407	595	79
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion Arriving On Green	0.11	0.11	0.11	0.08	0.09	0.09	0.04	0.09	0.09	0.15	0.19	0.19
Lane Group Delay, s/veh	31.8	496.9	498.4	18.3	498.1	512.0	19.0	541.0	958.1	13.9	20.4	20.7
Lane Group LOS	C	F	F	B	F	F	B	F	F	B	C	C
Approach Volume, veh/h		1093			684			1093			728	
Approach Delay, s/veh		379.6			424.3			670.5			18.3	
Approach LOS		F			F			F			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phase	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration (G+Y+Rc), s	10.75	12.25	8.35	15.62	12.00	11.00	13.47	10.50
Change Period (Y+Rc), s	7.00	7.00	6.50	6.50	7.00	7.00	6.50	6.50
Max. Allowable Headway (MAH), s	3.69	0.09	3.75	0.11	3.65	0.09	3.75	0.11
Maximum Green Setting (Gmax), s	5.00	22.00	5.50	20.50	5.00	22.00	9.50	16.50
Max. Queue Clearance Time (g_c+I1), s	4.86	0.00	3.47	0.00	7.00	0.00	7.10	0.00
Green Extension Time (g_e), s	0.00	0.00	0.02	0.00	0.00	0.00	0.17	0.00
Probability of Phase Call (p_c)	0.771	1.000	0.531	1.000	0.973	1.000	0.960	1.000
Probability of Max Out (p_x)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000

Left-Turn Movement Data				
Assigned Movement	1	3	5	7
Mvmt. Sat Flow, veh/h	1660.11	1675.49	1774.04	1707.10

Through Movement Data				
Assigned Movement	2	4	6	8
Mvmt. Sat Flow, veh/h	3007.65	3066.53	1509.35	1583.33

Right-Turn Movement Data				
Assigned Movement	12	14	16	18
Mvmt. Sat Flow, veh/h	553.92	408.81	1509.35	1583.33

Left Lane Group Data								
Assigned Movement	1	0	3	0	5	0	7	0
Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Group	1	0	1	0	1	0	1	0
Group Volume (v), veh/h	113.0	0.0	58.0	0.0	277.0	0.0	246.0	0.0
Group Sat. Flow (s), veh/h/ln	1660.1	0.0	1675.5	0.0	1774.0	0.0	1707.1	0.0
Queue Serve Time (g_s), s	2.9	0.0	1.5	0.0	5.0	0.0	5.1	0.0

Cycle Queue Clear Time (g_c), s	2.9	0.0	1.5	0.0	5.0	0.0	5.1	0.0
Perm LT Sat Flow Rate (s_l), veh/h/ln	624.0	0.0	858.9	0.0	1070.9	0.0	768.1	0.0
Shared LT Sat Flow (s_sh), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Eff. Green (g_p), s	4.0	0.0	4.0	0.0	5.2	0.0	9.7	0.0
Perm LT Serve Time (g_u), s	2.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Perm LT Que Serve Time (g_ps), s	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion LT Inside Lane (P_L)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Lane Group Capacity (c), veh/h	312.5	0.0	274.0	0.0	342.1	0.0	406.6	0.0
Volume-to-Capacity Ratio (X)	0.362	0.000	0.212	0.000	0.810	0.000	0.605	0.000
Available Capacity (c_a), veh/h	356.6	0.0	404.1	0.0	342.1	0.0	498.6	0.0
Upstream Filter Factor (I)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Uniform Delay (d1), s/veh	17.6	0.0	18.7	0.0	18.2	0.0	12.4	0.0
Incremental Delay (d2), s/veh	0.7	0.0	0.4	0.0	13.6	0.0	1.5	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.3	0.0	19.0	0.0	31.8	0.0	13.9	0.0
First-Term Queue (Q1), veh/ln	0.9	0.0	0.5	0.0	2.0	0.0	1.5	0.0
Second-Term Queue (Q2), veh/ln	0.1	0.0	0.0	0.0	1.3	0.0	0.2	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Percentile Back of Queue (Q%), veh/ln	0.9	0.0	0.5	0.0	3.3	0.0	1.6	0.0
Percentile Storage Ratio (RQ%)	0.04	0.00	0.07	0.00	0.30	0.00	0.16	0.00
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Movement	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Group	0	1	0	1	0	1	0	2
Group Volume (v), veh/h	0.0	418.9	0.0	244.7	0.0	304.0	0.0	623.0
Group Sat. Flow (s), veh/h/ln	0.0	1829.7	0.0	1773.7	0.0	1743.1	0.0	1702.8
Queue Serve Time (g_s), s	0.0	5.2	0.0	6.1	0.0	4.0	0.0	4.0
Cycle Queue Clear Time (g_c), s	0.0	5.2	0.0	6.1	0.0	4.0	0.0	4.0
Lane Group Capacity (c), veh/h	0.0	204.4	0.0	344.3	0.0	148.4	0.0	290.0
Volume-to-Capacity Ratio (X)	0.000	2.050	0.000	0.711	0.000	2.048	0.000	2.148
Available Capacity (c_a), veh/h	0.0	857.0	0.0	774.1	0.0	816.4	0.0	1196.3
Upstream Filter Factor (I)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	20.9	0.0	17.7	0.0	21.5	0.0	21.5
Incremental Delay (d2), s/veh	0.0	476.1	0.0	2.7	0.0	476.6	0.0	519.5
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	496.9	0.0	20.4	0.0	498.1	0.0	541.0
First-Term Queue (Q1), veh/ln	0.0	1.7	0.0	2.0	0.0	1.3	0.0	1.4
Second-Term Queue (Q2), veh/ln	0.0	27.0	0.0	0.3	0.0	19.7	0.0	20.9
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	28.8	0.0	2.3	0.0	21.0	0.0	22.3

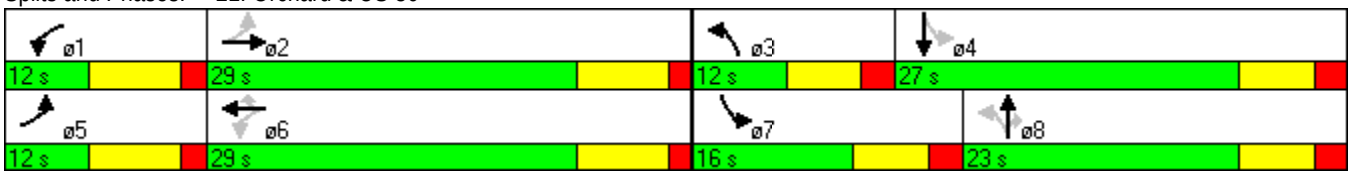
Percentile Storage Ratio (RQ%)	0.00	0.80	0.00	0.05	0.00	0.56	0.00	0.57
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	53.6	0.0	0.0	0.0	38.9	0.0	83.2
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.5
Right Lane Group Data								
Assigned Movement	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		R		R
Lanes in Group	0	1	0	1	0	1	0	1
Group Volume (v), veh/h	0.0	397.1	0.0	237.3	0.0	267.0	0.0	412.0
Group Sat. Flow (s), veh/h/ln	0.0	1731.9	0.0	1701.6	0.0	1509.3	0.0	1583.3
Queue Serve Time (g_s), s	0.0	5.2	0.0	6.1	0.0	4.0	0.0	4.0
Cycle Queue Clear Time (g_c), s	0.0	5.2	0.0	6.1	0.0	4.0	0.0	4.0
Prot RT Sat Flow Rate (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff. Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion RT Outside Lane (P_R)	0.000	0.320	0.000	0.240	0.000	1.000	0.000	1.000
Lane Group Capacity (c), veh/h	0.0	193.5	0.0	330.3	0.0	128.5	0.0	134.8
Volume-to-Capacity Ratio (X)	0.000	2.053	0.000	0.718	0.000	2.077	0.000	3.056
Available Capacity (c_a), veh/h	0.0	811.2	0.0	742.6	0.0	706.9	0.0	556.2
Upstream Filter Factor (I)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	20.9	0.0	17.7	0.0	21.5	0.0	21.5
Incremental Delay (d2), s/veh	0.0	477.5	0.0	2.9	0.0	490.5	0.0	936.6
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	498.4	0.0	20.7	0.0	512.0	0.0	958.1
First-Term Queue (Q1), veh/ln	0.0	1.6	0.0	2.0	0.0	1.2	0.0	1.3
Second-Term Queue (Q2), veh/ln	0.0	25.7	0.0	0.3	0.0	17.5	0.0	35.1
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	27.3	0.0	2.2	0.0	18.7	0.0	36.3
Percentile Storage Ratio (RQ%)	0.00	0.76	0.00	0.05	0.00	1.98	0.00	5.77
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	50.9	0.0	0.0	0.0	34.6	0.0	69.3
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.8
Intersection Summary								
HCM 2010 Control Delay		403.4						
HCM 2010 Level of Service		F						

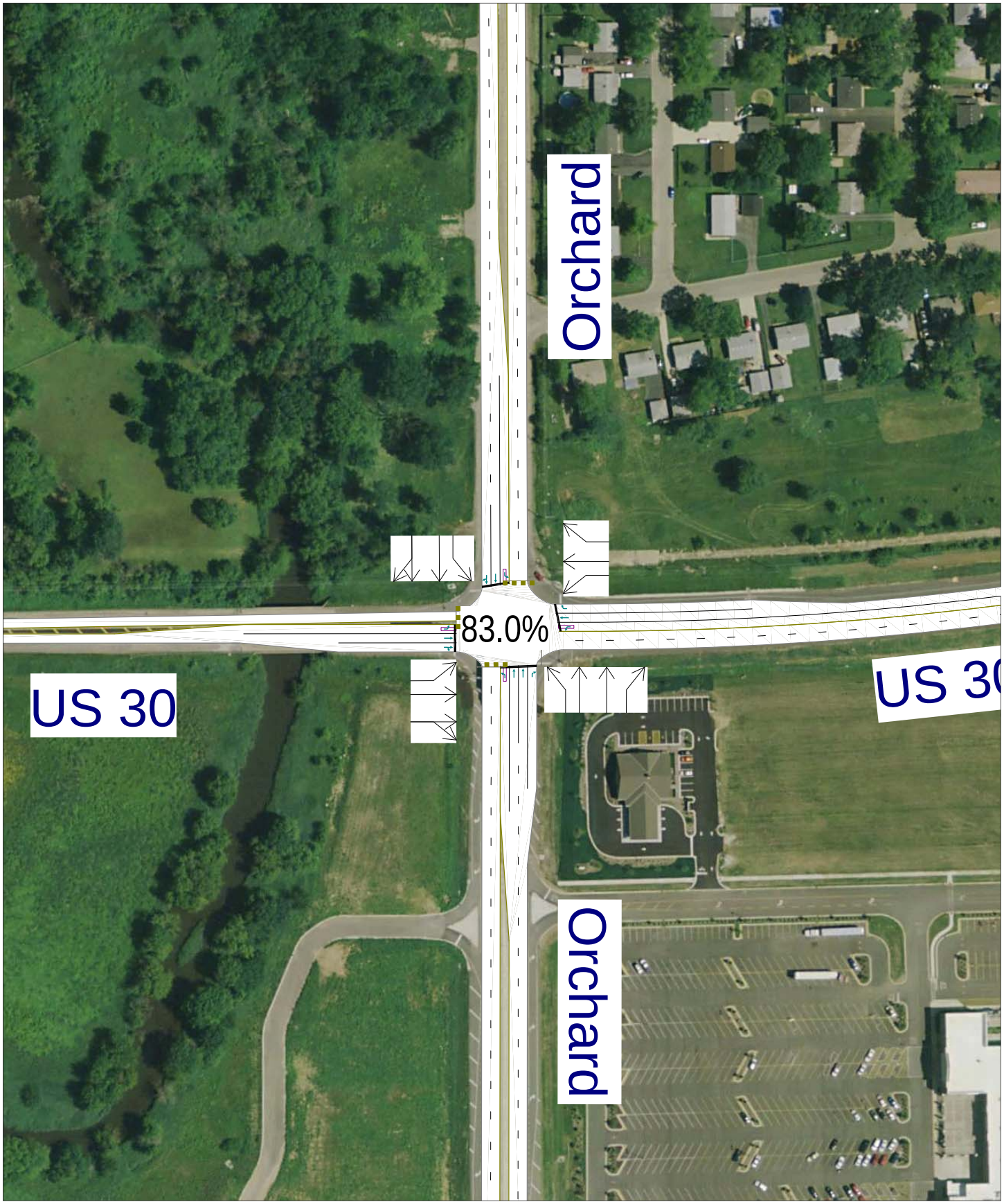
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	277	689	113	304	267	58	623	412	246	425
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2	1	6		3	8		7	4
Permitted Phases	2		6		6	8		8	4	
Detector Phase	5	2	1	6	6	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
Minimum Split (s)	11.0	23.0	11.1	23.1	23.1	10.5	22.5	22.5	10.5	22.5
Total Split (s)	12.0	29.0	12.0	29.0	29.0	12.0	23.0	23.0	16.0	27.0
Total Split (%)	15.0%	36.3%	15.0%	36.3%	36.3%	15.0%	28.8%	28.8%	20.0%	33.8%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	25.9	22.0	24.3	19.2	19.2	21.3	15.8	15.8	30.5	25.0
Actuated g/C Ratio	0.34	0.29	0.32	0.25	0.25	0.28	0.21	0.21	0.40	0.33
v/c Ratio	0.86	0.78	0.59	0.66	0.47	0.20	0.84	0.80	0.81	0.42
Control Delay	47.8	31.7	29.3	33.5	6.6	17.1	42.2	26.1	41.0	23.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.8	31.7	29.3	33.5	6.6	17.1	42.2	26.1	41.0	23.1
LOS	D	C	C	C	A	B	D	C	D	C
Approach Delay		35.8		22.3			34.8			29.1
Approach LOS		D		C			C			C

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 76.8
Natural Cycle: 80
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 31.6 — Intersection LOS: C
Intersection Capacity Utilization 83.0% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 21: Orchard & US 30




Orchard
83.0%
US 30
US 3
Orchard

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	182	319	88	66	344	193	31	22	50	136	20	74
Movement Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj. Factor (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj. Factors	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00
Adj. Sat. Flow Rate, veh/h/ln	1900	1810	1900	1900	1827	1881	1900	1900	1900	1881	1900	1900
Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Lane Assignment												
Capacity, veh/h	435	635	567	425	544	476	251	127	97	297	223	189
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion Arriving On Green	0.09	0.35	0.35	0.04	0.30	0.30	0.02	0.07	0.07	0.07	0.12	0.12
Lane Group Delay, s/veh	12.1	17.4	13.3	13.4	22.8	18.6	24.4	25.8	29.9	21.7	22.7	24.6
Lane Group LOS	B	B	B	B	C	B	C	C	C	C	C	C
Approach Volume, veh/h		589			603			103			230	
Approach Delay, s/veh		15.2			20.4			27.4			22.7	
Approach LOS		B			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phase	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	4.0	1.1	3.0	1.1	4.0
Phase Duration (G+Y+Rc), s	9.23	27.03	7.63	13.19	12.26	24.00	10.50	10.32
Change Period (Y+Rc), s	7.00	7.00	6.50	6.50	7.00	7.00	6.50	6.50
Max. Allowable Headway (MAH), s	3.64	0.10	3.73	0.25	3.64	0.10	3.73	0.25
Maximum Green Setting (Gmax), s	4.00	19.00	4.00	16.00	6.00	17.00	4.00	16.00
Max. Queue Clearance Time (g_c+I1), s	3.43	0.00	2.91	0.00	5.55	0.00	5.81	0.00
Green Extension Time (g_e), s	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00
Probability of Phase Call (p_c)	0.649	1.000	0.388	0.992	0.944	1.000	0.884	0.956
Probability of Max Out (p_x)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000

Left-Turn Movement Data				
Assigned Movement	1	3	5	7
Mvmt. Sat Flow, veh/h	1809.52	1809.52	1809.52	1791.61

Through Movement Data				
Assigned Movement	2	4	6	8
Mvmt. Sat Flow, veh/h	1615.00	1900.00	1599.01	1900.00

Right-Turn Movement Data				
Assigned Movement	12	14	16	18
Mvmt. Sat Flow, veh/h	1615.00	1615.00	1599.01	1453.50

Left Lane Group Data								
Assigned Movement	1	0	3	0	5	0	7	0
Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Group	1	0	1	0	1	0	1	0
Group Volume (v), veh/h	66.0	0.0	31.0	0.0	182.0	0.0	136.0	0.0
Group Sat. Flow (s), veh/h/ln	1809.5	0.0	1809.5	0.0	1809.5	0.0	1791.6	0.0
Queue Serve Time (g_s), s	1.4	0.0	0.9	0.0	3.6	0.0	3.8	0.0

Cycle Queue Clear Time (g_c), s	1.4	0.0	0.9	0.0	3.6	0.0	3.8	0.0
Perm LT Sat Flow Rate (s_l), veh/h/ln	1077.5	0.0	1322.6	0.0	1053.1	0.0	1335.9	0.0
Shared LT Sat Flow (s_sh), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Eff. Green (g_p), s	17.0	0.0	3.8	0.0	20.0	0.0	6.7	0.0
Perm LT Serve Time (g_u), s	12.1	0.0	3.8	0.0	7.7	0.0	1.9	0.0
Perm LT Que Serve Time (g_ps), s	0.3	0.0	0.0	0.0	2.6	0.0	0.5	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion LT Inside Lane (P_L)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Lane Group Capacity (c), veh/h	425.3	0.0	250.6	0.0	435.0	0.0	296.7	0.0
Volume-to-Capacity Ratio (X)	0.155	0.000	0.124	0.000	0.418	0.000	0.458	0.000
Available Capacity (c_a), veh/h	481.3	0.0	341.5	0.0	458.3	0.0	296.7	0.0
Upstream Filter Factor (I)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Uniform Delay (d1), s/veh	13.3	0.0	24.2	0.0	11.5	0.0	20.6	0.0
Incremental Delay (d2), s/veh	0.2	0.0	0.2	0.0	0.6	0.0	1.1	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	13.4	0.0	24.4	0.0	12.1	0.0	21.7	0.0
First-Term Queue (Q1), veh/ln	0.4	0.0	0.4	0.0	1.0	0.0	1.4	0.0
Second-Term Queue (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Percentile Back of Queue (Q%), veh/ln	0.5	0.0	0.4	0.0	1.1	0.0	1.5	0.0
Percentile Storage Ratio (RQ%)	0.04	0.00	0.09	0.00	0.13	0.00	0.16	0.00
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Movement	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Group	0	1	0	1	0	1	0	1
Group Volume (v), veh/h	0.0	319.0	0.0	20.0	0.0	344.0	0.0	22.0
Group Sat. Flow (s), veh/h/ln	0.0	1809.5	0.0	1900.0	0.0	1826.9	0.0	1900.0
Queue Serve Time (g_s), s	0.0	7.9	0.0	0.5	0.0	9.3	0.0	0.6
Cycle Queue Clear Time (g_c), s	0.0	7.9	0.0	0.5	0.0	9.3	0.0	0.6
Lane Group Capacity (c), veh/h	0.0	635.0	0.0	222.8	0.0	544.0	0.0	127.3
Volume-to-Capacity Ratio (X)	0.000	0.502	0.000	0.090	0.000	0.632	0.000	0.173
Available Capacity (c_a), veh/h	0.0	635.0	0.0	532.5	0.0	544.0	0.0	532.5
Upstream Filter Factor (I)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	14.6	0.0	22.5	0.0	17.3	0.0	25.1
Incremental Delay (d2), s/veh	0.0	2.8	0.0	0.2	0.0	5.5	0.0	0.6
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.4	0.0	22.7	0.0	22.8	0.0	25.8
First-Term Queue (Q1), veh/ln	0.0	2.4	0.0	0.2	0.0	3.0	0.0	0.3
Second-Term Queue (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.8	0.0	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	2.9	0.0	0.2	0.0	3.8	0.0	0.3

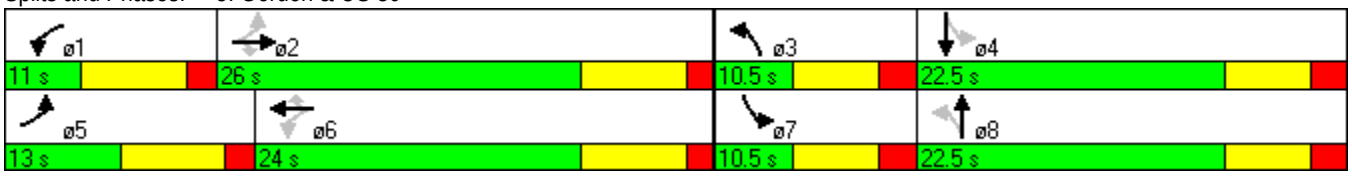
Percentile Storage Ratio (RQ%)	0.00	0.03	0.00	0.01	0.00	0.06	0.00	0.01
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Movement	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		T+R
Lanes in Group	0	1	0	1	0	1	0	1
Group Volume (v), veh/h	0.0	88.0	0.0	74.0	0.0	193.0	0.0	50.0
Group Sat. Flow (s), veh/h/ln	0.0	1615.0	0.0	1615.0	0.0	1599.0	0.0	1453.5
Queue Serve Time (g_s), s	0.0	2.1	0.0	2.4	0.0	5.5	0.0	1.9
Cycle Queue Clear Time (g_c), s	0.0	2.1	0.0	2.4	0.0	5.5	0.0	1.9
Prot RT Sat Flow Rate (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff. Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion RT Outside Lane (P_R)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Lane Group Capacity (c), veh/h	0.0	566.7	0.0	189.4	0.0	476.2	0.0	97.4
Volume-to-Capacity Ratio (X)	0.000	0.155	0.000	0.391	0.000	0.405	0.000	0.514
Available Capacity (c_a), veh/h	0.0	566.7	0.0	452.6	0.0	476.2	0.0	407.4
Upstream Filter Factor (I)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	12.7	0.0	23.3	0.0	16.0	0.0	25.7
Incremental Delay (d2), s/veh	0.0	0.6	0.0	1.3	0.0	2.6	0.0	4.1
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.3	0.0	24.6	0.0	18.6	0.0	29.9
First-Term Queue (Q1), veh/ln	0.0	0.6	0.0	0.8	0.0	1.7	0.0	0.6
Second-Term Queue (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.3	0.0	0.1
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	0.7	0.0	0.9	0.0	2.0	0.0	0.7
Percentile Storage Ratio (RQ%)	0.00	0.09	0.00	0.03	0.00	0.23	0.00	0.02
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 2010 Control Delay		19.2						
HCM 2010 Level of Service		B						

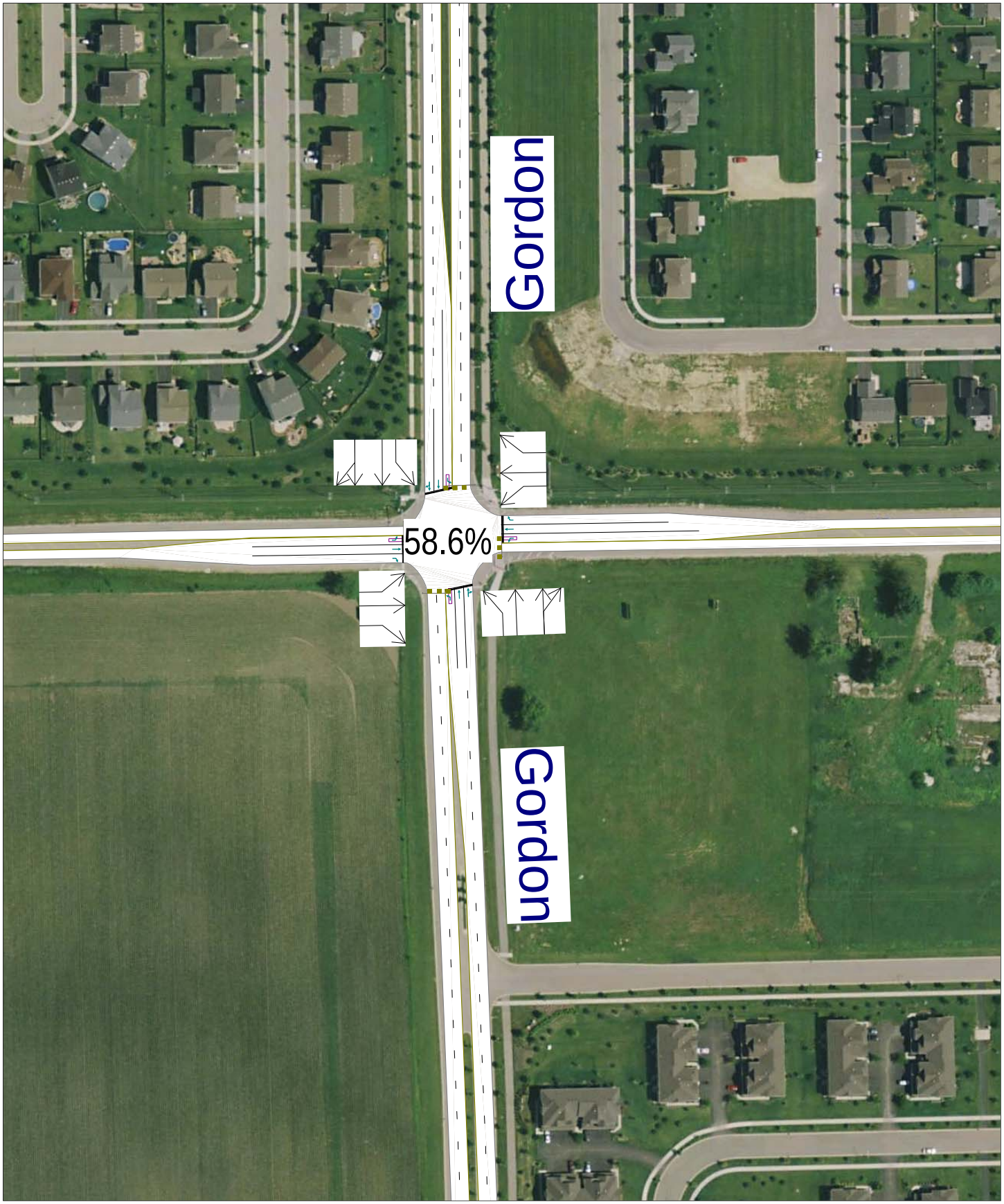
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	182	319	88	66	344	193	31	22	136	20
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0
Minimum Split (s)	11.0	23.0	23.0	11.0	23.0	23.0	10.5	22.5	10.5	22.5
Total Split (s)	13.0	26.0	26.0	11.0	24.0	24.0	10.5	22.5	10.5	22.5
Total Split (%)	18.6%	37.1%	37.1%	15.7%	34.3%	34.3%	15.0%	32.1%	15.0%	32.1%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	30.4	28.6	28.6	24.0	20.0	20.0	7.7	6.1	9.2	8.1
Actuated g/C Ratio	0.54	0.51	0.51	0.43	0.36	0.36	0.14	0.11	0.16	0.14
v/c Ratio	0.34	0.33	0.09	0.13	0.50	0.26	0.13	0.17	0.58	0.17
Control Delay	10.1	15.6	0.2	9.2	20.4	2.0	17.8	13.1	29.7	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.1	15.6	0.2	9.2	20.4	2.0	17.8	13.1	29.7	10.5
LOS	B	B	A	A	C	A	B	B	C	B
Approach Delay		11.6			13.3			14.5		21.9
Approach LOS		B			B			B		C

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 56
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 14.0 — Intersection LOS: B
Intersection Capacity Utilization 58.6% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Gordon & US 30




Gordon
58.6%
Gordon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	617	5	129	908	3	4	0	83	3	0	4
Movement Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj. Factor (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj. Factors	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Sat. Flow Rate, veh/h/ln	1900	1845	1900	1881	1863	1900	1900	0	1845	1900	0	1900
Lanes	1	1	1	1	1	1	1	1	1	1	1	0
Lane Assignment												
Capacity, veh/h	216	981	859	431	1084	940	102	0	73	141	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion Arriving On Green	0.00	0.53	0.53	0.05	0.58	0.58	0.00	0.00	0.05	0.00	0.00	0.05
Lane Group Delay, s/veh	12.5	15.1	8.1	9.2	20.2	6.4	33.5	0.0	127.7	33.4	0.0	0.0
Lane Group LOS	B	B	A	A	C	A	C		F	C		
Approach Volume, veh/h		625			1040			87			7	
Approach Delay, s/veh		15.1			18.8			123.4			14.3	
Approach LOS		B			B			F			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phase	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration (G+Y+Rc), s	10.79	46.00	6.67	9.86	7.12	49.67	6.63	9.90
Change Period (Y+Rc), s	7.00	7.00	6.50	6.50	7.00	7.00	6.50	6.50
Max. Allowable Headway (MAH), s	3.64	0.00	3.80	0.33	3.64	0.00	3.80	0.33
Maximum Green Setting (Gmax), s	4.00	39.00	4.00	16.00	4.00	39.00	4.00	16.00
Max. Queue Clearance Time (g_c+I1), s	4.08	0.00	2.15	0.00	2.06	0.00	2.12	0.00
Green Extension Time (g_e), s	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Probability of Phase Call (p_c)	0.928	1.000	0.078	0.840	0.059	1.000	0.059	0.843
Probability of Max Out (p_x)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000

Left-Turn Movement Data				
Assigned Movement	1	3	5	7
Mvmt. Sat Flow, veh/h	1791.61	1809.52	1809.52	1809.52

Through Movement Data				
Assigned Movement	2	4	6	8
Mvmt. Sat Flow, veh/h	1615.00	0.00	1615.00	1567.96

Right-Turn Movement Data				
Assigned Movement	12	14	16	18
Mvmt. Sat Flow, veh/h	1615.00	0.00	1615.00	1567.96

Left Lane Group Data								
Assigned Movement	1	0	3	0	5	0	7	0
Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Group	1	0	1	0	1	0	1	0
Group Volume (v), veh/h	129.0	0.0	4.0	0.0	3.0	0.0	3.0	0.0
Group Sat. Flow (s), veh/h/ln	1791.6	0.0	1809.5	0.0	1809.5	0.0	1809.5	0.0
Queue Serve Time (g_s), s	2.1	0.0	0.2	0.0	0.1	0.0	0.1	0.0

Cycle Queue Clear Time (g_c), s	2.1	0.0	0.2	0.0	0.1	0.0	0.1	0.0
Perm LT Sat Flow Rate (s_l), veh/h/ln	810.6	0.0	1434.8	0.0	624.0	0.0	1440.0	0.0
Shared LT Sat Flow (s_sh), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Eff. Green (g_p), s	42.7	0.0	3.4	0.0	39.0	0.0	3.4	0.0
Perm LT Serve Time (g_u), s	21.8	0.0	0.0	0.0	13.5	0.0	2.0	0.0
Perm LT Que Serve Time (g_ps), s	4.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion LT Inside Lane (P_L)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Lane Group Capacity (c), veh/h	431.3	0.0	102.4	0.0	216.3	0.0	140.6	0.0
Volume-to-Capacity Ratio (X)	0.299	0.000	0.039	0.000	0.014	0.000	0.021	0.000
Available Capacity (c_a), veh/h	436.4	0.0	196.9	0.0	312.0	0.0	236.2	0.0
Upstream Filter Factor (I)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Uniform Delay (d1), s/veh	8.9	0.0	33.3	0.0	12.4	0.0	33.3	0.0
Incremental Delay (d2), s/veh	0.4	0.0	0.2	0.0	0.0	0.0	0.1	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	9.2	0.0	33.5	0.0	12.5	0.0	33.4	0.0
First-Term Queue (Q1), veh/ln	0.8	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Second-Term Queue (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Percentile Back of Queue (Q%), veh/ln	0.8	0.0	0.1	0.0	0.0	0.0	0.1	0.0
Percentile Storage Ratio (RQ%)	0.14	0.00	0.01	0.00	0.00	0.00	0.01	0.00
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Movement	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Group	0	1	0	0	0	1	0	1
Group Volume (v), veh/h	0.0	617.0	0.0	0.0	0.0	908.0	0.0	0.0
Group Sat. Flow (s), veh/h/ln	0.0	1844.7	0.0	0.0	0.0	1862.7	0.0	0.0
Queue Serve Time (g_s), s	0.0	17.2	0.0	0.0	0.0	29.2	0.0	3.4
Cycle Queue Clear Time (g_c), s	0.0	17.2	0.0	0.0	0.0	29.2	0.0	3.4
Lane Group Capacity (c), veh/h	0.0	981.2	0.0	0.0	0.0	1084.0	0.0	0.0
Volume-to-Capacity Ratio (X)	0.000	0.629	0.000	0.000	0.000	0.838	0.000	0.000
Available Capacity (c_a), veh/h	0.0	981.2	0.0	0.0	0.0	1084.0	0.0	0.0
Upstream Filter Factor (I)	0.000	1.000	0.000	0.000	0.000	1.000	0.000	0.000
Uniform Delay (d1), s/veh	0.0	12.1	0.0	0.0	0.0	12.5	0.0	0.0
Incremental Delay (d2), s/veh	0.0	3.1	0.0	0.0	0.0	7.7	0.0	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.1	0.0	0.0	0.0	20.2	0.0	0.0
First-Term Queue (Q1), veh/ln	0.0	5.1	0.0	0.0	0.0	8.0	0.0	0.0
Second-Term Queue (Q2), veh/ln	0.0	0.8	0.0	0.0	0.0	2.3	0.0	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	5.9	0.0	0.0	0.0	10.3	0.0	0.0

Percentile Storage Ratio (RQ%)	0.00	0.06	0.00	0.00	0.00	0.14	0.00	0.00
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Movement	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Group	0	1	0	1	0	1	0	1
Group Volume (v), veh/h	0.0	5.0	0.0	4.0	0.0	3.0	0.0	83.0
Group Sat. Flow (s), veh/h/ln	0.0	1615.0	0.0	0.0	0.0	1615.0	0.0	1568.0
Queue Serve Time (g_s), s	0.0	0.1	0.0	3.4	0.0	0.1	0.0	3.4
Cycle Queue Clear Time (g_c), s	0.0	0.1	0.0	3.4	0.0	0.1	0.0	3.4
Prot RT Sat Flow Rate (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff. Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion RT Outside Lane (P_R)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Lane Group Capacity (c), veh/h	0.0	859.1	0.0	0.0	0.0	939.8	0.0	72.8
Volume-to-Capacity Ratio (X)	0.000	0.006	0.000	0.000	0.000	0.003	0.000	1.140
Available Capacity (c_a), veh/h	0.0	859.1	0.0	0.0	0.0	939.8	0.0	342.2
Upstream Filter Factor (I)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	8.1	0.0	0.0	0.0	6.4	0.0	35.0
Incremental Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.7
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.1	0.0	0.0	0.0	6.4	0.0	127.7
First-Term Queue (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
Second-Term Queue (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1
Percentile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.42
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Intersection Summary								
HCM 2010 Control Delay		22.6						
HCM 2010 Level of Service		C						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	3	617	5	129	908	3	4	83	3	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3		7	4
Permitted Phases	2		2	6		6	8	8	4	
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0
Minimum Split (s)	11.0	23.0	23.0	11.0	23.0	23.0	10.5	22.5	10.5	22.5
Total Split (s)	11.0	46.0	46.0	11.0	46.0	46.0	10.5	22.5	10.5	22.5
Total Split (%)	12.2%	51.1%	51.1%	12.2%	51.1%	51.1%	11.7%	25.0%	11.7%	25.0%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5
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)	7.0	7.0	7.0	7.0	7.0	7.0	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	46.3	42.3	42.3	52.1	52.8	52.8	5.9	5.5	5.9	5.5
Actuated g/C Ratio	0.64	0.59	0.59	0.72	0.73	0.73	0.08	0.08	0.08	0.08
v/c Ratio	0.01	0.54	0.00	0.27	0.63	0.00	0.03	0.20	0.02	0.01
Control Delay	4.7	12.8	0.0	5.6	12.1	0.0	27.8	1.1	27.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.7	12.8	0.0	5.6	12.1	0.0	27.8	1.1	27.7	0.0
LOS	A	B	A	A	B	A	C	A	C	A
Approach Delay		12.7			11.3					11.9
Approach LOS		B			B					B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 71.9	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 11.3	Intersection LOS: B
Intersection Capacity Utilization 69.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 12: Griffin & US 30

Griffin
69.1%
Griffin

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	572	123	312	613	322	193	578	248	281	645	198
Movement Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj. Factor (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj. Factors	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Sat. Flow Rate, veh/h/ln	1827	1824	1824	1900	1881	1863	1881	1827	1845	1827	1831	1831
Lanes	1	2	0	1	1	1	1	2	1	1	2	0
Lane Assignment												
Capacity, veh/h	323	216	46	457	302	254	384	257	116	435	327	100
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion Arriving On Green	0.09	0.07	0.07	0.18	0.16	0.16	0.13	0.07	0.07	0.17	0.12	0.12
Lane Group Delay, s/veh	21.7	771.6	777.9	17.4	491.6	150.2	20.5	590.6	543.1	18.7	467.6	469.4
Lane Group LOS	C	F	F	B	F	F	C	F	F	B	F	F
Approach Volume, veh/h		849			1247			1019			1124	
Approach Delay, s/veh		638.1			284.8			471.0			356.0	
Approach LOS		F			F			F			F	

Timer:	1	2	3	4	5	6	7	8
Assigned Phase	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration (G+Y+Rc), s	16.67	11.00	13.32	13.06	12.00	15.67	15.89	10.50
Change Period (Y+Rc), s	7.00	7.00	6.50	6.50	7.00	7.00	6.50	6.50
Max. Allowable Headway (MAH), s	3.67	0.09	3.73	0.09	3.65	0.09	3.74	0.09
Maximum Green Setting (Gmax), s	13.00	21.00	7.00	21.50	5.00	29.00	11.50	17.50
Max. Queue Clearance Time (g_c+I1), s	9.44	0.00	7.22	0.00	6.37	0.00	9.34	0.00
Green Extension Time (g_e), s	0.32	0.00	0.00	0.00	0.00	0.00	0.19	0.00
Probability of Phase Call (p_c)	0.991	1.000	0.945	1.000	0.901	1.000	0.985	1.000
Probability of Max Out (p_x)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000

Left-Turn Movement Data				
Assigned Movement	1	3	5	7
Mvmt. Sat Flow, veh/h	1809.52	1791.61	1739.93	1739.93

Through Movement Data				
Assigned Movement	2	4	6	8
Mvmt. Sat Flow, veh/h	2912.98	2691.15	1583.33	1567.96

Right-Turn Movement Data				
Assigned Movement	12	14	16	18
Mvmt. Sat Flow, veh/h	624.46	825.32	1583.33	1567.96

Left Lane Group Data								
Assigned Movement	1	0	3	0	5	0	7	0
Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Group	1	0	1	0	1	0	1	0
Group Volume (v), veh/h	312.0	0.0	193.0	0.0	154.0	0.0	281.0	0.0
Group Sat. Flow (s), veh/h/ln	1809.5	0.0	1791.6	0.0	1739.9	0.0	1739.9	0.0
Queue Serve Time (g_s), s	7.4	0.0	5.2	0.0	4.4	0.0	7.3	0.0

Cycle Queue Clear Time (g_c), s	7.4	0.0	5.2	0.0	4.4	0.0	7.3	0.0
Perm LT Sat Flow Rate (s_l), veh/h/ln	761.5	0.0	656.7	0.0	790.2	0.0	816.2	0.0
Shared LT Sat Flow (s_sh), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Eff. Green (g_p), s	8.7	0.0	4.0	0.0	4.0	0.0	6.6	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	2.0	0.0	2.0	0.0	0.0	0.0
Perm LT Que Serve Time (g_ps), s	0.0	0.0	0.8	0.0	0.5	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion LT Inside Lane (P_L)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Lane Group Capacity (c), veh/h	456.9	0.0	383.6	0.0	323.4	0.0	435.3	0.0
Volume-to-Capacity Ratio (X)	0.683	0.000	0.503	0.000	0.476	0.000	0.646	0.000
Available Capacity (c_a), veh/h	568.4	0.0	389.5	0.0	323.4	0.0	503.4	0.0
Upstream Filter Factor (I)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Uniform Delay (d1), s/veh	15.0	0.0	19.4	0.0	20.6	0.0	16.4	0.0
Incremental Delay (d2), s/veh	2.4	0.0	1.0	0.0	1.1	0.0	2.3	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	17.4	0.0	20.5	0.0	21.7	0.0	18.7	0.0
First-Term Queue (Q1), veh/ln	2.3	0.0	1.9	0.0	1.4	0.0	2.4	0.0
Second-Term Queue (Q2), veh/ln	0.3	0.0	0.1	0.0	0.1	0.0	0.3	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Percentile Back of Queue (Q%), veh/ln	2.6	0.0	2.0	0.0	1.5	0.0	2.7	0.0
Percentile Storage Ratio (RQ%)	0.10	0.00	0.26	0.00	0.14	0.00	0.26	0.00
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Movement	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Group	0	1	0	1	0	1	0	2
Group Volume (v), veh/h	0.0	357.5	0.0	438.7	0.0	613.0	0.0	578.0
Group Sat. Flow (s), veh/h/ln	0.0	1823.8	0.0	1831.1	0.0	1881.2	0.0	1735.6
Queue Serve Time (g_s), s	0.0	4.0	0.0	6.6	0.0	8.7	0.0	4.0
Cycle Queue Clear Time (g_c), s	0.0	4.0	0.0	6.6	0.0	8.7	0.0	4.0
Lane Group Capacity (c), veh/h	0.0	135.0	0.0	222.3	0.0	301.7	0.0	256.9
Volume-to-Capacity Ratio (X)	0.000	2.649	0.000	1.973	0.000	2.032	0.000	2.250
Available Capacity (c_a), veh/h	0.0	708.6	0.0	728.3	0.0	1009.3	0.0	1123.8
Upstream Filter Factor (I)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	25.0	0.0	23.7	0.0	22.7	0.0	25.0
Incremental Delay (d2), s/veh	0.0	746.6	0.0	443.9	0.0	468.9	0.0	565.6
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	771.6	0.0	467.6	0.0	491.6	0.0	590.6
First-Term Queue (Q1), veh/ln	0.0	1.4	0.0	2.5	0.0	3.2	0.0	1.5
Second-Term Queue (Q2), veh/ln	0.0	28.0	0.0	27.4	0.0	39.3	0.0	20.2
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	29.4	0.0	29.9	0.0	42.5	0.0	21.6

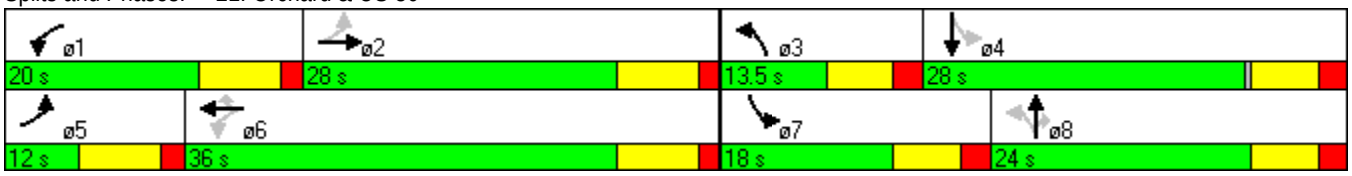
Percentile Storage Ratio (RQ%)	0.00	0.82	0.00	0.65	0.00	1.07	0.00	0.54
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	55.6	0.0	54.1	0.0	77.8	0.0	80.3
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.7	0.0	0.5	0.0	0.5	0.0	0.6
Right Lane Group Data								
Assigned Movement	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		R		R
Lanes in Group	0	1	0	1	0	1	0	1
Group Volume (v), veh/h	0.0	337.5	0.0	404.3	0.0	322.0	0.0	248.0
Group Sat. Flow (s), veh/h/ln	0.0	1713.6	0.0	1685.4	0.0	1583.3	0.0	1568.0
Queue Serve Time (g_s), s	0.0	4.0	0.0	6.6	0.0	8.7	0.0	4.0
Cycle Queue Clear Time (g_c), s	0.0	4.0	0.0	6.6	0.0	8.7	0.0	4.0
Prot RT Sat Flow Rate (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff. Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion RT Outside Lane (P_R)	0.000	0.364	0.000	0.490	0.000	1.000	0.000	1.000
Lane Group Capacity (c), veh/h	0.0	126.8	0.0	204.7	0.0	253.9	0.0	116.0
Volume-to-Capacity Ratio (X)	0.000	2.662	0.000	1.976	0.000	1.268	0.000	2.137
Available Capacity (c_a), veh/h	0.0	665.8	0.0	670.4	0.0	849.5	0.0	507.6
Upstream Filter Factor (I)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	25.0	0.0	23.7	0.0	22.7	0.0	25.0
Incremental Delay (d2), s/veh	0.0	752.9	0.0	445.7	0.0	127.5	0.0	518.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	777.9	0.0	469.4	0.0	150.2	0.0	543.1
First-Term Queue (Q1), veh/ln	0.0	1.4	0.0	2.3	0.0	2.8	0.0	1.3
Second-Term Queue (Q2), veh/ln	0.0	26.5	0.0	25.3	0.0	9.0	0.0	16.7
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	27.9	0.0	27.6	0.0	11.8	0.0	18.0
Percentile Storage Ratio (RQ%)	0.00	0.77	0.00	0.60	0.00	1.20	0.00	2.88
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	52.7	0.0	49.9	0.0	17.0	0.0	33.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.7	0.0	0.5	0.0	0.3	0.0	0.5
Intersection Summary								
HCM 2010 Control Delay		419.2						
HCM 2010 Level of Service		F						

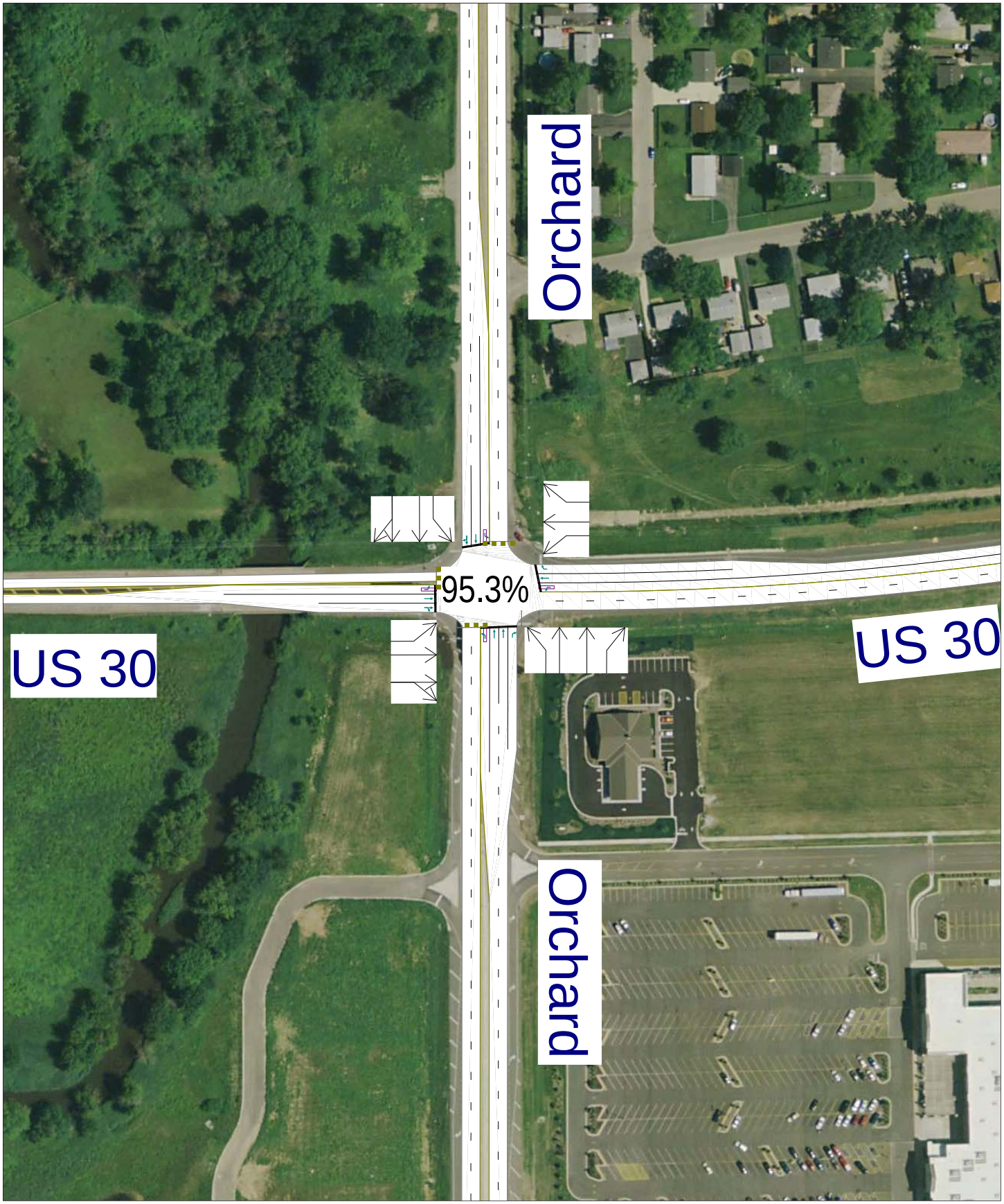
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	154	572	312	613	322	193	578	248	281	645
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2	1	6		3	8		7	4
Permitted Phases	2		6		6	8		8	4	
Detector Phase	5	2	1	6	6	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
Minimum Split (s)	11.0	23.0	11.1	23.1	23.1	10.5	22.5	22.5	10.5	22.5
Total Split (s)	12.0	28.0	20.0	36.0	36.0	13.5	24.0	24.0	18.0	28.0
Total Split (%)	13.3%	31.1%	22.2%	40.0%	40.0%	15.0%	26.7%	26.7%	20.0%	31.1%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	25.8	20.8	40.8	28.8	28.8	24.4	17.4	17.4	33.4	21.9
Actuated g/C Ratio	0.29	0.23	0.45	0.32	0.32	0.27	0.19	0.19	0.37	0.24
v/c Ratio	0.87	0.82	0.90	0.96	0.45	0.87	0.82	0.46	0.92	0.94
Control Delay	62.6	41.1	51.6	59.6	6.2	57.8	45.4	4.8	59.6	51.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.6	41.1	51.6	59.6	6.2	57.8	45.4	4.8	59.6	51.6
LOS	E	D	D	E	A	E	D	A	E	D
Approach Delay		45.0		43.8			37.9			53.6
Approach LOS		D		D			D			D

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 89.7
Natural Cycle: 90
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 45.2 — Intersection LOS: D
Intersection Capacity Utilization 95.3% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 21: Orchard & US 30




Orchard
95.3%
US 30
US 30
Orchard

US 30 HCS
TWO-LANE SEGMENT ANALYSIS

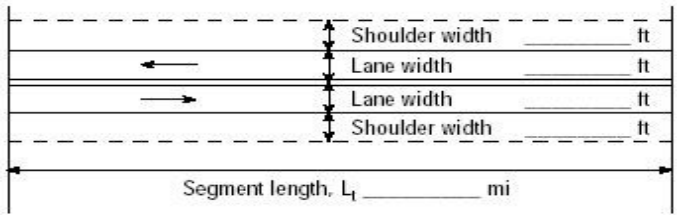
Appendix B

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*D. Draper*	Highway / Direction of Travel	*US 30*
Agency or Company	*HEI*	From/To	*IL 47 to Gordon - EB - AM*
Date Performed	*1/18/2013*	Jurisdiction	*IDOT*
Analysis Time Period	*Existing*	Analysis Year	*2012*

Project Description: *US 30 from IL 47 to IL 31*

Input Data



0 Class I highway 0 Class II highway 0 Class III highway

Terrain 0 Level 0 Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *13%*

% Trucks and Buses , P_T *6 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *4*/mi

Analysis direction vol., V_d *357*veh/h

Opposing direction vol., V_o *770*veh/h

Shoulder width ft *0.0*

Lane Width ft *12.0*

Segment Length mi *1.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.3*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.982*	*0.994*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*395*	*842*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*60.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*4.2 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*1.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.5 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*54.8 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*44.7 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.994*	*1.000*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*390*	*837*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*48.2*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.9*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*52.9*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*B*
Volume to capacity ratio, *v/c*	*0.49*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*

Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*81.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*388.0*
Effective width, Wv (Eq. 15-29) ft	*12.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.67*
Bicycle level of service (Exhibit 15-4)	*F*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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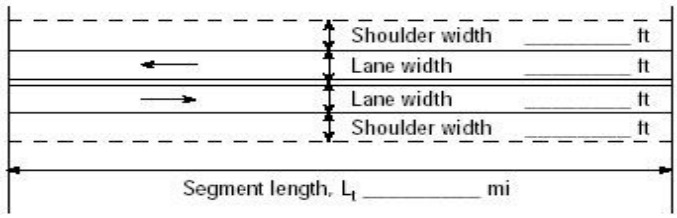
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*D. Draper*	Highway / Direction of Travel	*US 30*
Agency or Company	*HEI*	From/To	*IL 47 to Gordon - WB - AM*
Date Performed	*1/18/2013*	Jurisdiction	*IDOT*
Analysis Time Period	*Existing*	Analysis Year	*2012*

Project Description: *US 30 from IL 47 to IL 31*

Input Data



0 Class I highway 0 Class II highway 0 Class III highway

Terrain 0 Level 0 Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *13%*

% Trucks and Buses , P_T *6 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *4*/mi

Analysis direction vol., V_d *770*veh/h

Opposing direction vol., V_o *357*veh/h

Shoulder width ft *0.0*

Lane Width ft *12.0*

Segment Length mi *1.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.3*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.994*	*0.982*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*842*	*395*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*60.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*4.2 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*1.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.3 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*54.8 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*43.9 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.0*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*1.000*	*0.994*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*837*	*390*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*67.1*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.9*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*77.3*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.49*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*

Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*80.1*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*837.0*
Effective width, Wv (Eq. 15-29) ft	*12.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.06*
Bicycle level of service (Exhibit 15-4)	*F*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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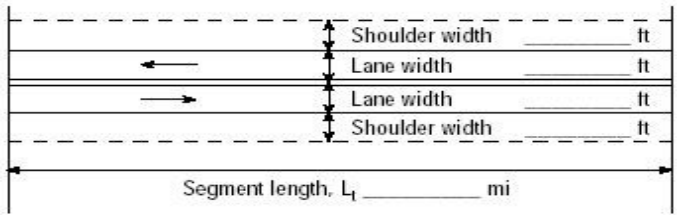
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*D. Draper*	Highway / Direction of Travel	*US 30*
Agency or Company	*HEI*	From/To	*IL 47 to Gordon - EB - PM*
Date Performed	*1/18/2013*	Jurisdiction	*IDOT*
Analysis Time Period	*Existing*	Analysis Year	*2012*

Project Description: *US 30 from IL 47 to IL 31*

Input Data



0 Class I highway 0 Class II highway 0 Class III highway

Terrain 0 Level 0 Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *13%*

% Trucks and Buses , P_T *6 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *4*/mi

Analysis direction vol., V_d *625*veh/h

Opposing direction vol., V_o *464*veh/h

Shoulder width ft *0.0*

Lane Width ft *12.0*

Segment Length mi *1.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.994*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*683*	*510*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*60.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*4.2 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*1.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.1 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*54.8 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*44.5 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*1.000*	*1.000*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*679*	*504*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*61.7*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*19.4*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*72.8*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.40*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*

Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*81.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*679.3*
Effective width, Wv (Eq. 15-29) ft	*12.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.95*
Bicycle level of service (Exhibit 15-4)	*F*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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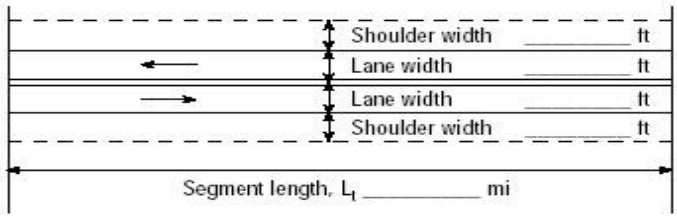
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*D. Draper*	Highway / Direction of Travel	*US 30*
Agency or Company	*HEI*	From/To	*IL 47 to Gordon - WB - PM*
Date Performed	*1/18/2013*	Jurisdiction	*IDOT*
Analysis Time Period	*Existing*	Analysis Year	*2012*

Project Description: *US 30 from IL 47 to IL 31*

Input Data



0 Class I highway 0 Class II highway 0 Class III highway

Terrain 0 Level 0 Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *13%*

% Trucks and Buses , P_T *6 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *4*/mi

Analysis direction vol., V_d *464*veh/h

Opposing direction vol., V_o *625*veh/h

Shoulder width ft *0.0*

Lane Width ft *12.0*

Segment Length mi *1.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.994*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*510*	*683*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*60.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*4.2 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*1.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.7 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*54.8 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*44.8 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*	*1.000*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*504*	*679*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*54.0*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*19.4*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*62.3*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.40*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*

Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*81.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*504.3*
Effective width, Wv (Eq. 15-29) ft	*12.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.80*
Bicycle level of service (Exhibit 15-4)	*F*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
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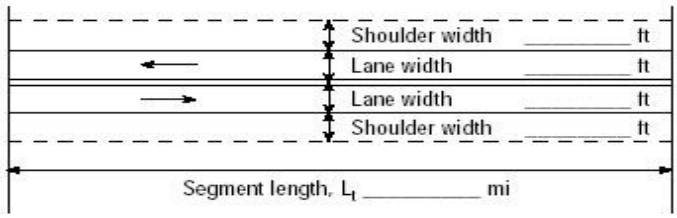
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*D. Draper*	Highway / Direction of Travel	*US 30*
Agency or Company	*HEI*	From/To	*Gordon to Griffin - EB - AM*
Date Performed	*1/18/2013*	Jurisdiction	*IDOT*
Analysis Time Period	*Existing*	Analysis Year	*2012*

Project Description: *US 30 from IL 47 to IL 31*

Input Data



0 Class I highway 0 Class II highway 0 Class III highway

Terrain 0 Level 0 Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *66%*

% Trucks and Buses , P_T *5 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *3*/mi

Analysis direction vol., V_d *810*veh/h

Opposing direction vol., V_o *426*veh/h

Shoulder width ft *0.0*

Lane Width ft *12.0*

Segment Length mi *1.4*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.0*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*1.000*	*0.990*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*880*	*468*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*60.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*4.2 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*0.8 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*2.2 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*55.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*42.4 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*1.000*	*1.000*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*880*	*463*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*68.8*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*24.3*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*84.7*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.52*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*

Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*77.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*880.4*
Effective width, Wv (Eq. 15-29) ft	*12.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.77*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
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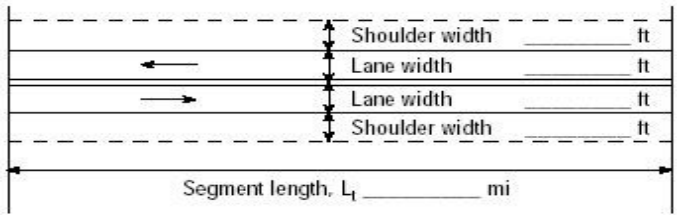
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*D. Draper*	Highway / Direction of Travel	*US 30*
Agency or Company	*HEI*	From/To	*Gordon to Griffin - WB - AM*
Date Performed	*1/18/2013*	Jurisdiction	*IDOT*
Analysis Time Period	*Existing*	Analysis Year	*2012*

Project Description: *US 30 from IL 47 to IL 31*

Input Data



0 Class I highway 0 Class II highway 0 Class III highway

Terrain 0 Level 0 Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *66%*

% Trucks and Buses , P_T *5 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *3*/mi

Analysis direction vol., V_d *426*veh/h

Opposing direction vol., V_o *810*veh/h

Shoulder width ft *0.0*

Lane Width ft *12.0*

Segment Length mi *1.4*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.990*	*1.000*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*468*	*880*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*60.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*4.2 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*0.8 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.0 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*55.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*43.6 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*1.000*	*1.000*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*463*	*880*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*53.8*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*24.3*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*62.2*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.52*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*

Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*79.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*463.0*
Effective width, Wv (Eq. 15-29) ft	*12.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.44*
Bicycle level of service (Exhibit 15-4)	*E*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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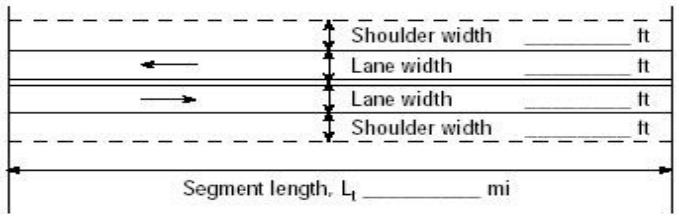
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*D. Draper*	Highway / Direction of Travel	*US 30*
Agency or Company	*HEI*	From/To	*Gordon to Griffin - EB - PM*
Date Performed	*1/18/2013*	Jurisdiction	*IDOT*
Analysis Time Period	*Existing*	Analysis Year	*2012*

Project Description: *US 30 from IL 47 to IL 31*

Input Data



0 Class I highway 0 Class II highway 0 Class III highway

Terrain 0 Level 0 Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *66%*

% Trucks and Buses , P_T *5 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *3*/mi

Analysis direction vol., V_d *589*veh/h

Opposing direction vol., V_o *727*veh/h

Shoulder width ft *0.0*

Lane Width ft *12.0*

Segment Length mi *1.4*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.995*	*0.995*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*643*	*794*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*60.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*4.2 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*0.8 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.1 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*55.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*42.8 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*1.000*	*1.000*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*640*	*790*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*62.1*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*25.6*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*73.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.46*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*

Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*77.7*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*640.2*
Effective width, Wv (Eq. 15-29) ft	*12.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.61*
Bicycle level of service (Exhibit 15-4)	*F*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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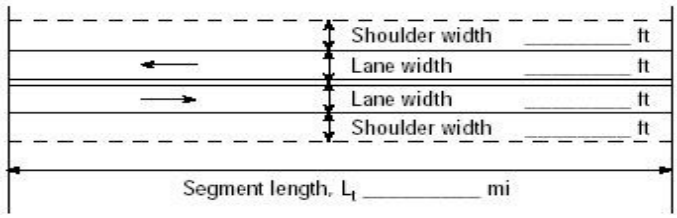
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*D. Draper*	Highway / Direction of Travel	*US 30*
Agency or Company	*HEI*	From/To	*Gordon to Griffin - WB - PM*
Date Performed	*1/18/2013*	Jurisdiction	*IDOT*
Analysis Time Period	*Existing*	Analysis Year	*2012*

Project Description: *US 30 from IL 47 to IL 31*

Input Data



0 Class I highway 0 Class II highway 0 Class III highway

Terrain 0 Level 0 Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *66%*

% Trucks and Buses , P_T *5 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *3*/mi

Analysis direction vol., V_d *727*veh/h

Opposing direction vol., V_o *589*veh/h

Shoulder width ft *0.0*

Lane Width ft *12.0*

Segment Length mi *1.4*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.995*	*0.995*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*794*	*643*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*60.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*4.2 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*0.8 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.5 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*55.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*42.4 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*1.000*	*1.000*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*790*	*640*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*67.0*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*25.6*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*81.1*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.46*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*

Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*76.9*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*790.2*
Effective width, Wv (Eq. 15-29) ft	*12.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.72*
Bicycle level of service (Exhibit 15-4)	*F*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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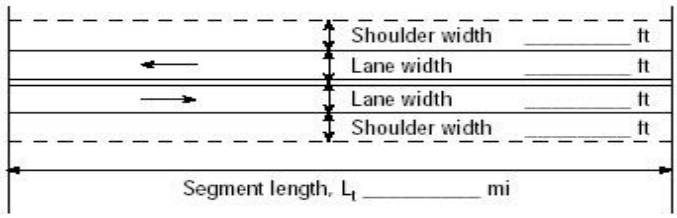
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*D. Draper*	Highway / Direction of Travel	*US 30*
Agency or Company	*HEI*	From/To	*HSMN/BSLC to IL 31 - EB - AM*
Date Performed	*1/18/2013*	Jurisdiction	*IDOT*
Analysis Time Period	*Existing*	Analysis Year	*2012*

Project Description: *US 30 from IL 47 to IL 31*

Input Data



0 Class I highway 0 Class II highway 0 Class III highway

Terrain 0 Level 0 Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *69%*

% Trucks and Buses , P_T *5 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *4*/mi

Analysis direction vol., V_d *1434*veh/h

Opposing direction vol., V_o *820*veh/h

Shoulder width ft *0.0*

Lane Width ft *12.0*

Segment Length mi *1.0*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*	*1.000*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*1559*	*891*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*60.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*4.2 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*1.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.0 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*54.8 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*34.8 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*	*1.000*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*1559*	*891*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*87.9*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*12.2*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*95.7*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.92*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*

Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*63.5*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1558.7*
Effective width, Wv (Eq. 15-29) ft	*12.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.06*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*D. Draper*	Highway / Direction of Travel	*US 30*
Agency or Company	*HEI*	From/To	*HSMN/BSLC to IL 31 - WB - AM*
Date Performed	*1/18/2013*	Jurisdiction	*IDOT*
Analysis Time Period	*Existing*	Analysis Year	*2012*

Project Description: *US 30 from IL 47 to IL 31*

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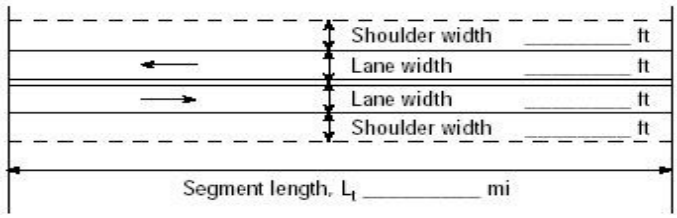

0 Class I highway 0 Class II highway 0 Class III highway

Terrain 0 Level 0 Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *69%*

% Trucks and Buses , P_T *5 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *4*/mi

Analysis direction vol., V_d *820*veh/h

Opposing direction vol., V_o *1434*veh/h

Shoulder width ft *0.0*

Lane Width ft *12.0*

Segment Length mi *1.0*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*	*1.000*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*891*	*1559*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*60.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*4.2 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*1.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.6 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*54.8 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*35.2 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*	*1.000*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*891*	*1559*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*79.4*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*12.2*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*83.8*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.92*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*

Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*64.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*891.3*
Effective width, Wv (Eq. 15-29) ft	*12.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.78*
Bicycle level of service (Exhibit 15-4)	*F*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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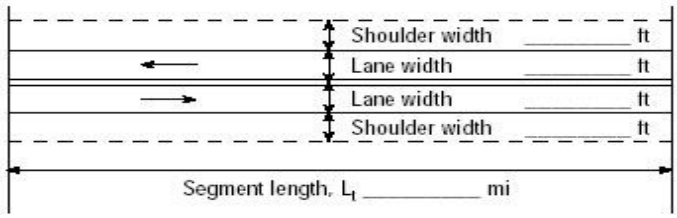
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*D. Draper*	Highway / Direction of Travel	*US 30*
Agency or Company	*HEI*	From/To	*HSMN/BSLC to IL 31 - EB - PM*
Date Performed	*1/18/2013*	Jurisdiction	*IDOT*
Analysis Time Period	*Existing*	Analysis Year	*2012*

Project Description: *US 30 from IL 47 to IL 31*

Input Data



0 Class I highway 0 Class II highway 0 Class III highway

Terrain 0 Level 0 Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *69%*

% Trucks and Buses , P_T *5 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *4*/mi

Analysis direction vol., V_d *1094*veh/h

Opposing direction vol., V_o *1402*veh/h

Shoulder width ft *0.0*

Lane Width ft *12.0*

Segment Length mi *1.0*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*1.000*	*1.000*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1189*	*1524*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*60.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*4.2 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*1.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.6 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*54.8 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*33.1 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*1.000*	*1.000*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1189*	*1524*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*86.2*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*9.5*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*90.4*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.90*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*

Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*60.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1189.1*
Effective width, Wv (Eq. 15-29) ft	*12.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.92*
Bicycle level of service (Exhibit 15-4)	*F*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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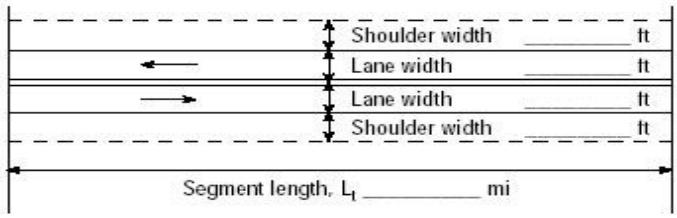
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*D. Draper*	Highway / Direction of Travel	*US 30*
Agency or Company	*HEI*	From/To	*HSMN/BSLC to IL 31 - WB - PM*
Date Performed	*1/18/2013*	Jurisdiction	*IDOT*
Analysis Time Period	*Existing*	Analysis Year	*2012*

Project Description: *US 30 from IL 47 to IL 31*

Input Data



0 Class I highway 0 Class II highway 0 Class III highway

Terrain 0 Level 0 Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *69%*

% Trucks and Buses , P_T *5 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *4*/mi

Analysis direction vol., V_d *1402*veh/h

Opposing direction vol., V_o *1094*veh/h

Shoulder width ft *0.0*

Lane Width ft *12.0*

Segment Length mi *1.0*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*1.000*	*1.000*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1524*	*1189*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*60.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*4.2 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*1.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.8 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*54.8 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*33.0 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*1.000*	*1.000*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1524*	*1189*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*89.8*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*9.5*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*95.1*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.90*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*

Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*60.1*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1523.9*
Effective width, Wv (Eq. 15-29) ft	*12.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.05*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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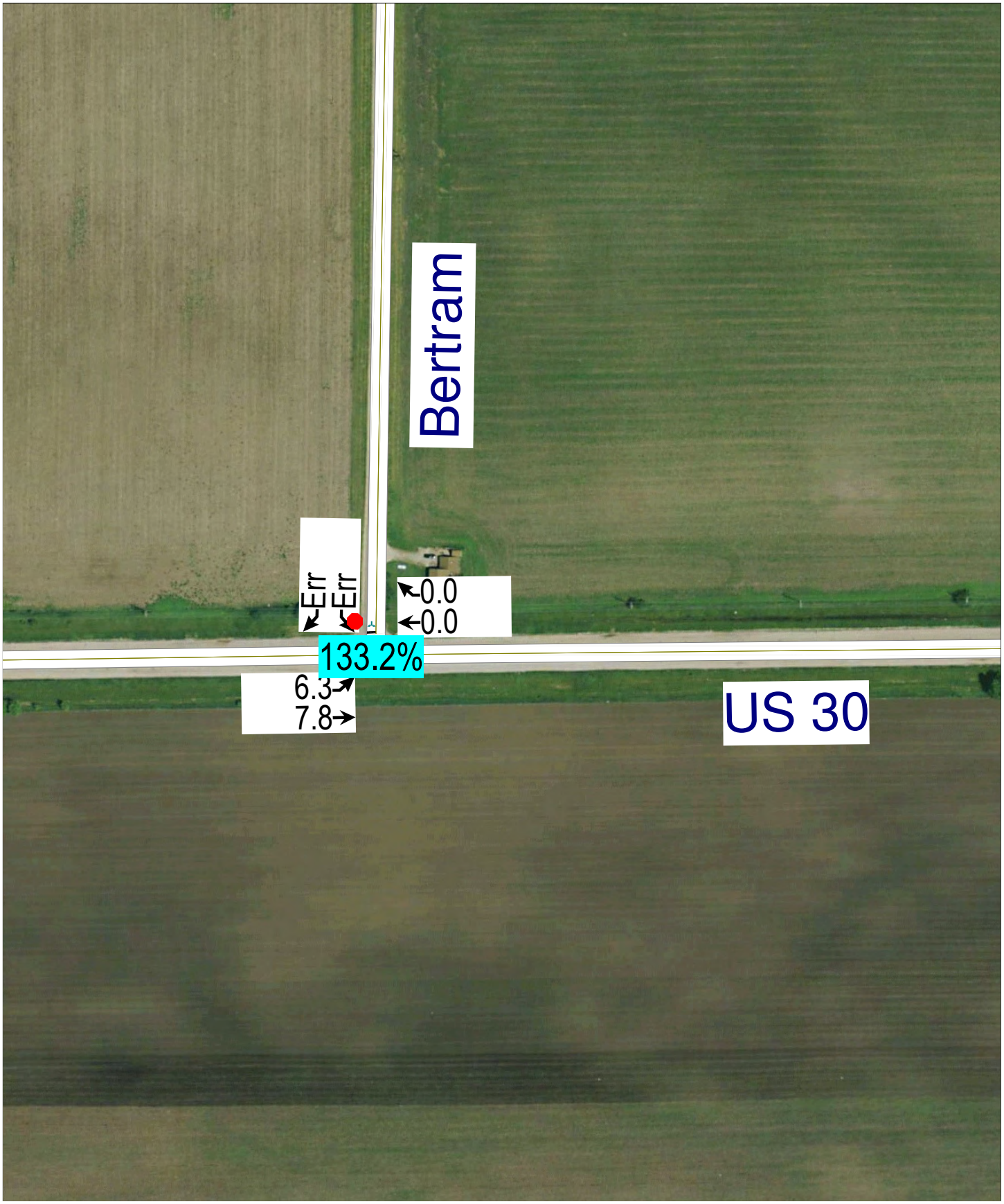
FUTURE (NO-BUILD) CONDITIONS
IN YEAR 2040 – SYNCHRO REPORTS
FOR AM AND PM PEAK HOURS
AT US 30 INTERSECTIONS

