PROPEL US 30

Smarter Transportation. Stronger Communities.

Existing Transportation Conditions Report
US 30 East

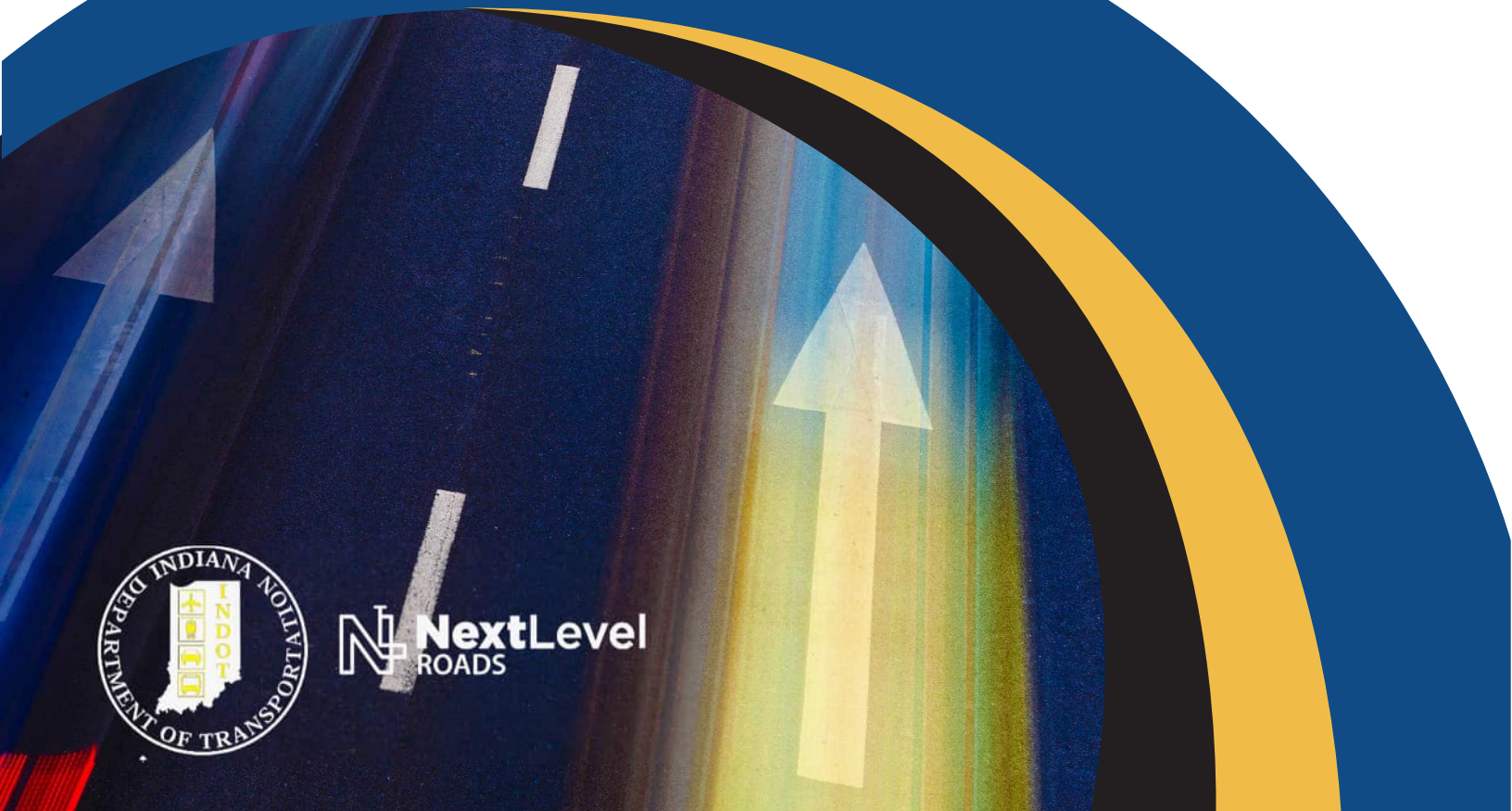
May 22, 2023

Prepared By

WSP

This report was finalized prior to the issuance of several Executive Orders (EOs) and one United States Department of Transportation (USDOT) order, including:

- *Federal EOs: EO 14154, EO 14148, EO 14173, and EO 14281;*
- *State EOs: EO 25-49, EO 25-37, and EO 25-14;*
- *USDOT Order 2100.7*



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1. INTRODUCTION

1.1. PEL PROCESS

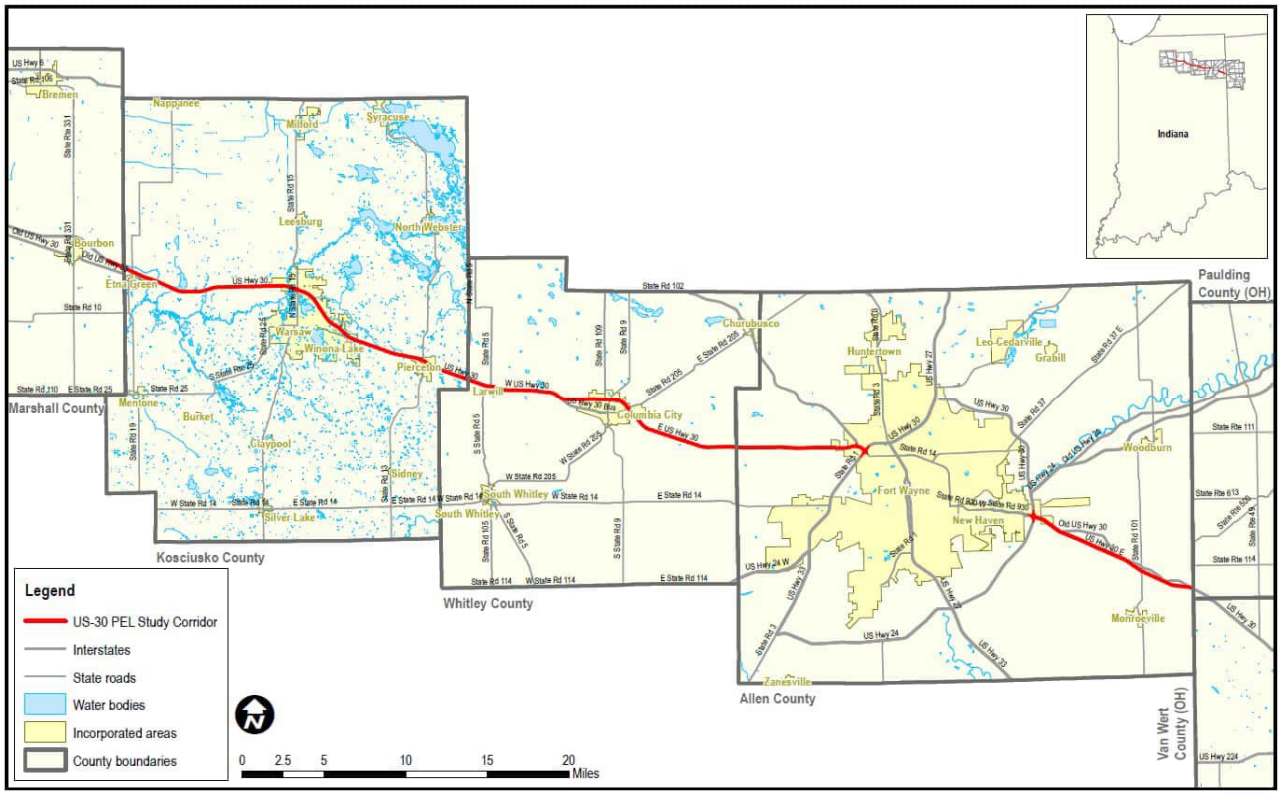
ProPEL is an Indiana Department of Transportation (INDOT) initiative for transportation planning that uses collaborative Planning and Environment Linkages (PEL) studies to consider environmental, community, and economic goals. Through the PEL studies, INDOT aspires to create smarter transportation systems that build stronger communities. INDOT is using PEL studies on the US 30 and US 31 corridors in central and northern Indiana. This Existing Transportation Conditions Report is being prepared for the ProPEL US 30 East study.

As part of the data-gathering phase of these studies, the purpose of this report is to document existing transportation conditions in the corridor for consideration when defining the purpose and need for the study. The report will be used to inform the public and stakeholders and will support the early phases of the alternatives development and screening portion of this study. The existing transportation conditions will establish a baseline to which alternatives may be compared.

1.2. STUDY LIMITS

The ProPEL US 30 East study area covers the sections of US 30 from the intersection of Beech Rd in Marshall County to the intersection of State Line Rd at the Indiana/Ohio border in Allen County (see Figure 1). The study area is approximately 60 miles from reference post (RP) 78.4 (Beech Rd) to RP 151.9 (State Line Rd). The study area does not include the portion of US 30 that follows I-69/I-469 in the Fort Wayne area.

Figure 1 - ProPEL US 30 East Study Limits



2. METHODOLOGY

2.1. GENERAL DATA

Roadway characteristics and feature inventory were collected for this study. Classifications and designations were determined using public GIS maps from INDOT. Speed limits were determined using a public sign inventory GIS map from INDOT in conjunction with online street view maps. Traffic signal inventory with location information and signal commission numbers were provided by the Traffic Management Center (TMC) at INDOT. Right-of-way information was approximated using the property GIS information for each county. Presence of railroad crossings, access control, and multimodal facilities was identified using current aerial maps of the study area. Structure inventory was collected using the Bridge Inspection Application System (BIAS) provided by INDOT. Utility inventory was collected using Indiana 811 resources.

2.2. CRASH DATA

A crash analysis was conducted for US 30 within the study area based on 2017 to 2021 data. This five-year period is the most recent available data and is a large enough sample size to provide an accurate depiction of the safety performance at each intersection and along the US 30 study area. The crash analysis utilized crash data from Marshall, Kosciusko, Whitley, and Allen Counties for the selected period, provided by INDOT. This information was then filtered down using various data fields to obtain only the crashes that have occurred on US 30 or within the influence area of an intersection with US 30, which is typically identified as crashes within 500' of the intersection on any approach. These crashes were then sorted out into their respective intersections and roadway sections. Refer to Section 5 for how the filtered crash data was analyzed and summarized.

2.3. SPEED DATA

Travel speeds along US 30 East for year 2022 were obtained from the US Department of Transportation's National Performance Management Research Data Set (NPMRDS). The NPMRDS data contains GPS based time and speed data collected anonymously from a fleet of probe vehicles (passenger vehicles and trucks) equipped with mobile devices. Speed and travel time data for all of 2022, aggregated in 15-minute increments for both eastbound and westbound travel along US 30 East, was acquired and evaluated for the AM peak, midday, PM peak and overnight travel periods.

2.4. TRAFFIC DATA

Turning movement counts were gathered in November of 2022 at various intersections along US 30 within the study area. The intersections that were counted were signalized intersections and non-signalized intersections with roadways classified as Major Collector or above. These traffic counts were taken over 24-hour periods during an average weekday. The counts were gathered by INDOT and the Michiana Area Council of Governments (MACOG) using camera-based traffic counting technology (Miovision). In addition, INDOT also provided and approved the use of some counts dating back to January 2019. However, counts between March 2020 and mid-2021 were not used due to irregularities in traffic caused by the pandemic. Refer to Section 7 for how the traffic volumes were analyzed and summarized.

3. GEOMETRIC EXISTING CONDITIONS

3.1. ROADWAY CHARACTERISTICS

A roadway's unique identifying features have a critical impact on its traffic operation and design. Functional classification, traffic control, speed, pedestrian/bicycle activity, rail crossings, and other features and factor into a roadway's safety and performance. The following describes the information collected about each roadway section along this US 30 study area. There are 88 public roads that intersect with US 30 in the study area.

3.1.1. ROADWAY CLASSIFICATIONS AND/OR DESIGNATIONS

US 30 throughout the study area limits is on the National Highway System (NHS) and the National Truck Network (NTN). This route is functionally classified as a Principal Arterial. Any intersecting roadway that has a functional classification above a local road is listed in Table 1.

Table 1 – ProPEL US 30 East Functional Classification of Intersecting Roads

Intersection	County	RP	Functional Classification
SR19	Kosciusko	80.1	Major Collector
CR800W	Kosciusko	82.8	Major Collector
CR350W	Kosciusko	87.4	Major Collector
FOX FARM	Kosciusko	88.2	Major Collector
CR150W	Kosciusko	89.5	Major Collector
SR15 N JCT	Kosciusko	90.5	Minor Arterial
CR200N	Kosciusko	91.1	Major Collector
PARKER	Kosciusko	92.7	Minor Arterial
CENTER	Kosciusko	93.4	Principal Arterial
OLD US30	Kosciusko	93.9	Major Collector
CR250E	Kosciusko	94.8	Major Collector
CR325E	Kosciusko	95.6	Major Collector
SR13	Kosciusko	99.6	Minor Arterial
SR5	Whitley	104.1	Major Collector
OLD US30	Whitley	108.5	Major Collector
LINCOLNWAY	Whitley	110.2	Minor Arterial
SR109	Whitley	111.2	Major Collector
SR9	Whitley	111.5	Minor Arterial
SR205	Whitley	112.8	Minor Arterial
CR300E	Whitley	114.9	Minor Arterial
CR500E	Whitley	117.1	Minor Collector
CR600E	Whitley	118.2	Major Collector
COUNTY LINE	Allen	120.2	Major Collector
FELGER	Allen	123.0	Minor Collector
O'DAY	Allen	125.0	Major Collector
FLAUGH	Allen	126.0	Major Collector
KROEMER	Allen	126.8	Minor Collector
US33	Allen	127.5	Principal Arterial
I-69	Allen	128.3	Interstate
I-469	Allen	141.2	Interstate

Intersection	County	RP	Functional Classification
DOYLE	Allen	141.5	Minor Collector
RYAN	Allen	142.8	Major Collector
WEBSTER	Allen	145.0	Major Collector
TERNET	Allen	146.7	Minor Collector
SR101	Allen	148.5	Major Collector
STATE LINE	Allen	151.9	Major Collector

3.1.2. POSTED SPEED LIMITS

The posted speed limit for most of US 30 within the study area is 60 mph. This is the maximum legal speed limit for a four-lane divided highway in Indiana that is not part of the interstate system, as determined by Indiana Code IC 9-21-5-2. The following are sections of roadway that are posted under 60 mph:

- Kosciusko County
  - Town of Etna Green
    - 50 mph approximately 800' in advance of the intersection of SR 19 for both directions
  - City of Warsaw
    - 55 mph between CR 200 W and SR 15
    - 50 mph between SR 15 and Parker St
    - 45 mph between Parker St and CR 250 E
  - Town of Pierceton
    - 45 mph approximately 800' in advance of the intersection of SR 13 for westbound and 1000' for eastbound
- Whitley County
  - Town of Larwill
    - 50 mph approximately 800' in advance of the intersection of SR 5 for westbound and 1000' for eastbound
  - City of Columbia City
    - 50 mph between Lincolnway and SR 109
    - 45 mph between SR 109 and SR 9
  - Town of Coesse
    - School speed limit 40 mph, when flashing, approximately 1500' in advance of the intersection of CR 500 E for westbound and 1300' for eastbound

3.1.3. TRAFFIC SIGNALS AND FLASHERS

There are 27 traffic signals and one amber-red overheard intersection flasher on US 30 within the study area (see Table 2). A commission number that starts with "01" indicates a traffic signal while a commission number that starts with "02" indicates an intersection flasher.

Table 2 – ProPEL US 30 East Traffic Signals and Flashers

Commission #	Intersection	RP	City/Town	County
01-043-046	US 30 & SR 19	80.11	Etna Green	Kosciusko
02-043-020	US 30 & CR 800 W	82.8		Kosciusko
01-043-041	US 30 & CR 150 W	89.47	Warsaw	Kosciusko
01-043-044	US 30 & SR 15 S JCT	90.50	Warsaw	Kosciusko
01-043-043	US 30 & SR 15 N JCT	90.50	Warsaw	Kosciusko

Commission #	Intersection	RP	City/Town	County
01-043-031	US 30 & CR 200 N/ANCHORAGE RD	91.12	Warsaw	Kosciusko
01-043-049	US 30 & MEIJER DR	91.38	Warsaw	Kosciusko
01-043-048	US 30 & SPRINGHILL RD	92.15	Warsaw	Kosciusko
01-043-027	US 30 & PARKER ST	92.69	Warsaw	Kosciusko
01-043-029	US 30 & CENTER ST	93.37	Warsaw	Kosciusko
01-043-026	US 30 & OLD US 30	93.91	Warsaw	Kosciusko
01-043-035	US 30 & COMMERCE DR E JCT	94.39	Warsaw	Kosciusko
01-043-036	US 30 & CR 250 E	94.79	Warsaw	Kosciusko
01-043-009	US 30 & SR 13	99.55	Pierceton	Kosciusko
01-092-015	US 30 & SR 5	104.07	Larwill	Whitley
01-092-016	US 30 & LINCOLNWAY	110.22	Columbia City	Whitley
01-092-014	US 30 & ARMSTRONG DR	110.70	Columbia City	Whitley
01-092-009	US 30 & SR 109	111.21	Columbia City	Whitley
01-092-007	US 30 & SR 9	111.53	Columbia City	Whitley
01-092-008	US 30 & SR 205	112.80	Columbia City	Whitley
01-092-019	US 30 & CR 300 E	114.94		Whitley
01-092-013	US 30 & CR 600 E	118.16		Whitley
01-092-020	US 30 & COUNTY LINE RD/CR 800 E	120.19		Whitley
01-002-242	*US 30 & FLAUGH RD	125.99		Allen
01-002-173	US 30 & KROEMER RD	126.79	Fort Wayne	Allen
01-002-217	US 30 & I-69 E JCT	128.26	Fort Wayne	Allen
01-002-227	US 30 & I-469 E JCT	141.20	New Haven	Allen
01-002-215	US 30 & DOYLE RD	141.53	New Haven	Allen

*Not yet operational as of 2/27/2023

3.1.4. RAILROAD CROSSINGS

There are no at-grade railroad crossings of US 30 within the study area. There is one railroad overpass just east of the SR 15 interchange located approximately at RP 90.64. There is an east/west railroad that runs parallel to US 30. There are two sections of this railroad that run within 500' offset of US 30: a section from approximately CR 250 E in Kosciusko County to Van Ness Rd W Jct. in Kosciusko County and a section from approximately CR 900 E in Kosciusko County to Binkley Rd in Whitley County.

3.1.5. ROADWAY TYPICAL SECTION

US 30 is a four-lane divided highway with a center grass median that ranges in width from approximately 30 to 50'. A typical geometric layout for this study area for each direction of travel is a 10' outside shoulder, two 12' travel lanes, and a 4' inside shoulder. The right-of-way along US 30 varies from 150 ft to 300 ft of total width within the study area, with generally more right-of-way in rural areas compared to urban areas and more right-of-way for intersections that require several turn lanes. This information was measured using the property GIS information for each county.

3.2. BRIDGES

There are 35 bridges and 30 culverts that are along US 30 within the study area. This inventory was collected using the Bridge Inspection Application System (BIAS) provided by the Indiana Department of Transportation (INDOT). Table 3 lists each bridge and culvert along with its corresponding condition ratings. Overall bridge condition is determined by the lowest rating of the National Bridge Inventory (NBI) condition ratings for deck, superstructure, substructure, and culvert. If the lowest of these ratings is greater than or equal to 7, the bridge

is classified as 'Good'; if it is less than or equal to 4, the classification is 'Poor'. Bridges rated 5 or 6 are classified as 'Fair'. Culvert condition is classified as 'Good' for ratings 7+, 'Satisfactory' for ratings of a 6, 'Fair' for ratings of a 5, 'Poor' for ratings of a 4, and 'Serious' for ratings of 3 or less. All bridges and culverts with an overall bridge condition or culvert condition of 4 or less are highlighted red in Table 3.

Table 3 - ProPEL US 30 East Bridges and Culverts

Structure Information							Rating					
Structure #	RP	County	Type	Width (ft)	Length (ft)	Year Built	Deck	Surface	Super	Sub	Channel	Culverts
CV 030-050-79.38	79.4	Marshall	CMP	7	260	1960						3
030-43-04851 BWBL	81.7	Kosciusko	BRIDGE	42.5	74	1964	5	5	5	7	7	NA
030-43-04851 CEBL	81.7	Kosciusko	BRIDGE	42.5	74.3	1971	5	6	5	7	9	NA
030-43-04852 BWBL	82.7	Kosciusko	BRIDGE	42.5	74	1971	5	5	5	7	8	NA
030-43-04852 CEBL	82.7	Kosciusko	BRIDGE	42.5	74.3	1971	5	6	5	8	8	NA
030-43-04853 BWBL	84.8	Kosciusko	BRIDGE	42.4	62	1972	5	6	5	7	6	NA
030-43-04853 CEBL	84.8	Kosciusko	BRIDGE	42.5	61.5	1972	9	9	9	8	9	NA
CV 030-043-85.20	85.2	Kosciusko	CMP Arch	7.6x6	350	2010						8
CV 030-043-86.40	86.4	Kosciusko	CMP Arch	10x7	220	2010						8
CV 030-043-088.22 R	88.2	Kosciusko	CMP	4	78	1965						5
CV 030-043-88.40	88.4	Kosciusko	CMP Arch	10x7	230	2015						6
030-43-04854 BWBL	89.9	Kosciusko	BRIDGE	42.5	98	1972	6	5	6	6	7	NA
030-43-04854 BEBL	89.9	Kosciusko	BRIDGE	42.5	98	1972	6	5	6	6	7	NA
030-43-04855 BWBL	90.5	Kosciusko	BRIDGE	53	189.6	1972	7	7	6	6	NA	NA
030-43-04855 BEBL	90.5	Kosciusko	BRIDGE	53	189.6	1972	7	7	6	6	NA	NA
CV 030-043-90.54	90.5	Kosciusko	CMP	10	404	1966						7
030-43-02316 JBWB	90.6	Kosciusko	BRIDGE	43	158.6	1972	7	7	7	8	NA	NA
030-43-02316 BEBL	90.6	Kosciusko	BRIDGE	55.7	158.6	1972	7	7	7	8	NA	NA
030-43-04856 CWBL	91.5	Kosciusko	BRIDGE	43	123.2	1972	9	8	8	8	8	NA
030-43-04856 CEBL	91.5	Kosciusko	BRIDGE	43	123.2	1972	9	8	9	9	8	NA
CV 030-043-93.07	93.1	Kosciusko	CMP	5.5	206	2010						8
CV 030-043-95.85	95.9	Kosciusko	CMP	6	180	2015						6
030-43-06187 EBL	96.4	Kosciusko	BRIDGE	41	300	1947	7	4	7	7	9	NA
CV 030-043-97.55	97.6	Kosciusko	RCB	5x4	106	1948						7
030-43-03729 JBWB	98.6	Kosciusko	BRIDGE	43.7	130	1958	7	4	8	7	7	NA
030-43-03729 BEBL	98.6	Kosciusko	BRIDGE	42.5	133	1948	6	4	5	6	7	NA

Structure Information							Rating					
Structure #	RP	County	Type	Width (ft)	Length (ft)	Year Built	Deck	Surface	Super	Sub	Channel	Culverts
CV 030-043-100.40	100.4	Kosciusko	RCB	5x5	150	1948						6
CV 030-092-103.69	103.7	Whitley	RCB	4x4	160	2015						7
CV 030-092-103.83	103.8	Whitley	RCB	4x4	161	2015						7
CV 030-092-105.36	105.4	Whitley	RCB	6x6	190	1947						5
030-92-03776 BEBL	105.8	Whitley	BRIDGE	42.5	129	1948	5	4	5	5	7	
030-92-03776 JBWB	105.8	Whitley	BRIDGE	43.7	129	1958	7	6	8	7	8	
030-92-03730 B	107.9	Whitley	BRIDGE	76	34.5	1948					7	6
CV 030-092-109.01	109.0	Whitley	CMP Arch	10x7	173	1958						4
030-92-04406 CEBL	112.2	Whitley	BRIDGE	43.2	188.2	1961	8	8	8	8	7	NA
030-92-04406 CWBL	112.2	Whitley	BRIDGE	43.2	188	1961	8	8	8	7	7	NA
030-92-04407 CEBL	114.0	Whitley	BRIDGE	43.3	122.1	1962	9	9	9	7	8	NA
030-92-04407 CWBL	114.0	Whitley	BRIDGE	43.3	122.1	1962	9	9	9	7	8	NA
CV 030-092-117.14	117.1	Whitley	PVC	4.25	185	1959						8
CV 030-002-120.46	120.5	Allen	CMP Arch	4.75x 3.17	165	2012						7
CV 030-002-124.45	124.5	Allen	CMP	5.75	181	1961						8
030-02-04409 CEBL	124.9	Allen	BRIDGE	41.7	101	1960	6	6	6	7	7	NA
030-02-04409 CWBL	124.9	Allen	BRIDGE	41.7	101	1960	6	6	6	7	7	NA
CV 030-002-125.07	125.1	Allen	CMP Arch	6.2x5	246	2011						8
CV 030-002-125.43	125.4	Allen	CMP Arch	5.67x3.67	168	1961						9
CV 030-002-126.84	126.8	Allen	CMP Arch	5.25x3.5	179	2011						8
033-02-04802 E	127.5	Allen	BRIDGE	57	169	1961	7	7	7	6	NA	NA
030-02-09998	127.7	Allen	BRIDGE	35	218.2	2018	9	9	9	9	9	NA
CV 030-002-127.95	128.0	Allen	PVC	4.75	175	1958						9
(30)33-02-04549 B	128.1	Allen	BRIDGE	110.7	235.4	1961	7	7	7	7	NA	NA
CV I469-002-019.41 SWR	141.2	Allen	CMP Arch	10.67x6.92	138	1989						4
CV 930-002-12.86	141.2	Allen	CMP Arch	10.67x6.93	254	1989						4
CV I469-002-019.41 NWL	141.2	Allen	CMP	9	450	1989						4
I469-20-07207	141.2	Allen	Dual CMP	13	200	1990					7	7
I469-19-07224 SB	141.2	Allen	BRIDGE	60.5	247	1990	8	5	8	8	NA	NA
I469-19-07224 NB	141.2	Allen	BRIDGE	48.5	247	1990	8	8	8	7	NA	NA

Structure Information							Rating					
Structure #	RP	County	Type	Width (ft)	Length (ft)	Year Built	Deck	Surface	Super	Sub	Channel	Culverts
CV 030-002-141.90	141.9	Allen	CMP Arch	10.59x6.58	218	1989						5
CV 030-002-143.59	143.6	Allen	RCB	17.32x7	214	1976						7
030-02-06543 BEBL	147.9	Allen	BRIDGE	44.5	126.5	1977	7	8	8	8	8	NA
030-02-06543 BWBL	147.9	Allen	BRIDGE	44.6	125.5	1977	7	8	7	8	8	NA
CV 030-002-148.50	148.5	Allen	RCB	16x4	215	1978						7
030-02-06544 BEBL	149.3	Allen	BRIDGE	42.6	98	1977	7	8	8	8	8	NA
030-02-06544 BWBL	149.3	Allen	BRIDGE	42.6	990	1977	6	8	7	7	8	NA
CV 030-002-150.33	150.3	Allen	CMP Arch	6.58x4.08	202	1975						5
CV 030-002-150.97	151.0	Allen	RCB	20x9	190	1978						7

3.3. UTILITY OWNER LISTING

Utilities were located along the study area using Indiana 811. A list of utility companies within approximately 2 miles of US 30 was compiled for each county. This information can be found in Figures 2 through 6.

Figure 2- ProPEL US 30 East Utilities Marshall County

Street / Address:	US RT 30				
Cross Street:					
State:	IN	County:	MARSHALL	Township:	BOURBON
Nearest Intersecting Street:	BEECH RD				
City/Town dig site is in or nearest:	ETNA GREEN				
Dig Site Description:	US 30 MARSHALL COUNTY - FROM COUNTY LINE TO BEECH RD.				

Affected Service Areas

Name	Utility Types	Design Engineer	Alternate
CHILLICOTHE TELEPHONE CO. DBA HORIZON TELCOM	FIBER OPTIC	JIM LUMP (740) 703-8689 jim.lump@horizonconnects.com 68 E. MAIN STREET CHILLICOTHE, OH 45601	
CHILLICOTHE TELEPHONE CO. DBA HORIZON TELCOM	FIBER OPTIC	JIM LUMP (740) 703-8689 jim.lump@horizonconnects.com 68 E. MAIN STREET CHILLICOTHE, OH 45601	
ETNA GREEN, TOWN OF	ELECTRIC, SEWER, WATER	LAURA BAKER (574) 858-9321 etnagreenclerk@comcast.net PO BOX 183 ETNA GREEN, IN 46524	
FRONTIER	TELEPHONE		
MARSHALL COUNTY FIBER, LLC	FIBER OPTIC	CHAD MORGAN (574) 223-0251 chad.morgan@rtc1.com PO BOX 507 ROCHESTER, IN 46975	SHAWNDA WENINO (574) 936-3161 swenino@marshallremc.com PO BOX 250 PLYMOUTH, IN 46563
MARSHALL COUNTY R.E.M.C.	ELECTRIC	SHAWNDA WENINO (574) 936-3161 swenino@marshallremc.com PO BOX 250 PLYMOUTH, IN 46563	
WINDSTREAM	COMMUNICATION		

Figure 3 - ProPEL US 30 East Utilities Kosciusko County

Street / Address:	US RT 30				
Cross Street:					
State:	IN	County:	KOSCIUSKO	Township:	ETNA
Nearest Intersecting Street:	IN RT 19				
City/Town dig site is in or nearest:	WARSAW				
Dig Site Description:	US 30 - KOSCIUSKO COUNTY				

Affected Service Areas

Name	Utility Types	Design Engineer	Alternate
AT&T - TRANSMISSION	FIBER OPTIC	VANESSA ROSS (217) 381-4284 vf2021@att.com 555 E. COOK STREET SPRINGFIELD, IL 62703	
BRIGHTSPEED	COMMUNICATION	SONNI SMITH (704) 314-2662 sonni.smith@brightspeed.com 1120 S. TRYON STREET, SUITE 700 CHARLOTTE, NC 28203	
CHILLICOTHE TELEPHONE CO. DBA HORIZON TELCOM	FIBER OPTIC	JIM LUMP (740) 703-8689 jim.lump@horizonconnects.com 68 E. MAIN STREET CHILLICOTHE, OH 45601	
COMCAST NORTH	CABLE TV		
COMMERCIAL BROADBAND SOLUTIONS	FIBER OPTIC	RYAN COATES (574) 389-3100 rcoates@maplenetwireless.com	
ETNA GREEN, TOWN OF	ELECTRIC, SEWER, WATER	LAURA BAKER (574) 858-9321 etnagreenclerk@comcast.net PO BOX 183 ETNA GREEN, IN 46524	
FRONTIER	TELEPHONE		
IN AMERICAN WATER	SEWER, WATER	RYAN MOORE (317) 885-2404 inutilitycoordination@amwater.com	
IN FIBER NETWORK DBA INTELLIGENT FIBER NETWORK	FIBER OPTIC	GEORGE HUSS (443) 403-2023 george.huss@zayo.com 1401 WYNKOOP ST., FLOOR 4, RM-DATA DENVER, CO 80202	HENRY KLOBUCAR (406) 490-6138 henry.klobucar@zayo.com 130 N. MAIN ST., FLOOR 3, STE-300 BUTTE, MT 59701
KOSCIUSKO R.E.M.C.	ELECTRIC		
KOSCIUSKO R.E.M.C., FIBER	FIBER OPTIC		

LARWILL, TOWN OF	SEWER	SCHNELKER ENGINEERING (260) 497-7447 6004 HIGHWAY DR. #G FORT WAYNE, IN 46818	
MEDIACOM, LLC (NORTH WEBSTER)	CABLE TV	MARK ZACHARKO (270) 527-9939 x3285 mzacharko@mediacomcc.com 90 MAIN ST BENTON, KY 42025	GARY GUDEMAN 215 W. WALNUT ST. WATSEKA, IL 61523
METRO FIBERNET, LLC	FIBER OPTIC	METRO FIBERNET, LLC ENGINEERING (812) 213-1050 811design@metronet.com 3701 COMMUNICATIONS WAY EVANSVILLE, IN 47715	
NIPSCO ELECTRIC (GOSHEN)	ELECTRIC	DEAN GARRETT (219) 647-6260 utilitycoordination@nisource.com 801 E. 86TH AVE. MERRILLVILLE, IN 46410	
NIPSCO GAS (GOSHEN)	GAS	DEAN GARRETT (219) 647-6260 utilitycoordination@nisource.com 801 E. 86TH AVE. MERRILLVILLE, IN 46410	
NIPSCO GAS (PLYMOUTH)	GAS	DEAN GARRETT (219) 647-6260 utilitycoordination@nisource.com 801 E. 86TH AVE. MERRILLVILLE, IN 46410	
NORTHEASTERN R.E.M.C.	ELECTRIC	BRAD DEUTSCH (260) 244-6111 x427 b_deutsch@nremc.com 4901 E PARK 30 DR COLUMBIA CITY, IN 46725	
PARKVIEW MEMORIAL HOSPITAL	COMMUNICATION	SCOTT AMBURGEY (260) 266-1139 scott.amburgey@parkview.com 11109 PARKVIEW PLAZA DR FORT WAYNE, IN 46845	TOM MINNICH (260) 266-1094 tom.minnich@parkview.com 1050 PRODUCTION RD., FL 12 FORT WAYNE, IN 46808-4106
PIERCETON, TOWN OF	SEWER, WATER		
WARSAW COMMUNITY SCHOOLS	FIBER OPTIC	TERRY ENGLE (574) 371-5098 tengle@warsaw.k12.in.us PO BOX 288, 1 ADMINISTRATION DR WARSAW, IN 46580	
WARSAW, CITY OF	SEWER, STORM		
WINDSTREAM	COMMUNICATION		
WINONA LAKE, TOWN OF	SEWER		

Figure 4 - ProPEL US 30 East Utilities Whitley County

Street / Address:	US RT 30				
Cross Street:					
State:	IN	County:	WHITLEY	Township:	UNION
Nearest Intersecting Street:	W COUNTY LINE RD N				
City/Town dig site is in or nearest:	COLUMBIA CITY				
Dig Site Description:	US 30 - WHITLEY COUNTY				

Affected Service Areas

Name	Utility Types	Design Engineer	Alternate
AMERICAN ELECTRIC POWER	ELECTRIC	J. JAY MARLOW (260) 408-3447	
AMERICAN ELECTRIC POWER TELECOM	FIBER OPTIC	DAVID LAWRENCE (614) 883-7836 dalawrence@aep.com 850 TECH CENTER DR. GAHANNA, OH 43215	
AT&T - TRANSMISSION	FIBER OPTIC	VANESSA ROSS (217) 381-4284 vf2021@att.com 555 E. COOK STREET SPRINGFIELD, IL 62703	
BRIGHTSPEED	COMMUNICATION	SONNI SMITH (704) 314-2662 sonni.smith@brightspeed.com 1120 S. TRYON STREET, SUITE 700 CHARLOTTE, NC 28203	
COLUMBIA CITY, CITY OF	ELECTRIC, SEWER, WATER	BEATE LEMON (260) 248-5100 blemon@columbiacity.net 112 S. CHAUNCEY STREET COLUMBIA CITY, IN 46725	
COMMERCIAL BROADBAND SOLUTIONS	FIBER OPTIC	RYAN COATES (574) 389-3100 rcoates@maplenetwireless.com	
IN FIBER NETWORK DBA INTELLIGENT FIBER NETWORK	FIBER OPTIC	GEORGE HUSS (443) 403-2023 george.huss@zayo.com 1401 WYNKOOP ST., FLOOR 4, RM-DATA DENVER, CO 80202	HENRY KLOBUCAR (406) 490-6138 henry.klobucar@zayo.com 130 N. MAIN ST., FLOOR 3, STE-300 BUTTE, MT 59701
INDIGITAL TELECOM	TELEPHONE		
LARWILL, TOWN OF	SEWER	SCHNELKER ENGINEERING (260) 497-7447 6004 HIGHWAY DR. #G FORT WAYNE, IN 46818	

MEDIACOM, LLC (KENDALLVILLE)	CABLE TV	MARK ZACHARKO (270) 527-9939 x3285 mzacharko@mediacomcc.com 90 MAIN ST BENTON, KY 42025	GARY GUDEMAN 215 W. WALNUT ST. WATSEKA, IL 61523
MEDIACOM, LLC (NORTH WEBSTER)	CABLE TV	MARK ZACHARKO (270) 527-9939 x3285 mzacharko@mediacomcc.com 90 MAIN ST BENTON, KY 42025	GARY GUDEMAN 215 W. WALNUT ST. WATSEKA, IL 61523
NIPSCO GAS (FORT WAYNE)	GAS	DEAN GARRETT (219) 647-5260 utilitycoordination@nisource.com 801 E. 86TH AVE. MERRILLVILLE, IN 46410	
NORTHEASTERN R.E.M.C.	ELECTRIC	BRAD DEUTSCH (260) 244-6111 x427 b_deutsch@nremc.com 4901 E PARK 30 DR COLUMBIA CITY, IN 46725	
PARKVIEW MEMORIAL HOSPITAL	COMMUNICATION	SCOTT AMBURGEY (260) 266-1139 scott.amburgey@parkview.com 11109 PARKVIEW PLAZA DR FORT WAYNE, IN 46845	TOM MINNICH (260) 266-1094 tom.minnich@parkview.com 1050 PRODUCTION RD., FL 12 FORT WAYNE, IN 46808-4106
WANRACK, LLC	FIBER OPTIC	SEAN BROWN (816) 365-0966	NATHAN DEAL (816) 605-0629

Figure 5 - ProPEL US 30 East Utilities Allen County (West of I-69)

Street / Address:	US RT 30		
Cross Street:			
State:	IN	County: ALLEN	Township: LAKE
Nearest Intersecting Street:	BUTT RD		
City/Town dig site is in or nearest:	FORT WAYNE		
Dig Site Description:	US 30 WITHIN ALLEN COUNTY FROM COUNTY LINE TO I-69 WEST OF FORT WAYNE, IN.		

Affected Service Areas

Name	Utility Types	Design Engineer	Alternate
AMERICAN ELECTRIC POWER	ELECTRIC	J. JAY MARLOW (260) 408-3447	
AT&T - TRANSMISSION	FIBER OPTIC	VANESSA ROSS (217) 381-4284 vf2021@att.com 555 E. COOK STREET SPRINGFIELD, IL 62703	
BRIGHTSPEED	COMMUNICATION	SONNI SMITH (704) 314-2662 sonni.smith@brightspeed.com 1120 S. TRYON STREET, SUITE 700 CHARLOTTE, NC 28203	
COLUMBIA CITY, CITY OF	ELECTRIC, SEWER, WATER	BEATE LEMON (260) 248-5100 blemon@columbiacity.net 112 S. CHAUNCEY STREET COLUMBIA CITY, IN 46725	
COMCAST CABLE (FORT WAYNE)	CABLE TV	JOHN GAYDAY (260) 458-5107 john_gayday@cable.comcast.com 720 TAYLOR ST. FT. WAYNE, IN 46802	
FORT WAYNE, CITY OF	FIBER OPTIC, SEWER, STREETLIGHTS, TRAFFIC LIGHTS, WATER	MARIO TREVINO (260) 427-1136 1 E MAIN STREET FORT WAYNE, IN 46802-1804	
FRONTIER	TELEPHONE		
IN FIBER NETWORK DBA INTELLIGENT FIBER NETWORK	FIBER OPTIC	GEORGE HUSS (443) 403-2023 george.huss@zayo.com 1401 WYNKOOP ST., FLOOR 4, RM-DATA DENVER, CO 80202	HENRY KLOBUCAR (406) 490-6138 henry.klobucar@zayo.com 130 N. MAIN ST., FLOOR 3, STE-300 BUTTE, MT 59701
INDIGITAL TELECOM	TELEPHONE		
NIPSCO GAS (FORT WAYNE)	GAS	DEAN GARRETT (219) 647-6260 utilitycoordination@nisource.com 801 E. 86TH AVE. MERRILLVILLE, IN 46410	

NORTHEASTERN R.E.M.C.	ELECTRIC	BRAD DEUTSCH (260) 244-6111 x427 b_deutsch@nremc.com 4901 E PARK 30 DR COLUMBIA CITY, IN 46725
RVP FIBER COMPANY, LLC	FIBER OPTIC	RYAN MIEDEMA (616) 223-7144 rjmiedema@ussignal.com 201 IONIA AVE SW GRAND RAPIDS, MI 49503
WINDSTREAM	COMMUNICATION	
ZAYO BANDWIDTH	FIBER OPTIC	WAYLON HIGGINS (765) 341-1199 waylon.higgins@zayo.com 722 N HIGH SCHOOL RD INDIANAPOLIS, IN 46214

Figure 6 - ProPEL US 30 East Utilities Allen County (East of I-469)

Street / Address: US RT 30
Cross Street:
State: IN County: ALLEN Township: JACKSON
City/Town dig site is in or nearest: NEW HAVEN
Dig Site Description: US 30 - ALLEN COUNTY FROM STATE LINE TO I-469 OUTSIDE OF NEW HAVEN.

Affected Service Areas

Name	Utility Types	Design Engineer	Alternate
AMERICAN ELECTRIC POWER	ELECTRIC	J. JAY MARLOW (260) 408-3447	
CENTERPOINT ENERGY (NORTH) (FORMERLY VECTREN)	GAS	JON EASTHAM (765) 287-2119 publicproject@centerpointenergy.com 1800 W. 26TH ST. MUNCIE, IN 47302	
FRONTIER	TELEPHONE		
MEDIACOM, LLC (AUBURN)	CABLE TV	MARK ZACHARKO (270) 527-9939 x3285 mzacharko@mediacomcc.com 90 MAIN ST BENTON, KY 42025	GARY GUDEMAN 215 W. WALNUT ST. WATSEKA, IL 61523
NEW HAVEN UTILITIES, CITY OF	SEWER, STORM, WATER	DAVE JONES (260) 748-7056 djones@newhavenin.org 815 LINCOLN HWY E / PO BOX 570 NEW HAVEN, IN 46774	
NIPSCO GAS (FORT WAYNE)	GAS	DEAN GARRETT (219) 647-6260 utilitycoordination@nisource.com 801 E. 86TH AVE. MERRILLVILLE, IN 46410	
PANHANDLE EASTERN (EDGERTON)	PIPELINE	JOEL NORTON (317) 879-3039 joel.norton@energytransfer.com 8910 PURDUE RD INDIANAPOLIS, IN 46268	
PAULDING PUTNAM ELECTRIC COOP, INC.	ELECTRIC		

3.4. PEDESTRIAN, BICYCLE, AND TRANSIT FACILITIES

There are few existing pedestrian, bicycle, or transit facilities along US 30 and no signalized intersections provide marked crosswalks or pedestrian signals within the study area. At the intersection of US 30 and SR 19 in Etna Green (Kosciusko County), there is a section of old sidewalk on the west side of SR 19 that abruptly ends 50' south of the intersection. At the intersection of US 30 and SR 5 in Larwill (Whitley County), there are sections of old sidewalk and curb ramps that run north and south along both sides of SR 5, but the features stop just before reaching the US 30 intersection for both directions. At the intersection of US 30 and SR 109 in Columbia City (Whitley County), there are sections of old sidewalk on both sides of SR 109 south of US 30. The east section stops abruptly 150' south of US 30. The west section stops 300' south of US 30 at the Walgreens drive. On the east of side of Columbia City, the Blue River Trail runs under the US 30 bridge over the Blue River. Lastly, there is a lack of fixed route transit along this study area.

4. ACCESS CONTROL

There are 79 driveways within the study area. 48 of these driveways provide full access with a crossover. 36 of these 79 driveways are in Kosciusko County between Commerce Dr E Jct/Old US 30 at RP 94.4 and Binkley Rd at RP 103.0. This equates to an average of 1265' between driveways. 35 of the 79 driveways are in Whitley County between Binkley Rd at RP 103.0 and CR 800E/County Line Rd at RP 120.2. This equates to an average of 2594' between driveways. The remaining eight driveways are in Allen County between Doyle Rd at RP 141.5 and Morgan Rd at RP 150.7. This equates to an average of 6072' between driveways. The recommended minimum spacing between driveways for speed limits of 55 mph and above is 495'.

Of the 88 total intersections that intersect US 30 within the study area there are six intersections that are right in and right out only. There are 12 median crossovers that are not at driveways or intersections. The use of these crossovers is a mix of construction maintenance of traffic, emergency services, and reduced conflict intersection (RCI) U-turns. There are two intersections where these RCI U-turns occur: CR 500 E in Whitley County and SR 101 in Allen County. RCIs require the side street traffic that is wanting to cross the mainline traffic to first make a right-hand turn and then make a median U-turn further downstream. These two intersections are modified RCIs which restrict mainline left-turning traffic as well, forcing this traffic to make a U-turn downstream.

Lastly, there are four interchanges within the study area: SR 15, US 33, I-69, and I-469. US 30 travels over SR 15 and has designated signalized intersections for eastbound on and off ramps and westbound on and off ramps. US 33 southbound terminates at US 30. There are on and off ramps provided but no signalized intersections. US 30 travels over I-69 and has on and off ramps for all movements with one signalized intersection for I-69 northbound traffic that are getting off and heading eastbound on US 30/Goshen Rd. I-469 travels over US 30 and has on and off ramps for all movements with one signalized intersection for all northbound on and off ramps.

5. SAFETY

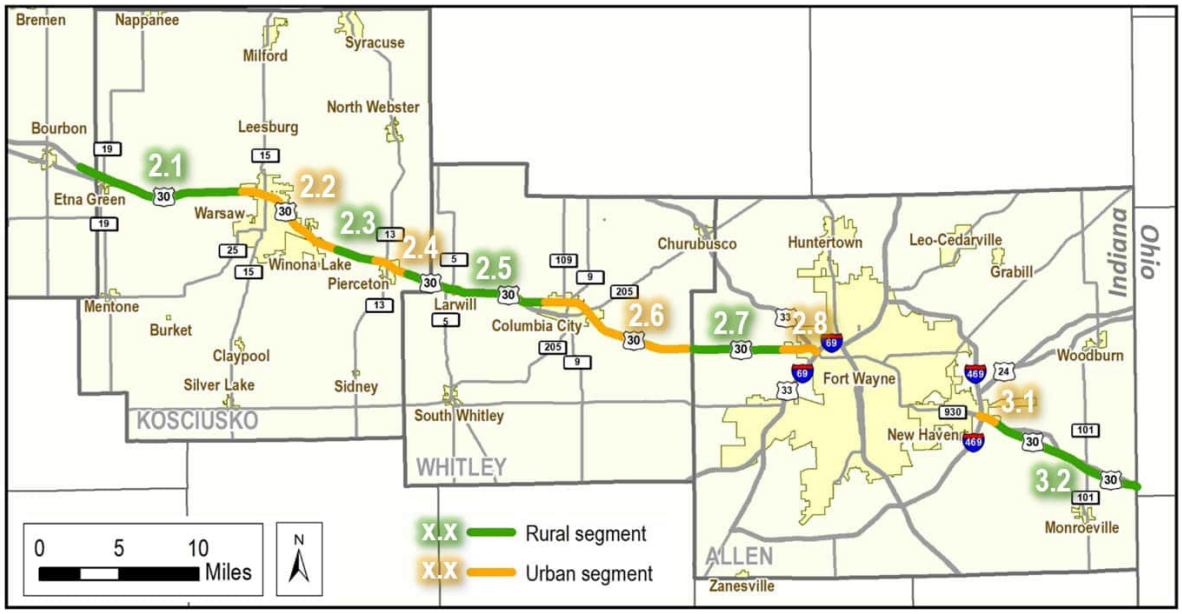
5.1. OVERALL CRASH STATISTICS

Five years of US 30 crash data (from 2017 through 2021) for the US 30 East study area was collected and evaluated. Analyzing crash data can help identify patterns and trends, such as the most common types of crashes, the most common causes of crashes, and the most common times and locations for crashes. By

understanding a location's crash frequency and severity, better decisions impacting design, operation, and enforcement can be implemented.

The crash data for the study area was summarized and categorized to identify overall patterns and trends. A review of the highway and land use in the study area resulted in the identification of 10 sections in the US 30 East study area that are characterized as rural or urban. These sections are identified on the study area map presented in in Figure 7.

Figure 7 - ProPEL US 30 East Urban and Rural Section



Sections were delineated where the development patterns showed noticeable changes between urban and rural characteristics. Urban areas are those sections of the study area where there is a greater density of streets, that together form a street grid that is more typical of urban development, and where intersections along US 30 are primarily signalized or grade separated. Urban sections also have a more varied mix of land uses, including a presence of commercial, manufacturing, and civic properties.

Rural areas were identified where there is a lower density of streets and intersections with US 30 and is a typical characteristic of areas that have more agricultural land and open space. Roadway intersections in these areas are usually unsignalized. Residential development is low-density and often more homestead in character. There is limited, if any, commercial, manufacturing, or civic land uses along rural sections.

Based on this review, the study area is more rural in character, with 62% (37.8 miles) of the study area's length categorized as such. Urban areas currently make up 38% of the area, but can be expected to increase as development and growth along the study area continues. The travel demand model shows steady growth along the study area with annual approach traffic growth percentages reaching up to 2.94%.

Table 4 provides a summary of the general study area crash statistics for urban versus rural sections, and summarized into categories such as crash location type, mode of transportation, severity, type of impact, lighting, and weather. To help illustrate to what degree various safety factors are contributing to the crash rates, highlighting is used to visually enhance the data; the higher the percentage of crashes occurring in any given category, the darker the highlight. A discussion of crash patterns for each category follows.

Table 4 - ProPEL US 30 East Distribution of All Crashes by Location, Mode, Severity and Type

US 30 East 2017-2021 All Crashes		Overall		Rural	Urban	US 30 East Segments										Intersections	
						1 Rural	2 Urban Warsaw	3 Rural	4 Urban Pierceton	5 Rural	6 Urban Columbia City	7 Rural	8 Urban Ft. Wayne	9 Urban New Haven	10 Rural	Signal-ized	Unsignal ized
Total Crashes		**2,717**		**703**	**2,014**	**209**	**921**	**50**	**98**	**179**	**709**	**152**	**231**	**55**	**113**	**1,065**	**377**
Crashes/mi/year		*8.9*		*3.7*	*17.5*	*4.0*	*24.6*	*3.8*	*9.8*	*4.0*	*13.9*	*5.2*	*18.5*	*13.7*	*2.3*		
% of Overall Crashes		100%		26%	74%	8%	34%	2%	4%	7%	26%	6%	9%	2%	4%	74%	26%
Category	**Crash Types**																
Location	Intersection	1,465	54%	39%	59%	49%	68%	24%	57%	24%	51%	45%	52%	51%	45%		
	Non-Intersection	1,246	46%	60%	41%	51%	32%	76%	42%	75%	49%	55%	48%	49%	54%		
	Driveway	6	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	1%		
Vehicle Type	Passenger	2,144	79%	74%	81%	75%	84%	80%	87%	75%	79%	76%	78%	53%	63%	80%	79%
	Tractor/Truck	561	21%	26%	19%	25%	16%	20%	13%	25%	20%	23%	22%	45%	36%	20%	21%
	Farm	7	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	2%	1%	0%	0%
	Ped/Bike	5	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%
Severity	PDO	2,029	75%	72%	76%	67%	75%	60%	80%	78%	75%	76%	81%	67%	70%	74%	68%
	Non-incapacitating	297	11%	9%	12%	12%	14%	12%	11%	5%	10%	9%	10%	7%	8%	13%	10%
	Incapacitating	370	14%	17%	12%	17%	11%	26%	8%	16%	15%	13%	9%	24%	22%	13%	21%
	Fatal	21	1%	2%	0%	3%	0%	2%	1%	1%	1%	1%	0%	2%	0%	1%	1%
Type	Rear End	1,254	46%	16%	57%	21%	57%	16%	52%	13%	60%	14%	51%	38%	15%	60%	22%
	Same Direction Sideswipe	391	14%	14%	15%	9%	15%	12%	11%	20%	10%	14%	28%	16%	15%	10%	10%
	Ran Off Road	399	15%	34%	8%	26%	6%	46%	21%	44%	6%	33%	16%	4%	29%	3%	17%
	Right Angle	329	12%	20%	9%	27%	10%	8%	8%	7%	11%	22%	2%	22%	27%	13%	37%
	All Other	344	13%	16%	11%	18%	12%	18%	7%	16%	13%	16%	3%	20%	14%	15%	14%
Lighting	Daylight	1,909	70%	63%	73%	67%	75%	56%	68%	65%	72%	64%	71%	67%	51%	72%	69%
	Dark (Not Lighted)	439	16%	30%	11%	25%	9%	38%	16%	28%	15%	29%	7%	15%	39%	10%	17%
	Dark (Lighted)	203	7%	2%	9%	3%	11%	0%	6%	1%	6%	3%	16%	13%	2%	11%	7%
	Dawn/Dusk	165	6%	5%	6%	5%	6%	6%	9%	6%	7%	4%	5%	5%	7%	7%	7%
	Unknown	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
Weather	Clear	1,563	58%	49%	60%	54%	61%	50%	56%	45%	61%	45%	57%	69%	54%	63%	56%
	Cloudy	580	21%	22%	21%	20%	20%	16%	18%	15%	22%	30%	23%	15%	31%	20%	28%
	Rain	271	10%	8%	11%	8%	12%	6%	11%	9%	9%	7%	11%	11%	10%	10%	8%
	Snow	185	7%	11%	5%	14%	6%	22%	11%	13%	4%	8%	6%	2%	2%	5%	5%
	Sleet/Hail/Freezing Rain	61	2%	5%	1%	3%	1%	4%	3%	11%	2%	3%	1%	0%	1%	1%	1%
	Blowing Sand/Soil/Snow	31	1%	3%	0%	0%	0%	2%	0%	6%	1%	5%	1%	0%	1%	0%	2%
	Fog/Smoke/Smog	18	1%	1%	1%	1%	0%	0%	0%	1%	1%	2%	1%	4%	1%	0%	1%
	Severe Cross Wind	8	0%	1%	0%	1%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	0%

5.1.1. URBAN VERSUS RURAL CRASHES

There is a notable disparity between the number of crashes recorded in rural sections of US 30 versus the number of crashes recorded in urban sections of US 30. While urban areas make up only one-third of the entire US 30 East study area length, crashes in urban areas make up approximately two-thirds of all crashes. A majority of the crashes (60%) have occurred within the urban sections of Warsaw and Columbia City.

The majority of the urban crashes are rear-end type collisions. This type of crash is common in urban areas where congested, stop-and-go conditions can be created by numerous, closely-spaced intersections. Additionally, rear end collisions are common when vehicles approach a stop (signal or otherwise) for the first time in a while after driving unobstructed for a period of time.

5.1.2. INTERSECTION VERSUS NON-INTERSECTION CRASHES

Overall, the number of crashes that have occurred at intersections (54%) is only slightly higher than non-intersection crashes (46%). However, when comparing urban and rural sections, urban sections see a more prominent trend in crashes occurring at intersections (59%) than rural intersections (41%). This is consistent

with expectation of higher crashes associated with multiple closely spaced intersections operating at higher traffic volumes than rural intersection locations.

Rural sections of the study area typically see a smaller portion of crashes at intersections when compared to urban sections. This can be attributed to longer stretches of roadway while traveling at higher speeds. The rural sections generally saw a higher percentage of the 'ran off road' type crash than urban areas. This is likely attributed to fewer intersections in rural areas operating at lower traffic volumes than urban sections.

5.1.3. VEHICLE TYPE

Although trucks and heavy vehicles (e.g., semi-trucks, farm vehicles, and buses) make up on average 28% of US 30 traffic, they are only involved in approximately 21% of all crashes. This statistic indicates that these vehicle types are not involved in a disproportionately large number of crashes, and the percent of crashes involving trucks is slightly lower than the average volume of trucks traveling this study area.

5.1.4. CRASH SEVERITY

Table 5 - ProPEL US 30 East Distribution of Severe Crashes by Location, Mode, Severity and Type

US 30 East 2017-2021 Severe Injury Crashes		Overall		Rural	Urban	US 30 East Segments										Intersections			
						1 Rural	2 Urban Warsaw	3 Rural	4 Urban Pierceton	5 Rural	6 Urban Columbia City	7 Rural	8 Urban Ft. Wayne	9 Urban New Haven	10 Rural	Signal-ized		Unsignal-ized	
Total Crashes		**246**		**85**	**161**	**16**	**23**	**5**	**3**	**20**	**102**	**21**	**20**	**13**	**23**	**83**		**48**	
% of Injury Crashes		100%		35%	65%	7%	9%	2%	1%	8%	41%	9%	8%	5%	9%	63%		37%	
Category	**Crash Types**																		
Location	Intersection	132	54%	47%	57%	63%	65%	0%	67%	25%	52%	57%	65%	69%	57%				
	Non-Intersection	112	46%	52%	42%	38%	35%	100%	33%	70%	47%	43%	35%	31%	43%				
	Driveway	2	1%	1%	1%	0%	0%	0%	0%	5%	1%	0%	0%	0%	0%				
Vehicle Type	Passenger	166	67%	69%	66%	63%	74%	80%	67%	70%	68%	81%	55%	62%	61%	53	64%	35	73%
	Tractor/Truck	77	31%	28%	33%	38%	22%	20%	33%	25%	32%	14%	45%	38%	39%	29	35%	13	27%
	Farm	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0	0%	0	0%
	Ped/Bike	3	1%	2%	1%	0%	4%	0%	0%	5%	0%	5%	0%	0%	0%	1	1%	0	0%
Type	Rear End	88	36%	13%	48%	19%	48%	20%	33%	20%	48%	5%	60%	31%	9%	38	46%	3	6%
	Right Angle	76	31%	45%	24%	69%	22%	0%	0%	25%	25%	52%	0%	54%	48%	26	31%	34	71%
	Ran Off Road	34	14%	27%	7%	13%	4%	40%	33%	30%	5%	24%	20%	0%	35%	1	1%	5	10%
	Same Direction Sideswipe	13	5%	6%	5%	0%	4%	0%	0%	15%	3%	5%	20%	0%	4%	2	2%	1	2%
	All Other	35	14%	9%	17%	0%	22%	40%	33%	10%	19%	14%	0%	15%	4%	16	19%	5	10%
Lighting	Daylight	158	64%	66%	63%	63%	65%	80%	33%	65%	65%	67%	60%	62%	65%	52	63%	29	60%
	Dark (Not Lighted)	51	21%	26%	18%	25%	17%	20%	33%	25%	19%	29%	10%	23%	26%	13	16%	9	19%
	Dark (Lighted)	24	10%	1%	14%	6%	17%	0%	33%	0%	12%	0%	25%	8%	0%	14	17%	4	8%
	Dawn/Dusk	13	5%	7%	4%	6%	0%	0%	0%	10%	5%	5%	5%	8%	9%	4	5%	6	13%
	Unknown	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0	0%	0	0%
Weather	Clear	166	67%	65%	69%	75%	83%	80%	100%	55%	67%	52%	50%	85%	74%	59	71%	30	63%
	Cloudy	54	22%	19%	24%	25%	13%	20%	0%	15%	25%	29%	45%	0%	9%	15	18%	15	31%
	Rain	13	5%	7%	4%	0%	4%	0%	0%	15%	4%	5%	5%	8%	9%	6	7%	2	4%
	Snow	6	2%	5%	1%	0%	0%	0%	0%	15%	1%	5%	0%	8%	0%	2	2%	0	0%
	Sleet/Hail/Freezing Rain	2	1%	1%	1%	0%	0%	0%	0%	0%	1%	0%	0%	0%	4%	0	0%	1	2%
	Blowing Sand/Soil/Snow	1	0%	1%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0	0%	0	0%
	Fog/Smoke/Smog	3	1%	2%	1%	0%	0%	0%	0%	0%	1%	5%	0%	0%	4%	1	1%	0	0%
	Severe Cross Wind	1	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0	0%	0	0%

Within the corridor, 246 combined incapacitating injury and fatal crashes occurred during the five-year period from 2017 through 2021 (see Table 5). Severe injury crashes were closely split between intersection crashes (54%) and non-intersection crashes (46%). Approximately two-thirds of the intersection crashes occurred at signalized intersections. Approximately two-thirds (65%) of these severe injury crashes occurred in urban sections. The predominant crash types for urban sections were rear-end crashes (48%) and right-angle crashes

(24%), while rural sections were mostly right-angle crashes (45%) and ran off road crashes (27%). Severe injury crashes largely took place in Columbia City with 41% of all severe injury crashes occurring within the 10.2-mile section with a predominant pattern of rear-end crashes.

5.1.5. TYPE

Of the 2,728 crashes, the predominant crash type was rear-end, accounting for approximately 46% of all crashes, followed by ran off the road (15%), same direction side swipe (14%), and right-angle (12%). Other crash categories include left-turn, object in road, opposite direction sideswipe, and others.

A majority of crashes in urban areas were rear-end crashes, while rural areas had a more even distribution of crash types, split mostly between rear-end, ran off road, and right-angle crashes. Rear-end crashes primarily occurred on US 30 for the eastbound and westbound approaches rather than the side street approaches.

5.1.6. SIGNALIZED VERSUS UNSIGNALIZED INTERSECTIONS

An analysis of crashes occurring at signalized and unsignalized intersections was performed to help understand any patterns or trends between the two. Of the nearly 1,500 crashes that occurred at intersections, 74% occurred at signalized intersections. The higher rate of crashes occurring at signalized intersections is indicative of the higher traffic volumes occurring at these locations that warrant a signal to manage operations. Rear end crashes are the predominant type at signals (60%), while right-angle crashes are more predominant at non-signalized intersections (37%). Right-angle crashes tend to be more severe than rear end crashes due to the angle of impact. This is reflected in the rate of injury crashes which is slightly higher at non-signalized intersections (32%) versus signalized intersections (26%).

5.1.7. LIGHTING & WEATHER

The summary of the crash reports indicates that weather and lighting conditions were not primary factors, as the majority of crashes occurred during daylight (70%) on dry pavement (73%), and during clear or cloudy weather conditions (79%).

5.2. ROADHAT ANALYSIS

For each intersection and roadway section within the study area, a RoadHAT 4.1 analysis was undertaken. A RoadHAT analysis results in an Index of Crash Frequency (ICF) and Index of Crash Cost (ICC) to standardize the crash data at each intersection and roadway section and identify those locations experiencing more frequent or severe crashes. The inputs for the analysis include crash and injury type, average annual daily traffic (AADT) volumes, roadway classification, and various other unique roadway characteristics. These indices represent the standard deviations above or below the mean for a particular intersection or section compared to the statistical database of similar locations across Indiana.

A negative value indicates the location is performing better than expected from a safety perspective while a positive value indicates the location is performing worse than expected. A high ICF typically indicates a location with a high frequency of one or more types of crashes. A high ICC can occur at an intersection where more severe crashes occur.

For this study, crash locations were classified as critical if their ICC or ICF was higher than 1.00. While safety improvements should be considered for all locations with an ICC or ICF of greater than 0.00, values above 1.00 are indicative of a location where improving safety should be prioritized. Locations where the ICC or ICF is between 0.00 and 1.00 will be investigated for severe injury crash patterns during alternatives analysis. The crash severity, total number of crashes, the ICF, and the ICC for each intersection and roadway section within

this study area are shown in Tables 17-24 of Appendix A with the critical ICC and ICF values displayed in red text. A compiled list of the critical locations sorted from highest to lowest ICC is shown in Table 6 below. Figure 8 also identifies where the critical crash locations are occurring along the study area.

Table 6 – ProPEL US 30 East Critical Crash Locations 2017-2021

Location	County	RP	Control	ICF	ICC
CR300E	WHITLEY	114.9	SIGNAL	0.84	2.23
VAN NESS E JCT	KOSCIUSKO	98.8	2-WAY STOP	1.88	1.93
CR150W	KOSCIUSKO	89.5	SIGNAL	0.57	1.78
SR205	WHITLEY	112.8	SIGNAL	0.89	1.69
SR9	WHITLEY	111.5	SIGNAL	0.72	1.52
US33 WB ON-RAMP	ALLEN	127.5	N/A (RAMP)	1.06	1.40
PARKER ST	KOSCIUSKO	92.7	SIGNAL	1.47	1.39
SPRINGHILL ST	KOSCIUSKO	92.2	SIGNAL T	-0.17	1.33
US33 EB ON-RAMP	ALLEN	127.5	RAMP	0.72	1.30
CR200N	KOSCIUSKO	91.1	SIGNAL	0.94	1.24
MEIJER DR	KOSCIUSKO	91.4	SIGNAL T	1.41	1.20
COUNTY LINE RD*	ALLEN	120.2	SIGNAL	0.78	1.20
KROEMER RD	ALLEN	126.8	SIGNAL	0.54	1.13
DOYLE RD	ALLEN	141.5	SIGNAL	-0.35	1.06
ARMSTRONG DR	WHITLEY	110.7	SIGNAL T	0.35	1.04
CR800W	KOSCIUSKO	82.8	2-WAY STOP	0.84	1.04
SR109	WHITLEY	111.2	SIGNAL	0.23	1.02
SR19	KOSCIUSKO	80.1	SIGNAL	0.25	1.00
O'DAY RD	ALLEN	125.0	2-WAY STOP	1.34	0.4
SR15 EB ON-RAMP	KOSCIUSKO	90.5	N/A (RAMP)	1.45	0.22

*Note – From stakeholder feedback of recent crash issues, 2022 crash data is included for this intersection

5.2.1. CR 300 E

The intersection of US 30 and CR 300 E is a signalized urban intersection near the eastern city limits of Columbia City. This is the first traffic signal for westbound traffic after a five-mile free-flow section. The speed limit at this location is 60 mph. This location shows up on the critical locations list with a high ICC with mainline US 30 rear-end crashes as the most frequent severe crash type. This intersection also had a moderate frequency of mainline PDO rear-end crashes, which account for approximately two-thirds of the rear-end crashes, with injury crashes accounting for approximately the other third. In general, signalized intersections that have a high number of rear-end crashes can often be due to poor operation/congestion and excessive speeding. This intersection also experienced a few high-severity, westbound left-turn crashes during the permissive flashing yellow phase in the morning peak periods. Most of these occurred in 2018 and 2019 after the offset left turn lanes were installed contradictory to the purpose behind that installation.

5.2.2. VAN NESS E JCT

The intersection of US 30 and Van Ness E Jct. is an unsignalized, two-way stop controlled rural intersection in Kosciusko County. This intersection is located in a hilly area which could be causing poor visibility, although no specific geometric deficiencies have been identified. This location shows up on the critical locations list with a high ICC with a mixture of high severity crash types. There is no major pattern contributing to these crashes, but a majority involved eastbound traffic (right-angle crashes, ran off road crashes, or rear-end crashes). This

location shows up on the list with a high ICF with ran off road crashes as the most frequent crash type. A majority of these crashes occurred in poor weather conditions.

5.2.3. CR 150 W

The intersection of US 30 and CR 150 W is a signalized urban intersection near the western city limits of Warsaw. This is the first traffic signal for eastbound traffic after a nine-mile free-flow section. The speed limit at this location is 55 mph. The intersection is in a hilly area, which although there are no identified geometric deficiencies may still lead to poor visibility. Additionally, the traffic operations in the area led to the installation of dual "Congested Area" and flashing "Signal Ahead" warning signs. This intersection is designated as critical due to its high ICC. The most common severe crashes were rear-end crashes, eastbound left-turn crashes on permissive flashing yellow arrow, and several right-angle crashes caused by running red lights along the mainline. Approximately one-quarter of all rear-end crashes resulted in injury. In general, signalized intersections that have a high number of rear-end crashes can often be due to poor operation/congestion and excessive speeding.

5.2.4. SR 205

The intersection of US 30 and SR 205 is a signalized urban intersection in Columbia City. The speed limit at this location is 60 mph. This location shows up on the critical locations list with a high ICC with mainline US 30 rear-end crashes as the most frequent severe crash type. This intersection also had a moderate frequency of mainline US 30 PDO rear-end crashes accounting for approximately three-quarters of the rear-end crashes with injury crashes accounting for approximately the other quarter. In general, signalized intersections that have a high number of rear-end crashes can often be due to poor operation/congestion and excessive speeding. This intersection also has a few high severity right-angle crashes mostly due to red light running.

5.2.5. SR 9

The intersection of US 30 and SR 9 is a signalized urban intersection in Columbia City. This location shows up on the critical locations list with a high ICC with eastbound US 30 rear-end crashes as the most frequent severe crash type. The speed limit at this location is 45 mph. This intersection also had a moderate frequency of mainline US 30 PDO rear-end crashes, which account for approximately three-quarters of the rear-end crashes, with injury crashes taking up the other one-quarter. In general, signalized intersections that have a high number of rear-end crashes can often be due to poor operation/congestion and excessive speeding. This intersection also has a few high severity right-angle crashes mostly due to red light running.

5.2.6. US 33 WB ON RAMP

The US 30 WB on ramp from US 33 shows up on the critical locations list with a high ICC and ICF with two severe motorcycle crashes on a lower traffic volume ramp. There are no clear crash patterns from the data to indicate any concerns at this location.

5.2.7. PARKER ST

The intersection of US 30 and Parker St is a signalized urban intersection in Warsaw. The speed limit at this location is 50 mph to the west and 45 mph to the east. This location shows up on the critical locations list with a high ICC with mainline US 30 rear-end crashes as the most frequent severe crash type. This intersection also had a high frequency of mainline US 30 PDO rear-end crashes, which account for approximately three-quarters of the rear-end crashes, with injury crashes taking up the other one-quarter. In general, signalized intersections that have a high number of rear-end crashes can often be due to poor operation/congestion and

excessive speeding. This intersection also has a pattern of same direction sideswipe crashes in the southbound to eastbound left turn lane prior to entering the intersection. These crashes mainly resulted from traffic in the southbound through lane on Parker St attempting to change lanes into the southbound left turn lane.

5.2.8. SPRINGHILL RD

The intersection of US 30 and Springhill Rd is a signalized urban T-intersection in Warsaw. The speed limit at this location is 50 mph. This location has dual 'signal ahead' warning signs. It is located in a hilly area which could be causing poor visibility, although no specific geometric deficiencies have been identified. This location shows up on the critical locations list with a high ICC with eastbound US 30 rear-end crashes as the most frequent severe crash type. This intersection also had a moderate frequency of mainline US 30 PDO rear-end crashes, which account for approximately two-thirds of the crashes, with injury crashes taking up the other one-third. In general, signalized intersections that have a high number of rear-end crashes can often be due to poor operation/congestion and excessive speeding.

5.2.9. US 33 EB ON RAMP

The US 30 EB on ramp from US 33 shows up on the critical locations list with a high ICC with a few severe rear-end crashes. These crashes primarily occured due to traffic merging on to US 30 from US 33 in congested traffic according to the crash narratives.

5.2.10. CR 200 N

The intersection of US 30 and CR 200 N/Anchorage Rd is a signalized urban intersection in Warsaw. The speed limit at this location is 50 mph. This location has 'signal ahead' warning signs. It is located in a hilly area which could be causing poor visibility, although no specific geometric deficiencies have been identified. This location shows up on the critical locations list with a high ICC with eastbound US 30 rear-end crashes as the most frequent severe crash type. This intersection also had a moderate frequency of mainline US 30 PDO rear-end crashes, which account for approximately three-quarters of the rear-end crashes, with injury crashes taking up the other one-quarter. In general, signalized intersections that have a high number of rear-end crashes can often be due to poor operation/congestion and excessive speeding.