Appendix C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	59	532	959	1066	167	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	59	532	959	1066	167	25
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2025				2142	1492
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2025				2142	1492
tC, single (s)	4.1				6.4	6.4
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.5
p0 queue free %	79				0	82
cM capacity (veh/h)	284				42	140

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	591	2025	192
Volume Left	59	0	167
Volume Right	0	1066	25
cSH	284	1700	46
Volume to Capacity	0.21	1.19	4.19
Queue Length 95th (ft)	19	0	Err
Control Delay (s)	7.8	0.0	Err
Lane LOS	A		F
Approach Delay (s)	7.8	0.0	Err
Approach LOS			F

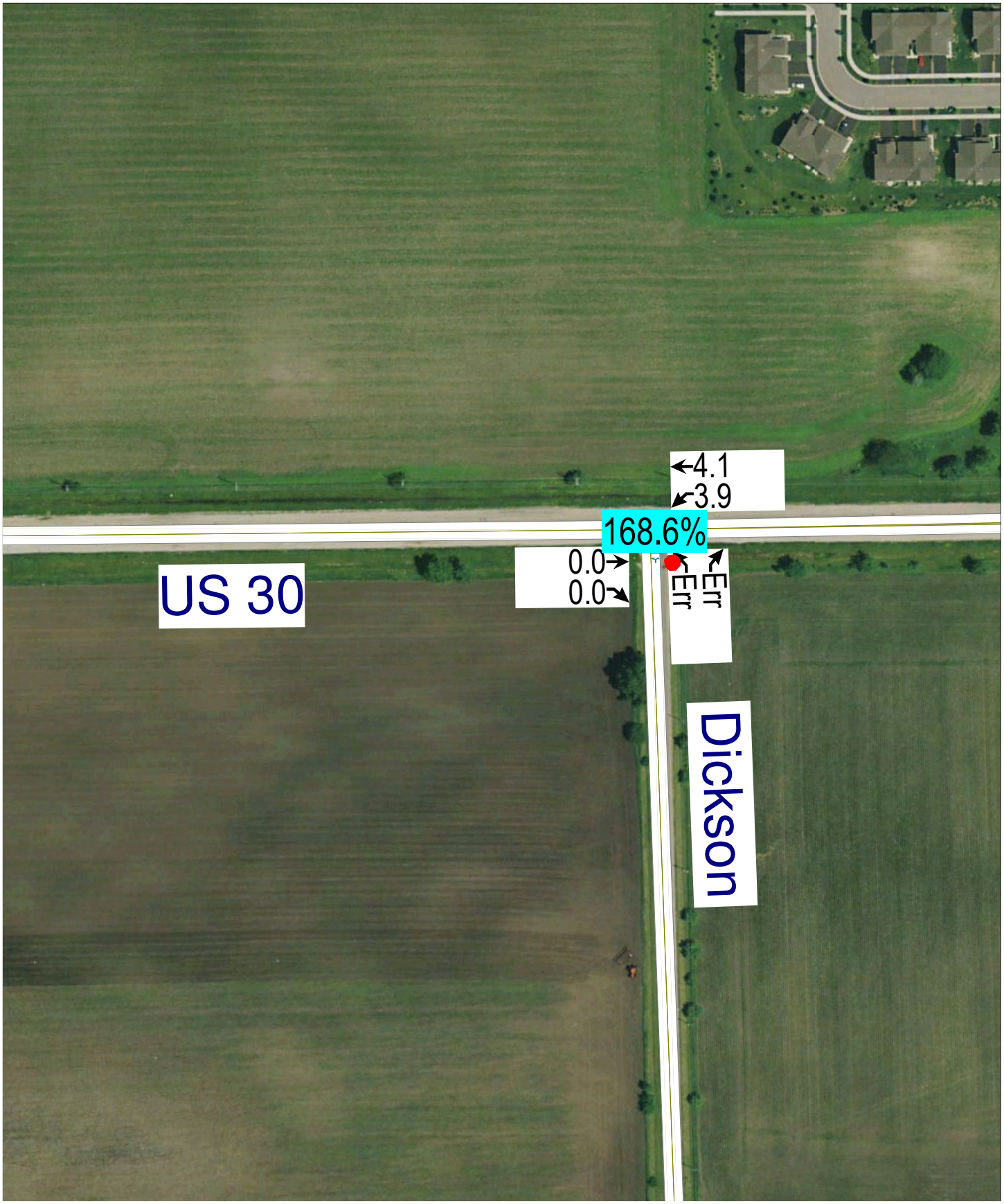
Intersection Summary			
Average Delay	685.3		
Intersection Capacity Utilization	133.2%	ICU Level of Service	H
Analysis Period (min)	15		


Bertram
Err
Err
0.0
0.0
133.2%
6.3
7.8
US 30

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	640	33	64	1425	688	103
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	640	33	64	1425	688	103
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			673		2210	656
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			673		2210	656
tC, single (s)			4.1		6.4	6.3
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			93		0	77
cM capacity (veh/h)			927		46	453

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	673	1489	791
Volume Left	0	64	688
Volume Right	33	0	103
cSH	1700	927	52
Volume to Capacity	0.40	0.07	15.24
Queue Length 95th (ft)	0	6	Err
Control Delay (s)	0.0	4.1	Err
Lane LOS		A	F
Approach Delay (s)	0.0	4.1	Err
Approach LOS			F

Intersection Summary			
Average Delay	2680.5		
Intersection Capacity Utilization	168.6%	ICU Level of Service	H
Analysis Period (min)	15		


4.1
3.9
168.6%
0.0
0.0
Err
Err
US 30
Dickson

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1193	8	31	754	0	226
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1193	8	31	754	0	226
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1201		2009	1193
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1201		2009	1193
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		100	2
cM capacity (veh/h)			588		62	230

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	1193	8	31	754	226
Volume Left	0	0	31	0	0
Volume Right	0	8	0	0	226
cSH	1700	1700	588	1700	230
Volume to Capacity	0.70	0.00	0.05	0.44	0.98
Queue Length 95th (ft)	0	0	4	0	224
Control Delay (s)	0.0	0.0	11.5	0.0	100.2
Lane LOS			B		F
Approach Delay (s)	0.0		0.5		100.2
Approach LOS					F

Intersection Summary			
Average Delay	10.4		
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		

0.0
11.5
83.4%
0.0
0.0
100.2
US 30
Prescott

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1243	14	92	657	65	525
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1243	14	92	657	65	525
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1257		2084	1243
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1257		2084	1243
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			83		0	0
cM capacity (veh/h)			537		48	212

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	1243	14	92	657	65	525
Volume Left	0	0	92	0	65	0
Volume Right	0	14	0	0	0	525
cSH	1700	1700	537	1700	48	212
Volume to Capacity	0.73	0.01	0.17	0.39	1.35	2.48
Queue Length 95th (ft)	0	0	15	0	153	1092
Control Delay (s)	0.0	0.0	13.1	0.0	388.2	714.9
Lane LOS			B		F	F
Approach Delay (s)	0.0		1.6		678.9	
Approach LOS					F	

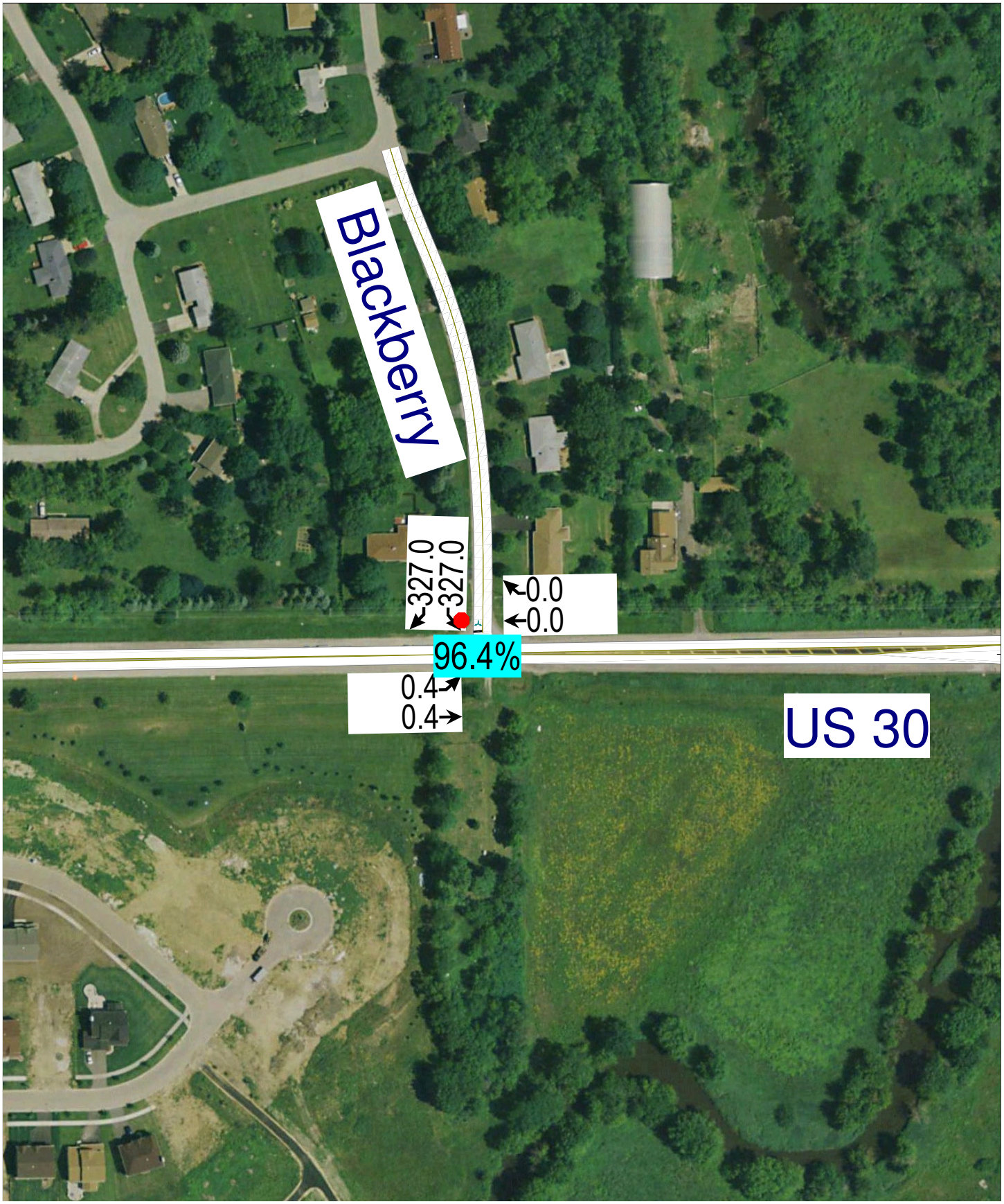
Intersection Summary			
Average Delay	154.8		
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		

0.0
13.1
104.6%
0.0
0.0
714.9
388.2
US 30
Lakewood Creek

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	2	1611	601	5	22	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	1611	601	5	22	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1028			
pX, platoon unblocked	0.72				0.72	0.72
vC, conflicting volume	606				2218	604
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	261				2496	257
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				6	98
cM capacity (veh/h)	949				23	567

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1613	606	31
Volume Left	2	0	22
Volume Right	0	5	9
cSH	949	1700	32
Volume to Capacity	0.00	0.36	0.96
Queue Length 95th (ft)	0	0	83
Control Delay (s)	0.4	0.0	327.0
Lane LOS	A		F
Approach Delay (s)	0.4	0.0	327.0
Approach LOS			F

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	96.4%	ICU Level of Service	F
Analysis Period (min)	15		


Blackberry
327.0
327.0
0.0
0.0
96.4%
0.4
0.4
US 30

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	2249	59	132	1107	0	336
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2249	59	132	1107	0	336
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1124					
pX, platoon unblocked			0.37		0.37	0.37
vC, conflicting volume			2308		3620	2249
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			3671		7197	3513
tC, single (s)			4.2		6.4	6.3
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.4
p0 queue free %			0		0	0
cM capacity (veh/h)			21		0	3

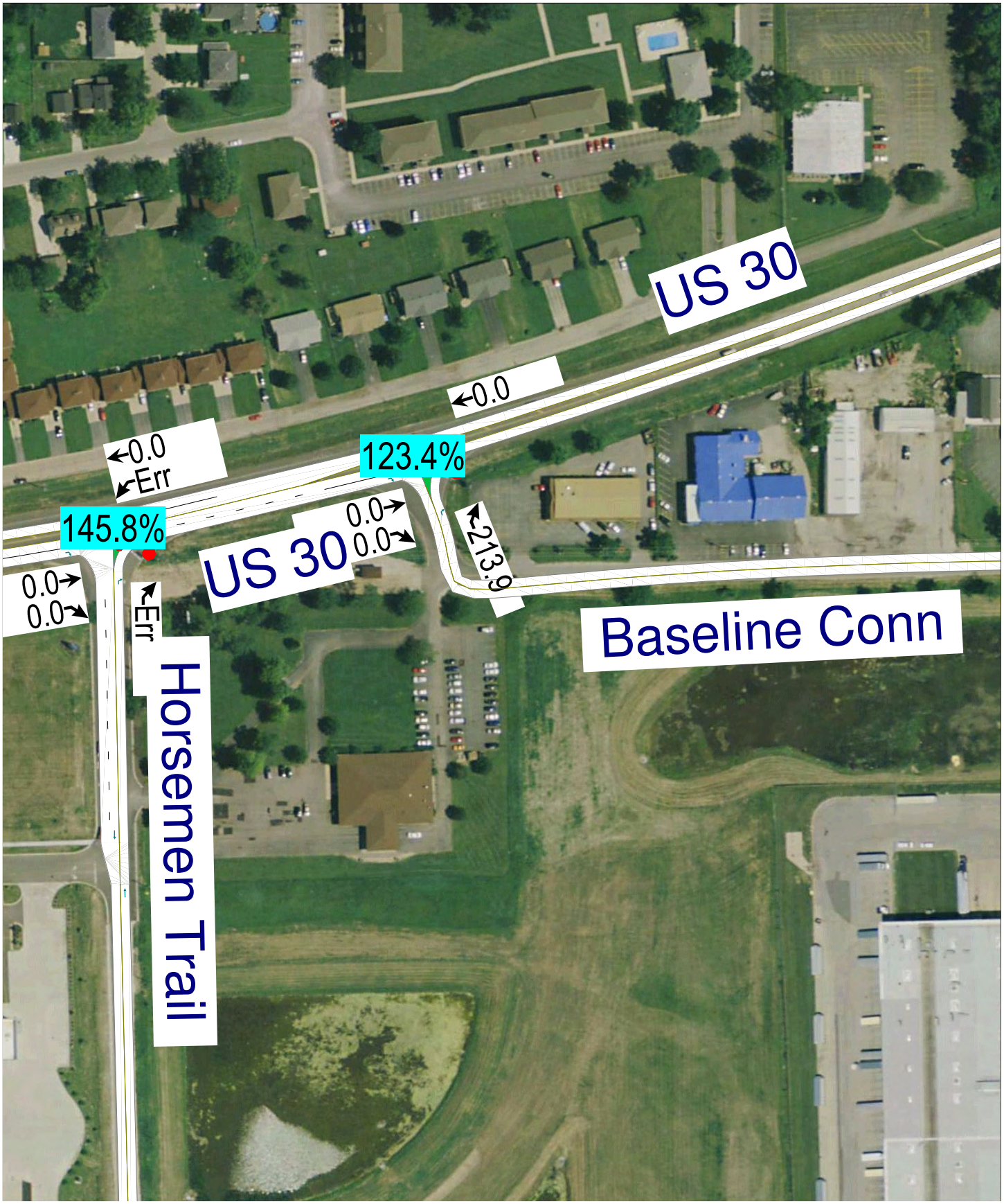
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	2249	59	132	1107	336
Volume Left	0	0	132	0	0
Volume Right	0	59	0	0	336
cSH	1700	1700	21	1700	3
Volume to Capacity	1.32	0.03	6.33	0.65	112.32
Queue Length 95th (ft)	0	0	Err	0	Err
Control Delay (s)	0.0	0.0	2763.7	0.0	Err
Lane LOS			F		F
Approach Delay (s)	0.0		294.4		Err
Approach LOS					F

Intersection Summary			
Average Delay	959.2		
Intersection Capacity Utilization	145.8%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	2150	38	0	1408	0	58
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2150	38	0	1408	0	58
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			2188		3558	2150
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			2188		3558	2150
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	5
cM capacity (veh/h)			242		6	61

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	2150	38	1408	58
Volume Left	0	0	0	0
Volume Right	0	38	0	58
cSH	1700	1700	1700	61
Volume to Capacity	1.26	0.02	0.83	0.95
Queue Length 95th (ft)	0	0	0	112
Control Delay (s)	0.0	0.0	0.0	213.9
Lane LOS				F
Approach Delay (s)	0.0		0.0	213.9
Approach LOS				F

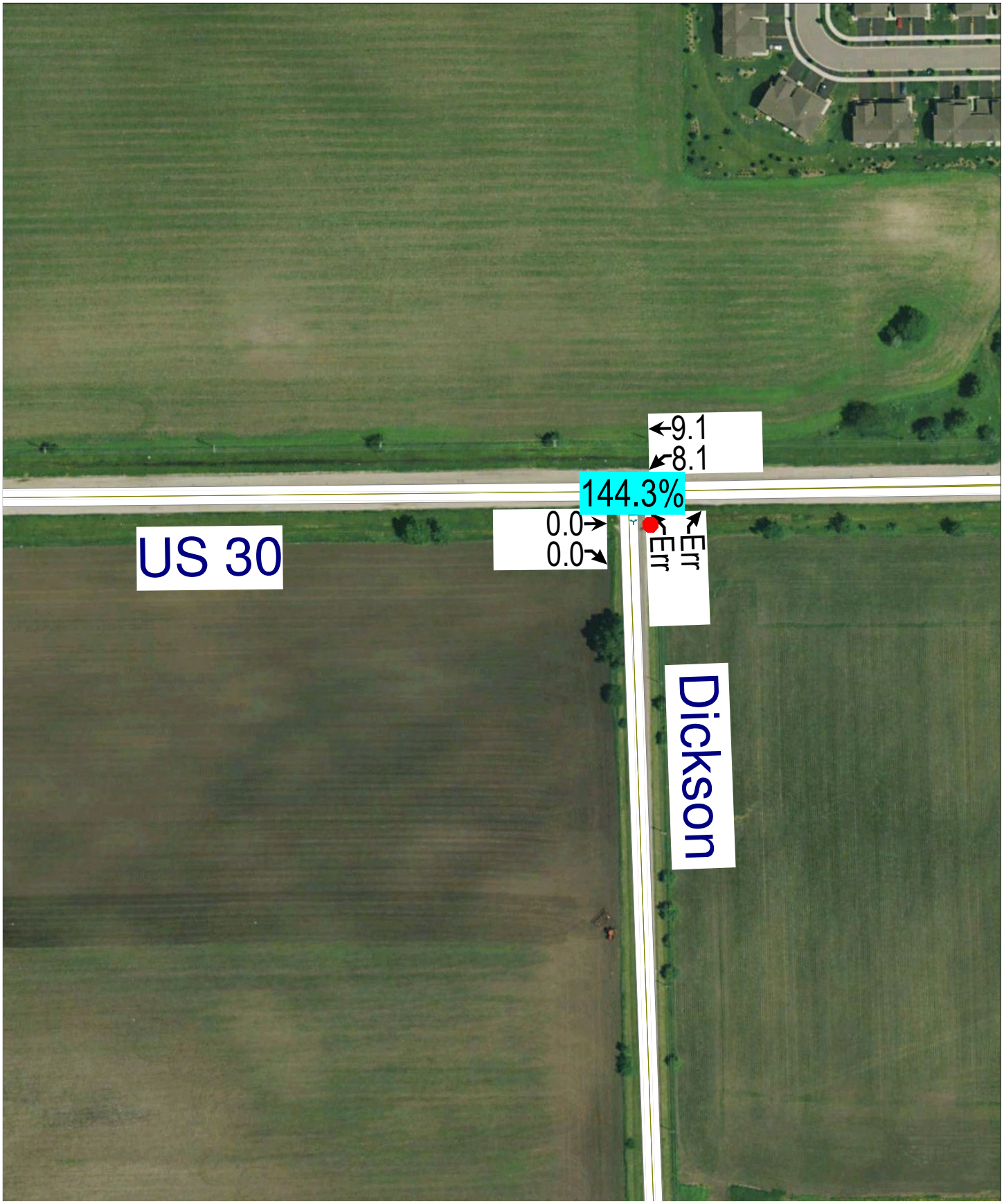
Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	123.4%	ICU Level of Service	H
Analysis Period (min)	15		


US 30
0.0
0.0
Err
123.4%
145.8%
US 30
0.0
0.0
213.9
0.0
0.0
Err
Baseline Conn
Horsemen Trail

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	5	718	828	105	1173	176
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	718	828	105	1173	176
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	933				1608	880
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	933				1608	880
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				0	50
cM capacity (veh/h)	742				116	349

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	723	933	1349
Volume Left	5	0	1173
Volume Right	0	105	176
cSH	742	1700	127
Volume to Capacity	0.01	0.55	10.64
Queue Length 95th (ft)	1	0	Err
Control Delay (s)	0.2	0.0	Err
Lane LOS	A		F
Approach Delay (s)	0.2	0.0	Err
Approach LOS			F

Intersection Summary			
Average Delay	4488.8		
Intersection Capacity Utilization	132.3%	ICU Level of Service	H
Analysis Period (min)	15		


9.1
8.1
144.3%
0.0
0.0
Err
Err
US 30
Dickson

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1311	301	100	834	79	92
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1311	301	100	834	79	92
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1612		2496	1462
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1612		2496	1462
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			75		0	41
cM capacity (veh/h)			405		24	156

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	1612	934	171
Volume Left	0	100	79
Volume Right	301	0	92
cSH	1700	405	45
Volume to Capacity	0.95	0.25	3.83
Queue Length 95th (ft)	0	24	Err
Control Delay (s)	0.0	9.1	Err
Lane LOS		A	F
Approach Delay (s)	0.0	9.1	Err
Approach LOS			F

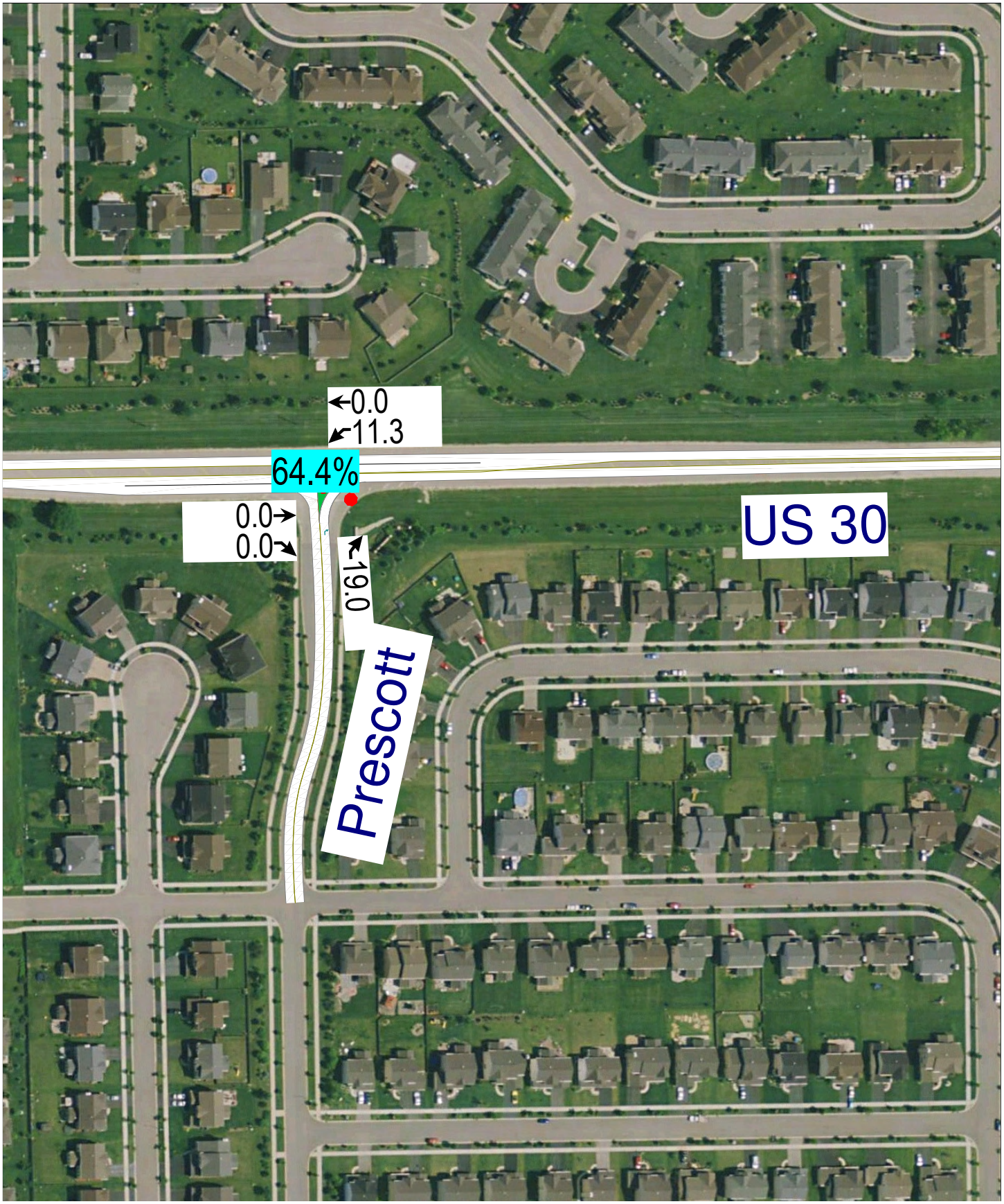
Intersection Summary			
Average Delay	632.4		
Intersection Capacity Utilization	144.3%	ICU Level of Service	H
Analysis Period (min)	15		

Bertram
Err
Err
0.0
0.0
132.3%
0.1
0.2
US 30

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	927	21	162	1145	0	72
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	927	21	162	1145	0	72
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			948		2396	927
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			948		2396	927
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			78		100	78
cM capacity (veh/h)			732		29	328

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	927	21	162	1145	72
Volume Left	0	0	162	0	0
Volume Right	0	21	0	0	72
cSH	1700	1700	732	1700	328
Volume to Capacity	0.55	0.01	0.22	0.67	0.22
Queue Length 95th (ft)	0	0	21	0	21
Control Delay (s)	0.0	0.0	11.3	0.0	19.0
Lane LOS			B		C
Approach Delay (s)	0.0		1.4		19.0
Approach LOS					C

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		


0.0
11.3
64.4%
0.0
0.0
19.0
US 30
Prescott

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1056	52	441	1486	15	332
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1056	52	441	1486	15	332
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1108		3424	1056
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1108		3424	1056
tC, single (s)			4.1		6.5	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.3
p0 queue free %			30		0	0
cM capacity (veh/h)			634		2	275

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	1056	52	441	1486	15	332
Volume Left	0	0	441	0	15	0
Volume Right	0	52	0	0	0	332
cSH	1700	1700	634	1700	2	275
Volume to Capacity	0.62	0.03	0.70	0.87	6.48	1.21
Queue Length 95th (ft)	0	0	139	0	Err	382
Control Delay (s)	0.0	0.0	22.6	0.0	Err	161.1
Lane LOS			C		F	F
Approach Delay (s)	0.0		5.2		586.3	
Approach LOS					F	

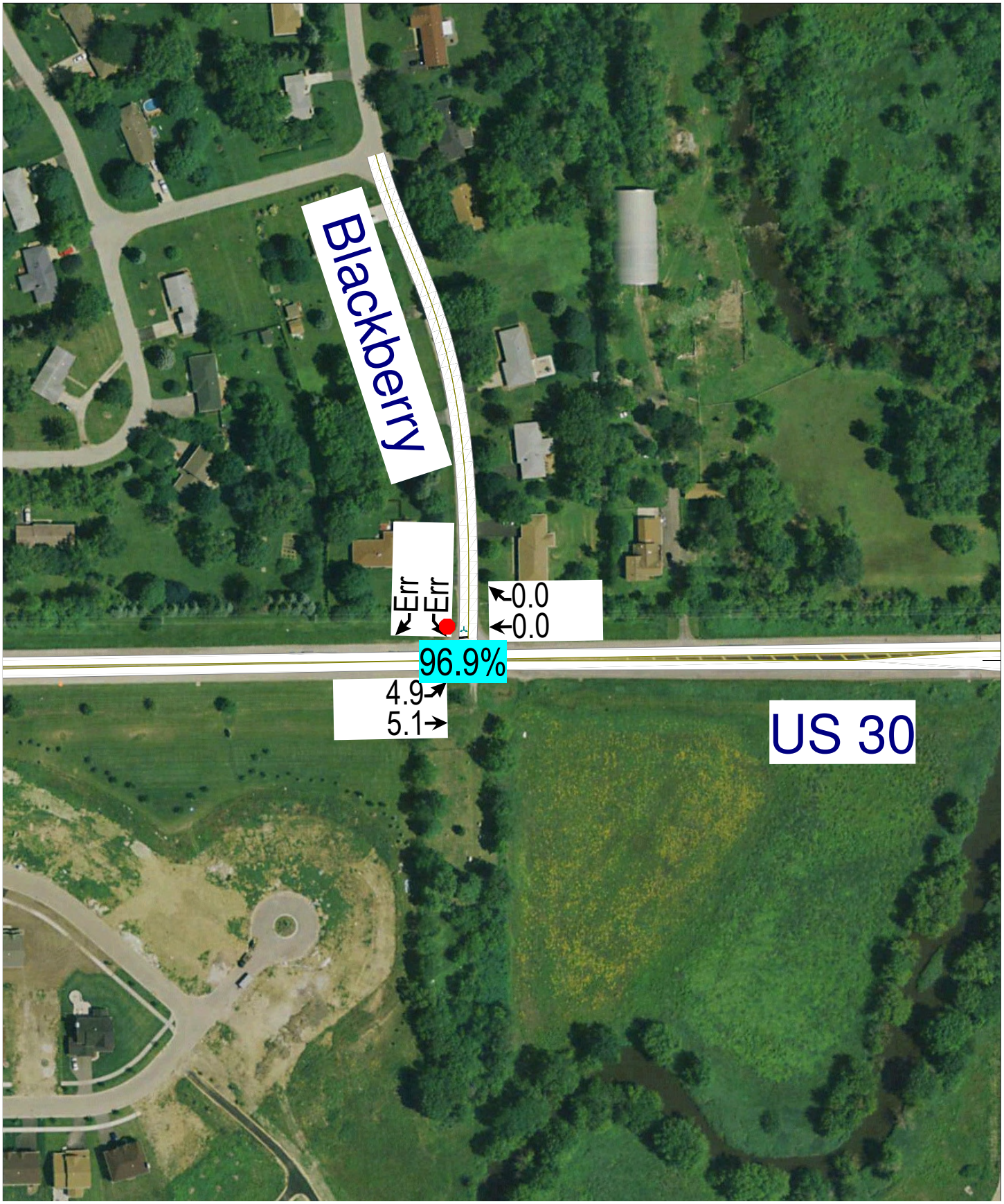
Intersection Summary			
Average Delay	63.1		
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		

Lakewood Creek
161.1
Err
0.0
0.0
93.3%
0.0
22.6
US 30

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	7	1211	1634	15	13	4
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	7	1211	1634	15	13	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1028			
pX, platoon unblocked	0.44				0.44	0.44
vC, conflicting volume	1649				2866	1642
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1835				4572	1818
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				0	91
cM capacity (veh/h)	150				1	44

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1218	1649	17
Volume Left	7	0	13
Volume Right	0	15	4
cSH	150	1700	1
Volume to Capacity	0.05	0.97	22.56
Queue Length 95th (ft)	4	0	Err
Control Delay (s)	5.1	0.0	Err
Lane LOS	A		F
Approach Delay (s)	5.1	0.0	Err
Approach LOS			F

Intersection Summary			
Average Delay	61.1		
Intersection Capacity Utilization	96.9%	ICU Level of Service	F
Analysis Period (min)	15		


Blackberry
Err
Err
0.0
0.0
96.9%
4.9
5.1
US 30

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1608	162	294	1814	0	379
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1608	162	294	1814	0	379
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1124					
pX, platoon unblocked			0.43		0.43	0.43
vC, conflicting volume			1770		4010	1608
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			2126		7315	1750
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			0		0	0
cM capacity (veh/h)			110		0	46

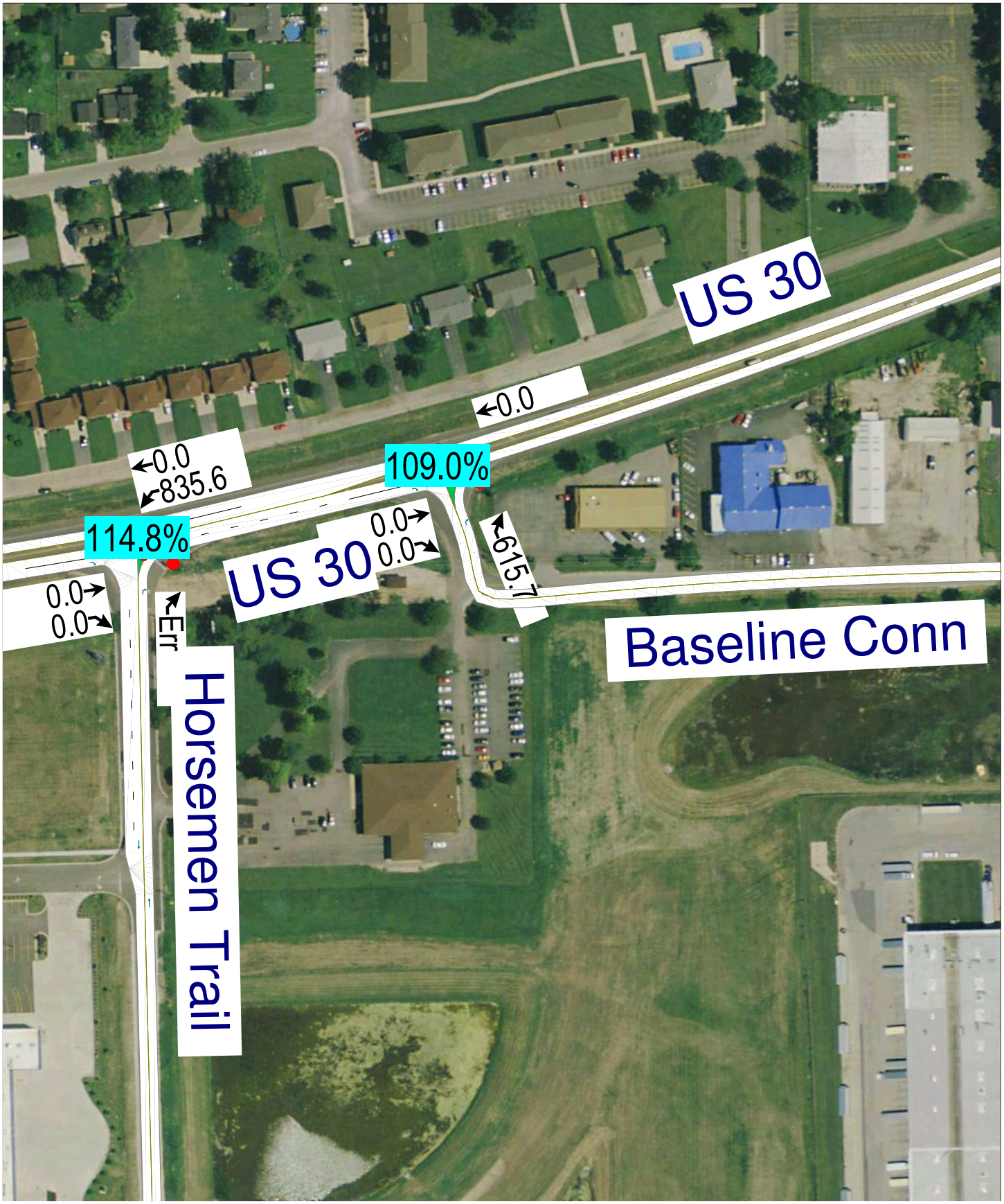
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	1608	162	294	1814	379
Volume Left	0	0	294	0	0
Volume Right	0	162	0	0	379
cSH	1700	1700	110	1700	46
Volume to Capacity	0.95	0.10	2.66	1.07	8.17
Queue Length 95th (ft)	0	0	676	0	Err
Control Delay (s)	0.0	0.0	835.6	0.0	Err
Lane LOS			F		F
Approach Delay (s)	0.0		116.5		Err
Approach LOS					F

Intersection Summary			
Average Delay	947.9		
Intersection Capacity Utilization	114.8%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1605	35	0	1408	0	288
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1605	35	0	1408	0	288
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1640		3013	1605
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1640		3013	1605
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	0
cM capacity (veh/h)			400		15	131

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	1605	35	1408	288
Volume Left	0	0	0	0
Volume Right	0	35	0	288
cSH	1700	1700	1700	131
Volume to Capacity	0.94	0.02	0.83	2.19
Queue Length 95th (ft)	0	0	0	602
Control Delay (s)	0.0	0.0	0.0	615.7
Lane LOS				F
Approach Delay (s)	0.0		0.0	615.7
Approach LOS				F

Intersection Summary			
Average Delay	53.2		
Intersection Capacity Utilization	109.0%	ICU Level of Service	G
Analysis Period (min)	15		


US 30
0.0
0.0
835.6
109.0%
114.8%
US 30
0.0
0.0
615.7
0.0
0.0
Err
Horsemen Trail
Baseline Conn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	101	578	7	45	762	105	408	45	204	305	21	366
Movement Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj. Factor (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj. Factors	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Sat. Flow Rate, veh/h/ln	1638	1792	1429	1583	1759	1792	1900	1794	1794	1900	1851	1851
Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Lane Assignment												
Capacity, veh/h	160	841	570	265	799	692	415	119	101	392	76	64
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion Arriving On Green	0.04	0.47	0.47	0.03	0.45	0.45	0.19	0.07	0.07	0.16	0.04	0.04
Lane Group Delay, s/veh	30.7	24.9	13.9	16.9	48.2	16.1	75.4	45.8	521.7	46.9	47.6	2195.2
Lane Group LOS	C	C	B	B	D	B	E	D	F	D	D	F
Approach Volume, veh/h		686			912			657			692	
Approach Delay, s/veh		25.7			42.9			211.9			1183.2	
Approach LOS		C			D			F			F	

Timer:	1	2	3	4	5	6	7	8
Assigned Phase	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	4.0	1.1	3.0	1.1	4.0
Phase Duration (G+Y+Rc), s	9.52	52.98	25.00	10.50	11.00	51.50	22.50	13.00
Change Period (Y+Rc), s	7.00	7.00	6.50	6.50	7.00	7.00	6.50	6.50
Max. Allowable Headway (MAH), s	3.70	0.02	3.73	0.30	3.69	0.02	3.73	0.30
Maximum Green Setting (Gmax), s	4.00	44.50	18.50	16.00	4.00	44.50	16.00	18.50
Max. Queue Clearance Time (g_c+I1), s	3.57	0.00	20.50	0.00	5.32	0.00	17.81	0.00
Green Extension Time (g_e), s	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Probability of Phase Call (p_c)	0.706	1.000	1.000	1.000	0.936	1.000	1.000	1.000
Probability of Max Out (p_x)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000

Left-Turn Movement Data				
Assigned Movement	1	3	5	7
Mvmt. Sat Flow, veh/h	1507.94	1809.52	1559.93	1809.52

Through Movement Data				
Assigned Movement	2	4	6	8
Mvmt. Sat Flow, veh/h	1214.29	1850.93	1523.58	1794.29

Right-Turn Movement Data				
Assigned Movement	12	14	16	18
Mvmt. Sat Flow, veh/h	1214.29	1573.29	1523.58	1525.15

Left Lane Group Data								
Assigned Movement	1	0	3	0	5	0	7	0
Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Group	1	0	1	0	1	0	1	0
Group Volume (v), veh/h	45.0	0.0	408.0	0.0	101.0	0.0	305.0	0.0
Group Sat. Flow (s), veh/h/ln	1507.9	0.0	1809.5	0.0	1559.9	0.0	1809.5	0.0
Queue Serve Time (g_s), s	1.6	0.0	18.5	0.0	3.3	0.0	15.8	0.0

Cycle Queue Clear Time (g_c), s	1.6	0.0	18.5	0.0	3.3	0.0	15.8	0.0
Perm LT Sat Flow Rate (s_l), veh/h/ln	707.4	0.0	1012.3	0.0	616.7	0.0	1148.7	0.0
Shared LT Sat Flow (s_sh), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Eff. Green (g_p), s	44.5	0.0	6.5	0.0	46.0	0.0	4.0	0.0
Perm LT Serve Time (g_u), s	21.2	0.0	0.0	0.0	3.6	0.0	2.0	0.0
Perm LT Que Serve Time (g_ps), s	1.6	0.0	0.0	0.0	3.6	0.0	0.7	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion LT Inside Lane (P_L)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Lane Group Capacity (c), veh/h	265.4	0.0	415.1	0.0	159.9	0.0	392.3	0.0
Volume-to-Capacity Ratio (X)	0.170	0.000	0.983	0.000	0.632	0.000	0.777	0.000
Available Capacity (c_a), veh/h	288.2	0.0	415.1	0.0	159.9	0.0	392.3	0.0
Upstream Filter Factor (I)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Uniform Delay (d1), s/veh	16.6	0.0	35.8	0.0	23.0	0.0	37.4	0.0
Incremental Delay (d2), s/veh	0.3	0.0	39.6	0.0	7.8	0.0	9.5	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	16.9	0.0	75.4	0.0	30.7	0.0	46.9	0.0
First-Term Queue (Q1), veh/ln	0.5	0.0	8.9	0.0	1.3	0.0	6.7	0.0
Second-Term Queue (Q2), veh/ln	0.0	0.0	4.6	0.0	0.3	0.0	1.0	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Percentile Back of Queue (Q%), veh/ln	0.5	0.0	13.5	0.0	1.6	0.0	7.8	0.0
Percentile Storage Ratio (RQ%)	0.05	0.00	3.37	0.00	0.23	0.00	0.84	0.00
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Movement	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Group	0	1	0	1	0	1	0	1
Group Volume (v), veh/h	0.0	578.0	0.0	21.0	0.0	762.0	0.0	45.0
Group Sat. Flow (s), veh/h/ln	0.0	1792.5	0.0	1850.9	0.0	1759.3	0.0	1794.3
Queue Serve Time (g_s), s	0.0	24.8	0.0	1.1	0.0	40.9	0.0	2.4
Cycle Queue Clear Time (g_c), s	0.0	24.8	0.0	1.1	0.0	40.9	0.0	2.4
Lane Group Capacity (c), veh/h	0.0	841.0	0.0	75.5	0.0	798.8	0.0	119.0
Volume-to-Capacity Ratio (X)	0.000	0.687	0.000	0.278	0.000	0.954	0.000	0.378
Available Capacity (c_a), veh/h	0.0	841.0	0.0	302.2	0.0	798.8	0.0	338.7
Upstream Filter Factor (I)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	20.4	0.0	45.6	0.0	25.8	0.0	43.8
Incremental Delay (d2), s/veh	0.0	4.6	0.0	2.0	0.0	22.4	0.0	2.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.9	0.0	47.6	0.0	48.2	0.0	45.8
First-Term Queue (Q1), veh/ln	0.0	8.9	0.0	0.5	0.0	14.6	0.0	1.0
Second-Term Queue (Q2), veh/ln	0.0	1.1	0.0	0.0	0.0	5.0	0.0	0.1
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	10.0	0.0	0.5	0.0	19.5	0.0	1.1

Percentile Storage Ratio (RQ%)	0.00	0.10	0.00	0.02	0.00	0.32	0.00	0.03
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Movement	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		T+R
Lanes in Group	0	1	0	1	0	1	0	1
Group Volume (v), veh/h	0.0	7.0	0.0	366.0	0.0	105.0	0.0	204.0
Group Sat. Flow (s), veh/h/ln	0.0	1214.3	0.0	1573.3	0.0	1523.6	0.0	1525.1
Queue Serve Time (g_s), s	0.0	0.3	0.0	4.0	0.0	4.0	0.0	6.5
Cycle Queue Clear Time (g_c), s	0.0	0.3	0.0	4.0	0.0	4.0	0.0	6.5
Prot RT Sat Flow Rate (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff. Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion RT Outside Lane (P_R)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Lane Group Capacity (c), veh/h	0.0	569.7	0.0	64.2	0.0	691.8	0.0	101.2
Volume-to-Capacity Ratio (X)	0.000	0.012	0.000	5.700	0.000	0.152	0.000	2.017
Available Capacity (c_a), veh/h	0.0	569.7	0.0	256.9	0.0	691.8	0.0	287.9
Upstream Filter Factor (I)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	13.9	0.0	47.0	0.0	15.7	0.0	45.8
Incremental Delay (d2), s/veh	0.0	0.0	0.0	2148.2	0.0	0.5	0.0	475.9
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.9	0.0	2195.2	0.0	16.1	0.0	521.7
First-Term Queue (Q1), veh/ln	0.0	0.1	0.0	1.5	0.0	1.3	0.0	2.4
Second-Term Queue (Q2), veh/ln	0.0	0.0	0.0	38.3	0.0	0.1	0.0	13.4
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	0.1	0.0	39.8	0.0	1.4	0.0	15.8
Percentile Storage Ratio (RQ%)	0.00	0.01	0.00	1.27	0.00	0.17	0.00	0.44
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	75.4	0.0	0.0	0.0	25.7
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.5

Intersection Summary	
HCM 2010 Control Delay	344.3
HCM 2010 Level of Service	F

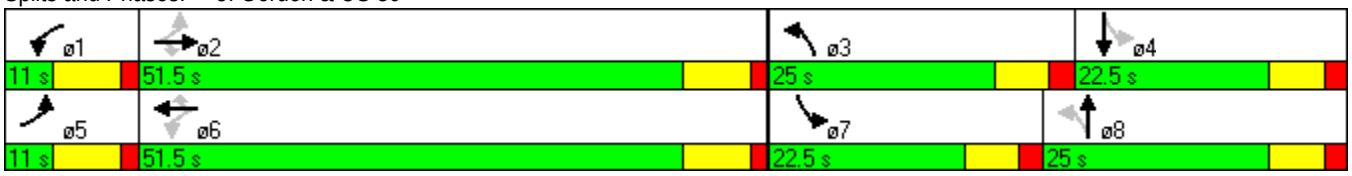
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	101	578	7	45	762	105	408	45	305	21
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0
Minimum Split (s)	11.0	23.0	23.0	11.0	23.0	23.0	10.5	22.5	10.5	22.5
Total Split (s)	11.0	51.5	51.5	11.0	51.5	51.5	25.0	25.0	22.5	22.5
Total Split (%)	10.0%	46.8%	46.8%	10.0%	46.8%	46.8%	22.7%	22.7%	20.5%	20.5%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	50.0	46.8	46.8	48.5	44.5	44.5	34.6	16.1	28.4	12.9
Actuated g/C Ratio	0.47	0.44	0.44	0.45	0.42	0.42	0.32	0.15	0.27	0.12
v/c Ratio	0.86	0.70	0.01	0.21	0.99	0.14	1.07	0.39	0.77	1.10dr
Control Delay	74.2	31.5	0.0	16.3	62.4	0.8	95.6	11.3	42.0	37.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.2	31.5	0.0	16.3	62.4	0.8	95.6	11.3	42.0	37.1
LOS	E	C	A	B	E	A	F	B	D	D
Approach Delay		37.5			53.0			63.6		39.3
Approach LOS		D			D			E		D

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 107
Natural Cycle: 110
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 48.5 — Intersection LOS: D
Intersection Capacity Utilization 100.6% — ICU Level of Service G
Analysis Period (min) 15

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 5: Gordon & US 30



Gordon
100.6%
Gordon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	1934	0	32	679	12	11	2	223	25	0	11
Movement Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj. Factor (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj. Factors	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Sat. Flow Rate, veh/h/ln	1900	1845	0	1545	1810	1357	1900	1900	1792	1900	0	1900
Lanes	1	1	1	1	1	1	1	1	1	1	1	0
Lane Assignment												
Capacity, veh/h	527	1367	0	75	1359	867	88	57	46	126	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion Arriving On Green	0.00	0.74	0.00	0.01	0.75	0.75	0.01	0.03	0.03	0.02	0.00	0.04
Lane Group Delay, s/veh	5.7	208.1	0.0	45.3	7.9	4.2	63.0	63.2	1862.4	61.0	0.0	0.0
Lane Group LOS	A	F		D	A	A	E	E	F	E		
Approach Volume, veh/h		1942			723			236			36	
Approach Delay, s/veh		207.3			9.5			1763.2			42.3	
Approach LOS		F			A			F			D	

Timer:	1	2	3	4	5	6	7	8
Assigned Phase	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration (G+Y+Rc), s	8.88	106.00	7.13	11.54	7.55	107.32	8.48	10.20
Change Period (Y+Rc), s	7.00	7.00	6.20	6.20	7.00	7.00	6.20	6.20
Max. Allowable Headway (MAH), s	3.71	0.00	3.80	0.33	3.64	0.00	3.80	0.33
Maximum Green Setting (Gmax), s	4.00	99.00	4.30	16.30	4.00	99.00	4.30	16.30
Max. Queue Clearance Time (g_c+I1), s	2.70	0.00	2.79	0.00	2.15	0.00	3.76	0.00
Green Extension Time (g_e), s	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Probability of Phase Call (p_c)	0.695	1.000	0.335	1.000	0.257	1.000	0.604	1.000
Probability of Max Out (p_x)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000

Left-Turn Movement Data				
Assigned Movement	1	3	5	7
Mvmt. Sat Flow, veh/h	1471.16	1809.52	1809.52	1809.52

Through Movement Data				
Assigned Movement	2	4	6	8
Mvmt. Sat Flow, veh/h	0.00	0.00	1153.57	1523.58

Right-Turn Movement Data				
Assigned Movement	12	14	16	18
Mvmt. Sat Flow, veh/h	0.00	0.00	1153.57	1523.58

Left Lane Group Data								
Assigned Movement	1	0	3	0	5	0	7	0
Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Group	1	0	1	0	1	0	1	0
Group Volume (v), veh/h	32.0	0.0	11.0	0.0	8.0	0.0	25.0	0.0
Group Sat. Flow (s), veh/h/ln	1471.2	0.0	1809.5	0.0	1809.5	0.0	1809.5	0.0
Queue Serve Time (g_s), s	0.7	0.0	0.8	0.0	0.2	0.0	1.8	0.0

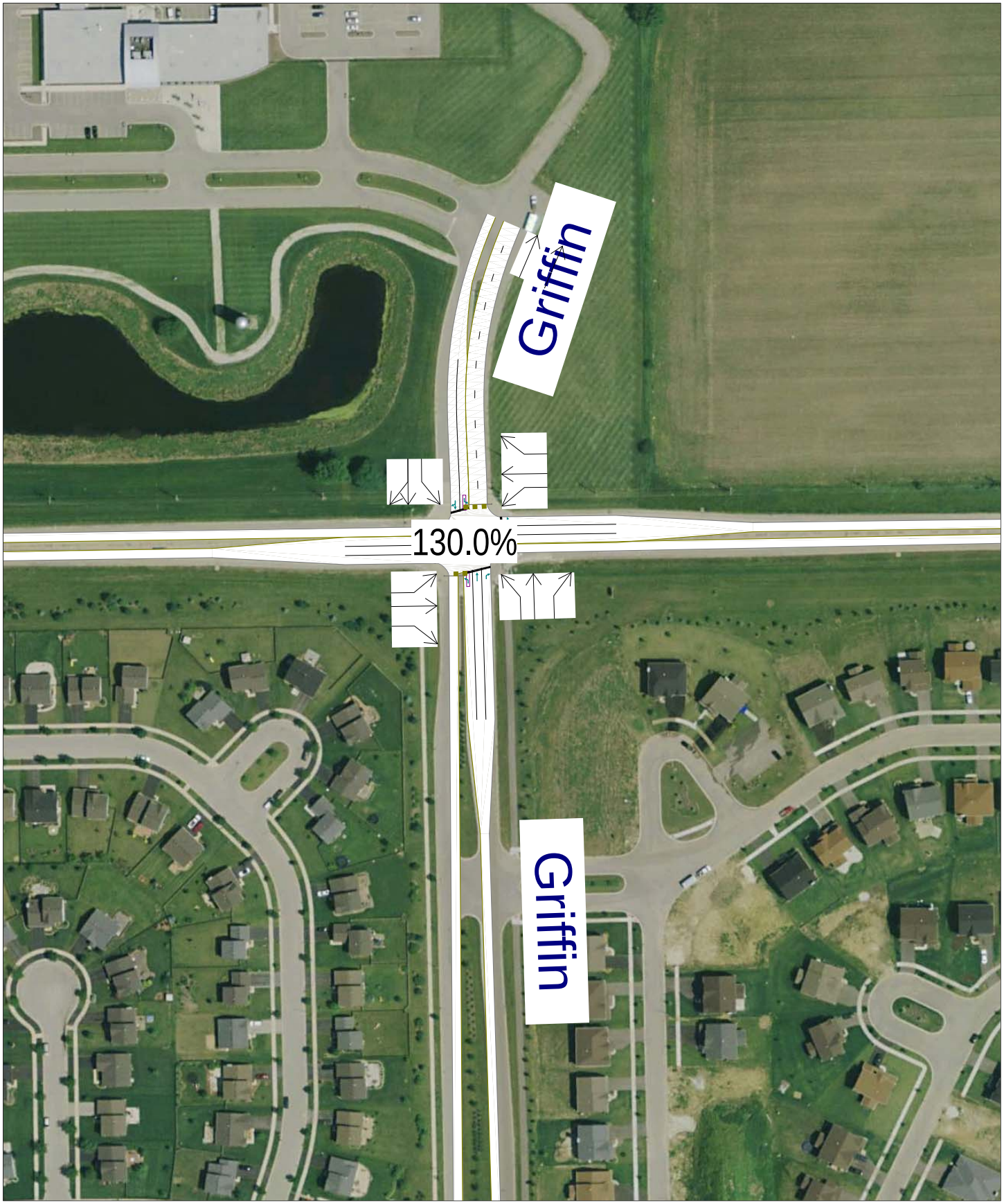
Cycle Queue Clear Time (g_c), s	0.7	0.0	0.8	0.0	0.2	0.0	1.8	0.0
Perm LT Sat Flow Rate (s_l), veh/h/ln	189.7	0.0	1425.8	0.0	772.9	0.0	1437.4	0.0
Shared LT Sat Flow (s_sh), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Eff. Green (g_p), s	100.3	0.0	4.0	0.0	99.0	0.0	5.3	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	2.0	0.0	80.4	0.0	3.9	0.0
Perm LT Que Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion LT Inside Lane (P_L)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Lane Group Capacity (c), veh/h	74.6	0.0	87.9	0.0	526.5	0.0	126.3	0.0
Volume-to-Capacity Ratio (X)	0.429	0.000	0.125	0.000	0.015	0.000	0.198	0.000
Available Capacity (c_a), veh/h	98.0	0.0	133.5	0.0	573.2	0.0	153.8	0.0
Upstream Filter Factor (I)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Uniform Delay (d1), s/veh	41.4	0.0	62.3	0.0	5.7	0.0	60.2	0.0
Incremental Delay (d2), s/veh	3.9	0.0	0.6	0.0	0.0	0.0	0.8	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	45.3	0.0	63.0	0.0	5.7	0.0	61.0	0.0
First-Term Queue (Q1), veh/ln	0.9	0.0	0.4	0.0	0.0	0.0	0.8	0.0
Second-Term Queue (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Percentile Back of Queue (Q%), veh/ln	1.0	0.0	0.4	0.0	0.0	0.0	0.8	0.0
Percentile Storage Ratio (RQ%)	0.19	0.00	0.05	0.00	0.01	0.00	0.11	0.00
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Movement	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Group	0	1	0	0	0	1	0	1
Group Volume (v), veh/h	0.0	1934.0	0.0	0.0	0.0	679.0	0.0	2.0
Group Sat. Flow (s), veh/h/ln	0.0	1844.7	0.0	0.0	0.0	1809.5	0.0	1900.0
Queue Serve Time (g_s), s	0.0	99.0	0.0	0.0	0.0	20.0	0.0	0.1
Cycle Queue Clear Time (g_c), s	0.0	99.0	0.0	0.0	0.0	20.0	0.0	0.1
Lane Group Capacity (c), veh/h	0.0	1367.4	0.0	0.0	0.0	1359.3	0.0	56.9
Volume-to-Capacity Ratio (X)	0.000	1.414	0.000	0.000	0.000	0.500	0.000	0.035
Available Capacity (c_a), veh/h	0.0	1367.4	0.0	0.0	0.0	1359.3	0.0	231.9
Upstream Filter Factor (I)	0.000	1.000	0.000	0.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	17.3	0.0	0.0	0.0	6.6	0.0	62.9
Incremental Delay (d2), s/veh	0.0	190.8	0.0	0.0	0.0	1.3	0.0	0.2
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	208.1	0.0	0.0	0.0	7.9	0.0	63.2
First-Term Queue (Q1), veh/ln	0.0	29.5	0.0	0.0	0.0	5.7	0.0	0.1
Second-Term Queue (Q2), veh/ln	0.0	72.5	0.0	0.0	0.0	0.5	0.0	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	102.0	0.0	0.0	0.0	6.2	0.0	0.1

Percentile Storage Ratio (RQ%)	0.00	1.08	0.00	0.00	0.00	0.09	0.00	0.00
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	141.6	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Movement	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Group	0	1	0	1	0	1	0	1
Group Volume (v), veh/h	0.0	0.0	0.0	11.0	0.0	12.0	0.0	223.0
Group Sat. Flow (s), veh/h/ln	0.0	0.0	0.0	0.0	0.0	1153.6	0.0	1523.6
Queue Serve Time (g_s), s	0.0	99.0	0.0	5.3	0.0	0.3	0.0	4.0
Cycle Queue Clear Time (g_c), s	0.0	99.0	0.0	5.3	0.0	0.3	0.0	4.0
Prot RT Sat Flow Rate (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff. Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion RT Outside Lane (P_R)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Lane Group Capacity (c), veh/h	0.0	0.0	0.0	0.0	0.0	866.6	0.0	45.6
Volume-to-Capacity Ratio (X)	0.000	0.000	0.000	0.000	0.000	0.014	0.000	4.887
Available Capacity (c_a), veh/h	0.0	0.0	0.0	0.0	0.0	866.6	0.0	186.0
Upstream Filter Factor (I)	0.000	0.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	4.2	0.0	64.8
Incremental Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1797.6
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	4.2	0.0	1862.4
First-Term Queue (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.6
Second-Term Queue (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.8
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	24.3
Percentile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.02	0.00	3.36
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.3
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2
Intersection Summary								
HCM 2010 Control Delay		281.6						
HCM 2010 Level of Service		F						

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	8	1934	32	679	12	11	2	223	25	0
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2	1	6		3	8		7	4
Permitted Phases	2		6		6	8		8	4	
Detector Phase	5	2	1	6	6	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
Minimum Split (s)	11.0	23.0	11.0	23.0	23.0	10.5	22.5	22.5	10.5	22.5
Total Split (s)	11.0	106.0	11.0	106.0	106.0	10.5	22.5	22.5	10.5	22.5
Total Split (%)	7.3%	70.7%	7.3%	70.7%	70.7%	7.0%	15.0%	15.0%	7.0%	15.0%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	2.5
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)	7.0	7.0	7.0	7.0	7.0	6.2	6.2	6.2	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	Max	None	None	None	None	None
Act Effct Green (s)	102.5	100.2	105.1	104.3	104.3	15.8	13.4	13.4	16.9	15.3
Actuated g/C Ratio	0.74	0.72	0.76	0.75	0.75	0.11	0.10	0.10	0.12	0.11
v/c Ratio	0.02	1.38	0.38	0.47	0.01	0.06	0.01	0.86	0.14	0.02
Control Delay	5.6	197.7	23.6	9.6	0.0	52.1	60.0	57.0	53.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.6	197.7	23.6	9.6	0.0	52.1	60.0	57.0	53.5	0.1
LOS	A	F	C	A	A	D	E	E	D	A
Approach Delay		196.9		10.1			56.8			37.2
Approach LOS		F		B			E			D

Intersection Summary	
Cycle Length: 150	
Actuated Cycle Length: 138.9	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.38	
Intersection Signal Delay: 137.7	Intersection LOS: F
Intersection Capacity Utilization 130.0%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 12: Griffin & US 30


Griffin
130.0%
Griffin

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	423	1050	193	189	509	447	85	909	601	411	711	95
Movement Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj. Factor (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj. Factors	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Sat. Flow Rate, veh/h/ln	1863	1830	1830	1743	1743	1776	1759	1792	1863	1792	1774	1774
Lanes	1	2	0	1	1	1	1	2	1	1	2	0
Lane Assignment												
Capacity, veh/h	516	486	89	342	112	97	238	219	102	479	662	88
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion Arriving On Green	0.23	0.16	0.16	0.13	0.06	0.06	0.06	0.06	0.06	0.21	0.22	0.22
Lane Group Delay, s/veh	23.3	549.1	553.3	24.9	1633.1	1663.5	26.1	1455.0	2258.1	24.0	68.3	69.2
Lane Group LOS	C	F	F	C	F	F	C	F	F	C	F	F
Approach Volume, veh/h		1666			1145			1595			1217	
Approach Delay, s/veh		417.1			1379.5			1681.5			53.6	
Approach LOS		F			F			F			D	

Timer:	1	2	3	4	5	6	7	8
Assigned Phase	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration (G+Y+Rc), s	15.00	17.07	10.29	19.97	21.07	11.00	19.75	10.50
Change Period (Y+Rc), s	7.00	7.00	6.50	6.50	7.00	7.00	6.50	6.50
Max. Allowable Headway (MAH), s	3.69	0.10	3.75	0.10	3.65	0.10	3.75	0.10
Maximum Green Setting (Gmax), s	8.00	41.00	5.00	39.00	17.00	32.00	17.50	26.50
Max. Queue Clearance Time (g_c+I1), s	8.47	0.00	4.91	0.00	13.62	0.00	12.66	0.00
Green Extension Time (g_e), s	0.00	0.00	0.00	0.00	0.46	0.00	0.61	0.00
Probability of Phase Call (p_c)	0.962	1.000	0.770	1.000	0.999	1.000	0.999	1.000
Probability of Max Out (p_x)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000

Left-Turn Movement Data				
Assigned Movement	1	3	5	7
Mvmt. Sat Flow, veh/h	1660.11	1675.49	1774.04	1707.10

Through Movement Data				
Assigned Movement	2	4	6	8
Mvmt. Sat Flow, veh/h	3010.02	3065.89	1509.35	1583.33

Right-Turn Movement Data				
Assigned Movement	12	14	16	18
Mvmt. Sat Flow, veh/h	551.89	409.36	1509.35	1583.33

Left Lane Group Data								
Assigned Movement	1	0	3	0	5	0	7	0
Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Group	1	0	1	0	1	0	1	0
Group Volume (v), veh/h	189.0	0.0	85.0	0.0	423.0	0.0	411.0	0.0
Group Sat. Flow (s), veh/h/ln	1660.1	0.0	1675.5	0.0	1774.0	0.0	1707.1	0.0
Queue Serve Time (g_s), s	6.5	0.0	2.9	0.0	11.6	0.0	10.7	0.0

Cycle Queue Clear Time (g_c), s	6.5	0.0	2.9	0.0	11.6	0.0	10.7	0.0
Perm LT Sat Flow Rate (s_l), veh/h/ln	417.1	0.0	635.7	0.0	887.0	0.0	588.1	0.0
Shared LT Sat Flow (s_sh), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Eff. Green (g_p), s	4.0	0.0	4.0	0.0	11.1	0.0	15.5	0.0
Perm LT Serve Time (g_u), s	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Perm LT Que Serve Time (g_ps), s	1.7	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion LT Inside Lane (P_L)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Lane Group Capacity (c), veh/h	342.0	0.0	237.7	0.0	516.0	0.0	478.5	0.0
Volume-to-Capacity Ratio (X)	0.553	0.000	0.358	0.000	0.820	0.000	0.859	0.000
Available Capacity (c_a), veh/h	342.0	0.0	270.4	0.0	599.4	0.0	594.9	0.0
Upstream Filter Factor (I)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Uniform Delay (d1), s/veh	23.0	0.0	25.2	0.0	15.5	0.0	13.9	0.0
Incremental Delay (d2), s/veh	1.9	0.0	0.9	0.0	7.8	0.0	10.2	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.9	0.0	26.1	0.0	23.3	0.0	24.0	0.0
First-Term Queue (Q1), veh/ln	2.2	0.0	1.1	0.0	3.5	0.0	3.2	0.0
Second-Term Queue (Q2), veh/ln	0.2	0.0	0.1	0.0	1.1	0.0	1.4	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Percentile Back of Queue (Q%), veh/ln	2.4	0.0	1.1	0.0	4.6	0.0	4.6	0.0
Percentile Storage Ratio (RQ%)	0.10	0.00	0.16	0.00	0.42	0.00	0.45	0.00
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Movement	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Group	0	1	0	1	0	1	0	2
Group Volume (v), veh/h	0.0	637.2	0.0	411.1	0.0	509.0	0.0	909.0
Group Sat. Flow (s), veh/h/ln	0.0	1829.7	0.0	1773.7	0.0	1743.1	0.0	1702.8
Queue Serve Time (g_s), s	0.0	10.1	0.0	13.5	0.0	4.0	0.0	4.0
Cycle Queue Clear Time (g_c), s	0.0	10.1	0.0	13.5	0.0	4.0	0.0	4.0
Lane Group Capacity (c), veh/h	0.0	295.6	0.0	383.2	0.0	111.9	0.0	218.6
Volume-to-Capacity Ratio (X)	0.000	2.156	0.000	1.073	0.000	4.550	0.000	4.159
Available Capacity (c_a), veh/h	0.0	1203.7	0.0	1110.0	0.0	895.0	0.0	1448.1
Upstream Filter Factor (I)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	26.1	0.0	24.4	0.0	29.2	0.0	29.2
Incremental Delay (d2), s/veh	0.0	523.0	0.0	43.9	0.0	1604.0	0.0	1425.9
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	549.1	0.0	68.3	0.0	1633.1	0.0	1455.0
First-Term Queue (Q1), veh/ln	0.0	3.7	0.0	5.0	0.0	1.5	0.0	1.5
Second-Term Queue (Q2), veh/ln	0.0	42.9	0.0	4.7	0.0	49.8	0.0	43.3
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	46.6	0.0	9.7	0.0	51.3	0.0	44.8

Percentile Storage Ratio (RQ%)	0.00	1.30	0.00	0.21	0.00	1.38	0.00	1.14
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	85.4	0.0	7.0	0.0	99.3	0.0	172.6
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.5	0.0	0.3	0.0	1.1	0.0	1.0
Right Lane Group Data								
Assigned Movement	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		R		R
Lanes in Group	0	1	0	1	0	1	0	1
Group Volume (v), veh/h	0.0	605.8	0.0	394.9	0.0	447.0	0.0	601.0
Group Sat. Flow (s), veh/h/ln	0.0	1732.3	0.0	1701.5	0.0	1509.3	0.0	1583.3
Queue Serve Time (g_s), s	0.0	10.1	0.0	13.5	0.0	4.0	0.0	4.0
Cycle Queue Clear Time (g_c), s	0.0	10.1	0.0	13.5	0.0	4.0	0.0	4.0
Prot RT Sat Flow Rate (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff. Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion RT Outside Lane (P_R)	0.000	0.319	0.000	0.241	0.000	1.000	0.000	1.000
Lane Group Capacity (c), veh/h	0.0	279.9	0.0	367.6	0.0	96.9	0.0	101.6
Volume-to-Capacity Ratio (X)	0.000	2.164	0.000	1.074	0.000	4.614	0.000	5.914
Available Capacity (c_a), veh/h	0.0	1139.6	0.0	1064.8	0.0	775.0	0.0	673.2
Upstream Filter Factor (I)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	26.1	0.0	24.4	0.0	29.2	0.0	29.2
Incremental Delay (d2), s/veh	0.0	527.2	0.0	44.8	0.0	1634.4	0.0	2228.9
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	553.3	0.0	69.2	0.0	1663.5	0.0	2258.1
First-Term Queue (Q1), veh/ln	0.0	3.5	0.0	4.8	0.0	1.3	0.0	1.4
Second-Term Queue (Q2), veh/ln	0.0	41.0	0.0	4.6	0.0	44.0	0.0	62.9
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	44.5	0.0	9.4	0.0	45.3	0.0	64.3
Percentile Storage Ratio (RQ%)	0.00	1.24	0.00	0.21	0.00	4.78	0.00	10.21
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	81.5	0.0	6.8	0.0	87.5	0.0	124.8
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.5	0.0	0.3	0.0	1.2	0.0	1.5

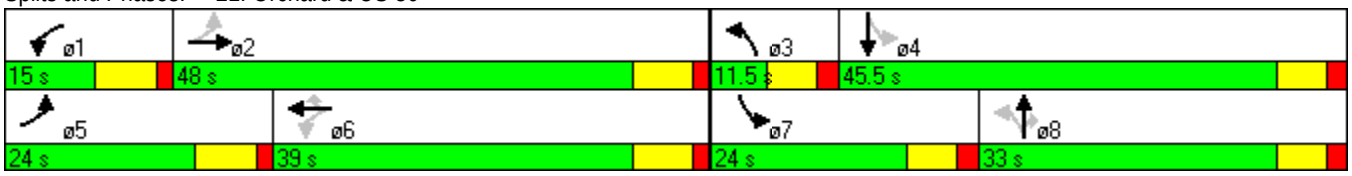
Intersection Summary	
HCM 2010 Control Delay	893.1
HCM 2010 Level of Service	F