5.2.11. MEIJER DR

The intersection of US 30 and Meijer Dr is a signalized urban T-intersection in Warsaw. The speed limit at this location is 50 mph. This location shows up on the critical locations list with a high ICC with mainline US 30 rear-end crashes as the most frequent severe crash type. This intersection also had a high frequency of mainline US 30 PDO rear-end crashes, which account for approximately three-quarters of the rear-end crashes, with injury crashes taking up the other one-quarter. In general, signalized intersections that have a high number of rear-end crashes can often be due to poor operation/congestion and excessive speeding. This location also has a moderate frequency of same direction sideswipe crashes occurring in the eastbound right turn lane as well as the westbound left turn lanes.

5.2.12. COUNTY LINE RD

The intersection of US 30 and County Line Rd/CR 800 E is a signalized rural intersection on the Whitley/Allen County line. This is the first traffic signal for eastbound traffic after a two-mile free-flow section and the first traffic signal for westbound traffic after a six-mile free-flow section. The speed limit at this location is 60 mph. This location shows up on the critical locations list with a high ICC with mainline US 30 rear-end crashes as the most frequent severe crash type. Rear end crashes comprised nearly two-thirds of the injury crashes with a

majority in the westbound direction. The other one-third of injury crashes was primarily split between severe left-turn crashes and right-angle crashes. The left-turn crashes were mostly westbound vehicles turning southbound on a permissive flashing yellow and hitting an eastbound vehicle. These crashes often occurred in the AM and PM peak hours when there are the fewest gaps in opposing traffic. The right-angle crashes were primarily eastbound vehicles running a red light and hitting a northbound vehicle.

5.2.13. KROEMER RD

The intersection of US 30 and Kroemer Rd is a signalized urban intersection near the western city limits of Fort Wayne. This is the first traffic signal for eastbound traffic after a six-mile free-flow section. The speed limit at this location is 60 mph. This location shows up on the critical locations list with a high ICC with mainline US 30 rear-end crashes as the most frequent severe crash type. This intersection also had a moderate frequency of mainline US 30 PDO rear-end crashes, which account for approximately three-quarters of the rear-end crashes, with injury crashes taking up the other one-quarter. In general, signalized intersections that have a high number of rear-end crashes can often be due to poor operation/congestion and excessive speeding. As part of the Flaugh Road project under development, the access control for the side street approaches at Kroemer Road is planned to become a right-in/right-out condition. For more information on this project see Table 18 within Section 8 Study Area Transportation Projects (DES 1901890).

5.2.14. DOYLE RD

The intersection of US 30 and Doyle Rd is a signalized rural intersection near the eastern city limits of Fort Wayne. This is the first traffic signal for westbound traffic on US 30 after crossing the Ohio border into Indiana. The speed limit at this location is 60 mph andthis location has dual 'signal ahead' warning signs. This location shows up on the critical locations list with a high ICC with westbound US 30 rear-end crashes as the most frequent severe crash type. This intersection also had a moderate frequency of mainline US 30 PDO rear-end crashes, which account for approximately three-quarters of the rear-end crashes, with injury crashes taking up the other one-quarter. In general, signalized intersections that have a high number of rear-end crashes can often be due to poor operation/congestion and excessive speeding. This intersection also has a few high severity right-angle crashes mostly due to westbound red light running.

5.2.15. ARMSTRONG DR

The intersection of US 30 and Armstrong Dr is a signalized urban T-intersection in Columbia City. This location shows up on the critical locations list with a high ICC due to the several high severity eastbound US 30 rear-end crashes. The speed limit at this location is 50 mph. This intersection also has a few high severity left turn crashes primarily due to eastbound vehicles turning north in front of westbound vehicles on a permissive flashing yellow arrow.

5.2.16. CR 800 W

The intersection of US 30 and CR 800 W is a unsignalized, two-way stop-control rural intersection in Kosciusko County. This location shows up on the critical locations list with a high ICC due to the high severity and moderate frequency of right-angle crashes. A majority of these are second-crossing crashes which are northbound with westbound or southbound with eastbound. This type of crash is often due to the lack of space in the median for a two-stage crossing or drivers misjudging gaps in traffic and attempting to cross both directions of travel at once. This location has an overhead amber/red flasher and yield signs in the median. The median is approximately 20-30' wide so there is room for smaller vehicles to sit and wait, but not necessarily for larger trucks. Trucks make up approximately one-third of right-angle crashes at this location.

5.2.17. SR 109

The intersection of US 30 and SR 109 is a signalized urban intersection in Columbia City. This location shows up on the critical locations list with a high ICC due to the several high severity mainline US 30 rear-end crashes. The speed limit at this location is 50 mph to the west and 45 mph to the east. This intersection also had a moderate frequency of mainline US 30 PDO rear-end crashes, which account for approximately three-quarters of the rear-end crashes, with injury crashes taking up the other one-quarter. In general, signalized intersections that have a high number of rear-end crashes can often be due to poor operation/congestion and excessive speeding.

5.2.18. SR 19

The intersection of US 30 and SR 19 is a signalized urban intersection in Etna Green. This location shows up on the critical locations list with a high ICC due to the several high severity eastbound US 30 rear-end crashes. The speed limit at this location is 50 mph. This intersection also had a moderate frequency of mainline US 30 PDO rear-end crashes, which account for approximately three-quarters of the rear-end crashes, with injury crashes taking up the other one-quarter. In general, signalized intersections that have a high number of rear-end crashes can often be due to poor operation/congestion and excessive speeding.

5.2.19. O'DAY RD

The intersection of US 30 and O'Day Rd is an unsignalized, two-way stop-controlled rural intersection near the western city limits of Fort Wayne. This location shows up on the critical locations list with a high ICF due to a mixture of high frequency crash patterns including mainline rear-end crashes, mainline ran off road crashes in the right turn lanes, and right-angle crashes. The speed limit at this location is 60 mph. This location is already planned to be modified as part of a diverging diamond interchange project at the nearby intersection of US 30 and Flaugh Rd. For more information on this project see Table 18 within Section 8 Study Area Transportation Projects (DES 1901890).

5.2.20. SR 15 EB ON RAMP

The US 30 EB on-ramp from SR 15 shows up on the critical locations list with a high ICF due to a high frequency of ran off road crashes on a lower volume ramp. Most of these crashes occurred due to poor weather conditions.

5.3. TRAFFIC SAFETY CONCLUSIONS

The five-year crash history from 1/1/2017 through 12/31/2021 along the 60+ mile study area of US 30 between the Beech Rd intersection in Marshall County to the Indiana/Ohio border in Allen County shows a split of severe crash patterns in urban locations vs rural locations. The primary concern at urban locations was rear-end crashes at signalized intersections. Thirteen (13) of the 20 critical ICC and ICF locations were signalized intersections in or near urban areas with several high severity mainline rear-end crashes. In general, high severity rear-end crashes can often be due to poor operation/congestion and excessive speeding. The primary concern at rural locations was right-angle crashes at unsignalized intersections. In general, these types of crashes on a four lane divided highway can often be due to side street drivers misjudging gaps in mainline traffic and attempting to turn out onto or across the mainline.

Following in Figures 8-11 are visual representations of where crashes and severity of crashes are distributed along the study area and within urban or rural sections.

Figure 8 – ProPEL US 30 East Intersection Crash Data Summary

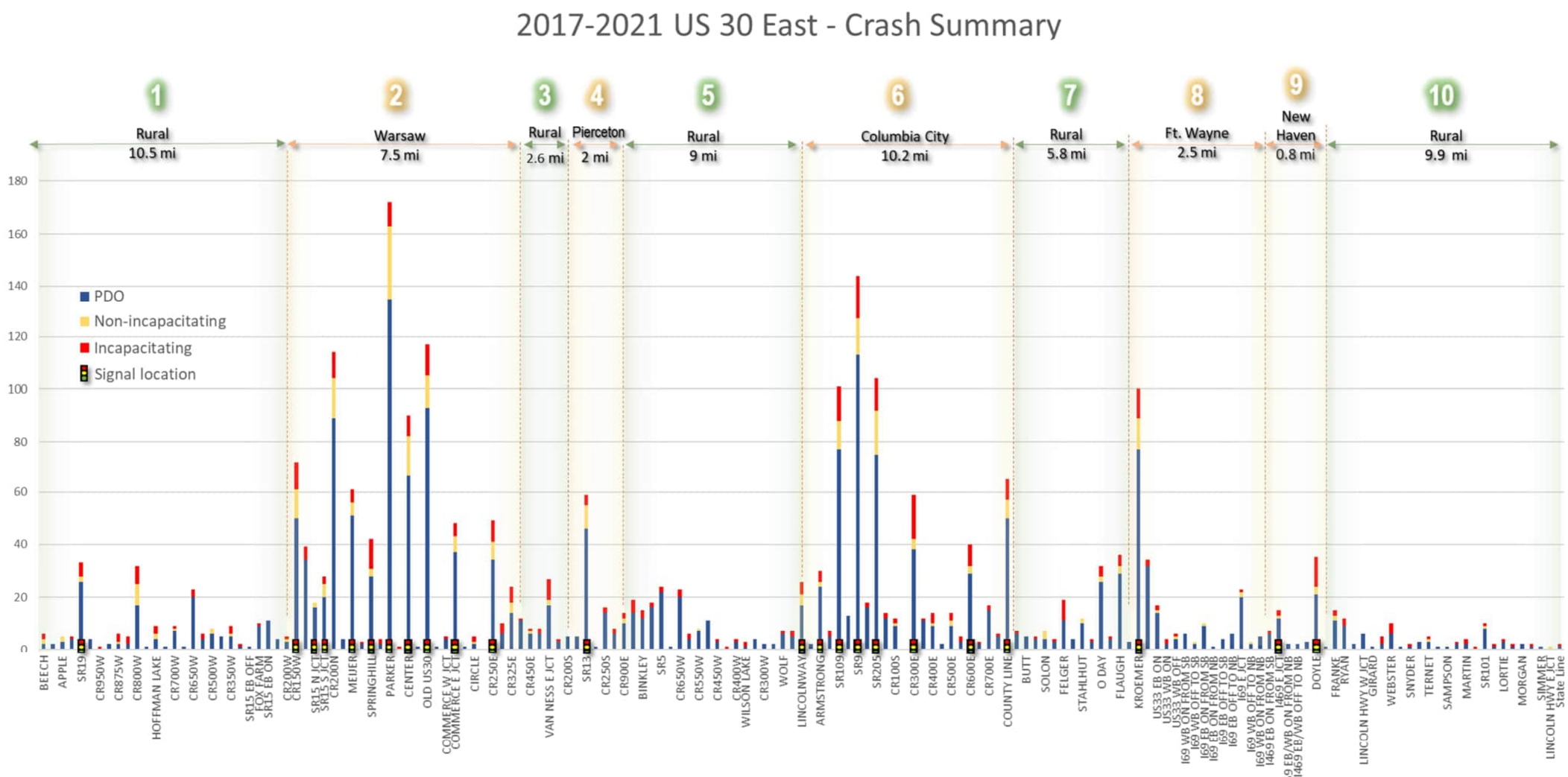


Figure 9 - ProPEL US 30 East Intersection ICF

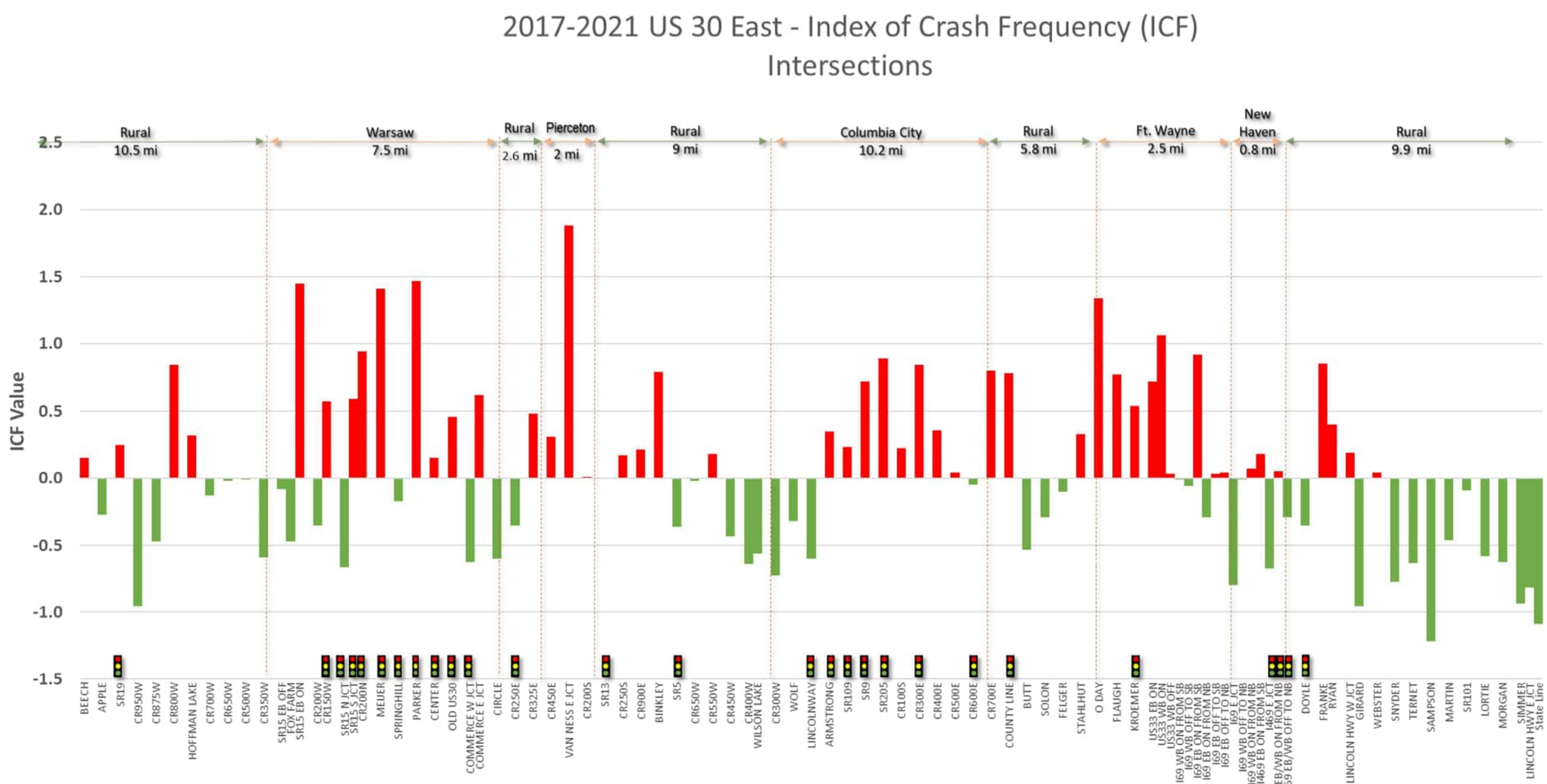


Figure 10 - ProPEL US 30 East Intersection ICC

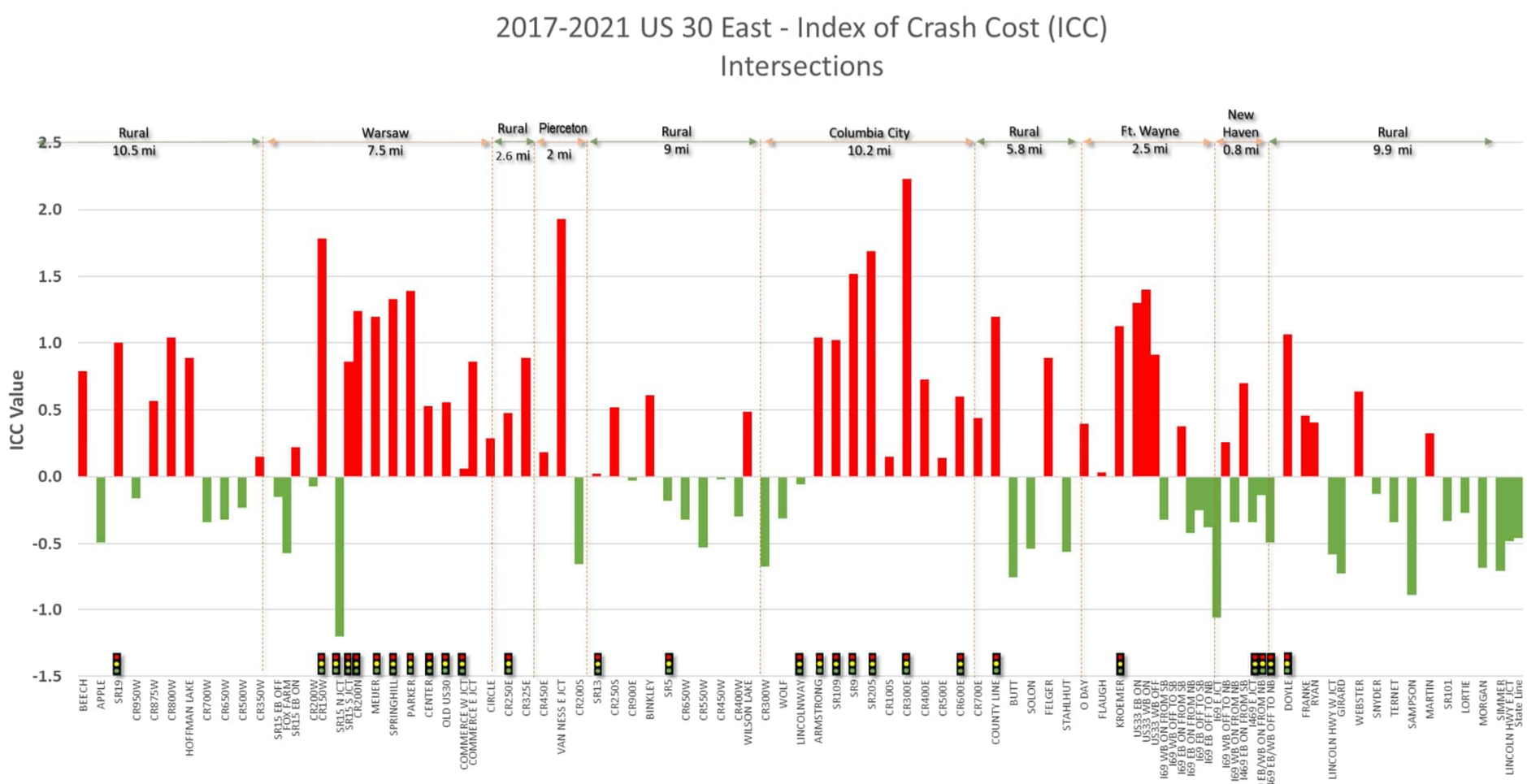
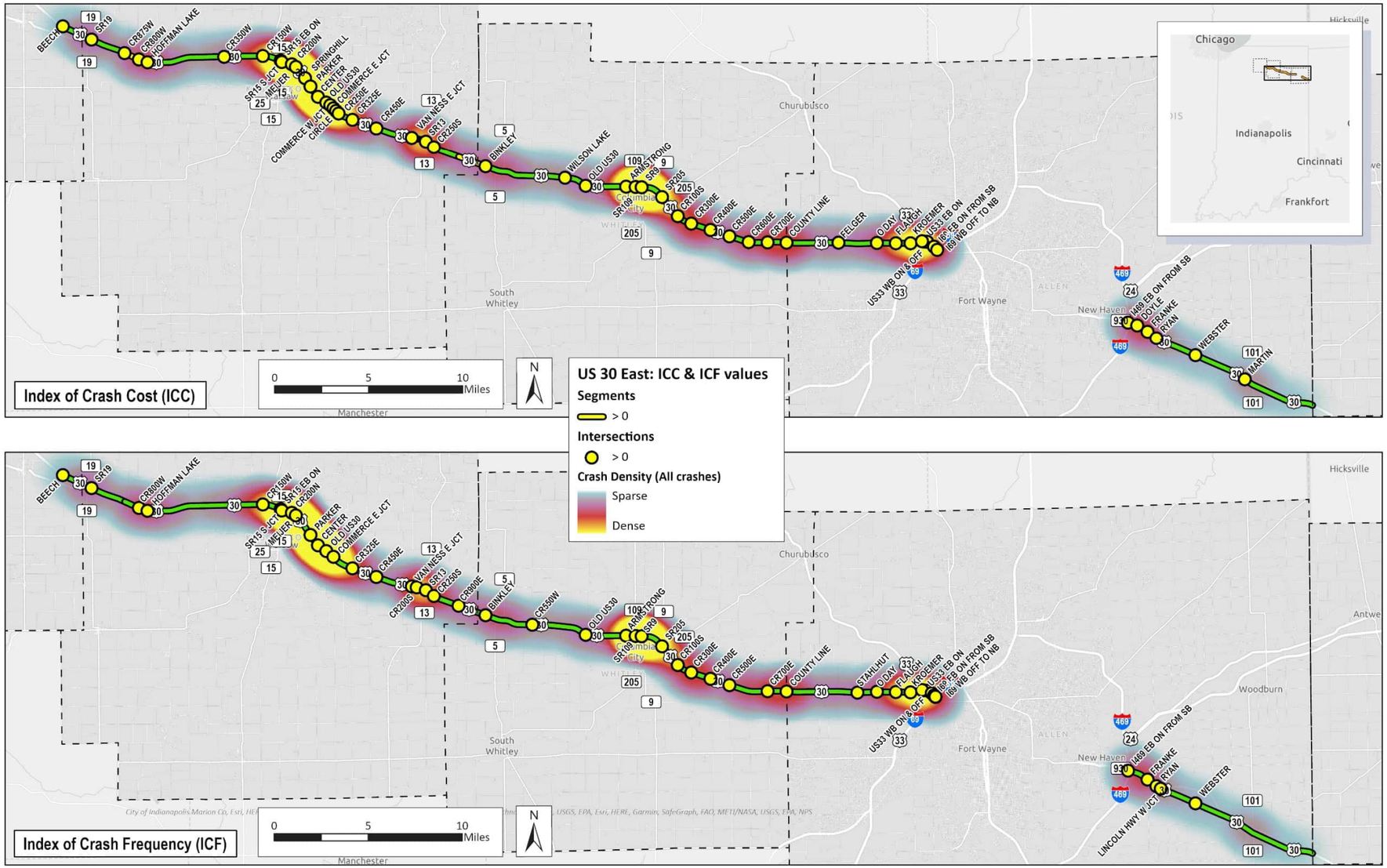


Figure 11 - ProPEL US 30 East Crash Data, ICC and ICF Summary



6. VEHICLE SPEEDS

6.1. SPEED DATA ANALYSIS

Speed data was collected from NPMRDS for the US 30 East study area for the calendar year of 2022. This data is derived from GPS based mobile devices in vehicles traveling along the roadway along established NPMRDS roadway sections along US 30 East. The data provided is divided into three categories: all vehicles, passenger cars, and trucks. For the analysis portion, each NPMRDS section was categorized by either urban/rural setting and posted speed limit. Averages were obtained from the INRIX data based on time-of-day ranges. Time periods were defined as follows:

- AM 7:00 AM through 9:00 AM
- Midday 9:00 AM through 4:00 PM
- PM 4:00 PM through 6:00 PM
- Overnight 6:00 PM through 6:00 AM

6.2. SPEED DATA SUMMARY

A study area level summary of the 2022 weekday speed data for the study area is provided in Table 7, comparing average recorded speeds against the average posted speed limit in the study area. These represent average eastbound and westbound speeds.

Table 7 - ProPEL US 30 East 2022 Average Weekday Speed Data Summary

2022 Speeds	Average Weekday Recorded Speed (MPH)				Average Posted Speed Limit	Speed Variance From Posted Speed Limit %			
	AM	Midday	PM	Overnight		AM	Midday	PM	Overnight
All Vehicles	54.6	54.0	56.4	54.9	58.5 MPH	-7%	-8%	-4%	-6%
Passenger	55.6	54.9	57.6	56.4		-5%	-6%	-2%	-4%
Trucks	53.4	52.7	55.4	53.2		-9%	-10%	-5%	-9%

The data shows that all vehicles for both directions of travel are averaging between two and ten percent below the average posted speed limit along this study area throughout the day. The slowest time of day is midday between 9:00 AM and 4:00 PM with speeds averaging between six and eight percent below posted speeds, on average. The fastest time of day is overnight between 6:00 PM and 6:00 AM with speeds averaging between four and nine percent below the posted speed limit. As would be expected, passenger vehicle speeds are higher than truck speeds, trending between three and five percent faster than trucks study area wide.

Taking a closer look at weekday midday speeds, Table 8 summarizes how midday period speeds vary along the study area length within each urban and rural section of the study area. Urban and rural sections are represented the Figure 7 map.

Table 8 - ProPEL US 30 East 2022 Average Midday Speed Data – Urban versus Rural By Direction

Context			Overall Average	Rural Average	Urban Average	Rural	Warsaw	Rural	Pierceton	Rural	Columbia City	Rural	Ft.Wayne	NewHaven	Rural
		Section #				1	2	3	4	5	6	7	8	9	10
		Length (mi)	58.0	41.5	16.5	8.9	7.5	2.6	2.0	9.0	5.0	11.0	1.2	0.8	10.1
		Ave. Posted Spd (mph)	**58.5**	**59.9**	**55.1**	**60.0**	**51.8**	**60.0**	**57.4**	**59.6**	**57.1**	**60.0**	**60.0**	**60.0**	**60.0**
All Vehicles	WB	Ave. Spd (mph)	53.9	57.3	45.3	55.9	40.7	52.2	53.9	55.0	43.9	58.8	57.3	57.2	60.3
		% Diff	-8%	-4%	-18%	-7%	-21%	-13%	-6%	-8%	-23%	-2%	-4%	-5%	1%
	EB	Ave. Spd (mph)	54.1	57.2	46.3	54.5	41.7	54.1	55.1	55.8	46.0	57.8	55.4	55.5	61.0
		% Diff	-8%	-5%	-16%	-9%	-20%	-10%	-4%	-6%	-19%	-4%	-8%	-8%	2%
Passenger	WB	Ave. Spd (mph)	55.0	58.5	46.3	57.1	41.2	51.1	54.5	55.2	45.4	61.1	60.7	58.1	61.6
		% Diff	-6%	-2%	-16%	-5%	-20%	-15%	-5%	-7%	-21%	2%	1%	-3%	3%
	EB	Ave. Spd (mph)	54.9	58.1	47.0	55.5	42.6	54.6	56.3	55.6	45.9	59.7	57.4	55.8	61.8
		% Diff	-6%	-3%	-15%	-8%	-18%	-9%	-2%	-7%	-20%	-1%	-4%	-7%	3%
Trucks	WB	Ave. Spd (mph)	52.6	56.1	44.0	54.4	40.1	52.0	53.1	54.8	41.6	56.4	55.5	56.0	59.3
		% Diff	-10%	-6%	-20%	-9%	-23%	-13%	-7%	-8%	-27%	-6%	-8%	-7%	-1%
	EB	Ave. Spd (mph)	52.9	55.9	45.3	53.2	40.6	52.7	53.3	55.2	45.4	55.5	53.8	54.7	60.2
		% Diff	-10%	-7%	-18%	-11%	-22%	-12%	-7%	-7%	-20%	-7%	-10%	-9%	0%

Overall, average observed 2022 travel speeds are trending around 8% below posted speeds, study area wide, with higher average speed trends in the east (east of New Haven) and lower average speeds in the west. Observed speeds in Warsaw and Columbia City urban areas are trending more than 20% under posted speed limits, attributed to higher traffic volumes progressing through the multiple closely spaced signalized intersections that causes stop and go travel as traffic progresses along US 30 though the many intersections. Figure 12 and Figure 13 illustrate how speed limits and observed travel speeds vary along the study area by direction. Average annual weekday, midday speeds for Eastbound and westbound travel is plotted for all vehicles.

On average trucks experience travel speeds of around 10% below posted speeds, study area wide, with a maximum of 23% and 27% below posted speeds in Warsaw and Columbia City, respectively. This is primarily attributed to stop and go intersection traffic, and one of the main challenges for heavy trucks in stop and go traffic is maintaining a consistent speed. When traffic slows down or comes to a complete stop, heavy trucks must also slow down or stop. Then, when traffic begins moving again, it takes longer for a heavy truck to accelerate and reach the appropriate speed, which can cause delays and congestion. With the traffic fleet along US 30 consisting of an average of 28% trucks, truck speed will also have an effect of lowering study area travel speeds for all vehicles.

Figure 12 - ProPEL US 30 East 2022 Westbound Average Annual Midday Corridor Travel Speeds

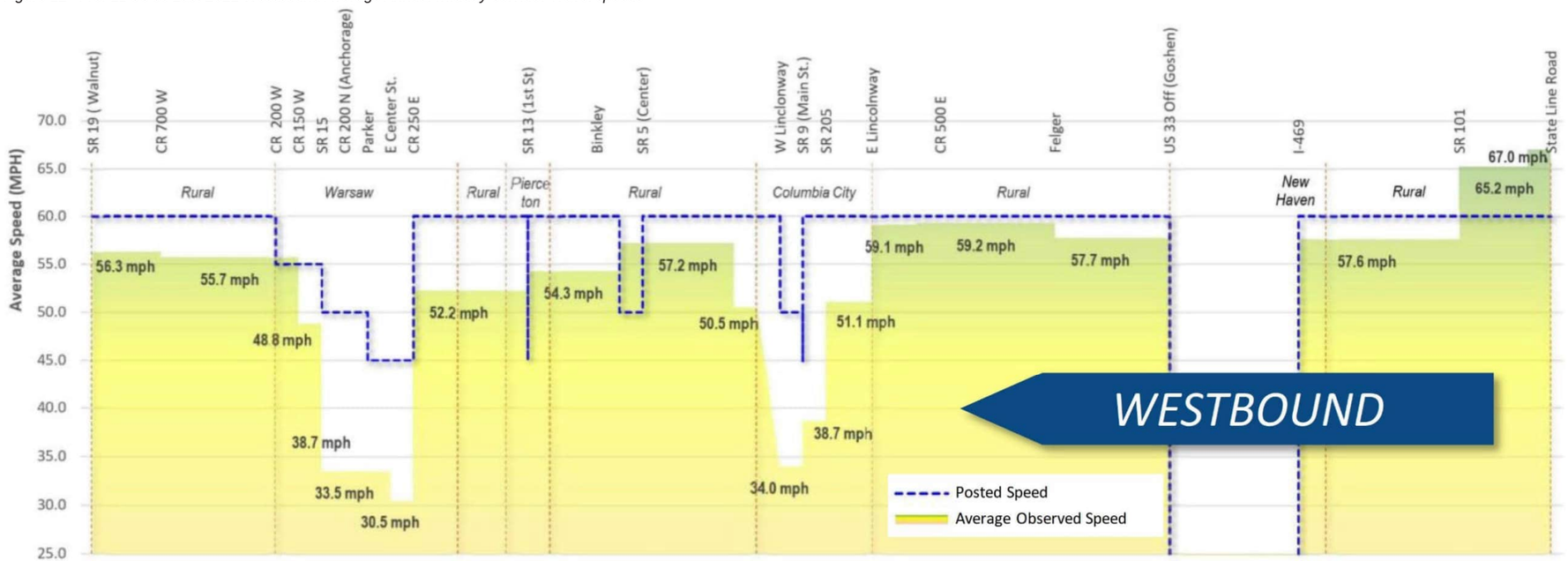
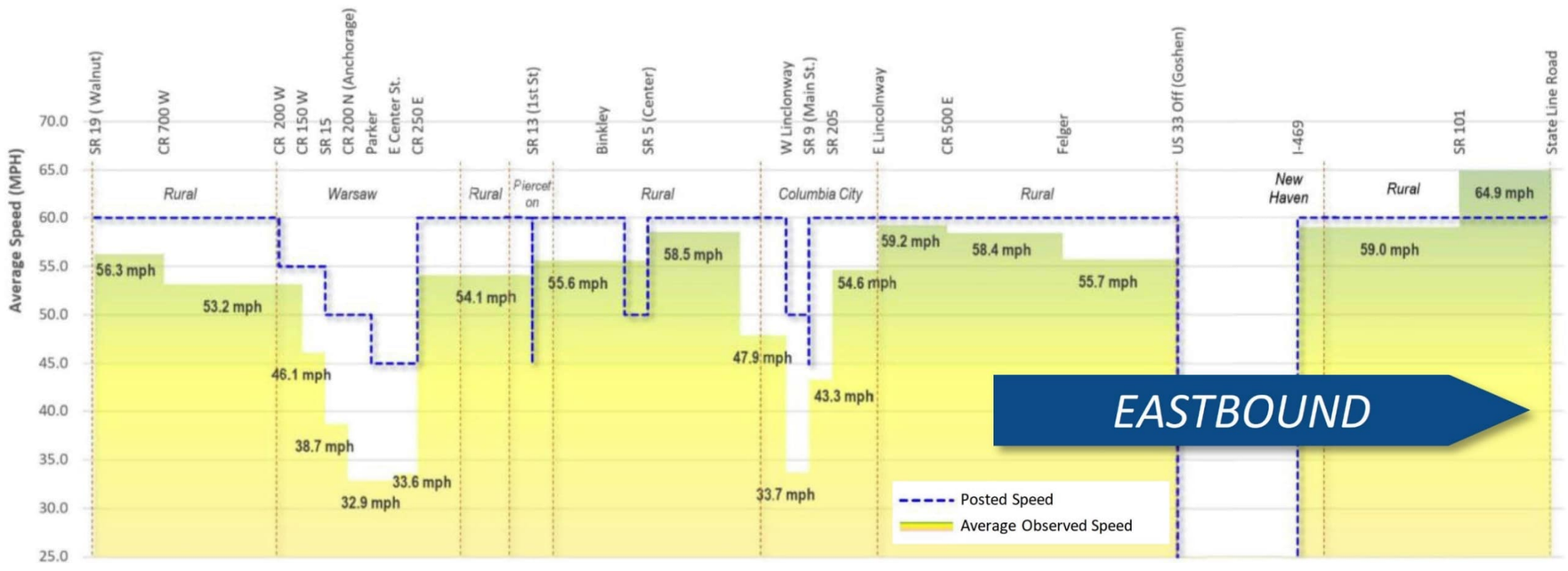


Figure 13 - ProPEL US 30 East 2022 Eastbound Average Annual Midday Corridor Travel Speeds



7. TRAFFIC OPERATIONS

7.1. TRAFFIC STUDY AREA

The existing and future operations of the intersections described in Section 2.4 were analyzed to identify areas of deficiency. As previously mentioned, this list included signalized intersections and non-signalized intersections with roadways classified as Major Collector or above.

7.2. EXISTING TRAFFIC VOLUMES

2022 traffic volumes were used as the existing traffic conditions for this study. A typical 24-hour report from Miovision breaks out the highest hour of traffic volumes during the morning and during the evening. These existing AM and PM peak traffic hours were used for the traffic operations analysis in this study. As described in Section 2.4, older traffic counts were utilized as part of this analysis. Any traffic counts provided by INDOT and MACOG that were older than 2022 were forecasted out to 2022 to be used as existing traffic volumes. See the below projected traffic volumes section for more information on the forecasting procedure.

7.3. PROJECTED TRAFFIC VOLUMES

Version 8 of the Indiana Statewide Travel Demand Model (ISTDM) was utilized as the base model for determining future traffic volumes in the study area. Traffic growth rates were developed for each approach at each counted intersection based on comparing existing and projected traffic volumes from the model. See Section 2.4 Traffic Data for more detail on counted intersections. These growth rates were applied to the existing 2022 counts to forecast future traffic volumes in 2045 for the AM and PM peaks. See Appendix C for existing and future traffic volumes.

7.4. NO-BUILD TRAFFIC OPERATIONS ANALYSIS

The primary measure of how well an intersection is performing from a traffic operations perspective is Level of Service (LOS). The LOS is primarily based on seconds of delay experienced per vehicle and is defined by a letter grade ranging from “A” (low delay) to “F” (high delay). Table 9 summarizes the LOS thresholds for signalized intersections and stop-controlled intersections. In general, a LOS of D or better is considered acceptable for design year conditions.

In addition to intersection LOS, interchange ramps have a separate measurement of operations based on density of vehicles within the interchange movements. These are referred to as merge and diverge areas, and the LOS thresholds are identified in Table 10. The key intersections for this study were analyzed using Synchro and HCS. HCM reports were created that show the LOS for each intersection, merge, and diverge areas. A summary of these results is shown in Tables 11-16 with any approaches having a LOS of E or worse displayed with red text.