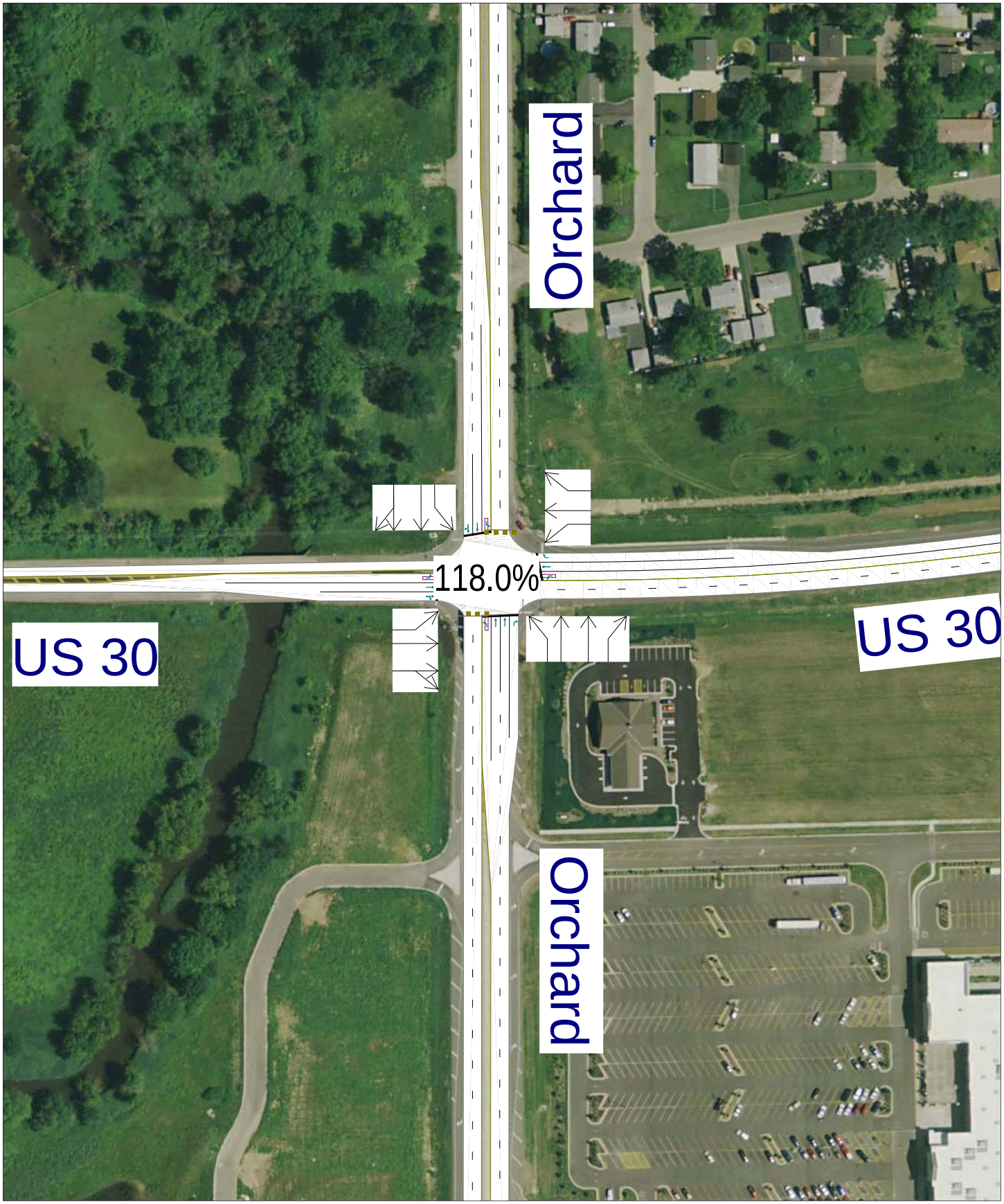
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	423	1050	189	509	447	85	909	601	411	711
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2	1	6		3	8		7	4
Permitted Phases	2		6		6	8		8	4	
Detector Phase	5	2	1	6	6	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
Minimum Split (s)	11.0	23.0	11.1	23.1	23.1	10.5	22.5	22.5	10.5	22.5
Total Split (s)	24.0	48.0	15.0	39.0	39.0	11.5	33.0	33.0	24.0	45.5
Total Split (%)	20.0%	40.0%	12.5%	32.5%	32.5%	9.6%	27.5%	27.5%	20.0%	37.9%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	56.0	41.0	40.0	32.0	32.0	31.5	26.5	26.5	50.5	41.3
Actuated g/C Ratio	0.47	0.34	0.33	0.27	0.27	0.26	0.22	0.22	0.42	0.34
v/c Ratio	1.35	1.01	1.12	1.04	0.74	0.47	1.15	1.06	1.34	0.67
Control Delay	207.5	66.6	135.9	94.9	23.1	33.6	123.7	77.9	204.7	36.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	207.5	66.6	135.9	94.9	23.1	33.6	123.7	77.9	204.7	36.9
LOS	F	E	F	F	C	C	F	E	F	D
Approach Delay		102.4		73.6			101.7			93.6
Approach LOS		F		E			F			F

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 120
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.35
Intersection Signal Delay: 94.4 — Intersection LOS: F
Intersection Capacity Utilization 118.0% — ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 21: Orchard & US 30




Orchard
118.0%
US 30
US 30
Orchard

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	347	607	167	125	654	366	73	51	120	201	29	110
Movement Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj. Factor (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj. Factors	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00
Adj. Sat. Flow Rate, veh/h/ln	1900	1810	1900	1900	1827	1881	1900	1900	1900	1881	1900	1900
Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Lane Assignment												
Capacity, veh/h	399	905	808	390	791	692	216	97	75	184	99	84
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion Arriving On Green	0.12	0.50	0.50	0.05	0.43	0.43	0.05	0.05	0.05	0.05	0.05	0.05
Lane Group Delay, s/veh	31.5	18.6	11.5	13.2	29.2	19.1	33.7	40.4	324.8	128.8	37.2	191.8
Lane Group LOS	C	B	B	B	C	B	C	D	F	F	D	F
Approach Volume, veh/h		1121			1145			244			340	
Approach Delay, s/veh		21.5			24.2			178.3			141.4	
Approach LOS		C			C			F			F	

Timer:	1	2	3	4	5	6	7	8
Assigned Phase	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	4.0	1.1	3.0	1.1	4.0
Phase Duration (G+Y+Rc), s	11.00	46.00	10.43	10.57	16.23	40.77	10.50	10.50
Change Period (Y+Rc), s	7.00	7.00	6.50	6.50	7.00	7.00	6.50	6.50
Max. Allowable Headway (MAH), s	3.64	0.09	3.73	0.25	3.64	0.09	3.73	0.25
Maximum Green Setting (Gmax), s	4.00	39.00	4.00	16.00	11.00	32.00	4.00	16.00
Max. Queue Clearance Time (g_c+I1), s	4.99	0.00	4.95	0.00	9.01	0.00	6.00	0.00
Green Extension Time (g_e), s	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00
Probability of Phase Call (p_c)	0.933	1.000	0.794	1.000	0.999	1.000	0.987	1.000
Probability of Max Out (p_x)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000

Left-Turn Movement Data				
Assigned Movement	1	3	5	7
Mvmt. Sat Flow, veh/h	1809.52	1809.52	1809.52	1791.61

Through Movement Data				
Assigned Movement	2	4	6	8
Mvmt. Sat Flow, veh/h	1615.00	1900.00	1599.01	1900.00

Right-Turn Movement Data				
Assigned Movement	12	14	16	18
Mvmt. Sat Flow, veh/h	1615.00	1615.00	1599.01	1453.50

Left Lane Group Data								
Assigned Movement	1	0	3	0	5	0	7	0
Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Group	1	0	1	0	1	0	1	0
Group Volume (v), veh/h	125.0	0.0	73.0	0.0	347.0	0.0	201.0	0.0
Group Sat. Flow (s), veh/h/ln	1809.5	0.0	1809.5	0.0	1809.5	0.0	1791.6	0.0
Queue Serve Time (g_s), s	3.0	0.0	2.9	0.0	7.0	0.0	4.0	0.0

Cycle Queue Clear Time (g_c), s	3.0	0.0	2.9	0.0	7.0	0.0	4.0	0.0
Perm LT Sat Flow Rate (s_l), veh/h/ln	826.4	0.0	1269.7	0.0	791.1	0.0	1221.1	0.0
Shared LT Sat Flow (s_sh), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Eff. Green (g_p), s	33.8	0.0	4.0	0.0	39.2	0.0	4.1	0.0
Perm LT Serve Time (g_u), s	19.3	0.0	2.0	0.0	9.1	0.0	0.0	0.0
Perm LT Que Serve Time (g_ps), s	2.6	0.0	0.1	0.0	9.1	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion LT Inside Lane (P_L)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Lane Group Capacity (c), veh/h	389.7	0.0	216.0	0.0	398.8	0.0	184.2	0.0
Volume-to-Capacity Ratio (X)	0.321	0.000	0.338	0.000	0.870	0.000	1.091	0.000
Available Capacity (c_a), veh/h	389.7	0.0	217.7	0.0	439.9	0.0	184.2	0.0
Upstream Filter Factor (I)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Uniform Delay (d1), s/veh	12.7	0.0	32.8	0.0	15.6	0.0	36.0	0.0
Incremental Delay (d2), s/veh	0.5	0.0	0.9	0.0	15.9	0.0	92.8	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	13.2	0.0	33.7	0.0	31.5	0.0	128.8	0.0
First-Term Queue (Q1), veh/ln	1.0	0.0	1.2	0.0	3.8	0.0	3.4	0.0
Second-Term Queue (Q2), veh/ln	0.1	0.0	0.1	0.0	1.8	0.0	4.7	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Percentile Back of Queue (Q%), veh/ln	1.0	0.0	1.3	0.0	5.5	0.0	8.1	0.0
Percentile Storage Ratio (RQ%)	0.10	0.00	0.32	0.00	0.69	0.00	0.89	0.00
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Movement	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Group	0	1	0	1	0	1	0	1
Group Volume (v), veh/h	0.0	607.0	0.0	29.0	0.0	654.0	0.0	51.0
Group Sat. Flow (s), veh/h/ln	0.0	1809.5	0.0	1900.0	0.0	1826.9	0.0	1900.0
Queue Serve Time (g_s), s	0.0	19.7	0.0	1.1	0.0	24.7	0.0	2.0
Cycle Queue Clear Time (g_c), s	0.0	19.7	0.0	1.1	0.0	24.7	0.0	2.0
Lane Group Capacity (c), veh/h	0.0	904.8	0.0	99.2	0.0	791.0	0.0	97.4
Volume-to-Capacity Ratio (X)	0.000	0.671	0.000	0.292	0.000	0.827	0.000	0.524
Available Capacity (c_a), veh/h	0.0	904.8	0.0	389.7	0.0	791.0	0.0	389.7
Upstream Filter Factor (I)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	14.7	0.0	35.6	0.0	19.5	0.0	36.1
Incremental Delay (d2), s/veh	0.0	4.0	0.0	1.6	0.0	9.7	0.0	4.3
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.6	0.0	37.2	0.0	29.2	0.0	40.4
First-Term Queue (Q1), veh/ln	0.0	6.2	0.0	0.5	0.0	8.4	0.0	0.9
Second-Term Queue (Q2), veh/ln	0.0	1.0	0.0	0.0	0.0	2.1	0.0	0.1
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	7.2	0.0	0.6	0.0	10.5	0.0	1.0

Percentile Storage Ratio (RQ%)	0.00	0.07	0.00	0.02	0.00	0.17	0.00	0.02
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Movement	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		T+R
Lanes in Group	0	1	0	1	0	1	0	1
Group Volume (v), veh/h	0.0	167.0	0.0	110.0	0.0	366.0	0.0	120.0
Group Sat. Flow (s), veh/h/ln	0.0	1615.0	0.0	1615.0	0.0	1599.0	0.0	1453.5
Queue Serve Time (g_s), s	0.0	4.5	0.0	4.1	0.0	13.1	0.0	4.0
Cycle Queue Clear Time (g_c), s	0.0	4.5	0.0	4.1	0.0	13.1	0.0	4.0
Prot RT Sat Flow Rate (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff. Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion RT Outside Lane (P_R)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Lane Group Capacity (c), veh/h	0.0	807.5	0.0	84.3	0.0	692.3	0.0	74.5
Volume-to-Capacity Ratio (X)	0.000	0.207	0.000	1.305	0.000	0.529	0.000	1.610
Available Capacity (c_a), veh/h	0.0	807.5	0.0	331.3	0.0	692.3	0.0	298.2
Upstream Filter Factor (I)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	10.9	0.0	37.0	0.0	16.3	0.0	37.0
Incremental Delay (d2), s/veh	0.0	0.6	0.0	154.8	0.0	2.9	0.0	287.8
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.5	0.0	191.8	0.0	19.1	0.0	324.8
First-Term Queue (Q1), veh/ln	0.0	1.4	0.0	1.5	0.0	4.2	0.0	1.4
Second-Term Queue (Q2), veh/ln	0.0	0.1	0.0	3.6	0.0	0.6	0.0	6.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	1.5	0.0	5.2	0.0	4.8	0.0	7.3
Percentile Storage Ratio (RQ%)	0.00	0.19	0.00	0.15	0.00	0.55	0.00	0.18
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	6.4	0.0	0.0	0.0	11.4
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.4

Intersection Summary	
HCM 2010 Control Delay	50.3
HCM 2010 Level of Service	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	347	607	167	125	654	366	73	51	201	29
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0
Minimum Split (s)	11.0	23.0	23.0	11.0	23.0	23.0	10.5	22.5	10.5	22.5
Total Split (s)	18.0	46.0	46.0	11.0	39.0	39.0	10.5	22.5	10.5	22.5
Total Split (%)	20.0%	51.1%	51.1%	12.2%	43.3%	43.3%	11.7%	25.0%	11.7%	25.0%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	50.0	39.0	39.0	36.0	32.0	32.0	10.9	6.9	12.3	9.1
Actuated g/C Ratio	0.62	0.48	0.48	0.44	0.40	0.40	0.13	0.09	0.15	0.11
v/c Ratio	1.00	0.66	0.19	0.38	0.86	0.44	0.37	0.43	1.00	0.29
Control Delay	71.6	20.6	1.6	12.0	36.4	4.6	32.4	16.0	100.2	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.6	20.6	1.6	12.0	36.4	4.6	32.4	16.0	100.2	12.8
LOS	E	C	A	B	D	A	C	B	F	B
Approach Delay		33.6			23.6			20.9		64.5
Approach LOS		C			C			C		E

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 81
Natural Cycle: 90
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 32.2 — Intersection LOS: C
Intersection Capacity Utilization 90.6% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 5: Gordon & US 30

Gordon
90.6%
Gordon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	1174	10	197	1384	5	7	0	141	10	0	13
Movement Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj. Factor (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj. Factors	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Sat. Flow Rate, veh/h/ln	1900	1845	1900	1881	1863	1900	1900	0	1845	1900	0	1900
Lanes	1	1	1	1	1	1	1	1	1	1	1	0
Lane Assignment												
Capacity, veh/h	78	1320	1156	235	1405	1218	84	0	48	88	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion Arriving On Green	0.00	0.72	0.72	0.04	0.75	0.75	0.00	0.00	0.03	0.01	0.00	0.03
Lane Group Delay, s/veh	35.6	23.9	5.4	47.2	36.1	4.0	61.8	0.0	977.4	61.6	0.0	0.0
Lane Group LOS	D	C	A	D	D	A	E		F	E		
Approach Volume, veh/h		1190			1586			148			23	
Approach Delay, s/veh		23.8			37.4			934.1			26.8	
Approach LOS		C			D			F			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phase	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration (G+Y+Rc), s	12.52	100.90	7.06	10.75	7.42	106.00	7.33	10.49
Change Period (Y+Rc), s	7.00	7.00	6.50	6.50	7.00	7.00	6.50	6.50
Max. Allowable Headway (MAH), s	3.64	0.00	3.80	0.33	3.64	0.00	3.80	0.33
Maximum Green Setting (Gmax), s	11.00	92.00	4.00	16.00	4.00	99.00	4.00	16.00
Max. Queue Clearance Time (g_c+I1), s	5.29	0.00	2.49	0.00	2.12	0.00	2.70	0.00
Green Extension Time (g_e), s	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Probability of Phase Call (p_c)	0.999	1.000	0.225	0.997	0.196	1.000	0.305	0.997
Probability of Max Out (p_x)	0.157	0.000	1.000	0.000	1.000	0.000	1.000	0.000

Left-Turn Movement Data				
Assigned Movement	1	3	5	7
Mvmt. Sat Flow, veh/h	1791.61	1809.52	1809.52	1809.52

Through Movement Data				
Assigned Movement	2	4	6	8
Mvmt. Sat Flow, veh/h	1615.00	0.00	1615.00	1567.96

Right-Turn Movement Data				
Assigned Movement	12	14	16	18
Mvmt. Sat Flow, veh/h	1615.00	0.00	1615.00	1567.96

Left Lane Group Data								
Assigned Movement	1	0	3	0	5	0	7	0
Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Group	1	0	1	0	1	0	1	0
Group Volume (v), veh/h	197.0	0.0	7.0	0.0	6.0	0.0	10.0	0.0
Group Sat. Flow (s), veh/h/ln	1791.6	0.0	1809.5	0.0	1809.5	0.0	1809.5	0.0
Queue Serve Time (g_s), s	3.3	0.0	0.5	0.0	0.1	0.0	0.7	0.0

Cycle Queue Clear Time (g_c), s	3.3	0.0	0.5	0.0	0.1	0.0	0.7	0.0
Perm LT Sat Flow Rate (s_l), veh/h/ln	480.6	0.0	1423.2	0.0	397.3	0.0	1440.0	0.0
Shared LT Sat Flow (s_sh), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Eff. Green (g_p), s	99.1	0.0	4.0	0.0	93.9	0.0	4.3	0.0
Perm LT Serve Time (g_u), s	28.5	0.0	2.0	0.0	5.8	0.0	2.0	0.0
Perm LT Que Serve Time (g_ps), s	28.5	0.0	0.0	0.0	1.4	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion LT Inside Lane (P_L)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Lane Group Capacity (c), veh/h	234.8	0.0	84.3	0.0	78.2	0.0	88.2	0.0
Volume-to-Capacity Ratio (X)	0.839	0.000	0.083	0.000	0.077	0.000	0.113	0.000
Available Capacity (c_a), veh/h	309.6	0.0	131.7	0.0	127.7	0.0	132.0	0.0
Upstream Filter Factor (I)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Uniform Delay (d1), s/veh	32.9	0.0	61.4	0.0	35.2	0.0	61.0	0.0
Incremental Delay (d2), s/veh	14.4	0.0	0.4	0.0	0.4	0.0	0.6	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	47.2	0.0	61.8	0.0	35.6	0.0	61.6	0.0
First-Term Queue (Q1), veh/ln	5.4	0.0	0.2	0.0	0.1	0.0	0.3	0.0
Second-Term Queue (Q2), veh/ln	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Percentile Back of Queue (Q%), veh/ln	6.4	0.0	0.2	0.0	0.2	0.0	0.3	0.0
Percentile Storage Ratio (RQ%)	1.07	0.00	0.03	0.00	0.03	0.00	0.04	0.00
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Movement	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Group	0	1	0	0	0	1	0	1
Group Volume (v), veh/h	0.0	1174.0	0.0	0.0	0.0	1384.0	0.0	0.0
Group Sat. Flow (s), veh/h/ln	0.0	1844.7	0.0	0.0	0.0	1862.7	0.0	0.0
Queue Serve Time (g_s), s	0.0	65.4	0.0	0.0	0.0	93.2	0.0	4.0
Cycle Queue Clear Time (g_c), s	0.0	65.4	0.0	0.0	0.0	93.2	0.0	4.0
Lane Group Capacity (c), veh/h	0.0	1319.9	0.0	0.0	0.0	1405.2	0.0	0.0
Volume-to-Capacity Ratio (X)	0.000	0.889	0.000	0.000	0.000	0.985	0.000	0.000
Available Capacity (c_a), veh/h	0.0	1319.9	0.0	0.0	0.0	1405.2	0.0	0.0
Upstream Filter Factor (I)	0.000	1.000	0.000	0.000	0.000	1.000	0.000	0.000
Uniform Delay (d1), s/veh	0.0	14.6	0.0	0.0	0.0	15.4	0.0	0.0
Incremental Delay (d2), s/veh	0.0	9.3	0.0	0.0	0.0	20.7	0.0	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.9	0.0	0.0	0.0	36.1	0.0	0.0
First-Term Queue (Q1), veh/ln	0.0	20.5	0.0	0.0	0.0	26.6	0.0	0.0
Second-Term Queue (Q2), veh/ln	0.0	3.4	0.0	0.0	0.0	8.1	0.0	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	23.9	0.0	0.0	0.0	34.6	0.0	0.0

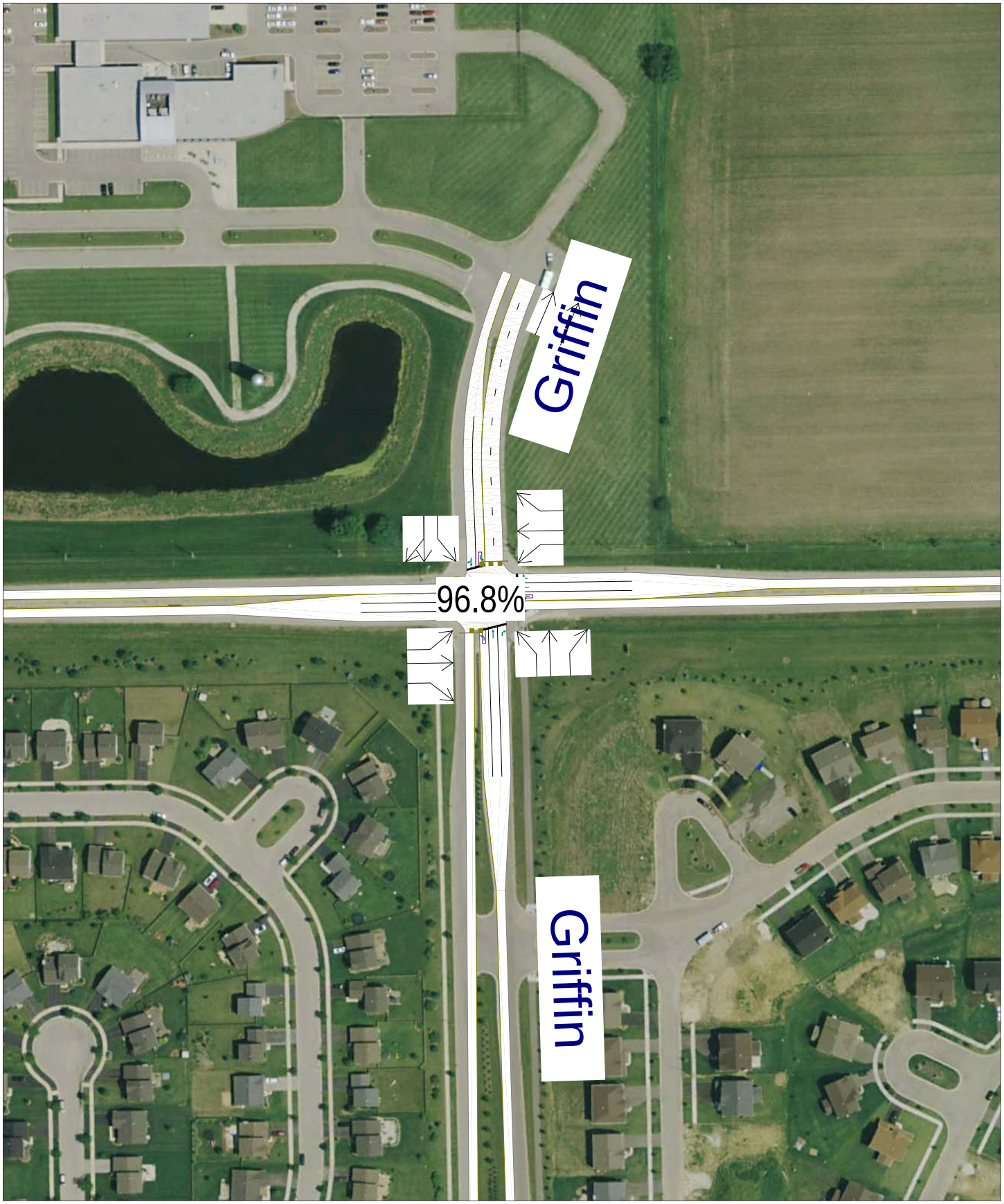
Percentile Storage Ratio (RQ%)	0.00	0.25	0.00	0.00	0.00	0.48	0.00	0.00
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Movement	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Group	0	1	0	1	0	1	0	1
Group Volume (v), veh/h	0.0	10.0	0.0	13.0	0.0	5.0	0.0	141.0
Group Sat. Flow (s), veh/h/ln	0.0	1615.0	0.0	0.0	0.0	1615.0	0.0	1568.0
Queue Serve Time (g_s), s	0.0	0.2	0.0	4.3	0.0	0.1	0.0	4.0
Cycle Queue Clear Time (g_c), s	0.0	0.2	0.0	4.3	0.0	0.1	0.0	4.0
Prot RT Sat Flow Rate (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff. Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion RT Outside Lane (P_R)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Lane Group Capacity (c), veh/h	0.0	1155.6	0.0	0.0	0.0	1218.3	0.0	47.7
Volume-to-Capacity Ratio (X)	0.000	0.009	0.000	0.000	0.000	0.004	0.000	2.959
Available Capacity (c_a), veh/h	0.0	1155.6	0.0	0.0	0.0	1218.3	0.0	191.2
Upstream Filter Factor (I)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	5.3	0.0	0.0	0.0	4.0	0.0	63.6
Incremental Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	913.8
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	5.4	0.0	0.0	0.0	4.0	0.0	977.4
First-Term Queue (Q1), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.6
Second-Term Queue (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.1
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	13.7
Percentile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.01	0.00	1.84
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.3
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
Intersection Summary								
HCM 2010 Control Delay		76.8						
HCM 2010 Level of Service		E						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	6	1174	10	197	1384	5	7	141	10	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3		7	4
Permitted Phases	2		2	6		6	8	8	4	
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0
Minimum Split (s)	11.0	23.0	23.0	11.0	23.0	23.0	10.2	22.5	10.2	22.5
Total Split (s)	11.0	99.0	99.0	18.0	106.0	106.0	10.5	22.5	10.5	22.5
Total Split (%)	7.3%	66.0%	66.0%	12.0%	70.7%	70.7%	7.0%	15.0%	7.0%	15.0%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5
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)	7.0	7.0	7.0	7.0	7.0	7.0	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	96.2	92.2	92.2	110.2	108.2	108.2	7.5	6.7	7.5	6.7
Actuated g/C Ratio	0.73	0.70	0.70	0.83	0.82	0.82	0.06	0.05	0.06	0.05
v/c Ratio	0.06	0.87	0.01	0.91	0.86	0.00	0.08	0.61	0.11	0.06
Control Delay	4.8	25.0	0.0	76.0	17.0	0.0	57.7	17.6	58.9	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.8	25.0	0.0	76.0	17.0	0.0	57.7	17.6	58.9	0.5
LOS	A	C	A	E	B	A	E	B	E	A
Approach Delay		24.7			24.2					25.9
Approach LOS		C			C					C

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 132.4
Natural Cycle: 150
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 24.2 — Intersection LOS: C
Intersection Capacity Utilization 96.8% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 12: Griffin & US 30


Griffin
96.8%
Griffin

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	235	871	187	524	1028	540	282	845	362	471	1080	332
Movement Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj. Factor (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj. Factors	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Sat. Flow Rate, veh/h/ln	1827	1824	1824	1900	1881	1863	1881	1827	1845	1827	1831	1831
Lanes	1	2	0	1	1	1	1	2	1	1	2	0
Lane Assignment												
Capacity, veh/h	329	160	34	577	368	310	417	191	86	542	373	113
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion Arriving On Green	0.12	0.05	0.05	0.26	0.20	0.20	0.17	0.05	0.05	0.25	0.14	0.14
Lane Group Delay, s/veh	35.7	2036.6	2038.1	30.4	840.8	367.2	30.2	1580.2	1480.5	29.0	883.6	905.5
Lane Group LOS	D	F	F	C	F	F	C	F	F	C	F	F
Approach Volume, veh/h		1293			2092			1489			1883	
Approach Delay, s/veh		1673.5			515.6			1262.4			677.8	
Approach LOS		F			F			F			F	

Timer:	1	2	3	4	5	6	7	8
Assigned Phase	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration (G+Y+Rc), s	26.22	11.00	18.97	16.55	16.00	21.22	25.03	10.50
Change Period (Y+Rc), s	7.00	7.00	6.50	6.50	7.00	7.00	6.50	6.50
Max. Allowable Headway (MAH), s	3.67	0.09	3.73	0.09	3.65	0.09	3.74	0.09
Maximum Green Setting (Gmax), s	25.00	43.00	12.50	42.50	9.00	59.00	22.50	32.50
Max. Queue Clearance Time (g_c+I1), s	18.22	0.00	12.51	0.00	11.00	0.00	17.82	0.00
Green Extension Time (g_e), s	1.01	0.00	0.00	0.00	0.00	0.00	0.71	0.00
Probability of Phase Call (p_c)	1.000	1.000	0.997	1.000	0.991	1.000	1.000	1.000
Probability of Max Out (p_x)	0.384	0.000	1.000	0.000	1.000	0.000	1.000	0.000

Left-Turn Movement Data				
Assigned Movement	1	3	5	7
Mvmt. Sat Flow, veh/h	1809.52	1791.61	1739.93	1739.93

Through Movement Data				
Assigned Movement	2	4	6	8
Mvmt. Sat Flow, veh/h	2912.27	2697.29	1583.33	1567.96

Right-Turn Movement Data				
Assigned Movement	12	14	16	18
Mvmt. Sat Flow, veh/h	625.07	820.11	1583.33	1567.96

Left Lane Group Data								
Assigned Movement	1	0	3	0	5	0	7	0
Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Group	1	0	1	0	1	0	1	0
Group Volume (v), veh/h	524.0	0.0	282.0	0.0	235.0	0.0	471.0	0.0
Group Sat. Flow (s), veh/h/ln	1809.5	0.0	1791.6	0.0	1739.9	0.0	1739.9	0.0
Queue Serve Time (g_s), s	16.2	0.0	10.5	0.0	9.0	0.0	15.8	0.0

Cycle Queue Clear Time (g_c), s	16.2	0.0	10.5	0.0	9.0	0.0	15.8	0.0
Perm LT Sat Flow Rate (s_l), veh/h/ln	541.8	0.0	383.0	0.0	535.9	0.0	636.5	0.0
Shared LT Sat Flow (s_sh), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Eff. Green (g_p), s	16.2	0.0	4.0	0.0	4.0	0.0	11.6	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	2.0	0.0	2.0	0.0	0.0	0.0
Perm LT Que Serve Time (g_ps), s	0.0	0.0	2.0	0.0	2.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion LT Inside Lane (P_L)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Lane Group Capacity (c), veh/h	577.1	0.0	416.6	0.0	329.0	0.0	542.0	0.0
Volume-to-Capacity Ratio (X)	0.908	0.000	0.677	0.000	0.714	0.000	0.869	0.000
Available Capacity (c_a), veh/h	720.8	0.0	417.3	0.0	329.0	0.0	637.1	0.0
Upstream Filter Factor (I)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Uniform Delay (d1), s/veh	17.1	0.0	25.9	0.0	28.5	0.0	18.0	0.0
Incremental Delay (d2), s/veh	13.3	0.0	4.3	0.0	7.2	0.0	11.0	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	30.4	0.0	30.2	0.0	35.7	0.0	29.0	0.0
First-Term Queue (Q1), veh/ln	5.4	0.0	4.1	0.0	3.4	0.0	5.5	0.0
Second-Term Queue (Q2), veh/ln	2.1	0.0	0.5	0.0	0.7	0.0	1.7	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	1.000	0.000	1.000	0.000	1.000	0.000	1.000	0.000
Percentile Back of Queue (Q%), veh/ln	7.5	0.0	4.6	0.0	4.1	0.0	7.1	0.0
Percentile Storage Ratio (RQ%)	0.29	0.00	0.61	0.00	0.38	0.00	0.68	0.00
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Movement	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Group	0	1	0	1	0	1	0	2
Group Volume (v), veh/h	0.0	545.4	0.0	729.3	0.0	1028.0	0.0	845.0
Group Sat. Flow (s), veh/h/ln	0.0	1823.8	0.0	1831.1	0.0	1881.2	0.0	1735.6
Queue Serve Time (g_s), s	0.0	4.0	0.0	10.1	0.0	14.2	0.0	4.0
Cycle Queue Clear Time (g_c), s	0.0	4.0	0.0	10.1	0.0	14.2	0.0	4.0
Lane Group Capacity (c), veh/h	0.0	100.3	0.0	253.1	0.0	367.8	0.0	190.9
Volume-to-Capacity Ratio (X)	0.000	5.438	0.000	2.882	0.000	2.795	0.000	4.427
Available Capacity (c_a), veh/h	0.0	1078.0	0.0	1069.7	0.0	1525.7	0.0	1550.7
Upstream Filter Factor (I)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	34.4	0.0	31.3	0.0	29.3	0.0	34.4
Incremental Delay (d2), s/veh	0.0	2002.2	0.0	852.3	0.0	811.5	0.0	1545.8
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	2036.6	0.0	883.6	0.0	840.8	0.0	1580.2
First-Term Queue (Q1), veh/ln	0.0	1.6	0.0	4.1	0.0	5.7	0.0	1.6
Second-Term Queue (Q2), veh/ln	0.0	55.8	0.0	59.9	0.0	82.9	0.0	41.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	57.4	0.0	64.0	0.0	88.6	0.0	42.6

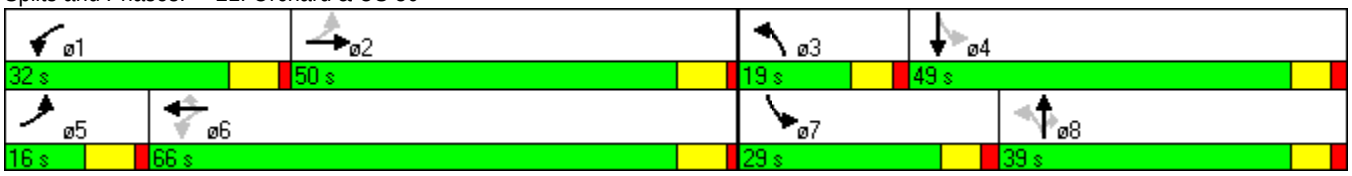
Percentile Storage Ratio (RQ%)	0.00	1.59	0.00	1.39	0.00	2.24	0.00	1.07
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	111.3	0.0	119.1	0.0	165.1	0.0	163.5
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	1.4	0.0	0.7	0.0	0.7	0.0	1.1
Right Lane Group Data								
Assigned Movement	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		R		R
Lanes in Group	0	1	0	1	0	1	0	1
Group Volume (v), veh/h	0.0	512.6	0.0	682.7	0.0	540.0	0.0	362.0
Group Sat. Flow (s), veh/h/ln	0.0	1713.5	0.0	1686.3	0.0	1583.3	0.0	1568.0
Queue Serve Time (g_s), s	0.0	4.0	0.0	10.1	0.0	14.2	0.0	4.0
Cycle Queue Clear Time (g_c), s	0.0	4.0	0.0	10.1	0.0	14.2	0.0	4.0
Prot RT Sat Flow Rate (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff. Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion RT Outside Lane (P_R)	0.000	0.365	0.000	0.486	0.000	1.000	0.000	1.000
Lane Group Capacity (c), veh/h	0.0	94.2	0.0	233.1	0.0	309.5	0.0	86.2
Volume-to-Capacity Ratio (X)	0.000	5.441	0.000	2.929	0.000	1.744	0.000	4.199
Available Capacity (c_a), veh/h	0.0	1012.8	0.0	985.2	0.0	1284.1	0.0	700.5
Upstream Filter Factor (I)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	34.4	0.0	31.3	0.0	29.3	0.0	34.4
Incremental Delay (d2), s/veh	0.0	2003.7	0.0	874.1	0.0	337.9	0.0	1446.1
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	2038.1	0.0	905.5	0.0	367.2	0.0	1480.5
First-Term Queue (Q1), veh/ln	0.0	1.5	0.0	3.8	0.0	5.0	0.0	1.4
Second-Term Queue (Q2), veh/ln	0.0	52.4	0.0	56.6	0.0	29.1	0.0	34.6
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	53.9	0.0	60.4	0.0	34.0	0.0	36.1
Percentile Storage Ratio (RQ%)	0.00	1.50	0.00	1.31	0.00	3.46	0.00	5.77
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	104.6	0.0	112.4	0.0	57.6	0.0	68.9
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	1.4	0.0	0.7	0.0	0.4	0.0	1.0
Intersection Summary								
HCM 2010 Control Delay		946.9						
HCM 2010 Level of Service		F						

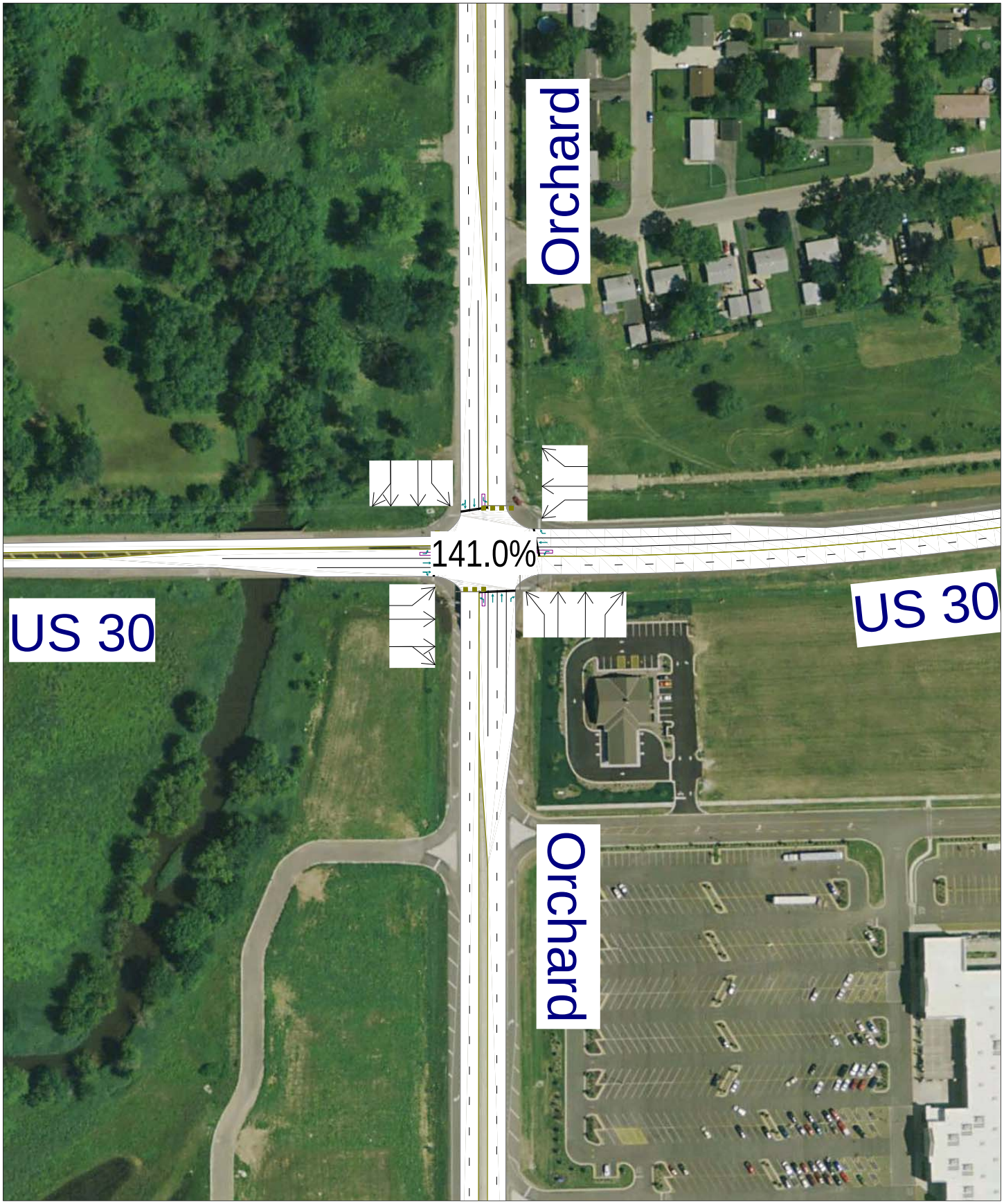
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	235	871	524	1028	540	282	845	362	471	1080
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2	1	6		3	8		7	4
Permitted Phases	2		6		6	8		8	4	
Detector Phase	5	2	1	6	6	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
Minimum Split (s)	11.0	23.0	10.8	23.1	23.1	10.4	22.5	22.5	10.4	22.5
Total Split (s)	16.0	50.0	32.0	66.0	66.0	19.0	39.0	39.0	29.0	49.0
Total Split (%)	10.7%	33.3%	21.3%	44.0%	44.0%	12.7%	26.0%	26.0%	19.3%	32.7%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	52.0	43.0	75.0	59.0	59.0	45.0	32.5	32.5	61.5	42.5
Actuated g/C Ratio	0.35	0.29	0.50	0.39	0.39	0.30	0.22	0.22	0.41	0.28
v/c Ratio	1.55	1.03	1.49	1.32	0.71	1.42	1.07	0.70	1.52	1.38
Control Delay	305.2	86.4	270.4	190.6	27.0	250.1	106.5	28.1	284.6	218.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	305.2	86.4	270.4	190.6	27.0	250.1	106.5	28.1	284.6	218.4
LOS	F	F	F	F	C	F	F	C	F	F
Approach Delay		126.1		168.4			114.6			235.0
Approach LOS		F		F			F			F

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Natural Cycle: 150
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.55
Intersection Signal Delay: 167.0 — Intersection LOS: F
Intersection Capacity Utilization 141.0% — ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 21: Orchard & US 30

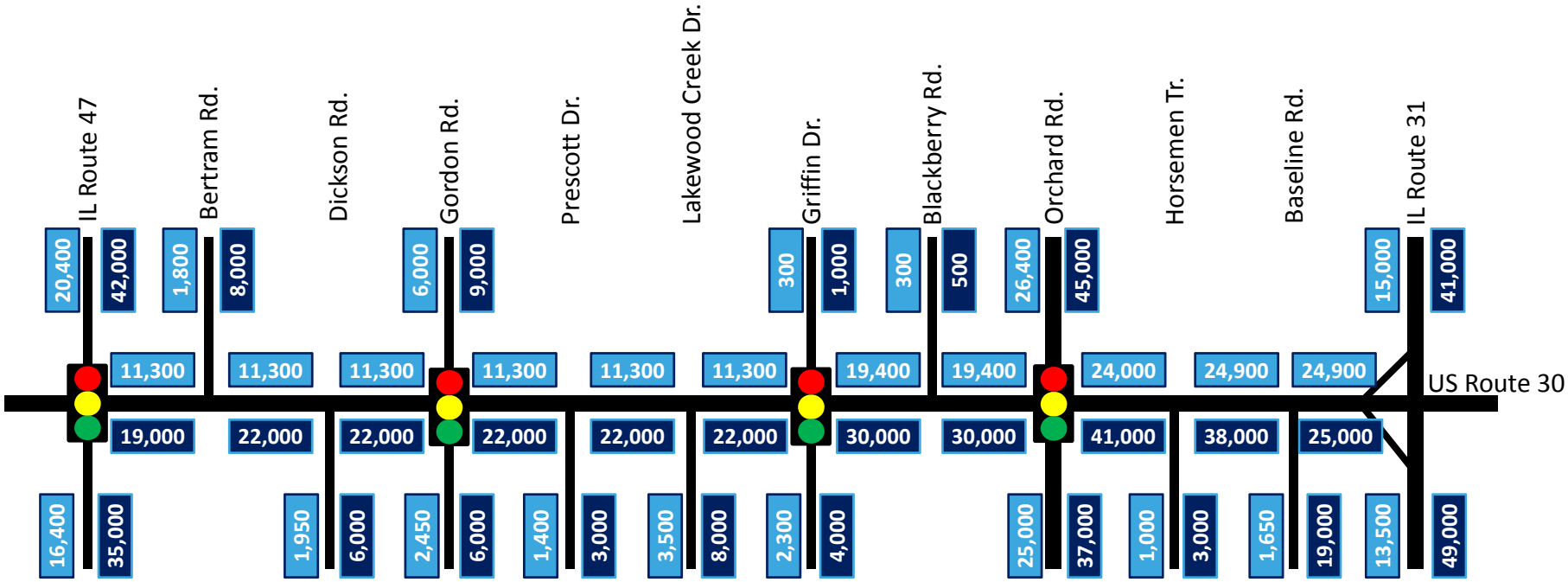



Orchard
141.0%
US 30
US 30
Orchard

ADT DATA

Appendix D

Average Daily Traffic Volumes



00,000 Existing (2011) Average Daily Traffic (From IDOT Website)

00,000 Projected (2040) Average Daily Traffic (CMAP Projections)

Existing Signalized Intersection

Chicago Metropolitan
Agency for Planning

233 South Wacker Drive
Suite 800
Chicago, Illinois 60606

312 454 0400
www.cmap.illinois.gov

BUREAU OF PROGRAMMING
RECEIVED
AUG 14

DISTRICT #1

August 3, 2012

Mr. John Fortmann, P.E.
Acting Region One/District 1 Engineer
Illinois Department of Transportation
201 West Center Court
Schaumburg, Illinois 60196

Subject: US 30 from IL 47 to IL 31: Build and No-Build
IDOT

Dear Mr. Fortmann:

In response to a request made on your behalf and dated July 18, 2012, we have developed year 2040 average daily traffic (ADT) projections for the subject location. These are located in two tables on the following page.

Please be aware that the Illinois Department of Transportation has prepared Strategic Regional Arterial (SRA) reports for the following: US 30, IL 47 and Orchard Road. SRA Reports include right-of-way, geometric, access and transit recommendations. The executive summaries can be found at http://www.cmap.illinois.gov/traffic/sra-resources with other information about the SRA system.

Traffic projections are developed using existing ADT data provided in the request letter and the results from the March 2012 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2040 socioeconomic projections and assumes the implementation of the GO TO 2040 Comprehensive Regional Plan for the Northeastern Illinois area.

If you have any questions, please call Jose Rodriguez at (312) 386-8806.

Sincerely,

Donald P. Kopec

Donald P. Kopec
Deputy Director for Planning and Programming

cc: Baczek, Salley, Czaplicki (IDOT)
M:\proj1\ceb\forecasts\2012 Response\ka-13- 12.docx

Table 1:

2040 Projected ADTs for Mainline, US 30 from IL 47 to IL 31, No-Build and Build

Road Segment	Existing ADT	2040 No-Build ADT	2040 Build ADT
Baseline Rd, west of IL 47	1,650	6,000	7,000
US 30, IL 47 to Bertram Rd	11,300	19,000	25,000
US 30, Bertram to Dickson	11,300	22,000	29,000
US 30, Dickson to Gordon Rd	11,300	22,000	27,000
US 30, Gordon Rd to Lakewood Creek	11,300	22,000	27,000
US 30, Lakewood Creek to Griffen	11,300	22,000	27,000
US 30, Griffen to Orchard	19,400	30,000	35,000
US 30, Orchard to Galena	24,000	41,000	50,000
US 30, Galena to Baseline	24,900	38,000	46,000
US 30, Baseline to IL 31	24,900	25,000	32,000
US 30, East of IL 31	30,700	42,000	44,000

Table 2:

2040 Projected ADTs for Intersecting Streets, US 30 from IL 47 to IL 31; No-Build and Build

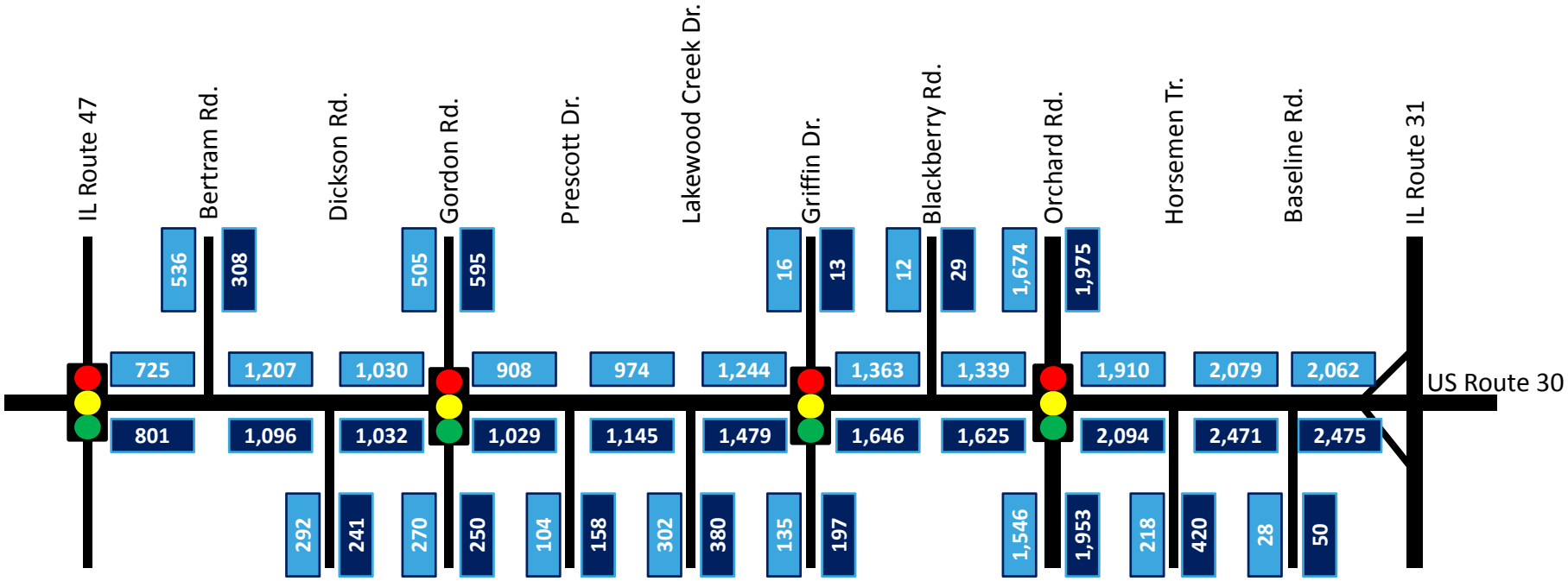
Road Segment	Existing ADT	2040 No-Build ADT	2040 Build ADT
IL 47/US 30, north of US 30	20,400	42,000	42,000
IL 47, south of US 31	16,400	35,000	35,000
Bertram Rd, north of US 30	1,800	8,000	7,000
Dickson Rd, south of US 30	1,950	6,000	6,000
Gordon, north of US 30	6,000	9,000	9,000
Gordon, south of US 30	2,450	6,000	6,000
Prescott Dr, south of US 30	1,400	3,000	3,000
Lakewood Creek Dr, so. of US 30	3,500	8,000	8,000
Griffen Dr, north of US 30	300	1,000	1,000
Griffen Dr, south of US 30	2,300	4,000	4,000
Blackberry Rd, north of US 30	300	500	500
Orchard, north of US 30	26,400	45,000	47,000
Orchard, south of US 30	25,000	37,000	37,000
Galena Rd, south of US 30	1,000	3,000	4,000
Baseline Rd, south of US 30	1,650	19,000	22,000
IL 31, north of US 30	15,000	41,000	39,000
IL 31, south of US 30	13,500	49,000	47,000

Prepared August 2, 2012 by CMAP

EXISTING AND PROPOSED PEAK HOUR VOLUMES

Appendix E

Existing (2012) Peak Hour Volumes

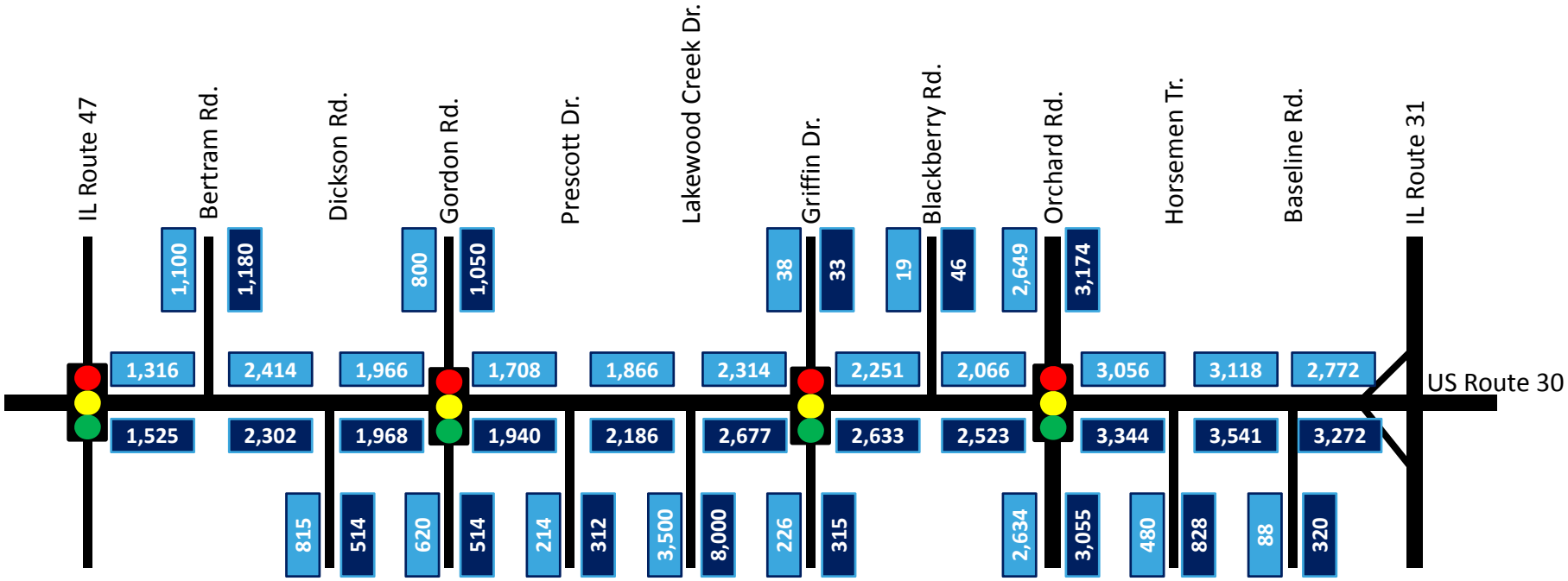


0,000 AM

0,000 PM

Existing Signalized Intersection

Projected (2040) Peak Hour Volumes

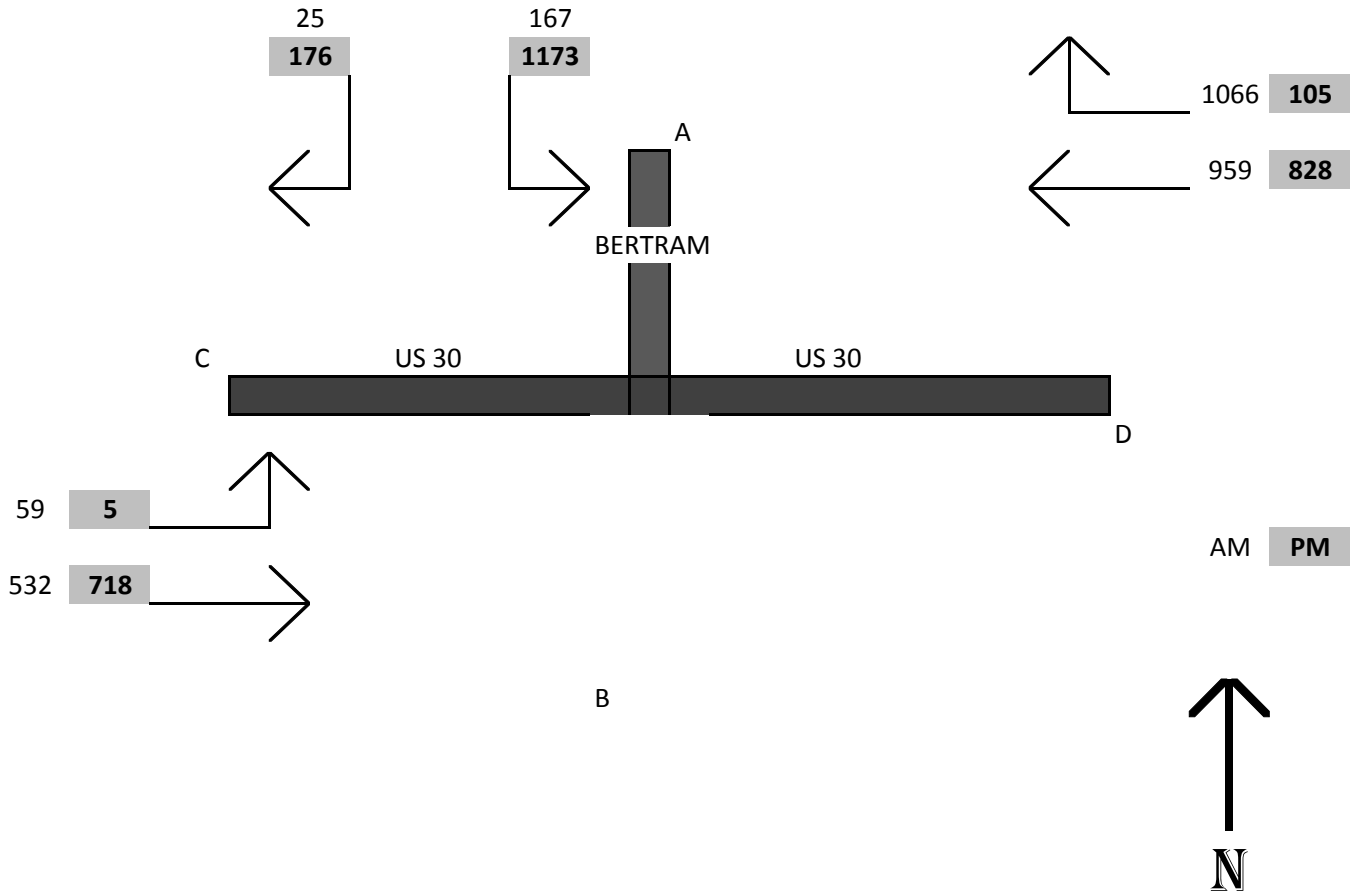


0,000 AM

0,000 PM

Existing Signalized Intersection

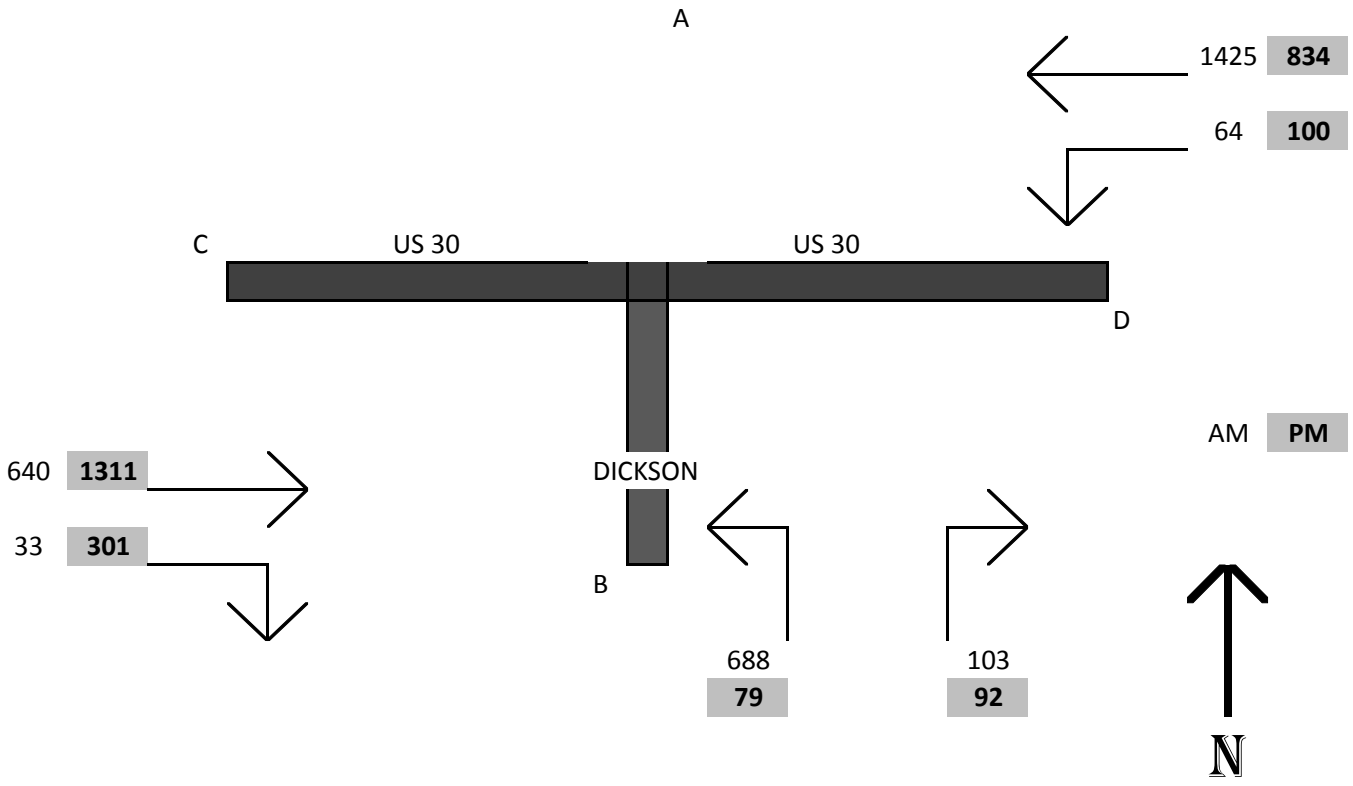
US 30 (BASELINE ROAD) CITY: MONTGOMERY DATE: ########
KANE & KENDALL COUNTIES
P-91-403-11



TRAFFIC MOVEMENT	EXISTING DHV 2012		PERCENT TRUCKS		2040 GROWTH RATE	FUTURE DHV 2040	
	AM	PM	AM	PM		AM	PM
AB	0	0	0%	0%	5.28%	0	0
AD	40	278	5%	0%	5.28%	167	1173
AC	6	42	17%	0%	5.28%	25	176
BA	0	0	0%	0%		0	0
BC	0	0	0%	0%		0	0
BD	0	0	0%	0%		0	0
CD	322	435	5%	8%	1.81%	532	718
CA	36	3	0%	0%	1.81%	59	5
CB	0	0	0%	0%	1.81%	0	0
DC	504	435	5%	8%	2.32%	959	828
DB	0	0	0%	0%	2.32%	0	0
DA	560	55	0%	0%	2.32%	1066	105

TOTAL - A	642	378	1318	1460
TOTAL - B	0	0	0	0
TOTAL - C	868	915	1576	1728
TOTAL - D	1426	1203	2724	2824

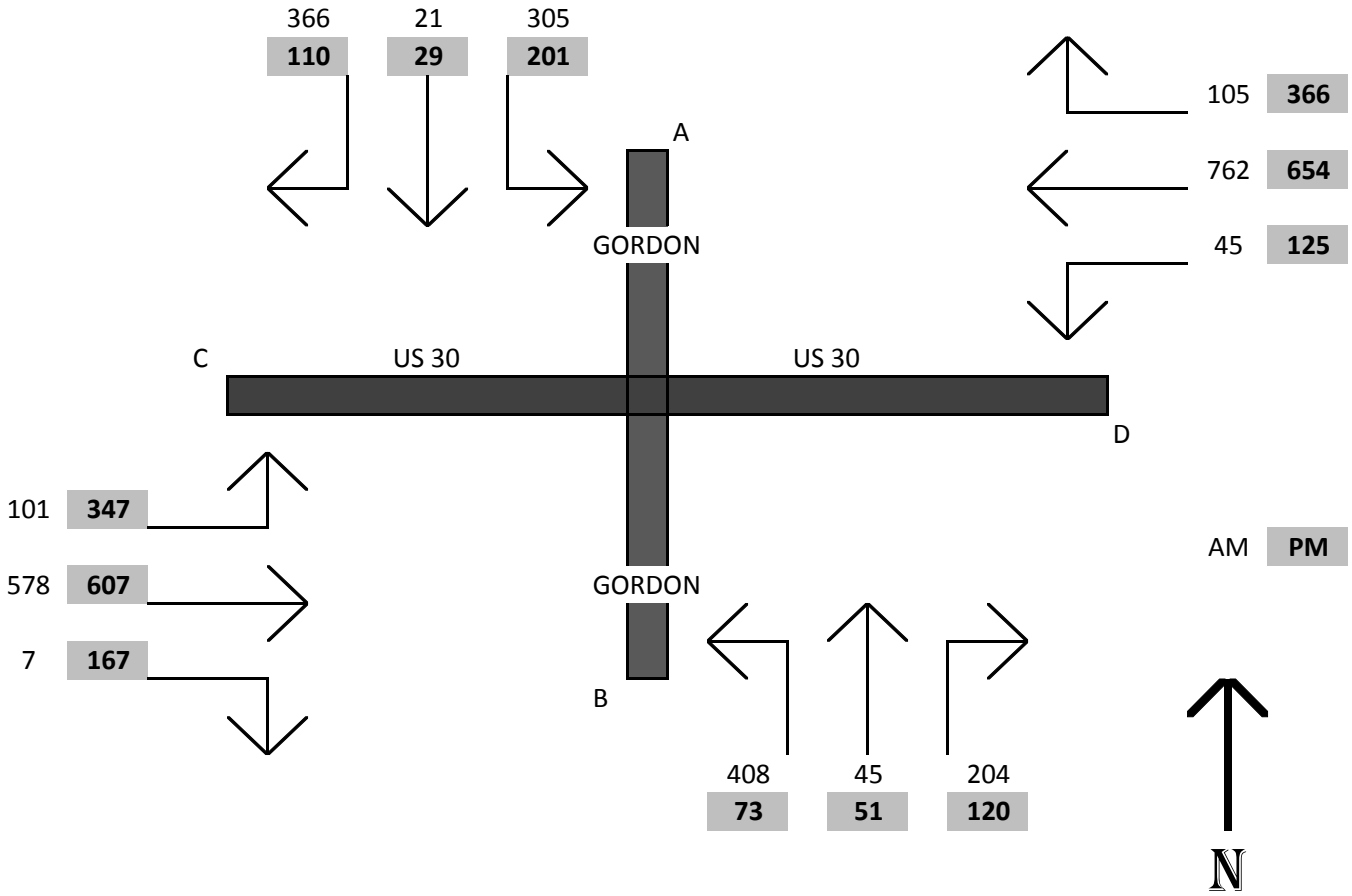
US 30 (BASELINE ROAD) CITY: MONTGOMERY DATE: 5/22/2012
KANE & KENDALL COUNTIES
P-91-403-11



TRAFFIC MOVEMENT	EXISTING DHV 2012		PERCENT TRUCKS		2040 GROWTH RATE	FUTURE DHV 2040	
	AM	PM	AM	PM		AM	PM
AB	0	0	0%	0%		0	0
AD	0	0	0%	0%		0	0
AC	0	0	0%	0%		0	0
BA	0	0	0%	0%	3.95%	0	0
BC	233	27	0%	4%	3.95%	688	79
BD	35	31	9%	4%	3.95%	103	92
CD	336	689	7%	3%	2.32%	640	1311
CA	0	0	0%	0%	2.32%	0	0
CB	17	158	0%	0%	2.32%	33	301
DC	749	438	5%	7%	2.32%	1425	834
DB	34	52	0%	4%	2.32%	64	100
DA	0	0	0%	0%	2.32%	0	0

TOTAL - A	0	0	0	0
TOTAL - B	319	269	889	573
TOTAL - C	1335	1312	2786	2525
TOTAL - D	1154	1211	2233	2337

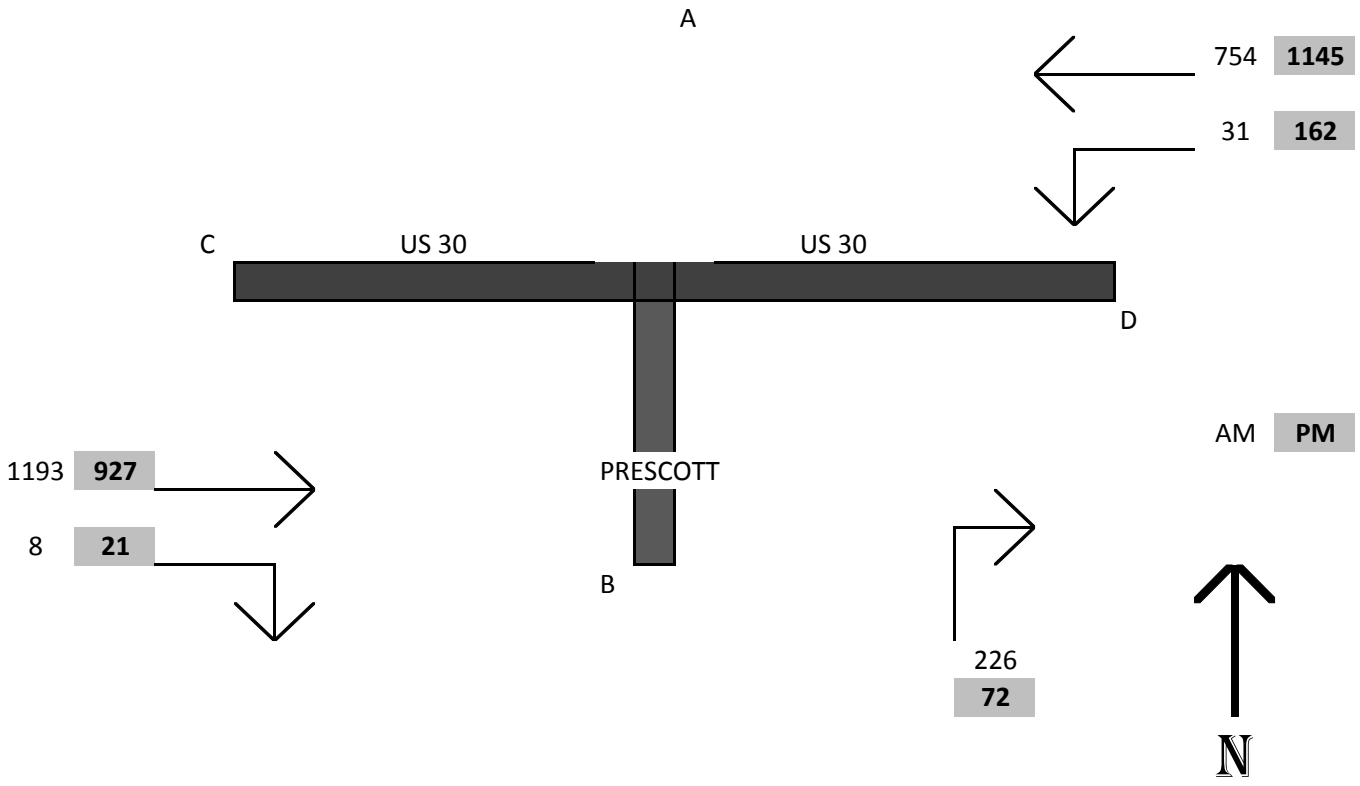
US 30 (BASELINE ROAD) CITY: MONTGOMERY DATE: 5/22/2012
KANE & KENDALL COUNTIES
P-91-403-11



TRAFFIC MOVEMENT	EXISTING DHV 2012		PERCENT TRUCKS		2040 GROWTH RATE	FUTURE DHV 2040	
	AM	PM	AM	PM		AM	PM
AB	14	20	14%	5%	1.41%	21	29
AD	206	136	0%	1%	1.41%	305	201
AC	247	74	2%	1%	1.41%	366	110
BA	19	22	19%	10%	3.14%	45	51
BC	172	31	0%	3%	3.14%	408	73
BD	86	50	3%	6%	3.14%	204	120
CD	304	319	6%	9%	2.32%	578	607
CA	53	182	16%	0%	2.32%	101	347
CB	4	88	33%	0%	2.32%	7	167
DC	400	344	8%	8%	2.32%	762	654
DB	24	66	20%	0%	2.32%	45	125
DA	55	193	6%	0%	2.32%	105	366

TOTAL - A	595	626	942	1104
TOTAL - B	318	276	730	565
TOTAL - C	1180	1038	2222	1958
TOTAL - D	1075	1108	1999	2074

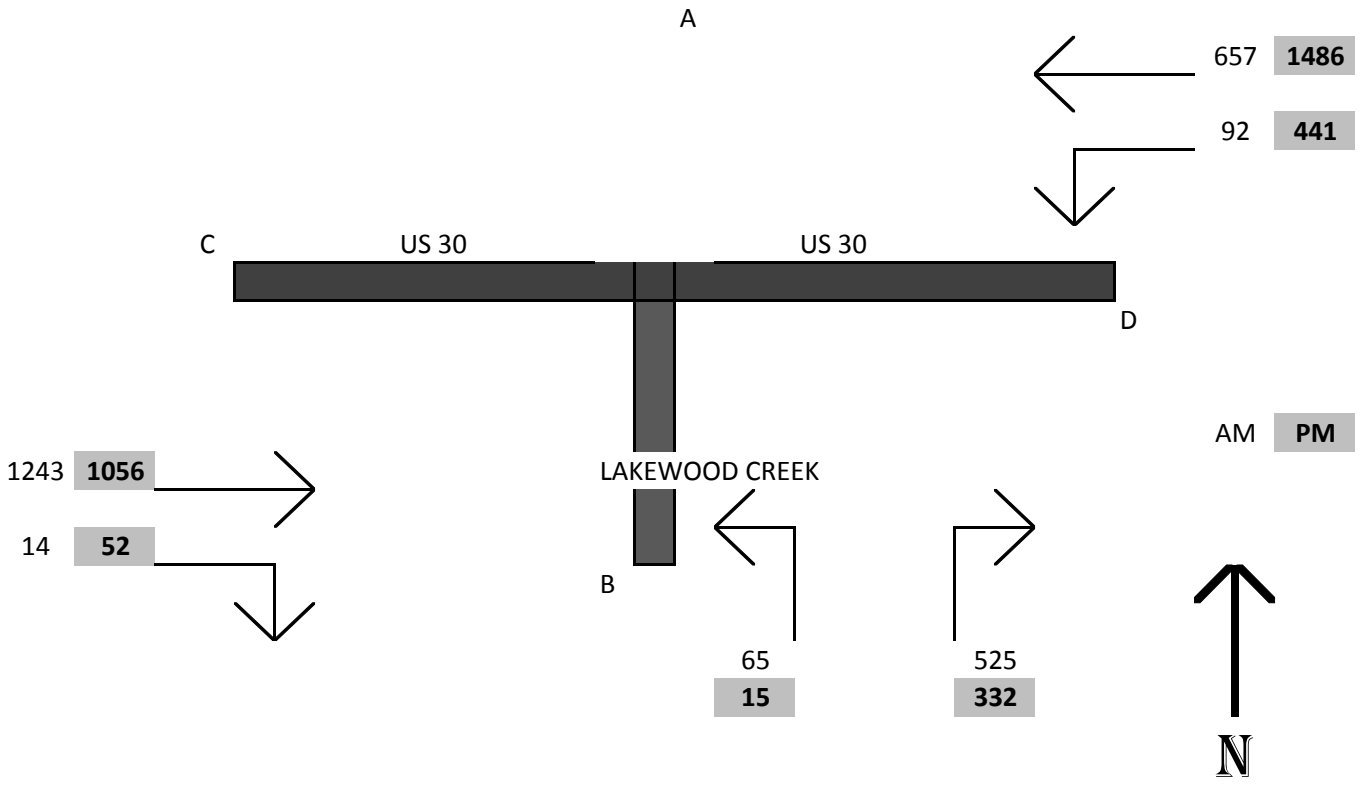
US 30 (BASELINE ROAD) CITY: MONTGOMERY DATE: 5/22/2012
KANE & KENDALL COUNTIES
P-91-403-11