Table 9 – Intersection LOS Thresholds

LOS	Signalized Intersections: Control Delay (sec/veh)	Stop-Controlled Intersections: Control Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 ≤ 20	> 10 ≤ 15
C	> 20 ≤ 35	> 15 ≤ 25
D	> 35 ≤ 55	> 25 ≤ 35
E	> 55 ≤ 80	> 35 ≤ 50
F	> 80	> 50

Source : *HCM 2010 : Highway Capacity Manual (TRB, 2010)*
> = greater than, ≤ = less than or equal to

Table 10 – Merge / Diverge LOS Thresholds

LOS	Density (pc/mi/ln)
A	≤ 10
B	> 10 ≤ 20
C	> 20 ≤ 28
D	> 28 ≤ 35
E	> 35
F	Demand exceeds capacity

Source : *HCM 6th Edition : Highway Capacity Manual (TRB, 2010)*
> = greater than, ≤ = less than or equal to

Table 11 - ProPEL US 30 East Intersection LOS in Kosciusko County 2022 AM / PM Peaks

Intersection	RP	Control	LOS AM / PM				Delay AM / PM (sec)			
			EB	WB	NB	SB	EB	WB	NB	SB
BEECH	78.4	2-WAY STOP	A / A	A / A	C / C	C / C	0 / 0	0 / 0	15.3 / 16.7	16.1 / 18.9
SR19	80.1	SIGNAL	B / B	B / B	C / C	C / C	15.3 / 17.5	10.6 / 11.0	29.3 / 28.1	24.8 / 27.9
CR800W	82.8	2-WAY STOP	A / A	A / A	C / C	C / D	0.1 / 0.1	0.1 / 0.0	16.2 / 19.9	17.1 / 33.4
FOX FARM	88.2	2-WAY STOP	A / A	A / A	B / B	C / C	0.0 / 0.1	0.2 / 0.1	12.6 / 12.7	17.0 / 19.2
CR150W	89.5	SIGNAL	C / C	B / C	C / C	C / C	20.3 / 25.8	15.8 / 23.7	20.3 / 21.9	24.3 / 26.8
SR15 N JCT	90.5	SIGNAL T	D / D		A / A	C / C	44.3 / 47.2		1.4 / 2.4	20.2 / 26.6
SR15 S JCT	90.5	SIGNAL T	D / D		A / A	A / A	45.2 / 45.1		3.7 / 4.1	6.6 / 2.6
SR15 EB MERGE	90.5	RAMP	A / A							
SR15 EB DIVERGE	90.5	RAMP	A / A							
SR15 WB MERGE	90.5	RAMP		A / A						
SR15 WB DIVERGE	90.5	RAMP		A / A						
CR200N	91.1	SIGNAL	B / C	B / C	D / C	D / D	16.1 / 26.2	15.6 / 25.3	40.2 / 34.4	41.6 / 36.2
MEIJER	91.4	SIGNAL T	A / B	A / B	D / E		7.8 / 11.6	9.6 / 11.4	49.9 / 55.3	
SPRINGHILL	92.2	SIGNAL	A / B	B / A	D / D		8.5 / 13.3	11.0 / 0.6	53.8 / 50.8	
PARKER	92.7	SIGNAL	C / D	C / C	D / D	D / D	34.9 / 42.4	32.3 / 29.6	39.5 / 46.2	42.3 / 43.6

Intersection	RP	Control	LOS AM / PM				Delay AM / PM (sec)			
			EB	WB	NB	SB	EB	WB	NB	SB
CENTER	93.4	SIGNAL	B / C	C / C	D / D	D / D	19.9 / 22.1	21.9 / 24.3	42.4 / 44.5	48.3 / 42.7
OLD US30	93.9	SIGNAL	B / C	B / C	D / D	D / D	16.5 / 25.4	15.3 / 22.7	42.0 / 46.7	42.3 / 47.2
COMMERCE E JCT	94.4	SIGNAL	B / B	B / B	D / D	D / D	11.7 / 17.9	13.9 / 16.2	44.4 / 39.7	41.3 / 39.9
CR250E	94.8	SIGNAL	A / A	C / C	D / D	C / C	3.6 / 3.4	21.3 / 20.4	38.8 / 45.3	29.4 / 31.5
SR13	99.6	SIGNAL	C / C	C / B	D / D	D / D	21.4 / 20.7	22.4 / 18.0	51.0 / 52.0	47.9 / 47.6

Table 12 - ProPEL US 30 East Intersection LOS in Kosciusko County 2045 AM / PM Peaks

Intersection	RP	Control	LOS AM / PM				Delay AM / PM (sec)			
			EB	WB	NB	SB	EB	WB	NB	SB
BEECH	78.4	2-WAY STOP	A / A	A / A	C / C	C / C	0 / 0	0 / 0	18.4 / 20.6	18.8 / 22.6
SR19	80.1	SIGNAL	B / B	B / B	D / D	C / D	17.9 / 17.8	11.7 / 10.7	36.0 / 35.3	30.0 / 35.2
CR800W	82.8	2-WAY STOP	A / A	A / A	C / D	C / F	0.1 / 0.1	0.1 / 0.0	18.7 / 25.2	20.3 / 65.1
FOX FARM	88.2	2-WAY STOP	A / A	A / A	B / B	C / C	0.0 / 0.1	0.3 / 0.1	14.2 / 14.5	20.1 / 23.5
CR150W	89.5	SIGNAL	C / C	B / C	C / C	C / C	23.8 / 33.6	18.0 / 30.8	24.4 / 27.0	29.7 / 34.2
SR15 N JCT	90.5	SIGNAL T	D / D		A / A	C / D	43.5 / 46.3		1.7 / 2.6	22.5 / 43.3
SR15 S JCT	90.5	SIGNAL T	D / D		A / A	A / A	45.4 / 45.3		3.5 / 4.1	6.8 / 2.6
SR15 EB MERGE	90.5	RAMP	A / B							
SR15 EB DIVERGE	90.5	RAMP	A / A							
SR15 WB MERGE	90.5	RAMP		A / B						
SR15 WB DIVERGE	90.5	RAMP		A / A						
CR200N	91.1	SIGNAL	B / D	B / C	D / C	D / C	19.8 / 39.2	17.7 / 34.6	38.7 / 31.6	40.3 / 33.8
MEIJER	91.4	SIGNAL T	A / B	B / B	D / E		9.3 / 13.9	10.3 / 12.1	50.4 / 70.5	
SPRINGHILL	92.2	SIGNAL T	B / B	A / A	E / D		10.9 / 19.5	0.6 / 0.8	55.0 / 53.4	
PARKER	92.7	SIGNAL	D / E	D / D	D / D	D / D	37.7 / 58.0	47.6 / 37.1	38.5 / 48.1	41.5 / 45.9
CENTER	93.4	SIGNAL	C / C	C / C	D / D	D / D	23.4 / 27.4	23.0 / 25.8	43.0 / 50.1	53.4 / 45.1
OLD US30	93.9	SIGNAL	B / C	C / C	D / E	D / D	19.8 / 33.4	20.4 / 20.6	40.2 / 55.3	40.4 / 52.3
COMMERCE E JCT	94.4	SIGNAL	B / C	B / C	D / D	D / D	13.6 / 34.0	16.3 / 20.8	46.4 / 38.0	41.6 / 38.4
CR250E	94.8	SIGNAL	A / A	C / C	F / F	D / D	4.5 / 3.6	22.8 / 21.7	397.0 / 666.2	38.0 / 53.3
SR13	99.6	SIGNAL	C / C	C / C	E / E	E / D	23.6 / 25.9	28.0 / 20.6	61.0 / 60.0	56.3 / 54.4

Table 13 – ProPEL US 30 East Intersection LOS in Whitley County 2022 AM / PM Peaks

Intersection	RP	Control	LOS AM / PM				Delay AM / PM (sec)			
			EB	WB	NB	SB	EB	WB	NB	SB
SR5	104.1	SIGNAL	B / B	B / B	C / D	C / C	14.3 / 15.4	16.3 / 13.1	34.3 / 36.2	27.9 / 29.4
OLD US30 / VAN BUREN	108.5	2-WAY STOP T	A / A	A / A	C / C		0.0 / 0.0	0.0 / 0.0	16.4 / 20.4	
LINCOLNWAY	110.2	SIGNAL	B / B	B / B	E / E	E / E	16.6 / 17.0	16.7 / 13.8	56.9 / 69.0	62.4 / 63.1
ARMSTRONG	110.7	SIGNAL	A / A	B / C		E / E	3.8 / 5.3	19.8 / 28.9		72.8 / 69.8

Intersection	RP	Control	LOS AM / PM				Delay AM / PM (sec)			
			EB	WB	NB	SB	EB	WB	NB	SB
SR109	111.2	SIGNAL	C / C	A / A	E / E	F / E	28.7 / 25.1	1.9 / 3.9	64.4 / 74.2	91.8 / 59.4
SR9	111.5	SIGNAL	C / D	C / C	E / E	E / D	31.3 / 47.7	31.7 / 31.2	59.1 / 63.3	79.6 / 53.4
SR205	112.8	SIGNAL	C / C	C / C	D / D	D / D	20.1 / 25.3	23.1 / 27.3	40.5 / 50.8	43.4 / 41.3
CR300E	114.9	SIGNAL	B / B	B / B	C / C	C / C	16.1 / 16.2	14.1 / 16.2	25.2 / 30.5	26.0 / 30.6
CR600E	118.2	SIGNAL	B / B	B / B	D / D	C / C	14.7 / 17.4	11.2 / 14.6	35.0 / 37.0	33.3 / 33.8
COUNTY LINE	120.2	SIGNAL	B / B	B / A	C / C	C / C	15.1 / 14.7	10.1 / 9.7	29.5 / 34.1	25.8 / 31.7

Table 14 – ProPEL US 30 East Intersection LOS in Whitley County 2045 AM / PM Peaks

Intersection	RP	Control	LOS AM / PM				Delay AM / PM (sec)			
			EB	WB	NB	SB	EB	WB	NB	SB
SR5	104.1	SIGNAL	B / B	B / B	D / D	C / D	14.7 / 16.6	17.0 / 12.9	37.6 / 35.6	32.1 / 38.2
OLD US30 / VAN BUREN	108.5	2-WAY STOP T	A / A	A / A	C / D		0.0 / 0.0	0.0 / 0.0	19.8 / 27.0	
LINCOLNWAY	110.2	SIGNAL	B / C	B / B	E / E	E / E	19.5 / 21.6	19.7 / 16.5	57.5 / 70.8	64.3 / 61.8
ARMSTRONG	110.7	SIGNAL	A / A	C / C		E / E	4.9 / 7.0	32.2 / 31.4		72.6 / 70.5
SR109	111.2	SIGNAL	C / C	A / A	E / E	F / E	24.5 / 29.6	2.2 / 4.9	65.8 / 77.5	116.4 / 60.8
SR9	111.5	SIGNAL	D / E	C / D	E / E	F / D	42.3 / 57.8	34.4 / 35.8	59.1 / 63.8	88.6 / 54.0
SR205	112.8	SIGNAL	C / C	C / D	D / E	D / D	23.4 / 30.8	25.4 / 35.6	42.3 / 71.4	49.0 / 44.2
CR300E	114.9	SIGNAL	B / D	B / D	C / F	C / C	16.0 / 37.6	13.8 / 38.1	30.2 / 94.3	31.1 / 32.7
CR600E	118.2	SIGNAL	B / C	B / B	D / D	D / D	16.7 / 20.2	12.0 / 16.4	40.4 / 45.3	37.7 / 38.9
COUNTY LINE	120.2	SIGNAL	B / B	B / B	D / D	C / D	16.5 / 18.6	11.1 / 12.5	35.8 / 40.3	31.0 / 37.1

Table 15 - ProPEL US 30 East Intersection LOS in Allen County 2022 AM / PM Peaks

Intersection	RP	Control	LOS AM / PM				Delay AM / PM (sec)			
			EB	WB	NB	SB	EB	WB	NB	SB
DOYLE	141.5	SIGNAL	B / B	B / B	C / C	B / B	13.4 / 16.5	14.9 / 16.4	20.9 / 21.4	18.7 / 19.3
RYAN	142.8	2-WAY STOP	A / A	A / A	C / B	B / C	0.4 / 0.1	0.0 / 0.0	15.7 / 14.7	12.7 / 15.0
WEBSTER	145.0	2-WAY STOP	A / A	A / A	B / C	C / C	0.0 / 0.0	0.1 / 0.0	14.3 / 16.6	16.3 / 16.9
SR101	148.5	RCI	A / A	A / A	A / B	B / B	2.1 / 0.9	0.4 / 1.1	9.9 / 11.3	10.7 / 10.9
STATE LINE	151.9	2-WAY STOP	A / A	A / A	B / C	B / B	0.2 / 0.2	0.0 / 0.0	14.5 / 18.1	13.0 / 14.9

Table 16 – ProPEL US 30 East Intersection LOS in Allen County 2045 AM / PM Peaks

Intersection	RP	Control	LOS AM / PM				Delay AM / PM (sec)			
			EB	WB	NB	SB	EB	WB	NB	SB
DOYLE	141.5	SIGNAL	B / C	B / C	C / C	C / C	16.1 / 21.8	18.8 / 21.5	27.0 / 28.3	23.5 / 24.4
RYAN	142.8	2-WAY STOP	A / A	A / A	C / C	C / C	0.5 / 0.1	0.0 / 0.0	18.6 / 17.1	15.2 / 18.6
WEBSTER	145.0	2-WAY STOP	A / A	A / A	C / C	C / C	0.0 / 0.0	0.0 / 0.0	16.1 / 19.6	19.4 / 20.7
SR101	148.5	RCI	A / A	A / A	B / B	B / B	2.6 / 1.1	0.5 / 1.3	10.4 / 12.3	11.6 / 12.0
STATE LINE	151.9	2-WAY STOP	A / A	A / A	C / C	B / C	0.2 / 0.2	0.0 / 0.0	16.6 / 22.4	14.2 / 17.6

7.5. GENERAL OPERATIONAL ISSUES

In general, the operational performance of a roadway starts to break down once the volume exceeds the capacity of the roadway. The projected volume to capacity ratio for US 30 throughout the study limits for 2045 ranges from as low as 0.15 in rural unsignalized study areas to as high as 0.90 in urban signalized study areas. At no location in the synchro model does the projected volume exceed intersection capacity. This is a good indication that additional travel lanes are not required for the design year of this study.

US 30 is a heavily trafficked four-lane highway that travels east and west across Indiana connecting Illinois to Ohio. This multi-state highway sees a large amount of commercial semi-truck vehicles with an average of 28% of the traffic flow traveling along US 30 consisting of trucks. With this large portion of vehicles being larger, slower trucks, general operations along this study area can be expected to be more congested, particularly at signalized intersections. Trucks tend to require longer acceleration and deceleration times at a signalized intersection. This can cause substantially fewer vehicles to be able to make it through on those movements per cycle. In addition, trucks are much longer than regular vehicles causing queue lengths to back up further, which can lead to queues backing up into adjacent intersections in urban locations.

Along this study area, there are two critical high traffic sections that see the most delay: through Warsaw in Kosciusko County and through Columbia City in Whitley County. These two study areas are heavily signalized urban locations with most of the remaining locations along this study being considered more open rural highway. As expected, these sections show elevated delay and overall failure from an operations perspective in the projected future peak periods. A compiled list of critical LOS locations with any approaches having a LOS of E or worse in the 2045 AM or PM peaks is shown in Table 17 and Figure 14.

The LOS for the US 30 EB and WB approaches are expected to perform at a LOS D or better in 2045 with the exception of the EB approach in the PM peak at SR 9. However, there are individual mainline left turn movements that are projected to operate at LOS F in at least one peak hour. However, the delay for these left-turn movements doesn't result in failing operations for the overall approach. These movements are listed below in Table 18.

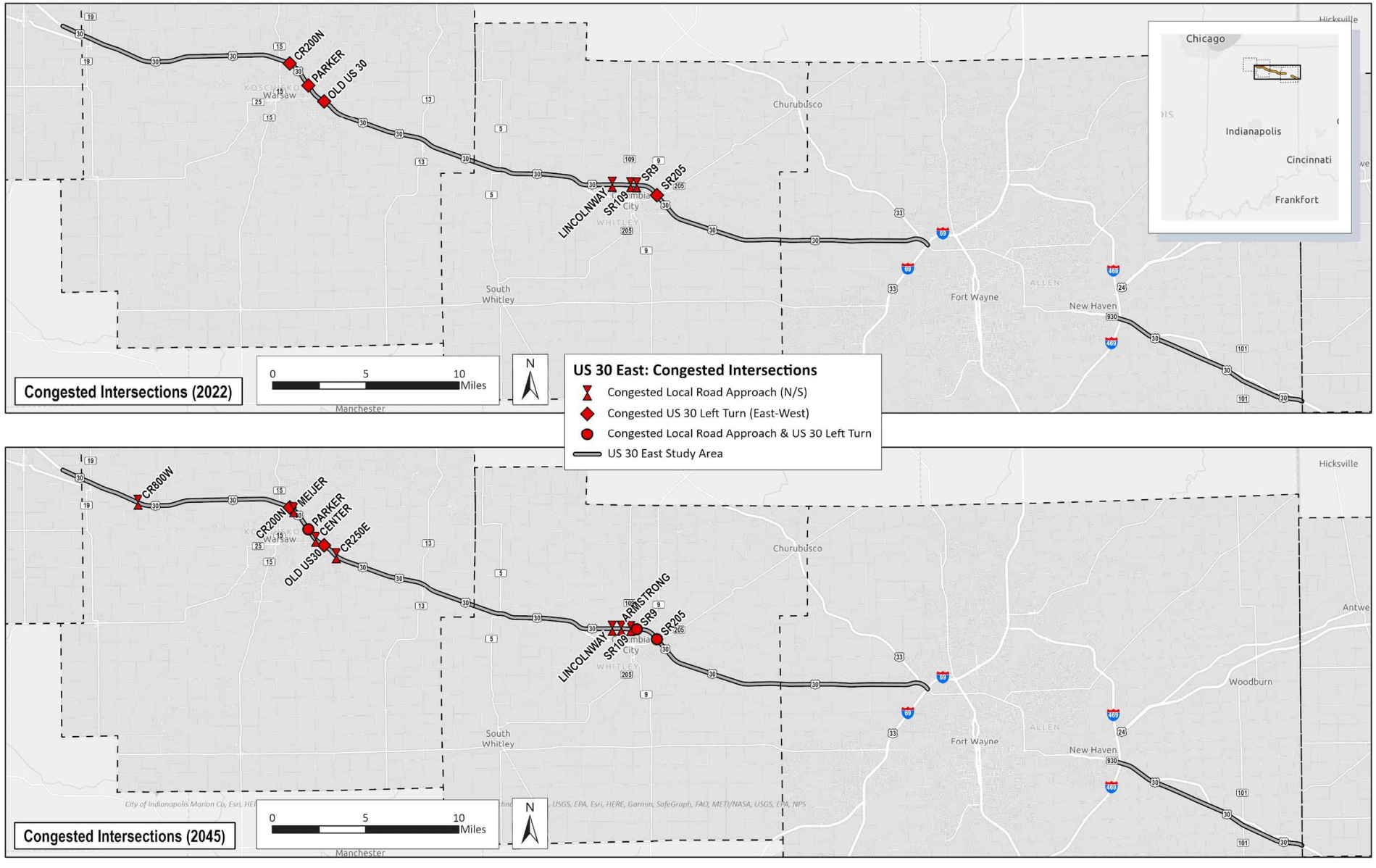
Table 17 - ProPEL US 30 East Critical LOS Locations 2045 AM / PM Peaks

Intersection	RP	Control	LOS AM / PM				Delay AM / PM (sec)			
			EB	WB	NB	SB	EB	WB	NB	SB
CR800W	82.8	2-WAY	A / A	A / A	C / D	C / F	0.1 / 0.1	0.1 / 0.0	18.7 / 25.2	20.3 / 65.1
MEIJER	91.4	SIGNAL T	A / B	B / B	D / E		9.3 / 13.9	10.3 / 12.1	50.4 / 70.5	
SPRINGHILL	92.2	SIGNAL T	B / B	A / A	E / D		10.9 / 19.5	0.6 / 0.8	55.0 / 53.4	
OLD US30	93.9	SIGNAL	B / C	C / C	D / E	D / D	19.8 / 33.4	20.4 / 20.6	40.2 / 55.3	40.4 / 52.3
CR250E	94.8	SIGNAL	A / A	C / C	F / F	D / D	4.5 / 3.6	22.8 / 21.7	397.0 / 666.2	38.0 / 53.3
SR13	99.6	SIGNAL	C / C	C / C	E / E	E / D	23.6 / 25.9	28.0 / 20.6	61.0 / 60.0	56.3 / 54.4
LINCOLNWAY	110.2	SIGNAL	B / C	B / B	E / E	E / E	19.5 / 21.6	19.7 / 16.5	57.5 / 70.8	64.3 / 61.8
ARMSTRONG	110.7	SIGNAL	A / A	C / C		E / E	4.9 / 7.0	32.2 / 31.4		72.6 / 70.5
SR109	111.2	SIGNAL	C / C	A / A	E / E	F / E	24.5 / 29.6	2.2 / 4.9	65.8 / 77.5	116.4 / 60.8
SR9	111.5	SIGNAL	D / E	C / D	E / E	F / D	42.3 / 57.8	34.4 / 35.8	59.1 / 63.8	88.6 / 54.0
SR205	112.8	SIGNAL	C / C	C / D	D / E	D / D	23.4 / 30.8	25.4 / 35.6	42.3 / 71.4	49.0 / 44.2
CR300E	114.9	SIGNAL	B / D	B / D	C / F	C / C	16.0 / 37.6	13.8 / 38.1	30.2 / 94.3	31.1 / 32.7

Table 18 - ProPEL US 30 East Critical LOS Mainline Left Locations 2045 AM / PM Peaks

Intersection	RP	Control	LOS AM / PM		Delay AM / PM (sec)	
			EB LT	WB LT	EB LT	WB LT
CR200N	91.1	SIGNAL	E / E	D / F	59.4 / 58.4	54.7 / 81.9
PARKER	92.7	SIGNAL	E / F	F / E	61.6 / 146.1	178.2 / 63.4
OLD US30	93.9	SIGNAL	E / F	E / E	60.0 / 145.3	56.8 / 75.9
SR9	111.5	SIGNAL	D / F	E / F	54.9 / 106.6	74.4 / 85.1

Figure 14 - ProPEL US 30 East Critical LOS Locations 2022 and 2045



8. STUDY AREA TRANSPORTATION PROJECTS

INDOT maintains a 5-year list of programmed transportation improvement projects known as the State Transportation Improvement Program (STIP). Table 18 contains a filtered list of all the STIP projects along US 30 within the study limits. These programmed improvements will be taken into consideration when analyzing the existing conditions and looking at alternatives.

Table 18 – ProPEL US 30 East STIP Project Listing FY 2022-2026

DISTRICT	ROUTE	CONTRACT #	LEAD DES	WORK TYPE	MILES	FY	LOCATION
FORT WAYNE	US 30	41079	1901890	New Interchange Construction	1.26	2024	Flaugh Rd
FORT WAYNE	US 30	41641	1801807	New Interchange Construction	0.94	2023	Whitley/Allen Co Line
FORT WAYNE	US 30	41642	1801809	Other Intersection Improvement	1	2023	Silveus Crossing Rd
FORT WAYNE	US 30	42153	1601012	HMA Overlay Minor Structural	13.3	2022	SR19 to 3mi E of SR15
FORT WAYNE	US 30	43319	2002011	Bridge Deck Overlay		2025	0.12mi E of SR15
FORT WAYNE	US 30	43870	2100889	Substructure Repair and Rehabilitation		2023	9.12mi W of SR13
FORT WAYNE	US 30	42461	1900625	HMA Overlay, Preventative Maintenance	7.5	2022	SR5 to 0.23mi E of SR9

9. STUDY AREA PUBLIC COMMENTS

As part of the PEL process, public input was obtained for the study area through a series of stakeholder and public information meetings held in late 2022. The public was provided the opportunity to submit comments via in-person meetings, via a virtual meeting, or through the website. Most public concerns focused on the main urban study areas of Warsaw, Colombia City, and the western limits of Fort Wayne. There was a clear concern over the lack of multimodal facilities such as multi-use trails, sidewalks, and pedestrian crossings. In addition, there were several concerns that centered around traffic signals including congestion, red light running, speed enforcement, sight distance, and rear-end crashes. The public also commented on the heavy truck traffic and its effect on traffic safety and operations. Lastly, there were a handful of opinions that the reduced conflict intersections (RCIs) within the study limits were unsafe and not user-friendly for trucks. The safety performance of the two RCI locations can be found in Appendix A and B.

9.1. TRAFFIC SAFETY PUBLIC COMMENTS

There are six intersections that arose as common traffic safety concern areas during the vision and scoping stage of the public involvement process: Springhill Rd, Parker St, County Line Rd/CR 800 E in Whitley County, O'Day Rd, Kroemer Rd, and SR 101.

9.1.1. SPRINGHILL RD AND PARKER ST

The concerns at the Springhill Rd and Parker St intersections in Kosciusko County included requests for multi-use trails and trail crossing installations to improve pedestrian safety. Both Springhill Rd and Parker St show up in the critical crash location list with ICC values of 1.33 and 1.39, respectively. There was only one crash involving a pedestrian at Springhill Rd and none at Parker St.

9.1.2. COUNTY LINE RD

The concerns at the County Line Rd intersection between Whitley and Allen Counties included red light running and a need for advance warning signs connected to the signal that flash when the signal is about to turn red. This location has a moderate ICF and ICC of 0.78 and 1.20, respectively. There was evidence of red light running and flashing yellow arrow running in the crash data for mainline US 30 traffic. See Section 5.2.12 for more information on the crash analysis for this location.

9.1.3. O'DAY RD

The concerns at the O'Day Rd intersection in Allen County included several comments mentioning a need for an overpass to improve traffic safety. This intersection is being removed and becoming an overpass bridge as part of an INDOT diverging diamond interchange project at the nearby Flaugh Rd intersection that is scheduled to begin construction in fiscal year (FY) 2024. For more information on this project see Table 18 within Section 8 Study Area Transportation Projects (DES 1901890).

9.1.4. KROEMER RD

The concerns at the Kroemer Rd intersection in Allen County included several general safety concerns, with one comment mentioning the need for access control. As part of the Flaugh Rd project, the access control for the side street approaches is becoming a right-in/right-out condition. For more information on this project see Table 18 within Section 8 Study Area Transportation Projects (DES 1901890).

9.1.5. SR 101

The concerns at the SR 101 intersection in Allen County included comments about the existing reduced conflict intersection (RCI) being dangerous and not user-friendly for trucks. This intersection was converted to an RCI in the fall of 2018. Due to the change in intersection control, the crash data was split into two portions: pre-RCI construction (2017-2018) and post-RCI construction (2019-2021). In the two years prior to the RCI, there was a total of 11 crashes with an ICF and ICC Of 0.61 and 0.24 respectively. In the three years after the RCI was installed, there was a total of 10 crashes with an ICF and ICC of -0.09 and -0.33 respectively. This shows that this intersection is performing better from a safety perspective as an RCI than as a traditional intersection.

9.2. TRAFFIC OPERATIONS PUBLIC COMMENTS

There are four intersections that arose as common traffic operations concern areas during the vision and scoping stage of the public involvement process: Springhill Rd, Parker St, CR 250 E in Kosciusko County, and SR 101.

9.2.1. SPRINGHILL RD AND PARKER ST

The concerns at the Springhill Rd and Parker St intersections in Kosciusko County included requests for multi-use trails and trail crossing installations as well as an interchange request. Parker St does not show up in the critical future LOS list with the worst projected LOS of a D. Springhill Rd shows up in the critical future LOS list with projected LOS of an E for the future PM peak northbound approach.

9.2.2. CR 250 E

The concerns at the CR 250 E intersection in Kosciusko County included requests for added travel lanes and/or express lanes, as well as signage for trucks to use the right lane only. At this intersection the future LOS fails for the northbound approach, but the remaining approaches are projected to operate satisfactorily.

9.2.3. SR 101

The concerns at the SR 101 intersection in Allen County included comments about the existing reduced conflict intersection (RCI) not being user-friendly for trucks. The current and projected LOS for this intersection is excellent with all approaches having a LOS of A or B. Therefore, given the traffic operations data this intersection is performing as expected and will not be addressed in this study.

APPENDIX A – CRASH DATA SUMMARY TABLES

Table 19 - ProPEL US 30 East Intersection Crashes Marshall County 2017-2021

Intersection	RP	Fatal	Incapacitating	Non-incapacitating	PDO	Total	ICF	ICC
BEECH	78.4	1	2	2	2	7	0.15	0.79
APPLE	79.1			2	3	5	-0.27	-0.49

Table 20 – ProPEL US 30 East Section Crashes Marshall County 2017-2021

Section	RP	Fatal	Incapacitating	Non-incapacitating	PDO	Total	ICF	ICC
BEECH TO APPLE	78.4			1	2	3	-0.87	-0.77

Table 21 – ProPEL US 30 East Intersection Crashes Kosciusko County 2017-2021

Intersection	RP	Fatal	Incapacitating	Non-incapacitating	PDO	Total	ICF	ICC
SR19	80.1	1	5	2	26	34	0.25	1.00
CR950W	81.2		1			1	-0.96	-0.16
CR875W	82.0	1	3	1	2	7	-0.47	0.57
CR800W	82.8		7	8	17	32	0.84	1.04
HOFFMAN LAKE	83.3		3	2	4	9	0.32	0.89
CR700W	83.9		1	1	7	9	-0.13	-0.34
CR650W	84.4		2		15	17	-0.02	-0.32
CR500W	85.9	1		2	6	9	-0.01	-0.23
CR350W	87.4	1	3	1	5	10	-0.59	0.15
FOX FARM	88.2		1		9	10	-0.47	-0.57
CR200W	88.9		1	1	3	5	-0.35	-0.07
CR150W	89.5	1	11	11	50	73	0.57	1.78
SR15 N JCT	90.5			2	16	18	-0.67	-1.20
SR15 S JCT	90.5		3	5	20	28	0.59	0.86
ANCHORAGE	91.1		10	15	89	114	0.94	1.24
MEIJER	91.4		5	5	51	61	1.41	1.20
SPRINGHILL	92.2		11	3	28	42	-0.17	1.33
PARKER	92.7	1	9	28	135	173	1.47	1.39
CENTER	93.4		8	15	67	90	0.15	0.53
OLD US30	93.9		8	12	83	103	0.46	0.56
COMMERCE W JCT	94.2	1	1		4	6	-0.62	0.06
COMMERCE E JCT	94.4		5	6	37	48	0.62	0.86
CIRCLE	94.6		2	1	2	5	-0.60	0.29
CR250E	94.8		8	7	34	49	-0.35	0.48
CR325E	95.6	1	6	4	14	25	0.48	0.89
CR450E	96.9		1	1	6	8	0.31	0.18
VAN NESS E JCT	98.8		8	2	17	27	1.88	1.93

Intersection	RP	Fatal	Incapacitating	Non-incapacitating	PDO	Total	ICF	ICC
CR200S	99.0				5	5	0.01	-0.66
SR13	99.6		4	9	46	59	0.00	0.02
MATCHETTE INDUSTRIAL PK	99.9			1	1	2	-0.74	-0.57
CR250S	100.1	1	2		14	17	0.17	0.52
CR900E	101.5		2	2	10	14	0.21	-0.03

Table 22 – ProPEL US 30 East Section Crashes Kosciusko County 2017-2021

Section	RP	Fatal	Incapacitating	Non-incapacitating	PDO	Total	ICF	ICC
APPLE TO SR19	79.1		1		4	5	-0.80	-0.49
SR19 TO CR950W	80.1				4	4	-0.92	-0.92
CR950W TO CR875W	81.2			1	2	3	-0.97	-0.86
CR875W TO CR800W	82.0		3		2	5	-0.76	0.32
CR800W TO HOFFMAN LAKE	82.8				1	1	-1.02	-0.77
HOFFMAN LAKE TO CR700W	83.3				1	1	-1.05	-0.82
CR700W TO CR650W	83.9			1	1	2	-0.89	-0.67
CR650W TO CR500W	84.4		2	1	4	7	-0.86	-0.42
CR500W TO CR350W	85.9	1		1	5	7	-0.86	-0.66
CR350W TO FOX FARM	87.4		1		1	2	-1.03	-0.47
FOX FARM TO CR200W	88.2	1			4	5	-0.75	-0.38
CR150W TO ANCHORAGE	89.5		5	6	34	45	-0.53	-0.42
SR15 EB OFF	90.5				1	1	-0.08	-0.15
SR15 EB ON	90.5				11	11	1.45	0.22
CR200N TO MEIJER	91.1			1	4	5	-0.89	-1.01
MEIJER TO SPRINGHILL	91.4		1		2	3	-1.11	-1.04
SPRINGHILL TO PARKER	92.2		2		2	4	-1.03	-0.50
PARKER TO CENTER	92.7		1	2		3	-1.08	-0.85

Section	RP	Fatal	Incapacitating	Non-incapacitating	PDO	Total	ICF	ICC
CENTER TO OLD US30	93.4				1	1	-1.13	-1.27
OLD US30 TO COMMERCE E JCT	93.9				1	1	-1.14	-1.27
COMMERCE E JCT TO CIRCLE	94.4			1	1	2	-0.98	-0.82
CIRCLE TO CR250E	94.6			1		1	-1.05	-0.84
CR250E TO CR325E	94.8		4		6	10	-0.92	-0.28
CR325E TO CR450E	95.6	1	1		11	13	-0.60	-0.46
CR450E TO VAN NESS E JCT	96.9		2	3	6	11	-0.90	-0.63
VAN NESS E JCT TO CR200S	98.8		1		3	4	-0.42	0.26
CR200S TO SR13	99.0			1	5	6	-0.98	-1.16
CR250S TO CR900E	100.1		2	3	6	11	-0.79	-0.49
CR900E TO BINKLEY	101.5		5		14	19	-0.35	0.11

Table 23 – ProPEL US 30 East Intersection Crashes Whitley County 2017-2021

Intersection	RP	Fatal	Incapacitating	Non-incapacitating	PDO	Total	ICF	ICC
BINKLEY	103.0		3		12	15	0.79	0.61
SR5	104.1	1	2		22	25	-0.36	-0.18
CR650W	104.6		1		5	6	-0.44	-0.31
CR550W	105.6			1	7	8	0.18	-0.53
CR450W	106.6		1		3	4	-0.43	-0.02
CR400W	107.1		1		3	4	-0.64	-0.30
WILSON LAKE	107.3		2		1	3	-0.56	0.49
CR300W	108.1				2	2	-0.73	-0.68
OLD US30	108.5		4		10	14	0.12	0.66
WOLF	108.9		1		6	7	-0.32	-0.31
LINCOLNWAY	110.2		5	4	17	26	-0.60	-0.06
ARMSTRONG	110.7	1	4	2	24	31	0.35	1.04
SR109	111.2		13	11	77	101	0.23	1.02
SR9	111.5		17	14	113	144	0.72	1.52
SR205	112.8		12	17	75	104	0.89	1.69
CR100S	114.1		2	1	9	12	0.22	0.15

Intersection	RP	Fatal	Incapacitating	Non-incapacitating	PDO	Total	ICF	ICC
CR300E	114.9		17	4	38	59	0.84	2.23
CR400E	116.0		4	1	9	14	0.36	0.73
CR500E	117.1		3	2	9	14	0.04	0.14
CR600E	118.2		8	3	29	40	-0.05	0.60
CR700E	119.2	1	2		15	18	0.80	0.44

Table 24 – ProPEL US 30 East Section Crashes Whitley County 2017-2021

Section	RP	Fatal	Incapacitating	Non-incapacitating	PDO	Total	ICF	ICC
BINKLEY TO SR5	103.0		2	2	16	20	-0.22	-0.32
SR5 TO CR650W	104.1			1	1	2	-1.11	-1.19
CR650W TO CR550W	104.6		2		4	6	-0.9	-0.41
CR550W TO CR450W	105.6				11	11	-0.64	-0.94
CR450W TO CR400W	106.6		1			1	-1.07	-0.34
WILSON LAKE TO CR300W	107.3				4	4	-0.68	-0.92
CR300W TO OLD US30	108.1				2	2	-0.94	-0.81
WOLF TO LINCOLNWAY	108.9		2		5	7	-0.93	-0.54
LINCOLNWAY TO ARMSTRONG	110.2				2	2	-1.08	-1.21
ARMSTRONG TO SR109	110.7		2		5	7	-0.89	-0.37
SR109 TO SR9	111.2				13	13	-0.56	-1.06
SR9 TO SR205	111.5		2	2	16	20	-0.91	-0.93
SR205 TO CR100S	112.8		2	1	12	15	-0.84	-0.89
CR100S TO CR300E	114.1			1		1	-1.14	-0.91
CR300E TO CR400E	114.9		1		11	12	-0.67	-0.7
CR400E TO CR500E	116.0			1	2	3	-1.09	-0.94
CR500E TO CR600E	117.1	1	2		3	6	-0.95	-0.27
CR600E TO CR700E	118.2		1		2	3	-1.06	-0.69
CR700E TO COUNTY LINE	119.2		1		5	6	-0.91	-0.68

Table 25 – ProPEL US 30 East Intersection Crashes Allen County 2017-2021

Intersection	RP	Fatal	Incapacitating	Non-incapacitating	PDO	Total	ICF	ICC
COUNTY LINE*	120.2	2	10	11	62	85	0.78	1.20
BUTT	121.5				5	5	-0.53	-0.76
SOLON	122.2			3	4	7	-0.29	-0.54
FELGER	123.0	1	8		11	20	-0.10	0.89
STAHLHUT	124.0			2	10	12	0.33	-0.56
O DAY	125.0		4	2	26	32	1.34	0.40
FLAUGH	126.0		4	3	29	36	0.77	0.03
KROEMER	126.8		11	12	77	100	0.54	1.13
I69 E JCT	128.3		1	2	20	23	-0.80	-1.06
I469 E JCT	141.2		2	1	12	15	-0.68	-0.34
DOYLE	141.5	1	11	3	21	36	-0.35	1.06
FRANKE	142.2		2	2	11	15	0.85	0.46
RYAN	142.8		3		9	12	0.40	0.41
LINCOLN HWY W JCT	143.0				6	6	0.19	-0.58
GIRARD	143.4				1	1	-0.96	-0.73
WEBSTER	145.0		4		6	10	0.04	0.64
SNYDER	145.6		1		1	2	-0.78	-0.13
TERNET	146.7		1	1	3	5	-0.63	-0.34
SAMPSON	147.3				1	1	-1.22	-0.89
MARTIN	148.0		2		2	4	-0.46	0.33
SR101**	148.5		1	1	8	10	-0.09	-0.33
LORTIE	149.6		1		3	4	-0.58	-0.27
MORGAN	150.7				2	2	-0.62	-0.69
SIMMER	151.2				1	1	-0.94	-0.71
LINCOLN HWY E JCT	151.6			1		1	-0.82	-0.48
STATE LINE	151.9		1		1	2	-1.09	-0.46

*Note – From stakeholder feedback of recent crash issues, 2022 crash data was included for this intersection.

**Note – This location was modified into an RCI in 2018, so only 2019-2021 crash data was included.

Table 26 – ProPEL US 30 East Section Crashes Allen County 2017-2021

Section	RP	Fatal	Incapacitating	Non-incapacitating	PDO	Total	ICF	ICC
COUNTY LINE TO BUTT	120.2		1	1	6	8	-0.88	-0.71
BUTT TO SOLON	121.5		1	1	4	6	-0.82	-0.52
SOLON TO FELGER	122.2	1	1		3	5	-0.88	-0.24
FELGER TO STAHLHUT	123.0				4	4	-1.00	-0.96

Section	RP	Fatal	Incapacitating	Non-incapacitating	PDO	Total	ICF	ICC
STAHLHUT TO O DAY	124.0		1	1	3	5	-0.92	-0.60
O DAY TO FLAUGH	125.0		1		4	5	-0.89	-0.60
FLAUGH TO KROEMER	126.0			1	3	4	-1.04	-1.22
KROEMER TO I69 E JCT	126.8		2	3	32	37	-0.75	-0.93
US33 EB ON	127.5		2	1	14	17	0.72	1.30
US33 WB OFF	127.5		1	1	4	6	0.03	0.91
US33 WB ON	127.5		2		2	4	1.06	1.40
I69 EB OFF TO NB	128.3				6	6	0.04	-0.38
I69 EB OFF TO SB	128.3				4	4	0.03	-0.25
I69 EB ON FROM NB	128.3				1	1	-0.29	-0.42
I69 EB ON FROM SB	128.3			1	9	10	0.92	0.38
I69 WB OFF TO NB	128.3			1	2	3	-0.01	0.26
I69 WB OFF TO SB	128.3			1	2	3	-0.06	0.00
I69 WB ON FROM NB	128.3				5	5	0.07	-0.34
I69 WB ON FROM SB	128.3				6	6	-0.01	-0.32
I469 EB ON FROM SB	141.2		1		6	7	0.18	0.70
I469 EB/WB OFF TO NB	141.2				2	2	-0.29	-0.49
I469 EB/WB ON FROM NB	141.2				2	2	0.05	-0.14
I469 TO DOYLE	141.2				3	3	-0.77	-0.75
DOYLE TO FRANKE	141.5				1	1	-1.12	-0.94
RYAN TO GIRARD	142.8				2	2	-0.96	-0.84
GIRARD TO WEBSTER	143.4		3	2	2	7	-0.91	-0.27
WEBSTER TO SNYDER	145.0				1	1	-1.05	-0.83
SNYDER TO TERNET	145.6			1	3	4	-0.95	-0.89
TERNET TO SAMPSON	146.7				1	1	-1.03	-0.78

Section	RP	Fatal	Incapacitating	Non-incapacitating	PDO	Total	ICF	ICC
SAMPSON TO MARTIN	147.3		1		2	3	-0.88	-0.33
MARTIN TO SR101	148.0		1			1	-1.03	-0.14
SR101 TO LORTIE	148.5		1		1	2	-1.05	-0.54
LORTIE TO MORGAN	149.6		1		1	2	-1.05	-0.54
MORGAN TO SIMMER	150.7		1		1	2	-0.89	-0.11

APPENDIX B – ROADHAT REPORTS

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND BEECH	
MARSHALL CO		
GIS		
Post	78.4	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	15385
Crossing Road AADT (veh/day)	181
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	2
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.252
Non-Incapacitating and Possible Injury Crashes	0.10
Property Damage Only Crashes	0.89
All Crashes	1.24
Index of Crash Frequency	**0.15**
Index of Crash Cost	**0.79**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, BEECH TO APPLE	
MARSHALL CO		
GIS		
Post	78.4	79.1
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	0.7
AADT (veh/day)	15385
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	2
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.7
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.288
Non-Incapacitating and Possible Injury Crashes	0.17
Property Damage Only Crashes	1.95
All Crashes	2.41
Index of Crash Frequency	**-0.87**
Index of Crash Cost	**-0.77**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND APPLE	
MARSHALL CO		
GIS		
Post	79.1	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	15385
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	3
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.209
Non-Incapacitating and Possible Injury Crashes	0.12
Property Damage Only Crashes	1.02
All Crashes	1.35
Index of Crash Frequency	**-0.27**
Index of Crash Cost	**-0.49**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, APPLE TO SR 19	
KOSCIUSKO CO		
GIS		
Post	79.1	80.1
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1
AADT (veh/day)	15385
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	4
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.416
Non-Incapacitating and Possible Injury Crashes	0.24
Property Damage Only Crashes	2.47
All Crashes	3.13
Index of Crash Frequency	**-0.80**
Index of Crash Cost	**-0.49**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND SR 19	
KOSCIUSKO CO		
GIS		
Post	80.1	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection
Busiest Road AADT (veh/day)	15385
Crossing Road AADT (veh/day)	2840
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	6
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	26
Route or Road Type	Signalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.489
Non-Incapacitating and Possible Injury Crashes	0.50
Property Damage Only Crashes	4.73
All Crashes	5.71
Index of Crash Frequency	**0.25**
Index of Crash Cost	**1.00**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, SR19 TO CR950W	
KOSCIUSKO CO		
GIS		
Post	80.1	81.2
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1.1
AADT (veh/day)	16433
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	4
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.1
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.482
Non-Incapacitating and Possible Injury Crashes	0.28
Property Damage Only Crashes	2.76
All Crashes	3.53
Index of Crash Frequency	**-0.92**
Index of Crash Cost	**-0.92**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR950W	
KOSCIUSKO CO		
GIS		
Post	81.2	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	17209
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	0
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.229
Non-Incapacitating and Possible Injury Crashes	0.13
Property Damage Only Crashes	1.10
All Crashes	1.46
Index of Crash Frequency	**-0.96**
Index of Crash Cost	**-0.16**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR950W TO CR875W	
KOSCIUSKO CO		
GIS		
Post	81.2	82.0
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	0.8
AADT (veh/day)	17209
Intersection Density (int/mi)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	2
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.8
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.412
Non-Incapacitating and Possible Injury Crashes	0.25
Property Damage Only Crashes	2.63
All Crashes	3.29
Index of Crash Frequency	**-0.97**
Index of Crash Cost	**-0.86**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR875W	
KOSCIUSKO CO		
GIS		
Post	82.0	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	17209
Crossing Road AADT (veh/day)	564
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	4
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	2
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.411
Non-Incapacitating and Possible Injury Crashes	0.20
Property Damage Only Crashes	1.59
All Crashes	2.20
Index of Crash Frequency	**-0.47**
Index of Crash Cost	**0.57**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR875W TO CR800W	
KOSCIUSKO CO		
GIS		
Post	82.0	82.8
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	.8
AADT (veh/day)	17209
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	2
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.8
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.360
Non-Incapacitating and Possible Injury Crashes	0.21
Property Damage Only Crashes	2.32
All Crashes	2.89
Index of Crash Frequency	**-0.76**
Index of Crash Cost	**0.32**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR800W TO HOFFMAN LAKE	
KOSCIUSKO CO		
GIS		
Post	82.8	83.3
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	.5
AADT (veh/day)	15537
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.205
Non-Incapacitating and Possible Injury Crashes	0.12
Property Damage Only Crashes	1.57
All Crashes	1.90
Index of Crash Frequency	**-1.02**
Index of Crash Cost	**-0.77**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR800W	
KOSCIUSKO CO		
GIS		
Post	82.8	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	15537
Crossing Road AADT (veh/day)	2198
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	7
Non-Incapacitating and Possible Injury Crashes	8
Property Damage Only Crashes	17
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.644
Non-Incapacitating and Possible Injury Crashes	0.36
Property Damage Only Crashes	2.84
All Crashes	3.85
Index of Crash Frequency	**0.84**
Index of Crash Cost	**1.04**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND HOFFMAN LAKE	
KOSCIUSKO CO		
GIS		
Post	83.3	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	15537
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	4
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.210
Non-Incapacitating and Possible Injury Crashes	0.12
Property Damage Only Crashes	1.03
All Crashes	1.36
Index of Crash Frequency	**0.32**
Index of Crash Cost	**0.89**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, HOFFMAN LAKE TO CR700W	
KOSCIUSKO CO		
GIS		
Post	83.3	83.9
Analyst	MIKE MACNEILL	
Date	11/9/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	0.6
AADT (veh/day)	15537
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.6
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.247
Non-Incapacitating and Possible Injury Crashes	0.14
Property Damage Only Crashes	1.78
All Crashes	2.17
Index of Crash Frequency	**-1.05**
Index of Crash Cost	**-0.82**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR700W	
KOSCIUSKO CO		
GIS		
Post	83.9	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	15537
Crossing Road AADT (veh/day)	523
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	7
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.377
Non-Incapacitating and Possible Injury Crashes	0.18
Property Damage Only Crashes	1.46
All Crashes	2.01
Index of Crash Frequency	**-0.13**
Index of Crash Cost	**-0.34**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR700W TO CR650W	
KOSCIUSKO CO		
GIS		
Post	83.9	84.4
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	.5
AADT (veh/day)	15537
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	1
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.205
Non-Incapacitating and Possible Injury Crashes	0.12
Property Damage Only Crashes	1.57
All Crashes	1.90
Index of Crash Frequency	**-0.89**
Index of Crash Cost	**-0.67**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR650W	
KOSCIUSKO CO		
GIS		
Post	84.4	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	17835
Crossing Road AADT (veh/day)	1477
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	15
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.600
Non-Incapacitating and Possible Injury Crashes	0.32
Property Damage Only Crashes	2.53
All Crashes	3.46
Index of Crash Frequency	**-0.02**
Index of Crash Cost	**-0.32**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR650W TO CR500W	
KOSCIUSKO CO		
GIS		
Post	84.4	85.9
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1.5
AADT (veh/day)	17835
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	4
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.706
Non-Incapacitating and Possible Injury Crashes	0.42
Property Damage Only Crashes	3.61
All Crashes	4.74
Index of Crash Frequency	**-0.86**
Index of Crash Cost	**-0.42**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR500W	
KOSCIUSKO CO		
GIS		
Post	85.9	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	17835
Crossing Road AADT (veh/day)	351
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	6
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.351
Non-Incapacitating and Possible Injury Crashes	0.16
Property Damage Only Crashes	1.30
All Crashes	1.81
Index of Crash Frequency	**-0.01**
Index of Crash Cost	**-0.23**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR500W TO CR350W	
KOSCIUSKO CO		
GIS		
Post	85.9	87.4
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1.5
AADT (veh/day)	17835
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	5
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.706
Non-Incapacitating and Possible Injury Crashes	0.42
Property Damage Only Crashes	3.61
All Crashes	4.74
Index of Crash Frequency	**-0.86**
Index of Crash Cost	**-0.66**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR350W	
KOSCIUSKO CO		
GIS		
Post	87.4	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	18787
Crossing Road AADT (veh/day)	1517
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	4
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	5
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.624
Non-Incapacitating and Possible Injury Crashes	0.34
Property Damage Only Crashes	2.63
All Crashes	3.59
Index of Crash Frequency	**-0.59**
Index of Crash Cost	**0.15**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR350W TO FOX FARM	
KOSCIUSKO CO		
GIS		
Post	87.4	88.2
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	.8
AADT (veh/day)	18787
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.8
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.384
Non-Incapacitating and Possible Injury Crashes	0.24
Property Damage Only Crashes	2.47
All Crashes	3.10
Index of Crash Frequency	**-1.03**
Index of Crash Cost	**-0.47**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND FOX FARM	
KOSCIUSKO CO		
GIS		
Post	88.2	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	18787
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	9
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.630
Non-Incapacitating and Possible Injury Crashes	0.35
Property Damage Only Crashes	2.38
All Crashes	3.36
Index of Crash Frequency	**-0.47**
Index of Crash Cost	**-0.57**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, FOX FARM TO CR200W	
KOSCIUSKO CO		
GIS		
Post	88.2	88.9
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	.7
AADT (veh/day)	18787
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	4
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.7
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.335
Non-Incapacitating and Possible Injury Crashes	0.21
Property Damage Only Crashes	2.27
All Crashes	2.81
Index of Crash Frequency	**-0.75**
Index of Crash Cost	**-0.38**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR200W	
KOSCIUSKO CO		
GIS		
Post	88.9	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	17554
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	3
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.232
Non-Incapacitating and Possible Injury Crashes	0.13
Property Damage Only Crashes	1.12
All Crashes	1.48
Index of Crash Frequency	**-0.35**
Index of Crash Cost	**-0.07**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR150W	
KOSCIUSKO CO		
GIS		
Post	89.5	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection
Busiest Road AADT (veh/day)	17554
Crossing Road AADT (veh/day)	8334
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	12
Non-Incapacitating and Possible Injury Crashes	11
Property Damage Only Crashes	50
Route or Road Type	Signalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.810
Non-Incapacitating and Possible Injury Crashes	0.93
Property Damage Only Crashes	8.53
All Crashes	10.27
Index of Crash Frequency	**0.57**
Index of Crash Cost	**1.78**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR150W TO CR200N	
KOSCIUSKO CO		
GIS		
Post	89.5	91.1
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	1.6
AADT (veh/day)	21524
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	5
Non-Incapacitating and Possible Injury Crashes	6
Property Damage Only Crashes	34
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.6
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	1.571
Non-Incapacitating and Possible Injury Crashes	1.34
Property Damage Only Crashes	13.28
All Crashes	16.19
Index of Crash Frequency	**-0.53**
Index of Crash Cost	**-0.42**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, EB OFF RAMP AT SR 15	
KOSCIUSKO COUNTY		
GIS		
Post	90.5	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Ramps
Beginning	0
End	0.3
AADT (veh/day)	1801
Diagonal Ramp Indicator (1 if present, 0 otherwise)	1
Loop Ramp Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Ramps
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2115900
Non-Incapacitating and Possible Injury Crashes	383000
Property Damage Only Crashes	38800
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.3
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.004
Non-Incapacitating and Possible Injury Crashes	0.02
Property Damage Only Crashes	0.24
All Crashes	0.26
Index of Crash Frequency	**-0.08**
Index of Crash Cost	**-0.15**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, EB ON RAMP AT SR 15	
KOSCIUSKO COUNTY		
GIS		
Post	90.5	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Ramps
Beginning	0
End	0.2
AADT (veh/day)	2786
Diagonal Ramp Indicator (1 if present, 0 otherwise)	0
Loop Ramp Indicator (1 if present, 0 otherwise)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	11
Route or Road Type	Ramps
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2115900
Non-Incapacitating and Possible Injury Crashes	383000
Property Damage Only Crashes	38800
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.2
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.013
Non-Incapacitating and Possible Injury Crashes	0.04
Property Damage Only Crashes	0.37
All Crashes	0.42
Index of Crash Frequency	**1.45**
Index of Crash Cost	**0.22**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND SR 15 N JCT	
KOSCIUSKO CO		
GIS		
Post	90.5	
Analyst	MIKE MACNEILL	
Date	11/9/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection
Busiest Road AADT (veh/day)	22680
Crossing Road AADT (veh/day)	3771
T Intersection Indicator (1 if present, 0 otherwise)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	16
Route or Road Type	Signalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.521
Non-Incapacitating and Possible Injury Crashes	0.73
Property Damage Only Crashes	5.79
All Crashes	7.04
Index of Crash Frequency	**-0.67**
Index of Crash Cost	**-1.20**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND SR 15 S JCT	
KOSCIUSKO CO		
GIS		
Post	90.5	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection
Busiest Road AADT (veh/day)	16565
Crossing Road AADT (veh/day)	1801
T Intersection Indicator (1 if present, 0 otherwise)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	5
Property Damage Only Crashes	20
Route or Road Type	Signalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.312
Non-Incapacitating and Possible Injury Crashes	0.36
Property Damage Only Crashes	3.18
All Crashes	3.85
Index of Crash Frequency	**0.59**
Index of Crash Cost	**0.86**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR200N	
KOSCIUSKO CO		
GIS		
Post	91.1	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection
Busiest Road AADT (veh/day)	26390
Crossing Road AADT (veh/day)	6728
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	10
Non-Incapacitating and Possible Injury Crashes	15
Property Damage Only Crashes	89
Route or Road Type	Signalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	1.011
Non-Incapacitating and Possible Injury Crashes	1.40
Property Damage Only Crashes	11.09
All Crashes	13.50
Index of Crash Frequency	**0.94**
Index of Crash Cost	**1.24**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR200N TO MEIJER	
KOSCIUSKO COUNTY		
GIS		
Post	91.1	91.4
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	0.3
AADT (veh/day)	26390
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	4
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.3
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.295
Non-Incapacitating and Possible Injury Crashes	0.34
Property Damage Only Crashes	4.05
All Crashes	4.68
Index of Crash Frequency	**-0.89**
Index of Crash Cost	**-1.01**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND MEIJER	
KOSCIUSKO CO		
GIS		
Post	91.4	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection One AADT
Busiest Road AADT (veh/day)	26390
T Intersection Indicator (1 if present, 0 otherwise)	1
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	5
Non-Incapacitating and Possible Injury Crashes	5
Property Damage Only Crashes	51
Route or Road Type	Signalized Urban State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.419
Non-Incapacitating and Possible Injury Crashes	0.57
Property Damage Only Crashes	4.64
All Crashes	5.63
Index of Crash Frequency	**1.41**
Index of Crash Cost	**1.20**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, MEIJER TO SPRINGHILL	
KOSCIUSKO CO		
GIS		
Post	91.4	92.2
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	.8
AADT (veh/day)	26937
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	2
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.8
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.889
Non-Incapacitating and Possible Injury Crashes	0.89
Property Damage Only Crashes	9.31
All Crashes	11.09
Index of Crash Frequency	**-1.11**
Index of Crash Cost	**-1.04**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND SPRINGHILL	
KOSCIUSKO CO		
GIS		
Post	92.2	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection
Busiest Road AADT (veh/day)	25932
Crossing Road AADT (veh/day)	3162
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	11
Non-Incapacitating and Possible Injury Crashes	3
Property Damage Only Crashes	28
Route or Road Type	Signalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.751
Non-Incapacitating and Possible Injury Crashes	0.99
Property Damage Only Crashes	7.83
All Crashes	9.57
Index of Crash Frequency	**-0.17**
Index of Crash Cost	**1.33**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, SPRINGHILL TO PARKER	
KOSCIUSKO COUNTY		
GIS		
Post	92.2	92.7
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	0.5
AADT (veh/day)	25932
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	2
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.511
Non-Incapacitating and Possible Injury Crashes	0.54
Property Damage Only Crashes	6.08
All Crashes	7.13
Index of Crash Frequency	**-1.03**
Index of Crash Cost	**-0.50**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND PARKER	
KOSCIUSKO CO		
GIS		
Post	92.7	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection
Busiest Road AADT (veh/day)	22776
Crossing Road AADT (veh/day)	14741
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	10
Non-Incapacitating and Possible Injury Crashes	28
Property Damage Only Crashes	135
Route or Road Type	Signalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	1.219
Non-Incapacitating and Possible Injury Crashes	1.63
Property Damage Only Crashes	13.78
All Crashes	16.63
Index of Crash Frequency	**1.47**
Index of Crash Cost	**1.39**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, PARKER TO CENTER	
KOSCIUSKO CO		
GIS		
Post	92.7	93.4
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	.7
AADT (veh/day)	22776
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	0
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.7
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.661
Non-Incapacitating and Possible Injury Crashes	0.65
Property Damage Only Crashes	7.07
All Crashes	8.38
Index of Crash Frequency	**-1.08**
Index of Crash Cost	**-0.85**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CENTER	
KOSCIUSKO CO		
GIS		
Post	93.4	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection
Busiest Road AADT (veh/day)	22776
Crossing Road AADT (veh/day)	13963
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	8
Non-Incapacitating and Possible Injury Crashes	15
Property Damage Only Crashes	67
Route or Road Type	Signalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	1.194
Non-Incapacitating and Possible Injury Crashes	1.60
Property Damage Only Crashes	13.45
All Crashes	16.24
Index of Crash Frequency	**0.15**
Index of Crash Cost	**0.53**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CENTER TO OLD US 30	
KOSCIUSKO CO		
GIS		
Post	93.4	93.9
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	.5
AADT (veh/day)	30069
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.582
Non-Incapacitating and Possible Injury Crashes	0.64
Property Damage Only Crashes	7.03
All Crashes	8.25
Index of Crash Frequency	**-1.13**
Index of Crash Cost	**-1.27**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND OLD US 30	
KOSCIUSKO CO		
GIS		
Post	93.9	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection
Busiest Road AADT (veh/day)	30069
Crossing Road AADT (veh/day)	7014
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	8
Non-Incapacitating and Possible Injury Crashes	12
Property Damage Only Crashes	83
Route or Road Type	Signalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	1.132
Non-Incapacitating and Possible Injury Crashes	1.68
Property Damage Only Crashes	12.66
All Crashes	15.47
Index of Crash Frequency	**0.46**
Index of Crash Cost	**0.56**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, OLD US 30 TO COMMERCE E JCT	
KOSCIUSKO COUNTY		
GIS		
Post	93.9	94.4
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	0.5
AADT (veh/day)	30069
Intersection Density (int/mi)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.614
Non-Incapacitating and Possible Injury Crashes	0.68
Property Damage Only Crashes	7.17
All Crashes	8.46
Index of Crash Frequency	**-1.14**
Index of Crash Cost	**-1.27**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND COMMERCE W JCT	
KOSCIUSKO CO		
GIS		
Post	94.2	
Analyst	MIKE MACNEILL	
Date	11/9/2022	

INPUT	
Road Facility Type	Unsignalized Urban State Intersection One AADT
Busiest Road AADT (veh/day)	30069
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major Collector Indicator (1 if present, 0 otherwise)	0
Crossing Road Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	4
Route or Road Type	Unsignalized Urban State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1928400
Non-Incapacitating and Possible Injury Crashes	358900
Property Damage Only Crashes	38000
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.283
Non-Incapacitating and Possible Injury Crashes	0.28
Property Damage Only Crashes	2.56
All Crashes	3.12
Index of Crash Frequency	**-0.62**
Index of Crash Cost	**0.06**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND COMMERCE E JCT	
KOSCIUSKO CO		
GIS		
Post	94.4	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection One AADT
Busiest Road AADT (veh/day)	24303
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	5
Non-Incapacitating and Possible Injury Crashes	6
Property Damage Only Crashes	37
Route or Road Type	Signalized Urban State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.536
Non-Incapacitating and Possible Injury Crashes	0.62
Property Damage Only Crashes	5.25
All Crashes	6.41
Index of Crash Frequency	**0.62**
Index of Crash Cost	**0.86**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, COMMERCE E JCT TO CIRCLE	
KOSCIUSKO COUNTY		
GIS		
Post	94.4	9.46
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	0.2
AADT (veh/day)	24303
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	1
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.2
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.175
Non-Incapacitating and Possible Injury Crashes	0.21
Property Damage Only Crashes	2.67
All Crashes	3.05
Index of Crash Frequency	**-0.98**
Index of Crash Cost	**-0.82**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CIRCLE	
KOSCIUSKO CO		
GIS		
Post	94.6	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Unsignalized Urban State Intersection One AADT
Busiest Road AADT (veh/day)	24303
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major Collector Indicator (1 if present, 0 otherwise)	0
Crossing Road Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	2
Route or Road Type	Unsignalized Urban State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1928400
Non-Incapacitating and Possible Injury Crashes	358900
Property Damage Only Crashes	38000
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.228
Non-Incapacitating and Possible Injury Crashes	0.22
Property Damage Only Crashes	2.09
All Crashes	2.53
Index of Crash Frequency	**-0.60**
Index of Crash Cost	**0.29**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CIRCLE TO CR250E	
KOSCIUSKO CO		
GIS		
Post	94.6	94.8
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	.2
AADT (veh/day)	24303
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	0
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.2
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.175
Non-Incapacitating and Possible Injury Crashes	0.21
Property Damage Only Crashes	2.67
All Crashes	3.05
Index of Crash Frequency	**-1.05**
Index of Crash Cost	**-0.84**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR250E	
KOSCIUSKO CO		
GIS		
Post	94.8	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection
Busiest Road AADT (veh/day)	24303
Crossing Road AADT (veh/day)	7433
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	8
Non-Incapacitating and Possible Injury Crashes	7
Property Damage Only Crashes	34
Route or Road Type	Signalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.988
Non-Incapacitating and Possible Injury Crashes	1.32
Property Damage Only Crashes	10.78
All Crashes	13.09
Index of Crash Frequency	**-0.35**
Index of Crash Cost	**0.48**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR250E TO CR325E	
KOSCIUSKO CO		
GIS		
Post	94.8	95.6
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	.8
AADT (veh/day)	21294
Intersection Density (int/mi)	2
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	4
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	6
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.8
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.804
Non-Incapacitating and Possible Injury Crashes	0.75
Property Damage Only Crashes	7.70
All Crashes	9.26
Index of Crash Frequency	**-0.92**
Index of Crash Cost	**-0.28**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR325E	
KOSCIUSKO CO		
GIS		
Post	95.6	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	22513
Crossing Road AADT (veh/day)	1257
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	7
Non-Incapacitating and Possible Injury Crashes	4
Property Damage Only Crashes	14
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.644
Non-Incapacitating and Possible Injury Crashes	0.34
Property Damage Only Crashes	2.64
All Crashes	3.63
Index of Crash Frequency	**0.48**
Index of Crash Cost	**0.89**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR325E TO CR450E	
KOSCIUSKO CO		
GIS		
Post	95.6	96.9
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1.3
AADT (veh/day)	22513
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	11
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.3
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.728
Non-Incapacitating and Possible Injury Crashes	0.48
Property Damage Only Crashes	3.90
All Crashes	5.11
Index of Crash Frequency	**-0.60**
Index of Crash Cost	**-0.46**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR450E	
KOSCIUSKO CO		
GIS		
Post	96.9	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	22513
T Intersection Indicator (1 if present, 0 otherwise)	1
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	6
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.159
Non-Incapacitating and Possible Injury Crashes	0.10
Property Damage Only Crashes	0.95
All Crashes	1.21
Index of Crash Frequency	**0.31**
Index of Crash Cost	**0.18**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR450E TO VAN NESS E JCT	
KOSCIUSKO CO		
GIS		
Post	96.9	98.8
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1.9
AADT (veh/day)	22513
Intersection Density (int/mi)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	3
Property Damage Only Crashes	6
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.9
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	1.232
Non-Incapacitating and Possible Injury Crashes	0.83
Property Damage Only Crashes	5.68
All Crashes	7.75
Index of Crash Frequency	**-0.90**
Index of Crash Cost	**-0.63**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND VAN NESS E JCT	
KOSCIUSKO CO		
GIS		
Post	98.8	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	23202
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	8
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	17
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.291
Non-Incapacitating and Possible Injury Crashes	0.17
Property Damage Only Crashes	1.35
All Crashes	1.82
Index of Crash Frequency	**1.88**
Index of Crash Cost	**1.93**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, VAN NESS E JCT TO CR200S	
KOSCIUSKO COUNTY		
GIS		
Post	98.8	99.0
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	0.2
AADT (veh/day)	23202
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	3
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.2
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.108
Non-Incapacitating and Possible Injury Crashes	0.07
Property Damage Only Crashes	1.16
All Crashes	1.34
Index of Crash Frequency	**-0.42**
Index of Crash Cost	**0.26**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR200S	
KOSCIUSKO CO		
GIS		
Post	99.0	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	23202
Crossing Road AADT (veh/day)	181
T Intersection Indicator (1 if present, 0 otherwise)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	5
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.163
Non-Incapacitating and Possible Injury Crashes	0.08
Property Damage Only Crashes	0.75
All Crashes	0.99
Index of Crash Frequency	**0.01**
Index of Crash Cost	**-0.66**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR200S TO SR 13	
KOSCIUSKO CO		
GIS		
Post	99.0	99.6
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	.6
AADT (veh/day)	23202
Intersection Density (int/mi)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	5
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.6
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.598
Non-Incapacitating and Possible Injury Crashes	0.60
Property Damage Only Crashes	6.47
All Crashes	7.66
Index of Crash Frequency	**-0.98**
Index of Crash Cost	**-1.16**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND SR 13	
KOSCIUSKO CO		
GIS		
Post	99.6	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection
Busiest Road AADT (veh/day)	22586
Crossing Road AADT (veh/day)	6771
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	4
Non-Incapacitating and Possible Injury Crashes	9
Property Damage Only Crashes	46
Route or Road Type	Signalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.903
Non-Incapacitating and Possible Injury Crashes	1.16
Property Damage Only Crashes	9.70
All Crashes	11.76
Index of Crash Frequency	**0.00**
Index of Crash Cost	**0.02**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND MATCHETTE INDUSTRIAL PK	
KOSCIUSKO CO		
GIS		
Post	99.9	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Urban State Intersection One AADT
Busiest Road AADT (veh/day)	22586
T Intersection Indicator (1 if present, 0 otherwise)	1
Crossing Road Principal Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major Collector Indicator (1 if present, 0 otherwise)	0
Crossing Road Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	1
Route or Road Type	Unsignalized Urban State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1928400
Non-Incapacitating and Possible Injury Crashes	358900
Property Damage Only Crashes	38000
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.131
Non-Incapacitating and Possible Injury Crashes	0.14
Property Damage Only Crashes	1.37
All Crashes	1.64
Index of Crash Frequency	**-0.74**
Index of Crash Cost	**-0.57**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR250S	
KOSCIUSKO CO		
GIS		
Post	100.1	
Analyst	MIKE MACNEILL	
Date	12/21/2022	