TRAFFIC MOVEMENT	EXISTING DHV 2012		PERCENT TRUCKS		2040 GROWTH RATE	FUTURE DHV 2040	
	AM	PM	AM	PM		AM	PM
AB	0	0	0%	0%		0	0
AD	0	0	0%	0%		0	0
AC	0	0	0%	0%		0	0
BA	0	0	0%	0%	2.66%	0	0
BC	0	0	0%	0%	2.66%	0	0
BD	108	35	0%	0%	2.66%	226	72
CD	627	487	4%	4%	2.32%	1193	927
CA	0	0	0%	0%	2.32%	0	0
CB	4	11	0%	9%	2.32%	8	21
DC	396	602	6%	4%	2.32%	754	1145
DB	16	85	0%	0%	2.32%	31	162
DA	0	0	0%	0%	2.32%	0	0

TOTAL - A	0	0	0	0
TOTAL - B	129	131	266	256
TOTAL - C	1027	1100	1955	2093
TOTAL - D	1148	1209	2204	2306

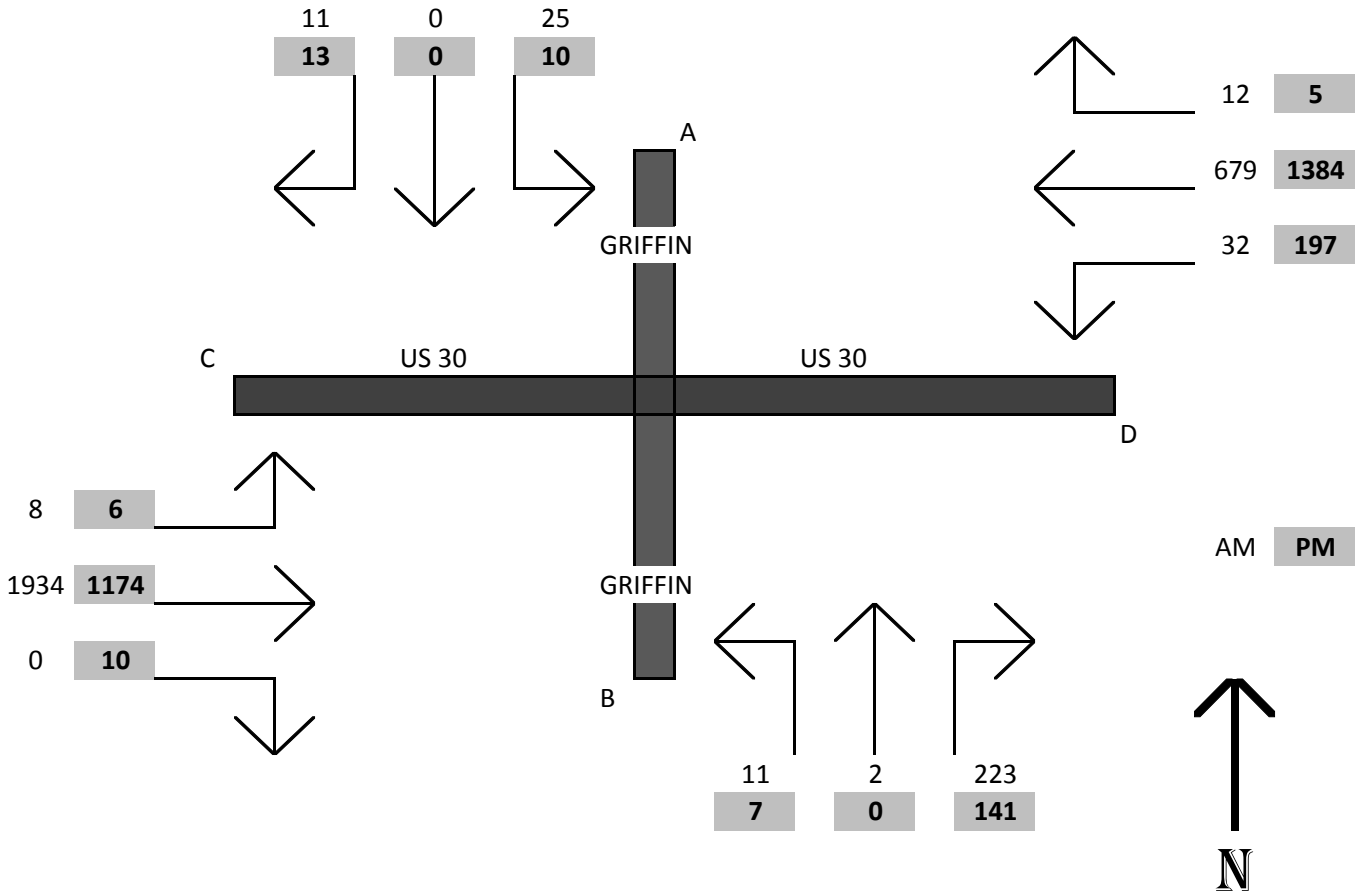
US 30 (BASELINE ROAD) CITY: MONTGOMERY DATE: 5/22/2012
KANE & KENDALL COUNTIES
P-91-403-11



TRAFFIC MOVEMENT	EXISTING DHV 2012		PERCENT TRUCKS		2040 GROWTH RATE	FUTURE DHV 2040	
	AM	PM	AM	PM		AM	PM
AB	0	0	0%	0%		0	0
AD	0	0	0%	0%		0	0
AC	0	0	0%	0%		0	0
BA	0	0	0%	0%	2.89%	0	0
BC	29	7	4%	17%	2.89%	65	15
BD	236	150	3%	2%	2.89%	525	332
CD	653	555	4%	6%	2.32%	1243	1056
CA	0	0	0%	0%	2.32%	0	0
CB	7	27	0%	0%	2.32%	14	52
DC	345	781	7%	5%	2.32%	657	1486
DB	48	232	9%	0%	2.32%	92	441
DA	0	0	0%	0%	2.32%	0	0

TOTAL - A	0	0	0	0
TOTAL - B	321	416	696	841
TOTAL - C	1035	1371	1979	2610
TOTAL - D	1283	1718	2517	3316

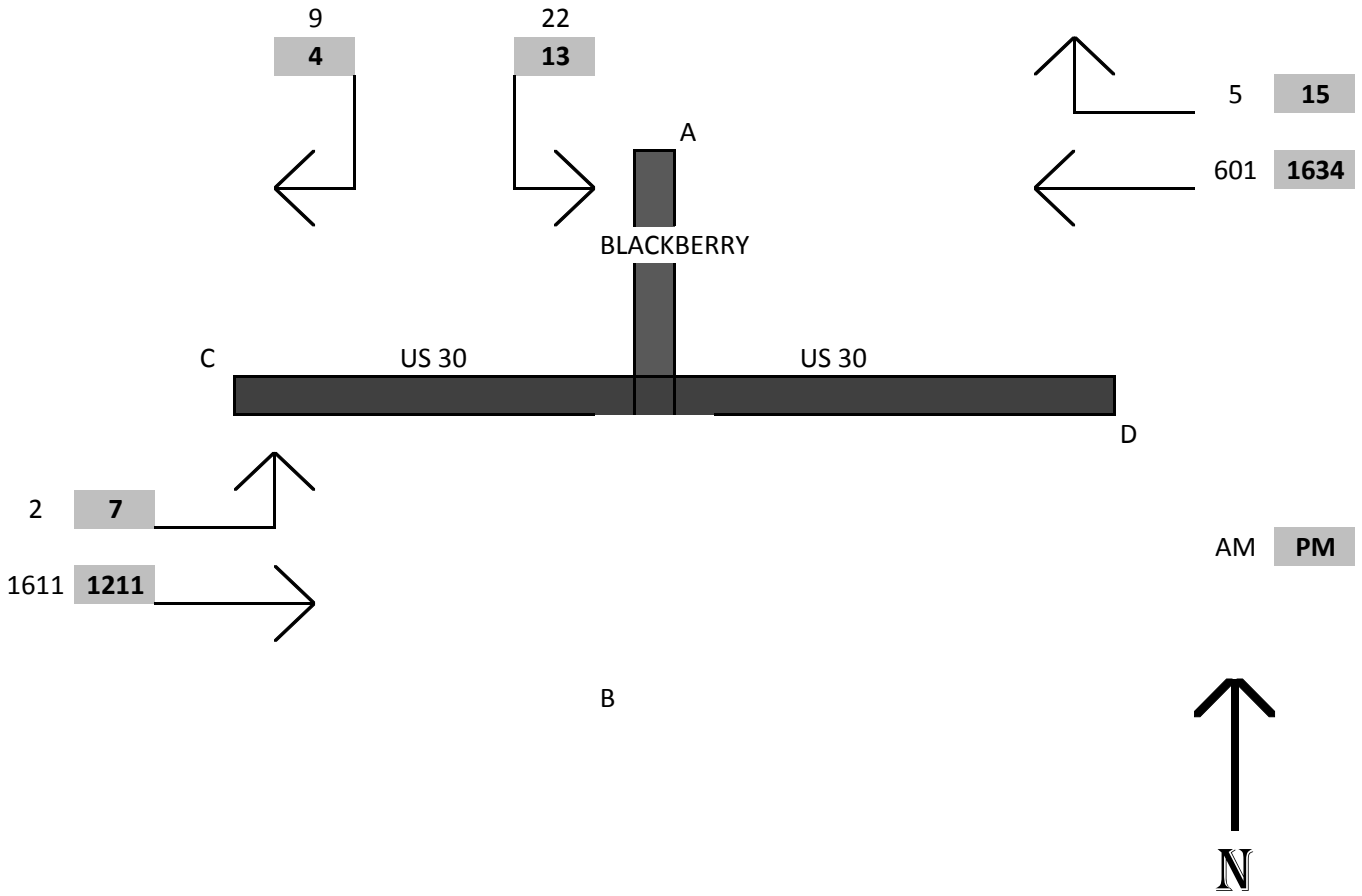
US 30 (BASELINE ROAD) CITY: MONTGOMERY DATE: 5/22/2012
KANE & KENDALL COUNTIES
P-91-403-11



TRAFFIC MOVEMENT	EXISTING DHV 2012		PERCENT TRUCKS		2040 GROWTH RATE	FUTURE DHV 2040	
	AM	PM	AM	PM		AM	PM
AB	0	0	0%	0%	4.24%	0	0
AD	8	3	0%	0%	4.24%	25	10
AC	3	4	0%	0%	4.24%	11	13
BA	1	0	0%	0%	1.93%	2	0
BC	7	4	0%	0%	1.93%	11	7
BD	131	83	5%	4%	1.93%	223	141
CD	1016	617	2%	8%	2.32%	1934	1174
CA	4	3	0%	0%	2.32%	8	6
CB	0	5	0%	0%	2.32%	0	10
DC	446	908	6%	4%	1.51%	679	1384
DB	21	129	32%	2%	1.51%	32	197
DA	8	3	29%	0%	1.51%	12	5

TOTAL - A	24	13	57	34
TOTAL - B	159	221	268	355
TOTAL - C	1476	1542	2642	2594
TOTAL - D	1629	1743	2903	2910

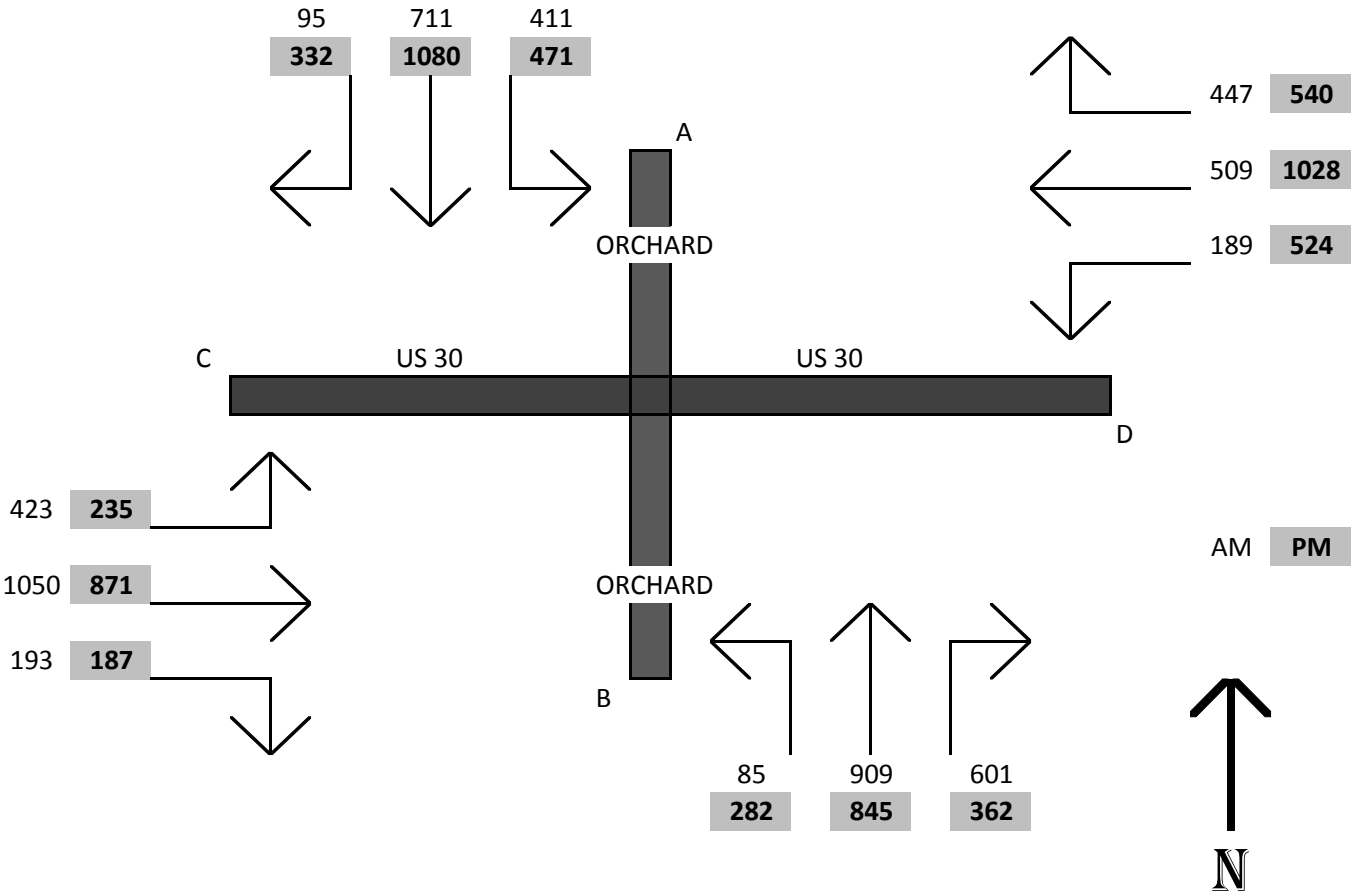
US 30 (BASELINE ROAD) CITY: MONTGOMERY DATE: 5/22/2012
KANE & KENDALL COUNTIES
P-91-403-11



TRAFFIC MOVEMENT	EXISTING DHV 2012		PERCENT TRUCKS		2040 GROWTH RATE	FUTURE DHV 2040	
	AM	PM	AM	PM		AM	PM
AB	0	0	0%	0%	1.78%	0	0
AD	13	8	0%	0%	1.78%	22	13
AC	6	2	0%	46%	1.78%	9	4
BA	0	0	0%	0%		0	0
BC	0	0	0%	0%		0	0
BD	0	0	0%	0%		0	0
CD	1058	795	4%	5%	1.51%	1611	1211
CA	1	4	0%	0%	1.51%	2	7
CB	0	0	0%	0%	1.51%	0	0
DC	395	1073	11%	3%	1.51%	601	1634
DB	0	0	0%	0%	1.51%	0	0
DA	3	10	0%	0%	1.51%	5	15

TOTAL - A	23	24	38	38
TOTAL - B	0	0	0	0
TOTAL - C	1459	1874	2224	2856
TOTAL - D	1469	1885	2240	2873

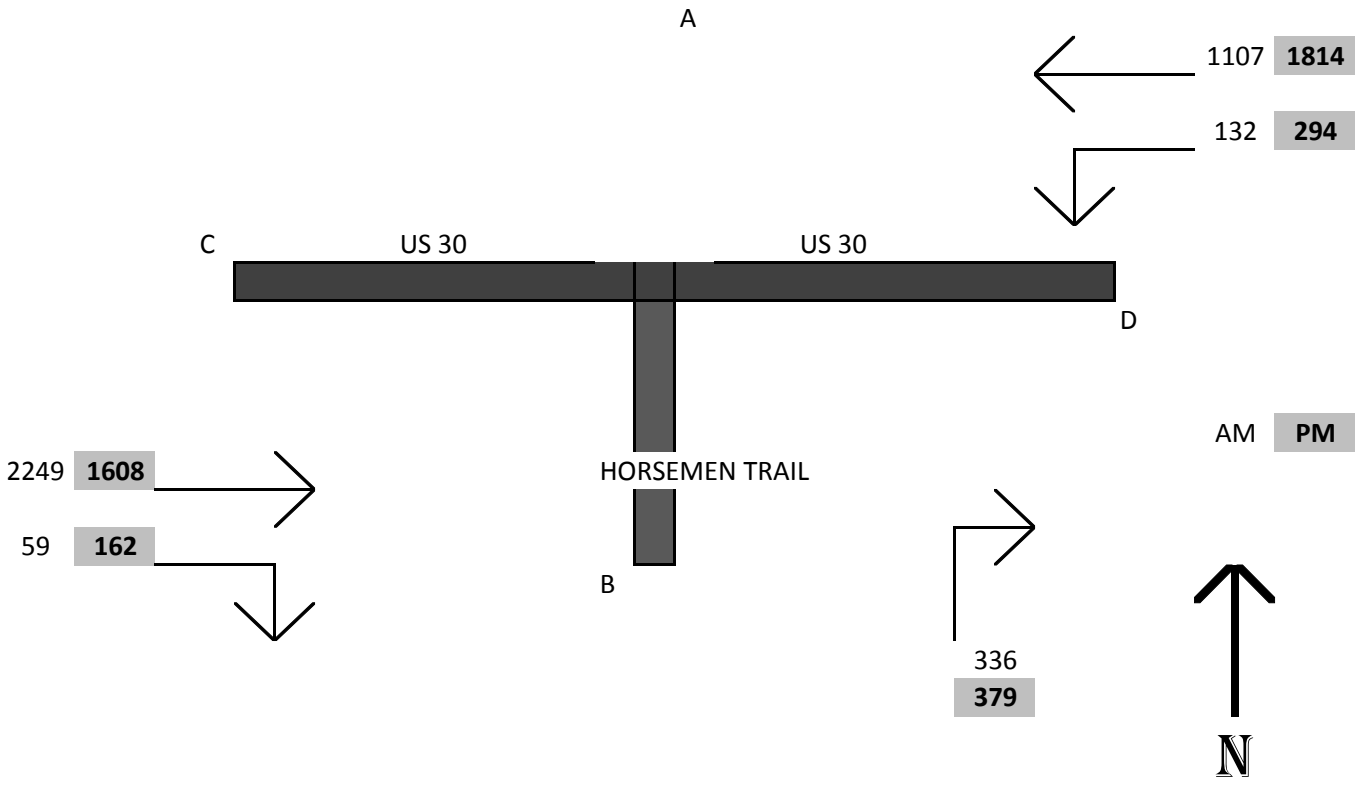
US 30 (BASELINE ROAD) CITY: MONTGOMERY DATE: 5/22/2012
KANE & KENDALL COUNTIES
P-91-403-11



TRAFFIC MOVEMENT	EXISTING DHV 2012		PERCENT TRUCKS		2040 GROWTH RATE	FUTURE DHV 2040	
	AM	PM	AM	PM		AM	PM
AB	425	645	7%	5%	1.86%	711	1080
AD	246	281	6%	6%	1.86%	411	471
AC	57	198	7%	3%	1.86%	95	332
BA	623	578	6%	4%	1.36%	909	845
BC	58	193	9%	3%	1.36%	85	282
BD	412	248	2%	3%	1.36%	601	362
CD	689	572	4%	5%	1.51%	1050	871
CA	277	154	2%	5%	1.51%	423	235
CB	127	123	3%	2%	1.51%	193	187
DC	304	613	11%	4%	1.86%	509	1028
DB	113	312	10%	2%	1.86%	189	524
DA	267	322	7%	5%	1.86%	447	540

TOTAL - A	1894	2179	2996	3502
TOTAL - B	1756	2100	2688	3279
TOTAL - C	1512	1853	2355	2934
TOTAL - D	2030	2348	3208	3796

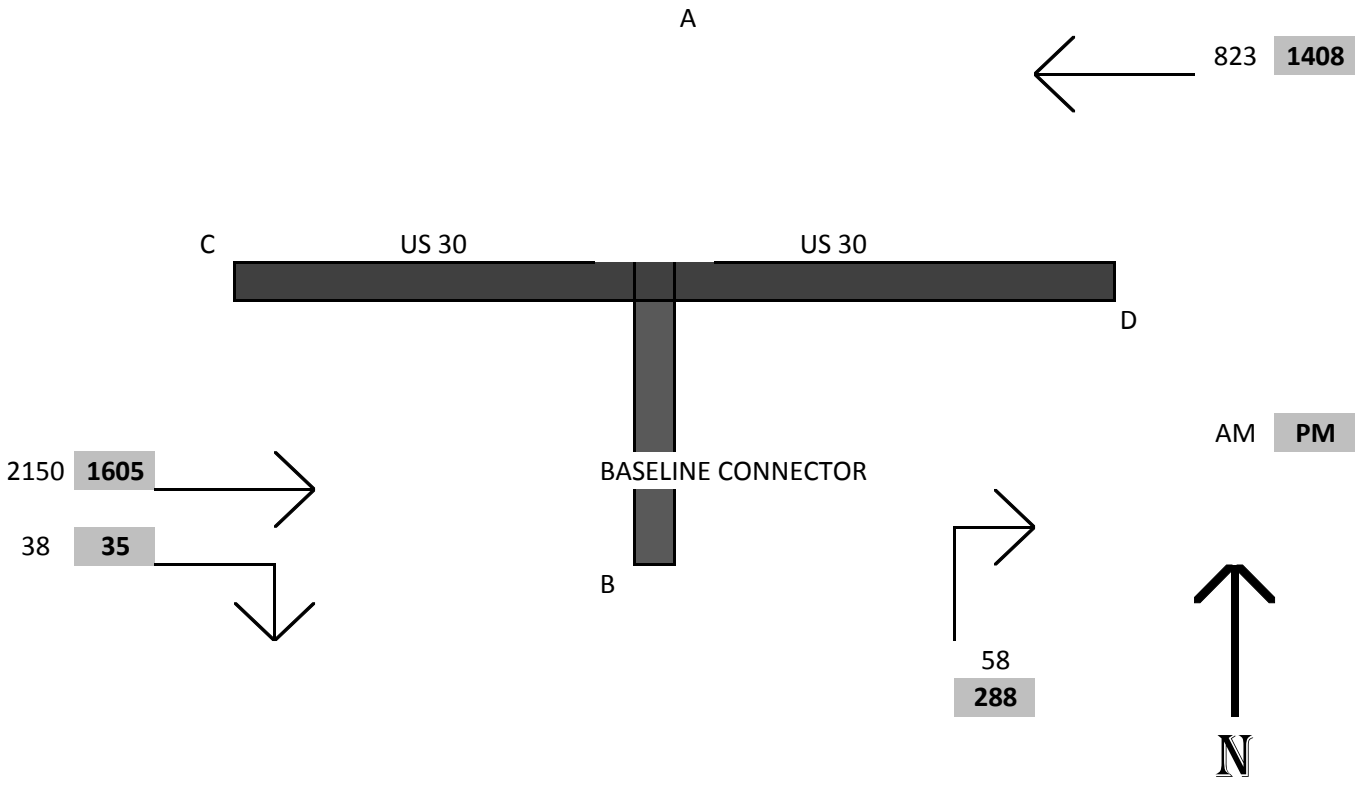
US 30 (BASELINE ROAD) CITY: MONTGOMERY DATE: 5/22/2012
KANE & KENDALL COUNTIES
P-91-403-11



TRAFFIC MOVEMENT	EXISTING DHV 2012		PERCENT TRUCKS		2040 GROWTH RATE	FUTURE DHV 2040	
	AM	PM	AM	PM		AM	PM
AB	0	0	0%	0%		0	0
AD	0	0	0%	0%		0	0
AC	0	0	0%	0%		0	0
BA	0	0	0%	0%	3.86%	0	0
BC	0	0	0%	0%	3.86%	0	0
BD	116	131	7%	2%	3.86%	336	379
CD	1341	959	4%	5%	1.86%	2249	1608
CA	0	0	0%	0%	1.86%	0	0
CB	35	97	22%	2%	1.86%	59	162
DC	736	1206	7%	4%	1.47%	1107	1814
DB	88	196	10%	2%	1.47%	132	294
DA	0	0	0%	0%	1.47%	0	0

TOTAL - A	0	0	0	0
TOTAL - B	239	423	527	835
TOTAL - C	2112	2261	3414	3584
TOTAL - D	2281	2491	3824	4094

US 30 (BASELINE ROAD) CITY: MONTGOMERY DATE: 5/22/2012
KANE & KENDALL COUNTIES
P-91-403-11



TRAFFIC MOVEMENT	EXISTING DHV 2012		PERCENT TRUCKS		2040 GROWTH RATE	FUTURE DHV 2040	
	AM	PM	AM	PM		AM	PM
AB	0	0	0%	0%		0	0
AD	0	0	0%	0%		0	0
AC	0	0	0%	0%		0	0
BA	0	0	0%	0%	8.79%	0	0
BC	0	0	0%	0%	8.79%	0	0
BD	5	27	20%	4%	8.79%	58	288
CD	1429	1067	4%	5%	1.47%	2150	1605
CA	0	0	0%	0%	1.47%	0	0
CB	25	23	30%	4%	1.47%	38	35
DC	820	1402	7%	4%	0.01%	823	1408
DB	0	0	0%	0%	8.79%	0	0
DA	0	0	0%	0%	8.79%	0	0

TOTAL - A	0	0	0	0
TOTAL - B	31	50	96	323
TOTAL - C	2275	2493	3011	3048
TOTAL - D	2255	2497	3031	3301

Existing ADT's for US 30 from IL 47 to IL 31

from CMAP

Mainline			
Section	Existing 2011	No Build 2040	Growth Rate
Baseline Rd, west of IL 47	1,650	6,000	4.55%
US 30, IL 47 to Bertram Rd	11,300	19,000	1.81%
US 30, Bertram to Dickson	11,300	22,000	2.32%
US 30, Dickson to Gordon Rd	11,300	22,000	2.32%
US 30, Gordon Rd to Lakewood Creek	11,300	22,000	2.32%
US 30, Lakewood Creek to Griffen	11,300	22,000	2.32%
US 30, Griffen to Orchard	19,400	30,000	1.51%
US 30, Orchard to Galena	24,000	41,000	1.86%
US 30, Galena to Baseline	24,900	38,000	1.47%
US 30, Baseline to IL 31	24,900	25,000	0.01%
US 30, East of IL 31	30,700	42,000	1.09%

Intersecting Streets			
Section	Existing 2011	No Build 2040	Growth Rate
IL 47/US 30, north of US 30	20,400	42,000	2.52%
IL 47, south of US 31	16,400	35,000	2.65%
Bertram Rd, north of US 30	1,800	8,000	5.28%
Dickson Rd, south of US 30	1,950	6,000	3.95%
Gordon, north of US 30	6,000	9,000	1.41%
Gordon, south of US 30	2,450	6,000	3.14%
Prescott Drive, south of US 30	1,400	3,000	2.66%
Lakewood Creek Drive, south of US 30	3,500	8,000	2.89%
Griffen Dr, north of US 30	300	1,000	4.24%
Griffen Dr, south of US 30	2,300	4,000	1.93%
Blackberry Rd, north of US 30	300	500	1.78%
Orchard, north of US 30	26,400	45,000	1.86%
Orchard, south of US 30	25,000	37,000	1.36%
Galena Rd, south of US 30	1,000	3,000	3.86%
Baseline Rd, south of US 30	1,650	19,000	8.79%
IL 31, north of US 30	15,000	41,000	3.53%
IL 31, south of US 30	13,500	49,000	4.55%

EXISTING TRAFFIC COUNTS

Appendix F

US 30 P-91-403-11

INTERSECTION: BERTRAM

A.M

DATE COUNTED: 4/24/2012
COUNTED BY: R.D.

PASSENGER

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD	4	3	8	6	7	6	7	11	4	9	9	6	3	4	6	2	5	6	4	7	5	7	5	8
AC	0	0	2	2	2	2	0	0	1	1	1	2	1	2	0	1	1	1	3	2	2	1	2	2
BA																								
BC																								
BD																								
CD	43	59	84	76	62	55	72	66	61	43	44	39	45	65	35	42	37	45	42	60	66	38	48	45
CA	2	0	0	4	3	8	6	13	2	2	0	2	1	2	1	0	3	1	0	1	0	0	0	1
CB																								
DC	50	79	83	82	91	108	115	87	53	73	81	83	97	63	38	26	45	47	69	42	40	33	49	43
DB																								
DA	40	3	83	85	95	115	155	103	64	44	35	23	18	14	16	9	9	8	5	5	10	4	6	4

SINGLE UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD	0	0	0	0	0	0	1	1	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0
AC	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
BA																								
BC																								
BD																								
CD	1	1	2	3	1	2	1	3	1	2	12	2	0	2	6	1	3	1	3	0	3	3	1	4
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CB																								
DC	0	0	1	10	1	1	1	2	3	1	4	8	1	5	4	2	1	1	5	4	1	2	2	0
DB																								
DA	0	0	0	0	0	0	0	0	1	0	0	3	0	0	0	1	0	0	0	0	1	0	2	0

MULTI UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BA																								
BC																								
BD																								
CD	5	10	5	6	2	0	3	2	3	2	3	7	1	7	2	2	8	5	2	4	1	5	3	4
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CB																								
DC	2	2	4	4	1	4	5	5	3	5	4	1	3	1	5	2	4	4	4	5	3	4	1	2
DB																								
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TOTAL TRUCKS

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00		Truck Percent
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AD	0	0	0	0	0	0	1	1	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	2	5%
AC	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	17%
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
CD	6	11	7	9	3	2	4	5	4	4	15	9	1	9	8	3	11	6	5	4	4	8	4	8	14	5%
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
DC	2	2	5	14	2	5	6	7	6	6	8	9	4	6	9	4	5	5	9	9	4	6	3	2	20	5%
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
DA	0	0	0	0	0	0	0	0	1	0	0	3	0	0	0	1	0	0	0	0	1	0	2	0	0	0%

TOTAL

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AD	4	3	8	6	7	6	8	12	4	9	12	6	3	4	6	2	5	6	5	7	5	7	5	8	40	33	8	
AC	0	0	2	2	2	2	1	0	1	1	1	2	1	3	0	1	1	1	3	2	2	1	2	2	6	5	1	
APPROACH A			**6:00 =**	**25**			**7:00 =**	**38**			**8:00 =**	**36**			**9:00 =**	**20**			**10:00 =**	**30**			**11:00 =**	**32**				
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH B			**6:00 =**	**0**			**7:00 =**	**0**			**8:00 =**	**0**			**9:00 =**	**0**			**10:00 =**	**0**			**11:00 =**	**0**				
CD	49	70	91	85	65	57	76	71	65	47	59	48	46	74	43	45	48	51	47	64	70	46	52	53	322	269	76	
CA	2	0	0	4	3	8	6	13	2	2	0	2	1	2	1	0	3	1	0	1	0	0	0	1	36	30	6	
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH C			**6:00 =**	**301**			**7:00 =**	**299**			**8:00 =**	**225**			**9:00 =**	**212**			**10:00 =**	**215**			**11:00 =**	**222**				
DC	52	81	88	96	93	113	121	94	59	79	89	92	101	69	47	30	50	52	78	51	44	39	52	45	504	421	121	
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DA	40	3	83	85	95	115	155	103	65	44	35	26	18	14	16	10	9	8	5	5	11	4	8	4	560	468	155	
APPROACH D			**6:00 =**	**528**			**7:00 =**	**889**			**8:00 =**	**489**			**9:00 =**	**305**			**10:00 =**	**258**			**11:00 =**	**207**	**1468**	**1226**	**367**	**0.84**

Hutchison Engineering, Inc.

US 30P-91-403-11

INTERSECTION: BERTRAM

DATE COUNTED: 4/25/2012
COUNTED BY: R.D.

P.M

PASSENGER

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD	5	3	10	6	3	19	9	9	14	13	13	19	15	31	25	29	32	48	31	66	65	54	68	56
AC	1	1	3	5	0	0	1	0	1	3	1	3	3	8	7	12	10	7	8	13	12	8	5	8
BA																								
BC																								
BD																								
CD	45	57	79	60	49	44	62	59	80	66	47	62	83	110	82	94	90	86	91	98	85	89	114	88
CA	2	1	1	1	0	0	2	1	0	1	4	2	1	2	3	2	0	0	4	2	0	0	1	1
CB																								
DC	58	43	52	44	54	38	56	48	59	62	71	78	69	86	95	123	94	94	84	97	101	86	94	78
DB																								
DA	9	7	4	5	8	1	4	10	11	13	7	7	6	12	15	15	8	8	15	11	11	8	20	9

SINGLE UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD	0	0	1	1	0	1	0	0	0	0	0	3	1	1	0	0	0	0	0	0	0	0	0	0
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
BA																								
BC																								
BD																								
CD	5	2	4	3	1	2	4	3	1	5	1	6	5	4	1	5	1	1	0	0	1	1	1	1
CA	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CB																								
DC	4	2	3	6	3	2	2	4	4	0	5	2	3	6	6	1	7	0	2	0	2	1	1	1
DB																								
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0

MULTI UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BA																								
BC																								
BD																								
CD	5	3	6	6	5	10	2	4	3	5	4	6	5	5	2	3	2	4	1	1	2	0	4	1
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CB																								
DC	3	5	7	5	7	8	3	4	4	8	1	3	4	5	1	2	2	1	2	1	5	4	4	2
DB																								
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TOTAL TRUCKS

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00		Truck Percent
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AD	0	0	1	1	0	1	0	0	0	0	0	3	1	1	0	0	0	0	0	0	0	0	0	0	1	0%
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0%
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
CD	10	5	10	9	6	12	6	7	4	10	5	12	10	9	3	8	3	5	1	1	3	1	5	2	31	8%
CA	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
DC	7	7	10	11	10	10	5	8	8	8	6	5	7	11	7	3	9	1	4	1	7	5	5	3	33	8%
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0%

TOTAL

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AD	5	3	11	7	3	20	9	9	14	13	13	22	16	32	25	29	32	48	31	66	65	54	68	56	278	253	68	
AC	1	1	3	5	0	0	1	0	1	3	1	3	3	8	7	12	10	8	8	13	12	8	5	8	42	38	5	
APPROACH A			**12:00 =**	**36**			**1:00 =**	**42**			**2:00 =**	**70**			**3:00 =**	**132**			**4:00 =**	**216**			**5:00 =**	**276**				
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH B			**12:00 =**	**0**			**1:00 =**	**0**			**2:00 =**	**0**			**3:00 =**	**0**			**4:00 =**	**0**			**5:00 =**	**0**				
CD	55	62	89	69	55	56	68	66	84	76	52	74	93	119	85	102	93	91	92	99	88	90	119	90	435	396	119	
CA	3	1	2	1	0	0	2	1	0	1	4	2	1	2	3	2	0	0	4	2	0	0	1	1	3	3	1	
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH C			**12:00 =**	**282**			**1:00 =**	**248**			**2:00 =**	**293**			**3:00 =**	**407**			**4:00 =**	**381**			**5:00 =**	**389**				
DC	65	50	62	55	64	48	61	56	67	70	77	83	76	97	102	126	103	95	88	98	108	91	99	81	435	396	99	
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DA	9	7	4	5	8	1	4	10	11	13	7	7	6	14	17	15	8	8	15	11	11	8	20	9	55	50	20	
APPROACH D			**12:00 =**	**257**			**1:00 =**	**252**			**2:00 =**	**335**			**3:00 =**	**453**			**4:00 =**	**426**			**5:00 =**	**427**	**1248**	**1136**	**312**	**0.91**

Hutchison Engineering, Inc.

US 30P-91-403-11

INTERSECTION: DICKSON

DATE COUNTED: 4/26/2012
COUNTED BY: R.D.

A.M

PASSENGER

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD																								
AC																								
BA																								
BC	16	25	32	28	38	48	60	67	27	8	15	14	5	8	3	5	7	8	3	4	4	4	2	5
BD	3	5	14	4	6	7	5	11	6	12	16	13	8	6	6	2	8	3	2	8	3	8	5	3
CD	49	54	75	66	69	74	71	71	74	49	65	52	46	59	39	53	38	35	60	78	48	48	56	58
CA																								
CB	0	2	8	4	8	2	3	3	2	2	0	3	0	7	2	2	1	5	2	2	6	1	4	2
DC	68	70	152	107	132	181	187	155	112	89	87	91	89	74	47	42	43	47	70	53	49	62	47	40
DB	2	1	2	5	7	11	11	2	11	11	8	4	5	1	2	1	3	5	6	5	3	10	4	4
DA																								

SINGLE UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD																								
AC																								
BA																								
BC	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
BD	1	1	1	1	1	1	0	1	1	0	2	0	0	0	0	0	1	0	0	0	2	1	0	1
CD	1	1	1	3	0	3	5	4	2	3	16	3	5	2	4	5	3	1	0	1	2	3	4	2
CA																								
CB	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
DC	1	0	0	6	6	0	3	5	3	7	6	12	4	3	1	3	3	1	4	1	3	3	6	1
DB	0	0	1	1	0	0	0	0	6	0	0	0	0	0	1	0	0	0	0	0	2	1	1	0
DA																								

MULTI UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD																								
AC																								
BA																								
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0
CD	3	2	1	7	1	4	0	6	8	4	0	1	6	4	0	4	4	4	1	1	1	3	3	3
CA																								
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DC	0	0	2	3	2	4	6	5	2	4	1	3	2	5	1	6	2	2	2	3	9	8	5	2
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
DA																								

TOTAL TRUCKS

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00		Truck Percent
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BC	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BD	1	1	1	1	1	1	0	1	1	0	2	0	0	0	0	1	1	0	0	0	3	1	0	1	3	9%
CD	4	3	2	10	1	7	5	10	10	7	16	4	11	6	4	9	7	5	1	2	3	6	7	5	23	7%
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
CB	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0%
DC	1	0	2	9	8	4	9	10	5	11	7	15	6	8	2	9	5	3	6	4	12	11	11	3	31	5%
DB	0	0	1	1	0	0	0	0	6	0	0	0	0	0	1	0	0	0	0	1	2	1	1	0	0	0%
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%

TOTAL

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH A				**6:00 =**	**0**			**7:00 =**	**0**			**8:00 =**	**0**			**9:00 =**	**0**			**10:00 =**	**0**			**11:00 =**	**0**			
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BC	16	25	33	28	38	48	60	67	27	8	15	15	5	8	3	5	7	8	3	4	4	4	2	5	233	213	60	
BD	4	6	15	5	7	8	5	12	7	12	18	13	8	6	6	3	9	3	2	8	6	9	5	4	35	32	5	
APPROACH B				**6:00 =**	**132**			**7:00 =**	**245**			**8:00 =**	**115**			**9:00 =**	**44**			**10:00 =**	**44**			**11:00 =**	**39**			
CD	53	57	77	76	70	81	76	81	84	56	81	56	57	65	43	62	45	40	61	80	51	54	63	63	336	308	76	
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CB	0	2	8	4	8	2	3	3	2	2	0	3	1	7	2	2	1	5	2	2	6	1	4	2	17	16	3	
APPROACH C				**6:00 =**	**277**			**7:00 =**	**324**			**8:00 =**	**284**			**9:00 =**	**239**			**10:00 =**	**236**			**11:00 =**	**244**			
DC	69	70	154	116	140	185	196	165	117	100	94	106	95	82	49	51	48	50	76	57	61	73	58	43	749	686	196	
DB	2	1	3	6	7	11	11	2	17	11	8	4	5	1	3	1	3	5	6	6	5	11	5	4	34	31	11	
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH D				**6:00 =**	**421**			**7:00 =**	**717**			**8:00 =**	**457**			**9:00 =**	**287**			**10:00 =**	**251**			**11:00 =**	**260**	**1404**	**1286**	**351**	**0.92**

Hutchison Engineering, Inc.

US 30P-91-403-11

INTERSECTION: DICKSON

DATE COUNTED: 4/26/2012
COUNTED BY: S.H.

P.M

PASSENGER

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD																								
AC																								
BA																								
BC	4	5	10	2	7	2	3	8	5	2	9	4	4	5	6	5	4	1	1	5	12	6	6	5
BD	10	5	3	8	3	6	6	8	4	8	5	4	12	6	10	15	10	12	6	7	9	5	10	5
CD	59	68	57	46	37	55	66	65	107	60	79	71	82	120	101	143	132	96	143	136	176	145	129	134
CA																								
CB	2	9	5	3	2	1	4	8	6	2	7	7	12	19	13	10	18	19	33	28	34	46	25	21
DC	60	56	42	48	47	63	67	57	50	44	79	86	73	86	119	121	106	81	112	102	95	74	75	87
DB	4	7	5	9	3	3	7	3	4	7	6	4	12	13	7	12	9	8	6	10	18	12	7	2
DA																								

SINGLE UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD																								
AC																								
BA																								
BC	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
BD	0	0	0	1	0	0	0	0	0	0	0	0	1	0	3	2	0	0	0	0	1	0	0	0
CD	1	4	5	2	5	3	2	0	2	3	3	7	7	7	1	4	0	2	2	3	2	2	0	0
CA																								
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0
DC	1	6	4	7	4	4	4	2	4	0	3	2	4	4	12	0	4	4	3	1	0	1	1	1
DB	4	0	1	0	0	0	1	0	0	0	0	0	2	0	0	7	1	1	0	0	0	0	0	0
DA																								

MULTI UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD																								
AC																								
BA																								
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
BD	1	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	2	0	0	0	0	0	0	0
CD	4	3	5	5	0	3	0	3	10	4	1	4	3	1	3	3	3	2	3	4	1	1	2	4
CA																								
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DC	7	2	7	2	2	2	6	2	3	4	1	5	4	6	3	3	6	3	4	1	0	0	4	1
DB	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	1	0	0	0	1	0	0	1
DA																								

TOTAL TRUCKS

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00		Truck Percent
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BC	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	4%
BD	1	0	0	1	0	0	0	1	0	0	0	1	2	0	3	2	2	0	0	0	1	0	0	0	1	4%
CD	5	7	10	7	5	6	2	3	12	7	4	11	10	8	4	7	3	4	5	7	3	3	2	4	16	3%
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0%
DC	8	8	11	9	6	6	10	4	7	4	4	7	8	10	15	3	10	7	7	2	0	1	5	2	26	7%
DB	5	0	1	0	0	0	2	0	0	0	1	1	2	0	0	8	2	1	0	0	1	0	0	1	2	4%
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%

TOTAL

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH A			**12:00 =**	**0**			**1:00 =**	**0**			**2:00 =**	**0**			**3:00 =**	**0**			**4:00 =**	**0**			**5:00 =**	**0**				
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BC	4	5	11	2	7	2	3	9	5	2	9	4	4	5	6	6	4	1	1	5	12	6	7	5	27	24	12	
BD	11	5	3	9	3	6	6	9	4	8	5	5	14	6	13	17	12	12	6	7	10	5	10	5	31	28	10	
APPROACH B			**12:00 =**	**50**			**1:00 =**	**45**			**2:00 =**	**42**			**3:00 =**	**71**			**4:00 =**	**48**			**5:00 =**	**60**				
CD	64	75	67	53	42	61	68	68	119	67	83	82	92	128	105	150	135	100	148	143	179	148	131	138	689	618	179	
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CB	2	9	5	3	2	1	4	8	6	2	7	7	12	19	13	10	18	19	33	28	34	47	27	21	158	142	34	
APPROACH C			**12:00 =**	**278**			**1:00 =**	**254**			**2:00 =**	**373**			**3:00 =**	**529**			**4:00 =**	**624**			**5:00 =**	**725**				
DC	68	64	53	57	53	69	77	61	57	48	83	93	81	96	134	124	116	88	119	104	95	75	80	89	438	393	95	
DB	9	7	6	9	3	3	9	3	4	7	7	5	14	13	7	20	11	9	6	10	19	12	7	3	52	47	19	
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH D			**12:00 =**	**273**			**1:00 =**	**278**			**2:00 =**	**304**			**3:00 =**	**489**			**4:00 =**	**463**			**5:00 =**	**380**	**1396**	**1252**	**349**	**0.90**

Hutchison Engineering, Inc.

US 30P-91-403-11

INTERSECTION: GORDON

DATE COUNTED: 5/1/2012
COUNTED BY: R.D. / J.L.

A.M

PASSENGER

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB	0	0	2	0	3	3	2	2	0	1	0	1	0	2	1	1	0	1	1	0	2	0	1	1
AD	50	32	45	39	54	46	56	19	25	29	42	36	27	34	18	20	25	14	18	14	30	13	17	27
AC	22	33	48	47	59	44	52	49	38	24	40	30	20	18	11	7	9	8	15	8	10	21	10	15
BA	0	1	1	1	1	4	4	4	2	2	5	0	1	0	0	0	1	1	0	1	1	0	0	2
BC	15	10	35	19	34	35	48	29	25	17	13	7	15	5	6	2	6	4	5	3	0	2	1	1
BD	21	21	32	18	23	19	22	7	24	13	11	14	11	13	15	6	7	5	9	9	14	4	14	10
CD	40	64	83	76	50	72	60	61	47	58	43	41	57	49	59	37	31	31	45	46	51	45	42	38
CA	3	2	3	9	9	4	13	12	15	18	18	9	4	7	4	7	6	5	15	14	11	8	10	4
CB	0	1	0	0	0	0	1	1	0	1	0	2	1	3	2	2	1	2	1	1	2	3	3	3
DC	24	43	51	50	53	81	109	71	54	61	53	50	64	58	48	24	39	45	64	40	37	33	40	46
DB	0	5	7	6	4	4	3	5	6	8	5	6	7	6	3	7	5	4	9	10	12	9	7	9
DA	4	0	7	3	10	12	11	11	7	21	13	8	13	11	8	12	16	9	17	17	8	25	17	20

SINGLE UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
AD	0	0	0	1	0	0	0	0	1	0	1	0	1	1	0	0	0	0	1	1	0	0	1	0
AC	0	1	0	5	2	0	0	4	5	0	10	5	1	0	1	0	0	1	0	0	0	0	5	0
BA	0	0	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
BD	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
CD	0	2	6	1	1	1	2	2	1	2	5	4	1	4	0	3	1	4	6	1	2	0	1	3
CA	2	0	2	3	1	2	1	3	2	2	10	0	1	1	0	0	0	0	1	1	2	3	2	0
CB	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DC	0	0	0	2	4	2	2	0	1	3	0	3	2	1	3	0	2	1	4	1	4	2	0	2
DB	0	1	0	1	0	1	1	0	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	1
DA	2	0	1	1	0	0	1	2	0	1	3	1	0	0	0	0	1	0	1	0	0	0	0	0

MULTI UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BD	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0
CD	3	3	5	6	1	1	3	4	5	1	5	3	4	3	4	6	8	3	2	1	7	3	2	7
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DC	1	2	2	4	4	5	3	6	3	5	1	2	3	9	3	5	9	4	3	4	3	5	4	4
DB	0	0	0	0	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TOTAL TRUCKS

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00		Truck Percent
AB	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	14%
AD	0	0	0	1	0	0	0	0	1	0	1	0	1	1	0	0	0	0	1	1	0	0	1	0	0	0%
AC	0	1	0	5	2	0	0	4	5	0	10	5	1	0	1	0	0	1	0	0	0	0	5	0	6	2%
BA	0	0	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	3	19%
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0%
BD	1	0	1	1	0	0	1	1	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	2	3%
CD	3	5	11	7	2	2	5	6	6	3	10	7	5	7	4	9	9	7	8	2	9	3	3	10	15	6%
CA	2	0	2	3	1	2	1	3	2	2	10	0	1	1	0	0	0	0	1	1	2	3	2	0	7	16%
CB	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	33%
DC	1	2	2	6	8	7	5	6	4	8	1	5	5	10	6	5	11	5	7	5	7	7	4	6	26	8%
DB	0	1	0	1	0	2	1	1	1	1	1	0	0	2	0	0	0	1	0	0	0	0	0	1	4	20%
DA	2	0	1	1	0	0	1	2	0	1	3	1	0	0	0	0	1	0	1	0	0	0	0	0	3	6%

TOTAL

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	0	0	2	0	5	3	2	2	2	1	0	1	0	2	1	1	0	1	1	0	3	1	1	1	14	12	2	
AD	50	32	45	40	54	46	56	19	26	29	43	36	28	35	18	20	25	14	19	15	30	13	18	27	206	175	56	
AC	22	34	48	52	61	44	52	53	43	24	50	35	21	18	12	7	9	9	15	8	10	21	15	15	247	210	52	
APPROACH A			**6:00 =**	**325**			**7:00 =**	**397**			**8:00 =**	**290**			**9:00 =**	**163**			**10:00 =**	**116**			**11:00 =**	**155**				
BA	0	1	2	2	1	5	5	5	3	3	6	0	1	0	0	0	1	1	0	2	1	0	0	2	19	16	5	
BC	15	10	35	19	34	35	48	29	25	17	13	7	15	5	6	2	6	4	6	3	0	2	1	1	172	146	48	
BD	22	21	33	19	23	19	23	8	24	14	11	15	11	13	16	6	7	6	9	9	14	4	14	10	86	73	23	
APPROACH B			**6:00 =**	**179**			**7:00 =**	**235**			**8:00 =**	**138**			**9:00 =**	**75**			**10:00 =**	**54**			**11:00 =**	**49**				
CD	43	69	94	83	52	74	65	67	53	61	53	48	62	56	63	46	40	38	53	48	60	48	45	48	304	258	65	
CA	5	2	5	12	10	6	14	15	17	20	28	9	5	8	4	7	6	5	16	15	13	11	12	4	53	45	14	
CB	0	1	0	0	0	0	1	2	0	1	0	2	1	3	2	2	1	2	1	1	2	3	3	3	4	3	1	
APPROACH C			**6:00 =**	**314**			**7:00 =**	**306**			**8:00 =**	**292**			**9:00 =**	**259**			**10:00 =**	**226**			**11:00 =**	**252**				
DC	25	45	53	56	61	88	114	77	58	69	54	55	69	68	54	29	50	50	71	45	44	40	44	52	400	340	114	
DB	0	6	7	7	4	6	4	6	7	9	6	6	7	8	3	7	5	5	9	10	12	9	7	10	24	20	4	
DA	6	0	8	4	10	12	12	13	7	22	16	9	13	11	8	12	17	9	18	17	8	25	17	20	55	47	12	
APPROACH D			**6:00 =**	**217**			**7:00 =**	**407**			**8:00 =**	**318**			**9:00 =**	**289**			**10:00 =**	**306**			**11:00 =**	**288**	**1584**	**1345**	**396**	**0.85**

Hutchison Engineering, Inc.

US 30P-91-403-11

INTERSECTION: GORDON

DATE COUNTED: 5/2/2012
COUNTED BY: R.D. / S.H.

P.M

PASSENGER

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB	1	1	0	2	9	2	2	1	0	3	1	1	3	0	3	1	2	3	0	5	2	5	7	2
AD	19	10	8	30	19	20	19	19	20	17	19	14	22	15	42	26	28	28	26	26	38	40	26	29
AC	17	29	24	12	8	13	17	8	9	11	16	6	18	16	39	19	20	25	16	19	22	16	15	14
BA	1	1	2	1	2	5	0	2	2	2	1	4	1	3	3	1	3	3	6	8	5	2	6	3
BC	3	3	6	6	3	6	2	4	2	4	7	9	3	3	3	6	5	1	5	7	8	6	8	4
BD	9	10	13	3	12	6	11	9	8	4	6	13	7	4	4	8	10	11	10	9	9	18	13	7
CD	43	49	52	42	37	60	45	71	66	42	69	51	57	97	87	82	54	84	52	85	67	72	69	51
CA	7	12	8	12	10	9	7	15	8	6	17	14	20	31	18	24	29	40	41	34	45	47	51	23
CB	5	4	4	4	2	4	4	6	1	7	4	3	3	7	14	6	11	20	18	15	22	25	23	22
DC	37	41	31	29	30	36	56	51	48	53	73	48	54	99	84	104	78	89	89	88	59	91	85	51
DB	3	8	11	22	9	9	4	8	12	8	11	13	14	15	20	15	15	17	14	17	21	13	13	14
DA	22	29	25	14	30	21	17	22	16	24	29	19	25	37	37	39	38	40	44	60	46	39	40	40

SINGLE UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
AD	0	0	0	2	0	1	0	1	0	1	1	1	0	0	3	1	1	1	0	0	1	1	0	0
AC	0	1	1	3	0	0	1	0	0	0	0	1	4	4	15	0	4	0	0	0	0	0	0	0
BA	0	0	0	0	1	0	0	1	0	0	2	1	1	0	1	0	0	0	0	0	0	0	0	0
BC	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
BD	0	1	0	0	1	1	1	0	0	0	1	0	0	2	1	0	0	0	0	0	0	0	0	0
CD	1	2	0	0	4	1	1	2	6	1	1	4	2	1	2	0	2	3	0	1	4	1	1	1
CA	0	0	2	1	0	0	0	0	2	1	2	7	4	3	4	4	1	0	0	0	0	0	0	0
CB	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
DC	1	0	1	4	3	3	2	6	3	2	0	3	0	3	5	1	1	3	0	2	2	0	0	1
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DA	2	1	3	0	0	0	0	0	1	0	1	2	0	1	1	0	0	1	0	0	1	0	1	0

MULTI UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CD	2	2	4	3	7	7	3	2	4	5	3	0	2	7	16	4	4	4	2	1	4	2	3	4
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DC	2	4	2	2	3	5	5	1	2	3	2	0	6	4	6	4	3	3	4	4	1	0	2	0
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TOTAL TRUCKS

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00		Truck Percent
AB	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	5%
AD	0	0	0	2	0	1	0	1	0	1	1	1	0	0	3	1	1	1	0	0	1	1	0	0	2	1%
AC	0	1	1	3	0	0	1	0	0	0	0	1	4	4	15	0	4	0	0	0	0	0	0	0	1	1%
BA	0	0	0	0	1	0	0	1	0	0	2	1	1	0	1	0	0	0	0	0	0	0	0	0	2	10%
BC	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3%
BD	0	1	0	0	1	1	1	0	0	0	1	0	0	2	1	0	0	0	0	0	0	0	0	0	3	6%
CD	3	4	4	3	11	8	4	4	10	6	4	4	4	8	18	4	6	7	2	2	8	3	4	5	27	9%
CA	0	0	2	1	0	0	0	0	2	1	2	7	4	3	4	4	1	0	0	0	0	0	0	0	0	0%
CB	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0%
DC	3	4	3	6	6	8	7	7	5	5	2	3	6	7	11	5	4	6	4	6	3	0	2	1	28	8%
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
DA	2	1	3	0	0	0	0	0	1	0	1	2	0	1	1	0	0	1	0	0	1	0	1	0	0	0%

TOTAL

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	1	1	0	2	9	2	3	1	0	3	1	1	3	0	5	1	2	3	0	5	2	5	7	2	20	19	5	
AD	19	10	8	32	19	21	19	20	20	18	20	15	22	15	45	27	29	29	26	26	39	41	26	29	136	132	26	
AC	17	30	25	15	8	13	18	8	9	11	16	7	22	20	54	19	24	25	16	19	22	16	15	14	74	72	19	
APPROACH A			**12:00 =**	**160**			**1:00 =**	**141**			**2:00 =**	**121**			**3:00 =**	**233**			**4:00 =**	**204**			**5:00 =**	**218**				
BA	1	1	2	1	3	5	0	3	2	2	3	5	2	3	4	1	3	3	6	8	5	2	6	3	22	21	8	
BC	3	3	6	6	3	6	2	5	2	4	7	9	3	3	3	6	5	1	5	7	8	6	9	4	31	30	7	
BD	9	11	13	3	13	7	12	9	8	4	7	13	7	6	5	8	10	11	10	9	9	18	13	7	50	49	9	
APPROACH B			**12:00 =**	**59**			**1:00 =**	**68**			**2:00 =**	**66**			**3:00 =**	**51**			**4:00 =**	**78**			**5:00 =**	**90**				
CD	46	53	56	45	48	68	49	75	76	48	73	55	61	105	105	86	60	91	54	87	75	75	73	56	319	310	87	
CA	7	12	10	13	10	9	7	15	10	7	19	21	24	34	22	28	30	40	41	34	45	47	51	23	182	177	34	
CB	6	4	4	4	2	4	4	6	1	7	4	3	3	7	15	6	11	20	18	15	22	25	23	22	88	85	15	
APPROACH C			**12:00 =**	**260**			**1:00 =**	**297**			**2:00 =**	**324**			**3:00 =**	**496**			**4:00 =**	**501**			**5:00 =**	**537**				
DC	40	45	34	35	36	44	63	58	53	58	75	51	60	106	95	109	82	95	93	94	62	91	87	52	344	334	94	
DB	3	8	11	22	9	9	4	8	12	8	11	13	14	15	20	15	15	17	14	17	21	13	13	14	66	64	17	
DA	24	30	28	14	30	21	17	22	17	24	30	21	25	38	38	39	38	41	44	60	47	39	41	40	193	187	60	
APPROACH D			**12:00 =**	**294**			**1:00 =**	**321**			**2:00 =**	**373**			**3:00 =**	**574**			**4:00 =**	**610**			**5:00 =**	**520**	**1524**	**1480**	**381**	**0.97**

Hutchison Engineering, Inc.

US 30P-91-403-11

INTERSECTION: PRESCOTT

A.M

DATE COUNTED: 5/2/2012
COUNTED BY: J.L.

PASSENGER

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD																								
AC																								
BA																								
BC																								
BD	25	22	27	28	28	19	24	14	24	14	15	13	9	8	8	14	8	8	6	14	14	11	6	9
CD	120	127	131	152	151	113	138	88	90	108	120	93	75	74	64	70	65	62	67	71	90	81	82	80
CA																								
CB	0	0	0	1	0	3	0	0	0	0	1	2	2	4	2	1	1	1	0	0	2	0	1	0
DC	33	65	77	68	57	100	110	99	69	64	75	69	95	76	54	69	51	55	91	83	72	67	71	82
DB	2	2	5	1	1	8	5	2	4	0	4	7	5	6	7	8	6	6	6	6	8	3	2	11
DA																								

SINGLE UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD																								
AC																								
BA																								
BC																								
BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
CD	2	1	2	1	3	1	1	2	2	2	3	0	4	2	3	7	1	3	3	0	3	2	4	5
CA																								
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DC	2	1	0	5	0	4	1	1	6	3	5	0	3	5	3	1	2	2	1	2	1	1	4	2
DB	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2	0	0	0
DA																								

MULTI UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD																								
AC																								
BA																								
BC																								
BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CD	0	4	9	3	3	4	3	5	4	3	8	3	1	2	4	4	4	4	4	2	8	3	6	1
CA																								
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DC	3	4	2	5	3	3	6	4	7	3	3	5	2	7	5	2	6	3	5	9	7	3	3	5
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DA																								

TOTAL TRUCKS

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00		Truck Percent
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0%
CD	2	5	11	4	6	5	4	7	6	5	11	3	5	4	7	11	5	7	7	2	11	5	10	6	22	4%
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
DC	5	5	2	10	3	7	7	5	13	6	8	5	5	12	8	3	8	5	6	11	8	4	7	7	22	6%
DB	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2	0	0	0	0	0%
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%

TOTAL

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH A			**6:00 =**	**0**			**7:00 =**	**0**			**8:00 =**	**0**			**9:00 =**	**0**			**10:00 =**	**0**			**11:00 =**	**0**				
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BD	25	22	27	28	28	19	24	14	24	14	15	13	9	8	8	14	8	9	6	14	15	11	6	9	108	99	24	
APPROACH B			**6:00 =**	**102**			**7:00 =**	**85**			**8:00 =**	**66**			**9:00 =**	**39**			**10:00 =**	**37**			**11:00 =**	**41**				
CD	122	132	142	156	157	118	142	95	96	113	131	96	80	78	71	81	70	69	74	73	101	86	92	86	627	573	142	
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CB	0	0	0	1	0	3	0	0	0	0	1	2	2	4	2	1	1	1	0	0	2	0	1	0	4	4	0	
APPROACH C			**6:00 =**	**553**			**7:00 =**	**515**			**8:00 =**	**439**			**9:00 =**	**319**			**10:00 =**	**288**			**11:00 =**	**368**				
DC	38	70	79	78	60	107	117	104	82	70	83	74	100	88	62	72	59	60	97	94	80	71	78	89	396	362	117	
DB	2	2	7	1	1	8	5	2	4	0	4	8	5	6	7	8	7	6	6	6	10	3	2	11	16	15	5	
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH D			**6:00 =**	**277**			**7:00 =**	**404**			**8:00 =**	**325**			**9:00 =**	**348**			**10:00 =**	**335**			**11:00 =**	**344**	**1152**	**1053**	**288**	**0.91**

Hutchison Engineering, Inc.

US 30P-91-403-11

INTERSECTION: PRESCOTT

P.M

DATE COUNTED: 5/1/2012
COUNTED BY: S.H.

PASSENGER

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD																								
AC																								
BA																								
BC																								
BD	10	18	11	8	7	7	11	10	7	12	5	9	15	7	6	7	3	0	24	16	12	11	14	17
CD	61	76	104	68	55	68	80	86	76	93	77	61	88	106	118	116	116	117	117	83	88	89	115	75
CA																								
CB	1	2	1	2	0	0	0	1	1	0	1	0	3	4	3	2	3	1	5	6	6	3	6	4
DC	63	85	69	74	57	54	87	79	75	94	107	88	147	128	135	151	155	146	126	152	155	134	170	138
DB	10	12	11	8	7	6	12	6	10	17	9	15	10	14	20	23	17	25	19	22	20	14	25	19
DA																								

SINGLE UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD																								
AC																								
BA																								
BC																								
BD	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
CD	0	2	3	4	6	1	1	2	3	2	2	3	2	2	9	2	3	1	1	0	1	1	0	0
CA																								
CB	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DC	4	3	5	4	2	2	3	4	3	3	3	2	5	3	3	0	1	0	2	3	3	2	0	1
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DA																								

MULTI UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD																								
AC																								
BA																								
BC																								
BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CD	4	3	2	5	3	4	2	1	2	8	3	3	4	2	1	3	2	0	1	3	3	1	3	2
CA																								
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DC	4	0	1	5	2	2	4	7	6	6	4	5	4	2	2	1	1	5	4	1	1	2	3	1
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DA																								

TOTAL TRUCKS

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00		Truck Percent
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BD	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
CD	4	5	5	9	9	5	3	3	5	10	5	6	6	4	10	5	5	1	2	3	4	2	3	2	20	4%
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
CB	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9%
DC	8	3	6	9	4	4	7	11	9	9	7	7	9	5	5	1	2	5	6	4	4	4	3	2	26	4%
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%

TOTAL

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH A			**12:00 =**	**0**			**1:00 =**	**0**			**2:00 =**	**0**			**3:00 =**	**0**			**4:00 =**	**0**			**5:00 =**	**0**				
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BD	10	18	11	8	7	7	11	10	7	12	5	12	15	7	6	7	3	0	24	16	12	11	14	17	35	34	7	
APPROACH B			**12:00 =**	**47**			**1:00 =**	**35**			**2:00 =**	**36**			**3:00 =**	**35**			**4:00 =**	**43**			**5:00 =**	**54**				
CD	65	81	109	77	64	73	83	89	81	103	82	67	94	110	128	121	121	118	119	86	92	91	118	77	487	479	121	
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CB	1	2	1	2	0	0	1	1	1	0	1	0	3	4	3	2	3	1	5	6	6	3	6	4	11	11	2	
APPROACH C			**12:00 =**	**338**			**1:00 =**	**311**			**2:00 =**	**335**			**3:00 =**	**465**			**4:00 =**	**459**			**5:00 =**	**397**				
DC	71	88	75	83	61	58	94	90	84	103	114	95	156	133	140	152	157	151	132	156	159	138	173	140	602	592	152	
DB	10	12	11	8	7	6	12	6	10	17	9	15	10	14	20	23	17	25	19	22	20	14	25	19	85	84	23	
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH D			**12:00 =**	**358**			**1:00 =**	**334**			**2:00 =**	**447**			**3:00 =**	**648**			**4:00 =**	**679**			**5:00 =**	**688**	**1220**	**1200**	**305**	**0.98**

Hutchison Engineering, Inc.

US 30P-91-403-11

INTERSECTION: LAKEWOOD CREEK

DATE COUNTED: 5/17/2012
COUNTED BY: S.H.

A.M

PASSENGER

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD																								
AC																								
BA																								
BC	0	7	4	2	8	11	6	7	4	6	6	3	4	3	2	2	4	2	3	1	1	5	2	1
BD	57	57	37	60	45	72	42	40	45	54	86	32	20	25	27	25	25	15	23	22	26	21	24	22
CD	97	162	179	168	157	142	123	132	125	95	101	115	83	63	92	67	78	64	68	72	83	68	87	88
CA																								
CB	1	0	0	2	1	0	4	2	1	4	1	1	4	1	2	1	0	0	5	0	2	1	2	6
DC	47	51	61	72	57	70	105	72	80	56	58	59	59	61	50	58	43	63	60	50	76	71	74	76
DB	5	2	3	7	14	10	12	17	18	17	16	17	14	9	11	14	10	12	14	16	10	14	17	22
DA																								

SINGLE UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD																								
AC																								
BA																								
BC	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0
BD	0	0	1	1	3	2	0	1	3	1	0	3	1	0	1	0	0	2	1	1	0	0	0	4
CD	2	3	2	5	2	5	4	2	5	4	4	1	4	5	5	3	5	1	6	2	4	3	4	1
CA																								
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
DC	3	3	4	7	2	4	4	0	2	4	5	6	3	5	1	5	5	4	5	2	6	2	3	3
DB	0	0	1	1	1	1	0	2	0	0	0	0	0	2	0	0	2	1	1	0	0	0	0	1
DA																								

MULTI UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD																								
AC																								
BA																								
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CD	3	4	3	3	2	6	5	0	2	4	3	3	5	5	6	1	5	7	1	5	6	5	4	5
CA																								
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DC	0	1	6	2	0	3	3	7	3	2	4	8	5	5	6	4	2	7	8	4	5	6	7	2
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DA																								

TOTAL TRUCKS

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00		Truck Percent
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BC	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	4%
BD	0	0	1	1	3	2	0	1	3	1	0	3	1	0	1	0	0	2	1	1	0	0	0	4	6	3%
CD	5	7	5	8	4	11	9	2	7	8	7	4	9	10	11	4	10	8	7	7	10	8	8	6	26	4%
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0%
DC	3	4	10	9	2	7	7	7	5	6	9	14	8	10	7	9	7	11	13	6	11	8	10	5	23	7%
DB	0	0	1	1	1	1	0	2	0	0	0	0	0	2	0	0	2	1	1	0	0	0	0	1	4	9%
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%

TOTAL

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH A				**6:00 =**	**0**			**7:00 =**	**0**			**8:00 =**	**0**			**9:00 =**	**0**			**10:00 =**	**0**			**11:00 =**	**0**			
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BC	0	7	4	2	8	12	6	7	4	6	6	3	4	3	2	2	4	2	4	1	1	6	2	1	29	28	2	
BD	57	57	38	61	48	74	42	41	48	55	86	35	21	25	28	25	25	17	24	23	26	21	24	26	236	225	61	
APPROACH B				**6:00 =**	**226**			**7:00 =**	**238**			**8:00 =**	**243**			**9:00 =**	**110**			**10:00 =**	**100**			**11:00 =**	**107**			
CD	102	169	184	176	161	153	132	134	132	103	108	119	92	73	103	71	88	72	75	79	93	76	95	94	653	622	176	
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CB	1	0	0	2	1	0	4	2	1	4	1	1	4	1	2	1	0	0	6	0	3	1	2	6	7	7	2	
APPROACH C				**6:00 =**	**634**			**7:00 =**	**587**			**8:00 =**	**469**			**9:00 =**	**347**			**10:00 =**	**320**			**11:00 =**	**370**			
DC	50	55	71	81	59	77	112	79	85	62	67	73	67	71	57	67	50	74	73	56	87	79	84	81	345	329	81	
DB	5	2	4	8	15	11	12	19	18	17	16	17	14	11	11	14	12	13	15	16	10	14	17	23	48	46	8	
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH D				**6:00 =**	**276**			**7:00 =**	**384**			**8:00 =**	**355**			**9:00 =**	**312**			**10:00 =**	**309**			**11:00 =**	**395**	**1320**	**1257**	**330**	**0.95**

Hutchison Engineering, Inc.

US 30P-91-403-11

INTERSECTION: LAKEWOOD CREEK

DATE COUNTED: 5/16/2012
COUNTED BY: S.H.

P.M

PASSENGER

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD																								
AC																								
BA																								
BC	3	1	0	1	1	3	0	1	2	3	1	2	2	0	3	1	2	2	4	4	2	5	3	2
BD	22	28	25	21	22	15	25	17	17	23	29	21	21	24	35	35	32	30	35	40	43	36	19	30
CD	76	65	78	74	63	73	79	56	87	77	93	77	104	93	131	104	123	92	109	117	114	126	143	115
CA																								
CB	0	2	2	1	0	1	3	1	1	1	2	8	4	7	8	1	6	8	11	10	9	5	2	4
DC	53	71	61	76	70	88	71	85	86	94	119	120	142	139	180	153	177	150	166	161	152	152	157	157
DB	19	29	24	16	20	16	19	17	21	25	25	30	41	47	57	41	56	37	38	35	52	48	50	50
DA																								

SINGLE UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD																								
AC																								
BA																								
BC	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1
BD	0	1	2	0	0	0	2	0	0	1	1	1	1	1	2	0	2	0	0	0	0	1	0	0
CD	3	0	8	5	5	2	2	0	5	2	6	6	5	5	6	5	6	1	1	0	0	2	1	4
CA																								
CB	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0
DC	2	2	4	4	1	5	3	4	4	3	0	6	3	5	4	7	4	2	8	0	5	1	2	1
DB	0	2	1	2	0	0	1	0	0	0	0	2	0	0	1	1	0	1	0	1	0	0	0	0
DA																								

MULTI UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD																								
AC																								
BA																								
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BD	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
CD	2	4	5	5	6	5	4	7	6	5	6	3	9	2	3	5	3	1	2	2	4	0	0	1
CA																								
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DC	4	9	2	5	4	5	3	6	5	2	5	4	4	4	6	2	3	2	3	0	1	1	1	2
DB	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
DA																								

TOTAL TRUCKS

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00		Truck Percent
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BC	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	1	17%
BD	0	1	2	0	0	0	2	0	0	1	1	2	1	1	2	0	2	0	0	0	0	1	0	0	2	2%
CD	5	4	13	10	11	7	6	7	11	7	12	9	14	7	9	10	9	2	3	2	4	2	1	5	31	6%
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
CB	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0%
DC	6	11	6	9	5	10	6	10	9	5	5	10	7	9	10	9	7	4	11	0	6	2	3	3	31	5%
DB	0	2	1	2	0	0	1	0	0	0	0	3	0	0	1	1	0	1	0	1	0	0	0	0	1	0%
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%

TOTAL

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH A			**12:00 =**	**0**			**1:00 =**	**0**			**2:00 =**	**0**			**3:00 =**	**0**			**4:00 =**	**0**			**5:00 =**	**0**				
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BC	3	1	0	1	1	3	1	1	2	3	2	2	2	0	3	1	2	2	4	4	2	6	3	3	7	6	3	
BD	22	29	27	21	22	15	27	17	17	24	30	23	22	25	37	35	34	30	35	40	43	37	19	30	150	131	37	
APPROACH B			**12:00 =**	**104**			**1:00 =**	**87**			**2:00 =**	**103**			**3:00 =**	**125**			**4:00 =**	**151**			**5:00 =**	**143**				
CD	81	69	91	84	74	80	85	63	98	84	105	86	118	100	140	114	132	94	112	119	118	128	144	120	555	486	140	
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CB	0	2	2	1	0	1	3	1	1	1	3	8	4	7	10	1	6	8	11	10	9	5	2	4	27	24	10	
APPROACH C			**12:00 =**	**330**			**1:00 =**	**307**			**2:00 =**	**386**			**3:00 =**	**494**			**4:00 =**	**492**			**5:00 =**	**530**				
DC	59	82	67	85	75	98	77	95	95	99	124	130	149	148	190	162	184	154	177	161	158	154	160	160	781	684	190	
DB	19	31	25	18	20	16	20	17	21	25	25	33	41	47	58	42	56	38	38	36	52	48	50	50	232	203	58	
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH D			**12:00 =**	**386**			**1:00 =**	**418**			**2:00 =**	**552**			**3:00 =**	**837**			**4:00 =**	**844**			**5:00 =**	**832**	**1752**	**1534**	**438**	**0.88**

Hutchison Engineering, Inc.

US 30P-91-403-11

INTERSECTION: GRIFFIN

A.M

DATE COUNTED: 5/3/2012
COUNTED BY: R.D. / J.L.

PASSENGER

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AD	1	1	0	2	4	1	0	0	0	1	0	1	1	1	2	2	1	2	1	0	1	0	0	0
AC	1	1	0	1	2	0	0	0	2	1	0	0	0	0	1	1	0	0	1	0	0	0	0	2
BA	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
BC	0	0	1	1	1	3	1	1	0	0	1	1	1	3	0	0	0	2	0	0	1	0	0	0
BD	27	38	26	29	26	23	34	13	15	15	20	25	14	12	17	10	9	8	17	21	9	9	5	11
CD	154	205	224	232	244	203	221	158	134	186	216	159	105	148	138	111	103	96	90	118	116	99	119	107
CA	1	2	2	1	1	2	0	1	2	0	1	2	0	0	0	0	0	0	0	1	0	0	0	1
CB	1	0	1	0	0	0	0	0	0	0	1	2	0	1	0	1	2	1	1	0	0	0	1	1
DC	35	58	57	64	74	103	141	115	85	93	90	67	99	77	93	73	71	98	101	74	93	80	98	100
DB	2	5	5	4	4	6	1	9	4	5	5	10	12	6	8	4	7	7	5	6	6	11	12	6
DA	1	4	0	3	1	1	0	1	1	1	0	2	1	1	2	1	0	1	1	0	0	0	1	3

SINGLE UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AD	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0
AC	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BD	0	0	1	2	0	3	2	1	3	0	1	0	0	0	0	0	0	1	0	0	0	0	2	0
CD	0	1	3	4	3	6	3	3	8	3	3	7	4	2	2	0	1	1	1	3	3	1	2	3
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
CB	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DC	0	4	0	7	3	2	3	5	3	4	10	1	3	5	2	3	3	1	5	6	5	4	2	4
DB	0	1	0	1	3	0	0	3	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
DA	0	1	0	0	0	0	2	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0

MULTI UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CD	4	4	5	6	4	0	0	4	4	5	3	4	12	2	6	4	5	6	1	6	7	6	5	10
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DC	1	2	1	3	1	2	3	5	5	4	5	3	4	3	4	7	9	3	1	5	4	8	2	3
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DA	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TOTAL TRUCKS

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00		Truck Percent
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AD	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0%
AC	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0%
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BD	0	0	1	2	0	3	2	1	3	0	1	0	0	0	0	0	0	1	0	0	0	0	2	0	6	5%
CD	4	5	8	10	7	6	3	7	12	8	6	11	16	4	8	4	6	7	2	9	10	7	7	13	23	2%
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0%
CB	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0%
DC	1	6	1	10	4	4	6	10	8	8	15	4	7	8	6	10	12	4	6	11	9	12	4	7	24	6%
DB	0	1	0	1	3	0	0	3	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	6	32%
DA	0	2	0	0	0	0	2	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	29%

TOTAL

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AD	1	1	0	2	4	1	0	0	0	1	1	1	1	1	2	2	1	4	1	0	1	0	0	0	8	7	0	
AC	1	1	1	1	2	0	0	0	2	1	0	0	0	0	1	1	0	0	1	0	0	0	1	2	3	3	0	
APPROACH A			**6:00 =**	**8**			**7:00 =**	**7**			**8:00 =**	**6**			**9:00 =**	**8**			**10:00 =**	**7**			**11:00 =**	**4**				
BA	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	
BC	0	0	1	1	1	3	1	1	0	0	1	1	1	3	0	0	0	2	0	0	1	0	0	0	7	6	1	
BD	27	38	27	31	26	26	36	14	18	15	21	25	14	12	17	10	9	9	17	21	9	9	7	11	131	119	36	
APPROACH B			**6:00 =**	**126**			**7:00 =**	**108**			**8:00 =**	**81**			**9:00 =**	**58**			**10:00 =**	**58**			**11:00 =**	**37**				
CD	158	210	232	242	251	209	224	165	146	194	222	170	121	152	146	115	109	103	92	127	126	106	126	120	1016	926	224	
CA	1	2	2	1	1	2	0	1	2	0	1	2	0	0	0	0	0	0	0	1	0	1	0	1	4	4	0	
CB	1	0	1	0	0	0	0	1	0	0	1	2	0	1	0	1	2	1	1	0	0	0	1	1	0	0	0	
APPROACH C			**6:00 =**	**850**			**7:00 =**	**854**			**8:00 =**	**740**			**9:00 =**	**536**			**10:00 =**	**436**			**11:00 =**	**482**				
DC	36	64	58	74	78	107	147	125	93	101	105	71	106	85	99	83	83	102	107	85	102	92	102	107	446	406	147	
DB	2	6	5	5	7	6	1	12	4	5	6	10	12	6	9	4	7	7	5	6	6	11	12	6	21	19	1	
DA	1	6	0	3	1	1	2	1	2	2	0	2	1	1	3	1	0	1	1	0	0	0	1	3	8	7	2	
APPROACH D			**6:00 =**	**260**			**7:00 =**	**488**			**8:00 =**	**401**			**9:00 =**	**410**			**10:00 =**	**404**			**11:00 =**	**442**	**1644**	**1498**	**411**	**0.91**

Hutchison Engineering, Inc.

INTERSECTION: GRIFFIN

US 30P-91-403-11

P.M

DATE COUNTED: 5/8/2012

COUNTED BY: J..L / R.D.

PASSENGER

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
AD	3	0	3	0	1	0	1	3	1	0	0	3	6	1	2	0	1	0	0	1	0	2	0	2
AC	0	1	0	0	0	0	1	0	1	0	1	0	2	1	0	0	2	0	0	1	2	1	0	0
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BC	1	0	0	0	0	2	1	0	2	0	1	1	0	0	0	0	1	4	2	0	2	1	1	2
BD	9	7	5	7	14	16	15	10	19	17	18	8	17	13	11	19	17	10	7	14	28	15	22	15
CD	100	122	111	106	94	111	112	131	153	145	115	112	115	129	132	152	150	149	154	150	147	152	134	160
CA	0	1	0	0	2	1	0	1	0	0	1	0	0	0	0	2	1	0	0	0	1	2	0	0
CB	0	3	0	0	0	1	0	0	2	2	1	1	2	2	1	2	3	0	2	1	0	3	1	2
DC	108	105	74	107	93	113	123	113	132	117	135	140	159	194	233	194	220	216	208	228	217	198	221	188
DB	10	13	10	6	24	13	11	13	13	8	12	11	17	15	22	21	31	20	24	36	33	26	29	21
DA	0	3	2	1	0	3	1	2	0	0	2	3	2	2	1	2	1	1	1	1	0	1	1	3

SINGLE UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BC	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BD	0	0	1	0	1	0	0	2	1	3	2	1	1	0	1	0	0	1	1	0	0	1	0	0
CD	1	3	5	8	6	8	11	4	3	3	2	2	3	0	3	3	5	0	4	2	2	1	2	0
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DC	1	3	4	5	4	3	3	3	6	6	7	10	5	7	4	4	2	1	0	3	4	1	4	3
DB	1	0	0	2	0	1	0	1	1	2	0	0	0	2	0	0	1	1	0	1	0	0	0	0
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MULTI UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AD	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CD	8	4	1	3	6	2	6	3	3	1	5	4	8	1	5	5	0	3	4	1	0	2	4	1
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DC	8	5	4	3	3	8	3	5	5	4	4	2	2	5	3	0	4	4	3	1	2	0	0	4
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TOTAL TRUCKS

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00		Truck Percent
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AD	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BC	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BD	0	0	1	0	1	0	0	2	1	3	2	1	1	0	1	0	0	1	1	0	0	1	0	0	3	4%
CD	9	7	6	11	12	10	17	7	6	4	7	6	11	1	8	8	5	3	8	3	2	3	6	1	46	8%
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
DC	9	8	8	8	7	11	6	8	11	10	11	12	7	12	7	4	6	5	3	4	6	1	4	7	32	4%
DB	1	0	0	2	0	1	0	1	1	2	0	0	0	2	0	0	1	1	0	1	0	0	0	0	2	2%
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%

TOTAL

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
AD	3	1	3	0	1	0	1	3	1	0	0	3	6	1	2	0	1	0	0	1	0	2	0	2	3	3	1	
AC	0	1	0	0	0	0	1	0	1	0	1	0	2	1	0	0	2	0	0	1	2	1	0	0	4	4	1	
APPROACH A				**12:00 =**	**8**			**1:00 =**	**6**			**2:00 =**	**6**			**3:00 =**	**13**			**4:00 =**	**5**			**5:00 =**	**7**			
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BC	2	0	0	0	0	2	1	0	2	0	1	1	0	0	0	0	1	4	2	0	2	1	1	2	4	4	0	
BD	9	7	6	7	15	16	15	12	20	20	20	9	18	13	12	19	17	11	8	14	28	16	22	15	83	80	14	
APPROACH B				**12:00 =**	**31**			**1:00 =**	**61**			**2:00 =**	**73**			**3:00 =**	**62**			**4:00 =**	**57**			**5:00 =**	**87**			
CD	109	129	117	117	106	121	129	138	159	149	122	118	126	130	140	160	155	152	162	153	149	155	140	161	617	597	153	
CA	0	1	0	0	2	1	0	1	0	0	1	0	0	0	0	2	1	0	0	0	1	2	0	0	3	3	0	
CB	0	3	0	0	0	1	0	0	2	2	1	1	2	2	1	2	3	0	2	1	0	3	1	2	5	5	1	
APPROACH C				**12:00 =**	**476**			**1:00 =**	**499**			**2:00 =**	**555**			**3:00 =**	**565**			**4:00 =**	**629**			**5:00 =**	**614**			
DC	117	113	82	115	100	124	129	121	143	127	146	152	166	206	240	198	226	221	211	232	223	199	225	195	908	879	232	
DB	11	13	10	8	24	14	11	14	14	10	12	11	17	17	22	21	32	21	24	37	33	26	29	21	129	125	37	
DA	0	3	2	1	0	3	1	2	0	0	2	3	2	2	1	2	1	1	1	1	0	1	1	3	3	3	1	
APPROACH D				**12:00 =**	**475**			**1:00 =**	**543**			**2:00 =**	**620**			**3:00 =**	**894**			**4:00 =**	**1008**			**5:00 =**	**956**	**1760**	**1703**	**440**	**0.97**

Hutchison Engineering, Inc.

3171

US 30P-91-403-11

INTERSECTION: BLACKBERRY

A.M

DATE COUNTED: 5/10/2012
COUNTED BY: S.H.

PASSENGER

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD	3	4	3	3	2	4	2	1	1	2	1	2	2	3	1	4	3	0	4	4	0	1	2	4
AC	0	1	1	2	0	1	0	0	0	1	1	0	1	1	0	0	0	0	2	0	1	0	0	0
BA																								
BC																								
BD																								
CD	189	236	267	197	232	212	207	157	191	194	182	168	117	149	119	114	128	94	137	102	123	114	111	113
CA	0	1	0	1	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0	1	0	2	1
CB																								
DC	37	67	85	58	82	100	129	88	85	95	91	99	109	79	78	84	58	102	110	72	115	96	113	121
DB																								
DA	0	1	1	0	1	0	1	0	0	2	2	1	4	1	0	2	2	0	4	1	0	4	1	4

SINGLE UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0
AC	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
BA																								
BC																								
BD																								
CD	0	2	5	4	6	9	4	5	8	7	2	4	4	7	4	8	5	4	5	1	1	4	9	5
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
CB																								
DC	2	2	3	4	7	2	8	5	4	4	5	5	4	2	1	8	6	4	6	4	4	6	6	7
DB																								
DA	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0

MULTI UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BA																								
BC																								
BD																								
CD	1	9	2	8	4	5	1	2	4	8	5	3	3	6	8	5	4	5	3	2	4	5	5	6
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CB																								
DC	2	2	2	3	5	4	5	2	0	3	4	5	5	7	3	5	4	6	7	6	4	4	5	7
DB																								
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TOTAL TRUCKS

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00		Truck Percent
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AD	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0%
AC	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
CD	1	11	7	12	10	14	5	7	12	15	7	7	7	13	12	13	9	9	8	3	5	9	14	11	36	4%
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0%
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
DC	4	4	5	7	12	6	13	7	4	7	9	10	9	9	4	13	10	10	13	10	8	10	11	14	38	11%
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
DA	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0%

TOTAL

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AD	3	4	3	3	2	4	2	1	1	2	1	2	3	3	1	4	3	0	5	4	0	2	2	4	13	12	3	
AC	0	1	1	3	0	1	0	0	0	1	2	0	1	1	0	0	0	0	2	0	1	0	0	0	6	5	1	
APPROACH A			**6:00 =**	**18**			**7:00 =**	**10**			**8:00 =**	**9**			**9:00 =**	**13**			**10:00 =**	**14**			**11:00 =**	**9**				
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH B			**6:00 =**	**0**			**7:00 =**	**0**			**8:00 =**	**0**			**9:00 =**	**0**			**10:00 =**	**0**			**11:00 =**	**0**				
CD	190	247	274	209	242	226	212	164	203	209	189	175	124	162	131	127	137	103	145	105	128	123	125	124	1058	951	274	
CA	0	1	0	1	0	0	0	0	0	0	1	0	0	0	1	2	0	1	0	0	1	0	2	1	1	1	0	
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH C			**6:00 =**	**922**			**7:00 =**	**844**			**8:00 =**	**777**			**9:00 =**	**547**			**10:00 =**	**491**			**11:00 =**	**504**				
DC	41	71	90	65	94	106	142	95	89	102	100	109	118	88	82	97	68	112	123	82	123	106	124	135	395	355	90	
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DA	0	1	1	1	1	0	1	0	0	3	2	1	5	1	0	2	2	0	4	1	1	4	1	4	3	3	1	
APPROACH D			**6:00 =**	**270**			**7:00 =**	**439**			**8:00 =**	**406**			**9:00 =**	**393**			**10:00 =**	**392**			**11:00 =**	**498**	**1476**	**1327**	**369**	**0.90**

Hutchison Engineering, Inc.

US 30P-91-403-11

INTERSECTION: BLACKBERRY

P.M

DATE COUNTED: 5/9/2012
COUNTED BY: S.H.

PASSENGER

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD	1	4	0	2	0	0	1	2	3	0	1	3	0	1	3	2	0	1	3	1	3	2	3	4
AC	2	0	1	0	0	0	0	0	3	0	0	0	1	0	0	0	1	0	1	0	2	0	1	1
BA																								
BC																								
BD																								
CD	99	117	139	116	113	97	112	99	125	125	133	120	118	144	162	186	190	145	170	179	175	142	185	163
CA	1	0	1	1	0	0	1	0	0	0	0	1	1	0	2	0	1	0	2	1	1	0	0	2
CB																								
DC	100	108	117	103	106	94	116	109	113	111	139	163	210	209	247	229	262	221	235	198	261	208	278	234
DB																								
DA	3	3	4	3	1	2	1	2	0	1	0	0	4	0	4	1	3	4	5	4	3	1	5	6

SINGLE UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
AC	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
BA																								
BC																								
BD																								
CD	7	3	5	4	7	4	4	5	3	5	3	7	6	9	5	4	7	4	6	1	4	4	0	2
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
CB																								
DC	3	4	3	3	2	4	4	6	4	4	4	7	6	8	2	5	6	4	5	2	5	1	0	0
DB																								
DA	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0

MULTI UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BA																								
BC																								
BD																								
CD	1	3	6	6	0	7	2	5	4	6	8	6	1	7	4	3	3	2	1	1	2	3	2	4
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CB																								
DC	3	5	4	5	5	5	3	1	3	7	6	3	2	3	3	3	0	2	1	2	0	2	1	4
DB																								
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TOTAL TRUCKS

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00		Truck Percent
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0%
AC	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	46%
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
CD	8	6	11	10	7	11	6	10	7	11	11	13	7	16	9	7	10	6	7	2	6	7	2	6	34	5%
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0%
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
DC	6	9	7	8	7	9	7	7	7	11	10	10	8	11	5	8	6	6	6	4	5	3	1	4	30	3%
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
DA	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0%

TOTAL

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AD	1	4	0	2	0	0	1	2	3	0	1	3	0	1	4	2	0	1	3	1	3	2	3	4	8	7	0	
AC	2	0	1	0	1	0	0	0	3	0	0	0	1	1	0	0	1	0	1	0	2	0	1	1	2	2	1	
APPROACH A			**12:00 =**	**10**			**1:00 =**	**4**			**2:00 =**	**10**			**3:00 =**	**9**			**4:00 =**	**7**			**5:00 =**	**16**				
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH B			**12:00 =**	**0**			**1:00 =**	**0**			**2:00 =**	**0**			**3:00 =**	**0**			**4:00 =**	**0**			**5:00 =**	**0**				
CD	107	123	150	126	120	108	118	109	132	136	144	133	125	160	171	193	200	151	177	181	181	149	187	169	795	724	200	
CA	1	0	1	1	0	0	1	0	0	0	0	1	1	0	3	0	1	0	2	1	1	0	0	2	4	4	1	
CB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH C			**12:00 =**	**509**			**1:00 =**	**456**			**2:00 =**	**546**			**3:00 =**	**653**			**4:00 =**	**713**			**5:00 =**	**689**				
DC	106	117	124	111	113	103	123	116	120	122	149	173	218	220	252	237	268	227	241	202	266	211	279	238	1073	977	268	
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DA	3	3	4	4	1	2	1	2	0	1	0	0	4	1	4	1	3	4	5	4	3	1	5	6	10	9	3	
APPROACH D			**12:00 =**	**472**			**1:00 =**	**461**			**2:00 =**	**565**			**3:00 =**	**937**			**4:00 =**	**954**			**5:00 =**	**1009**	**1892**	**1723**	**473**	**0.91**

Hutchison Engineering, Inc.

US 30P-91-403-11

INTERSECTION: ORCHARD

DATE COUNTED: 5/9/2012
COUNTED BY: J.L. / R.D.

A.M

PASSENGER

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB	55	58	80	101	94	91	73	73	78	54	54	72	62	53	54	52	48	44	73	61	59	71	61	74
AD	28	34	41	45	46	71	47	39	46	38	39	34	37	44	41	40	44	43	41	36	45	48	46	44
AC	4	3	7	17	9	10	12	10	15	14	12	14	12	10	9	20	16	23	12	13	16	12	17	15
BA	105	157	138	152	141	153	92	124	122	137	94	122	86	90	94	97	88	79	76	83	85	82	65	74
BC	16	10	12	7	8	23	10	14	14	19	16	20	25	16	16	22	18	17	22	19	25	19	17	30
BD	43	94	86	86	87	93	101	82	70	71	55	64	34	47	52	48	43	37	38	40	42	57	33	32
CD	107	120	108	140	162	162	145	126	105	121	115	115	86	75	82	96	54	63	66	72	61	80	97	93
CA	84	99	74	68	63	67	53	59	43	55	62	41	34	25	29	37	16	27	29	26	20	30	24	23
CB	19	18	24	36	34	22	18	21	14	19	13	19	12	13	21	14	15	16	16	13	10	13	23	18
DC	37	51	41	42	57	72	81	76	48	54	58	73	81	50	68	43	32	49	56	39	50	57	74	60
DB	16	28	31	21	30	18	29	24	28	33	26	31	26	22	27	21	24	27	22	26	35	41	46	34
DA	24	36	44	48	55	71	56	60	47	36	56	47	48	35	44	37	24	35	27	36	31	38	37	42

SINGLE UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB	2	3	3	4	3	7	3	2	3	5	3	4	5	3	3	4	4	4	4	4	3	3	1	4
AD	0	0	0	2	1	1	4	1	2	5	1	1	3	1	2	5	0	0	3	0	1	0	2	2
AC	0	0	0	2	0	1	1	2	0	4	0	0	2	1	1	1	1	1	1	2	0	0	1	2
BA	3	2	1	2	2	5	8	0	6	7	0	1	4	8	6	4	4	6	4	3	6	3	1	3
BC	2	2	0	2	1	0	2	2	1	1	0	2	0	1	1	2	0	1	0	2	1	1	2	0
BD	1	1	1	1	2	5	1	0	2	6	1	1	3	3	3	3	0	0	0	5	0	1	3	0
CD	0	1	0	4	2	3	4	3	4	7	3	5	5	1	5	1	2	4	2	2	2	2	3	5
CA	0	0	0	0	1	1	0	0	0	0	2	1	0	2	0	2	2	1	0	1	1	2	0	1
CB	1	1	1	3	0	2	0	0	2	0	0	0	3	1	0	0	0	0	2	1	1	1	1	0
DC	2	1	2	3	6	3	4	6	5	1	5	3	3	3	7	2	4	3	3	3	4	4	1	3
DB	1	0	2	0	0	0	4	5	1	5	3	1	0	3	2	4	0	0	3	2	1	0	2	3
DA	1	1	2	3	3	2	1	4	0	1	0	3	1	0	6	0	1	1	4	2	1	3	2	0

MULTI UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB	1	3	3	3	5	2	3	4	6	0	2	4	5	3	3	7	2	3	4	3	4	7	7	4
AD	1	2	2	1	2	4	1	1	4	2	3	3	3	5	4	2	1	0	3	3	5	1	2	1
AC	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	2	0	0	1	1	3	1	2	0
BA	5	3	3	2	7	3	3	7	7	3	2	5	6	4	4	5	5	8	7	7	4	7	5	4
BC	2	0	0	0	0	0	0	0	0	0	1	1	2	2	2	2	1	1	0	1	0	0	1	0
BD	2	0	0	0	1	0	0	0	0	2	2	0	1	0	1	0	1	0	0	0	1	1	0	1
CD	6	3	2	1	5	0	3	5	2	3	1	3	5	2	4	2	5	2	1	10	1	4	6	3
CA	1	0	1	0	0	1	0	2	0	2	0	2	1	0	1	1	1	1	1	0	0	1	1	0
CB	0	1	0	0	1	0	0	0	1	0	1	1	2	2	2	2	1	1	0	1	0	0	1	0
DC	4	1	4	2	2	4	2	3	3	1	6	2	3	1	6	3	1	2	0	4	4	6	4	1
DB	1	0	0	0	0	1	0	0	2	2	0	1	0	0	0	0	1	1	0	0	2	0	0	1
DA	0	0	0	0	2	1	2	2	0	3	2	2	3	1	2	5	2	4	1	3	4	2	5	3

TOTAL TRUCKS

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00		Truck Percent
AB	3	6	6	7	8	9	6	6	9	5	5	8	10	6	6	11	6	7	8	7	7	10	8	8	29	7%
AD	1	2	2	3	3	5	5	2	6	7	4	4	6	6	6	7	1	0	6	3	6	1	4	3	15	6%
AC	0	0	0	2	0	1	1	2	1	4	0	1	2	1	2	3	1	1	2	3	3	1	3	2	4	7%
BA	8	5	4	4	9	8	11	7	13	10	2	6	10	12	10	9	9	14	11	10	10	10	6	7	35	6%
BC	4	2	0	2	1	0	2	2	1	1	1	3	2	3	3	4	1	2	0	3	1	1	3	0	5	9%
BD	3	1	1	1	3	5	1	0	2	8	3	1	4	3	4	3	1	0	0	5	1	2	3	1	9	2%
CD	6	4	2	5	7	3	7	8	6	10	4	8	10	3	9	3	7	6	3	12	3	6	9	8	25	4%
CA	1	0	1	0	1	2	0	2	0	2	2	3	1	2	1	3	3	2	1	1	1	3	1	1	5	2%
CB	1	2	1	3	1	2	0	0	3	0	1	1	5	3	2	2	1	1	2	2	1	1	2	0	3	3%
DC	6	2	6	5	8	7	6	9	8	2	11	5	6	4	13	5	5	5	3	7	8	10	5	4	30	11%
DB	2	0	2	0	0	1	4	5	3	7	3	2	0	3	2	4	1	1	3	2	3	0	2	4	10	10%
DA	1	1	2	3	5	3	3	6	0	4	2	5	4	1	8	5	3	5	5	5	5	5	7	3	17	7%

TOTAL

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	58	64	86	108	102	100	79	79	87	59	59	80	72	59	60	63	54	51	81	68	66	81	69	82	425	389	100	
AD	29	36	43	48	49	76	52	41	52	45	43	38	43	50	47	47	45	43	47	39	51	49	50	47	246	225	76	
AC	4	3	7	19	9	11	13	12	16	18	12	15	14	11	11	23	17	24	14	16	19	13	20	17	57	52	11	
APPROACH A			**6:00 =**	**505**			**7:00 =**	**623**			**8:00 =**	**524**			**9:00 =**	**500**			**10:00 =**	**499**			**11:00 =**	**564**				
BA	113	162	142	156	150	161	103	131	135	147	96	128	96	102	104	106	97	93	87	93	95	92	71	81	623	570	161	
BC	20	12	12	9	9	23	12	16	15	20	17	23	27	19	19	26	19	19	22	22	26	20	20	30	58	53	23	
BD	46	95	87	87	90	98	102	82	72	79	58	65	38	50	56	51	44	37	38	45	43	59	36	33	412	377	98	
APPROACH B			**6:00 =**	**941**			**7:00 =**	**977**			**8:00 =**	**855**			**9:00 =**	**694**			**10:00 =**	**616**			**11:00 =**	**606**				
CD	113	124	110	145	169	165	152	134	111	131	119	123	96	78	91	99	61	69	69	84	64	86	106	101	689	631	165	
CA	85	99	75	68	64	69	53	61	43	57	64	44	35	27	30	40	19	29	30	27	21	33	25	24	277	254	69	
CB	20	20	25	39	35	24	18	21	17	19	14	20	17	16	23	16	16	17	18	15	11	14	25	18	127	116	24	
APPROACH C			**6:00 =**	**923**			**7:00 =**	**965**			**8:00 =**	**762**			**9:00 =**	**568**			**10:00 =**	**454**			**11:00 =**	**528**				
DC	43	53	47	47	65	79	87	85	56	56	69	78	87	54	81	48	37	54	59	46	58	67	79	64	304	278	79	
DB	18	28	33	21	30	19	33	29	31	40	29	33	26	25	29	25	25	28	25	28	38	41	48	38	113	103	19	
DA	25	37	46	51	60	74	59	66	47	40	58	52	52	36	52	42	27	40	32	41	36	43	44	45	267	244	74	
APPROACH D			**6:00 =**	**449**			**7:00 =**	**686**			**8:00 =**	**589**			**9:00 =**	**557**			**10:00 =**	**442**			**11:00 =**	**601**	**3596**	**3292**	**899**	**0.92**

Hutchison Engineering, Inc.

US 30P-91-403-11

INTERSECTION: ORCHARD

DATE COUNTED: 5/10/2012
COUNTED BY: J.L. / R.D.

P.M

PASSENGER

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB	80	78	69	83	108	74	74	88	96	99	124	95	131	153	120	134	137	165	142	161	138	182	146	156
AD	50	54	49	43	55	58	43	45	47	60	57	57	47	77	52	59	66	69	47	82	54	76	64	82
AC	27	15	20	15	24	16	18	45	38	34	30	34	25	43	58	52	35	41	52	45	51	50	53	60
BA	67	85	78	100	108	77	72	94	116	92	114	91	80	118	122	123	101	157	134	108	114	141	106	93
BC	25	22	20	32	29	30	22	19	42	35	25	24	41	33	52	42	48	39	48	41	42	52	40	52
BD	53	41	44	44	35	43	51	30	29	38	30	32	34	59	41	48	52	63	59	58	43	62	76	57
CD	95	83	77	83	76	82	86	70	80	71	97	95	87	97	125	143	130	102	132	119	109	121	116	133
CA	27	24	43	31	28	27	30	29	35	11	25	34	24	23	34	23	36	37	42	35	21	37	31	39
CB	16	12	16	16	8	12	15	8	26	18	21	20	28	27	17	29	16	27	34	20	22	25	24	35
DC	93	68	69	79	66	58	81	76	74	74	106	98	124	119	139	128	121	139	163	77	103	135	160	150
DB	49	47	38	49	42	30	42	51	50	40	45	68	76	57	70	52	73	65	93	56	50	67	84	90
DA	38	47	34	31	42	42	43	48	40	46	53	53	33	55	60	64	75	73	79	32	31	45	40	48

SINGLE UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB	1	2	7	0	1	1	3	2	7	2	2	5	1	3	2	4	1	2	4	3	0	3	1	4
AD	1	1	3	0	4	5	1	1	1	5	5	2	2	1	4	1	2	2	3	2	0	0	0	2
AC	1	0	2	0	2	1	0	1	0	0	1	0	1	4	1	0	0	0	1	0	1	0	0	0
BA	6	4	2	7	1	3	0	9	5	3	6	4	4	3	1	2	6	2	1	1	3	1	2	0
BC	0	0	1	1	0	0	1	1	1	1	2	2	0	2	0	1	0	0	0	1	0	0	1	1
BD	1	1	1	0	2	1	1	0	2	2	2	0	3	1	2	0	2	1	3	1	1	1	0	1
CD	2	4	2	1	2	2	4	3	4	2	2	3	1	4	6	3	1	5	3	3	1	0	1	1
CA	0	0	3	2	1	1	1	0	0	0	4	1	1	0	2	1	1	0	0	0	2	0	2	0
CB	0	1	1	1	0	0	0	0	1	0	0	0	4	1	0	0	3	2	1	1	0	2	0	1
DC	2	4	5	2	7	3	1	1	6	1	7	5	4	3	4	5	7	3	1	2	0	2	1	1
DB	0	3	1	0	1	0	1	2	5	1	1	3	0	1	1	3	1	2	0	0	1	0	2	0
DA	0	1	3	2	2	3	2	1	3	3	3	3	0	3	0	1	1	0	1	0	1	0	1	3

MULTI UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB	7	3	1	4	6	6	4	8	6	6	3	1	2	1	3	1	1	5	3	4	4	5	4	2
AD	3	0	2	3	2	1	3	1	4	5	3	2	1	2	2	2	1	4	5	1	1	1	1	1
AC	1	0	2	0	0	2	0	0	1	1	0	2	1	3	0	0	1	1	1	2	0	1	0	1
BA	6	5	2	6	2	2	3	3	4	3	7	1	2	6	5	6	3	2	0	5	5	5	3	1
BC	0	2	1	0	1	1	1	1	0	0	1	0	1	1	1	0	0	1	0	0	0	0	2	2
BD	1	0	0	2	0	0	2	2	0	2	0	0	0	2	0	1	0	1	0	1	0	0	1	1
CD	1	4	3	5	4	2	4	3	4	0	3	1	4	2	3	0	1	4	7	1	2	4	3	1
CA	0	0	0	0	0	1	2	1	2	1	0	0	3	1	1	1	1	0	1	0	1	2	0	0
CB	0	1	1	1	0	0	1	1	0	1	0	0	0	0	1	2	0	0	0	0	0	1	0	0
DC	9	3	2	7	1	5	1	3	2	4	2	2	1	3	5	2	0	0	0	0	0	0	1	1
DB	0	0	1	2	2	0	0	0	0	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0
DA	4	4	1	3	3	2	2	1	1	4	3	3	1	2	0	1	4	0	0	0	0	2	1	4

TOTAL TRUCKS

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00		Truck Percent
AB	8	5	8	4	7	7	7	10	13	8	5	6	3	4	5	5	2	7	7	7	4	8	5	6	31	5%
AD	4	1	5	3	6	6	4	2	5	10	8	4	3	3	6	3	3	6	8	3	1	1	1	3	18	6%
AC	2	0	4	0	2	3	0	1	1	1	1	2	2	7	1	0	1	1	2	2	1	1	0	1	6	3%
BA	12	9	4	13	3	5	3	12	9	6	13	5	6	9	6	8	9	4	1	6	8	6	5	1	23	4%
BC	0	2	2	1	1	1	2	2	1	1	3	2	1	3	1	1	0	1	0	1	0	0	3	3	6	3%
BD	2	1	1	2	2	1	3	2	2	4	2	0	3	3	2	1	2	2	3	2	1	1	1	2	8	3%
CD	3	8	5	6	6	4	8	6	8	2	5	4	5	6	9	3	2	9	10	4	3	4	4	2	24	5%
CA	0	0	3	2	1	2	3	1	2	1	4	1	4	1	3	2	2	0	1	0	3	2	2	0	7	5%
CB	0	2	2	2	0	0	1	1	1	1	0	0	4	1	1	2	3	2	1	1	0	3	0	1	2	2%
DC	11	7	7	9	8	8	2	4	8	5	9	7	5	6	9	7	7	3	1	2	0	2	2	2	22	4%
DB	0	3	2	2	3	0	1	2	5	3	1	3	0	1	2	4	1	2	0	0	1	0	2	0	6	2%
DA	4	5	4	5	5	5	4	2	4	7	6	6	1	5	0	2	5	0	1	0	1	2	2	7	16	5%

TOTAL

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	88	83	77	87	115	81	81	98	109	107	129	101	134	157	125	139	139	172	149	168	142	190	151	162	645	599	149	
AD	54	55	54	46	61	64	47	47	52	70	65	61	50	80	58	62	69	75	55	85	55	77	65	85	281	261	55	
AC	29	15	24	15	26	19	18	46	39	35	31	36	27	50	59	52	36	42	54	47	52	51	53	61	198	184	54	
APPROACH A			**12:00 =**	**627**			**1:00 =**	**703**			**2:00 =**	**835**			**3:00 =**	**993**			**4:00 =**	**1091**			**5:00 =**	**1144**				
BA	79	94	82	113	111	82	75	106	125	98	127	96	86	127	128	131	110	161	135	114	122	147	111	94	578	537	135	
BC	25	24	22	33	30	31	24	21	43	36	28	26	42	36	53	43	48	40	48	42	42	52	43	55	193	179	48	
BD	55	42	45	46	37	44	54	32	31	42	32	32	37	62	43	49	54	65	62	60	44	63	77	59	248	230	62	
APPROACH B			**12:00 =**	**660**			**1:00 =**	**647**			**2:00 =**	**716**			**3:00 =**	**837**			**4:00 =**	**939**			**5:00 =**	**909**				
CD	98	91	82	89	82	86	94	76	88	73	102	99	92	103	134	146	132	111	142	123	112	125	120	135	572	531	142	
CA	27	24	46	33	29	29	33	30	37	12	29	35	28	24	37	25	38	37	43	35	24	39	33	39	154	143	43	
CB	16	14	18	18	8	12	16	9	27	19	21	20	32	28	18	31	19	29	35	21	22	28	24	36	123	114	35	
APPROACH C			**12:00 =**	**556**			**1:00 =**	**504**			**2:00 =**	**562**			**3:00 =**	**698**			**4:00 =**	**765**			**5:00 =**	**737**				
DC	104	75	76	88	74	66	83	80	82	79	115	105	129	125	148	135	128	142	164	79	103	137	162	152	613	569	164	
DB	49	50	40	51	45	30	43	53	55	43	46	71	76	58	72	56	74	67	93	56	51	67	86	90	312	290	93	
DA	42	52	38	36	47	47	47	50	44	53	59	59	34	60	60	66	80	73	80	32	32	47	42	55	322	299	80	
APPROACH D			**12:00 =**	**701**			**1:00 =**	**665**			**2:00 =**	**811**			**3:00 =**	**1019**			**4:00 =**	**1068**			**5:00 =**	**1024**	**4240**	**3936**	**1060**	**0.93**

Hutchison Engineering, Inc.

US 30P-91-403-11

INTERSECTION: HORSEMEN TRAIL

DATE COUNTED: 5/16/2012
COUNTED BY: J.L. / R.D.

A.M

PASSENGER

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD																								
AC																								
BA																								
BC																								
BD	9	10	19	13	22	26	34	17	18	20	21	17	9	10	17	20	14	17	16	18	15	12	20	17
CD	144	217	242	239	278	315	303	274	193	227	236	226	145	140	159	143	124	156	136	123	139	150	150	139
CA																								
CB	3	5	10	6	11	2	8	4	7	10	15	19	15	13	12	12	20	9	16	13	9	13	22	15
DC	96	102	135	118	123	171	189	141	136	139	142	109	115	95	114	102	101	105	131	124	152	128	133	144
DB	5	13	16	13	24	17	11	20	13	12	13	11	16	13	18	19	15	16	13	17	16	21	18	15
DA																								

SINGLE UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD																								
AC																								
BA																								
BC																								
BD	0	0	1	0	1	1	0	3	0	1	1	0	0	0	1	2	1	0	0	0	0	1	2	0
CD	1	2	2	6	7	6	5	8	8	12	4	5	3	7	5	8	7	9	7	4	6	3	8	5
CA																								
CB	2	0	0	0	0	1	2	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	1	0
DC	4	3	9	3	6	7	8	8	7	9	6	13	8	7	6	10	2	11	5	3	7	3	7	10
DB	0	0	1	2	1	0	3	3	0	4	1	0	1	0	1	1	0	0	0	1	0	0	0	0
DA																								

MULTI UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD																								
AC																								
BA																								
BC																								
BD	1	0	0	1	0	1	1	0	0	0	0	1	1	2	0	2	0	1	1	2	1	0	0	1
CD	2	8	8	3	4	7	10	4	8	5	3	4	8	7	6	4	9	3	4	6	6	8	4	6
CA																								
CB	0	0	0	0	1	0	2	1	0	0	2	0	0	1	1	0	0	0	0	0	1	0	2	0
DC	4	4	7	5	3	4	3	7	2	9	9	5	8	3	9	9	8	8	8	5	8	10	3	2
DB	0	0	1	0	1	0	0	0	2	0	0	0	0	1	0	0	3	0	0	0	0	0	0	0
DA																								

TOTAL TRUCKS

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00		Truck Percent
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BD	1	0	1	1	1	2	1	3	0	1	1	1	1	2	1	4	1	1	1	2	1	1	2	1	7	7%
CD	3	10	10	9	11	13	15	12	16	17	7	9	11	14	11	12	16	12	11	10	12	11	12	11	51	4%
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
CB	2	0	0	0	1	1	4	1	0	0	2	0	0	3	1	0	1	0	0	0	1	0	3	0	7	22%
DC	8	7	16	8	9	11	11	15	9	18	15	18	16	10	15	19	10	19	13	8	15	13	10	12	46	7%
DB	0	0	2	2	2	0	3	3	2	4	1	0	1	1	1	1	3	0	0	1	0	0	0	0	8	10%
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%

TOTAL

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH A			**6:00 =**	**0**			**7:00 =**	**0**			**8:00 =**	**0**			**9:00 =**	**0**			**10:00 =**	**0**			**11:00 =**	**0**				
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BD	10	10	20	14	23	28	35	20	18	21	22	18	10	12	18	24	15	18	17	20	16	13	22	18	116	106	35	
APPROACH B			**6:00 =**	**54**			**7:00 =**	**106**			**8:00 =**	**79**			**9:00 =**	**64**			**10:00 =**	**70**			**11:00 =**	**69**				
CD	147	227	252	248	289	328	318	286	209	244	243	235	156	154	170	155	140	168	147	133	151	161	162	150	1341	1221	318	
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CB	5	5	10	6	12	3	12	5	7	10	17	19	15	16	13	12	21	9	16	13	10	13	25	15	35	32	12	
APPROACH C			**6:00 =**	**900**			**7:00 =**	**1253**			**8:00 =**	**984**			**9:00 =**	**691**			**10:00 =**	**647**			**11:00 =**	**687**				
DC	104	109	151	126	132	182	200	156	145	157	157	127	131	105	129	121	111	124	144	132	167	141	143	156	736	670	200	
DB	5	13	18	15	26	17	14	23	15	16	14	11	17	14	19	20	18	16	13	18	16	21	18	15	88	80	14	
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH D			**6:00 =**	**541**			**7:00 =**	**750**			**8:00 =**	**642**			**9:00 =**	**556**			**10:00 =**	**576**			**11:00 =**	**677**	**2316**	**2109**	**579**	**0.91**

Hutchison Engineering, Inc.

US 30P-91-403-11

INTERSECTION: HORSEMEN TRAIL

P.M

DATE COUNTED: 5/15/2012
COUNTED BY: J.L. / R.D.

PASSENGER

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD																								
AC																								
BA																								
BC																								
BD	29	22	19	17	13	11	17	19	20	24	21	28	18	22	28	38	23	32	34	39	24	31	24	27
CD	130	159	137	154	139	152	153	139	159	139	141	174	150	183	161	256	211	219	221	221	254	224	215	206
CA																								
CB	20	18	15	21	18	18	13	14	12	13	18	17	17	20	16	18	23	20	18	26	25	22	29	27
DC	120	142	165	150	122	169	160	155	166	184	196	231	264	282	293	238	240	253	310	295	271	295	285	276
DB	26	20	18	30	18	22	27	17	36	24	29	21	28	23	41	51	35	47	39	47	52	52	36	32
DA																								

SINGLE UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD																								
AC																								
BA																								
BC																								
BD	2	1	0	1	1	0	0	0	1	0	1	0	0	2	4	0	0	0	0	0	0	0	1	0
CD	4	2	6	3	3	6	9	3	4	2	1	4	10	8	7	5	11	2	4	3	2	4	0	3
CA																								
CB	0	2	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0
DC	7	4	7	4	5	12	6	7	4	8	9	8	12	7	7	10	8	0	4	6	5	0	4	4
DB	0	1	0	1	1	0	0	0	1	0	0	1	0	0	1	0	2	0	1	2	1	0	0	0
DA																								

MULTI UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD																								
AC																								
BA																								
BC																								
BD	1	2	2	0	0	1	0	0	0	1	1	0	0	1	0	1	0	0	0	0	0	2	0	0
CD	5	10	8	7	5	6	9	6	8	5	8	11	9	3	4	10	4	4	2	4	6	6	1	5
CA																								
CB	0	0	1	1	0	1	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2	0	2
DC	2	4	6	6	6	3	4	5	5	3	5	6	9	6	0	5	2	0	2	4	3	1	2	3
DB	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DA																								

TOTAL TRUCKS

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00		Truck Percent
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BD	3	3	2	1	1	1	0	0	1	1	2	0	0	3	4	1	0	0	0	0	0	2	1	0	2	2%
CD	9	12	14	10	8	12	18	9	12	7	9	15	19	11	11	15	15	6	6	7	8	10	1	8	47	5%
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
CB	0	2	2	1	0	1	1	0	1	0	1	0	0	1	0	0	0	1	0	0	2	3	0	2	2	2%
DC	9	8	13	10	11	15	10	12	9	11	14	14	21	13	7	15	10	0	6	10	8	1	6	7	48	4%
DB	0	1	0	1	1	1	1	1	1	0	0	1	0	0	1	0	2	0	1	2	1	0	0	0	4	2%
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%

TOTAL

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH A			**12:00 =**	**0**			**1:00 =**	**0**			**2:00 =**	**0**			**3:00 =**	**0**			**4:00 =**	**0**			**5:00 =**	**0**				
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BD	32	25	21	18	14	12	17	19	21	25	23	28	18	25	32	39	23	32	34	39	24	33	25	27	131	130	39	
APPROACH B			**12:00 =**	**96**			**1:00 =**	**62**			**2:00 =**	**97**			**3:00 =**	**114**			**4:00 =**	**128**			**5:00 =**	**109**				
CD	139	171	151	164	147	164	171	148	171	146	150	189	169	194	172	271	226	225	227	228	262	234	216	214	959	951	228	
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CB	20	20	17	22	18	19	14	14	13	13	19	17	17	21	16	18	23	21	18	26	27	25	29	29	97	96	26	
APPROACH C			**12:00 =**	**704**			**1:00 =**	**695**			**2:00 =**	**718**			**3:00 =**	**878**			**4:00 =**	**994**			**5:00 =**	**1036**				
DC	129	150	178	160	133	184	170	167	175	195	210	245	285	295	300	253	250	253	316	305	279	296	291	283	1206	1196	305	
DB	26	21	18	31	19	23	28	18	37	24	29	22	28	23	42	51	37	47	40	49	53	52	36	32	196	194	49	
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH D			**12:00 =**	**713**			**1:00 =**	**742**			**2:00 =**	**937**			**3:00 =**	**1277**			**4:00 =**	**1297**			**5:00 =**	**1322**	**2588**	**2567**	**647**	**0.99**

Hutchison Engineering, Inc.

US 30P-91-403-11

INTERSECTION: BASELINE CONNECTOR

DATE COUNTED: 5/16/2012
COUNTED BY: R.D.

A.M

PASSENGER

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD																								
AC																								
BA																								
BC																								
BD	0	0	0	0	2	0	2	0	2	3	2	2	2	2	1	0	2	1	3	3	1	1	3	6
CD	148	227	259	248	300	333	336	287	207	239	253	240	152	147	174	162	131	170	149	135	149	160	166	153
CA																								
CB	5	0	2	4	3	8	1	4	4	8	4	3	2	3	2	1	7	3	3	6	5	2	4	3
DC	101	115	151	131	147	188	200	161	149	151	155	120	131	108	132	121	116	121	144	141	168	149	151	159
DB																								
DA																								

SINGLE UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD																								
AC																								
BA																								
BC																								
BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
CD	1	2	3	5	8	7	3	10	7	13	5	4	3	7	6	10	7	8	7	4	6	4	9	5
CA																								
CB	0	0	0	1	0	0	2	1	1	0	0	1	0	0	0	0	1	1	0	0	0	0	1	0
DC	4	3	10	5	7	7	11	11	7	13	7	13	9	7	7	11	2	11	5	4	7	3	7	10
DB																								
DA																								

MULTI UNIT

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
AB																								
AD																								
AC																								
BA																								
BC																								
BD	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	1	1	0	1	0	1	0
CD	2	7	4	3	2	7	10	4	6	5	2	5	9	7	5	6	8	3	3	7	7	7	4	7
CA																								
CB	1	1	4	1	2	1	1	0	2	0	1	0	0	2	1	0	1	1	2	1	0	1	0	0
DC	4	4	8	5	4	4	3	7	4	9	9	5	8	4	9	9	11	8	8	5	8	10	3	2
DB																								
DA																								

TOTAL TRUCKS

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00		Truck Percent
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BD	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	1	2	0	1	0	1	0	1	20%
CD	3	9	7	8	10	14	13	14	13	18	7	9	12	14	11	16	15	11	10	11	13	11	13	12	51	4%
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
CB	1	1	4	2	2	1	3	1	3	0	1	1	0	2	1	0	2	2	2	1	0	1	1	0	7	30%
DC	8	7	18	10	11	11	14	18	11	22	16	18	17	11	16	20	13	19	13	9	15	13	10	12	54	7%
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%

TOTAL

Movement	6:00 - 6:15	6:15-6:30	6:30-6:45	6:45-7:00	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00 - 9:15	9:15-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH A			**6:00 =**	**0**			**7:00 =**	**0**			**8:00 =**	**0**			**9:00 =**	**0**			**10:00 =**	**0**			**11:00 =**	**0**				
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BD	0	0	0	0	2	0	3	0	2	3	2	2	2	2	3	0	2	2	5	3	2	1	4	6	5	5	3	
APPROACH B			**6:00 =**	**0**			**7:00 =**	**5**			**8:00 =**	**9**			**9:00 =**	**7**			**10:00 =**	**12**			**11:00 =**	**13**				
CD	151	236	266	256	310	347	349	301	220	257	260	249	164	161	185	178	146	181	159	146	162	171	179	165	1429	1307	349	
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CB	6	1	6	6	5	9	4	5	7	8	5	4	2	5	3	1	9	5	5	7	5	3	5	3	25	23	4	
APPROACH C			**6:00 =**	**928**			**7:00 =**	**1330**			**8:00 =**	**1010**			**9:00 =**	**699**			**10:00 =**	**658**			**11:00 =**	**693**				
DC	109	122	169	141	158	199	214	179	160	173	171	138	148	119	148	141	129	140	157	150	183	162	161	171	820	750	214	
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH D			**6:00 =**	**541**			**7:00 =**	**750**			**8:00 =**	**642**			**9:00 =**	**556**			**10:00 =**	**576**			**11:00 =**	**677**	**2280**	**2085**	**570**	**0.91**

Hutchison Engineering, Inc.

US 30P-91-403-11

INTERSECTION: BASELINE CONNECTOR

P.M

DATE COUNTED: 5/15/2012
COUNTED BY: R.D.

PASSENGER

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD																								
AC																								
BA																								
BC																								
BD	4	1	1	3	6	2	2	1	3	2	1	0	5	9	2	7	6	3	3	9	6	9	2	4
CD	153	179	153	167	149	160	165	156	175	162	158	199	161	199	187	290	231	247	250	252	271	253	233	226
CA																								
CB	6	2	3	4	3	3	5	2	4	1	4	3	7	6	2	4	3	4	5	8	7	2	6	7
DC	146	162	183	180	140	191	187	172	202	208	225	252	292	305	334	289	275	300	349	342	323	347	321	308
DB																								
DA																								

SINGLE UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD																								
AC																								
BA																								
BC																								
BD	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CD	5	3	6	4	4	6	8	3	5	1	2	3	9	7	11	5	7	1	3	3	2	4	1	3
CA																								
CB	1	0	0	0	0	0	1	0	0	1	0	1	1	3	0	0	4	1	1	0	0	0	0	0
DC	9	5	7	5	6	12	6	7	5	8	9	9	12	7	8	10	10	5	5	8	6	0	4	4
DB																								
DA																								

MULTI UNIT

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00
AB																								
AD																								
AC																								
BA																								
BC																								
BD	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
CD	6	10	9	7	5	7	9	6	3	5	7	8	6	2	4	9	2	2	2	4	6	8	1	5
CA																								
CB	0	2	1	0	0	0	0	0	5	1	2	3	3	2	0	2	2	2	0	0	0	0	0	0
DC	3	4	6	6	6	4	5	6	5	3	5	6	9	6	0	5	2	1	2	4	3	1	2	3
DB																								
DA																								

TOTAL TRUCKS

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00		Truck Percent
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
BD	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	4%
CD	11	13	15	11	9	13	17	9	8	6	9	11	15	9	15	14	9	3	5	7	8	12	2	8	48	5%
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
CB	1	2	1	0	0	0	1	0	5	2	2	4	4	5	0	2	6	3	1	0	0	0	0	0	1	4%
DC	12	9	13	11	12	16	11	13	10	11	14	15	21	13	8	15	12	6	7	12	9	1	6	7	52	4%
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%

TOTAL

Movement	12:00 - 12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00 - 1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00	4:00 -4:15	4:15-4:30	4:30-4:45	4:45-5:00	5:00-5:15	5:15-5:30	5:30-5:45	5:45-6:00	DHV	PEAK HOUR VOLUME	PEAK 15 MINUTE VOLUME	PEAK HOUR FACTOR
AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH A			**12:00 =**	**0**			**1:00 =**	**0**			**2:00 =**	**0**			**3:00 =**	**0**			**4:00 =**	**0**			**5:00 =**	**0**				
BA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BD	4	1	1	3	7	2	2	1	3	2	2	0	5	9	2	8	6	3	3	9	6	9	2	4	27	27	9	
APPROACH B			**12:00 =**	**9**			**1:00 =**	**12**			**2:00 =**	**7**			**3:00 =**	**24**			**4:00 =**	**21**			**5:00 =**	**21**				
CD	164	192	168	178	158	173	182	165	183	168	167	210	176	208	202	304	240	250	255	259	279	265	235	234	1067	1058	259	
CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CB	7	4	4	4	3	3	6	2	9	3	6	7	11	11	2	6	9	7	6	8	7	2	6	7	23	23	8	
APPROACH C			**12:00 =**	**721**			**1:00 =**	**692**			**2:00 =**	**753**			**3:00 =**	**920**			**4:00 =**	**1034**			**5:00 =**	**1035**				
DC	158	171	196	191	152	207	198	185	212	219	239	267	313	318	342	304	287	306	356	354	332	348	327	315	1402	1390	354	
DB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH D			**12:00 =**	**716**			**1:00 =**	**742**			**2:00 =**	**937**			**3:00 =**	**1277**			**4:00 =**	**1303**			**5:00 =**	**1322**	**2520**	**2498**	**630**	**0.99**

Hutchison Engineering, Inc.

S-3

Technical Memorandum – Traffic Signal Warrants

U.S. 30
Illinois 47 to Illinois 31
P-91-403-11

TRAFFIC SIGNAL WARRANTS STUDY

Prepared By:

Hutchison Engineering, Inc.

February 7, 2014

TABLE OF CONTENTS

SECTION 1 -- DESCRIPTION OF STUDY AREA 1
SECTION 2 -- EXISTING CONDITIONS 3
2.1 EXISTING CONDITIONS & FIELD OBSERVATIONS 3
SECTION 3 -- SIGNAL WARRANT DETERMINATION PROCEDURES 5
3.1 DATA COLLECTION 5
3.2 RIGHT TURN FACTORIZATION 5
3.3 SIGNAL WARRANT PROCEDURES 6
SECTION 4 -- FUTURE 2040 TRAFFIC SIGNAL WARRANT ANALYSIS 8
4.1 2040 TRAFFIC SIGNAL WARRANT ANALYSIS 8
4.2 VILLAGE OF MONTGOMERY TRANSPORTATION PLAN 9
SECTION 5 -- STUDY CONCLUSIONS 9
APPENDICES 10

LIST OF FIGURES

FIGURE 1 - PROJECT LOCATION MAP 2

LIST OF TABLES

TABLE 1 -- EXISTING (2012) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS 7
TABLE 2 -- FUTURE (2040) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS 8

Hutchison Engineering, Inc.

TECHNICAL MEMORANDUM

February 7, 2014

U.S. 30 Traffic Signal Warrants Study
From IL 47 to IL 31

The purpose of this study was to evaluate existing and projected future traffic conditions along U.S. 30 at un-signalized intersections, and to determine traffic signal warrants.

SECTION 1

DESCRIPTION OF STUDY AREA

The project study area includes U.S. 30 (Baseline Road) from east of Illinois Route 47 to west of the Illinois Route 31 interchange, a length of about 4.5 miles. U.S. 30 through the study area generally runs east-west. See Figure 1 on page 2 for Project Location Map.

The U.S. 30 study corridor between IL 47 and IL 31 is a two-lane highway that is classified as a Strategic Regional Arterial (SRA). IDOT owns access rights through most of the corridor. The Average Annual Daily Traffic (AADT) ranges from 11,300 at the west end near Illinois Route 47 to 24,900 at the east end near the Illinois Route 31 interchange.

The existing land use from IL 47 to Dickson Road is agricultural. East of Dickson Road to Blackberry Creek is a mixture between residential and agricultural use. East of Orchard Road the land is generally commercial and industrial south of U.S. 30 with some residential and agricultural mixed in. On the north side the land use is more residential and agricultural until just west of the IL 31 interchange where it becomes industrial. Many of the residential subdivisions were developed with setbacks to accommodate future expansion of U.S. 30.

The posted speed limits of U.S. 30 are 55 mph from IL 47 to Orchard Road. East of Orchard Road to west of the IL 31 interchange the speed limit is 50 mph and it drops to 45 mph at the east end of the project where it approaches the interchange area.

The roadway generally consists of one 12 foot lane in each direction with 10 feet wide aggregate shoulders. There are three signalized intersections with turn lanes located at Gordon Road, Griffin Drive and Orchard Road. There are a total of seven un-signalized intersections.

Significant features along the corridor include Blackberry Creek, the Blackberry Trail Forest Preserve, Jacob Keck Memorial Cemetery and the Orchard Road Corridor. Stuart Sports Complex property abuts the corridor but there are no existing facilities near the corridor.

FIGURE 1

Project Location Map

Source: Microsoft Corporation / NAVTEQ

SECTION 2

EXISTING CONDITIONS

2.1 EXISTING CONDITIONS & FIELD OBSERVATIONS

Bertram Road

Bertram Road is classified as a major collector. It is a township road serving an agricultural area and connects to Jericho Road to the north. It is a three-legged un-signalized intersection. There are no turn lanes on any of the approaches. During the AM peak hour the westbound right turn movement is significant. However, no operational issues were noted. In the PM peak that movement is reversed with a large volume of southbound traffic making left turns onto U.S. 30. Traffic making this left-turn movement finds limited gaps to make the movement due to the density of the U.S. 30 traffic flow.

Dickson Road

Dickson Road is classified as a major collector. It is a township road serving an agricultural area adjacent to U.S. 30 and subdivisions further south. It is a three-legged un-signalized intersection. There are no turn lanes on any of the approaches. During the AM peak hour the northbound left turn movement is significant. Traffic making this left-turn movement finds limited gaps to make the movement due to the density of the U.S. 30 traffic flow. In the PM peak no operational issues were noted.

Prescott Drive

Prescott Drive is a classified as a local street. It is a city street serving a residential subdivision. It is a three-legged un-signalized intersection. There is a left turn lane for westbound U.S. 30 and a right turn lane for eastbound U.S. 30. Prescott Drive has a single lane approaching U.S. 30 and left turns out of Prescott Drive are prohibited. There were no observed operational concerns.

Lakewood Creek Drive

Lakewood Creek Drive is a classified as a major collector. It is a city street serving a residential subdivision. It is a three-legged un-signalized intersection. There is a left turn lane for westbound U.S. 30 and a right turn lane for eastbound U.S. 30. There are two approach lanes on Lakewood Drive. One is a dedicated left turn lane and the other is a dedicated right turn lane. In the AM peak no operational issues were noted. During the PM peak hour the northbound left turn movement experiences delays. Traffic making this left-turn movement finds limited gaps to make the movement due to the density of the U.S. 30 traffic flow.

Blackberry Road

Blackberry Road is classified as a local street. It is a township road and serves as the only access to a residential subdivision. It is a three-legged un-signalized intersection. There are no turn lanes on any of the approaches. It is located 1,000 feet west of Orchard Road. Peak hour traffic from and to Blackberry Road is less than 50 vehicles. Despite the low volume southbound left turn lanes are significantly delayed in both the AM and PM. Furthermore the operation of this intersection is negatively impacted by the close proximity of the Orchard Road intersection which often experiences significant eastbound queues which sometimes back up to Blackberry Road. Traffic making this left-turn movement finds limited gaps to make the movement due to the density of the U.S. 30 traffic flow.

Horsemen Trail

Horsemen Trail is a classified as a local street. It is a city street serving a commercial and industrial area. It is a three-legged un-signalized intersection. There is a left turn lane for westbound U.S. 30 and a right turn lane for eastbound U.S. 30. Horsemen Trail has a single lane approaching U.S. 30 and left turns out of Horsemen Trail are prohibited. Operationally the northbound right turn movement experiences delays in the peak hour due to the density of the U.S. 30 traffic eastbound flow which limits gaps to make the turn movement.

Baseline Road Connector

The Baseline Road Connector is a classified as a local street. It is a city street serving a mixture of residential, industrial, and commercial uses. It is a three-legged un-signalized intersection. There is a right turn lane for eastbound U.S. 30. Left turn lanes form U.S. 30 to Baseline Road Connector are prohibited. Baseline Road Connector has a single lane approaching U.S. 30 and left turns out of Baseline Road Connector are prohibited. Operationally the northbound right turn movement experiences delays in the peak hour due to the density of the U.S. 30 traffic eastbound flow which limits gaps to make the turn movement.

SECTION 3

SIGNAL WARRANT DETERMINATION PROCEDURES

3.1 DATA COLLECTION

Intersection geometry, speed limit data and traffic count data were obtained along the study corridor in April and May 2012. Traffic was counted only on weekdays (Tuesday through Thursday) for a 12-hour period between 6 AM and 6 PM. Turning movement counts were collected for all of the intersections.

Crash history was collected for a five year period from 2006 to 2010.

Traffic Count and Crash summaries for each intersection are included in Appendix A.

3.2 RIGHT TURN FACTORIZATION

Following compilation of traffic count data, it was determined which leg on at the minor street, has the greatest volume. If the volumes were approximately equal then the leg with the least number of right turning vehicles was used for analysis.

The “RIGHT TURN FACTORIZATION SHEET” was utilized to determine the appropriate right turn factor.

Utilizing the worksheet the lane configuration of the minor leg being studied was selected and the appropriate minor street volumes were recorded under the left, through, right, total columns with selected direction for each hour.

The number of lanes on the critical mainline approach was noted. The Critical Mainline Approach is the major street leg whose through movement is in conflict with the right-tum from the minor leg.

The Critical Mainline Approach Volume per Lane was then calculated. This is the hourly through volume of the critical mainline approach divided by the number of through lanes on that approach plus the hourly right-turning volume if it is not served by an exclusive right-tum lane on the mainline approach (right turns were excluded if there is an exclusive right-turn lane on the mainline approach).

After determining which lane configuration best represented the leg that is being studied and based on the movements for each hour, the Base Reduction for each hour was determined.

The Mainline Congestion Factor was then selected. This is a reduction of the Base Right Turn Reduction. Its purpose is to allow for the vehicles which are unable to tum right during exceedingly high volume on the major street. This reduction is 5% for mainline

approach volumes of 400 vehicles per hour per lane, and is increased by 5% for every 100 vehicles per hour per lane.

The Adjusted Right Tum Reduction was then calculated and used to determine the Adjusted Right Turns.

Finally the new Adjusted Minor Street Volumes were determined by adding the Adjusted Right Turns to the Through, and Left Tum volumes for each hour.

3.3 SIGNAL WARRANT PROCEDURES

"SIGNAL WARRANT REVIEW SHEETS" were utilized to analyze and summarize the warrant analysis. Intersections are typically analyzed utilizing eight (8) signal warrants including:

Warrant 1	Eight-Hour Vehicular Volume
Warrant 2	Four-Hour Vehicular Volume
Warrant 3	Peak Hour
Warrant 4	Pedestrian Volume
Warrant 5	School Crossing
Warrant 6	Coordinated Signal System
Warrant 7	Crash Experience
Warrant 8	Roadway Network
Warrant 9	Intersection Near a Grade Crossing

U.S. 30 is classified as a Strategic Regional Arterial in the project study area. Therefore the "SIGNAL WARRANT REVIEW SHEET" for a Strategic Regional Arterial (SRA) route was utilized to analyze signal warrants. Because U.S. 30 is an SRA the following restrictions were applied for signal warrant analysis.

- MUTCD 2009 Traffic Signal Warrants #1 (Condition A/B only - Combination of Warrants), #2, and #3 will be deleted for Strategic Regional Arterial (SRA) routes.
    - Warrant 1 (Condition A/B-Combination of Warrants) allows a traffic signal where Warrant 1 (Condition A) and Warrant 1 (Condition B) have at least 80 percent of the stated major and minor street values for the same eight hours of a typical day.
    - Warrant 2 allows a traffic signal where the four-hour vehicular volume requirements are met.
    - Warrant 3 allows a traffic signal where the peak hour volume requirement is met.
- The 70 percent factor (70% columns in Table 4C-1 of 2009 MUTCD) shall not be applied for locations where vehicle speed limits or 85th-percentile speeds exceed 40 mph or for intersections that lie within an isolated community along an SRA route.

- The minimum minor street volumes for Warrant #1 (Condition B only) shall be increased from 75 vehicles per hour to 100 for a single-lane minor approach and from 100 vehicles per hour to 150 for a two or more Jane minor approach along an SRA route. The corresponding 80% volumes for Warrant #7 are also increased accordingly, from 60 to 80 vehicles per hour for a single-lane minor approach and from 80 to 120 vehicles per hour for a two or more lane minor approach along an SRA route.

- New signal installations along SRA routes shall be spaced no less than approximately one-half mile apart on rural SRA routes, no less than approximately one-quarter mile apart (1,320 feet) on suburban SRA routes, and no less than approximately 1,000 feet apart on urban SRA routes. These spacing may be reduced to no less than 1000 feet on urban and suburban SRA routes and no less than one-quarter mile on rural SRA routes where it can be shown that it will not adversely affect signal progression. However, at no time should the spacing be less than 1,000 feet on urban and suburban SRA routes or one-quarter mile on rural SRA routes.

Table 1 summarizes the traffic signal warrant analysis for the un-signalized intersection located in the project study area. None of the intersections were found to warrant signals.

Signal Warrant Review Sheets for existing conditions at each intersection may be found in Appendix A.

TABLE 1
Existing (2012) Conditions Traffic Signal Warrant Analysis

Intersection	Warrants Met (Y/N)								
	1	2	3	4	5	6	7	8	9
Bertram Road	N	N/A	N/A	N	N	N	N	N	N
Dickson Road	N	N/A	N/A	N	N	N	N	N	N
Prescott Drive	N	N/A	N/A	N	N	N	N	N	N
Lakewood Creek Drive	N	N/A	N/A	N	N	N	N	N	N
Blackberry Road	N	N/A	N/A	N	N	N	N	N	N
Horsemen Tr/Galena Rd	N	N/A	N/A	N	N	N	N	N	N
Baseline Connector Road	N	N/A	N/A	N	N	N	N	N	N

SECTION 4

FUTURE 2040 TRAFFIC SIGNAL WARRANT ANALYSIS

The next step in the analysis was to analyze future traffic signal warrants utilizing projected 2040 hourly volumes. The projections we based on data obtained from the Chicago Metropolitan Agency for Planning (CMAP)

4.1 2040 TRAFFIC SIGNAL WARRANT ANALYSIS

Using the projected traffic volumes a warrant analysis was conducted for the year 2040. The analysis was based upon an expansion of U.S. 30 from one lane in each direction to two lanes in each direction.

Table 2 summarizes the traffic signal warrant analysis for the un-signalized intersections located in the project study area. The Bertram Road and Lakewood Drive intersections were found to meet Warrant 1 for the 2040 conditions.

Signal Warrant Review Sheets for existing conditions at each intersection may be found in Appendix A.

TABLE 2
Future (2040) Conditions Traffic Signal Warrant Analysis

Intersection	Warrants Met (Y/N)								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Bertram Road	Y	N/A	N/A	N	N	N	N	N	N
Dickson Road	N	N/A	N/A	N	N	N	N	N	N
Prescott Drive	N	N/A	N/A	N	N	N	N	N	N
Lakewood Creek Drive	Y	N/A	N/A	N	N	N	N	N	N
Blackberry Road	N	N/A	N/A	N	N	N	N	N	N
Horsemen Tr/Galena Rd	N	N/A	N/A	N	N	N	N	N	N
Baseline Connector Road	N	N/A	N/A	N	N	N	N	N	N

4.2 VILLAGE OF MONTGOMERY TRANSPORTATION PLAN

In 2004 the Village of Montgomery developed transportation and access plan (see Appendix C). Along this corridor they identified potential traffic signal locations, access points and road closures along the U.S. 30 corridor. Lakewood Creek Drive was identified as potential traffic signal location however; Bertram Road was identified as a road closure. The transportation plan indicates Dickson Road will be signalized at U.S. 30 and extended to the north and two new signalized intersections will be established west of Bertram Road. If this plan comes to fruition it will require a reevaluation of the traffic signal warrants at points between IL 47 and Dickson Road.

SECTION 5

STUDY CONCLUSIONS

The traffic signal warrant analyses indicate none of the un-signalized intersections currently warrant traffic signals. By the year 2040 traffic signals will be warranted at the Bertram Road and Lakewood Creek Drive intersections based upon the current traffic volume projections. Future development along the corridor will need to be monitored and signal warrants will need to be reevaluated as necessary.