INPUT	
Road Facility Type	Unsignalized Urban State Intersection
Busiest Road AADT (veh/day)	22586
Crossing Road AADT (veh/day)	917
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	14
Route or Road Type	Unsignalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1928400
Non-Incapacitating and Possible Injury Crashes	358900
Property Damage Only Crashes	38000
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.281
Non-Incapacitating and Possible Injury Crashes	0.25
Property Damage Only Crashes	2.41
All Crashes	2.94
Index of Crash Frequency	**0.17**
Index of Crash Cost	**0.52**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR250S TO CR900E	
KOSCIUSKO CO		
GIS		
Post	100.1	101.5
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1.4
AADT (veh/day)	22586
Intersection Density (int/mi)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	3
Property Damage Only Crashes	6
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.4
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.902
Non-Incapacitating and Possible Injury Crashes	0.61
Property Damage Only Crashes	4.66
All Crashes	6.17
Index of Crash Frequency	**-0.79**
Index of Crash Cost	**-0.49**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR900E	
KOSCIUSKO CO		
GIS		
Post	101.5	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	20842
Crossing Road AADT (veh/day)	546
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	10
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.452
Non-Incapacitating and Possible Injury Crashes	0.22
Property Damage Only Crashes	1.73
All Crashes	2.39
Index of Crash Frequency	**0.21**
Index of Crash Cost	**-0.03**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR900E TO BINKLEY	
KOSCIUSKO CO		
GIS		
Post	101.5	103.0
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1.5
AADT (veh/day)	20842
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	5
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	14
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.795
Non-Incapacitating and Possible Injury Crashes	0.51
Property Damage Only Crashes	4.05
All Crashes	5.35
Index of Crash Frequency	**-0.35**
Index of Crash Cost	**0.11**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND BINKLEY	
WHITLEY CO		
GIS		
Post	103.0	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	20842
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	12
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.267
Non-Incapacitating and Possible Injury Crashes	0.16
Property Damage Only Crashes	1.26
All Crashes	1.68
Index of Crash Frequency	**0.79**
Index of Crash Cost	**0.61**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, BINKLEY TO SR 5	
WHITLEY CO		
GIS		
Post	103.1	104.1
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1
AADT (veh/day)	23117
Intersection Density (int/mi)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	16
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.649
Non-Incapacitating and Possible Injury Crashes	0.44
Property Damage Only Crashes	3.79
All Crashes	4.89
Index of Crash Frequency	**-0.22**
Index of Crash Cost	**-0.32**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND SR 5	
WHITLEY CO		
GIS		
Post	104.1	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection
Busiest Road AADT (veh/day)	23117
Crossing Road AADT (veh/day)	1809
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	22
Route or Road Type	Signalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.558
Non-Incapacitating and Possible Injury Crashes	0.68
Property Damage Only Crashes	5.53
All Crashes	6.77
Index of Crash Frequency	**-0.36**
Index of Crash Cost	**-0.18**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, SR 5 TO CR650W	
WHITLEY CO		
GIS		
Post	104.1	104.6
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	0.5
AADT (veh/day)	26280
Intersection Density (int/mi)	2
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	1
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.575
Non-Incapacitating and Possible Injury Crashes	0.61
Property Damage Only Crashes	6.41
All Crashes	7.59
Index of Crash Frequency	**-1.11**
Index of Crash Cost	**-1.19**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR650W	
WHITLEY CO		
GIS		
Post	104.6	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	26280
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	5
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.322
Non-Incapacitating and Possible Injury Crashes	0.19
Property Damage Only Crashes	1.47
All Crashes	1.99
Index of Crash Frequency	**-0.44**
Index of Crash Cost	**-0.31**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR650W TO CR550W	
WHITLEY CO		
GIS		
Post	104.6	105.6
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1
AADT (veh/day)	26280
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	4
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.625
Non-Incapacitating and Possible Injury Crashes	0.44
Property Damage Only Crashes	3.68
All Crashes	4.74
Index of Crash Frequency	**-0.90**
Index of Crash Cost	**-0.41**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR550W	
WHITLEY CO		
GIS		
Post	105.6	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	26280
T Intersection Indicator (1 if present, 0 otherwise)	1
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	7
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.180
Non-Incapacitating and Possible Injury Crashes	0.12
Property Damage Only Crashes	1.06
All Crashes	1.35
Index of Crash Frequency	**0.18**
Index of Crash Cost	**-0.53**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR550W TO CR450W	
WHITLEY CO		
GIS		
Post	105.6	106.6
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1
AADT (veh/day)	26280
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	11
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.625
Non-Incapacitating and Possible Injury Crashes	0.44
Property Damage Only Crashes	3.68
All Crashes	4.74
Index of Crash Frequency	**-0.64**
Index of Crash Cost	**-0.94**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR450W	
WHITLEY CO		
GIS		
Post	106.6	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	26280
T Intersection Indicator (1 if present, 0 otherwise)	1
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	3
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.180
Non-Incapacitating and Possible Injury Crashes	0.12
Property Damage Only Crashes	1.06
All Crashes	1.35
Index of Crash Frequency	**-0.43**
Index of Crash Cost	**-0.02**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR450W TO CR400W	
WHITLEY COUNTY		
GIS		
Post	106.6	107.1
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	.5
AADT (veh/day)	24534
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	0
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.290
Non-Incapacitating and Possible Injury Crashes	0.20
Property Damage Only Crashes	2.21
All Crashes	2.70
Index of Crash Frequency	**-1.07**
Index of Crash Cost	**-0.34**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR400W	
WHITLEY CO		
GIS		
Post	107.1	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	24534
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	3
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.305
Non-Incapacitating and Possible Injury Crashes	0.18
Property Damage Only Crashes	1.41
All Crashes	1.89
Index of Crash Frequency	**-0.64**
Index of Crash Cost	**-0.30**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND WILSON LAKE	
WHITLEY CO		
GIS		
Post	107.3	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	24534
T Intersection Indicator (1 if present, 0 otherwise)	1
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.170
Non-Incapacitating and Possible Injury Crashes	0.11
Property Damage Only Crashes	1.01
All Crashes	1.29
Index of Crash Frequency	**-0.56**
Index of Crash Cost	**0.49**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, WILSON LAKE TO CR300W	
WHITLEY COUNTY		
GIS		
Post	107.3	108.1
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	0.8
AADT (veh/day)	24534
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	8
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.8
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.471
Non-Incapacitating and Possible Injury Crashes	0.32
Property Damage Only Crashes	3.02
All Crashes	3.81
Index of Crash Frequency	**-0.68**
Index of Crash Cost	**-0.92**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR300W	
WHITLEY CO		
GIS		
Post	108.1	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	24534
T Intersection Indicator (1 if present, 0 otherwise)	1
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	2
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.170
Non-Incapacitating and Possible Injury Crashes	0.11
Property Damage Only Crashes	1.01
All Crashes	1.29
Index of Crash Frequency	**-0.73**
Index of Crash Cost	**-0.68**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR300W TO OLD US 30	
WHITLEY COUNTY		
GIS		
Post	108.1	108.5
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	0.4
AADT (veh/day)	24534
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	2
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.4
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.231
Non-Incapacitating and Possible Injury Crashes	0.16
Property Damage Only Crashes	1.91
All Crashes	2.30
Index of Crash Frequency	**-0.94**
Index of Crash Cost	**-0.81**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND OLD US 30	
WHITLEY CO		
GIS		
Post	108.5	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	26124
Crossing Road AADT (veh/day)	1280
T Intersection Indicator (1 if present, 0 otherwise)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	4
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	10
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.362
Non-Incapacitating and Possible Injury Crashes	0.22
Property Damage Only Crashes	1.97
All Crashes	2.55
Index of Crash Frequency	**0.12**
Index of Crash Cost	**0.66**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND WOLF	
WHITLEY CO		
GIS		
Post	108.9	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	26124
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	6
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.320
Non-Incapacitating and Possible Injury Crashes	0.19
Property Damage Only Crashes	1.47
All Crashes	1.98
Index of Crash Frequency	**-0.32**
Index of Crash Cost	**-0.31**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, WOLF TO LINCOLNWAY	
WHITLEY CO		
GIS		
Post	108.9	110.2
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1.3
AADT (veh/day)	26124
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	5
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.3
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.815
Non-Incapacitating and Possible Injury Crashes	0.56
Property Damage Only Crashes	4.36
All Crashes	5.74
Index of Crash Frequency	**-0.93**
Index of Crash Cost	**-0.54**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND LINCOLNWAY	
WHITLEY CO		
GIS		
Post	110.2	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Signalized Rural State Intersection
Busiest Road AADT (veh/day)	22576
Crossing Road AADT (veh/day)	4809
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	5
Non-Incapacitating and Possible Injury Crashes	4
Property Damage Only Crashes	17
Route or Road Type	Signalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2203700
Non-Incapacitating and Possible Injury Crashes	428200
Property Damage Only Crashes	40300
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.952
Non-Incapacitating and Possible Injury Crashes	0.98
Property Damage Only Crashes	7.61
All Crashes	9.54
Index of Crash Frequency	**-0.60**
Index of Crash Cost	**-0.06**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, LINCOLNWAY TO ARMSTRONG	
WHITLEY COUNTY		
GIS		
Post	110.2	110.7
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	0.5
AADT (veh/day)	22576
Intersection Density (int/mi)	
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	2
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.452
Non-Incapacitating and Possible Injury Crashes	0.46
Property Damage Only Crashes	5.31
All Crashes	6.22
Index of Crash Frequency	**-1.08**
Index of Crash Cost	**-1.21**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND ARMSTRONG	
WHITLEY CO		
GIS		
Post	110.7	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection One AADT
Busiest Road AADT (veh/day)	22576
T Intersection Indicator (1 if present, 0 otherwise)	1
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	5
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	24
Route or Road Type	Signalized Urban State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.363
Non-Incapacitating and Possible Injury Crashes	0.47
Property Damage Only Crashes	3.99
All Crashes	4.82
Index of Crash Frequency	**0.35**
Index of Crash Cost	**1.04**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, ARMSTRONG TO SR 109	
WHITLEY CO		
GIS		
Post	110.7	111.2
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	.5
AADT (veh/day)	22576
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	5
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.452
Non-Incapacitating and Possible Injury Crashes	0.46
Property Damage Only Crashes	5.31
All Crashes	6.22
Index of Crash Frequency	**-0.89**
Index of Crash Cost	**-0.37**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND SR 109	
WHITLEY CO		
GIS		
Post	111.2	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection
Busiest Road AADT (veh/day)	29264
Crossing Road AADT (veh/day)	9599
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	13
Non-Incapacitating and Possible Injury Crashes	11
Property Damage Only Crashes	77
Route or Road Type	Signalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	1.249
Non-Incapacitating and Possible Injury Crashes	1.85
Property Damage Only Crashes	14.20
All Crashes	17.30
Index of Crash Frequency	**0.23**
Index of Crash Cost	**1.02**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, SR 109 TO SR 9	
WHITLEY COUNTY		
GIS		
Post	111.2	111.5
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	0.3
AADT (veh/day)	29264
Intersection Density (int/mi)	
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	13
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.3
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.323
Non-Incapacitating and Possible Injury Crashes	0.38
Property Damage Only Crashes	4.48
All Crashes	5.18
Index of Crash Frequency	**-0.56**
Index of Crash Cost	**-1.06**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND SR 9	
WHITLEY COUNTY		
GIS		
Post	111.5	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection
Busiest Road AADT (veh/day)	26910
Crossing Road AADT (veh/day)	14060
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	17
Non-Incapacitating and Possible Injury Crashes	14
Property Damage Only Crashes	113
Route or Road Type	Signalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	1.356
Non-Incapacitating and Possible Injury Crashes	1.97
Property Damage Only Crashes	15.61
All Crashes	18.94
Index of Crash Frequency	**0.72**
Index of Crash Cost	**1.52**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, SR 9 TO SR 205	
WHITLEY CO		
GIS		
Post	111.5	112.8
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	1.3
AADT (veh/day)	26910
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	16
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.3
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	1.519
Non-Incapacitating and Possible Injury Crashes	1.42
Property Damage Only Crashes	13.92
All Crashes	16.85
Index of Crash Frequency	**-0.91**
Index of Crash Cost	**-0.93**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND SR 205	
WHITLEY CO		
GIS		
Post	112.8	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection
Busiest Road AADT (veh/day)	24960
Crossing Road AADT (veh/day)	6427
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	12
Non-Incapacitating and Possible Injury Crashes	17
Property Damage Only Crashes	75
Route or Road Type	Signalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.954
Non-Incapacitating and Possible Injury Crashes	1.28
Property Damage Only Crashes	10.35
All Crashes	12.59
Index of Crash Frequency	**0.89**
Index of Crash Cost	**1.69**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, SR 205 TO CR100S	
WHITLEY COUNTY		
GIS		
Post	112.8	114.1
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	1.3
AADT (veh/day)	24960
Intersection Density (int/mi)	
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	19
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.3
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	1.422
Non-Incapacitating and Possible Injury Crashes	1.30
Property Damage Only Crashes	12.93
All Crashes	15.65
Index of Crash Frequency	**-0.84**
Index of Crash Cost	**-0.89**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR100S	
WHITLEY CO		
GIS		
Post	114.1	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	26348
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	9
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.323
Non-Incapacitating and Possible Injury Crashes	0.19
Property Damage Only Crashes	1.47
All Crashes	1.99
Index of Crash Frequency	**0.22**
Index of Crash Cost	**0.15**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR100S TO CR300E	
WHITLEY CO		
GIS		
Post	114.1	114.9
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	.8
AADT (veh/day)	26348
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	0
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.8
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.497
Non-Incapacitating and Possible Injury Crashes	0.35
Property Damage Only Crashes	3.18
All Crashes	4.03
Index of Crash Frequency	**-1.14**
Index of Crash Cost	**-0.91**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR300E	
WHITLEY CO		
GIS		
Post	114.9	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Signalized Rural State Intersection
Busiest Road AADT (veh/day)	26348
Crossing Road AADT (veh/day)	2229
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	17
Non-Incapacitating and Possible Injury Crashes	4
Property Damage Only Crashes	38
Route or Road Type	Signalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2203700
Non-Incapacitating and Possible Injury Crashes	428200
Property Damage Only Crashes	40300
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.812
Non-Incapacitating and Possible Injury Crashes	0.74
Property Damage Only Crashes	5.58
All Crashes	7.13
Index of Crash Frequency	**0.84**
Index of Crash Cost	**2.23**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR300E TO CR400E	
WHITLEY CO		
GIS		
Post	114.9	116.0
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1.1
AADT (veh/day)	28268
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	11
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.1
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.728
Non-Incapacitating and Possible Injury Crashes	0.52
Property Damage Only Crashes	4.14
All Crashes	5.39
Index of Crash Frequency	**-0.67**
Index of Crash Cost	**-0.70**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR400E	
WHITLEY CO		
GIS		
Post	116.0	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	28268
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	4
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	9
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.341
Non-Incapacitating and Possible Injury Crashes	0.21
Property Damage Only Crashes	1.55
All Crashes	2.09
Index of Crash Frequency	**0.36**
Index of Crash Cost	**0.73**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR400E TO CR500E	
WHITLEY CO		
GIS		
Post	116.0	117.1
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1.1
AADT (veh/day)	28268
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	2
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.1
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.728
Non-Incapacitating and Possible Injury Crashes	0.52
Property Damage Only Crashes	4.14
All Crashes	5.39
Index of Crash Frequency	**-1.09**
Index of Crash Cost	**-0.94**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR500E	
WHITLEY CO		
GIS		
Post	117.1	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	28268
Crossing Road AADT (veh/day)	505
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	9
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.521
Non-Incapacitating and Possible Injury Crashes	0.25
Property Damage Only Crashes	1.94
All Crashes	2.71
Index of Crash Frequency	**0.04**
Index of Crash Cost	**0.14**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR500E TO CR600E	
WHITLEY CO		
GIS		
Post	117.1	118.2
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1.1
AADT (veh/day)	28268
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	3
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.1
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.728
Non-Incapacitating and Possible Injury Crashes	0.52
Property Damage Only Crashes	4.14
All Crashes	5.39
Index of Crash Frequency	**-0.95**
Index of Crash Cost	**-0.27**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR600E	
WHITLEY CO		
GIS		
Post	118.2	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Signalized Rural State Intersection
Busiest Road AADT (veh/day)	27000
Crossing Road AADT (veh/day)	2885
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	8
Non-Incapacitating and Possible Injury Crashes	3
Property Damage Only Crashes	29
Route or Road Type	Signalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2203700
Non-Incapacitating and Possible Injury Crashes	428200
Property Damage Only Crashes	40300
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.883
Non-Incapacitating and Possible Injury Crashes	0.86
Property Damage Only Crashes	6.60
All Crashes	8.34
Index of Crash Frequency	**-0.05**
Index of Crash Cost	**0.60**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR600E TO CR700E	
WHITLEY CO		
GIS		
Post	118.2	119.2
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1
AADT (veh/day)	27000
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	2
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.638
Non-Incapacitating and Possible Injury Crashes	0.45
Property Damage Only Crashes	3.76
All Crashes	4.84
Index of Crash Frequency	**-1.06**
Index of Crash Cost	**-0.69**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND CR700E	
WHITLEY CO		
GIS		
Post	119.2	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	27000
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	15
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.329
Non-Incapacitating and Possible Injury Crashes	0.20
Property Damage Only Crashes	1.50
All Crashes	2.03
Index of Crash Frequency	**0.80**
Index of Crash Cost	**0.44**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, CR700E TO COUNTY LINE	
WHITLEY CO		
GIS		
Post	119.2	120.2
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1
AADT (veh/day)	27000
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	5
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.638
Non-Incapacitating and Possible Injury Crashes	0.45
Property Damage Only Crashes	3.76
All Crashes	4.84
Index of Crash Frequency	**-0.91**
Index of Crash Cost	**-0.68**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND COUNTY LINE	
ALLEN CO		
GIS		
Post	120.2	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Signalized Rural State Intersection
Busiest Road AADT (veh/day)	25382
Crossing Road AADT (veh/day)	3521
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	9
Non-Incapacitating and Possible Injury Crashes	7
Property Damage Only Crashes	50
Route or Road Type	Signalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2203700
Non-Incapacitating and Possible Injury Crashes	428200
Property Damage Only Crashes	40300
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.913
Non-Incapacitating and Possible Injury Crashes	0.91
Property Damage Only Crashes	7.02
All Crashes	8.85
Index of Crash Frequency	**0.64**
Index of Crash Cost	**0.92**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, COUNTY LINE TO BUTT	
ALLEN CO		
GIS		
Post	120.2	121.5
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1.3
AADT (veh/day)	25382
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	6
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.3
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.797
Non-Incapacitating and Possible Injury Crashes	0.55
Property Damage Only Crashes	4.27
All Crashes	5.61
Index of Crash Frequency	**-0.88**
Index of Crash Cost	**-0.71**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND BUTT	
ALLEN CO		
GIS		
Post	121.5	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	25042
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	5
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.310
Non-Incapacitating and Possible Injury Crashes	0.18
Property Damage Only Crashes	1.42
All Crashes	1.92
Index of Crash Frequency	**-0.53**
Index of Crash Cost	**-0.76**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, BUTT TO SOLON	
ALLEN CO		
GIS		
Post	121.4	122.2
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	0.8
AADT (veh/day)	25042
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	4
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.8
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.478
Non-Incapacitating and Possible Injury Crashes	0.33
Property Damage Only Crashes	3.06
All Crashes	3.87
Index of Crash Frequency	**-0.82**
Index of Crash Cost	**-0.52**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND SOLON	
ALLEN CO		
GIS		
Post	122.2	
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	25042
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	3
Property Damage Only Crashes	4
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.310
Non-Incapacitating and Possible Injury Crashes	0.18
Property Damage Only Crashes	1.42
All Crashes	1.92
Index of Crash Frequency	**-0.29**
Index of Crash Cost	**-0.54**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, SOLON TO FELGER	
ALLEN CO		
GIS		
Post	122.2	123
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	0.8
AADT (veh/day)	25042
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	3
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.8
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.478
Non-Incapacitating and Possible Injury Crashes	0.33
Property Damage Only Crashes	3.06
All Crashes	3.87
Index of Crash Frequency	**-0.88**
Index of Crash Cost	**-0.24**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND FELGER	
ALLEN COUNTY		
GIS		
Post	123.0	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	25042
Crossing Road AADT (veh/day)	1641
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	9
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	11
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.756
Non-Incapacitating and Possible Injury Crashes	0.42
Property Damage Only Crashes	3.15
All Crashes	4.33
Index of Crash Frequency	**-0.10**
Index of Crash Cost	**0.89**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, FELGER TO STAHLHUT	
ALLEN CO		
GIS		
Post	123	124
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1
AADT (veh/day)	25042
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	4
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.602
Non-Incapacitating and Possible Injury Crashes	0.41
Property Damage Only Crashes	3.55
All Crashes	4.57
Index of Crash Frequency	**-1.00**
Index of Crash Cost	**-0.96**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND STAHLHUT	
ALLEN CO		
GIS		
Post	124.0	
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	23379
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	10
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.293
Non-Incapacitating and Possible Injury Crashes	0.17
Property Damage Only Crashes	1.36
All Crashes	1.83
Index of Crash Frequency	**0.33**
Index of Crash Cost	**-0.56**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, STAHLHUT TO O'DAY	
ALLEN CO		
GIS		
Post	124	125
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1
AADT (veh/day)	23379
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	3
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.571
Non-Incapacitating and Possible Injury Crashes	0.38
Property Damage Only Crashes	3.37
All Crashes	4.33
Index of Crash Frequency	**-0.92**
Index of Crash Cost	**-0.60**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND O'DAY	
ALLEN CO		
GIS		
Post	125.0	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	20748
Crossing Road AADT (veh/day)	941
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	4
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	26
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.552
Non-Incapacitating and Possible Injury Crashes	0.28
Property Damage Only Crashes	2.22
All Crashes	3.05
Index of Crash Frequency	**1.34**
Index of Crash Cost	**0.40**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, O'DAY TO FLAUGH	
ALLEN CO		
GIS		
Post	125	126
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1
AADT (veh/day)	20748
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	4
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.522
Non-Incapacitating and Possible Injury Crashes	0.33
Property Damage Only Crashes	3.09
All Crashes	3.94
Index of Crash Frequency	**-0.89**
Index of Crash Cost	**-0.60**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND FLAUGH	
ALLEN CO		
GIS	126.0	
Post		
Analyst	MIKE MACNEILL	
Date	2/27/2023	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	26231
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	4
Non-Incapacitating and Possible Injury Crashes	3
Property Damage Only Crashes	29
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.825
Non-Incapacitating and Possible Injury Crashes	0.48
Property Damage Only Crashes	2.99
All Crashes	4.29
Index of Crash Frequency	**0.77**
Index of Crash Cost	**0.03**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, FLAUGH TO KROEMER	
ALLEN CO		
GIS		
Post	126	126.8
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	0.8
AADT (veh/day)	26231
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	5
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.8
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.868
Non-Incapacitating and Possible Injury Crashes	0.86
Property Damage Only Crashes	9.07
All Crashes	10.81
Index of Crash Frequency	**-1.04**
Index of Crash Cost	**-1.22**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND KROEMER	
ALLEN COUNTY		
GIS		
Post	126.8	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection
Busiest Road AADT (veh/day)	27884
Crossing Road AADT (veh/day)	6926
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	11
Non-Incapacitating and Possible Injury Crashes	12
Property Damage Only Crashes	77
Route or Road Type	Signalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	1.065
Non-Incapacitating and Possible Injury Crashes	1.52
Property Damage Only Crashes	11.79
All Crashes	14.37
Index of Crash Frequency	**0.54**
Index of Crash Cost	**1.13**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, KROEMER TO I-69 E JCT	
ALLEN CO		
GIS		
Post	126.8	128.3
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Urban multilane Segment
Beginning	0
End	1.5
AADT (veh/day)	27884
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	3
Property Damage Only Crashes	32
Route or Road Type	Urban multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1950400
Non-Incapacitating and Possible Injury Crashes	364100
Property Damage Only Crashes	37300
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	1.836
Non-Incapacitating and Possible Injury Crashes	1.69
Property Damage Only Crashes	16.22
All Crashes	19.75
Index of Crash Frequency	**-0.75**
Index of Crash Cost	**-0.93**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, EB ON RAMP AT US 33	
ALLEN COUNTY		
GIS		
Post	127.5	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Ramps
Beginning	0
End	0.5
AADT (veh/day)	5611
Diagonal Ramp Indicator (1 if present, 0 otherwise)	0
Loop Ramp Indicator (1 if present, 0 otherwise)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	14
Route or Road Type	Ramps
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2115900
Non-Incapacitating and Possible Injury Crashes	383000
Property Damage Only Crashes	38800
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.041
Non-Incapacitating and Possible Injury Crashes	0.08
Property Damage Only Crashes	1.08
All Crashes	1.20
Index of Crash Frequency	**0.72**
Index of Crash Cost	**1.30**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, WB OFF RAMP AT US 33	
ALLEN COUNTY		
GIS		
Post	127.5	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Ramps
Beginning	0
End	0.5
AADT (veh/day)	7241
Diagonal Ramp Indicator (1 if present, 0 otherwise)	1
Loop Ramp Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	4
Route or Road Type	Ramps
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2115900
Non-Incapacitating and Possible Injury Crashes	383000
Property Damage Only Crashes	38800
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.016
Non-Incapacitating and Possible Injury Crashes	0.07
Property Damage Only Crashes	1.02
All Crashes	1.10
Index of Crash Frequency	**0.03**
Index of Crash Cost	**0.91**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, WB ON RAMP AT US 33	
ALLEN COUNTY		
GIS		
Post	127.5	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Ramps
Beginning	0
End	0.5
AADT (veh/day)	784
Diagonal Ramp Indicator (1 if present, 0 otherwise)	1
Loop Ramp Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	2
Route or Road Type	Ramps
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2115900
Non-Incapacitating and Possible Injury Crashes	383000
Property Damage Only Crashes	38800
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.002
Non-Incapacitating and Possible Injury Crashes	0.01
Property Damage Only Crashes	0.15
All Crashes	0.16
Index of Crash Frequency	**1.06**
Index of Crash Cost	**1.40**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, EB OFF RAMP TO I-69NB	
ALLEN COUNTY		
GIS		
Post	128.3	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Ramps
Beginning	0
End	0.3
AADT (veh/day)	6724
Diagonal Ramp Indicator (1 if present, 0 otherwise)	0
Loop Ramp Indicator (1 if present, 0 otherwise)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	6
Route or Road Type	Ramps
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2115900
Non-Incapacitating and Possible Injury Crashes	383000
Property Damage Only Crashes	38800
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.3
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.034
Non-Incapacitating and Possible Injury Crashes	0.10
Property Damage Only Crashes	0.97
All Crashes	1.10
Index of Crash Frequency	**0.04**
Index of Crash Cost	**-0.38**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, EB OFF RAMP TO I-69SB	
ALLEN COUNTY		
GIS		
Post	128.3	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Ramps
Beginning	0
End	0.5
AADT (veh/day)	4623
Diagonal Ramp Indicator (1 if present, 0 otherwise)	1
Loop Ramp Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	4
Route or Road Type	Ramps
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2115900
Non-Incapacitating and Possible Injury Crashes	383000
Property Damage Only Crashes	38800
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.011
Non-Incapacitating and Possible Injury Crashes	0.04
Property Damage Only Crashes	0.69
All Crashes	0.75
Index of Crash Frequency	**0.03**
Index of Crash Cost	**-0.25**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, EB ON RAMP FROM I-69NB	
ALLEN COUNTY		
GIS		
Post	128.3	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Ramps
Beginning	0
End	0.5
AADT (veh/day)	4637
Diagonal Ramp Indicator (1 if present, 0 otherwise)	1
Loop Ramp Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Ramps
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2115900
Non-Incapacitating and Possible Injury Crashes	383000
Property Damage Only Crashes	38800
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.011
Non-Incapacitating and Possible Injury Crashes	0.04
Property Damage Only Crashes	0.70
All Crashes	0.75
Index of Crash Frequency	**-0.29**
Index of Crash Cost	**-0.42**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, EB ON RAMP FROM I-69SB	
ALLEN COUNTY		
GIS		
Post	128.3	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Ramps
Beginning	0
End	0.3
AADT (veh/day)	3204
Diagonal Ramp Indicator (1 if present, 0 otherwise)	0
Loop Ramp Indicator (1 if present, 0 otherwise)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	9
Route or Road Type	Ramps
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2115900
Non-Incapacitating and Possible Injury Crashes	383000
Property Damage Only Crashes	38800
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.3
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.018
Non-Incapacitating and Possible Injury Crashes	0.04
Property Damage Only Crashes	0.52
All Crashes	0.58
Index of Crash Frequency	**0.92**
Index of Crash Cost	**0.38**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, WB OFF RAMP TO I-69NB	
ALLEN COUNTY		
GIS		
Post	128.3	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Ramps
Beginning	0
End	0.5
AADT (veh/day)	3650
Diagonal Ramp Indicator (1 if present, 0 otherwise)	1
Loop Ramp Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	2
Route or Road Type	Ramps
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2115900
Non-Incapacitating and Possible Injury Crashes	383000
Property Damage Only Crashes	38800
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.009
Non-Incapacitating and Possible Injury Crashes	0.03
Property Damage Only Crashes	0.57
All Crashes	0.61
Index of Crash Frequency	**-0.01**
Index of Crash Cost	**0.26**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, WB OFF RAMP TO I-69SB	
ALLEN COUNTY		
GIS		
Post	128.3	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Ramps
Beginning	0
End	0.3
AADT (veh/day)	4009
Diagonal Ramp Indicator (1 if present, 0 otherwise)	0
Loop Ramp Indicator (1 if present, 0 otherwise)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	2
Route or Road Type	Ramps
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2115900
Non-Incapacitating and Possible Injury Crashes	383000
Property Damage Only Crashes	38800
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.3
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.022
Non-Incapacitating and Possible Injury Crashes	0.06
Property Damage Only Crashes	0.62
All Crashes	0.70
Index of Crash Frequency	**-0.06**
Index of Crash Cost	**0.00**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, WB ON RAMP FROM I-69NB	
ALLEN COUNTY		
GIS		
Post	128.3	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Ramps
Beginning	0
End	0.3
AADT (veh/day)	4990
Diagonal Ramp Indicator (1 if present, 0 otherwise)	0
Loop Ramp Indicator (1 if present, 0 otherwise)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	5
Route or Road Type	Ramps
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2115900
Non-Incapacitating and Possible Injury Crashes	383000
Property Damage Only Crashes	38800
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.3
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.027
Non-Incapacitating and Possible Injury Crashes	0.07
Property Damage Only Crashes	0.75
All Crashes	0.85
Index of Crash Frequency	**0.07**
Index of Crash Cost	**-0.34**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, WB ON RAMP FROM I-69SB	
ALLEN COUNTY		
GIS		
Post	128.3	
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Ramps
Beginning	0
End	0.5
AADT (veh/day)	8187
Diagonal Ramp Indicator (1 if present, 0 otherwise)	1
Loop Ramp Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	6
Route or Road Type	Ramps
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2115900
Non-Incapacitating and Possible Injury Crashes	383000
Property Damage Only Crashes	38800
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.018
Non-Incapacitating and Possible Injury Crashes	0.08
Property Damage Only Crashes	1.13
All Crashes	1.23
Index of Crash Frequency	**-0.01**
Index of Crash Cost	**-0.32**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND I-69 E JCT	
ALLEN COUNTY		
GIS		
Post	128.3	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection
Busiest Road AADT (veh/day)	32927
Crossing Road AADT (veh/day)	4637
T Intersection Indicator (1 if present, 0 otherwise)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	20
Route or Road Type	Signalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.744
Non-Incapacitating and Possible Injury Crashes	1.27
Property Damage Only Crashes	8.79
All Crashes	10.80
Index of Crash Frequency	**-0.80**
Index of Crash Cost	**-1.06**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND I-469 E JCT	
ALLEN COUNTY		
GIS		
Post	141.2	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Signalized Urban State Intersection
Busiest Road AADT (veh/day)	25827
Crossing Road AADT (veh/day)	1923
T Intersection Indicator (1 if present, 0 otherwise)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	12
Route or Road Type	Signalized Urban State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1809300
Non-Incapacitating and Possible Injury Crashes	366800
Property Damage Only Crashes	40700
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.445
Non-Incapacitating and Possible Injury Crashes	0.64
Property Damage Only Crashes	4.82
All Crashes	5.91
Index of Crash Frequency	**-0.68**
Index of Crash Cost	**-0.34**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, EB ON RAMP FROM I-469SB	
ALLEN CO		
GIS		
Post	141.2	
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Ramps
Beginning	0
End	0.3
AADT (veh/day)	5762
Diagonal Ramp Indicator (1 if present, 0 otherwise)	0
Loop Ramp Indicator (1 if present, 0 otherwise)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	6
Route or Road Type	Ramps
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2115900
Non-Incapacitating and Possible Injury Crashes	383000
Property Damage Only Crashes	38800
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.3
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.030
Non-Incapacitating and Possible Injury Crashes	0.08
Property Damage Only Crashes	0.85
All Crashes	0.96
Index of Crash Frequency	**0.18**
Index of Crash Cost	**0.70**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, EB/WB OFF RAMP TO I-469NB	
ALLEN COUNTY		
GIS		
Post	141.2	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Ramps
Beginning	0
End	0.5
AADT (veh/day)	9521
Diagonal Ramp Indicator (1 if present, 0 otherwise)	1
Loop Ramp Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	2
Route or Road Type	Ramps
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2115900
Non-Incapacitating and Possible Injury Crashes	383000
Property Damage Only Crashes	38800
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.020
Non-Incapacitating and Possible Injury Crashes	0.09
Property Damage Only Crashes	1.29
All Crashes	1.40
Index of Crash Frequency	**-0.29**
Index of Crash Cost	**-0.49**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, EB/WB ON RAMP FROM I-469NB	
ALLEN COUNTY		
GIS		
Post	141.2	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Ramps
Beginning	0
End	0.5
AADT (veh/day)	1923
Diagonal Ramp Indicator (1 if present, 0 otherwise)	1
Loop Ramp Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	2
Route or Road Type	Ramps
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2115900
Non-Incapacitating and Possible Injury Crashes	383000
Property Damage Only Crashes	38800
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.005
Non-Incapacitating and Possible Injury Crashes	0.02
Property Damage Only Crashes	0.33
All Crashes	0.35
Index of Crash Frequency	**0.05**
Index of Crash Cost	**-0.14**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, I-469 TO DOYLE	
ALLEN COUNTY		
GIS		
Post	141.2	141.5
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	0.3
AADT (veh/day)	25827
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	3
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.3
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.178
Non-Incapacitating and Possible Injury Crashes	0.12
Property Damage Only Crashes	1.64
All Crashes	1.94
Index of Crash Frequency	**-0.77**
Index of Crash Cost	**-0.75**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND DOYLE	
ALLEN CO		
GIS		
Post	141.5	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Signalized Rural State Intersection
Busiest Road AADT (veh/day)	25827
Crossing Road AADT (veh/day)	4205
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	12
Non-Incapacitating and Possible Injury Crashes	3
Property Damage Only Crashes	21
Route or Road Type	Signalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2203700
Non-Incapacitating and Possible Injury Crashes	428200
Property Damage Only Crashes	40300
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.968
Non-Incapacitating and Possible Injury Crashes	1.01
Property Damage Only Crashes	7.88
All Crashes	9.86
Index of Crash Frequency	**-0.35**
Index of Crash Cost	**1.06**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, DOYLE TO FRANKE	
ALLEN COUNTY		
GIS		
Post	141.5	142.2
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	0.7
AADT (veh/day)	25827
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.7
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.427
Non-Incapacitating and Possible Injury Crashes	0.30
Property Damage Only Crashes	2.87
All Crashes	3.59
Index of Crash Frequency	**-1.12**
Index of Crash Cost	**-0.94**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND FRANKE	
ALLEN CO		
GIS		
Post	142.2	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	17717
Crossing Road AADT (veh/day)	829
T Intersection Indicator (1 if present, 0 otherwise)	1
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	11
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.247
Non-Incapacitating and Possible Injury Crashes	0.14
Property Damage Only Crashes	1.32
All Crashes	1.71
Index of Crash Frequency	**0.85**
Index of Crash Cost	**0.46**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND RYAN	
ALLEN CO		
GIS		
Post	142.8	
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	17215
Crossing Road AADT (veh/day)	363
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	9
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.348
Non-Incapacitating and Possible Injury Crashes	0.16
Property Damage Only Crashes	1.30
All Crashes	1.80
Index of Crash Frequency	**0.40**
Index of Crash Cost	**0.41**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, RYAN TO GIRARD	
ALLEN CO		
GIS		
Post	142.8	143.4
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	0.6
AADT (veh/day)	17215
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	2
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.6
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.267
Non-Incapacitating and Possible Injury Crashes	0.16
Property Damage Only Crashes	1.92
All Crashes	2.34
Index of Crash Frequency	**-0.96**
Index of Crash Cost	**-0.84**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND LINCOLN HWY W JCT	
ALLEN COUNTY		
GIS		
Post	143.0	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	17215
T Intersection Indicator (1 if present, 0 otherwise)	1
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	6
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.128
Non-Incapacitating and Possible Injury Crashes	0.08
Property Damage Only Crashes	0.79
All Crashes	1.00
Index of Crash Frequency	**0.19**
Index of Crash Cost	**-0.58**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND GIRARD	
ALLEN CO		
GIS		
Post	143.4	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	17215
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.229
Non-Incapacitating and Possible Injury Crashes	0.13
Property Damage Only Crashes	1.10
All Crashes	1.46
Index of Crash Frequency	**-0.96**
Index of Crash Cost	**-0.73**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, GIRARD TO WEBSTER	
ALLEN CO		
GIS		
Post	143.3	145
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1.7
AADT (veh/day)	18175
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	2
Property Damage Only Crashes	2
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.7
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.815
Non-Incapacitating and Possible Injury Crashes	0.49
Property Damage Only Crashes	3.97
All Crashes	5.28
Index of Crash Frequency	**-0.91**
Index of Crash Cost	**-0.27**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND WEBSTER	
ALLEN CO		
GIS		
Post	145.0	
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	18175
Crossing Road AADT (veh/day)	400
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	4
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	6
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.372
Non-Incapacitating and Possible Injury Crashes	0.17
Property Damage Only Crashes	1.39
All Crashes	1.94
Index of Crash Frequency	**0.04**
Index of Crash Cost	**0.64**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, WEBSTER TO SNYDER	
ALLEN CO		
GIS		
Post	145	145.6
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	0.6
AADT (veh/day)	16377
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.6
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.258
Non-Incapacitating and Possible Injury Crashes	0.15
Property Damage Only Crashes	1.85
All Crashes	2.26
Index of Crash Frequency	**-1.05**
Index of Crash Cost	**-0.83**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND SNYDER	
ALLEN CO		
GIS		
Post	145.6	
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	16377
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.220
Non-Incapacitating and Possible Injury Crashes	0.12
Property Damage Only Crashes	1.07
All Crashes	1.41
Index of Crash Frequency	**-0.78**
Index of Crash Cost	**-0.13**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, SNYDER TO TERNET	
ALLEN COUNTY		
GIS		
Post	145.5	146.7
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1.2
AADT (veh/day)	16377
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	3
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.2
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.526
Non-Incapacitating and Possible Injury Crashes	0.31
Property Damage Only Crashes	2.92
All Crashes	3.75
Index of Crash Frequency	**-0.95**
Index of Crash Cost	**-0.89**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND TERNET	
ALLEN CO		
GIS		
Post	146.7	
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	16377
Crossing Road AADT (veh/day)	458
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	3
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.369
Non-Incapacitating and Possible Injury Crashes	0.17
Property Damage Only Crashes	1.41
All Crashes	1.95
Index of Crash Frequency	**-0.63**
Index of Crash Cost	**-0.34**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, TERNET TO SAMPSON	
ALLEN CO		
GIS		
Post	146.8	147.3
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	0.5
AADT (veh/day)	16377
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.213
Non-Incapacitating and Possible Injury Crashes	0.13
Property Damage Only Crashes	1.64
All Crashes	1.98
Index of Crash Frequency	**-1.03**
Index of Crash Cost	**-0.78**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND SAMPSON	
ALLEN CO		
GIS		
Post	147.3	
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	16377
Crossing Road AADT (veh/day)	510
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.385
Non-Incapacitating and Possible Injury Crashes	0.18
Property Damage Only Crashes	1.48
All Crashes	2.05
Index of Crash Frequency	**-1.22**
Index of Crash Cost	**-0.89**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, SAMPSON TO MARTIN	
ALLEN CO		
GIS		
Post	147.3	148
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	0.7
AADT (veh/day)	16430
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	2
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.7
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.303
Non-Incapacitating and Possible Injury Crashes	0.18
Property Damage Only Crashes	2.05
All Crashes	2.53
Index of Crash Frequency	**-0.88**
Index of Crash Cost	**-0.33**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND MARTIN	
ALLEN CO		
GIS		
Post	148.0	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	16430
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	2
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.220
Non-Incapacitating and Possible Injury Crashes	0.13
Property Damage Only Crashes	1.07
All Crashes	1.42
Index of Crash Frequency	**-0.46**
Index of Crash Cost	**0.33**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, MARTIN TO SR 101	
ALLEN COUNTY		
GIS		
Post	148	148.5
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	0.5
AADT (veh/day)	16430
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	0
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.214
Non-Incapacitating and Possible Injury Crashes	0.13
Property Damage Only Crashes	1.64
All Crashes	1.98
Index of Crash Frequency	**-1.03**
Index of Crash Cost	**-0.14**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND SR 101	
ALLEN CO		
GIS		
Post	148.5	
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	16430
Crossing Road AADT (veh/day)	1752
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	6
Property Damage Only Crashes	13
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.611
Non-Incapacitating and Possible Injury Crashes	0.33
Property Damage Only Crashes	2.63
All Crashes	3.58
Index of Crash Frequency	**0.22**
Index of Crash Cost	**-0.08**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, SR 101 TO LORTIE	
ALLEN CO		
GIS		
Post	148.5	149.6
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1.1
AADT (veh/day)	15205
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.1
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.454
Non-Incapacitating and Possible Injury Crashes	0.26
Property Damage Only Crashes	2.61
All Crashes	3.32
Index of Crash Frequency	**-1.05**
Index of Crash Cost	**-0.54**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND LORTIE	
ALLEN CO		
GIS		
Post	149.6	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	15205
Crossing Road AADT (veh/day)	268
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	3
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.290
Non-Incapacitating and Possible Injury Crashes	0.12
Property Damage Only Crashes	1.06
All Crashes	1.47
Index of Crash Frequency	**-0.58**
Index of Crash Cost	**-0.27**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, LORTIE TO MORGAN	
ALLEN CO		
GIS		
Post	149.6	150.7
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	1.1
AADT (veh/day)	15205
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	1.1
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.454
Non-Incapacitating and Possible Injury Crashes	0.26
Property Damage Only Crashes	2.61
All Crashes	3.32
Index of Crash Frequency	**-1.05**
Index of Crash Cost	**-0.54**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND MORGAN	
ALLEN CO		
GIS		
Post	150.7	
Analyst	MIKE MACNEILL	
Date	12/22/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	15531
Crossing Road AADT (veh/day)	72
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	2
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.180
Non-Incapacitating and Possible Injury Crashes	0.07
Property Damage Only Crashes	0.58
All Crashes	0.83
Index of Crash Frequency	**-0.62**
Index of Crash Cost	**-0.69**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30, MORGAN TO SIMMER	
ALLEN CO		
GIS		
Post	150.7	151.2
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Rural multilane Segment
Beginning	0
End	0.5
AADT (veh/day)	15531
Intersection Density (int/mi)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Rural multilane Segment
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2442800
Non-Incapacitating and Possible Injury Crashes	368100
Property Damage Only Crashes	31600
Crash Cost Year (yyyy)	2017
OUTPUT	
Segment Length (mi)	0.5
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.205
Non-Incapacitating and Possible Injury Crashes	0.12
Property Damage Only Crashes	1.57
All Crashes	1.90
Index of Crash Frequency	**-0.89**
Index of Crash Cost	**-0.11**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND SIMMER	
ALLEN CO		
GIS		
Post	151.2	
Analyst	MIKE MACNEILL	
Date	12/27/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	15531
T Intersection Indicator (1 if present, 0 otherwise)	0
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.210
Non-Incapacitating and Possible Injury Crashes	0.12
Property Damage Only Crashes	1.03
All Crashes	1.36
Index of Crash Frequency	**-0.94**
Index of Crash Cost	**-0.71**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND LINCOLN HWY E JCT	
ALLEN COUNTY		
GIS		
Post	151.6	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