APPENDICES

A. Existing Conditions – Traffic Signal Warrant Analyses for U.S. 30 Intersections at:
    a. Bertram Road
    b. Dickson Road
    c. Prescott Drive
    d. Lakewood Creek Drive
    e. Blackberry Road
    f. Horsemen Trail (Galena Road)
    g. Baseline Connector Road

B. Future (2040) Conditions – Traffic Signal Warrant Analyses for U.S. 30 Intersections at:
    a. Bertram Road
    b. Dickson Road
    c. Prescott Drive
    d. Lakewood Creek Drive
    e. Blackberry Road
    f. Horsemen Trail (Galena Road)
    g. Baseline Connector Road

C. Village of Montgomery Transportation Plan

EXISTING CONDITIONS – TRAFFIC SIGNAL WARRANT ANALYSES AT U.S. 30 INTERSECTIONS

Appendix A

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

TRAFFIC SIGNAL STUDY PACKAGE - MUTCD

INTERSECTION : US 30 & BERTRAM

MUNICIPALITY: MONTGOMERY

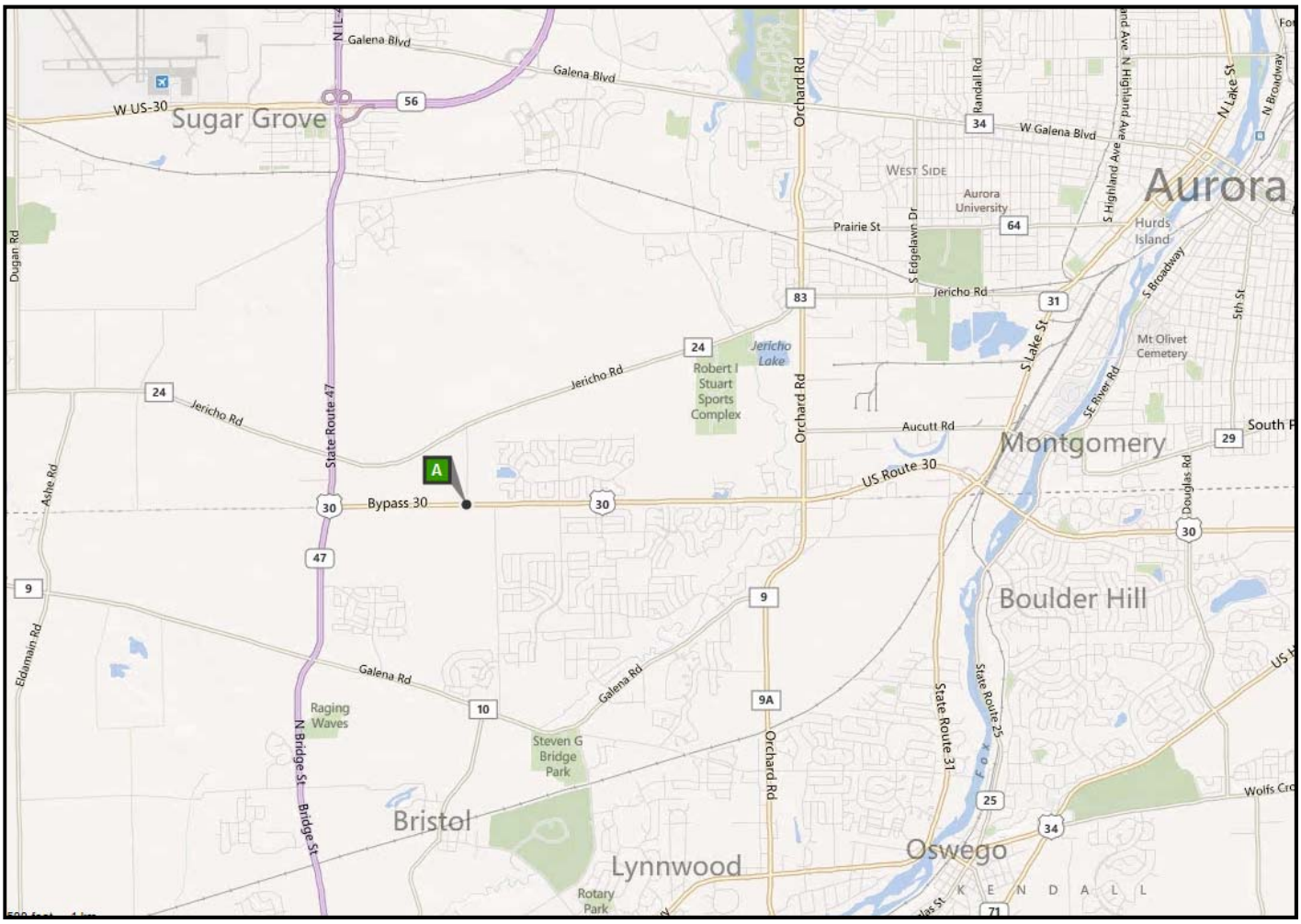
COUNTY: Kane

DATE: May 22, 2012

WARRANTS MET: None

COUNTS & DATE: 12 HR MANUAL COUNT, 4/24/12 (AM) + 4/25/12 (PM)

REVIEWED BY: DJD



REQUIRED CONTENTS

1. COVER SHEET
2. CONDITION DIAGRAM - N/A
3. LABELED PHOTOGRAPHS
4. TRAFFIC SIGNAL WARRANT REVIEW SHEET
5. MINOR STREET RIGHT TURN ADJUSTMENT-PAGONES THEOREM
6. ALL-MOVEMENT MANUAL TRAFFIC COUNT
7. CRASH SUMMARY (2006-2010)
8. PEDESTRIAN DELAY STUDY (OPTIONAL) - N/A
9. CORRESPONDENCE / COMMENTS - N/A

Kane County **US 30 & BERTRAM**

Road:

Road:

SIGNAL WARRANT REVIEW SHEET

DISTRICT #1

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA : US 30

Yes No

Intersection: US 30 & BERTRAM

County: Kane

Municipality: MONTGOMERY

Speed Limit of Major Route: 55 mph

Isolated Community with Population < 10,000: N

Number of Lanes on Major approach: 1

Number of Lanes on Minor approach: 1

HOUR BEGIN	Major Street Volume *(both approaches)*	Adj. Minor Street Volume *(higher volume approach)*	CHECK ANY HOURS WHICH MEET THE FOLLOWING WARRANTS: WARRANT 1 A 100%	WARRANT 1 B 100%	WARRANT 7: 8 hrs of one of the Following: 80% of A	80% of B	80% of Warr #4
6:00	829	25					
7:00	1188	38					
8:00	714	35					
9:00	517	19					
10:00	473	29					
11:00	429	31					
12:00	539	34					
13:00	500	42					
14:00	628	68					
15:00	860	128		X	X	X	
16:00	807	210	X	X	X	X	
17:00	816	271	X	X	X	X	
18:00	0	0					
19:00	0	0					
20:00	0	0					
21:00	0	0					

Hours Met :		2 hours	3 hours	3 hours	3 hours	0 hours
Volume Requirements:	MAJOR:	500	750	400	600	
	MINOR:	150	100	120	80	

WARRANT 1 Yes **No**

Warrant 1 is met if any of the following Conditions are met:

- Condition A (MINIMUM VEHICULAR VOLUME) Yes No
- Condition B (INTERUPTION OF COTINUOUS TRAFFIC) Yes No
- Condition A/B (COMBINATION OF WARRANTS) 0 hours Yes No

NOT APPLICABLE (SRA)

WARRANT 2 (FOUR-HOUR VOLUME) Yes No

WARRANT 3 (PEAK-HOUR VOLUME) Yes No

WARRANT 4 (PEDESTRIAN VOLUME) Yes No

WARRANT 5 (SCHOOL CROSSING) Yes No

WARRANT 6 (COORDINATED SIGNAL SYSTEM) Yes No

WARRANT 7 (ACCIDENT EXPERIENCE) Yes No

	2006	2007	2008	2009	2010
TOTAL NUMBER OF ACCIDENTS:	4	1	4	2	3
NUMBER CORRECTABLE ACCIDENTS:					
TRIED LESS RESTRICTIVE METHODS?					
ARE VOLUME REQUIREMENTS MET?			NO		

WARRANT 8 (ROADWAY NETWORK) Yes No

WARRANT 9 (Intersection Near a Grade Crossing) Yes No

STOP OR YIELD CONTROLLED LEG WITH GRADE CROSSING: NORTH

D (clear storage distance) =

	#	%	Adj. Factor
RAIL TRAFFIC PER DAY =			
HIGH OCCUPANCY BUSSES PER HOUR =			
TRUCKS PER HOUR =			
OVERALL ADJUSTMENT FACTOR =			

Review Information

Counts Used : 12 HR MANUAL COUNT

Count Date(s) : 4/24/12 - AM 4/25/12 - PM

Date Reviewed : May 22, 2012

Reviewed By : DJD

Comments

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

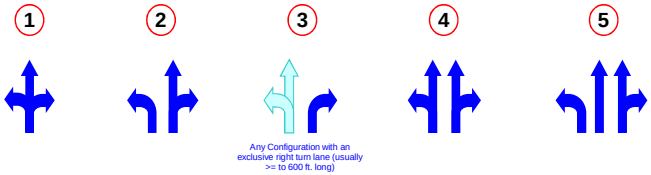
RIGHT TURN FACTORIZATION SHEET

INTERSECTION: **US 30 & BERTRAM**

MUNICIPALITY: **MONTGOMERY** COUNTY: **Kane**

DIR	HOUR BEGIN	MINOR STREET STREET NAME: Bertram CONFIG. #: 1 VOLUMES L LEFT	T THROUGH	R RIGHT	A TOTAL	CRITICAL MAINLINE APPROACH VOLUME PER LANE	BASE RIGHT TURN REDUCTION %	MAINLINE CONGESTION FACTOR %	ADJUSTED RIGHT TURN REDUCTION %	ADJUSTED RIGHT TURNS	ADJUSTED MINOR STREET VOLUMES
S	6:00	21	0	4	**25**	528	20%	10%	10%	4	**25**
S	7:00	33	0	5	**38**	889	20%	25%	0%	5	**38**
S	8:00	31	0	5	**36**	489	20%	5%	15%	4	**35**
S	9:00	15	0	5	**20**	305	20%	0%	20%	4	**19**
S	10:00	23	0	7	**30**	258	20%	0%	20%	6	**29**
S	11:00	25	0	7	**32**	207	20%	0%	20%	6	**31**
S	12:00	26	0	10	**36**	257	20%	0%	20%	8	**34**
S	13:00	41	0	1	**42**	252	20%	0%	20%	1	**42**
S	14:00	62	0	8	**70**	335	20%	0%	20%	6	**68**
S	15:00	102	0	30	**132**	453	20%	5%	15%	26	**128**
S	16:00	177	0	39	**216**	426	20%	5%	15%	33	**210**
S	17:00	243	0	33	**276**	427	20%	5%	15%	28	**271**
	18:00										
	19:00										
	20:00										
	21:00										

Lane Configurations



LEFT	THROUGH	RIGHT	TOTAL (A)	.7A	.35A	3T	T/3	(T+L)	(T+R)	3R	3L	T/2	T/4	BASE REDUCTION
21	0	4	25	17.5	8.75	0	0	21	4	12	63	0	0	20%
33	0	5	38	26.6	13.3	0	0	33	5	15	99	0	0	20%
31	0	5	36	25.2	12.6	0	0	31	5	15	93	0	0	20%
15	0	5	20	14	7	0	0	15	5	15	45	0	0	20%
23	0	7	30	21	10.5	0	0	23	7	21	69	0	0	20%
25	0	7	32	22.4	11.2	0	0	25	7	21	75	0	0	20%
26	0	10	36	25.2	12.6	0	0	26	10	30	78	0	0	20%
41	0	1	42	29.4	14.7	0	0	41	1	3	123	0	0	20%
62	0	8	70	49	24.5	0	0	62	8	24	186	0	0	20%
102	0	30	132	92.4	46.2	0	0	102	30	90	306	0	0	20%
177	0	39	216	151	75.6	0	0	177	39	117	531	0	0	20%
243	0	33	276	193	96.6	0	0	243	33	99	729	0	0	20%

MAINLINE CONGESTION FACTORS	
VOLUMES	FACTOR (%)
0-399	0
400-499	5
500-599	10
600-699	15
700-799	20
800-899	25
900-999	30
1000-1099	35
1100-1199	40
1200-1299	45
1300-1399	50
1400-1499	55

REVIEW INFORMATION

COUNTS USED:

COUNT DATE(S): 4/24/2012 - AM 4/25/2012 - PM

DATE REVIEWED:

REVIEWED BY:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT #1, BUREAU OF TRAFFIC

SUMMARY OF TRAFFIC SURVEY

INTERSECTION: **US 30 & BERTRAM**
MUNICIPALITY: **MONTGOMERY**
COUNTY: **Kane**

	TRAFFIC FROM NORTH				TRAFFIC FROM SOUTH					TRAFFIC FROM EAST				TRAFFIC FROM WEST					
ROUTE :	BERTRAM ☐ SRA				☐ SRA					US 30 ☑ SRA				US 30 ☑ SRA					
	N. OF : US 30 GOING				S. OF : GOING					E. OF : BERTRAM GOING				W. OF : BERTRAM GOING					
START HOUR	EAST	SOUTH	WEST	TOTAL	WEST	NORTH	EAST	TOTAL	TOTAL NORTH AND SOUTH	SOUTH	WEST	NORTH	TOTAL	NORTH	EAST	SOUTH	TOTAL	TOTAL EAST AND WEST	GRAND TOTAL
6:00	21	0	4	**25**	0	0	0	**0**	25	0	317	211	**528**	6	295	0	**301**	829	**854**
7:00	33	0	5	**38**	0	0	0	**0**	38	0	421	468	**889**	30	269	0	**299**	1188	**1226**
8:00	31	0	5	**36**	0	0	0	**0**	36	0	319	170	**489**	6	219	0	**225**	714	**750**
9:00	15	0	5	**20**	0	0	0	**0**	20	0	247	58	**305**	4	208	0	**212**	517	**537**
10:00	23	0	7	**30**	0	0	0	**0**	30	0	231	27	**258**	5	210	0	**215**	473	**503**
11:00	25	0	7	**32**	0	0	0	**0**	32	0	180	27	**207**	1	221	0	**222**	429	**461**
12:00	26	0	10	**36**	0	0	0	**0**	36	0	232	25	**257**	7	275	0	**282**	539	**575**
13:00	41	0	1	**42**	0	0	0	**0**	42	0	229	23	**252**	3	245	0	**248**	500	**542**
14:00	62	0	8	**70**	0	0	0	**0**	70	0	297	38	**335**	7	286	0	**293**	628	**698**
15:00	102	0	30	**132**	0	0	0	**0**	132	0	401	52	**453**	8	399	0	**407**	860	**992**
16:00	177	0	39	**216**	0	0	0	**0**	216	0	384	42	**426**	6	375	0	**381**	807	**1023**
17:00	243	0	33	**276**	0	0	0	**0**	276	0	379	48	**427**	2	387	0	**389**	816	**1092**
18:00																			
19:00																			
20:00																			
21:00																			

REVIEW INFORMATION

COUNTS USED: 12 HR MANUAL COUNT
COUNT DATE(S): 04/24/12 - AM 04/25/12 - PM
DATE REVIEWED: May 22, 2012
REVIEWED BY: DJD

Project: US 30 & BERTRAM

Town: MONTGOMERY

County: Kane

5% Intersection		
2008	2009	2010
N	N	N

5% Segment		
2008	2009	2010
N	N	N

YEAR	Rear End			Angle			SSSD			SSOD			Turning Left			Turning Right			Fixed Object			Over-turned			Head On			Pedestrian			Other Object			Animal			Bicyclist			Other Non-Collision			TOTAL	
	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	**Crash Count**	**Injury Count**
2006	2	- K - A - B 1 - C	- KI - AI - BI 1 - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	4	1 - CI
2007	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A 1 - B - C	- KI - AI 2 - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	2 - BI
2008	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A 1 - B - C	- KI - AI 1 - BI 1 - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	1	- K - A 1 - B - C	- KI - AI 1 - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	4	2 - BI 1 - CI
2009*	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K 1 - A - B - C	- KI 1 - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A 1 - B - C	- KI - AI 1 - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	2	1 - AI 1 - BI
2010*	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	3	- K - A 2 - B - C	- KI - AI 2 - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	3	2 - BI
TOTAL	**2**	**1 - C**	**1 - CI**	**1**	**1 - B**	**1 - BI 1 - CI**	**1**			**0**			**3**	**1 - A 1 - B**	**1 - AI 2 - BI**	**1**	**1 - B**	**1 - BI**	**6**	**3 - B**	**3 - BI**	**0**			**0**			**0**			**0**			**0**			**0**			**0**			**14**	**1 - AI 7 - BI 2 - CI**
%	**14.3%**			**7.1%**			**7.1%**			**0.0%**			**21.4%**			**7.1%**			**42.9%**			**0.0%**			**0.0%**			**0.0%**			**0.0%**			**0.0%**			**0.0%**			**0.0%**				

	INJURY TYPE					CRASH CONDITIONS						TOTAL
YEAR	**K**	**A**	**B**	**C**	**PDO**	**Wet**	**Wet %**	**Snow/Ice**	**Snow/Ice %**	**Night**	**Night %**	
2006	0	0	0	1	3	2	50%	0	0%	0	0%	4
2007	0	0	1	0	0	0	0%	0	0%	0	0%	1
2008	0	0	2	0	2	2	50%	0	0%	3	75%	4
2009*	0	1	1	0	0	0	0%	0	0%	0	0%	2
2010*	0	0	2	0	1	1	33%	0	0%	2	67%	3
TOTAL	**0**	**1**	**6**	**1**	**6**	**5**	**35.7%**	**0**	**0.0%**	**5**	**35.7%**	**14**

* Note that the law regarding the crash reporting threshold for Property Damage Only crashes was amended effective January 1, 2009, to the following: When all drivers involved in a crash are insured, the amount of damage to the property of any one person that must be reported increased from $500 to $1,500. If any driver does not have insurance, the threshold remains at $500. (This change in law precludes comparison of 2009 and later Property Damage Only crashes and Total crashes with such crashes for previous years. The change did NOT affect the reporting of injury or fatal crashes.)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

TRAFFIC SIGNAL STUDY PACKAGE - MUTCD

INTERSECTION : US 30 & DICKSON

MUNICIPALITY: MONTGOMERY

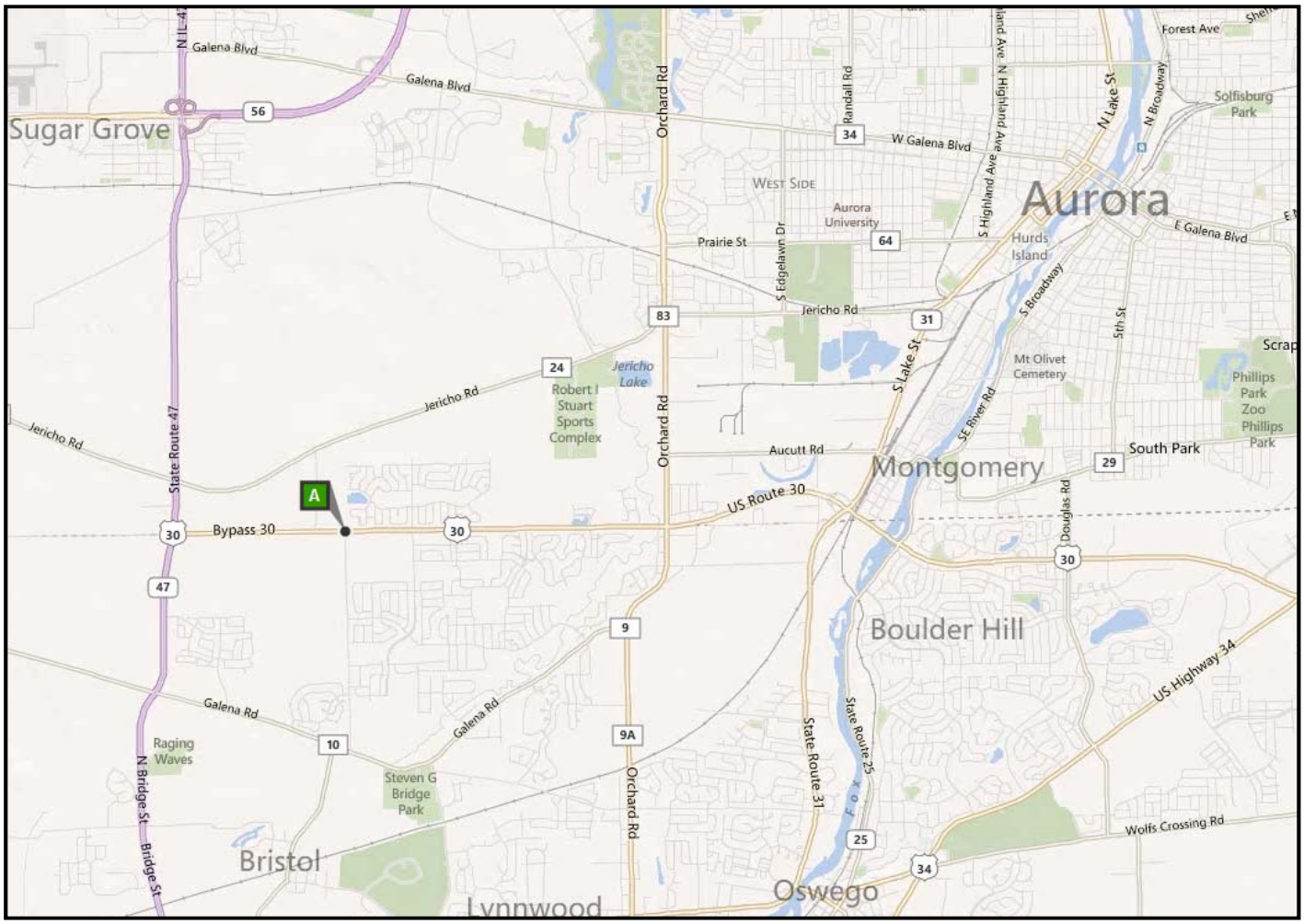
COUNTY: Kane

DATE: May 22, 2012

WARRANTS MET: None

COUNTS & DATE: 12 HR MANUAL COUNT, 4/26/12 (AM) + 4/26/12 (PM)

REVIEWED BY: DJD



REQUIRED CONTENTS

1. COVER SHEET
2. CONDITION DIAGRAM - N/A
3. LABELED PHOTOGRAPHS
4. TRAFFIC SIGNAL WARRANT REVIEW SHEET
5. MINOR STREET RIGHT TURN ADJUSTMENT-PAGONES THEOREM
6. ALL-MOVEMENT MANUAL TRAFFIC COUNT
7. CRASH SUMMARY (2006-2010)
8. PEDESTRIAN DELAY STUDY (OPTIONAL) - N/A
9. CORRESPONDENCE / COMMENTS - N/A

Kane County **US 30 & DICKSON**

Road:

Road:

SIGNAL WARRANT REVIEW SHEET

DISTRICT #1

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA : US 30

Yes No

Intersection: US 30 & DICKSON

County: Kane

Municipality: MONTGOMERY

Speed Limit of Major Route: 55 mph

Isolated Community with Population < 10,000: N

Number of Lanes on Major approach: 1

Number of Lanes on Minor approach: 1

HOUR BEGIN	Major Street Volume *(both approaches)*	Adj. Minor Street Volume *(higher volume approach)*	CHECK ANY HOURS WHICH MEET THE FOLLOWING WARRANTS: WARRANT 1 A 100%	WARRANT 1 B 100%	WARRANT 7: 8 hrs of one of the Following: 80% of A	80% of B	80% of Warr #4
6:00	698	126			X	X	
7:00	1041	239	X	X	X	X	
8:00	741	95				X	
9:00	526	35					
10:00	487	35					
11:00	504	29					
12:00	551	39					
13:00	532	35					
14:00	677	33					
15:00	1018	46					
16:00	1087	31					
17:00	1105	54					
18:00	0	0					
19:00	0	0					
20:00	0	0					
21:00	0	0					

Hours Met :		1 hours	1 hours	2 hours	3 hours	0 hours
Volume Requirements:	MAJOR:	500	750	400	600	
	MINOR:	150	100	120	80	

WARRANT 1 Yes **No**

Warrant 1 is met if any of the following Conditions are met:

- Condition A — MINIMUM VEHICULAR VOLUME — Yes No
- Condition B — INTERUPTION OF COTINUOUS TRAFFIC — Yes No
- Condition A/B — COMBINATION OF WARRANTS — 0 hours — Yes No

NOT APPLICABLE (SRA)

WARRANT 2 — FOUR-HOUR VOLUME — Yes No

WARRANT 3 — PEAK-HOUR VOLUME — Yes No

WARRANT 4 — PEDESTRIAN VOLUME — Yes No

WARRANT 5 — SCHOOL CROSSING — Yes No

WARRANT 6 — COORDINATED SIGNAL SYSTEM — Yes No

WARRANT 7 — ACCIDENT EXPERIENCE — Yes No

	2006	2007	2008	2009	2010
TOTAL NUMBER OF ACCIDENTS:	5	2	3	1	1
NUMBER CORRECTABLE ACCIDENTS:					
TRIED LESS RESTRICTIVE METHODS?					
ARE VOLUME REQUIREMENTS MET?			NO		

WARRANT 8 — ROADWAY NETWORK — Yes No

WARRANT 9 — Intersection Near a Grade Crossing — Yes No

STOP OR YIELD CONTROLLED LEG WITH GRADE CROSSING: NORTH

D (clear storage distance) =

	#	%	Adj. Factor
RAIL TRAFFIC PER DAY =			
HIGH OCCUPANCY BUSSES PER HOUR =			
TRUCKS PER HOUR =			
OVERALL ADJUSTMENT FACTOR =			

Review Information

Counts Used :

Count Date(s) : 4/26/12 - AM 4/26/12 - PM

Date Reviewed :

Reviewed By :

Comments

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

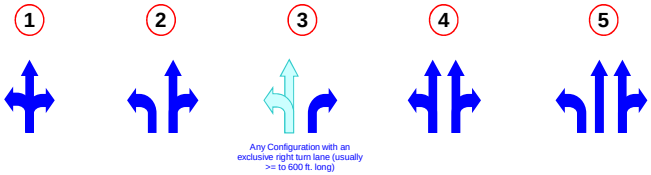
RIGHT TURN FACTORIZATION SHEET

INTERSECTION: **US 30 & DICKSON**

MUNICIPALITY: **MONTGOMERY** COUNTY: **Kane**

DIR	HOUR BEGIN	MINOR STREET STREET NAME: DICKSON CONFIG. #: 1 VOLUMES L LEFT	T THROUGH	R RIGHT	A TOTAL	CRITICAL MAINLINE APPROACH VOLUME PER LANE	BASE RIGHT TURN REDUCTION %	MAINLINE CONGESTION FACTOR %	ADJUSTED RIGHT TURN REDUCTION %	ADJUSTED RIGHT TURNS	ADJUSTED MINOR STREET VOLUMES
N	6:00	102	0	30	**132**	277	20%	0%	20%	24	**126**
N	7:00	213	0	32	**245**	324	20%	0%	20%	26	**239**
N	8:00	65	0	50	**115**	284	40%	0%	40%	30	**95**
N	9:00	21	0	23	**44**	239	40%	0%	40%	14	**35**
N	10:00	22	0	22	**44**	236	40%	0%	40%	13	**35**
N	11:00	15	0	24	**39**	244	40%	0%	40%	14	**29**
N	12:00	22	0	28	**50**	278	40%	0%	40%	17	**39**
N	13:00	21	0	24	**45**	254	40%	0%	40%	14	**35**
N	14:00	20	0	22	**42**	373	40%	0%	40%	13	**33**
N	15:00	21	0	50	**71**	529	60%	10%	50%	25	**46**
N	16:00	11	0	37	**48**	624	60%	15%	45%	20	**31**
N	17:00	30	0	30	**60**	725	40%	20%	20%	24	**54**
	18:00										
	19:00										
	20:00										
	21:00										

Lane Configurations



LEFT	THROUGH	RIGHT	TOTAL (A)	.7A	.35A	3T	T/3	(T+L)	(T+R)	3R	3L	T/2	T/4	BASE REDUCTION
102	0	30	132	92.4	46.2	0	0	102	30	90	306	0	0	20%
213	0	32	245	172	85.8	0	0	213	32	96	639	0	0	20%
65	0	50	115	80.5	40.3	0	0	65	50	150	195	0	0	40%
21	0	23	44	30.8	15.4	0	0	21	23	69	63	0	0	40%
22	0	22	44	30.8	15.4	0	0	22	22	66	66	0	0	40%
15	0	24	39	27.3	13.7	0	0	15	24	72	45	0	0	40%
22	0	28	50	35	17.5	0	0	22	28	84	66	0	0	40%
21	0	24	45	31.5	15.8	0	0	21	24	72	63	0	0	40%
20	0	22	42	29.4	14.7	0	0	20	22	66	60	0	0	40%
21	0	50	71	49.7	24.9	0	0	21	50	150	63	0	0	60%
11	0	37	48	33.6	16.8	0	0	11	37	111	33	0	0	60%
30	0	30	60	42	21	0	0	30	30	90	90	0	0	40%

MAINLINE CONGESTION FACTORS	
VOLUMES	FACTOR (%)
0-399	0
400-499	5
500-599	10
600-699	15
700-799	20
800-899	25
900-999	30
1000-1099	35
1100-1199	40
1200-1299	45
1300-1399	50
1400-1499	55

REVIEW INFORMATION

COUNTS USED:

COUNT DATE(S): 4/26/2012 - AM 4/26/2012 - PM

DATE REVIEWED:

REVIEWED BY:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT #1, BUREAU OF TRAFFIC

SUMMARY OF TRAFFIC SURVEY

INTERSECTION: **US 30 & DICKSON**
MUNICIPALITY: **MONTGOMERY**
COUNTY: **Kane**

	TRAFFIC FROM NORTH				TRAFFIC FROM SOUTH					TRAFFIC FROM EAST				TRAFFIC FROM WEST					
ROUTE :				☐ SRA	DICKSON			☐ SRA		US 30			☑ SRA	US 30			☑ SRA		
	N. OF :				S. OF : US 30					E. OF : DICKSON				W. OF : DICKSON					
	GOING				GOING					GOING				GOING					
START HOUR	EAST	SOUTH	WEST	TOTAL	WEST	NORTH	EAST	TOTAL	TOTAL NORTH AND SOUTH	SOUTH	WEST	NORTH	TOTAL	NORTH	EAST	SOUTH	TOTAL	TOTAL EAST AND WEST	GRAND TOTAL
6:00	0	0	0	**0**	102	0	30	**132**	132	12	409	0	**421**	0	263	14	**277**	698	**830**
7:00	0	0	0	**0**	213	0	32	**245**	245	31	686	0	**717**	0	308	16	**324**	1041	**1286**
8:00	0	0	0	**0**	65	0	50	**115**	115	40	417	0	**457**	0	277	7	**284**	741	**856**
9:00	0	0	0	**0**	21	0	23	**44**	44	10	277	0	**287**	0	227	12	**239**	526	**570**
10:00	0	0	0	**0**	22	0	22	**44**	44	20	231	0	**251**	0	226	10	**236**	487	**531**
11:00	0	0	0	**0**	15	0	24	**39**	39	25	235	0	**260**	0	231	13	**244**	504	**543**
12:00	0	0	0	**0**	22	0	28	**50**	50	31	242	0	**273**	0	259	19	**278**	551	**601**
13:00	0	0	0	**0**	21	0	24	**45**	45	18	260	0	**278**	0	239	15	**254**	532	**577**
14:00	0	0	0	**0**	20	0	22	**42**	42	23	281	0	**304**	0	351	22	**373**	677	**719**
15:00	0	0	0	**0**	21	0	50	**71**	71	54	435	0	**489**	0	475	54	**529**	1018	**1089**
16:00	0	0	0	**0**	11	0	37	**48**	48	36	427	0	**463**	0	526	98	**624**	1087	**1135**
17:00	0	0	0	**0**	30	0	30	**60**	60	41	339	0	**380**	0	596	129	**725**	1105	**1165**
18:00																			
19:00																			
20:00																			
21:00																			

REVIEW INFORMATION

COUNTS USED: 12 HR MANUAL COUNT
COUNT DATE(S): 04/26/12 - AM 04/26/12 - PM
DATE REVIEWED: May 22, 2012
REVIEWED BY: DJD

Project: US 30 & DICKSON

Town: MONTGOMERY

County: Kane

5% Intersection		
2008	2009	2010
N	N	N

5% Segment		
2008	2009	2010
N	N	N

YEAR	Rear End			Angle			SSSD			SSOD			Turning Left			Turning Right			Fixed Object			Over-turned			Head On			Pedestrian			Other Object			Animal			Bicyclist			Other Non-Collision			TOTAL	
	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	**Crash Count**	**Injury Count**
2006	3	- K - A 1 - B 1 - C	- KI - AI 1 - BI 1 - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	1	- K - A 1 - B - C	- KI - AI 1 - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	5	2 - BI 1 - CI
2007	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	2	
2008	2	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	3	
2009*	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	
2010*	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	
TOTAL	**7**	**1 - B 1 - C**	**1 - BI 1 - CI**	**0**			**0**			**0**			**3**			**1**	**1 - B**	**1 - BI**	**1**			**0**			**0**			**0**			**0**			**0**			**0**			**0**			**12**	**2 - BI 1 - CI**
%	**58.3%**			**0.0%**			**0.0%**			**0.0%**			**25.0%**			**8.3%**			**8.3%**			**0.0%**			**0.0%**			**0.0%**			**0.0%**			**0.0%**			**0.0%**			**0.0%**				

	INJURY TYPE					CRASH CONDITIONS						TOTAL
YEAR	**K**	**A**	**B**	**C**	**PDO**	**Wet**	**Wet %**	**Snow/Ice**	**Snow/Ice %**	**Night**	**Night %**	
2006	0	0	2	1	2	0	0%	1	20%	0	0%	5
2007	0	0	0	0	2	0	0%	1	50%	1	50%	2
2008	0	0	0	0	3	2	67%	1	33%	1	33%	3
2009*	0	0	0	0	1	0	0%	0	0%	0	0%	1
2010*	0	0	0	0	1	0	0%	0	0%	0	0%	1
TOTAL	**0**	**0**	**2**	**1**	**9**	**2**	**16.7%**	**3**	**25.0%**	**2**	**16.7%**	**12**

* Note that the law regarding the crash reporting threshold for Property Damage Only crashes was amended effective January 1, 2009, to the following: When all drivers involved in a crash are insured, the amount of damage to the property of any one person that must be reported increased from $500 to $1,500. If any driver does not have insurance, the threshold remains at $500. (This change in law precludes comparison of 2009 and later Property Damage Only crashes and Total crashes with such crashes for previous years. The change did NOT affect the reporting of injury or fatal crashes.)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

TRAFFIC SIGNAL STUDY PACKAGE - MUTCD

INTERSECTION : US 30 & PRESCOTT

MUNICIPALITY: MONTGOMERY

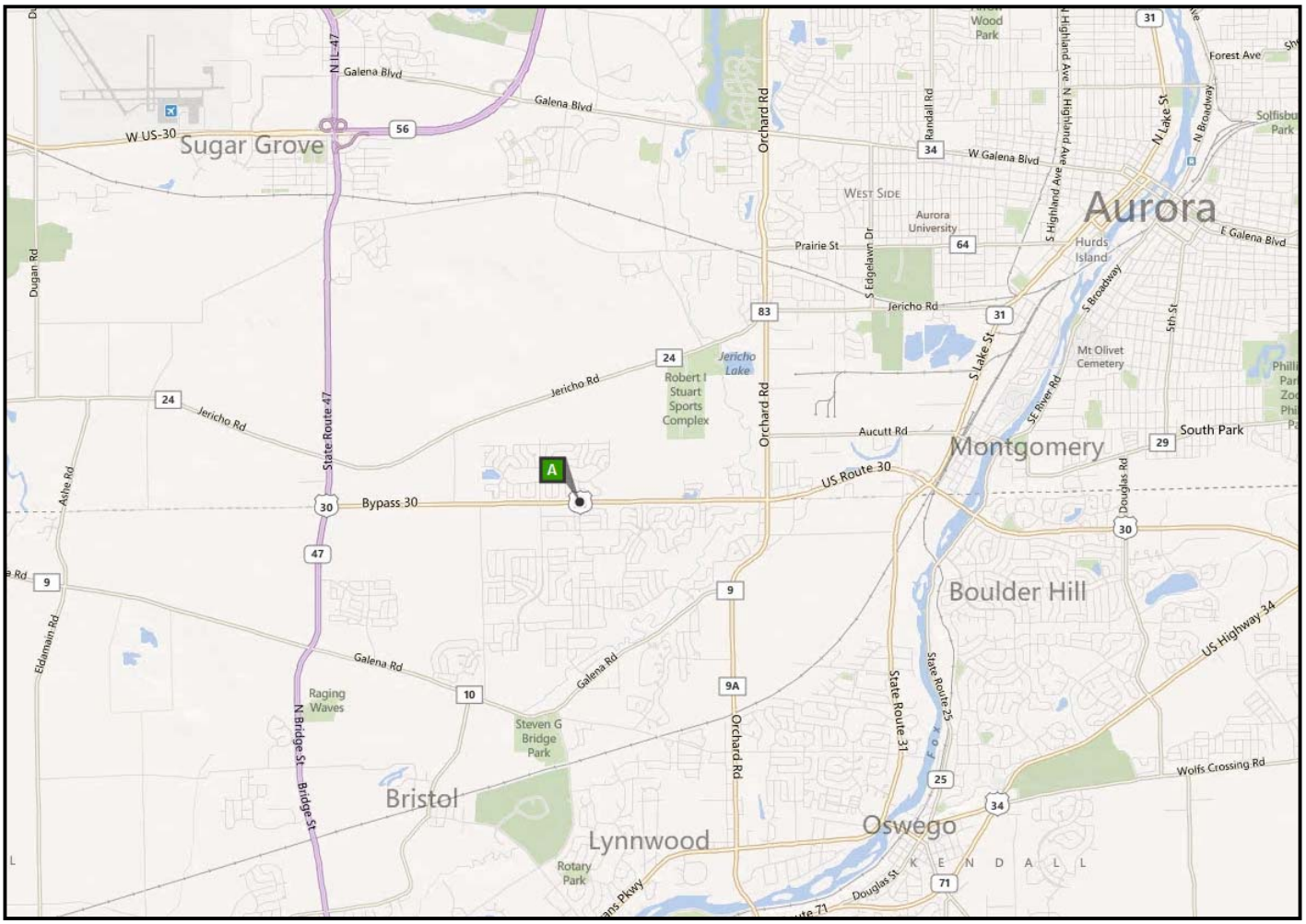
COUNTY: Kane

DATE: May 22, 2012

WARRANTS MET: None

COUNTS & DATE: 12 HR MANUAL COUNT, 5/2/12 (AM) + 5/1/12 (PM)

REVIEWED BY: DJD



REQUIRED CONTENTS

1. COVER SHEET
2. CONDITION DIAGRAM - N/A
3. LABELED PHOTOGRAPHS
4. TRAFFIC SIGNAL WARRANT REVIEW SHEET
5. MINOR STREET RIGHT TURN ADJUSTMENT-PAGONES THEOREM
6. ALL-MOVEMENT MANUAL TRAFFIC COUNT
7. CRASH SUMMARY (2006-2010)
8. PEDESTRIAN DELAY STUDY (OPTIONAL) - N/A
9. CORRESPONDENCE / COMMENTS - N/A

Kane County **US 30 & PRESCOTT**

Road:

Road:

SIGNAL WARRANT REVIEW SHEET

DISTRICT #1

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA : US 30

Yes No

Intersection: US 30 & PRESCOTT

County: Kane

Municipality: MONTGOMERY

Speed Limit of Major Route: 55 mph

Isolated Community with Population < 10,000: N

Number of Lanes on Major approach: 1

Number of Lanes on Minor approach: 1

HOUR BEGIN	Major Street Volume *(both approaches)*	Adj. Minor Street Volume *(higher volume approach)*	CHECK ANY HOURS WHICH MEET THE FOLLOWING WARRANTS: WARRANT 1 A 100%	WARRANT 1 B 100%	WARRANT 7: 8 hrs of one of the Following: 80% of A	80% of B	80% of Warr #4
6:00	830	36					
7:00	919	30					
8:00	764	20					
9:00	667	10					
10:00	623	9					
11:00	712	10					
12:00	696	12					
13:00	645	9					
14:00	782	9					
15:00	1113	11					
16:00	1138	13					
17:00	1085	14					
18:00	0	0					
19:00	0	0					
20:00	0	0					
21:00	0	0					

Hours Met :		0 hours	0 hours	0 hours	0 hours	0 hours
Volume Requirements:	MAJOR:	500	750	400	600	
	MINOR:	150	100	120	80	

WARRANT 1 Yes **No**

Warrant 1 is met if any of the following Conditions are met:

- Condition A (MINIMUM VEHICULAR VOLUME) Yes No
- Condition B (INTERUPTION OF COTINUOUS TRAFFIC) Yes No
- Condition A/B (COMBINATION OF WARRANTS) 0 hours Yes No

NOT APPLICABLE (SRA)

WARRANT 2 (FOUR-HOUR VOLUME) Yes No

WARRANT 3 (PEAK-HOUR VOLUME) Yes No

WARRANT 4 (PEDESTRIAN VOLUME) Yes No

WARRANT 5 (SCHOOL CROSSING) Yes No

WARRANT 6 (COORDINATED SIGNAL SYSTEM) Yes No

WARRANT 7 (ACCIDENT EXPERIENCE) Yes No

	2006	2007	2008	2009	2010
TOTAL NUMBER OF ACCIDENTS:	3	1	1	0	0
NUMBER CORRECTABLE ACCIDENTS:					
TRIED LESS RESTRICTIVE METHODS?					
ARE VOLUME REQUIREMENTS MET?			NO		

WARRANT 8 (ROADWAY NETWORK) Yes No

WARRANT 9 (Intersection Near a Grade Crossing) Yes No

STOP OR YIELD CONTROLLED LEG WITH GRADE CROSSING: NORTH

D (clear storage distance) =

	#	%	Adj. Factor
RAIL TRAFFIC PER DAY =			
HIGH OCCUPANCY BUSSES PER HOUR =			
TRUCKS PER HOUR =			

OVERALL ADJUSTMENT FACTOR =

Review Information

Counts Used : 12 HR MANUAL COUNT

Count Date(s) : 5/2/12 - AM 5/1/12 - PM

Date Reviewed : May 22, 2012

Reviewed By : DJD

Comments

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

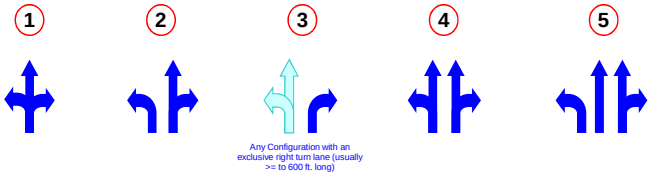
RIGHT TURN FACTORIZATION SHEET

INTERSECTION: **US 30 & PRESCOTT**

MUNICIPALITY: **MONTGOMERY** COUNTY: **Kane**

DIR	HOUR BEGIN	MINOR STREET STREET NAME: PRESCOTT CONFIG. #: 3 VOLUMES L LEFT	T THROUGH	R RIGHT	A TOTAL	CRITICAL MAINLINE APPROACH VOLUME PER LANE	BASE RIGHT TURN REDUCTION %	MAINLINE CONGESTION FACTOR %	ADJUSTED RIGHT TURN REDUCTION %	ADJUSTED RIGHT TURNS	ADJUSTED MINOR STREET VOLUMES
N	6:00	0	0	102	**102**	552	75%	10%	65%	36	**36**
N	7:00	0	0	85	**85**	512	75%	10%	65%	30	**30**
N	8:00	0	0	66	**66**	436	75%	5%	70%	20	**20**
N	9:00	0	0	39	**39**	310	75%	0%	75%	10	**10**
N	10:00	0	0	37	**37**	286	75%	0%	75%	9	**9**
N	11:00	0	0	41	**41**	365	75%	0%	75%	10	**10**
N	12:00	0	0	47	**47**	332	75%	0%	75%	12	**12**
N	13:00	0	0	35	**35**	309	75%	0%	75%	9	**9**
N	14:00	0	0	36	**36**	333	75%	0%	75%	9	**9**
N	15:00	0	0	35	**35**	453	75%	5%	70%	11	**11**
N	16:00	0	0	43	**43**	444	75%	5%	70%	13	**13**
N	17:00	0	0	54	**54**	378	75%	0%	75%	14	**14**
	18:00										
	19:00										
	20:00										
	21:00										

Lane Configurations



LEFT	THROUGH	RIGHT	TOTAL (A)	.7A	.35A	3T	T/3	(T+L)	(T+R)	3R	3L	T/2	T/4	BASE REDUCTION
0	0	102	102	71.4	35.7	0	0	0	102	306	0	0	0	75%
0	0	85	85	59.5	29.8	0	0	0	85	255	0	0	0	75%
0	0	66	66	46.2	23.1	0	0	0	66	198	0	0	0	75%
0	0	39	39	27.3	13.7	0	0	0	39	117	0	0	0	75%
0	0	37	37	25.9	13	0	0	0	37	111	0	0	0	75%
0	0	41	41	28.7	14.4	0	0	0	41	123	0	0	0	75%
0	0	47	47	32.9	16.5	0	0	0	47	141	0	0	0	75%
0	0	35	35	24.5	12.3	0	0	0	35	105	0	0	0	75%
0	0	36	36	25.2	12.6	0	0	0	36	108	0	0	0	75%
0	0	35	35	24.5	12.3	0	0	0	35	105	0	0	0	75%
0	0	43	43	30.1	15.1	0	0	0	43	129	0	0	0	75%
0	0	54	54	37.8	18.9	0	0	0	54	162	0	0	0	75%

MAINLINE CONGESTION FACTORS	
VOLUMES	FACTOR (%)
0-399	0
400-499	5
500-599	10
600-699	15
700-799	20
800-899	25
900-999	30
1000-1099	35
1100-1199	40
1200-1299	45
1300-1399	50
1400-1499	55

REVIEW INFORMATION

COUNTS USED:

COUNT DATE(S): 5/2/2012 - AM 5/1/2012 - PM

DATE REVIEWED:

REVIEWED BY:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT #1, BUREAU OF TRAFFIC

SUMMARY OF TRAFFIC SURVEY

INTERSECTION: **US 30 & PRESCOTT**
MUNICIPALITY: **MONTGOMERY**
COUNTY: **Kane**

	TRAFFIC FROM NORTH				TRAFFIC FROM SOUTH					TRAFFIC FROM EAST				TRAFFIC FROM WEST					
ROUTE :				☐ SRA	PRESCOTT			☐ SRA		US 30			☑ SRA	US 30			☑ SRA		
	N. OF :				S. OF : US 30					E. OF : PRESCOTT				W. OF : PRESCOTT					
	GOING				GOING					GOING				GOING					
START HOUR	EAST	SOUTH	WEST	TOTAL	WEST	NORTH	EAST	TOTAL	TOTAL NORTH AND SOUTH	SOUTH	WEST	NORTH	TOTAL	NORTH	EAST	SOUTH	TOTAL	TOTAL EAST AND WEST	GRAND TOTAL
6:00	0	0	0	**0**	0	0	102	**102**	102	12	265	0	**277**	0	552	1	**553**	830	**932**
7:00	0	0	0	**0**	0	0	85	**85**	85	16	388	0	**404**	0	512	3	**515**	919	**1004**
8:00	0	0	0	**0**	0	0	66	**66**	66	16	309	0	**325**	0	436	3	**439**	764	**830**
9:00	0	0	0	**0**	0	0	39	**39**	39	26	322	0	**348**	0	310	9	**319**	667	**706**
10:00	0	0	0	**0**	0	0	37	**37**	37	25	310	0	**335**	0	286	2	**288**	623	**660**
11:00	0	0	0	**0**	0	0	41	**41**	41	26	318	0	**344**	0	365	3	**368**	712	**753**
12:00	0	0	0	**0**	0	0	47	**47**	47	41	317	0	**358**	0	332	6	**338**	696	**743**
13:00	0	0	0	**0**	0	0	35	**35**	35	31	303	0	**334**	0	309	2	**311**	645	**680**
14:00	0	0	0	**0**	0	0	36	**36**	36	51	396	0	**447**	0	333	2	**335**	782	**818**
15:00	0	0	0	**0**	0	0	35	**35**	35	67	581	0	**648**	0	453	12	**465**	1113	**1148**
16:00	0	0	0	**0**	0	0	43	**43**	43	83	596	0	**679**	0	444	15	**459**	1138	**1181**
17:00	0	0	0	**0**	0	0	54	**54**	54	78	610	0	**688**	0	378	19	**397**	1085	**1139**
18:00																			
19:00																			
20:00																			
21:00																			

REVIEW INFORMATION

COUNTS USED: 12 HR MANUAL COUNT
COUNT DATE(S): 05/02/12 - AM 05/01/12 - PM
DATE REVIEWED: May 22, 2012
REVIEWED BY: DJD

Project: US 30 & PRESCOTT

Town: MONTGOMERY

County: Kane

5% Intersection		
2008	2009	2010
N	N	N

5% Segment		
2008	2009	2010
N	N	N

YEAR	Rear End			Angle			SSSD			SSOD			Turning Left			Turning Right			Fixed Object			Over-turned			Head On			Pedestrian			Other Object			Animal			Bicyclist			Other Non-Collision			TOTAL	
	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	**Crash Count**	**Injury Count**
2006	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	3	
2007	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A 1 - B - C	- KI - AI 1 - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	1 - BI
2008	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	
2009*	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	
2010*	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	
TOTAL	1			0			0			0			3	1 - B	1 - BI	1			0			0			0			0			0			0			0			0			5	1 - BI
%	20.0%			0.0%			0.0%			0.0%			60.0%			20.0%			0.0%			0.0%			0.0%			0.0%			0.0%			0.0%			0.0%			0.0%				

YEAR	INJURY TYPE					CRASH CONDITIONS						TOTAL
	K	A	B	C	PDO	Wet	Wet %	Snow/Ice	Snow/Ice %	Night	Night %	
2006	0	0	0	0	3	1	33%	0	0%	1	33%	3
2007	0	0	1	0	0	0	0%	0	0%	1	100%	1
2008	0	0	0	0	1	0	0%	0	0%	1	100%	1
2009*	0	0	0	0	0	0	-	0	-	0	-	0
2010*	0	0	0	0	0	0	-	0	-	0	-	0
TOTAL	**0**	**0**	**1**	**0**	**4**	**1**	**20.0%**	**0**	**0.0%**	**3**	**60.0%**	**5**

* Note that the law regarding the crash reporting threshold for Property Damage Only crashes was amended effective January 1, 2009, to the following: When all drivers involved in a crash are insured, the amount of damage to the property of any one person that must be reported increased from $500 to $1,500. If any driver does not have insurance, the threshold remains at $500. (This change in law precludes comparison of 2009 and later Property Damage Only crashes and Total crashes with such crashes for previous years. The change did NOT affect the reporting of injury or fatal crashes.)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

TRAFFIC SIGNAL STUDY PACKAGE - MUTCD

INTERSECTION : US 30 & LAKEWOOD

MUNICIPALITY: MONTGOMERY

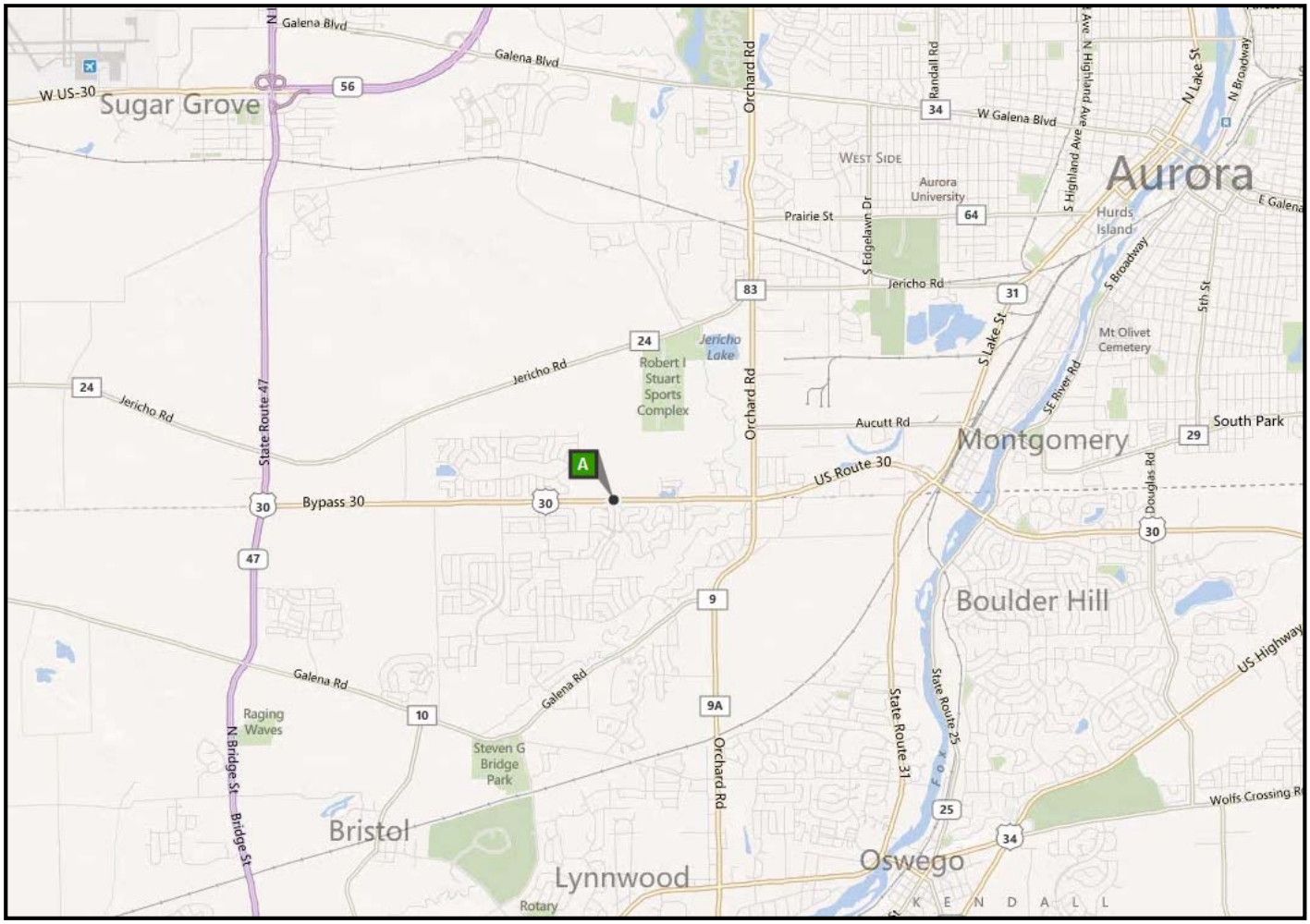
COUNTY: Kane

DATE: May 22, 2012

WARRANTS MET: None

COUNTS & DATE: 12 HR MANUAL COUNT, 5/17/12 (AM) + 5/16/12 (PM)

REVIEWED BY: DJD



REQUIRED CONTENTS

1. COVER SHEET
2. CONDITION DIAGRAM - N/A
3. LABELED PHOTOGRAPHS
4. TRAFFIC SIGNAL WARRANT REVIEW SHEET
5. MINOR STREET RIGHT TURN ADJUSTMENT-PAGONES THEOREM
6. ALL-MOVEMENT MANUAL TRAFFIC COUNT
7. CRASH SUMMARY (2006-2010)
8. PEDESTRIAN DELAY STUDY (OPTIONAL) - N/A
9. CORRESPONDENCE / COMMENTS - N/A

Kane County **US 30 & LAKEWOOD**

Road:

Road:

SIGNAL WARRANT REVIEW SHEET

DISTRICT #1

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA : US 30

Yes No

Intersection: US 30 & LAKEWOOD

County: Kane

Municipality: MONTGOMERY

Speed Limit of Major Route: 55 mph

Isolated Community with Population < 10,000: N

Number of Lanes on Major approach: 1

Number of Lanes on Minor approach: 1

HOUR BEGIN	Major Street Volume *(both approaches)*	Adj. Minor Street Volume *(higher volume approach)*	CHECK ANY HOURS WHICH MEET THE FOLLOWING WARRANTS: WARRANT 1 A 100%	WARRANT 1 B 100%	WARRANT 7: 8 hrs of one of the Following: 80% of A	80% of B	80% of Warr #4
6:00	910	98				X	
7:00	971	105		X		X	
8:00	824	86				X	
9:00	659	36					
10:00	629	33					
11:00	765	34					
12:00	716	30					
13:00	725	26					
14:00	938	33					
15:00	1331	42					
16:00	1336	54					
17:00	1362	59					
18:00	0	0					
19:00	0	0					
20:00	0	0					
21:00	0	0					

Hours Met :		0 hours	1 hours	0 hours	3 hours	0 hours
Volume Requirements:	MAJOR:	500	750	400	600	
	MINOR:	150	100	120	80	

WARRANT 1 Yes **No**

Warrant 1 is met if any of the following Conditions are met:

- Condition A — MINIMUM VEHICULAR VOLUME — Yes No
- Condition B — INTERUPTION OF COTINUOUS TRAFFIC — Yes No
- Condition A/B — COMBINATION OF WARRANTS — 0 hours — Yes No

NOT APPLICABLE (SRA)

WARRANT 2 — FOUR-HOUR VOLUME — Yes No

WARRANT 3 — PEAK-HOUR VOLUME — Yes No

WARRANT 4 — PEDESTRIAN VOLUME — Yes No

WARRANT 5 — SCHOOL CROSSING — Yes No

WARRANT 6 — COORDINATED SIGNAL SYSTEM — Yes No

WARRANT 7 — ACCIDENT EXPERIENCE — Yes No

	2006	2007	2008	2009	2010
TOTAL NUMBER OF ACCIDENTS:	0	2	0	1	0
NUMBER CORRECTABLE ACCIDENTS:					
TRIED LESS RESTRICTIVE METHODS?					
ARE VOLUME REQUIREMENTS MET?			NO		

WARRANT 8 — ROADWAY NETWORK — Yes No

WARRANT 9 — Intersection Near a Grade Crossing — Yes No

STOP OR YIELD CONTROLLED LEG WITH GRADE CROSSING: NORTH

D (clear storage distance) =

	#	%	Adj. Factor
RAIL TRAFFIC PER DAY =			
HIGH OCCUPANCY BUSSES PER HOUR =			
TRUCKS PER HOUR =			
OVERALL ADJUSTMENT FACTOR =			

Review Information

Counts Used : 12 HR MANUAL COUNT

Count Date(s) : 5/17/12 - AM 5/16/12 - PM

Date Reviewed : May 22, 2012

Reviewed By : DJD

Comments

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

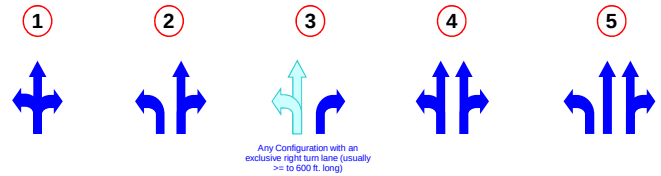
RIGHT TURN FACTORIZATION SHEET

INTERSECTION: **US 30 & LAKEWOOD**

MUNICIPALITY: **MONTGOMERY** COUNTY: **Kane**

DIR	HOUR BEGIN	MINOR STREET STREET NAME: LAKEWOOD CRE CONFIG. #: 3 VOLUMES L LEFT	T THROUGH	R RIGHT	A TOTAL	CRITICAL MAINLINE APPROACH VOLUME PER LANE	BASE RIGHT TURN REDUCTION %	MAINLINE CONGESTION FACTOR %	ADJUSTED RIGHT TURN REDUCTION %	ADJUSTED RIGHT TURNS	ADJUSTED MINOR STREET VOLUMES
N	6:00	13	0	213	**226**	631	75%	15%	60%	85	**98**
N	7:00	33	0	205	**238**	580	75%	10%	65%	72	**105**
N	8:00	19	0	224	**243**	462	75%	5%	70%	67	**86**
N	9:00	11	0	99	**110**	339	75%	0%	75%	25	**36**
N	10:00	11	0	89	**100**	314	75%	0%	75%	22	**33**
N	11:00	10	0	97	**107**	358	75%	0%	75%	24	**34**
N	12:00	5	0	99	**104**	325	75%	0%	75%	25	**30**
N	13:00	6	0	81	**87**	302	75%	0%	75%	20	**26**
N	14:00	9	0	94	**103**	373	75%	0%	75%	24	**33**
N	15:00	6	0	119	**125**	472	75%	5%	70%	36	**42**
N	16:00	12	0	139	**151**	457	75%	5%	70%	42	**54**
N	17:00	14	0	129	**143**	510	75%	10%	65%	45	**59**
	18:00										
	19:00										
	20:00										
	21:00										

Lane Configurations



LEFT	THROUGH	RIGHT	TOTAL (A)	.7A	.35A	3T	T/3	(T+L)	(T+R)	3R	3L	T/2	T/4	BASE REDUCTION
13	0	213	226	158	79.1	0	0	13	213	639	39	0	0	75%
33	0	205	238	167	83.3	0	0	33	205	615	99	0	0	75%
19	0	224	243	170	85.1	0	0	19	224	672	57	0	0	75%
11	0	99	110	77	38.5	0	0	11	99	297	33	0	0	75%
11	0	89	100	70	35	0	0	11	89	267	33	0	0	75%
10	0	97	107	74.9	37.5	0	0	10	97	291	30	0	0	75%
5	0	99	104	72.8	36.4	0	0	5	99	297	15	0	0	75%
6	0	81	87	60.9	30.5	0	0	6	81	243	18	0	0	75%
9	0	94	103	72.1	36.1	0	0	9	94	282	27	0	0	75%
6	0	119	125	87.5	43.8	0	0	6	119	357	18	0	0	75%
12	0	139	151	106	52.9	0	0	12	139	417	36	0	0	75%
14	0	129	143	100	50.1	0	0	14	129	387	42	0	0	75%

MAINLINE CONGESTION FACTORS	
VOLUMES	FACTOR (%)
0-399	0
400-499	5
500-599	10
600-699	15
700-799	20
800-899	25
900-999	30
1000-1099	35
1100-1199	40
1200-1299	45
1300-1399	50
1400-1499	55

REVIEW INFORMATION

COUNTS USED:

COUNT DATE(S): 5/17/2012 - AM 5/16/2012 - PM

DATE REVIEWED:

REVIEWED BY:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT #1, BUREAU OF TRAFFIC

SUMMARY OF TRAFFIC SURVEY

INTERSECTION: **US 30 & LAKEWOOD**
MUNICIPALITY: **MONTGOMERY**
COUNTY: **Kane**

	TRAFFIC FROM NORTH				TRAFFIC FROM SOUTH					TRAFFIC FROM EAST				TRAFFIC FROM WEST					
ROUTE :				☐ SRA	LAKEWOOD CREEK			☐ SRA		US 30			☑ SRA	US 30			☑ SRA		
	N. OF :				S. OF : US 30					E. OF : LAKEWOOD CREEK				W. OF : LAKEWOOD CREEK					
	GOING				GOING					GOING				GOING					
START HOUR	EAST	SOUTH	WEST	TOTAL	WEST	NORTH	EAST	TOTAL	TOTAL NORTH AND SOUTH	SOUTH	WEST	NORTH	TOTAL	NORTH	EAST	SOUTH	TOTAL	TOTAL EAST AND WEST	GRAND TOTAL
6:00	0	0	0	**0**	13	0	213	**226**	226	19	257	0	**276**	0	631	3	**634**	910	**1136**
7:00	0	0	0	**0**	33	0	205	**238**	238	57	327	0	**384**	0	580	7	**587**	971	**1209**
8:00	0	0	0	**0**	19	0	224	**243**	243	68	287	0	**355**	0	462	7	**469**	824	**1067**
9:00	0	0	0	**0**	11	0	99	**110**	110	50	262	0	**312**	0	339	8	**347**	659	**769**
10:00	0	0	0	**0**	11	0	89	**100**	100	56	253	0	**309**	0	314	6	**320**	629	**729**
11:00	0	0	0	**0**	10	0	97	**107**	107	64	331	0	**395**	0	358	12	**370**	765	**872**
12:00	0	0	0	**0**	5	0	99	**104**	104	93	293	0	**386**	0	325	5	**330**	716	**820**
13:00	0	0	0	**0**	6	0	81	**87**	87	73	345	0	**418**	0	302	5	**307**	725	**812**
14:00	0	0	0	**0**	9	0	94	**103**	103	104	448	0	**552**	0	373	13	**386**	938	**1041**
15:00	0	0	0	**0**	6	0	119	**125**	125	188	649	0	**837**	0	472	22	**494**	1331	**1456**
16:00	0	0	0	**0**	12	0	139	**151**	151	168	676	0	**844**	0	457	35	**492**	1336	**1487**
17:00	0	0	0	**0**	14	0	129	**143**	143	200	632	0	**832**	0	510	20	**530**	1362	**1505**
18:00																			
19:00																			
20:00																			
21:00																			

REVIEW INFORMATION

COUNTS USED: 12 HR MANUAL COUNT
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5% Intersection		
2008	2009	2010
N	N	N

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2008	2009	2010
N	Y	N

YEAR	Rear End			Angle			SSSD			SSOD			Turning Left			Turning Right			Fixed Object			Over-turned			Head On			Pedestrian			Other Object			Animal			Bicyclist			Other Non-Collision			TOTAL	
	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Count
2006	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	
2007	2	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	2	
2008	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	
2009*	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K 1 - A - B - C	- KI 1 - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	1 - AI
2010*	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	
TOTAL	2			0			0			0			0			0			0			0			1	1 - A	1 - AI	0			0			0			0			0			3	1 - AI
%	66.7%			0.0%			0.0%			0.0%			0.0%			0.0%			0.0%			0.0%			33.3%			0.0%			0.0%			0.0%			0.0%			0.0%				

YEAR	INJURY TYPE					CRASH CONDITIONS						TOTAL
	K	A	B	C	PDO	Wet	Wet %	Snow/Ice	Snow/Ice %	Night	Night %	
2006	0	0	0	0	0	0	-	0	-	0	-	0
2007	0	0	0	0	2	0	0%	1	50%	1	50%	2
2008	0	0	0	0	0	0	-	0	-	0	-	0
2009*	0	1	0	0	0	0	0%	1	100%	1	100%	1
2010*	0	0	0	0	0	0	-	0	-	0	-	0
TOTAL	**0**	**1**	**0**	**0**	**2**	**0**	**0.0%**	**2**	**66.7%**	**2**	**66.7%**	**3**

* Note that the law regarding the crash reporting threshold for Property Damage Only crashes was amended effective January 1, 2009, to the following: When all drivers involved in a crash are insured, the amount of damage to the property of any one person that must be reported increased from $500 to $1,500. If any driver does not have insurance, the threshold remains at $500. (This change in law precludes comparison of 2009 and later Property Damage Only crashes and Total crashes with such crashes for previous years. The change did NOT affect the reporting of injury or fatal crashes.)

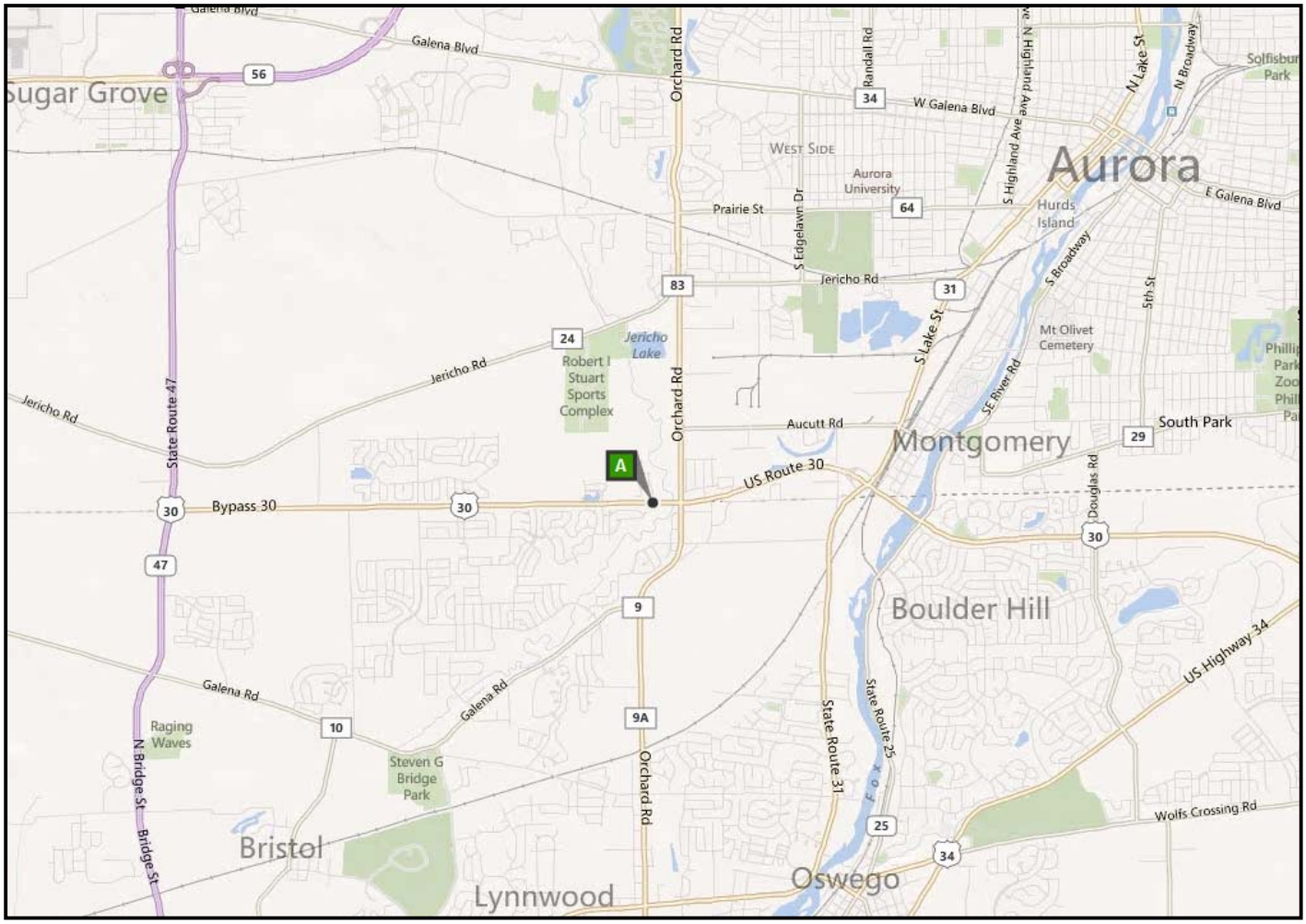
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

TRAFFIC SIGNAL STUDY PACKAGE - MUTCD

INTERSECTION : US 30 & BLACKBERRY
MUNICIPALITY: MONTGOMERY
COUNTY: Kane
DATE: May 22, 2012

WARRANTS MET: None
COUNTS & DATE: 12 HR MANUAL COUNT, 5/10/12 (AM) + 5/9/12 (PM)
REVIEWED BY: DJD



REQUIRED CONTENTS

1. COVER SHEET
2. CONDITION DIAGRAM - N/A
3. LABELED PHOTOGRAPHS
4. TRAFFIC SIGNAL WARRANT REVIEW SHEET
5. MINOR STREET RIGHT TURN ADJUSTMENT-PAGONES THEOREM
6. ALL-MOVEMENT MANUAL TRAFFIC COUNT
7. CRASH SUMMARY (2006-2010)
8. PEDESTRIAN DELAY STUDY (OPTIONAL) - N/A
9. CORRESPONDENCE / COMMENTS - N/A

Kane County **US 30 & BLACKBERRY**

Road:

Road:

SIGNAL WARRANT REVIEW SHEET

DISTRICT #1

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA : US 30

Yes No

Intersection: US 30 & BLACKBERRY

County: Kane

Municipality: MONTGOMERY

Speed Limit of Major Route: 55 mph

Isolated Community with Population < 10,000: N

Number of Lanes on Major approach: 1

Number of Lanes on Minor approach: 1

HOUR BEGIN	Major Street Volume *(both approaches)*	Adj. Minor Street Volume *(higher volume approach)*	CHECK ANY HOURS WHICH MEET THE FOLLOWING WARRANTS: WARRANT 1 A 100%	WARRANT 1 B 100%	WARRANT 7: 8 hrs of one of the Following: 80% of A	80% of B	80% of Warr #4
6:00	1192	17					
7:00	1283	10					
8:00	1183	9					
9:00	940	13					
10:00	883	14					
11:00	1002	9					
12:00	981	10					
13:00	917	4					
14:00	1111	10					
15:00	1590	9					
16:00	1667	7					
17:00	1698	16					
18:00	0	0					
19:00	0	0					
20:00	0	0					
21:00	0	0					

Hours Met :		0 hours	0 hours	0 hours	0 hours	0 hours
Volume Requirements:	MAJOR:	500	750	400	600	
	MINOR:	150	100	120	80	

WARRANT 1 Yes **No**

Warrant 1 is met if any of the following Conditions are met:

- Condition A (MINIMUM VEHICULAR VOLUME) Yes No
- Condition B (INTERUPTION OF COTINUOUS TRAFFIC) Yes No
- Condition A/B (COMBINATION OF WARRANTS) 0 hours Yes No

NOT APPLICABLE (SRA)

WARRANT 2 (FOUR-HOUR VOLUME) Yes No

WARRANT 3 (PEAK-HOUR VOLUME) Yes No

WARRANT 4 (PEDESTRIAN VOLUME) Yes No

WARRANT 5 (SCHOOL CROSSING) Yes No

WARRANT 6 (COORDINATED SIGNAL SYSTEM) Yes No

WARRANT 7 (ACCIDENT EXPERIENCE) Yes No

	2006	2007	2008	2009	2010
TOTAL NUMBER OF ACCIDENTS:	1	2	1	0	0
NUMBER CORRECTABLE ACCIDENTS:					
TRIED LESS RESTRICTIVE METHODS?					
ARE VOLUME REQUIREMENTS MET?			NO		

WARRANT 8 (ROADWAY NETWORK) Yes No

WARRANT 9 (Intersection Near a Grade Crossing) Yes No

STOP OR YIELD CONTROLLED LEG WITH GRADE CROSSING: NORTH

D (clear storage distance) =

	#	%	Adj. Factor
RAIL TRAFFIC PER DAY =			
HIGH OCCUPANCY BUSSES PER HOUR =			
TRUCKS PER HOUR =			
OVERALL ADJUSTMENT FACTOR =			

Review Information

Counts Used : 12 HR MANUAL COUNT

Count Date(s) : 5/10/12 - AM 5/9/12 - PM

Date Reviewed : May 22, 2012

Reviewed By : DJD

Comments

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

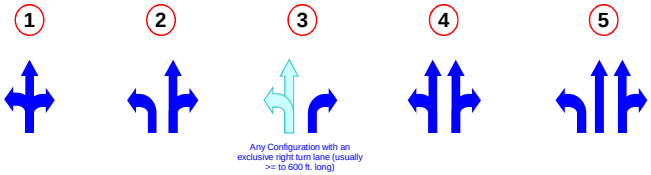
RIGHT TURN FACTORIZATION SHEET

INTERSECTION: **US 30 & BLACKBERRY**

MUNICIPALITY: **MONTGOMERY** COUNTY: **Kane**

DIR	HOUR BEGIN	MINOR STREET STREET NAME: BLACKBERRY CONFIG. #: 1 VOLUMES L LEFT	T THROUGH	R RIGHT	A TOTAL	CRITICAL MAINLINE APPROACH VOLUME PER LANE	BASE RIGHT TURN REDUCTION %	MAINLINE CONGESTION FACTOR %	ADJUSTED RIGHT TURN REDUCTION %	ADJUSTED RIGHT TURNS	ADJUSTED MINOR STREET VOLUMES
S	6:00	13	0	5	**18**	270	20%	0%	20%	4	**17**
S	7:00	9	0	1	**10**	439	20%	5%	15%	1	**10**
S	8:00	6	0	3	**9**	406	20%	5%	15%	3	**9**
S	9:00	11	0	2	**13**	393	20%	0%	20%	2	**13**
S	10:00	12	0	2	**14**	392	20%	0%	20%	2	**14**
S	11:00	8	0	1	**9**	498	20%	5%	15%	1	**9**
S	12:00	7	0	3	**10**	472	20%	5%	15%	3	**10**
S	13:00	3	0	1	**4**	461	20%	5%	15%	1	**4**
S	14:00	7	0	3	**10**	565	20%	10%	10%	3	**10**
S	15:00	7	0	2	**9**	937	20%	30%	0%	2	**9**
S	16:00	5	0	2	**7**	954	20%	30%	0%	2	**7**
S	17:00	12	0	4	**16**	1009	20%	35%	0%	4	**16**
	18:00										
	19:00										
	20:00										
	21:00										

Lane Configurations



LEFT	THROUGH	RIGHT	TOTAL (A)	.7A	.35A	3T	T/3	(T+L)	(T+R)	3R	3L	T/2	T/4	BASE REDUCTION
13	0	5	18	12.6	6.3	0	0	13	5	15	39	0	0	20%
9	0	1	10	7	3.5	0	0	9	1	3	27	0	0	20%
6	0	3	9	6.3	3.15	0	0	6	3	9	18	0	0	20%
11	0	2	13	9.1	4.55	0	0	11	2	6	33	0	0	20%
12	0	2	14	9.8	4.9	0	0	12	2	6	36	0	0	20%
8	0	1	9	6.3	3.15	0	0	8	1	3	24	0	0	20%
7	0	3	10	7	3.5	0	0	7	3	9	21	0	0	20%
3	0	1	4	2.8	1.4	0	0	3	1	3	9	0	0	20%
7	0	3	10	7	3.5	0	0	7	3	9	21	0	0	20%
7	0	2	9	6.3	3.15	0	0	7	2	6	21	0	0	20%
5	0	2	7	4.9	2.45	0	0	5	2	6	15	0	0	20%
12	0	4	16	11.2	5.6	0	0	12	4	12	36	0	0	20%

MAINLINE CONGESTION FACTORS	
VOLUMES	FACTOR (%)
0-399	0
400-499	5
500-599	10
600-699	15
700-799	20
800-899	25
900-999	30
1000-1099	35
1100-1199	40
1200-1299	45
1300-1399	50
1400-1499	55

REVIEW INFORMATION

COUNTS USED:

COUNT DATE(S): 5/10/2012 - AM 5/9/2012 - PM

DATE REVIEWED:

REVIEWED BY:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT #1, BUREAU OF TRAFFIC

SUMMARY OF TRAFFIC SURVEY

INTERSECTION: **US 30 & BLACKBERRY**
MUNICIPALITY: **MONTGOMERY**
COUNTY: **Kane**

	TRAFFIC FROM NORTH				TRAFFIC FROM SOUTH					TRAFFIC FROM EAST				TRAFFIC FROM WEST					
ROUTE :	BLACKBERRY ☐ SRA				☐ SRA					US 30 ☑ SRA				US 30 ☑ SRA					
	N. OF : US 30 GOING				S. OF : GOING					E. OF : BLACKBERRY GOING				W. OF : BLACKBERRY GOING					
START HOUR	EAST	SOUTH	WEST	TOTAL	WEST	NORTH	EAST	TOTAL	TOTAL NORTH AND SOUTH	SOUTH	WEST	NORTH	TOTAL	NORTH	EAST	SOUTH	TOTAL	TOTAL EAST AND WEST	GRAND TOTAL
6:00	13	0	5	**18**	0	0	0	**0**	18	0	267	3	**270**	2	920	0	**922**	1192	**1210**
7:00	9	0	1	**10**	0	0	0	**0**	10	0	437	2	**439**	0	844	0	**844**	1283	**1293**
8:00	6	0	3	**9**	0	0	0	**0**	9	0	400	6	**406**	1	776	0	**777**	1183	**1192**
9:00	11	0	2	**13**	0	0	0	**0**	13	0	385	8	**393**	3	544	0	**547**	940	**953**
10:00	12	0	2	**14**	0	0	0	**0**	14	0	385	7	**392**	1	490	0	**491**	883	**897**
11:00	8	0	1	**9**	0	0	0	**0**	9	0	488	10	**498**	4	500	0	**504**	1002	**1011**
12:00	7	0	3	**10**	0	0	0	**0**	10	0	458	14	**472**	3	506	0	**509**	981	**991**
13:00	3	0	1	**4**	0	0	0	**0**	4	0	455	6	**461**	1	455	0	**456**	917	**921**
14:00	7	0	3	**10**	0	0	0	**0**	10	0	564	1	**565**	1	545	0	**546**	1111	**1121**
15:00	7	0	2	**9**	0	0	0	**0**	9	0	927	10	**937**	4	649	0	**653**	1590	**1599**
16:00	5	0	2	**7**	0	0	0	**0**	7	0	938	16	**954**	4	709	0	**713**	1667	**1674**
17:00	12	0	4	**16**	0	0	0	**0**	16	0	994	15	**1009**	3	686	0	**689**	1698	**1714**
18:00																			
19:00																			
20:00																			
21:00																			

REVIEW INFORMATION

COUNTS USED: 12 HR MANUAL COUNT
COUNT DATE(S): 05/10/12 - AM 05/09/12 - PM
DATE REVIEWED: May 22, 2012
REVIEWED BY: DJD

Project: US 30 & BLACKBERRY

Town: MONTGOMERY

County: Kane

5% Intersection		
2008	2009	2010
N	N	N

5% Segment		
2008	2009	2010
N	Y	N

YEAR	Rear End			Angle			SSSD			SSOD			Turning Left			Turning Right			Fixed Object			Over-turned			Head On			Pedestrian			Other Object			Animal			Bicyclist			Other Non-Collision			TOTAL	
	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	**Crash Count**	**Injury Count**
2006	1	- K - A - B 1 - C	- KI - AI - BI 1 - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	1 - CI
2007	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	2	
2008	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	
2009*	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	
2010*	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	
TOTAL	3	1 - C	1 - CI	0			0			0			0			0			1			0			0			0			0			0			0			0			4	1 - CI
%	75.0%			0.0%			0.0%			0.0%			0.0%			0.0%			25.0%			0.0%			0.0%			0.0%			0.0%			0.0%			0.0%			0.0%				

YEAR	INJURY TYPE					CRASH CONDITIONS						TOTAL
	K	A	B	C	PDO	Wet	Wet %	Snow/Ice	Snow/Ice %	Night	Night %	
2006	0	0	0	1	0	0	0%	0	0%	0	0%	1
2007	0	0	0	0	2	0	0%	1	50%	1	50%	2
2008	0	0	0	0	1	1	100%	0	0%	0	0%	1
2009*	0	0	0	0	0	0	-	0	-	0	-	0
2010*	0	0	0	0	0	0	-	0	-	0	-	0
TOTAL	**0**	**0**	**0**	**1**	**3**	**1**	**25.0%**	**1**	**25.0%**	**1**	**25.0%**	**4**

* Note that the law regarding the crash reporting threshold for Property Damage Only crashes was amended effective January 1, 2009, to the following: When all drivers involved in a crash are insured, the amount of damage to the property of any one person that must be reported increased from $500 to $1,500. If any driver does not have insurance, the threshold remains at $500. (This change in law precludes comparison of 2009 and later Property Damage Only crashes and Total crashes with such crashes for previous years. The change did NOT affect the reporting of injury or fatal crashes.)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

TRAFFIC SIGNAL STUDY PACKAGE - MUTCD

INTERSECTION : US 30 & HORSEMEN TR.

MUNICIPALITY: MONTGOMERY

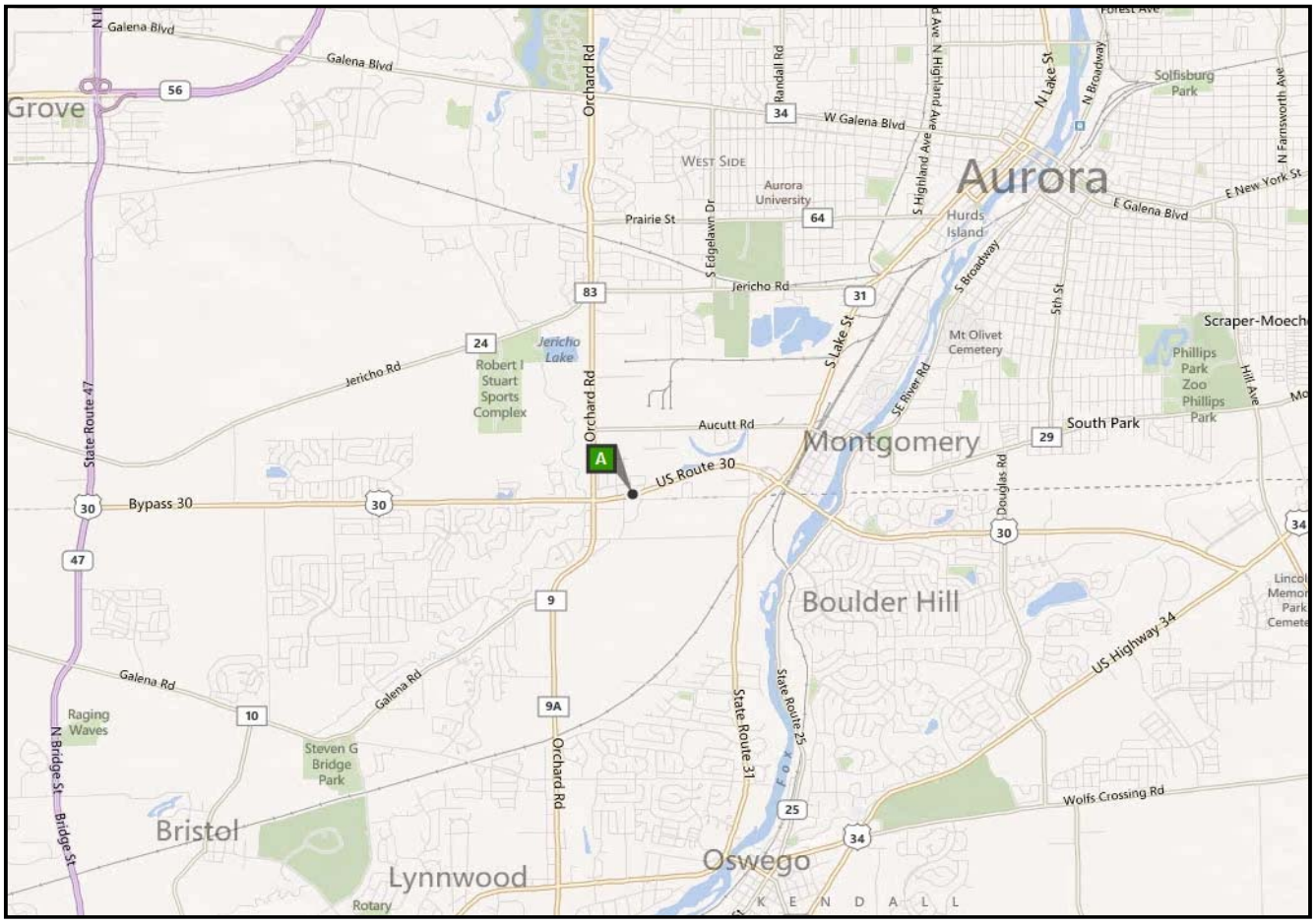
COUNTY: Kane

DATE: May 22, 2012

WARRANTS MET: None

COUNTS & DATE: 12 HR MANUAL COUNT, 5/16/12 (AM) + 5/15/12 (PM)

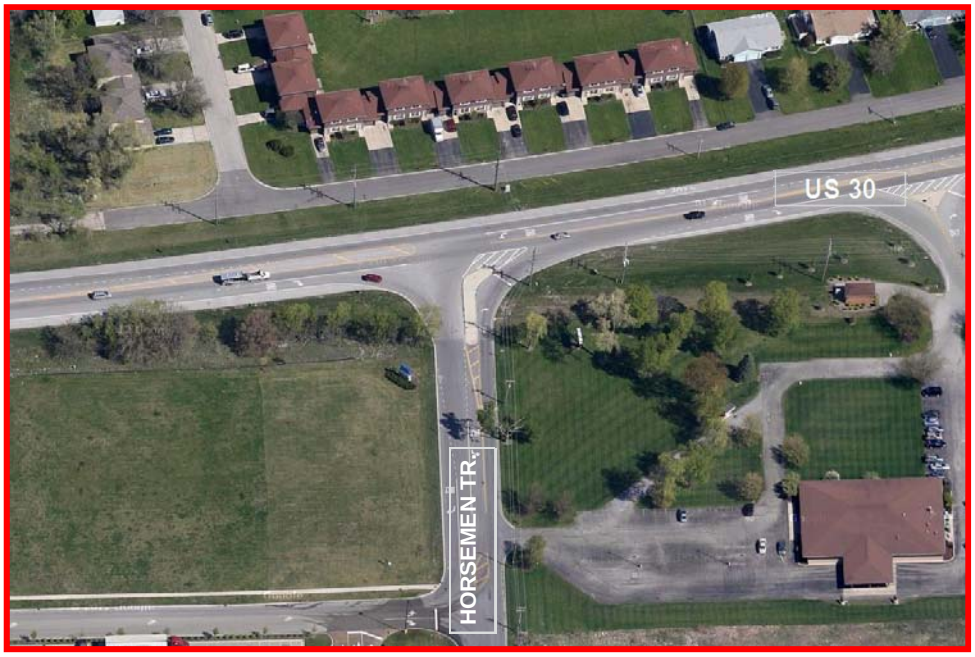
REVIEWED BY: DJD



REQUIRED CONTENTS

1. COVER SHEET
2. CONDITION DIAGRAM - N/A
3. LABELED PHOTOGRAPHS
4. TRAFFIC SIGNAL WARRANT REVIEW SHEET
5. MINOR STREET RIGHT TURN ADJUSTMENT-PAGONES THEOREM
6. ALL-MOVEMENT MANUAL TRAFFIC COUNT
7. CRASH SUMMARY (2006-2010)
8. PEDESTRIAN DELAY STUDY (OPTIONAL) - N/A
9. CORRESPONDENCE / COMMENTS - N/A

Kane County **US 30 & HORSEMEN TR.**



Road:

Road:

SIGNAL WARRANT REVIEW SHEET

DISTRICT #1

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA : US 30

Yes No

Intersection: US 30 & HORSEMEN TR.

County: Kane

Municipality: MONTGOMERY

Speed Limit of Major Route: 50 mph

Isolated Community with Population < 10,000: N

Number of Lanes on Major approach: 1

Number of Lanes on Minor approach: 1

HOUR BEGIN	Major Street Volume *(both approaches)*	Adj. Minor Street Volume *(higher volume approach)*	CHECK ANY HOURS WHICH MEET THE FOLLOWING WARRANTS: WARRANT 1 A 100%	WARRANT 1 B 100%	WARRANT 7: 8 hrs of one of the Following: 80% of A	80% of B	80% of Warr #4
6:00	1441	27					
7:00	2003	74					
8:00	1626	43					
9:00	1247	26					
10:00	1223	25					
11:00	1364	28					
12:00	1417	38					
13:00	1437	25					
14:00	1655	39					
15:00	2155	57					
16:00	2291	70					
17:00	2358	60					
18:00	0	0					
19:00	0	0					
20:00	0	0					
21:00	0	0					

Hours Met :		0 hours	0 hours	0 hours	0 hours	0 hours
Volume Requirements:	MAJOR:	500	750	400	600	
	MINOR:	150	100	120	80	

WARRANT 1 Yes **No**

Warrant 1 is met if any of the following Conditions are met:

- Condition A (MINIMUM VEHICULAR VOLUME) Yes No
- Condition B (INTERUPTION OF COTINUOUS TRAFFIC) Yes No
- Condition A/B (COMBINATION OF WARRANTS) 0 hours Yes No

NOT APPLICABLE (SRA)

WARRANT 2 (FOUR-HOUR VOLUME) Yes No

WARRANT 3 (PEAK-HOUR VOLUME) Yes No

WARRANT 4 (PEDESTRIAN VOLUME) Yes No

WARRANT 5 (SCHOOL CROSSING) Yes No

WARRANT 6 (COORDINATED SIGNAL SYSTEM) Yes No

WARRANT 7 (ACCIDENT EXPERIENCE) Yes No

	2006	2007	2008	2009	2010
TOTAL NUMBER OF ACCIDENTS:	9	9	7	4	9
NUMBER CORRECTABLE ACCIDENTS:					
TRIED LESS RESTRICTIVE METHODS?					
ARE VOLUME REQUIREMENTS MET?			NO		

WARRANT 8 (ROADWAY NETWORK) Yes No

WARRANT 9 (Intersection Near a Grade Crossing) Yes No

STOP OR YIELD CONTROLLED LEG WITH GRADE CROSSING: NORTH

D (clear storage distance) =

	#	%	Adj. Factor
RAIL TRAFFIC PER DAY =			
HIGH OCCUPANCY BUSSES PER HOUR =			
TRUCKS PER HOUR =			

OVERALL ADJUSTMENT FACTOR =

Review Information

Counts Used : 12 HR MANUAL COUNT

Count Date(s) : 5/16/12 - AM 5/15/12 - PM

Date Reviewed : May 22, 2012

Reviewed By : DJD

Comments

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

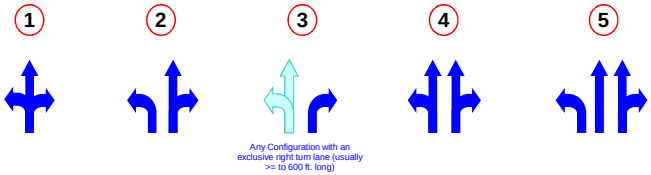
RIGHT TURN FACTORIZATION SHEET

INTERSECTION: **US 30 & HORSEMEN TR.**

MUNICIPALITY: **MONTGOMERY** COUNTY: **Kane**

DIR	HOUR BEGIN	MINOR STREET STREET NAME: HORSEMEN TRA CONFIG. #: 3 VOLUMES L LEFT	T THROUGH	R RIGHT	A TOTAL	CRITICAL MAINLINE APPROACH VOLUME PER LANE	BASE RIGHT TURN REDUCTION %	MAINLINE CONGESTION FACTOR %	ADJUSTED RIGHT TURN REDUCTION %	ADJUSTED RIGHT TURNS	ADJUSTED MINOR STREET VOLUMES
N	6:00	0	0	54	**54**	874	75%	25%	50%	27	**27**
N	7:00	0	0	106	**106**	1221	75%	45%	30%	74	**74**
N	8:00	0	0	79	**79**	931	75%	30%	45%	43	**43**
N	9:00	0	0	64	**64**	635	75%	15%	60%	26	**26**
N	10:00	0	0	70	**70**	588	75%	10%	65%	25	**25**
N	11:00	0	0	69	**69**	624	75%	15%	60%	28	**28**
N	12:00	0	0	96	**96**	625	75%	15%	60%	38	**38**
N	13:00	0	0	62	**62**	630	75%	15%	60%	25	**25**
N	14:00	0	0	97	**97**	656	75%	15%	60%	39	**39**
N	15:00	0	0	114	**114**	806	75%	25%	50%	57	**57**
N	16:00	0	0	128	**128**	906	75%	30%	45%	70	**70**
N	17:00	0	0	109	**109**	926	75%	30%	45%	60	**60**
	18:00										
	19:00										
	20:00										
	21:00										

Lane Configurations



LEFT	THROUGH	RIGHT	TOTAL (A)	.7A	.35A	3T	T/3	(T+L)	(T+R)	3R	3L	T/2	T/4	BASE REDUCTION
0	0	54	54	37.8	18.9	0	0	0	54	162	0	0	0	75%
0	0	106	106	74.2	37.1	0	0	0	106	318	0	0	0	75%
0	0	79	79	55.3	27.7	0	0	0	79	237	0	0	0	75%
0	0	64	64	44.8	22.4	0	0	0	64	192	0	0	0	75%
0	0	70	70	49	24.5	0	0	0	70	210	0	0	0	75%
0	0	69	69	48.3	24.2	0	0	0	69	207	0	0	0	75%
0	0	96	96	67.2	33.6	0	0	0	96	288	0	0	0	75%
0	0	62	62	43.4	21.7	0	0	0	62	186	0	0	0	75%
0	0	97	97	67.9	34	0	0	0	97	291	0	0	0	75%
0	0	114	114	79.8	39.9	0	0	0	114	342	0	0	0	75%
0	0	128	128	89.6	44.8	0	0	0	128	384	0	0	0	75%
0	0	109	109	76.3	38.2	0	0	0	109	327	0	0	0	75%

MAINLINE CONGESTION FACTORS	
VOLUMES	FACTOR (%)
0-399	0
400-499	5
500-599	10
600-699	15
700-799	20
800-899	25
900-999	30
1000-1099	35
1100-1199	40
1200-1299	45
1300-1399	50
1400-1499	55

REVIEW INFORMATION

COUNTS USED:

COUNT DATE(S): 5/16/2012 - AM 5/15/2012 - PM

DATE REVIEWED:

REVIEWED BY:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT #1, BUREAU OF TRAFFIC

SUMMARY OF TRAFFIC SURVEY

INTERSECTION: **US 30 & HORSEMEN TR.**
MUNICIPALITY: **MONTGOMERY**
COUNTY: **Kane**

	TRAFFIC FROM NORTH				TRAFFIC FROM SOUTH					TRAFFIC FROM EAST				TRAFFIC FROM WEST					
ROUTE :				☐ SRA	HORSEMEN TRAIL			☐ SRA		US 30			☑ SRA	US 30			☑ SRA		
	N. OF :				S. OF : US 30					E. OF : HORSEMEN TRAIL				W. OF : HORSEMEN TRAIL					
	GOING				GOING					GOING				GOING					
START HOUR	EAST	SOUTH	WEST	TOTAL	WEST	NORTH	EAST	TOTAL	TOTAL NORTH AND SOUTH	SOUTH	WEST	NORTH	TOTAL	NORTH	EAST	SOUTH	TOTAL	TOTAL EAST AND WEST	GRAND TOTAL
6:00	0	0	0	**0**	0	0	54	**54**	54	51	490	0	**541**	0	874	26	**900**	1441	**1495**
7:00	0	0	0	**0**	0	0	106	**106**	106	80	670	0	**750**	0	1221	32	**1253**	2003	**2109**
8:00	0	0	0	**0**	0	0	79	**79**	79	56	586	0	**642**	0	931	53	**984**	1626	**1705**
9:00	0	0	0	**0**	0	0	64	**64**	64	70	486	0	**556**	0	635	56	**691**	1247	**1311**
10:00	0	0	0	**0**	0	0	70	**70**	70	65	511	0	**576**	0	588	59	**647**	1223	**1293**
11:00	0	0	0	**0**	0	0	69	**69**	69	70	607	0	**677**	0	624	63	**687**	1364	**1433**
12:00	0	0	0	**0**	0	0	96	**96**	96	96	617	0	**713**	0	625	79	**704**	1417	**1513**
13:00	0	0	0	**0**	0	0	62	**62**	62	88	654	0	**742**	0	630	65	**695**	1437	**1499**
14:00	0	0	0	**0**	0	0	97	**97**	97	112	825	0	**937**	0	656	62	**718**	1655	**1752**
15:00	0	0	0	**0**	0	0	114	**114**	114	144	1133	0	**1277**	0	806	72	**878**	2155	**2269**
16:00	0	0	0	**0**	0	0	128	**128**	128	173	1124	0	**1297**	0	906	88	**994**	2291	**2419**
17:00	0	0	0	**0**	0	0	109	**109**	109	173	1149	0	**1322**	0	926	110	**1036**	2358	**2467**
18:00																			
19:00																			
20:00																			
21:00																			

REVIEW INFORMATION

COUNTS USED: 12 HR MANUAL COUNT
COUNT DATE(S): 05/16/12 - AM 05/15/12 - PM
DATE REVIEWED: May 22, 2012
REVIEWED BY: DJD

Project: US 30 & HORSEMEN TR.

Town: MONTGOMERY

County: Kane

5% Intersection		
2008	2009	2010
N	N	N

5% Segment		
2008	2009	2010
N	Y	N

YEAR	Rear End			Angle			SSSD			SSOD			Turning Left			Turning Right			Fixed Object			Over-turned			Head On			Pedestrian			Other Object			Animal			Bicyclist			Other Non-Collision			TOTAL	
	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	**Crash Count**	**Injury Count**
2006	6	- K - A 1 - B - C	- KI - AI 1 - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	2	- K - A 1 - B 1 - C	- KI - AI 1 - BI 2 - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	9	2 - BI 2 - CI
2007	4	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	2	- K - A 1 - B - C	- KI - AI 1 - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	9	1 - BI
2008	5	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	7	
2009*	1	- K - A - B 1 - C	- KI - AI - BI 1 - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B 1 - C	- KI - AI - BI 3 - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	4	4 - CI
2010*	8	- K - A - B 2 - C	- KI - AI - BI 2 - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	9	2 - CI
TOTAL	**24**	**1 - B 3 - C**	**1 - BI 3 - CI**	**0**			**2**			**0**			**6**	**2 - B 1 - C**	**2 - BI 2 - CI**	**2**			**2**			**0**			**1**	**1 - C**	**3 - CI**	**0**			**1**			**0**			**0**			**0**			**38**	**3 - BI 8 - CI**
%	**63.2%**			**0.0%**			**5.3%**			**0.0%**			**15.8%**			**5.3%**			**5.3%**			**0.0%**			**2.6%**			**0.0%**			**2.6%**			**0.0%**			**0.0%**			**0.0%**				

	INJURY TYPE					CRASH CONDITIONS						TOTAL
YEAR	**K**	**A**	**B**	**C**	**PDO**	**Wet**	**Wet %**	**Snow/Ice**	**Snow/Ice %**	**Night**	**Night %**	
2006	0	0	2	1	6	2	22%	2	22%	1	11%	9
2007	0	0	1	0	8	2	22%	0	0%	1	11%	9
2008	0	0	0	0	7	2	29%	0	0%	1	14%	7
2009*	0	0	0	2	2	0	0%	1	25%	0	0%	4
2010*	0	0	0	2	7	0	0%	0	0%	2	22%	9
TOTAL	**0**	**0**	**3**	**5**	**30**	**6**	**15.8%**	**3**	**7.9%**	**5**	**13.2%**	**38**

* Note that the law regarding the crash reporting threshold for Property Damage Only crashes was amended effective January 1, 2009, to the following: When all drivers involved in a crash are insured, the amount of damage to the property of any one person that must be reported increased from $500 to $1,500. If any driver does not have insurance, the threshold remains at $500. (This change in law precludes comparison of 2009 and later Property Damage Only crashes and Total crashes with such crashes for previous years. The change did NOT affect the reporting of injury or fatal crashes.)

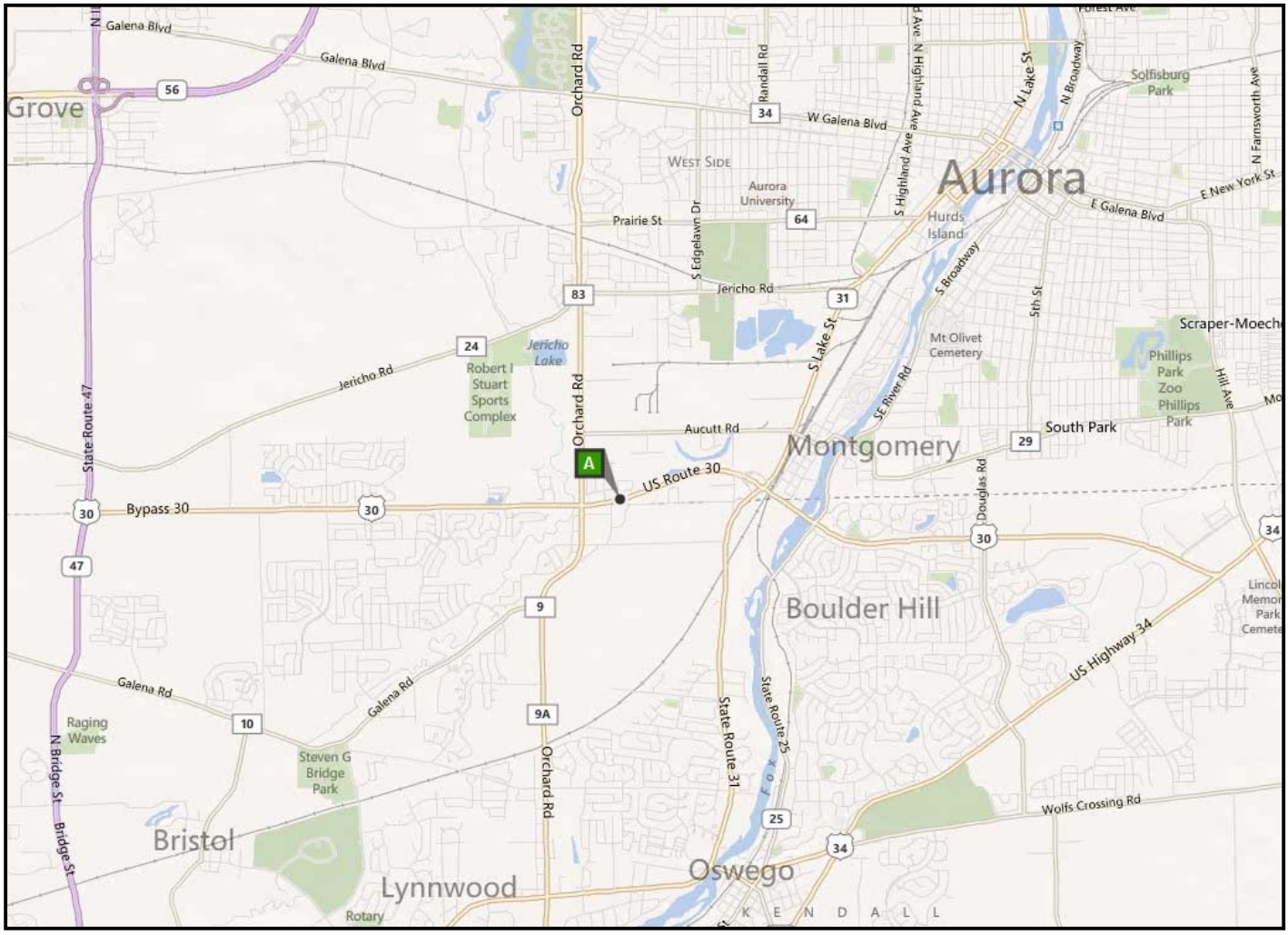
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

TRAFFIC SIGNAL STUDY PACKAGE - MUTCD

INTERSECTION : US 30 & BASELINE CONN.
MUNICIPALITY: MONTGOMERY
COUNTY: Kane
DATE: May 22, 2012

WARRANTS MET: None
COUNTS & DATE: 12 HR MANUAL COUNT, 5/16/12 (AM) + 5/15/12 (PM)
REVIEWED BY: DJD



REQUIRED CONTENTS

1. COVER SHEET
2. CONDITION DIAGRAM - N/A
3. LABELED PHOTOGRAPHS
4. TRAFFIC SIGNAL WARRANT REVIEW SHEET
5. MINOR STREET RIGHT TURN ADJUSTMENT-PAGONES THEOREM
6. ALL-MOVEMENT MANUAL TRAFFIC COUNT
7. CRASH SUMMARY (2006-2010)
8. PEDESTRIAN DELAY STUDY (OPTIONAL) - N/A
9. CORRESPONDENCE / COMMENTS - N/A

Kane County **US 30 & BASELINE CONN.**

Road:

Road:

SIGNAL WARRANT REVIEW SHEET

DISTRICT #1

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA : US 30

Yes No

Intersection: US 30 & BASELINE CONN.

County: Kane

Municipality: MONTGOMERY

Speed Limit of Major Route: 50 mph

Isolated Community with Population < 10,000: N

Number of Lanes on Major approach: 1

Number of Lanes on Minor approach: 1

HOUR BEGIN	Major Street Volume *(both approaches)*	Adj. Minor Street Volume *(higher volume approach)*	CHECK ANY HOURS WHICH MEET THE FOLLOWING WARRANTS: WARRANT 1 A 100%	WARRANT 1 B 100%	WARRANT 7: 8 hrs of one of the Following: 80% of A	80% of B	80% of Warr #4
6:00	1469	0					
7:00	2080	4					
8:00	1652	5					
9:00	1255	3					
10:00	1234	5					
11:00	1370	5					
12:00	1437	4					
13:00	1434	5					
14:00	1690	3					
15:00	2197	12					
16:00	2337	13					
17:00	2357	13					
18:00	0	0					
19:00	0	0					
20:00	0	0					
21:00	0	0					

Hours Met :		0 hours	0 hours	0 hours	0 hours	0 hours
Volume Requirements:	MAJOR:	500	750	400	600	
	MINOR:	150	100	120	80	

WARRANT 1 Yes **No**

Warrant 1 is met if any of the following Conditions are met:

- Condition A (MINIMUM VEHICULAR VOLUME) Yes No
- Condition B (INTERUPTION OF COTINUOUS TRAFFIC) Yes No
- Condition A/B (COMBINATION OF WARRANTS) 0 hours Yes No

NOT APPLICABLE (SRA)

WARRANT 2 (FOUR-HOUR VOLUME) Yes No

WARRANT 3 (PEAK-HOUR VOLUME) Yes No

WARRANT 4 (PEDESTRIAN VOLUME) Yes No

WARRANT 5 (SCHOOL CROSSING) Yes No

WARRANT 6 (COORDINATED SIGNAL SYSTEM) Yes No

WARRANT 7 (ACCIDENT EXPERIENCE) Yes No

	2006	2007	2008	2009	2010
TOTAL NUMBER OF ACCIDENTS:	9	9	7	4	9
NUMBER CORRECTABLE ACCIDENTS:					
TRIED LESS RESTRICTIVE METHODS?					
ARE VOLUME REQUIREMENTS MET?			NO		

WARRANT 8 (ROADWAY NETWORK) Yes No

WARRANT 9 (Intersection Near a Grade Crossing) Yes No

STOP OR YIELD CONTROLLED LEG WITH GRADE CROSSING: NORTH

D (clear storage distance) =

	#	%	Adj. Factor
RAIL TRAFFIC PER DAY =			
HIGH OCCUPANCY BUSSES PER HOUR =			
TRUCKS PER HOUR =			
OVERALL ADJUSTMENT FACTOR =			

Review Information

Counts Used : 12 HR MANUAL COUNT

Count Date(s) : 5/16/12 - AM 5/15/12 - PM

Date Reviewed : May 22, 2012

Reviewed By : DJD

Comments

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

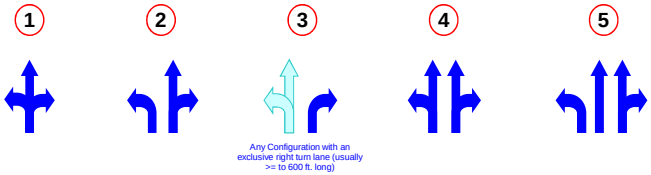
RIGHT TURN FACTORIZATION SHEET

INTERSECTION: **US 30 & BASELINE CONN.**

MUNICIPALITY: **MONTGOMERY** COUNTY: **Kane**

DIR	HOUR BEGIN	MINOR STREET STREET NAME: BASELINE CONN CONFIG. #: 3 VOLUMES L LEFT	T THROUGH	R RIGHT	A TOTAL	CRITICAL MAINLINE APPROACH VOLUME PER LANE	BASE RIGHT TURN REDUCTION %	MAINLINE CONGESTION FACTOR %	ADJUSTED RIGHT TURN REDUCTION %	ADJUSTED RIGHT TURNS	ADJUSTED MINOR STREET VOLUMES
N	6:00	0	0	0	**0**	909	75%	30%	45%	0	**0**
N	7:00	0	0	5	**5**	1307	75%	50%	25%	4	**4**
N	8:00	0	0	9	**9**	986	75%	30%	45%	5	**5**
N	9:00	0	0	7	**7**	688	75%	15%	60%	3	**3**
N	10:00	0	0	12	**12**	632	75%	15%	60%	5	**5**
N	11:00	0	0	13	**13**	677	75%	15%	60%	5	**5**
N	12:00	0	0	9	**9**	702	75%	20%	55%	4	**4**
N	13:00	0	0	12	**12**	678	75%	15%	60%	5	**5**
N	14:00	0	0	7	**7**	728	75%	20%	55%	3	**3**
N	15:00	0	0	24	**24**	890	75%	25%	50%	12	**12**
N	16:00	0	0	21	**21**	1004	75%	35%	40%	13	**13**
N	17:00	0	0	21	**21**	1013	75%	35%	40%	13	**13**
	18:00										
	19:00										
	20:00										
	21:00										

Lane Configurations



LEFT	THROUGH	RIGHT	TOTAL (A)	.7A	.35A	3T	T/3	(T+L)	(T+R)	3R	3L	T/2	T/4	BASE REDUCTION
0	0	0	0	0	0	0	0	0	0	0	0	0	0	75%
0	0	5	5	3.5	1.75	0	0	0	5	15	0	0	0	75%
0	0	9	9	6.3	3.15	0	0	0	9	27	0	0	0	75%
0	0	7	7	4.9	2.45	0	0	0	7	21	0	0	0	75%
0	0	12	12	8.4	4.2	0	0	0	12	36	0	0	0	75%
0	0	13	13	9.1	4.55	0	0	0	13	39	0	0	0	75%
0	0	9	9	6.3	3.15	0	0	0	9	27	0	0	0	75%
0	0	12	12	8.4	4.2	0	0	0	12	36	0	0	0	75%
0	0	7	7	4.9	2.45	0	0	0	7	21	0	0	0	75%
0	0	24	24	16.8	8.4	0	0	0	24	72	0	0	0	75%
0	0	21	21	14.7	7.35	0	0	0	21	63	0	0	0	75%
0	0	21	21	14.7	7.35	0	0	0	21	63	0	0	0	75%

MAINLINE CONGESTION FACTORS	
VOLUMES	FACTOR (%)
0-399	0
400-499	5
500-599	10
600-699	15
700-799	20
800-899	25
900-999	30
1000-1099	35
1100-1199	40
1200-1299	45
1300-1399	50
1400-1499	55

REVIEW INFORMATION

COUNTS USED:

COUNT DATE(S): 5/16/2012 - AM 5/15/2012 - PM

DATE REVIEWED:

REVIEWED BY:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT #1, BUREAU OF TRAFFIC

SUMMARY OF TRAFFIC SURVEY

INTERSECTION: **US 30 & BASELINE CONN.**
MUNICIPALITY: **MONTGOMERY**
COUNTY: **Kane**

	TRAFFIC FROM NORTH				TRAFFIC FROM SOUTH					TRAFFIC FROM EAST				TRAFFIC FROM WEST					
ROUTE :				☐ SRA	BASELINE CONNECTOR			☐ SRA		US 30			☑ SRA	US 30			☑ SRA		
	N. OF :				S. OF : US 30					E. OF : BASELINE CONNECTOR				W. OF : BASELINE CONNECTOR					
	GOING				GOING					GOING				GOING					
START HOUR	EAST	SOUTH	WEST	TOTAL	WEST	NORTH	EAST	TOTAL	TOTAL NORTH AND SOUTH	SOUTH	WEST	NORTH	TOTAL	NORTH	EAST	SOUTH	TOTAL	TOTAL EAST AND WEST	GRAND TOTAL
6:00	0	0	0	**0**	0	0	0	**0**	0	0	541	0	**541**	0	909	19	**928**	1469	**1469**
7:00	0	0	0	**0**	0	0	5	**5**	5	0	750	0	**750**	0	1307	23	**1330**	2080	**2085**
8:00	0	0	0	**0**	0	0	9	**9**	9	0	642	0	**642**	0	986	24	**1010**	1652	**1661**
9:00	0	0	0	**0**	0	0	7	**7**	7	0	556	0	**556**	0	688	11	**699**	1255	**1262**
10:00	0	0	0	**0**	0	0	12	**12**	12	0	576	0	**576**	0	632	26	**658**	1234	**1246**
11:00	0	0	0	**0**	0	0	13	**13**	13	0	677	0	**677**	0	677	16	**693**	1370	**1383**
12:00	0	0	0	**0**	0	0	9	**9**	9	0	716	0	**716**	0	702	19	**721**	1437	**1446**
13:00	0	0	0	**0**	0	0	12	**12**	12	0	742	0	**742**	0	678	14	**692**	1434	**1446**
14:00	0	0	0	**0**	0	0	7	**7**	7	0	937	0	**937**	0	728	25	**753**	1690	**1697**
15:00	0	0	0	**0**	0	0	24	**24**	24	0	1277	0	**1277**	0	890	30	**920**	2197	**2221**
16:00	0	0	0	**0**	0	0	21	**21**	21	0	1303	0	**1303**	0	1004	30	**1034**	2337	**2358**
17:00	0	0	0	**0**	0	0	21	**21**	21	0	1322	0	**1322**	0	1013	22	**1035**	2357	**2378**
18:00																			
19:00																			
20:00																			
21:00																			

REVIEW INFORMATION

COUNTS USED: 12 HR MANUAL COUNT
COUNT DATE(S): 05/16/12 - AM 05/15/12 - PM
DATE REVIEWED: May 22, 2012
REVIEWED BY: DJD

Project: US 30 & BASELINE CONN.

Town: MONTGOMERY

County: Kane

5% Intersection		
2008	2009	2010
N	N	N

5% Segment		
2008	2009	2010
N	Y	N

YEAR	Rear End			Angle			SSSD			SSOD			Turning Left			Turning Right			Fixed Object			Over-turned			Head On			Pedestrian			Other Object			Animal			Bicyclist			Other Non-Collision			TOTAL	
	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	**Crash Count**	**Injury Count**
2006	6	- K - A 1 - B - C	- KI - AI 1 - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	2	- K - A 1 - B 1 - C	- KI - AI 1 - BI 2 - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	9	2 - BI 2 - CI
2007	4	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	2	- K - A 1 - B - C	- KI - AI 1 - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	9	1 - BI
2008	5	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	7	
2009*	1	- K - A - B 1 - C	- KI - AI - BI 1 - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B 1 - C	- KI - AI - BI 3 - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	4	4 - CI
2010*	8	- K - A - B 2 - C	- KI - AI - BI 2 - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	9	2 - CI
TOTAL	**24**	**1 - B 3 - C**	**1 - BI 3 - CI**	**0**			**2**			**0**			**6**	**2 - B 1 - C**	**2 - BI 2 - CI**	**2**			**2**			**0**			**1**	**1 - C**	**3 - CI**	**0**			**1**			**0**			**0**			**0**			**38**	**3 - BI 8 - CI**
%	**63.2%**			**0.0%**			**5.3%**			**0.0%**			**15.8%**			**5.3%**			**5.3%**			**0.0%**			**2.6%**			**0.0%**			**2.6%**			**0.0%**			**0.0%**			**0.0%**				

	INJURY TYPE					CRASH CONDITIONS						TOTAL
YEAR	**K**	**A**	**B**	**C**	**PDO**	**Wet**	**Wet %**	**Snow/Ice**	**Snow/Ice %**	**Night**	**Night %**	
2006	0	0	2	1	6	2	22%	2	22%	1	11%	9
2007	0	0	1	0	8	2	22%	0	0%	1	11%	9
2008	0	0	0	0	7	2	29%	0	0%	1	14%	7
2009*	0	0	0	2	2	0	0%	1	25%	0	0%	4
2010*	0	0	0	2	7	0	0%	0	0%	2	22%	9
TOTAL	**0**	**0**	**3**	**5**	**30**	**6**	**15.8%**	**3**	**7.9%**	**5**	**13.2%**	**38**

* Note that the law regarding the crash reporting threshold for Property Damage Only crashes was amended effective January 1, 2009, to the following: When all drivers involved in a crash are insured, the amount of damage to the property of any one person that must be reported increased from $500 to $1,500. If any driver does not have insurance, the threshold remains at $500. (This change in law precludes comparison of 2009 and later Property Damage Only crashes and Total crashes with such crashes for previous years. The change did NOT affect the reporting of injury or fatal crashes.)

FUTURE (2040) CONDITIONS – TRAFFIC SIGNAL WARRANT ANALYSES FOR U.S. 30 INTERSECTIONS

Appendix B

SIGNAL WARRANT REVIEW SHEET

DISTRICT #1

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA : US 30

Yes No

Intersection: US 30 & BERTRAM

County: Kane

Municipality: MONTGOMERY

Speed Limit of Major Route: 55 mph

Isolated Community with Population < 10,000: N

Number of Lanes on Major approach: 2

Number of Lanes on Minor approach: 2

HOUR BEGIN	Major Street Volume *(both approaches)*	Adj. Minor Street Volume *(higher volume approach)*	CHECK ANY HOURS WHICH MEET THE FOLLOWING WARRANTS: WARRANT 1 A 100%	WARRANT 1 B 100%	WARRANT 7: 8 hrs of one of the Following: 80% of A	80% of B	80% of Warr #4
6:00	1611	127		X	X	X	
7:00	2339	201	X	X	X	X	
8:00	1395	183	X	X	X	X	
9:00	999	92				X	
10:00	909	138		X	X	X	
11:00	818	146		X	X	X	
12:00	1027	160	X	X	X	X	
13:00	955	224	X	X	X	X	
14:00	1205	353	X	X	X	X	
15:00	1648	642	X	X	X	X	
16:00	1547	1065	X	X	X	X	
17:00	1564	1406	X	X	X	X	
18:00	0	0					
19:00	0	0					
20:00	0	0					
21:00	0	0					

Hours Met :		8 hours	11 hours	11 hours	12 hours	0 hours
Volume Requirements:	MAJOR:	500	750	400	600	
	MINOR:	150	100	120	80	

WARRANT 1 Yes **No**

Warrant 1 is met if any of the following Conditions are met:

- Condition A — MINIMUM VEHICULAR VOLUME — Yes No
- Condition B — INTERUPTION OF COTINUOUS TRAFFIC — Yes No
- Condition A/B — COMBINATION OF WARRANTS — 0 hours Yes No

NOT APPLICABLE (SRA)

WARRANT 2 — FOUR-HOUR VOLUME — Yes No

WARRANT 3 — PEAK-HOUR VOLUME — Yes No

WARRANT 4 — PEDESTRIAN VOLUME — Yes No

WARRANT 5 — SCHOOL CROSSING — Yes No

WARRANT 6 — COORDINATED SIGNAL SYSTEM — Yes No

WARRANT 7 — ACCIDENT EXPERIENCE — Yes No

	2006	2007	2008	2009	2010
TOTAL NUMBER OF ACCIDENTS:	4	1	4	2	3
NUMBER CORRECTABLE ACCIDENTS:					
TRIED LESS RESTRICTIVE METHODS?					
ARE VOLUME REQUIREMENTS MET?			YES		

WARRANT 8 — ROADWAY NETWORK — Yes No

WARRANT 9 — Intersection Near a Grade Crossing — Yes No

STOP OR YIELD CONTROLLED LEG WITH GRADE CROSSING: NORTH

D (clear storage distance) =

	#	%	Adj. Factor
RAIL TRAFFIC PER DAY =			
HIGH OCCUPANCY BUSSES PER HOUR =			
TRUCKS PER HOUR =			
OVERALL ADJUSTMENT FACTOR =			

Review Information

Counts Used : 12 HOUR - 2040 PROJECTION

Count Date(s) : 4/24/12 - AM 4/25/12 - PM

Date Reviewed : May 22, 2012

Reviewed By : DJD

Comments

2012 - 12 HOUR COUNTS PROJECTED TO FUTURE YEAR 2040 USING PROVIDED GROWTH RATES.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

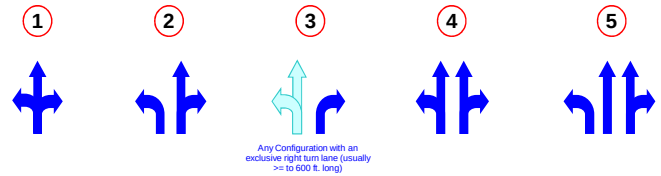
RIGHT TURN FACTORIZATION SHEET

INTERSECTION: **US 30 & BERTRAM**

MUNICIPALITY: **MONTGOMERY** COUNTY: **Kane**

DIR	HOUR BEGIN	MINOR STREET STREET NAME: Bertram CONFIG. #: 3 VOLUMES L LEFT	T THROUGH	R RIGHT	A TOTAL	CRITICAL MAINLINE APPROACH VOLUME PER LANE	BASE RIGHT TURN REDUCTION %	MAINLINE CONGESTION FACTOR %	ADJUSTED RIGHT TURN REDUCTION %	ADJUSTED RIGHT TURNS	ADJUSTED MINOR STREET VOLUMES
S	6:00	114	0	21	**135**	1072	75%	35%	40%	13	**127**
S	7:00	179	0	27	**206**	1804	75%	55%	20%	22	**201**
S	8:00	168	0	27	**195**	992	75%	30%	45%	15	**183**
S	9:00	81	0	27	**108**	619	75%	15%	60%	11	**92**
S	10:00	125	0	37	**162**	524	75%	10%	65%	13	**138**
S	11:00	135	0	38	**173**	420	75%	5%	70%	11	**146**
S	12:00	141	0	54	**195**	522	75%	10%	65%	19	**160**
S	13:00	222	0	5	**227**	511	75%	10%	65%	2	**224**
S	14:00	336	0	43	**379**	680	75%	15%	60%	17	**353**
S	15:00	553	0	162	**715**	919	75%	30%	45%	89	**642**
S	16:00	959	0	211	**1170**	865	75%	25%	50%	106	**1065**
S	17:00	1316	0	179	**1495**	867	75%	25%	50%	90	**1406**
	18:00										
	19:00										
	20:00										
	21:00										

Lane Configurations



LEFT	THROUGH	RIGHT	TOTAL (A)	.7A	.35A	3T	T/3	(T+L)	(T+R)	3R	3L	T/2	T/4	BASE REDUCTION
114	0	21	135	94.5	47.3	0	0	114	21	63	342	0	0	75%
179	0	27	206	144	72.1	0	0	179	27	81	537	0	0	75%
168	0	27	195	137	68.3	0	0	168	27	81	504	0	0	75%
81	0	27	108	75.6	37.8	0	0	81	27	81	243	0	0	75%
125	0	37	162	113	56.7	0	0	125	37	111	375	0	0	75%
135	0	38	173	121	60.6	0	0	135	38	114	405	0	0	75%
141	0	54	195	137	68.3	0	0	141	54	162	423	0	0	75%
222	0	5	227	159	79.5	0	0	222	5	15	666	0	0	75%
336	0	43	379	265	133	0	0	336	43	129	1008	0	0	75%
553	0	162	715	501	250	0	0	553	162	486	1659	0	0	75%
959	0	211	1170	819	410	0	0	959	211	633	2877	0	0	75%
1316	0	179	1495	1047	523	0	0	1316	179	537	3948	0	0	75%

MAINLINE CONGESTION FACTORS	
VOLUMES	FACTOR (%)
0-399	0
400-499	5
500-599	10
600-699	15
700-799	20
800-899	25
900-999	30
1000-1099	35
1100-1199	40
1200-1299	45
1300-1399	50
1400-1499	55

REVIEW INFORMATION

COUNTS USED: 12 HOUR - 2040 PROJECTION

COUNT DATE(S): 4/24/2012 - AM 4/25/2012 - PM

DATE REVIEWED:

REVIEWED BY:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT #1, BUREAU OF TRAFFIC

SUMMARY OF TRAFFIC SURVEY

INTERSECTION: **US 30 & BERTRAM**
MUNICIPALITY: **MONTGOMERY**
COUNTY: **Kane**

2040 - VOLUME PROJECTIONS

	TRAFFIC FROM NORTH				TRAFFIC FROM SOUTH					TRAFFIC FROM EAST				TRAFFIC FROM WEST					
ROUTE :	BERTRAM			☐ SRA				☐ SRA		US 30			☑ SRA	US 30			☑ SRA		
	N. OF : US 30				S. OF :					E. OF : BERTRAM				W. OF : BERTRAM					
	GOING				GOING					GOING				GOING					
START HOUR	EAST	SOUTH	WEST	TOTAL	WEST	NORTH	EAST	TOTAL	TOTAL NORTH AND SOUTH	SOUTH	WEST	NORTH	TOTAL	NORTH	EAST	SOUTH	TOTAL	TOTAL EAST AND WEST	GRAND TOTAL
6:00	114	0	21	**135**	0	0	0	**0**	135	0	643	429	**1072**	11	528	0	**539**	1611	**1746**
7:00	179	0	27	**206**	0	0	0	**0**	206	0	854	950	**1804**	54	481	0	**535**	2339	**2545**
8:00	168	0	27	**195**	0	0	0	**0**	195	0	647	345	**992**	11	392	0	**403**	1395	**1590**
9:00	81	0	27	**108**	0	0	0	**0**	108	0	501	118	**619**	8	372	0	**380**	999	**1107**
10:00	125	0	37	**162**	0	0	0	**0**	162	0	469	55	**524**	9	376	0	**385**	909	**1071**
11:00	135	0	38	**173**	0	0	0	**0**	173	0	365	55	**420**	3	395	0	**398**	818	**991**
12:00	141	0	54	**195**	0	0	0	**0**	195	0	471	51	**522**	13	492	0	**505**	1027	**1222**
13:00	222	0	5	**227**	0	0	0	**0**	227	0	465	46	**511**	6	438	0	**444**	955	**1182**
14:00	336	0	43	**379**	0	0	0	**0**	379	0	603	77	**680**	13	512	0	**525**	1205	**1584**
15:00	553	0	162	**715**	0	0	0	**0**	715	0	814	105	**919**	15	714	0	**729**	1648	**2363**
16:00	959	0	211	**1170**	0	0	0	**0**	1170	0	779	86	**865**	11	671	0	**682**	1547	**2717**
17:00	1316	0	179	**1495**	0	0	0	**0**	1495	0	769	98	**867**	4	693	0	**697**	1564	**3059**
18:00																			
19:00																			
20:00																			
21:00																			

REVIEW INFORMATION

COUNTS USED: 12 HOUR - 2040 PROJECTION
COUNT DATE(S): 04/24/12 - AM 04/25/12 - PM
DATE REVIEWED: May 22, 2012
REVIEWED BY: DJD

SIGNAL WARRANT REVIEW SHEET

DISTRICT #1

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA : US 30

Yes No

Intersection: US 30 & DICKSON

County: Kane

Municipality: MONTGOMERY

Speed Limit of Major Route: 55 mph

Isolated Community with Population < 10,000: N

Number of Lanes on Major approach: 2

Number of Lanes on Minor approach: 2

HOUR BEGIN	Major Street Volume *(both approaches)*	Adj. Minor Street Volume *(higher volume approach)*	CHECK ANY HOURS WHICH MEET THE FOLLOWING WARRANTS: WARRANT 1 A 100%	WARRANT 1 B 100%	WARRANT 7: 8 hrs of one of the Following: 80% of A	80% of B	80% of Warr #4
6:00	1416	220	X	X	X	X	
7:00	2111	441	X	X	X	X	
8:00	1503	161	X	X	X	X	
9:00	1067	55					
10:00	988	56					
11:00	1022	43					
12:00	1118	62					
13:00	1079	57					
14:00	1374	58					
15:00	2065	100				X	
16:00	2205	72					
17:00	2241	105		X		X	
18:00	0	0					
19:00	0	0					
20:00	0	0					
21:00	0	0					

Hours Met :		3 hours	4 hours	3 hours	5 hours	0 hours
Volume Requirements:	MAJOR:	500	750	400	600	
	MINOR:	150	100	120	80	

WARRANT 1 Yes **No**

Warrant 1 is met if any of the following Conditions are met:

- Condition A (MINIMUM VEHICULAR VOLUME) Yes No
- Condition B (INTERUPTION OF COTINUOUS TRAFFIC) Yes No
- Condition A/B (COMBINATION OF WARRANTS) 0 hours Yes No

NOT APPLICABLE (SRA)

WARRANT 2 (FOUR-HOUR VOLUME) Yes No

WARRANT 3 (PEAK-HOUR VOLUME) Yes No

WARRANT 4 (PEDESTRIAN VOLUME) Yes No

WARRANT 5 (SCHOOL CROSSING) Yes No

WARRANT 6 (COORDINATED SIGNAL SYSTEM) Yes No

WARRANT 7 (ACCIDENT EXPERIENCE) Yes No

	2006	2007	2008	2009	2010
TOTAL NUMBER OF ACCIDENTS:	5	2	3	1	1
NUMBER CORRECTABLE ACCIDENTS:					
TRIED LESS RESTRICTIVE METHODS?					
ARE VOLUME REQUIREMENTS MET?			NO		

WARRANT 8 (ROADWAY NETWORK) Yes No

WARRANT 9 (Intersection Near a Grade Crossing) Yes No

STOP OR YIELD CONTROLLED LEG WITH GRADE CROSSING: NORTH

D (clear storage distance) =

	#	%	Adj. Factor
RAIL TRAFFIC PER DAY =			
HIGH OCCUPANCY BUSSES PER HOUR =			
TRUCKS PER HOUR =			
OVERALL ADJUSTMENT FACTOR =			

Review Information

Counts Used : 12 HOUR - 2040 PROJECTION

Count Date(s) : 4/26/12 - AM 4/26/12 - PM

Date Reviewed : May 22, 2012

Reviewed By : DJD

Comments

2012 - 12 HOUR COUNTS PROJECTED TO FUTURE YEAR 2040 USING PROVIDED GROWTH RATES.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

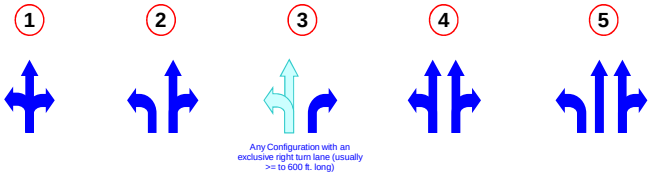
RIGHT TURN FACTORIZATION SHEET

INTERSECTION: **US 30 & DICKSON**

MUNICIPALITY: **MONTGOMERY** COUNTY: **Kane**

DIR	HOUR BEGIN	MINOR STREET STREET NAME: DICKSON CONFIG. #: 3 VOLUMES L LEFT	T THROUGH	R RIGHT	A TOTAL	CRITICAL MAINLINE APPROACH VOLUME PER LANE	BASE RIGHT TURN REDUCTION %	MAINLINE CONGESTION FACTOR %	ADJUSTED RIGHT TURN REDUCTION %	ADJUSTED RIGHT TURNS	ADJUSTED MINOR STREET VOLUMES
N	6:00	199	0	59	**258**	562	75%	10%	65%	21	**220**
N	7:00	416	0	63	**479**	657	75%	15%	60%	25	**441**
N	8:00	127	0	98	**225**	576	75%	10%	65%	34	**161**
N	9:00	41	0	45	**86**	485	75%	5%	70%	14	**55**
N	10:00	43	0	43	**86**	479	75%	5%	70%	13	**56**
N	11:00	29	0	47	**76**	495	75%	5%	70%	14	**43**
N	12:00	43	0	55	**98**	564	75%	10%	65%	19	**62**
N	13:00	41	0	47	**88**	515	75%	10%	65%	16	**57**
N	14:00	39	0	43	**82**	757	75%	20%	55%	19	**58**
N	15:00	41	0	98	**139**	1073	75%	35%	40%	59	**100**
N	16:00	21	0	73	**94**	1266	75%	45%	30%	51	**72**
N	17:00	59	0	58	**117**	1470	75%	55%	20%	46	**105**
	18:00										
	19:00										
	20:00										
	21:00										

Lane Configurations



LEFT	THROUGH	RIGHT	TOTAL (A)	.7A	.35A	3T	T/3	(T+L)	(T+R)	3R	3L	T/2	T/4	BASE REDUCTION
199	0	59	258	181	90.3	0	0	199	59	177	597	0	0	75%
416	0	63	479	335	168	0	0	416	63	189	1248	0	0	75%
127	0	98	225	158	78.8	0	0	127	98	294	381	0	0	75%
41	0	45	86	60.2	30.1	0	0	41	45	135	123	0	0	75%
43	0	43	86	60.2	30.1	0	0	43	43	129	129	0	0	75%
29	0	47	76	53.2	26.6	0	0	29	47	141	87	0	0	75%
43	0	55	98	68.6	34.3	0	0	43	55	165	129	0	0	75%
41	0	47	88	61.6	30.8	0	0	41	47	141	123	0	0	75%
39	0	43	82	57.4	28.7	0	0	39	43	129	117	0	0	75%
41	0	98	139	97.3	48.7	0	0	41	98	294	123	0	0	75%
21	0	73	94	65.8	32.9	0	0	21	73	219	63	0	0	75%
59	0	58	117	81.9	41	0	0	59	58	174	177	0	0	75%

MAINLINE CONGESTION FACTORS	
VOLUMES	FACTOR (%)
0-399	0
400-499	5
500-599	10
600-699	15
700-799	20
800-899	25
900-999	30
1000-1099	35
1100-1199	40
1200-1299	45
1300-1399	50
1400-1499	55

REVIEW INFORMATION

COUNTS USED: 12 HOUR - 2040 PROJECTION

COUNT DATE(S): 4/26/2012 - AM 4/26/2012 - PM

DATE REVIEWED:

REVIEWED BY:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT #1, BUREAU OF TRAFFIC

SUMMARY OF TRAFFIC SURVEY

INTERSECTION: **US 30 & DICKSON**
MUNICIPALITY: **MONTGOMERY**
COUNTY: **Kane**

2040 - VOLUME PROJECTIONS

	TRAFFIC FROM NORTH				TRAFFIC FROM SOUTH					TRAFFIC FROM EAST				TRAFFIC FROM WEST					
ROUTE :				☐ SRA	DICKSON			☐ SRA		US 30			☑ SRA	US 30			☑ SRA		
	N. OF :				S. OF : US 30					E. OF : DICKSON				W. OF : DICKSON					
	GOING				GOING					GOING				GOING					
START HOUR	EAST	SOUTH	WEST	TOTAL	WEST	NORTH	EAST	TOTAL	TOTAL NORTH AND SOUTH	SOUTH	WEST	NORTH	TOTAL	NORTH	EAST	SOUTH	TOTAL	TOTAL EAST AND WEST	GRAND TOTAL
6:00	0	0	0	**0**	199	0	59	**258**	258	24	830	0	**854**	0	534	28	**562**	1416	**1674**
7:00	0	0	0	**0**	416	0	63	**479**	479	62	1392	0	**1454**	0	625	32	**657**	2111	**2590**
8:00	0	0	0	**0**	127	0	98	**225**	225	81	846	0	**927**	0	562	14	**576**	1503	**1728**
9:00	0	0	0	**0**	41	0	45	**86**	86	20	562	0	**582**	0	461	24	**485**	1067	**1153**
10:00	0	0	0	**0**	43	0	43	**86**	86	40	469	0	**509**	0	459	20	**479**	988	**1074**
11:00	0	0	0	**0**	29	0	47	**76**	76	50	477	0	**527**	0	469	26	**495**	1022	**1098**
12:00	0	0	0	**0**	43	0	55	**98**	98	63	491	0	**554**	0	526	38	**564**	1118	**1216**
13:00	0	0	0	**0**	41	0	47	**88**	88	36	528	0	**564**	0	485	30	**515**	1079	**1167**
14:00	0	0	0	**0**	39	0	43	**82**	82	47	570	0	**617**	0	712	45	**757**	1374	**1456**
15:00	0	0	0	**0**	41	0	98	**139**	139	109	883	0	**992**	0	964	109	**1073**	2065	**2204**
16:00	0	0	0	**0**	21	0	73	**94**	94	72	867	0	**939**	0	1068	198	**1266**	2205	**2299**
17:00	0	0	0	**0**	59	0	58	**117**	117	83	688	0	**771**	0	1210	260	**1470**	2241	**2358**
18:00																			
19:00																			
20:00																			
21:00																			

REVIEW INFORMATION

COUNTS USED: 12 HOUR - 2040 PROJECTION
COUNT DATE(S): 04/26/12 - AM 04/26/12 - PM
DATE REVIEWED: May 22, 2012
REVIEWED BY: DJD

SIGNAL WARRANT REVIEW SHEET

DISTRICT #1

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA : US 30

Yes No

Intersection: US 30 & PRESCOTT

County: Kane

Municipality: MONTGOMERY

Speed Limit of Major Route: 55 mph

Isolated Community with Population < 10,000: N

Number of Lanes on Major approach: 2

Number of Lanes on Minor approach: 2

HOUR BEGIN	Major Street Volume *(both approaches)*	Adj. Minor Street Volume *(higher volume approach)*	CHECK ANY HOURS WHICH MEET THE FOLLOWING WARRANTS: WARRANT 1 A 100%	WARRANT 1 B 100%	WARRANT 7: 8 hrs of one of the Following: 80% of A	80% of B	80% of Warr #4
6:00	1684	133		X	X	X	
7:00	1864	102		X		X	
8:00	1549	66					
9:00	1353	31					
10:00	1263	26					
11:00	1444	37					
12:00	1412	38					
13:00	1308	28					
14:00	1586	29					
15:00	2257	39					
16:00	2308	47					
17:00	2200	49					
18:00	0	0					
19:00	0	0					
20:00	0	0					
21:00	0	0					

Hours Met :		0 hours	2 hours	1 hours	2 hours	0 hours
Volume Requirements:	MAJOR:	500	750	400	600	
	MINOR:	150	100	120	80	

WARRANT 1 Yes **No**

Warrant 1 is met if any of the following Conditions are met:

- Condition A — MINIMUM VEHICULAR VOLUME — Yes No
- Condition B — INTERUPTION OF COTINUOUS TRAFFIC — Yes No
- Condition A/B — COMBINATION OF WARRANTS — 0 hours Yes No

NOT APPLICABLE (SRA)

WARRANT 2 — FOUR-HOUR VOLUME — Yes No

WARRANT 3 — PEAK-HOUR VOLUME — Yes No

WARRANT 4 — PEDESTRIAN VOLUME — Yes No

WARRANT 5 — SCHOOL CROSSING — Yes No

WARRANT 6 — COORDINATED SIGNAL SYSTEM — Yes No

WARRANT 7 — ACCIDENT EXPERIENCE — Yes No

	2006	2007	2008	2009	2010
TOTAL NUMBER OF ACCIDENTS:	3	1	1	0	0
NUMBER CORRECTABLE ACCIDENTS:					
TRIED LESS RESTRICTIVE METHODS?					
ARE VOLUME REQUIREMENTS MET?			NO		

WARRANT 8 — ROADWAY NETWORK — Yes No

WARRANT 9 — Intersection Near a Grade Crossing — Yes No

STOP OR YIELD CONTROLLED LEG WITH GRADE CROSSING: NORTH

D (clear storage distance) =

	#	%	Adj. Factor
RAIL TRAFFIC PER DAY =			
HIGH OCCUPANCY BUSSES PER HOUR =			
TRUCKS PER HOUR =			
OVERALL ADJUSTMENT FACTOR =			

Review Information

Counts Used : 12 HOUR - 2040 PROJECTION

Count Date(s) : 5/2/12 - AM 5/1/12 - PM

Date Reviewed : May 22, 2012

Reviewed By : DJD

Comments

2012 - 12 HOUR COUNTS PROJECTED TO FUTURE YEAR 2040 USING PROVIDED GROWTH RATES.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

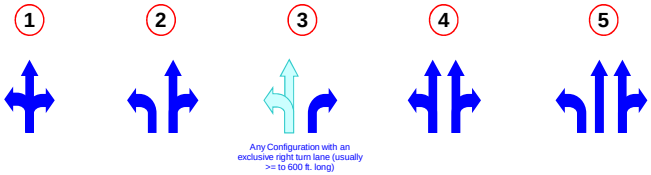
RIGHT TURN FACTORIZATION SHEET

INTERSECTION: **US 30 & PRESCOTT**

MUNICIPALITY: **MONTGOMERY** COUNTY: **Kane**

DIR	HOUR BEGIN	MINOR STREET STREET NAME: PRESCOTT CONFIG. #: 3 VOLUMES L LEFT	T THROUGH	R RIGHT	A TOTAL	CRITICAL MAINLINE APPROACH VOLUME PER LANE	BASE RIGHT TURN REDUCTION %	MAINLINE CONGESTION FACTOR %	ADJUSTED RIGHT TURN REDUCTION %	ADJUSTED RIGHT TURNS	ADJUSTED MINOR STREET VOLUMES
N	6:00	0	0	204	**204**	1120	75%	40%	35%	133	**133**
N	7:00	0	0	170	**170**	1039	75%	35%	40%	102	**102**
N	8:00	0	0	132	**132**	885	75%	25%	50%	66	**66**
N	9:00	0	0	78	**78**	629	75%	15%	60%	31	**31**
N	10:00	0	0	74	**74**	580	75%	10%	65%	26	**26**
N	11:00	0	0	82	**82**	741	75%	20%	55%	37	**37**
N	12:00	0	0	94	**94**	674	75%	15%	60%	38	**38**
N	13:00	0	0	70	**70**	627	75%	15%	60%	28	**28**
N	14:00	0	0	72	**72**	676	75%	15%	60%	29	**29**
N	15:00	0	0	70	**70**	919	75%	30%	45%	39	**39**
N	16:00	0	0	86	**86**	901	75%	30%	45%	47	**47**
N	17:00	0	0	108	**108**	767	75%	20%	55%	49	**49**
	18:00										
	19:00										
	20:00										
	21:00										

Lane Configurations



LEFT	THROUGH	RIGHT	TOTAL (A)	.7A	.35A	3T	T/3	(T+L)	(T+R)	3R	3L	T/2	T/4	BASE REDUCTION
0	0	204	204	143	71.4	0	0	0	204	612	0	0	0	75%
0	0	170	170	119	59.5	0	0	0	170	510	0	0	0	75%
0	0	132	132	92.4	46.2	0	0	0	132	396	0	0	0	75%
0	0	78	78	54.6	27.3	0	0	0	78	234	0	0	0	75%
0	0	74	74	51.8	25.9	0	0	0	74	222	0	0	0	75%
0	0	82	82	57.4	28.7	0	0	0	82	246	0	0	0	75%
0	0	94	94	65.8	32.9	0	0	0	94	282	0	0	0	75%
0	0	70	70	49	24.5	0	0	0	70	210	0	0	0	75%
0	0	72	72	50.4	25.2	0	0	0	72	216	0	0	0	75%
0	0	70	70	49	24.5	0	0	0	70	210	0	0	0	75%
0	0	86	86	60.2	30.1	0	0	0	86	258	0	0	0	75%
0	0	108	108	75.6	37.8	0	0	0	108	324	0	0	0	75%

MAINLINE CONGESTION FACTORS	
VOLUMES	FACTOR (%)
0-399	0
400-499	5
500-599	10
600-699	15
700-799	20
800-899	25
900-999	30
1000-1099	35
1100-1199	40
1200-1299	45
1300-1399	50
1400-1499	55

REVIEW INFORMATION

COUNTS USED: 12 HOUR - 2040 PROJECTION

COUNT DATE(S): 5/2/2012 - AM 5/1/2012 - PM

DATE REVIEWED:

REVIEWED BY:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT #1, BUREAU OF TRAFFIC

SUMMARY OF TRAFFIC SURVEY

INTERSECTION: **US 30 & PRESCOTT**
MUNICIPALITY: **MONTGOMERY**
COUNTY: **Kane**

2040 - VOLUME PROJECTIONS

	TRAFFIC FROM NORTH				TRAFFIC FROM SOUTH					TRAFFIC FROM EAST				TRAFFIC FROM WEST					
ROUTE :				☐ SRA	PRESCOTT			☐ SRA		US 30			☑ SRA	US 30			☑ SRA		
	N. OF :				S. OF : US 30					E. OF : PRESCOTT				W. OF : PRESCOTT					
	GOING				GOING					GOING				GOING					
START HOUR	EAST	SOUTH	WEST	TOTAL	WEST	NORTH	EAST	TOTAL	TOTAL NORTH AND SOUTH	SOUTH	WEST	NORTH	TOTAL	NORTH	EAST	SOUTH	TOTAL	TOTAL EAST AND WEST	GRAND TOTAL
6:00	0	0	0	**0**	0	0	204	**204**	204	24	538	0	**562**	0	1120	2	**1122**	1684	**1888**
7:00	0	0	0	**0**	0	0	170	**170**	170	32	787	0	**819**	0	1039	6	**1045**	1864	**2034**
8:00	0	0	0	**0**	0	0	132	**132**	132	32	627	0	**659**	0	885	5	**890**	1549	**1681**
9:00	0	0	0	**0**	0	0	78	**78**	78	53	653	0	**706**	0	629	18	**647**	1353	**1431**
10:00	0	0	0	**0**	0	0	74	**74**	74	50	629	0	**679**	0	580	4	**584**	1263	**1337**
11:00	0	0	0	**0**	0	0	82	**82**	82	53	645	0	**698**	0	741	5	**746**	1444	**1526**
12:00	0	0	0	**0**	0	0	94	**94**	94	83	643	0	**726**	0	674	12	**686**	1412	**1506**
13:00	0	0	0	**0**	0	0	70	**70**	70	62	615	0	**677**	0	627	4	**631**	1308	**1378**
14:00	0	0	0	**0**	0	0	72	**72**	72	103	804	0	**907**	0	676	3	**679**	1586	**1658**
15:00	0	0	0	**0**	0	0	70	**70**	70	135	1179	0	**1314**	0	919	24	**943**	2257	**2327**
16:00	0	0	0	**0**	0	0	86	**86**	86	167	1210	0	**1377**	0	901	30	**931**	2308	**2394**
17:00	0	0	0	**0**	0	0	108	**108**	108	157	1238	0	**1395**	0	767	38	**805**	2200	**2308**
18:00																			
19:00																			
20:00																			
21:00																			

REVIEW INFORMATION

COUNTS USED: 12 HOUR - 2040 PROJECTION
COUNT DATE(S): 05/02/12 - AM 05/01/12 - PM
DATE REVIEWED: May 22, 2012
REVIEWED BY: DJD