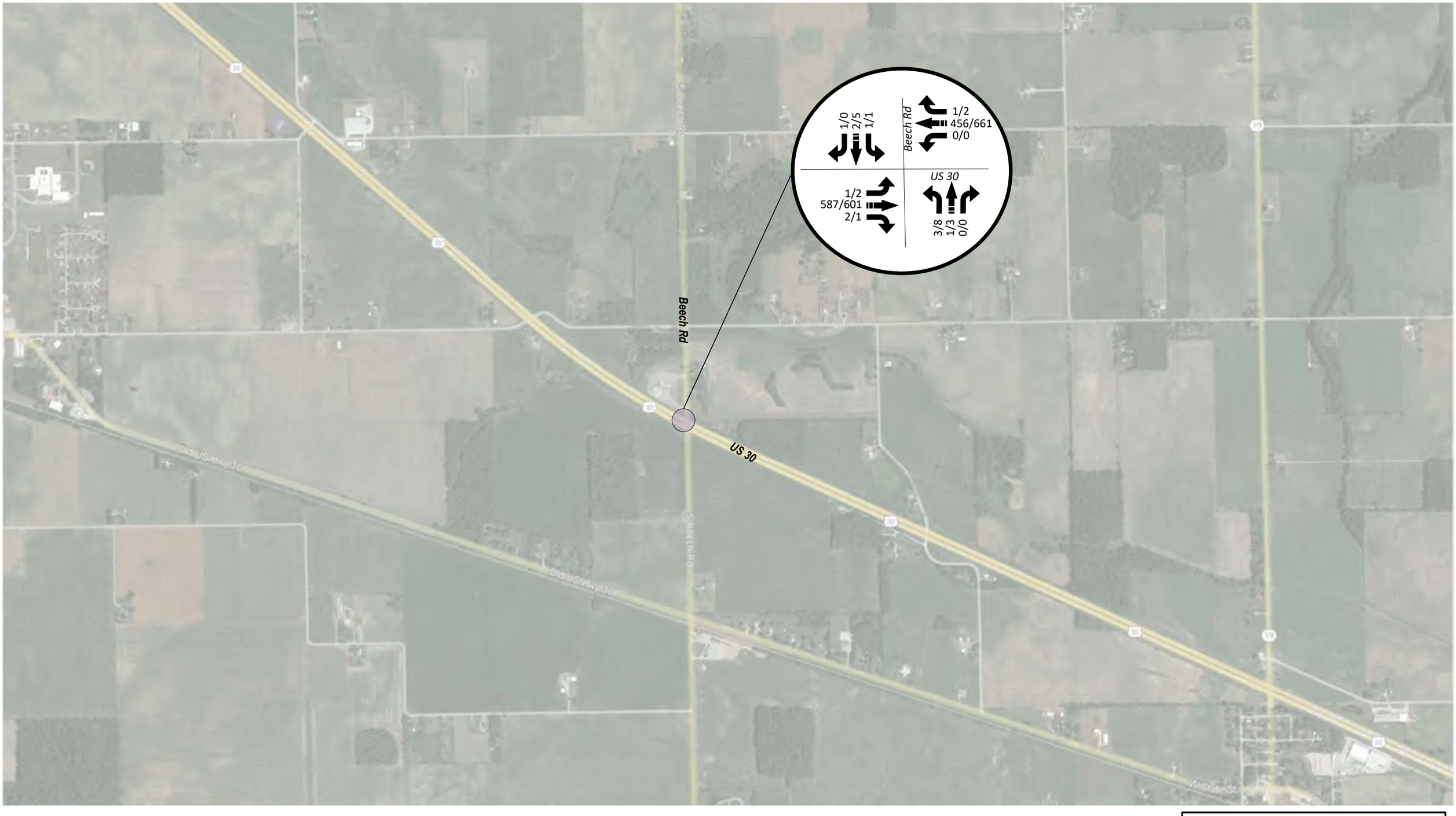
INPUT	
Road Facility Type	Unsignalized Rural State Intersection One AADT
Busiest Road AADT (veh/day)	15531
T Intersection Indicator (1 if present, 0 otherwise)	1
Crossing Road Principal or Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major or Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	0
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	0
Route or Road Type	Unsignalized Rural State Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.117
Non-Incapacitating and Possible Injury Crashes	0.07
Property Damage Only Crashes	0.74
All Crashes	0.93
Index of Crash Frequency	**-0.82**
Index of Crash Cost	**-0.48**

Index of Crash Frequency and Cost - Form F1

Settings: Indiana state settings	Version: Version 4.1	
Location	US 30 AND STATE LINE	
ALLEN COUNTY		
GIS		
Post	151.9	
Analyst	MIKE MACNEILL	
Date	11/10/2022	

INPUT	
Road Facility Type	Unsignalized Rural State Intersection
Busiest Road AADT (veh/day)	15531
Crossing Road AADT (veh/day)	615
T Intersection Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2017
Last Year with Crash Data (yyyy)	2021
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	1
Non-Incapacitating and Possible Injury Crashes	0
Property Damage Only Crashes	1
Route or Road Type	Unsignalized Rural State Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	2335800
Non-Incapacitating and Possible Injury Crashes	389500
Property Damage Only Crashes	32200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.400
Non-Incapacitating and Possible Injury Crashes	0.19
Property Damage Only Crashes	1.57
All Crashes	2.17
Index of Crash Frequency	**-1.09**
Index of Crash Cost	**-0.46**