SIGNAL WARRANT REVIEW SHEET

DISTRICT #1

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA : US 30

Yes No

Intersection: US 30 & LAKEWOOD

County: Kane

Municipality: MONTGOMERY

Speed Limit of Major Route: 55 mph

Isolated Community with Population < 10,000: N

Number of Lanes on Major approach: 2

Number of Lanes on Minor approach: 2

HOUR BEGIN	Major Street Volume *(both approaches)*	Adj. Minor Street Volume *(higher volume approach)*	CHECK ANY HOURS WHICH MEET THE FOLLOWING WARRANTS: WARRANT 1 A 100%	WARRANT 1 B 100%	WARRANT 7: 8 hrs of one of the Following: 80% of A	80% of B	80% of Warr #4
6:00	1846	351	X	X	X	X	
7:00	1970	360	X	X	X	X	
8:00	1671	308	X	X	X	X	
9:00	1337	110		X		X	
10:00	1276	101		X		X	
11:00	1551	116		X		X	
12:00	1452	97				X	
13:00	1471	83				X	
14:00	1903	111		X		X	
15:00	2700	154	X	X	X	X	
16:00	2710	192	X	X	X	X	
17:00	2763	197	X	X	X	X	
18:00	0	0					
19:00	0	0					
20:00	0	0					
21:00	0	0					

Hours Met :		6 hours	10 hours	6 hours	12 hours	0 hours
Volume Requirements:	MAJOR:	500	750	400	600	
	MINOR:	150	100	120	80	

WARRANT 1 Yes No

Warrant 1 is met if any of the following Conditions are met:

- Condition A — MINIMUM VEHICULAR VOLUME — Yes No
- Condition B — INTERUPTION OF COTINUOUS TRAFFIC — Yes No
- Condition A/B — COMBINATION OF WARRANTS — 0 hours Yes No

NOT APPLICABLE (SRA)

WARRANT 2 — FOUR-HOUR VOLUME — Yes No

WARRANT 3 — PEAK-HOUR VOLUME — Yes No

WARRANT 4 — PEDESTRIAN VOLUME — Yes No

WARRANT 5 — SCHOOL CROSSING — Yes No

WARRANT 6 — COORDINATED SIGNAL SYSTEM — Yes No

WARRANT 7 — ACCIDENT EXPERIENCE — Yes No

	2006	2007	2008	2009	2010
TOTAL NUMBER OF ACCIDENTS:	0	2	0	1	0
NUMBER CORRECTABLE ACCIDENTS:					
TRIED LESS RESTRICTIVE METHODS?					
ARE VOLUME REQUIREMENTS MET?			YES		

WARRANT 8 — ROADWAY NETWORK — Yes No

WARRANT 9 — Intersection Near a Grade Crossing — Yes No

STOP OR YIELD CONTROLLED LEG WITH GRADE CROSSING: NORTH

D (clear storage distance) =

	#	%	Adj. Factor
RAIL TRAFFIC PER DAY =			
HIGH OCCUPANCY BUSSES PER HOUR =			
TRUCKS PER HOUR =			
OVERALL ADJUSTMENT FACTOR =			

Review Information

Counts Used : 12 HOUR - 2040 PROJECTION

Count Date(s) : 5/17/12 - AM 5/16/12 - PM

Date Reviewed : May 22, 2012

Reviewed By : DJD

Comments

2012 - 12 HOUR COUNTS PROJECTED TO FUTURE YEAR 2040 USING PROVIDED GROWTH RATES.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

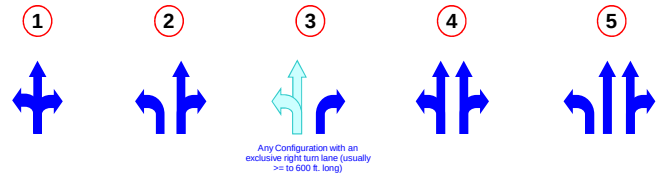
RIGHT TURN FACTORIZATION SHEET

INTERSECTION: **US 30 & LAKEWOOD**

MUNICIPALITY: **MONTGOMERY** COUNTY: **Kane**

DIR	HOUR BEGIN	MINOR STREET STREET NAME: LAKEWOOD CRE CONFIG. #: 3 VOLUMES L LEFT	T THROUGH	R RIGHT	A TOTAL	CRITICAL MAINLINE APPROACH VOLUME PER LANE	BASE RIGHT TURN REDUCTION %	MAINLINE CONGESTION FACTOR %	ADJUSTED RIGHT TURN REDUCTION %	ADJUSTED RIGHT TURNS	ADJUSTED MINOR STREET VOLUMES
N	6:00	29	0	460	**489**	1281	75%	45%	30%	322	**351**
N	7:00	72	0	443	**515**	1177	75%	40%	35%	288	**360**
N	8:00	42	0	484	**526**	938	75%	30%	45%	266	**308**
N	9:00	24	0	214	**238**	688	75%	15%	60%	86	**110**
N	10:00	24	0	192	**216**	637	75%	15%	60%	77	**101**
N	11:00	21	0	210	**231**	727	75%	20%	55%	95	**116**
N	12:00	11	0	214	**225**	660	75%	15%	60%	86	**97**
N	13:00	13	0	175	**188**	613	75%	15%	60%	70	**83**
N	14:00	20	0	203	**223**	757	75%	20%	55%	91	**111**
N	15:00	13	0	257	**270**	958	75%	30%	45%	141	**154**
N	16:00	27	0	300	**327**	927	75%	30%	45%	165	**192**
N	17:00	30	0	279	**309**	1035	75%	35%	40%	167	**197**
	18:00										
	19:00										
	20:00										
	21:00										

Lane Configurations



LEFT	THROUGH	RIGHT	TOTAL (A)	.7A	.35A	3T	T/3	(T+L)	(T+R)	3R	3L	T/2	T/4	BASE REDUCTION
29	0	460	489	342	171	0	0	29	460	1380	87	0	0	75%
72	0	443	515	361	180	0	0	72	443	1329	216	0	0	75%
42	0	484	526	368	184	0	0	42	484	1452	126	0	0	75%
24	0	214	238	167	83.3	0	0	24	214	642	72	0	0	75%
24	0	192	216	151	75.6	0	0	24	192	576	72	0	0	75%
21	0	210	231	162	80.9	0	0	21	210	630	63	0	0	75%
11	0	214	225	158	78.8	0	0	11	214	642	33	0	0	75%
13	0	175	188	132	65.8	0	0	13	175	525	39	0	0	75%
20	0	203	223	156	78.1	0	0	20	203	609	60	0	0	75%
13	0	257	270	189	94.5	0	0	13	257	771	39	0	0	75%
27	0	300	327	229	114	0	0	27	300	900	81	0	0	75%
30	0	279	309	216	108	0	0	30	279	837	90	0	0	75%

MAINLINE CONGESTION FACTORS	
VOLUMES	FACTOR (%)
0-399	0
400-499	5
500-599	10
600-699	15
700-799	20
800-899	25
900-999	30
1000-1099	35
1100-1199	40
1200-1299	45
1300-1399	50
1400-1499	55

REVIEW INFORMATION

COUNTS USED: 12 HOUR - 2040 PROJECTION

COUNT DATE(S): 5/17/2012 - AM 5/16/2012 - PM

DATE REVIEWED:

REVIEWED BY:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT #1, BUREAU OF TRAFFIC

SUMMARY OF TRAFFIC SURVEY

INTERSECTION: **US 30 & LAKEWOOD**
MUNICIPALITY: **MONTGOMERY**
COUNTY: **Kane**

2040 - VOLUME PROJECTIONS

	TRAFFIC FROM NORTH				TRAFFIC FROM SOUTH					TRAFFIC FROM EAST				TRAFFIC FROM WEST					
ROUTE :				☐ SRA	LAKEWOOD CREEK			☐ SRA		US 30			☑ SRA	US 30			☑ SRA		
	N. OF :				S. OF : US 30					E. OF : LAKEWOOD CREEK				W. OF : LAKEWOOD CREEK					
	GOING				GOING					GOING				GOING					
START HOUR	EAST	SOUTH	WEST	TOTAL	WEST	NORTH	EAST	TOTAL	TOTAL NORTH AND SOUTH	SOUTH	WEST	NORTH	TOTAL	NORTH	EAST	SOUTH	TOTAL	TOTAL EAST AND WEST	GRAND TOTAL
6:00	0	0	0	**0**	29	0	460	**489**	489	38	522	0	**560**	0	1281	5	**1286**	1846	**2335**
7:00	0	0	0	**0**	72	0	443	**515**	515	115	664	0	**779**	0	1177	14	**1191**	1970	**2485**
8:00	0	0	0	**0**	42	0	484	**526**	526	138	582	0	**720**	0	938	13	**951**	1671	**2197**
9:00	0	0	0	**0**	24	0	214	**238**	238	101	532	0	**633**	0	688	16	**704**	1337	**1575**
10:00	0	0	0	**0**	24	0	192	**216**	216	114	513	0	**627**	0	637	12	**649**	1276	**1492**
11:00	0	0	0	**0**	21	0	210	**231**	231	129	672	0	**801**	0	727	23	**750**	1551	**1782**
12:00	0	0	0	**0**	11	0	214	**225**	225	188	595	0	**783**	0	660	9	**669**	1452	**1677**
13:00	0	0	0	**0**	13	0	175	**188**	188	148	700	0	**848**	0	613	10	**623**	1471	**1659**
14:00	0	0	0	**0**	20	0	203	**223**	223	211	909	0	**1120**	0	757	26	**783**	1903	**2126**
15:00	0	0	0	**0**	13	0	257	**270**	270	381	1317	0	**1698**	0	958	44	**1002**	2700	**2970**
16:00	0	0	0	**0**	27	0	300	**327**	327	340	1372	0	**1712**	0	927	71	**998**	2710	**3037**
17:00	0	0	0	**0**	30	0	279	**309**	309	405	1283	0	**1688**	0	1035	40	**1075**	2763	**3072**
18:00																			
19:00																			
20:00																			
21:00																			

REVIEW INFORMATION

COUNTS USED: 12 HOUR - 2040 PROJECTION
COUNT DATE(S): 05/17/12 - AM 05/16/12 - PM
DATE REVIEWED: May 22, 2012
REVIEWED BY: DJD

SIGNAL WARRANT REVIEW SHEET

DISTRICT #1

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA : US 30

Yes No

Intersection: US 30 & BLACKBERRY

County: Kane

Municipality: MONTGOMERY

Speed Limit of Major Route: 55 mph

Isolated Community with Population < 10,000: N

Number of Lanes on Major approach: 2

Number of Lanes on Minor approach: 2

HOUR BEGIN	Major Street Volume *(both approaches)*	Adj. Minor Street Volume *(higher volume approach)*	CHECK ANY HOURS WHICH MEET THE FOLLOWING WARRANTS: WARRANT 1 A 100%	WARRANT 1 B 100%	WARRANT 7: 8 hrs of one of the Following: 80% of A	80% of B	80% of Warr #4
6:00	1829	25					
7:00	1969	16					
8:00	1815	12					
9:00	1442	21					
10:00	1355	22					
11:00	1537	15					
12:00	1505	14					
13:00	1407	6					
14:00	1705	15					
15:00	2440	15					
16:00	2558	11					
17:00	2605	27					
18:00	0	0					
19:00	0	0					
20:00	0	0					
21:00	0	0					

Hours Met :		0 hours	0 hours	0 hours	0 hours	0 hours
Volume Requirements:	MAJOR:	500	750	400	600	
	MINOR:	150	100	120	80	

WARRANT 1 Yes **No**

Warrant 1 is met if any of the following Conditions are met:

- Condition A (MINIMUM VEHICULAR VOLUME) Yes No
- Condition B (INTERUPTION OF COTINUOUS TRAFFIC) Yes No
- Condition A/B (COMBINATION OF WARRANTS) 0 hours Yes No

NOT APPLICABLE (SRA)

WARRANT 2 (FOUR-HOUR VOLUME) Yes No

WARRANT 3 (PEAK-HOUR VOLUME) Yes No

WARRANT 4 (PEDESTRIAN VOLUME) Yes No

WARRANT 5 (SCHOOL CROSSING) Yes No

WARRANT 6 (COORDINATED SIGNAL SYSTEM) Yes No

WARRANT 7 (ACCIDENT EXPERIENCE) Yes No

	2006	2007	2008	2009	2010
TOTAL NUMBER OF ACCIDENTS:	1	2	1	0	0
NUMBER CORRECTABLE ACCIDENTS:					
TRIED LESS RESTRICTIVE METHODS?					
ARE VOLUME REQUIREMENTS MET?			NO		

WARRANT 8 (ROADWAY NETWORK) Yes No

WARRANT 9 (Intersection Near a Grade Crossing) Yes No

STOP OR YIELD CONTROLLED LEG WITH GRADE CROSSING: NORTH

D (clear storage distance) =

	#	%	Adj. Factor
RAIL TRAFFIC PER DAY =			
HIGH OCCUPANCY BUSSES PER HOUR =			
TRUCKS PER HOUR =			
OVERALL ADJUSTMENT FACTOR =			

Review Information

Counts Used : 12 HOUR - 2040 PROJECTION

Count Date(s) : 5/10/12 - AM 5/9/12 - PM

Date Reviewed : May 22, 2012

Reviewed By : DJD

Comments

2012 - 12 HOUR COUNTS PROJECTED TO FUTURE YEAR 2040 USING PROVIDED GROWTH RATES.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

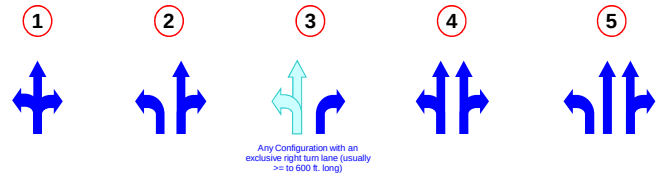
RIGHT TURN FACTORIZATION SHEET

INTERSECTION: **US 30 & BLACKBERRY**

MUNICIPALITY: **MONTGOMERY** COUNTY: **Kane**

DIR	HOUR BEGIN	MINOR STREET STREET NAME: BLACKBERRY CONFIG. #: 3 VOLUMES L LEFT	T THROUGH	R RIGHT	A TOTAL	CRITICAL MAINLINE APPROACH VOLUME PER LANE	BASE RIGHT TURN REDUCTION %	MAINLINE CONGESTION FACTOR %	ADJUSTED RIGHT TURN REDUCTION %	ADJUSTED RIGHT TURNS	ADJUSTED MINOR STREET VOLUMES
S	6:00	23	0	8	**31**	414	75%	5%	70%	2	**25**
S	7:00	16	0	1	**17**	674	75%	15%	60%	0	**16**
S	8:00	10	0	6	**16**	623	75%	15%	60%	2	**12**
S	9:00	19	0	4	**23**	603	75%	15%	60%	2	**21**
S	10:00	21	0	3	**24**	602	75%	15%	60%	1	**22**
S	11:00	14	0	2	**16**	764	75%	20%	55%	1	**15**
S	12:00	12	0	5	**17**	724	75%	20%	55%	2	**14**
S	13:00	5	0	2	**7**	707	75%	20%	55%	1	**6**
S	14:00	12	0	5	**17**	867	75%	25%	50%	3	**15**
S	15:00	12	0	4	**16**	1438	75%	55%	20%	3	**15**
S	16:00	9	0	3	**12**	1464	75%	55%	20%	2	**11**
S	17:00	21	0	7	**28**	1548	75%	55%	20%	6	**27**
	18:00										
	19:00										
	20:00										
	21:00										

Lane Configurations



LEFT	THROUGH	RIGHT	TOTAL (A)	.7A	.35A	3T	T/3	(T+L)	(T+R)	3R	3L	T/2	T/4	BASE REDUCTION
23	0	8	31	21.7	10.9	0	0	23	8	24	69	0	0	75%
16	0	1	17	11.9	5.95	0	0	16	1	3	48	0	0	75%
10	0	6	16	11.2	5.6	0	0	10	6	18	30	0	0	75%
19	0	4	23	16.1	8.05	0	0	19	4	12	57	0	0	75%
21	0	3	24	16.8	8.4	0	0	21	3	9	63	0	0	75%
14	0	2	16	11.2	5.6	0	0	14	2	6	42	0	0	75%
12	0	5	17	11.9	5.95	0	0	12	5	15	36	0	0	75%
5	0	2	7	4.9	2.45	0	0	5	2	6	15	0	0	75%
12	0	5	17	11.9	5.95	0	0	12	5	15	36	0	0	75%
12	0	4	16	11.2	5.6	0	0	12	4	12	36	0	0	75%
9	0	3	12	8.4	4.2	0	0	9	3	9	27	0	0	75%
21	0	7	28	19.6	9.8	0	0	21	7	21	63	0	0	75%

MAINLINE CONGESTION FACTORS	
VOLUMES	FACTOR (%)
0-399	0
400-499	5
500-599	10
600-699	15
700-799	20
800-899	25
900-999	30
1000-1099	35
1100-1199	40
1200-1299	45
1300-1399	50
1400-1499	55

REVIEW INFORMATION

COUNTS USED: 12 HOUR - 2040 PROJECTION

COUNT DATE(S): 5/10/2012 - AM 5/9/2012 - PM

DATE REVIEWED:

REVIEWED BY:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT #1, BUREAU OF TRAFFIC

SUMMARY OF TRAFFIC SURVEY

INTERSECTION: **US 30 & BLACKBERRY**
MUNICIPALITY: **MONTGOMERY**
COUNTY: **Kane**

2040 - VOLUME PROJECTIONS

	TRAFFIC FROM NORTH				TRAFFIC FROM SOUTH					TRAFFIC FROM EAST				TRAFFIC FROM WEST					
ROUTE :	BLACKBERRY ☐ SRA				☐ SRA					US 30 ☑ SRA				US 30 ☑ SRA					
	N. OF : US 30 GOING				S. OF : GOING					E. OF : BLACKBERRY GOING				W. OF : BLACKBERRY GOING					
START HOUR	EAST	SOUTH	WEST	TOTAL	WEST	NORTH	EAST	TOTAL	TOTAL NORTH AND SOUTH	SOUTH	WEST	NORTH	TOTAL	NORTH	EAST	SOUTH	TOTAL	TOTAL EAST AND WEST	GRAND TOTAL
6:00	23	0	8	**31**	0	0	0	**0**	31	0	410	4	**414**	4	1411	0	**1415**	1829	**1860**
7:00	16	0	1	**17**	0	0	0	**0**	17	0	670	4	**674**	0	1295	0	**1295**	1969	**1986**
8:00	10	0	6	**16**	0	0	0	**0**	16	0	614	9	**623**	2	1190	0	**1192**	1815	**1831**
9:00	19	0	4	**23**	0	0	0	**0**	23	0	591	12	**603**	4	835	0	**839**	1442	**1465**
10:00	21	0	3	**24**	0	0	0	**0**	24	0	591	11	**602**	1	752	0	**753**	1355	**1379**
11:00	14	0	2	**16**	0	0	0	**0**	16	0	749	15	**764**	6	767	0	**773**	1537	**1553**
12:00	12	0	5	**17**	0	0	0	**0**	17	0	703	21	**724**	5	776	0	**781**	1505	**1522**
13:00	5	0	2	**7**	0	0	0	**0**	7	0	698	9	**707**	2	698	0	**700**	1407	**1414**
14:00	12	0	5	**17**	0	0	0	**0**	17	0	865	2	**867**	2	836	0	**838**	1705	**1722**
15:00	12	0	4	**16**	0	0	0	**0**	16	0	1422	16	**1438**	6	996	0	**1002**	2440	**2456**
16:00	9	0	3	**12**	0	0	0	**0**	12	0	1439	25	**1464**	6	1088	0	**1094**	2558	**2570**
17:00	21	0	7	**28**	0	0	0	**0**	28	0	1525	23	**1548**	5	1052	0	**1057**	2605	**2633**
18:00																			
19:00																			
20:00																			
21:00																			

REVIEW INFORMATION

COUNTS USED: 12 HOUR - 2040 PROJECTION
COUNT DATE(S): 05/10/12 - AM 05/09/12 - PM
DATE REVIEWED: May 22, 2012
REVIEWED BY: DJD

SIGNAL WARRANT REVIEW SHEET

DISTRICT #1

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA : US 30

Yes No

Intersection: US 30 & HORSEMEN TR.

County: Kane

Municipality: MONTGOMERY

Speed Limit of Major Route: 50 mph

Isolated Community with Population < 10,000: N

Number of Lanes on Major approach: 2

Number of Lanes on Minor approach: 2

HOUR BEGIN	Major Street Volume *(both approaches)*	Adj. Minor Street Volume *(higher volume approach)*	CHECK ANY HOURS WHICH MEET THE FOLLOWING WARRANTS: WARRANT 1 A 100%	WARRANT 1 B 100%	WARRANT 7: 8 hrs of one of the Following: 80% of A	80% of B	80% of Warr #4
6:00	2013	72					
7:00	2799	162	X	X	X	X	
8:00	2270	113		X		X	
9:00	1738	61					
10:00	1704	67					
11:00	1899	66					
12:00	1973	92				X	
13:00	2000	59					
14:00	2300	102		X		X	
15:00	2992	142		X	X	X	
16:00	3184	171	X	X	X	X	
17:00	3277	156	X	X	X	X	
18:00	0	0					
19:00	0	0					
20:00	0	0					
21:00	0	0					

Hours Met :		3 hours	6 hours	4 hours	7 hours	0 hours
Volume Requirements:	MAJOR:	500	750	400	600	
	MINOR:	150	100	120	80	

WARRANT 1 Yes **No**

Warrant 1 is met if any of the following Conditions are met:

- Condition A (MINIMUM VEHICULAR VOLUME) Yes No
- Condition B (INTERUPTION OF COTINUOUS TRAFFIC) Yes No
- Condition A/B (COMBINATION OF WARRANTS) 0 hours Yes No

NOT APPLICABLE (SRA)

WARRANT 2 (FOUR-HOUR VOLUME) Yes No

WARRANT 3 (PEAK-HOUR VOLUME) Yes No

WARRANT 4 (PEDESTRIAN VOLUME) Yes No

WARRANT 5 (SCHOOL CROSSING) Yes No

WARRANT 6 (COORDINATED SIGNAL SYSTEM) Yes No

WARRANT 7 (ACCIDENT EXPERIENCE) Yes No

	2006	2007	2008	2009	2010
TOTAL NUMBER OF ACCIDENTS:	9	9	7	4	9
NUMBER CORRECTABLE ACCIDENTS:					
TRIED LESS RESTRICTIVE METHODS?					
ARE VOLUME REQUIREMENTS MET?			NO		

WARRANT 8 (ROADWAY NETWORK) Yes No

WARRANT 9 (Intersection Near a Grade Crossing) Yes No

STOP OR YIELD CONTROLLED LEG WITH GRADE CROSSING: NORTH

D (clear storage distance) =

	#	%	Adj. Factor
RAIL TRAFFIC PER DAY =			
HIGH OCCUPANCY BUSSES PER HOUR =			
TRUCKS PER HOUR =			
OVERALL ADJUSTMENT FACTOR =			

Review Information

Counts Used : 12 HOUR - 2040 PROJECTION

Count Date(s) : 5/16/12 - AM 5/15/12 - PM

Date Reviewed : May 22, 2012

Reviewed By : DJD

Comments

2012 - 12 HOUR COUNTS PROJECTED TO FUTURE YEAR 2040 USING PROVIDED GROWTH RATES.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

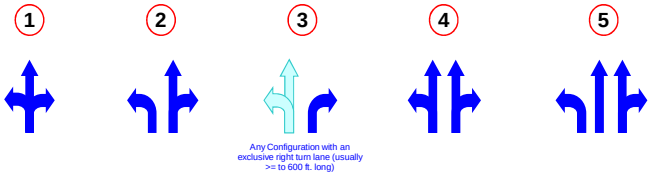
RIGHT TURN FACTORIZATION SHEET

INTERSECTION: **US 30 & HORSEMEN TR.**

MUNICIPALITY: **MONTGOMERY** COUNTY: **Kane**

DIR	HOUR BEGIN	MINOR STREET STREET NAME: HORSEMEN TRA CONFIG. #: 3 VOLUMES L LEFT	T THROUGH	R RIGHT	A TOTAL	CRITICAL MAINLINE APPROACH VOLUME PER LANE	BASE RIGHT TURN REDUCTION %	MAINLINE CONGESTION FACTOR %	ADJUSTED RIGHT TURN REDUCTION %	ADJUSTED RIGHT TURNS	ADJUSTED MINOR STREET VOLUMES
N	6:00	0	0	103	**103**	1234	75%	45%	30%	72	**72**
N	7:00	0	0	202	**202**	1724	75%	55%	20%	162	**162**
N	8:00	0	0	151	**151**	1315	75%	50%	25%	113	**113**
N	9:00	0	0	122	**122**	897	75%	25%	50%	61	**61**
N	10:00	0	0	134	**134**	830	75%	25%	50%	67	**67**
N	11:00	0	0	132	**132**	881	75%	25%	50%	66	**66**
N	12:00	0	0	183	**183**	883	75%	25%	50%	92	**92**
N	13:00	0	0	118	**118**	890	75%	25%	50%	59	**59**
N	14:00	0	0	185	**185**	926	75%	30%	45%	102	**102**
N	15:00	0	0	218	**218**	1138	75%	40%	35%	142	**142**
N	16:00	0	0	244	**244**	1279	75%	45%	30%	171	**171**
N	17:00	0	0	208	**208**	1308	75%	50%	25%	156	**156**
	18:00										
	19:00										
	20:00										
	21:00										

Lane Configurations



LEFT	THROUGH	RIGHT	TOTAL (A)	.7A	.35A	3T	T/3	(T+L)	(T+R)	3R	3L	T/2	T/4	BASE REDUCTION
0	0	103	103	72.1	36.1	0	0	0	103	309	0	0	0	75%
0	0	202	202	141	70.7	0	0	0	202	606	0	0	0	75%
0	0	151	151	106	52.9	0	0	0	151	453	0	0	0	75%
0	0	122	122	85.4	42.7	0	0	0	122	366	0	0	0	75%
0	0	134	134	93.8	46.9	0	0	0	134	402	0	0	0	75%
0	0	132	132	92.4	46.2	0	0	0	132	396	0	0	0	75%
0	0	183	183	128	64.1	0	0	0	183	549	0	0	0	75%
0	0	118	118	82.6	41.3	0	0	0	118	354	0	0	0	75%
0	0	185	185	130	64.8	0	0	0	185	555	0	0	0	75%
0	0	218	218	153	76.3	0	0	0	218	654	0	0	0	75%
0	0	244	244	171	85.4	0	0	0	244	732	0	0	0	75%
0	0	208	208	146	72.8	0	0	0	208	624	0	0	0	75%

MAINLINE CONGESTION FACTORS	
VOLUMES	FACTOR (%)
0-399	0
400-499	5
500-599	10
600-699	15
700-799	20
800-899	25
900-999	30
1000-1099	35
1100-1199	40
1200-1299	45
1300-1399	50
1400-1499	55

REVIEW INFORMATION

COUNTS USED: 12 HOUR - 2040 PROJECTION

COUNT DATE(S): 5/16/2012 - AM 5/15/2012 - PM

DATE REVIEWED:

REVIEWED BY:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT #1, BUREAU OF TRAFFIC

SUMMARY OF TRAFFIC SURVEY

INTERSECTION: **US 30 & HORSEMEN TR.**
MUNICIPALITY: **MONTGOMERY**
COUNTY: **Kane**

2040 - VOLUME PROJECTIONS

	TRAFFIC FROM NORTH				TRAFFIC FROM SOUTH					TRAFFIC FROM EAST				TRAFFIC FROM WEST					
ROUTE :				☐ SRA	HORSEMEN TRAIL			☐ SRA		US 30			☑ SRA	US 30			☑ SRA		
	N. OF :				S. OF : US 30					E. OF : HORSEMEN TRAIL				W. OF : HORSEMEN TRAIL					
	GOING				GOING					GOING				GOING					
START HOUR	EAST	SOUTH	WEST	TOTAL	WEST	NORTH	EAST	TOTAL	TOTAL NORTH AND SOUTH	SOUTH	WEST	NORTH	TOTAL	NORTH	EAST	SOUTH	TOTAL	TOTAL EAST AND WEST	GRAND TOTAL
6:00	0	0	0	**0**	0	0	103	**103**	103	70	673	0	**743**	0	1234	36	**1270**	2013	**2116**
7:00	0	0	0	**0**	0	0	202	**202**	202	110	920	0	**1030**	0	1724	45	**1769**	2799	**3001**
8:00	0	0	0	**0**	0	0	151	**151**	151	76	805	0	**881**	0	1315	74	**1389**	2270	**2421**
9:00	0	0	0	**0**	0	0	122	**122**	122	95	668	0	**763**	0	897	78	**975**	1738	**1860**
10:00	0	0	0	**0**	0	0	134	**134**	134	89	702	0	**791**	0	830	83	**913**	1704	**1838**
11:00	0	0	0	**0**	0	0	132	**132**	132	95	834	0	**929**	0	881	89	**970**	1899	**2031**
12:00	0	0	0	**0**	0	0	183	**183**	183	132	847	0	**979**	0	883	111	**994**	1973	**2156**
13:00	0	0	0	**0**	0	0	118	**118**	118	121	898	0	**1019**	0	890	91	**981**	2000	**2118**
14:00	0	0	0	**0**	0	0	185	**185**	185	153	1133	0	**1286**	0	926	88	**1014**	2300	**2485**
15:00	0	0	0	**0**	0	0	218	**218**	218	197	1556	0	**1753**	0	1138	101	**1239**	2992	**3210**
16:00	0	0	0	**0**	0	0	244	**244**	244	237	1544	0	**1781**	0	1279	124	**1403**	3184	**3428**
17:00	0	0	0	**0**	0	0	208	**208**	208	237	1578	0	**1815**	0	1308	154	**1462**	3277	**3485**
18:00																			
19:00																			
20:00																			
21:00																			

REVIEW INFORMATION

COUNTS USED: 12 HOUR - 2040 PROJECTION
COUNT DATE(S): 05/16/12 - AM 05/15/12 - PM
DATE REVIEWED: May 22, 2012
REVIEWED BY: DJD

SIGNAL WARRANT REVIEW SHEET

DISTRICT #1

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA : US 30

Yes No

Intersection: US 30 & BASELINE CONN.

County: Kane

Municipality: MONTGOMERY

Speed Limit of Major Route: 50 mph

Isolated Community with Population < 10,000: N

Number of Lanes on Major approach: 2

Number of Lanes on Minor approach: 2

HOUR BEGIN	Major Street Volume *(both approaches)*	Adj. Minor Street Volume *(higher volume approach)*	CHECK ANY HOURS WHICH MEET THE FOLLOWING WARRANTS: WARRANT 1 A 100%	WARRANT 1 B 100%	WARRANT 7: 8 hrs of one of the Following: 80% of A	80% of B	80% of Warr #4
6:00	1869	0					
7:00	2650	18					
8:00	2093	29					
9:00	1571	17					
10:00	1536	26					
11:00	1695	31					
12:00	1777	21					
13:00	1765	29					
14:00	2064	19					
15:00	2666	74					
16:00	2852	69					
17:00	2874	69					
18:00	0	0					
19:00	0	0					
20:00	0	0					
21:00	0	0					

Hours Met :		0 hours	0 hours	0 hours	0 hours	0 hours
Volume Requirements:	MAJOR:	500	750	400	600	
	MINOR:	150	100	120	80	

WARRANT 1 Yes **No**

Warrant 1 is met if any of the following Conditions are met:

- Condition A (MINIMUM VEHICULAR VOLUME) Yes No
- Condition B (INTERUPTION OF COTINUOUS TRAFFIC) Yes No
- Condition A/B (COMBINATION OF WARRANTS) 0 hours Yes No

NOT APPLICABLE (SRA)

WARRANT 2 (FOUR-HOUR VOLUME) Yes No

WARRANT 3 (PEAK-HOUR VOLUME) Yes No

WARRANT 4 (PEDESTRIAN VOLUME) Yes No

WARRANT 5 (SCHOOL CROSSING) Yes No

WARRANT 6 (COORDINATED SIGNAL SYSTEM) Yes No

WARRANT 7 (ACCIDENT EXPERIENCE) Yes No

	2006	2007	2008	2009	2010
TOTAL NUMBER OF ACCIDENTS:	9	9	7	4	9
NUMBER CORRECTABLE ACCIDENTS:					
TRIED LESS RESTRICTIVE METHODS?					
ARE VOLUME REQUIREMENTS MET?			NO		

WARRANT 8 (ROADWAY NETWORK) Yes No

WARRANT 9 (Intersection Near a Grade Crossing) Yes No

STOP OR YIELD CONTROLLED LEG WITH GRADE CROSSING: NORTH

D (clear storage distance) =

	#	%	Adj. Factor
RAIL TRAFFIC PER DAY =			
HIGH OCCUPANCY BUSSES PER HOUR =			
TRUCKS PER HOUR =			

OVERALL ADJUSTMENT FACTOR =

Review Information

Counts Used : 12 HOUR - 2040 PROJECTION

Count Date(s) : 5/16/12 - AM 5/15/12 - PM

Date Reviewed : May 22, 2012

Reviewed By : DJD

Comments

2012 - 12 HOUR COUNTS PROJECTED TO FUTURE YEAR 2040 USING PROVIDED GROWTH RATES.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

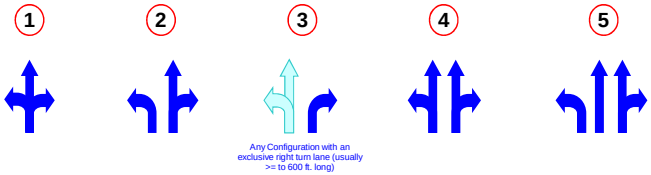
RIGHT TURN FACTORIZATION SHEET

INTERSECTION: **US 30 & BASELINE CONN.**

MUNICIPALITY: **MONTGOMERY** COUNTY: **Kane**

DIR	HOUR BEGIN	MINOR STREET STREET NAME: BASELINE CONN CONFIG. #: 3 VOLUMES L LEFT	T THROUGH	R RIGHT	A TOTAL	CRITICAL MAINLINE APPROACH VOLUME PER LANE	BASE RIGHT TURN REDUCTION %	MAINLINE CONGESTION FACTOR %	ADJUSTED RIGHT TURN REDUCTION %	ADJUSTED RIGHT TURNS	ADJUSTED MINOR STREET VOLUMES
N	6:00	0	0	0	**0**	1249	75%	45%	30%	0	**0**
N	7:00	0	0	22	**22**	1795	75%	55%	20%	18	**18**
N	8:00	0	0	39	**39**	1354	75%	50%	25%	29	**29**
N	9:00	0	0	31	**31**	945	75%	30%	45%	17	**17**
N	10:00	0	0	52	**52**	868	75%	25%	50%	26	**26**
N	11:00	0	0	57	**57**	930	75%	30%	45%	31	**31**
N	12:00	0	0	39	**39**	964	75%	30%	45%	21	**21**
N	13:00	0	0	52	**52**	931	75%	30%	45%	29	**29**
N	14:00	0	0	31	**31**	1000	75%	35%	40%	19	**19**
N	15:00	0	0	105	**105**	1222	75%	45%	30%	74	**74**
N	16:00	0	0	92	**92**	1379	75%	50%	25%	69	**69**
N	17:00	0	0	92	**92**	1391	75%	50%	25%	69	**69**
	18:00										
	19:00										
	20:00										
	21:00										

Lane Configurations



LEFT	THROUGH	RIGHT	TOTAL (A)	.7A	.35A	3T	T/3	(T+L)	(T+R)	3R	3L	T/2	T/4	BASE REDUCTION
0	0	0	0	0	0	0	0	0	0	0	0	0	0	75%
0	0	22	22	15.4	7.7	0	0	0	22	66	0	0	0	75%
0	0	39	39	27.3	13.7	0	0	0	39	117	0	0	0	75%
0	0	31	31	21.7	10.9	0	0	0	31	93	0	0	0	75%
0	0	52	52	36.4	18.2	0	0	0	52	156	0	0	0	75%
0	0	57	57	39.9	20	0	0	0	57	171	0	0	0	75%
0	0	39	39	27.3	13.7	0	0	0	39	117	0	0	0	75%
0	0	52	52	36.4	18.2	0	0	0	52	156	0	0	0	75%
0	0	31	31	21.7	10.9	0	0	0	31	93	0	0	0	75%
0	0	105	105	73.5	36.8	0	0	0	105	315	0	0	0	75%
0	0	92	92	64.4	32.2	0	0	0	92	276	0	0	0	75%
0	0	92	92	64.4	32.2	0	0	0	92	276	0	0	0	75%

MAINLINE CONGESTION FACTORS	
VOLUMES	FACTOR (%)
0-399	0
400-499	5
500-599	10
600-699	15
700-799	20
800-899	25
900-999	30
1000-1099	35
1100-1199	40
1200-1299	45
1300-1399	50
1400-1499	55

REVIEW INFORMATION

COUNTS USED: 12 HOUR - 2040 PROJECTION

COUNT DATE(S): 5/16/2012 - AM 5/15/2012 - PM

DATE REVIEWED:

REVIEWED BY:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT #1, BUREAU OF TRAFFIC

SUMMARY OF TRAFFIC SURVEY

INTERSECTION: **US 30 & BASELINE CONN.**
MUNICIPALITY: **MONTGOMERY**
COUNTY: **Kane**

2040 - VOLUME PROJECTIONS

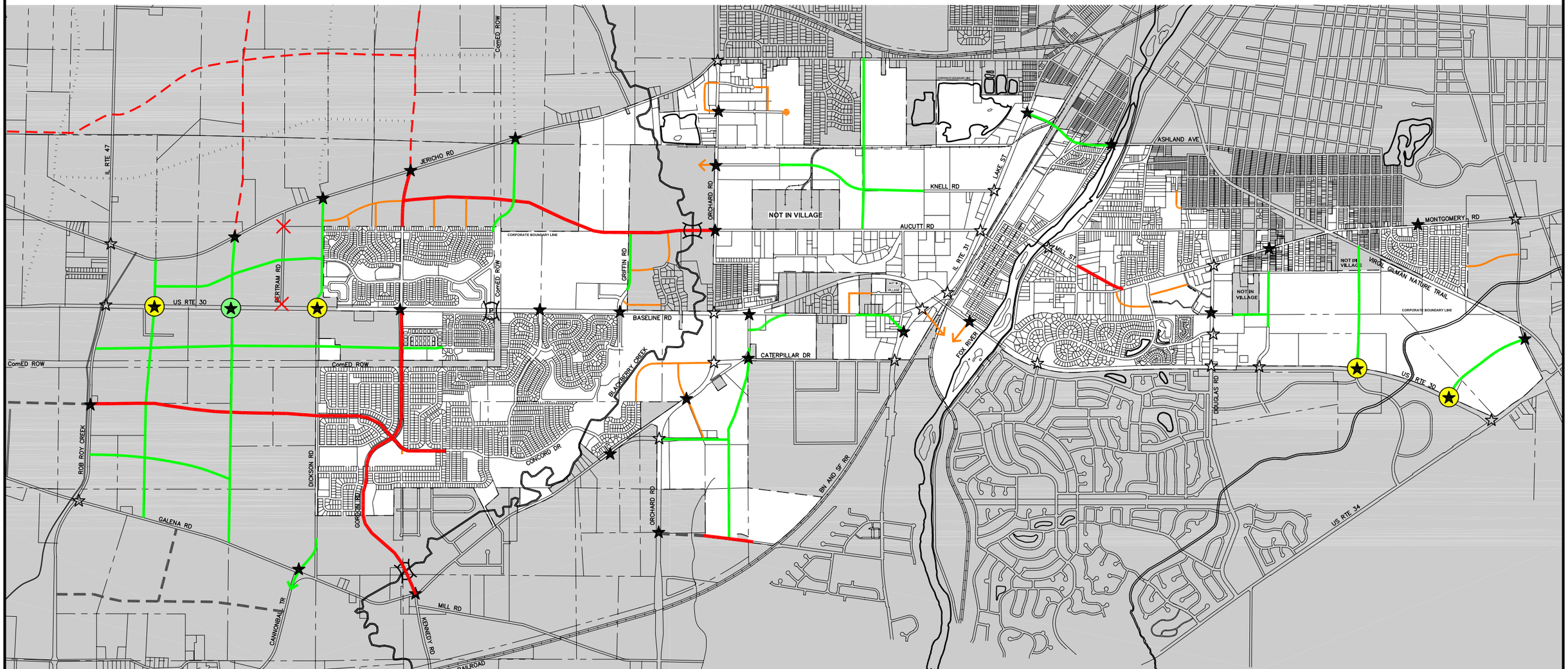
	TRAFFIC FROM NORTH				TRAFFIC FROM SOUTH					TRAFFIC FROM EAST				TRAFFIC FROM WEST					
ROUTE :				☐ SRA	BASELINE CONNECTOR			☐ SRA		US 30			☑ SRA	US 30			☑ SRA		
	N. OF :				S. OF : US 30					E. OF : BASELINE CONNECTOR				W. OF : BASELINE CONNECTOR					
	GOING				GOING					GOING				GOING					
START HOUR	EAST	SOUTH	WEST	TOTAL	WEST	NORTH	EAST	TOTAL	TOTAL NORTH AND SOUTH	SOUTH	WEST	NORTH	TOTAL	NORTH	EAST	SOUTH	TOTAL	TOTAL EAST AND WEST	GRAND TOTAL
6:00	0	0	0	**0**	0	0	0	**0**	0	0	595	0	**595**	0	1249	25	**1274**	1869	**1869**
7:00	0	0	0	**0**	0	0	22	**22**	22	0	824	0	**824**	0	1795	31	**1826**	2650	**2672**
8:00	0	0	0	**0**	0	0	39	**39**	39	0	706	0	**706**	0	1354	33	**1387**	2093	**2132**
9:00	0	0	0	**0**	0	0	31	**31**	31	0	611	0	**611**	0	945	15	**960**	1571	**1602**
10:00	0	0	0	**0**	0	0	52	**52**	52	0	633	0	**633**	0	868	35	**903**	1536	**1588**
11:00	0	0	0	**0**	0	0	57	**57**	57	0	744	0	**744**	0	930	21	**951**	1695	**1752**
12:00	0	0	0	**0**	0	0	39	**39**	39	0	787	0	**787**	0	964	26	**990**	1777	**1816**
13:00	0	0	0	**0**	0	0	52	**52**	52	0	815	0	**815**	0	931	19	**950**	1765	**1817**
14:00	0	0	0	**0**	0	0	31	**31**	31	0	1030	0	**1030**	0	1000	34	**1034**	2064	**2095**
15:00	0	0	0	**0**	0	0	105	**105**	105	0	1403	0	**1403**	0	1222	41	**1263**	2666	**2771**
16:00	0	0	0	**0**	0	0	92	**92**	92	0	1432	0	**1432**	0	1379	41	**1420**	2852	**2944**
17:00	0	0	0	**0**	0	0	92	**92**	92	0	1453	0	**1453**	0	1391	30	**1421**	2874	**2966**
18:00																			
19:00																			
20:00																			
21:00																			

REVIEW INFORMATION

COUNTS USED: 12 HOUR - 2040 PROJECTION
COUNT DATE(S): 05/16/12 - AM 05/15/12 - PM
DATE REVIEWED: May 22, 2012
REVIEWED BY: DJD

VILLAGE OF MONTGOMERY TRANSPORTATION PLAN

Appendix C



LEGEND

- PROPOSED MAJOR COLLECTOR RD
- PROPOSED MINOR COLLECTOR RD
- PROPOSED LOCAL RD
- OUTSIDE OF PLANNING AREA
- ACCESS POINT APPROVED BY IDOT
- PROPOSED ACCESS POINT
- ROAD CLOSURE
- EXISTING TRAFFIC SIGNAL
- POTENTIAL TRAFFIC SIGNAL
- PROPOSED BRIDGE
- PROPOSED PEDESTRIAN BRIDGE
- VILLAGE OF MONTGOMERY

EXHIBIT 1
TRANSPORTATION AND ACCESS PLAN

JANUARY 2004

NORTH

1500' 0' 1500' 3000'
SCALE FEET

Engineering Enterprises, Inc.
Consulting Engineers
52 Wheeler Road
Sugar Grove, Illinois 60554 630/466-9350

COPYRIGHT © 2004 ENGINEERING ENTERPRISES, INC.

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U.S. 30
Illinois 47 to Illinois 31
P-91-403-11

TRAFFIC SIGNAL WARRANTS STUDY
(SUPPLEMENT – ORCHARD ROAD AT COUNTRYSIDE AVENUE)

Prepared By:

Hutchison Engineering, Inc.

January 9, 2015

TABLE OF CONTENTS

SECTION 1 –EXISTING CONDITONS 1
SECTION 2 – SIGNAL WARRANT DETERMINATION PROCEDURES 3
3.1 DATA COLLECTION 3
3.2 RIGHT TURN FACTORIZATION 3
3.3 SIGNAL WARRANT PROCEDURES 4
SECTION 3 – STUDY CONCLUSIONS 5
APPENDIX 6

Hutchison Engineering, Inc.

TECHNICAL MEMORANDUM

January 9, 2015

U.S. 30 Traffic Signal Warrants Study From IL 47 to IL 31 - Supplement

The purpose of this supplemental study was to evaluate existing and projected future traffic conditions at the intersection of Orchard Road and Countryside Drive to determine traffic signal warrants. As part of the proposed improvements on US 30, southbound dual left turn lanes are proposed at the US 30 and Orchard Road intersection. Due to the installation of the dual lefts a raised median will extend across Brentwood Avenue located approximetelty 375 feet north of US 30. With the installation of the median all southbound traffic that turns left at Brentwood Avenue and westbound traffic turning south from Brentwood will utilize Countryside Drive.

SECTION 1

EXISTING CONDITIONS

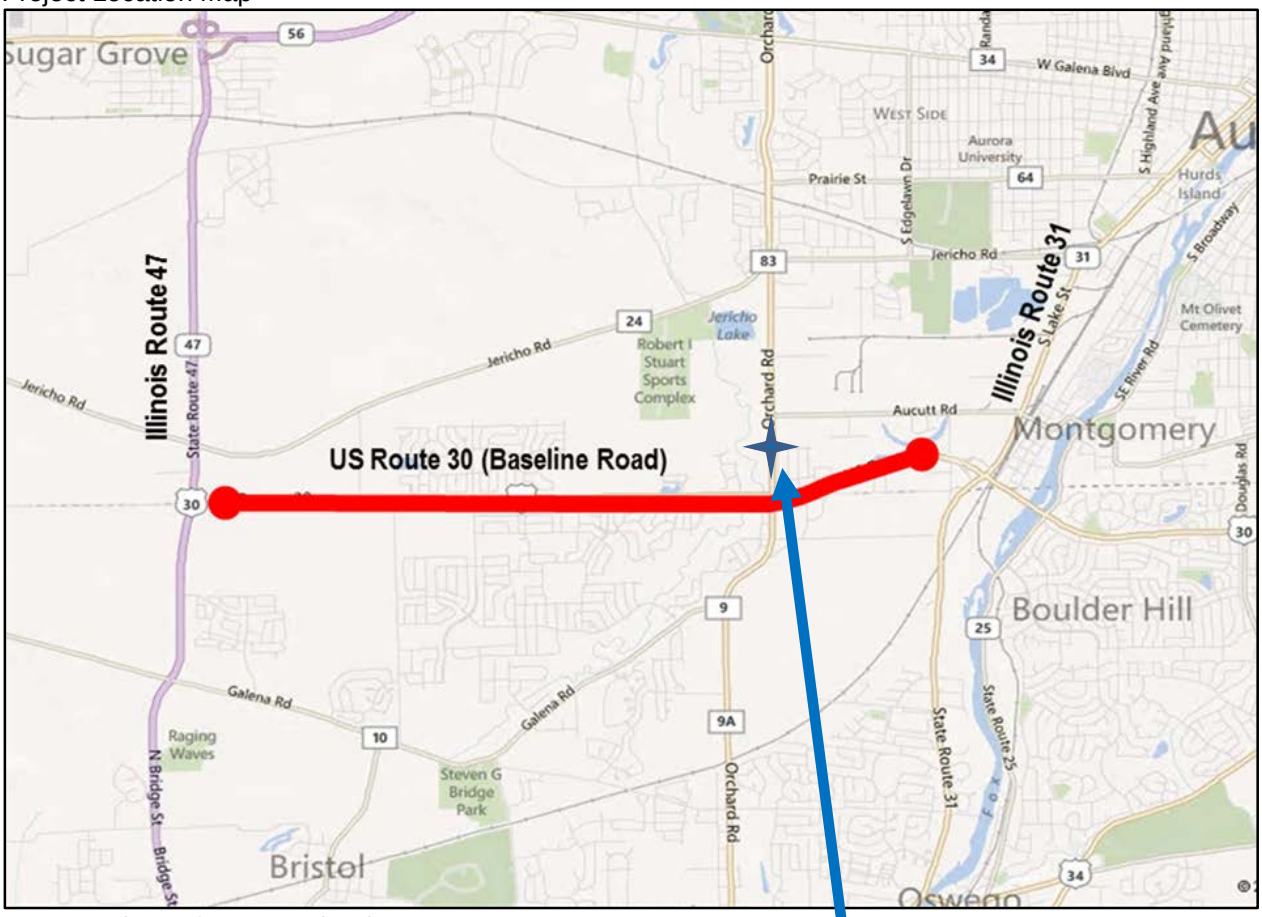
The Orchard Road and Countryside Drive intersection is located approximately 1,500 feet north of US 30. See Figure 1 on page 2 for Project Location Map.

The intersection is a three-legged intersection with stop control on Countryside Drive. It is currently one of two full access intersections serving the residential subdivision located on the east side of Orchard Road. Orchard Road is a Strategic Regional Arterial has two lanes in each direction. At the intersection there is a southbound left turn lane and a northbound right turn lane. Countryside Drive is a local street and has one lane in each direction with no turn lanes.

The posted speed limit of US 30 is 45 mph from IL 47 to Orchard Road.

FIGURE 1

Project Location Map



Source: Microsoft Corporation / NAVTEQ

ORCHARD ROAD &
COUNTRYSIDE DRIVE

SECTION 2

SIGNAL WARRANT DETERMINATION PROCEDURES

2.1 DATA COLLECTION

Intersection geometry, speed limit data and traffic count data were obtained at the study corridor on December 12 and 14, 2014. Traffic was counted for a 12-hour period between 6 AM and 6 PM. Turning movement counts were collected for all of the intersections.

Crash history was collected for a five year period from 2009 to 2012.

Traffic Count and Crash summaries for each intersection are included in Appendix A.

2.2 RIGHT TURN FACTORIZATION

Following compilation of traffic count data, it was determined which leg on at the minor street, has the greatest volume. If the volumes were approximately equal then the leg with the least number of right turning vehicles was used for analysis.

The “RIGHT TURN FACTORIZATION SHEET” was utilized to determine the appropriate right turn factor.

Utilizing the worksheet the lane configuration of the minor leg being studied was selected and the appropriate minor street volumes were recorded under the left, through, right, total columns with selected direction for each hour.

The number of lanes on the critical mainline approach was noted. The Critical Mainline Approach is the major street leg whose through movement is in conflict with the right-tum from the minor leg.

The Critical Mainline Approach Volume per Lane was then calculated. This is the hourly through volume of the critical mainline approach divided by the number of through lanes on that approach plus the hourly right-turning volume if it is not served by an exclusive right-tum lane on the mainline approach (right turns were excluded if there is an exclusive right-turn lane on the mainline approach).

After determining which lane configuration best represented the leg that is being studied and based on the movements for each hour, the Base Reduction for each hour was determined.

The Mainline Congestion Factor was then selected. This is a reduction of the Base Right Turn Reduction. Its purpose is to allow for the vehicles which are unable to tum right

during exceedingly high volume on the major street. This reduction is 5% for mainline approach volumes of 400 vehicles per hour per lane, and is increased by 5% for every 100 vehicles per hour per lane.

The Adjusted Right Tum Reduction was then calculated and used to determine the Adjusted Right Turns.

Finally the new Adjusted Minor Street Volumes were determined by adding the Adjusted Right Turns to the Through, and Left Tum volumes for each hour.

2.3 SIGNAL WARRANT PROCEDURES

"SIGNAL WARRANT REVIEW SHEETS" were utilized to analyze and summarize the warrant analysis. Intersections are typically analyzed utilizing eight (8) signal warrants including:

Warrant 1	Eight-Hour Vehicular Volume
Warrant 2	Four-Hour Vehicular Volume
Warrant 3	Peak Hour
Warrant 4	Pedestrian Volume
Warrant 5	School Crossing
Warrant 6	Coordinated Signal System
Warrant 7	Crash Experience
Warrant 8	Roadway Network
Warrant 9	Intersection Near a Grade Crossing

U.S. 30 is classified as a Strategic Regional Arterial in the project study area. Therefore the "SIGNAL WARRANT REVIEW SHEET" for a Strategic Regional Arterial (SRA) route was utilized to analyze signal warrants. Because U.S. 30 is an SRA the following restrictions were applied for signal warrant analysis.

- MUTCD 2009 Traffic Signal Warrants #1 (Condition A/B only - Combination of Warrants), #2, and #3 will be deleted for Strategic Regional Arterial (SRA) routes.
    - Warrant 1 (Condition A/B-Combination of Warrants) allows a traffic signal where Warrant 1 (Condition A) and Warrant 1 (Condition B) have at least 80 percent of the stated major and minor street values for the same eight hours of a typical day.
    - Warrant 2 allows a traffic signal where the four-hour vehicular volume requirements are met.
    - Warrant 3 allows a traffic signal where the peak hour volume requirement is met.
- The 70 percent factor (70% columns in Table 4C-1 of 2009 MUTCD) shall not be applied for locations where vehicle speed limits or 85th-percentile speeds exceed

40 mph or for intersections that lie within an isolated community along an SRA route.

- The minimum minor street volumes for Warrant #1 (Condition B only) shall be increased from 75 vehicles per hour to 100 for a single-lane minor approach and from 100 vehicles per hour to 150 for a two or more Jane minor approach along an SRA route. The corresponding 80% volumes for Warrant #7 are also increased accordingly, from 60 to 80 vehicles per hour for a single-lane minor approach and from 80 to 120 vehicles per hour for a two or more lane minor approach along an SRA route.

- New signal installations along SRA routes shall be spaced no less than approximately one-half mile apart on rural SRA routes, no less than approximately one-quarter mile apart (1,320 feet) on suburban SRA routes, and no less than approximately 1,000 feet apart on urban SRA routes. These spacing may be reduced to no less than 1000 feet on urban and suburban SRA routes and no less than one-quarter mile on rural SRA routes where it can be shown that it will not adversely affect signal progression. However, at no time should the spacing be less than 1,000 feet on urban and suburban SRA routes or one-quarter mile on rural SRA routes.

Signal Warrant Review Sheets for existing conditions at each intersection may be found in Appendix A.

SECTION 3

STUDY CONCLUSIONS

The traffic signal warrant analyses indicate with the change in traffic patterns Countryside Drive does not warrant traffic signals. Future development along the corridor will need to be monitored and signal warrants will need to be reevaluated as necessary.

APPENDIX

A. Traffic Signal Warrant Analysis

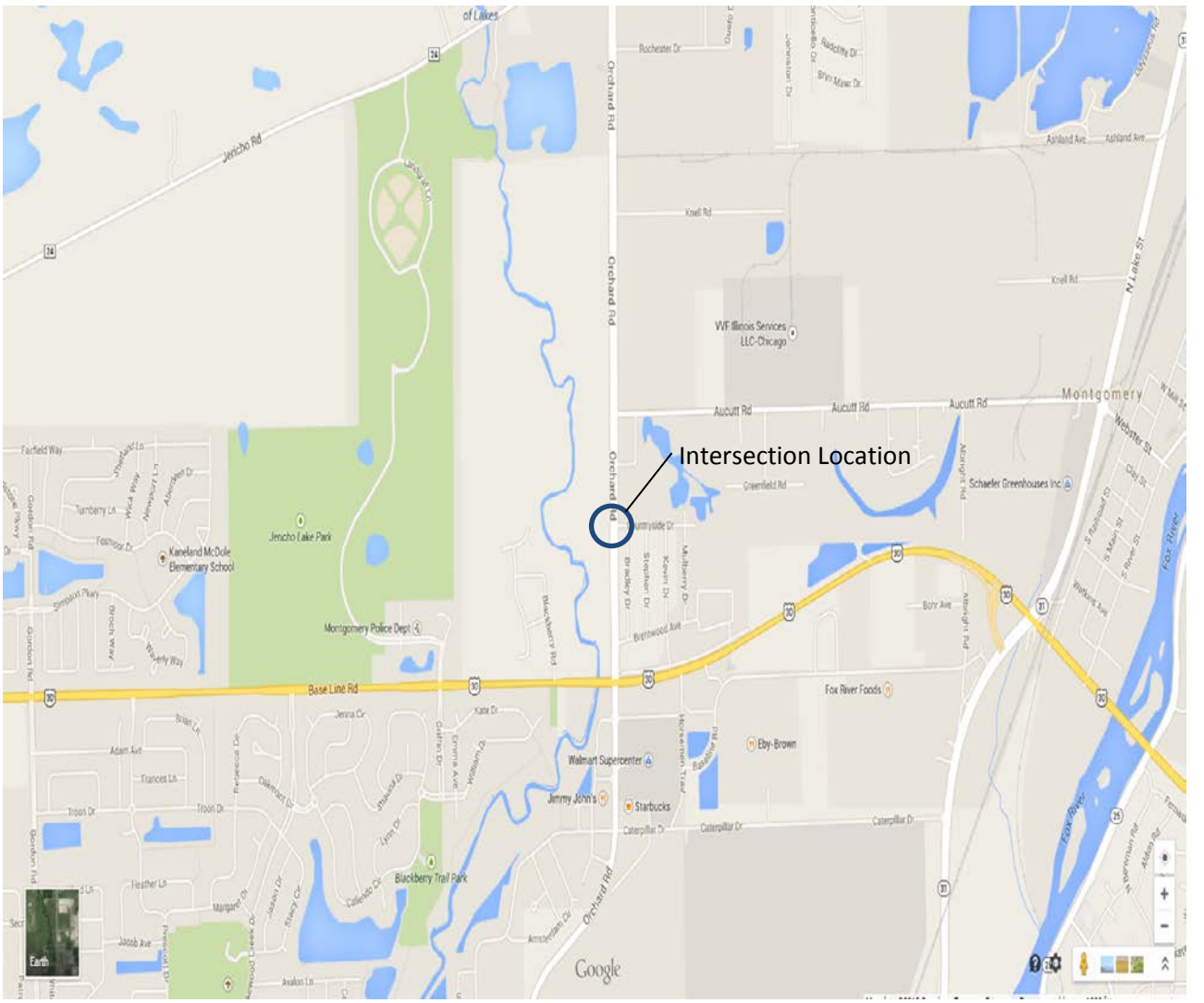
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

TRAFFIC SIGNAL STUDY PACKAGE - MUTCD

INTERSECTION : Orchard Rd. and Countryside Dr.
MUNICIPALITY: Montgomery
COUNTY: Kane
DATE: January 9, 2015

WARRANTS MET: None
COUNTS & DATE: 12 HR MANUAL COUNT, 12/12/14 (AM) + 12/10/14 (PM)
REVIEWED BY: Daniel J. Draper, Hutchison Engineering



REQUIRED CONTENTS

1. COVER SHEET
2. CONDITION DIAGRAM - N/A
3. LABELED PHOTOGRAPHS
4. TRAFFIC SIGNAL WARRANT REVIEW SHEET
5. MINOR STREET RIGHT TURN ADJUSTMENT-PAGONES THEOREM
6. ALL-MOVEMENT MANUAL TRAFFIC COUNT
7. ACCIDENT DATA PLOTTED (3 YEAR COLLISION DIAGRAM) - N/A
8. PEDESTRIAN DELAY STUDY (OPTIONAL) - N/A
9. CORRESPONDENCE / COMMENTS - N/A

Kane County **Orchard Rd. and Countryside Dr.**

Road:

Road:

SIGNAL WARRANT REVIEW SHEET

DISTRICT #1

ILLINOIS DEPARTMENT OF TRANSPORTATION

SRA : Orchard Rd.

Yes (circled) No

Intersection: Orchard Rd. & Countryside Dr.

County: Kane

Municipality: Montgomery

Speed Limit of Major Route: 45 mph

Isolated Community with Population < 10,000: N

Number of Lanes on Major approach: 3

Number of Lanes on Minor approach: 1

HOUR BEGIN	Major Street Volume *(both approaches)*	Adj. Minor Street Volume *(higher volume approach)*	CHECK ANY HOURS WHICH MEET THE FOLLOWING WARRANTS: WARRANT 1 A 100%	WARRANT 1 B 100%	WARRANT 7: 8 hrs of one of the Following: 80% of A	80% of B	80% of Warr #4
6:00	1992	55					
7:00	2557	62					
8:00	2095	49					
9:00	1509	33					
10:00	1485	51					
11:00	1795	52					
12:00	1730	21					
13:00	1935	30					
14:00	2278	48					
15:00	3214	46					
16:00	3113	44					
17:00	2514	45					
18:00	0	0					
19:00	0	0					
20:00	0	0					
21:00	0	0					

Hours Met :		0 hours	0 hours	0 hours	0 hours
Volume Requirements:	MAJOR:	600	900	480	720
	MINOR:	150	100	120	80

WARRANT 1 Yes **No**

Warrant 1 is met if any of the following Conditions are met:

- Condition A (MINIMUM VEHICULAR VOLUME) Yes No
- Condition B Yes No
- Condition A/B (COMBINATION OF WARRANTS) 0 hours Yes No

NOT APPLICABLE (SRA)

WARRANT 2 (FOUR-HOUR VOLUME) Yes No

WARRANT 3 (PEAK-HOUR VOLUME) Yes No

WARRANT 4 (PEDESTRIAN VOLUME) Yes No

WARRANT 5 (SCHOOL CROSSING) Yes No

WARRANT 6 (COORDINATED SIGNAL SYSTEM) Yes No

WARRANT 7 (ACCIDENT EXPERIENCE) Yes No

	2008	2009	2010	2011	2012
TOTAL NUMBER OF ACCIDENTS:	0	7	6	5	2
NUMBER CORRECTABLE ACCIDENTS:		2	2	1	1
TRIED LESS RESTRICTIVE METHODS?			NO		
ARE VOLUME REQUIREMENTS MET?			NO		

WARRANT 8 (ROADWAY NETWORK) Yes No

WARRANT 9 (Intersection Near a Grade Crossing) Yes No

STOP OR YIELD CONTROLLED LEG WITH GRADE CROSSING: NORTH

D (clear storage distance) =

	#	%	Adj. Factor
RAIL TRAFFIC PER DAY =			
HIGH OCCUPANCY BUSSES PER HOUR =			
TRUCKS PER HOUR =			

OVERALL ADJUSTMENT FACTOR =

Review Information

Counts Used : 12 HR MANUAL COUNT

Count Date(s) : 12/12/2014 - AM ######## - PM

Date Reviewed :

Reviewed By :

Comments

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

DISTRICT #1

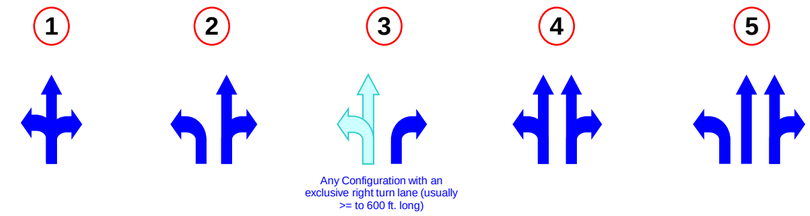
RIGHT TURN FACTORIZATION SHEET

INTERSECTION: **Orchard Rd. & Countryside Dr.**

MUNICIPALITY: **Montgomery** COUNTY: **Kane**

DIR	HOUR BEGIN	MINOR STREET STREET NAME: Countryside Dr. CONFIG. #: 1 VOLUMES L LEFT	T THROUGH	R RIGHT	A TOTAL	CRITICAL MAINLINE APPROACH VOLUME PER LANE	BASE RIGHT TURN REDUCTION %	MAINLINE CONGESTION FACTOR %	ADJUSTED RIGHT TURN REDUCTION %	ADJUSTED RIGHT TURNS	ADJUSTED MINOR STREET VOLUMES
	6:00	23	0	32	**55**	1457	40%	55%	0%	32	**55**
	7:00	19	0	43	**62**	1777	40%	55%	0%	43	**62**
	8:00	25	0	24	**49**	1378	40%	50%	0%	24	**49**
	9:00	23	0	10	**33**	907	20%	30%	0%	10	**33**
	10:00	31	0	24	**55**	833	40%	25%	15%	20	**51**
	11:00	34	0	18	**52**	948	20%	30%	0%	18	**52**
	12:00	12	0	10	**22**	961	40%	30%	10%	9	**21**
	13:00	15	0	15	**30**	1120	40%	40%	0%	15	**30**
	14:00	24	0	24	**48**	1292	40%	45%	0%	24	**48**
	15:00	18	0	28	**46**	1694	40%	55%	0%	28	**46**
	16:00	21	0	23	**44**	1947	40%	55%	0%	23	**44**
	17:00	21	0	24	**45**	1417	40%	55%	0%	24	**45**
	18:00										
	19:00										
	20:00										
	21:00										

Lane Configurations



LEFT	THROUGH	RIGHT	TOTAL (A)	.7A	.35A	3T	T/3	(T+L)	(T+R)	3R	3L	T/2	T/4	BASE REDUCTION
23	0	32	55	38.5	19.3	0	0	23	32	96	69	0	0	40%
19	0	43	62	43.4	21.7	0	0	19	43	129	57	0	0	40%
25	0	24	49	34.3	17.2	0	0	25	24	72	75	0	0	40%
23	0	10	33	23.1	11.6	0	0	23	10	30	69	0	0	20%
31	0	24	55	38.5	19.3	0	0	31	24	72	93	0	0	40%
34	0	18	52	36.4	18.2	0	0	34	18	54	102	0	0	20%
12	0	10	22	15.4	7.7	0	0	12	10	30	36	0	0	40%
15	0	15	30	21	10.5	0	0	15	15	45	45	0	0	40%
24	0	24	48	33.6	16.8	0	0	24	24	72	72	0	0	40%
18	0	28	46	32.2	16.1	0	0	18	28	84	54	0	0	40%
21	0	23	44	30.8	15.4	0	0	21	23	69	63	0	0	40%
21	0	24	45	31.5	15.8	0	0	21	24	72	63	0	0	40%

MAINLINE CONGESTION FACTORS	
VOLUMES	FACTOR (%)
0-399	0
400-499	5
500-599	10
600-699	15
700-799	20
800-899	25
900-999	30
1000-1099	35
1100-1199	40
1200-1299	45
1300-1399	50
1400-1499	55

REVIEW INFORMATION

COUNTS USED: 12 HR MANUAL COUNT

COUNT DATE(S): 12/12/2014 - AM 12/10/2014 - PM

DATE REVIEWED:

REVIEWED BY:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT #1, BUREAU OF TRAFFIC

SUMMARY OF TRAFFIC SURVEY

INTERSECTION: **Orchard Rd. and Countryside Dr.**
MUNICIPALITY: **Montgomery**
COUNTY: **Kane**

(Includes left turn counts from Brentwood Ave. and Orchard Rd. intersection that lose access in proposed improvement)

	TRAFFIC FROM NORTH				TRAFFIC FROM SOUTH					TRAFFIC FROM EAST				TRAFFIC FROM WEST					
ROUTE :	Orchard Rd. ☑ SRA				Orchard Rd. ☑ SRA					Countryside Dr. ☐ SRA				☐ SRA					
	N. OF : Countryside Dr. GOING				S. OF : Countryside Dr. GOING					E. OF : Orchard Rd. GOING				W. OF : GOING					
START HOUR	EAST	SOUTH	WEST	TOTAL	WEST	NORTH	EAST	TOTAL	TOTAL NORTH AND SOUTH	SOUTH	WEST	NORTH	TOTAL	NORTH	EAST	SOUTH	TOTAL	TOTAL EAST AND WEST	GRAND TOTAL
6:00	15	520	0	**535**	0	1,455	2	**1457**	1992	23	0	32	**55**	0	0	0	**0**	55	**2047**
7:00	22	758	0	**780**	0	1,777	0	**1777**	2557	19	0	43	**62**	0	0	0	**0**	62	**2619**
8:00	22	695	0	**717**	0	1,378	0	**1378**	2095	25	0	24	**49**	0	0	0	**0**	49	**2144**
9:00	11	591	0	**602**	0	905	2	**907**	1509	23	0	10	**33**	0	0	0	**0**	33	**1542**
10:00	18	634	0	**652**	0	832	1	**833**	1485	31	0	24	**55**	0	0	0	**0**	55	**1540**
11:00	24	823	0	**847**	0	948	0	**948**	1795	34	0	18	**52**	0	0	0	**0**	52	**1847**
12:00	17	752	0	**769**	0	960	1	**961**	1730	12	0	10	**22**	0	0	0	**0**	22	**1752**
13:00	25	790	0	**815**	0	1,119	1	**1120**	1935	15	0	15	**30**	0	0	0	**0**	30	**1965**
14:00	26	960	0	**986**	0	1,290	2	**1292**	2278	24	0	24	**48**	0	0	0	**0**	48	**2326**
15:00	46	1,474	0	**1520**	0	1,688	6	**1694**	3214	18	0	28	**46**	0	0	0	**0**	46	**3260**
16:00	50	1,116	0	**1166**	0	1,940	7	**1947**	3113	21	0	23	**44**	0	0	0	**0**	44	**3157**
17:00	58	1,039	0	**1097**	0	1,412	5	**1417**	2514	21	0	24	**45**	0	0	0	**0**	45	**2559**
18:00																			
19:00																			
20:00																			
21:00																			

REVIEW INFORMATION

COUNTS USED: 12 HR MANUAL COUNT
COUNT DATE(S): 12/12/14 - AM 12/10/14 - PM
DATE REVIEWED: January 9, 2015
REVIEWED BY: Daniel J. Draper, Hutchison Engineering

Project: Orchard Rd. and Countryside Dr.

Town: Montgomery

County: Kane

5% Intersection		
2010	2011	2012
N	N	N

5% Segment		
2010	2011	2012
N	N	N

YEAR	Rear End			Angle			SSSD			SSOD			Turning Left			Turning Right			Fixed Object			Over-turned			Head On			Pedestrian			Other Object			Animal			Bicyclist			Other Non-Collision			TOTAL	
	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	**Crash Count**	**Injury Count**
2008	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	
2009*	5	- K - A 1 - B - C	- KI - AI 1 - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	2	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	7	1 - BI
2010*	4	- K - A - B 1 - C	- KI - AI - BI 1 - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B 1 - C	- KI - AI - BI 1 - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	6	2 - CI
2011	4	- K 1 - A - B - C	- KI 1 - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	5	1 - AI
2012	1	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	1	- K - A - B 1 - C	- KI - AI - BI 1 - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	0	- K - A - B - C	- KI - AI - BI - CI	2	1 - CI
TOTAL	**14**	**1 - A 1 - B 1 - C**	**1 - AI 1 - BI 1 - CI**	**0**			**1**			**0**			**5**	**2 - C**	**2 - CI**	**0**			**0**			**0**			**0**			**0**			**0**			**0**			**0**			**0**			**20**	**1 - AI 1 - BI 3 - CI**
%	**70.0%**			**0.0%**			**5.0%**			**0.0%**			**25.0%**			**0.0%**			**0.0%**			**0.0%**			**0.0%**			**0.0%**			**0.0%**			**0.0%**			**0.0%**			**0.0%**				

YEAR	INJURY TYPE					CRASH CONDITIONS						TOTAL
	K	A	B	C	PDO	Wet	Wet %	Snow/Ice	Snow/Ice %	Night	Night %	
2008	0	0	0	0	0	0	-	0	-	0	-	0
2009*	0	0	1	0	6	1	14%	0	0%	0	0%	7
2010*	0	0	0	2	4	1	17%	0	0%	2	33%	6
2011	0	1	0	0	4	0	0%	0	0%	0	0%	5
2012	0	0	0	1	1	1	50%	0	0%	0	0%	2
TOTAL	**0**	**1**	**1**	**3**	**15**	**3**	**15.0%**	**0**	**0.0%**	**2**	**10.0%**	**20**

* Note that the law regarding the crash reporting threshold for Property Damage Only crashes was amended effective January 1, 2009, to the following: When all drivers involved in a crash are insured, the amount of damage to the property of any one person that must be reported increased from $500 to $1,500. If any driver does not have insurance, the threshold remains at $500. (This change in law precludes comparison of 2009 and later Property Damage Only crashes and Total crashes with such crashes for previous years. The change did NOT affect the reporting of injury or fatal crashes.)