APPENDIX C – TRAFFIC VOLUME DIAGRAMS

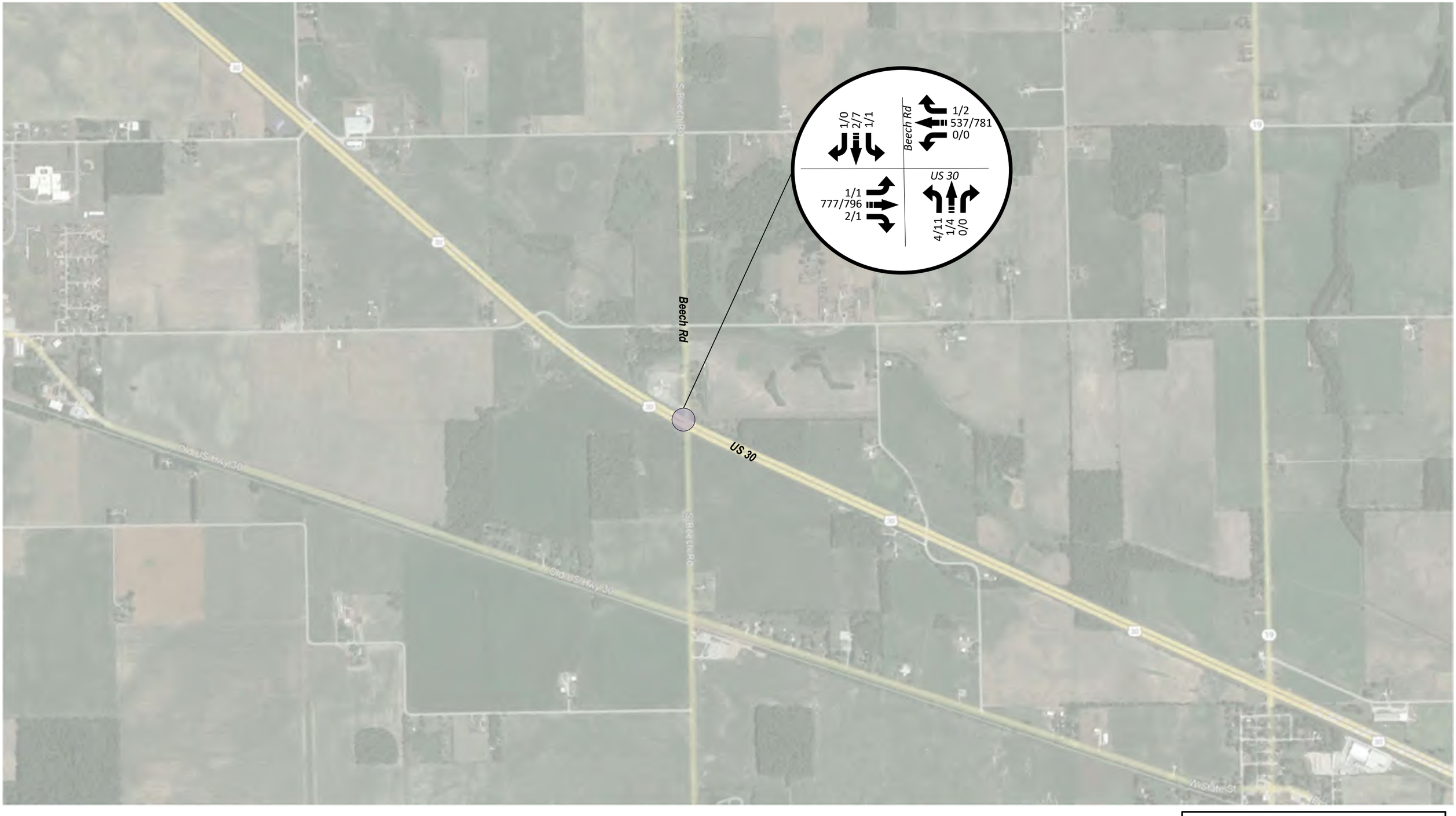


N

ProPEL US 30 East
Marshall County

Existing (2022) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

Aerial imagery provided by Google Earth



ProPEL US 30 East
Marshall County

Proposed (2045) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

Aerial imagery provided by Google Earth

ProPEL US 30 East
Kosciusko County – 1 of 4

Existing (2022) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

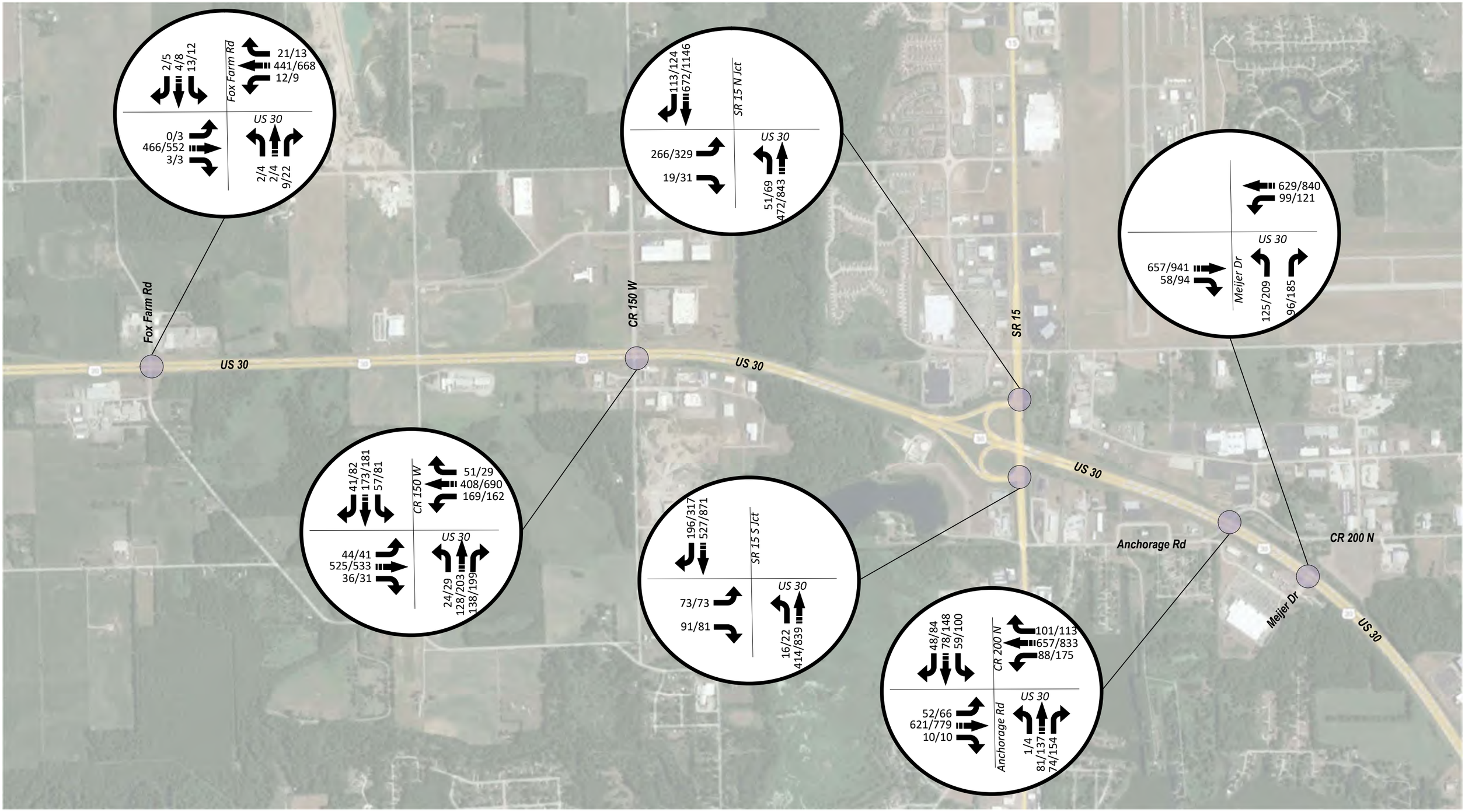
Aerial imagery provided by Google Earth

ProPEL US 30 East
Kosciusko County – 1 of 4

Proposed (2045) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

Aerial imagery provided by Google Earth

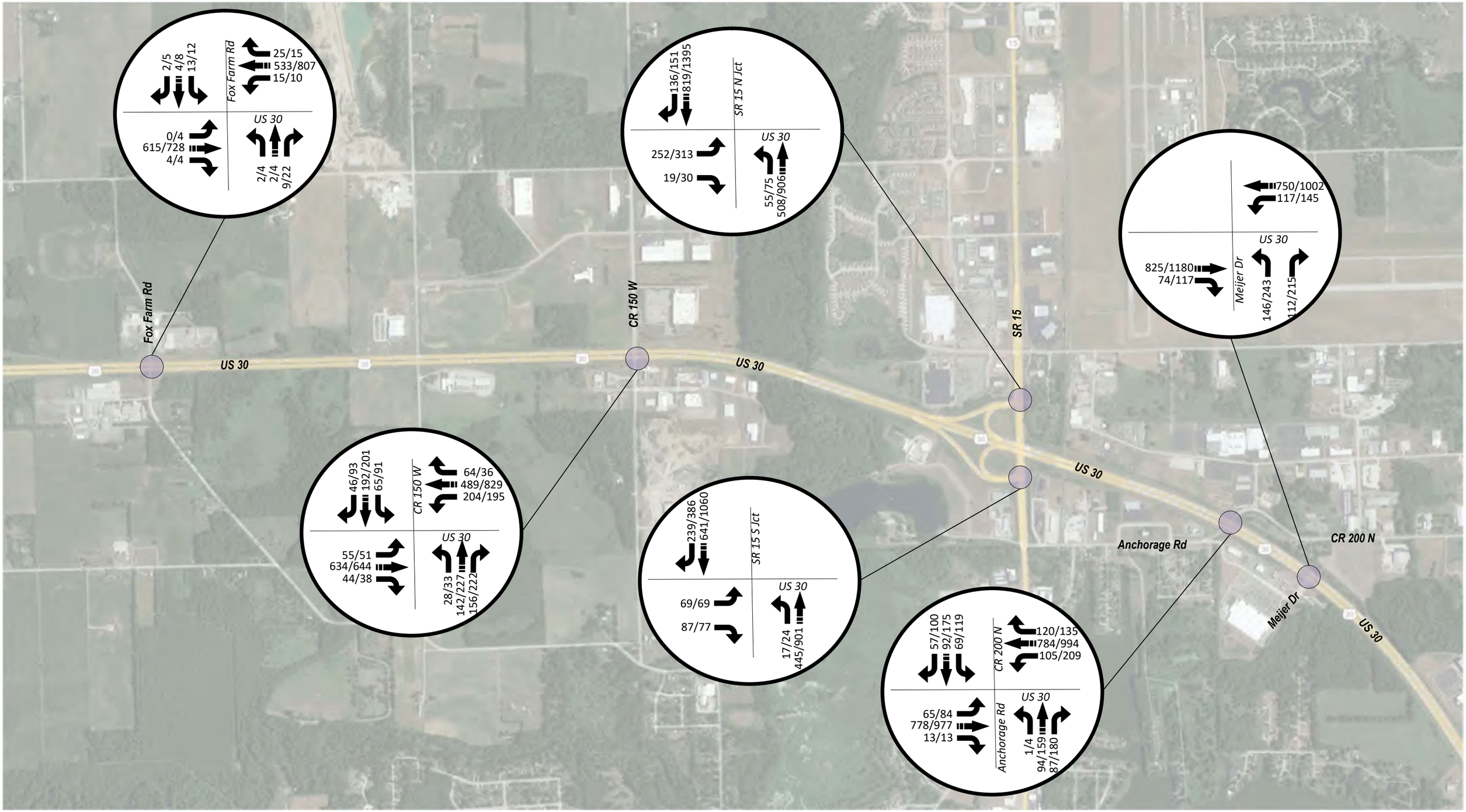


ProPEL US 30 East
Kosciusko County – 2 of 4

Existing (2022) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

Aerial imagery provided by Google Earth



ProPEL US 30 East
Kosciusko County – 2 of 4

Proposed (2045) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

Aerial imagery provided by Google Earth

Springhill Rd

US 30

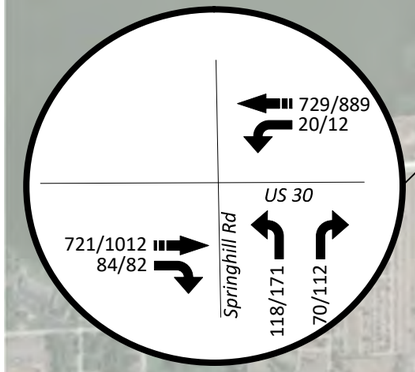
Parker St

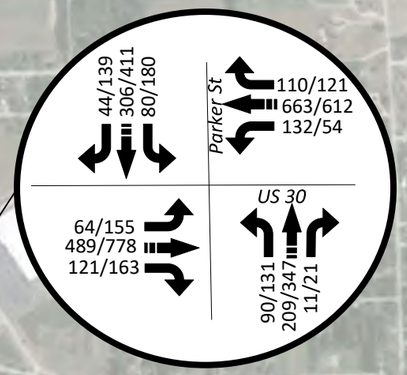
Old US 30

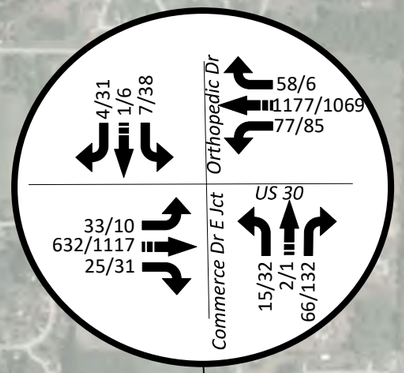
Commerce Dr E Jct

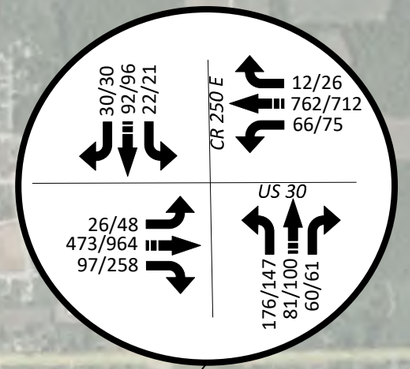
Orthopedic Dr

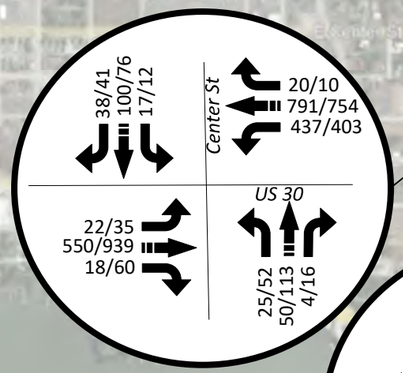
CR 250 E

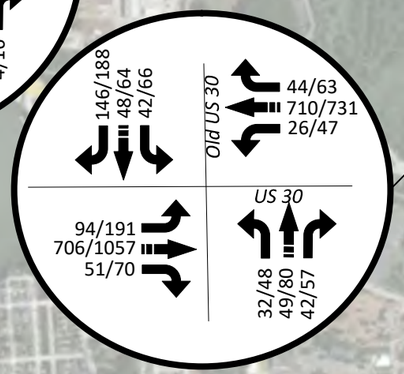












ProPEL US 30 East
Kosciusko County – 3 of 4

Existing (2022) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

Aerial imagery provided by Google Earth

Springhill Rd

US 30

Parker St

US 30

Old US 30

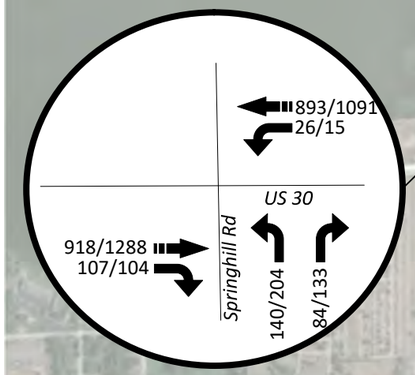
US 30

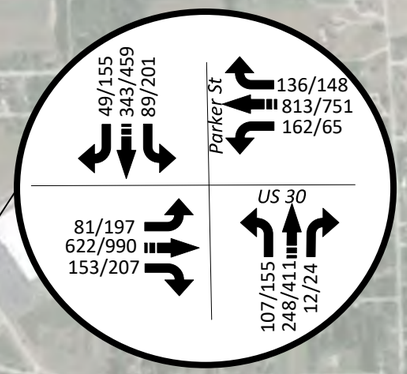
Commerce Dr E Jct

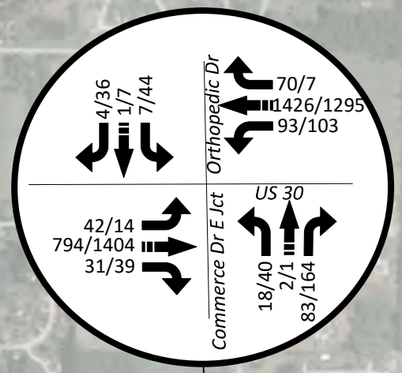
Orthopedic Dr

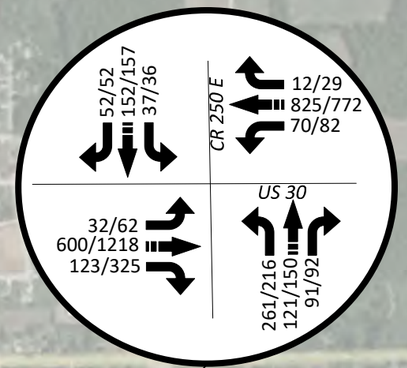
CR 250 E

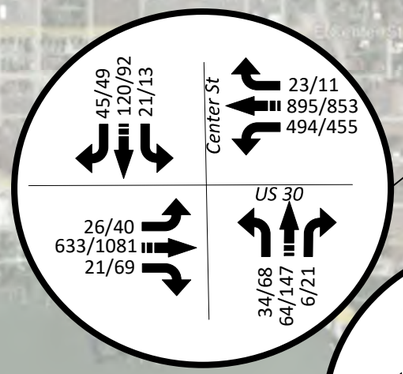
US 30

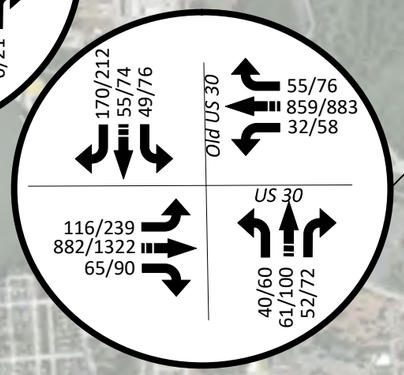










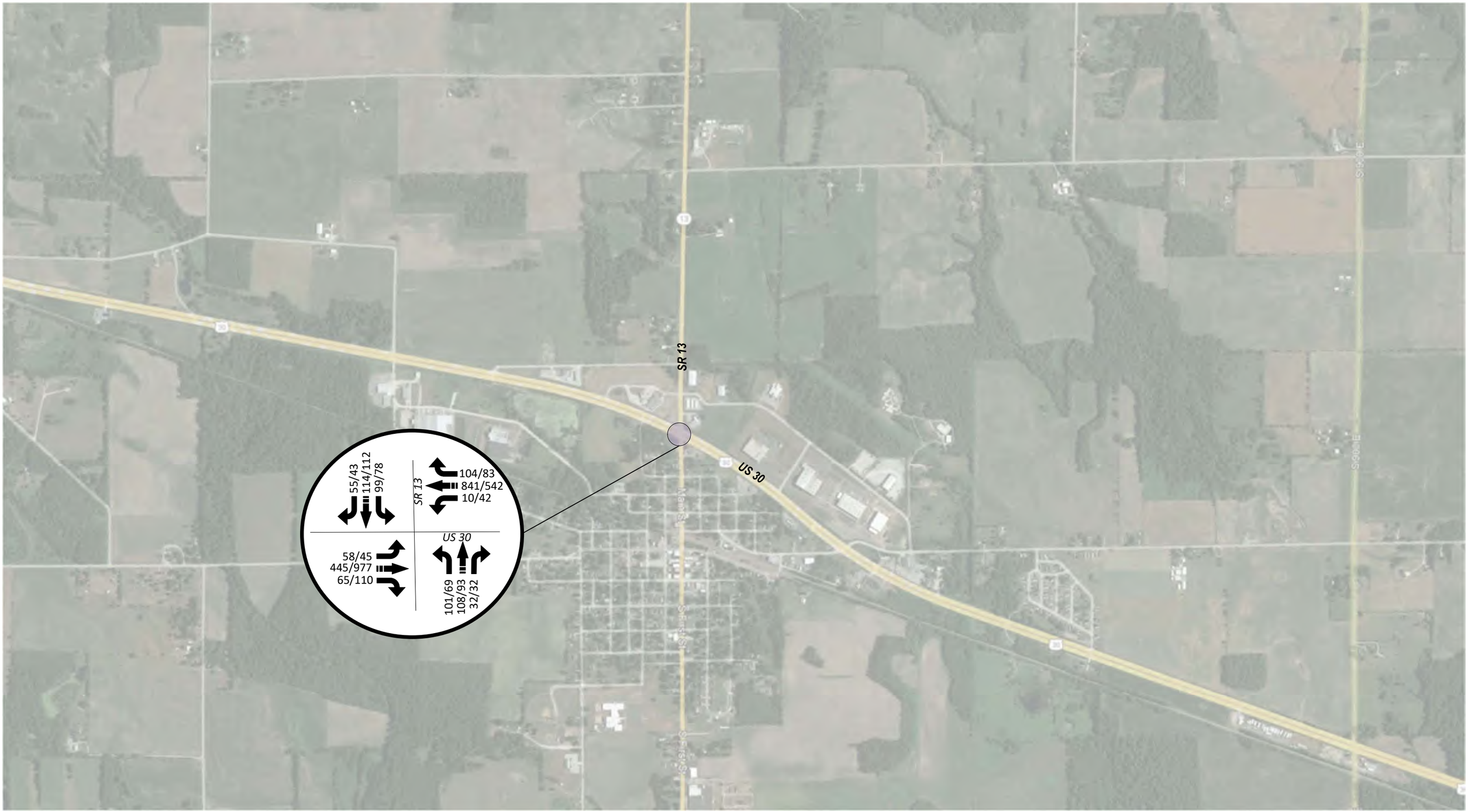


ProPEL US 30 East
Kosciusko County – 3 of 4

Proposed (2045) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

Aerial imagery provided by Google Earth

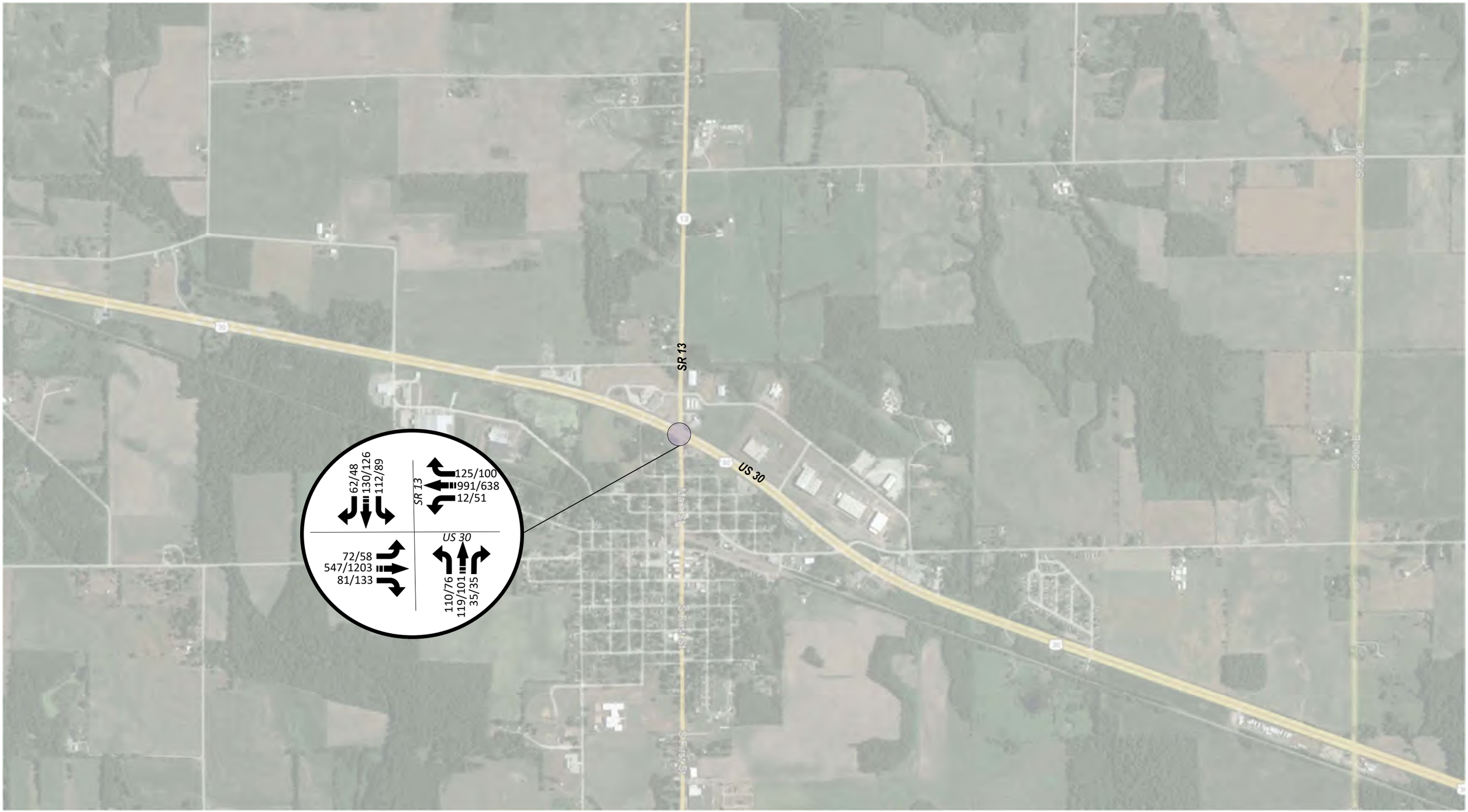


ProPEL US 30 East
Kosciusko County – 4 of 4

Existing (2022) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

Aerial imagery provided by Google Earth

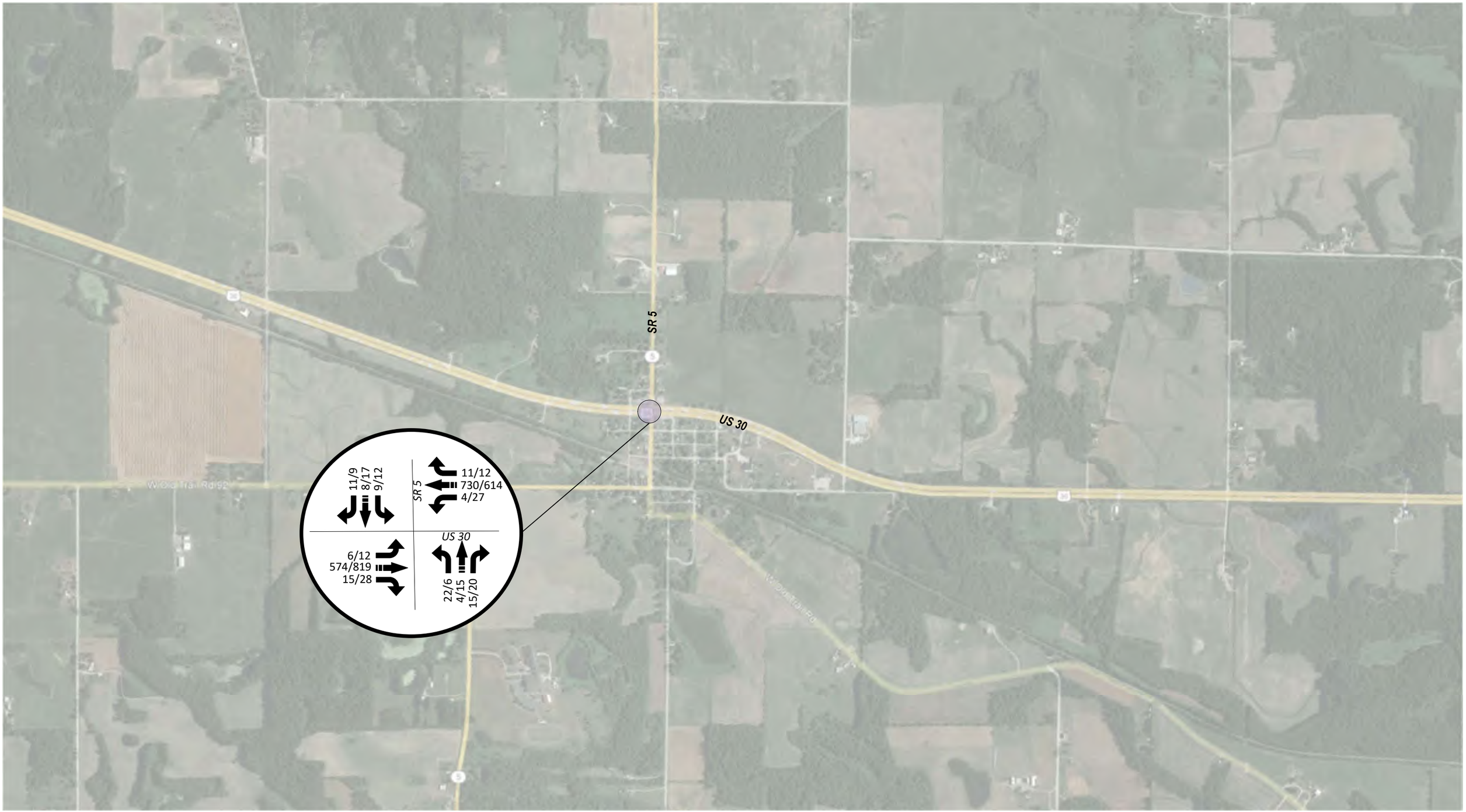


ProPEL US 30 East
Kosciusko County – 4 of 4

Proposed (2045) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

Aerial imagery provided by Google Earth

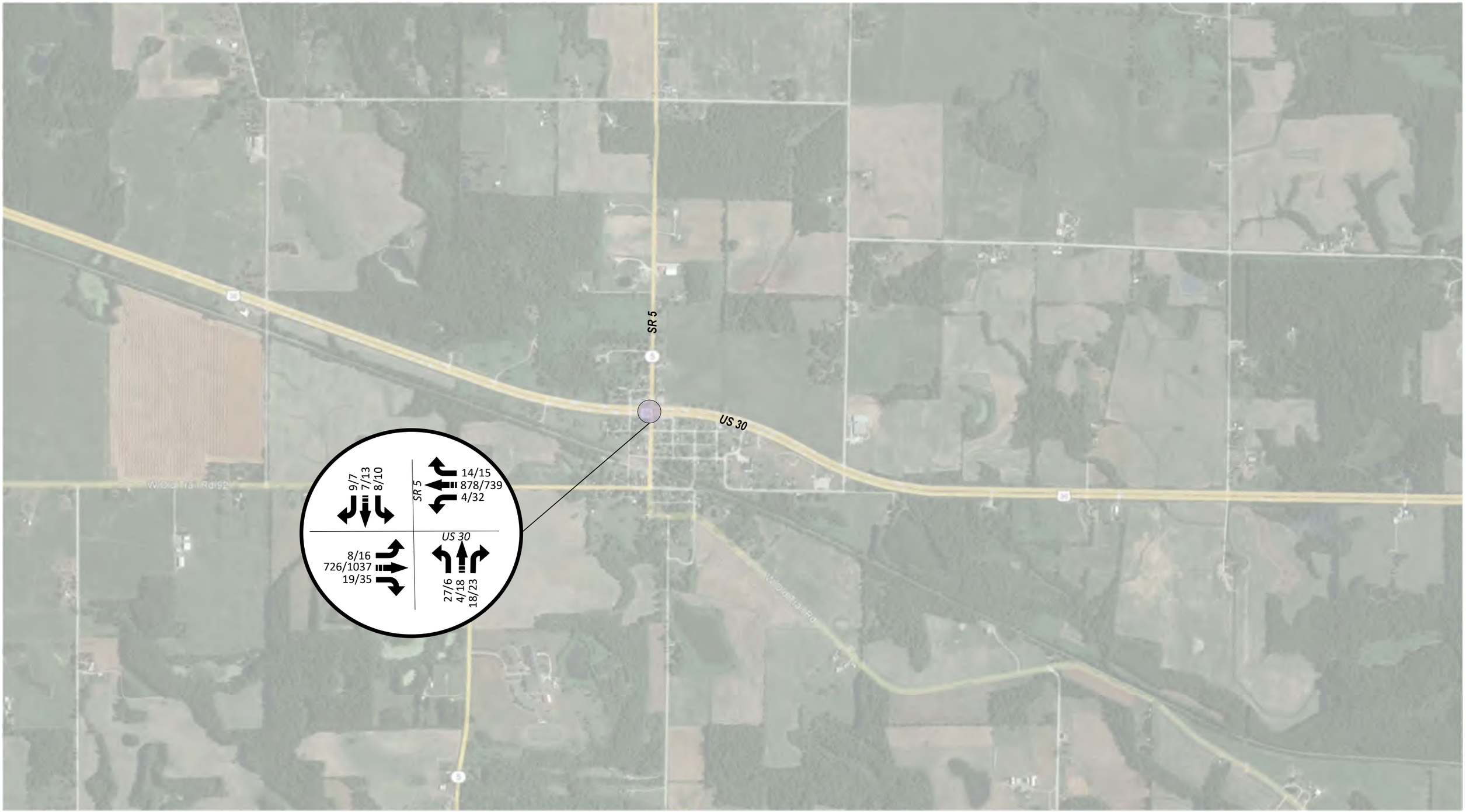


ProPEL US 30 East
Whitley County – 1 of 4

Existing (2022) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

Aerial imagery provided by Google Earth

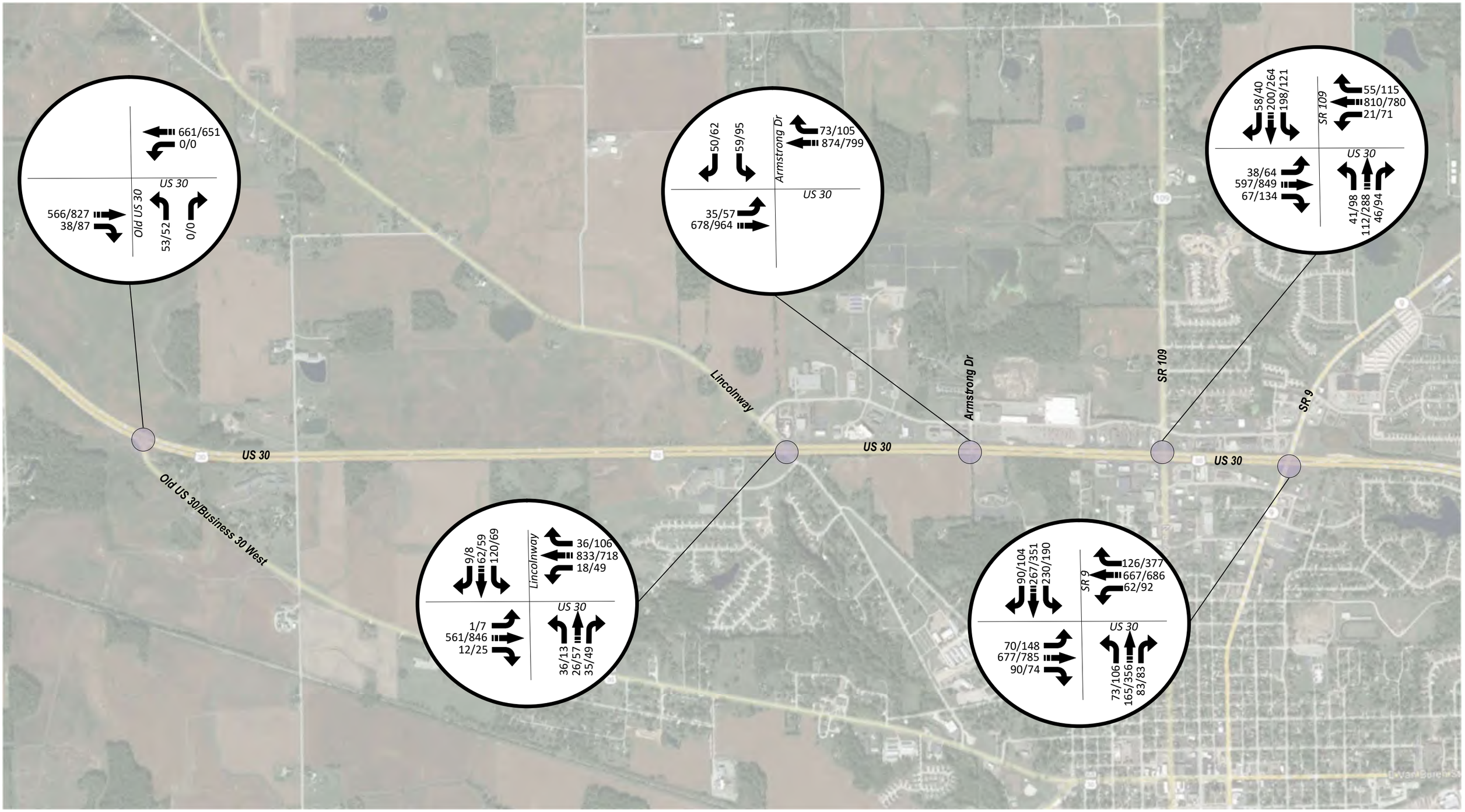


N

ProPEL US 30 East
Whitley County – 1 of 4

Proposed (2045) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

Aerial imagery provided by Google Earth

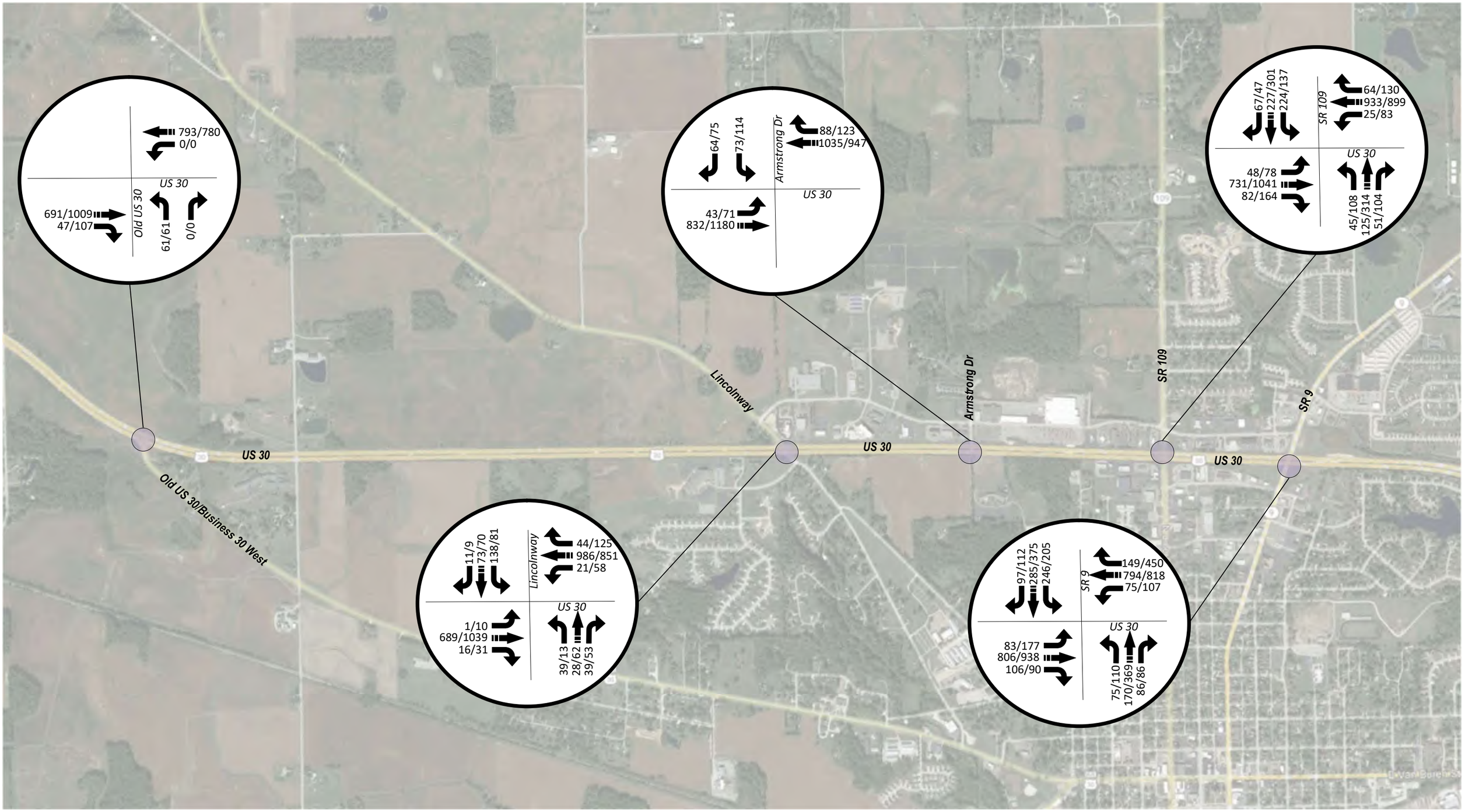


ProPEL US 30 East
Whitley County – 2 of 4

Existing (2022) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

Aerial imagery provided by Google Earth

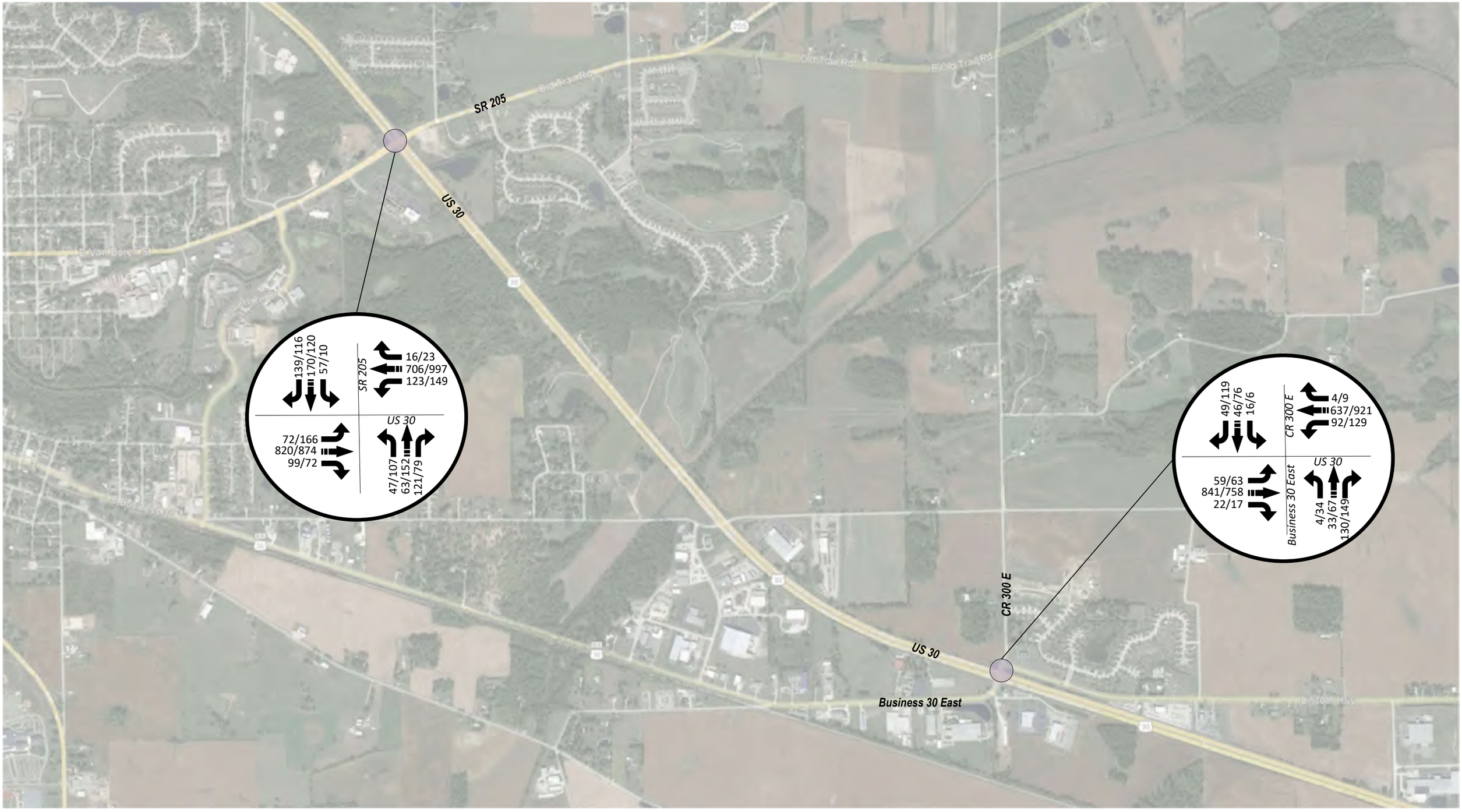


ProPEL US 30 East
Whitley County – 2 of 4

Proposed (2045) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

Aerial imagery provided by Google Earth

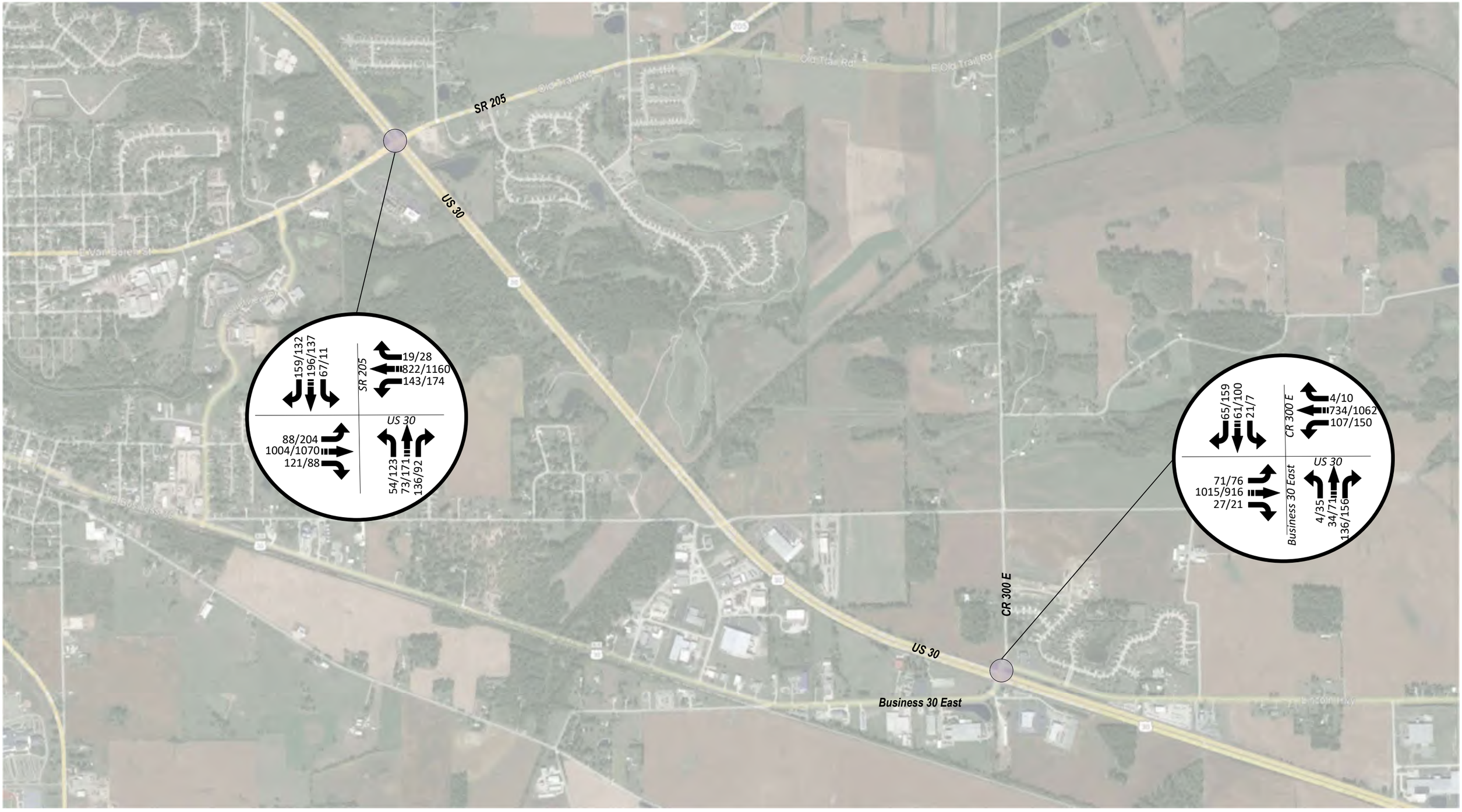


N

ProPEL US 30 East
Whitley County – 3 of 4

Existing (2022) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

Aerial imagery provided by Google Earth



ProPEL US 30 East
Whitley County – 3 of 4

Proposed (2045) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

Aerial imagery provided by Google Earth

ProPEL US 30 East
Whitley County – 4 of 4

Existing (2022) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

Aerial imagery provided by Google Earth

ProPEL US 30 East
Whitley County – 4 of 4

Proposed (2045) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

Aerial imagery provided by Google Earth

ProPEL US 30 East
Allen County – 1 of 2

Existing (2022) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

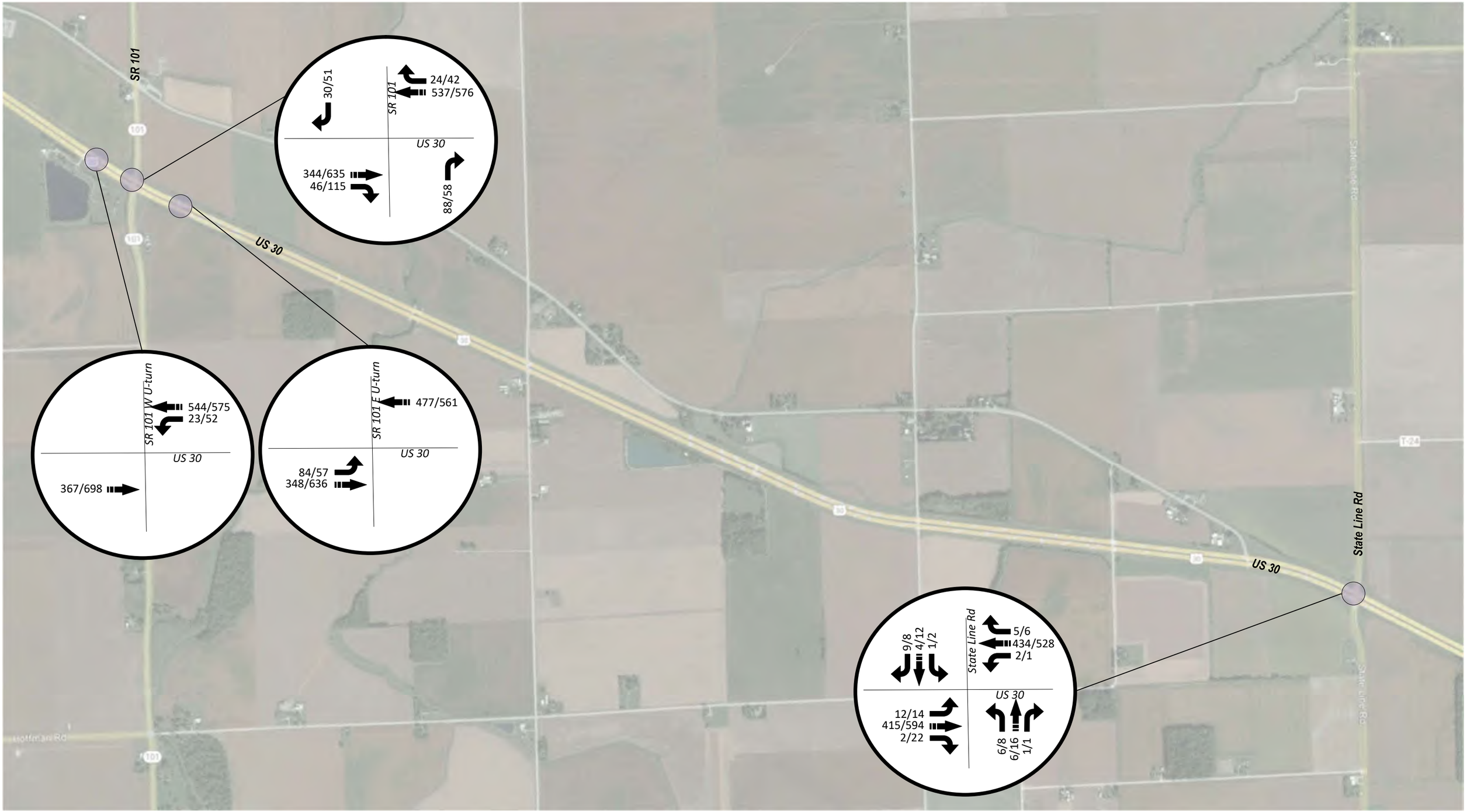
Aerial imagery provided by Google Earth

ProPEL US 30 East
Allen County – 1 of 2

Proposed (2045) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

Aerial imagery provided by Google Earth

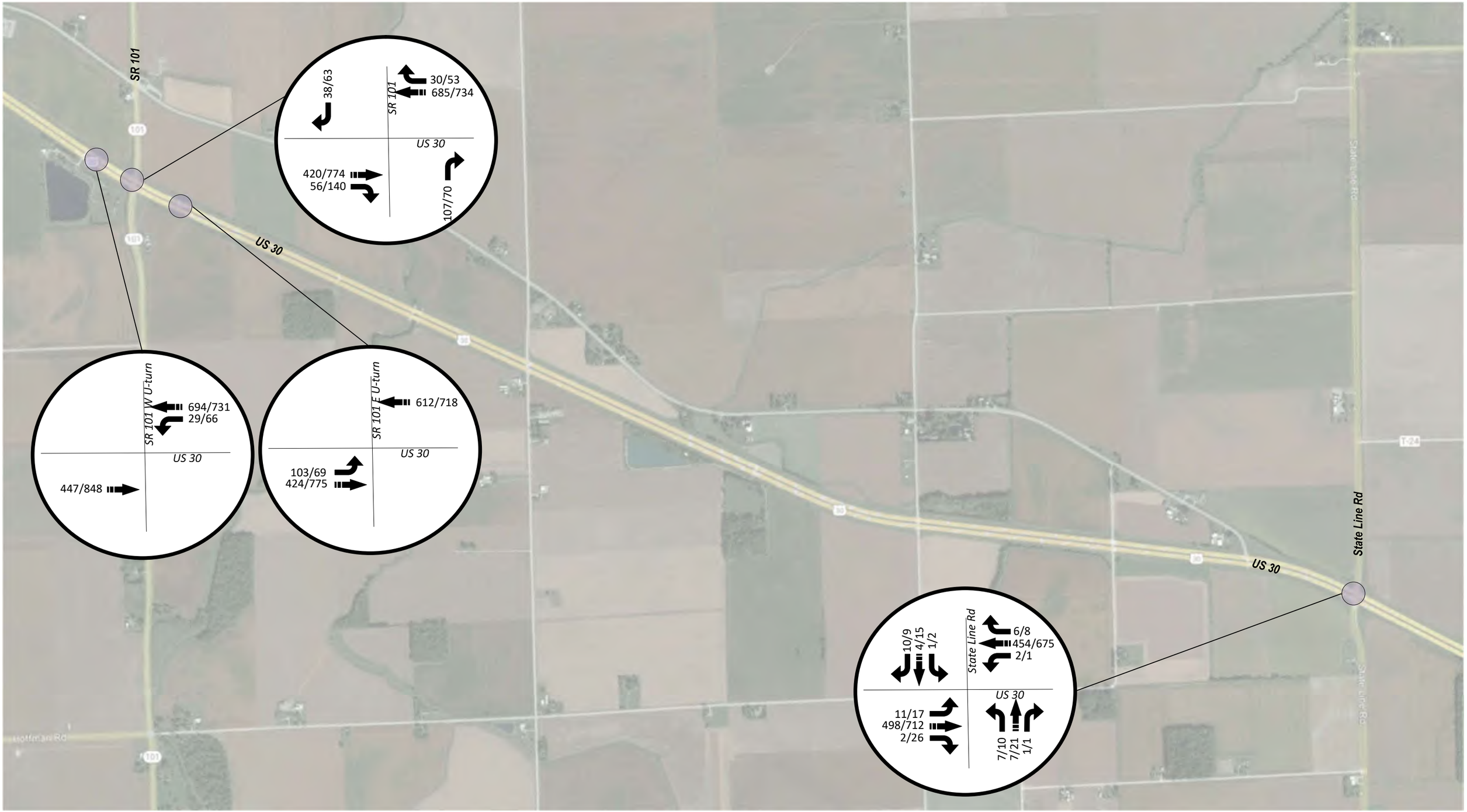


ProPEL US 30 East
Allen County – 2 of 2

Existing (2022) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

Aerial imagery provided by Google Earth



ProPEL US 30 East
Allen County – 2 of 2

Proposed (2045) Traffic Volumes
##/## = AM Peak Hour / PM Peak Hour

N

Aerial imagery provided by Google Earth

APPENDIX D – HCM REPORTS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	562	18	33	442	18	28	35	71	21	23	24
Future Volume (veh/h)	10	562	18	33	442	18	28	35	71	21	23	24
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1496	1484	1696	1418	1624	1900	1676	1900	1900	1667	1624
Adj Flow Rate, veh/h	11	639	20	40	533	22	39	49	100	33	37	0
Adj No. of Lanes	1	2	1	1	2	1	0	1	0	0	1	1
Peak Hour Factor	0.88	0.88	0.88	0.83	0.83	0.83	0.71	0.71	0.71	0.63	0.63	0.63
Percent Heavy Veh, %	0	27	28	12	34	17	25	11	10	5	22	17
Cap, veh/h	477	1243	552	448	1385	709	98	84	135	166	153	240
Arrive On Green	0.02	0.44	0.44	0.09	0.51	0.51	0.17	0.17	0.17	0.17	0.17	0.00
Sat Flow, veh/h	1810	2843	1262	1616	2694	1380	202	484	779	511	879	1380
Grp Volume(v), veh/h	11	639	20	40	533	22	188	0	0	70	0	0
Grp Sat Flow(s),veh/h/ln	1810	1421	1262	1616	1347	1380	1465	0	0	1390	0	1380
Q Serve(g_s), s	0.2	11.2	0.6	0.8	8.2	0.5	4.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	11.2	0.6	0.8	8.2	0.5	8.3	0.0	0.0	2.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.21		0.53	0.47		1.00
Lane Grp Cap(c), veh/h	477	1243	552	448	1385	709	318	0	0	319	0	240
V/C Ratio(X)	0.02	0.51	0.04	0.09	0.38	0.03	0.59	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	763	2486	1103	580	2356	1207	904	0	0	869	0	805
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.4	14.0	11.0	8.3	10.1	8.2	26.8	0.0	0.0	24.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.1	0.1	0.8	0.1	2.5	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.6	0.2	0.4	3.2	0.2	3.6	0.0	0.0	1.2	0.0	0.0
LnGrp Delay(d),s/veh	10.4	15.5	11.2	8.4	10.9	8.3	29.3	0.0	0.0	24.8	0.0	0.0
LnGrp LOS	B	B	B	A	B	A	C			C		
Approach Vol, veh/h		670			595			188			70	
Approach Delay, s/veh		15.3			10.6			29.3			24.8	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.8	43.8		18.0	12.1	38.5		18.0
Change Period (Y+Rc), s	* 5.7	8.5		6.1	* 5.7	8.5		6.1
Max Green Setting (Gmax), s	* 12	60.0		40.0	* 12	60.0		40.0
Max Q Clear Time (g_c+I1), s	2.2	10.2		4.6	2.8	13.2		10.3
Green Ext Time (p_c), s	0.0	12.8		0.3	0.0	15.6		1.7

Intersection Summary	
HCM 2010 Ctrl Delay	15.7
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	525	36	169	408	51	24	128	138	57	173	41
Future Volume (veh/h)	44	525	36	169	408	51	24	128	138	57	173	41
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1508	1900	1845	1545	1863	1900	1767	1792	1900	1878	1900
Adj Flow Rate, veh/h	50	597	41	182	439	55	27	142	153	73	222	53
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.93	0.93	0.93	0.90	0.90	0.90	0.78	0.78	0.78
Percent Heavy Veh, %	2	26	0	3	23	2	21	5	6	0	1	2
Cap, veh/h	441	978	551	397	1124	606	103	450	453	290	435	104
Arrive On Green	0.05	0.34	0.34	0.09	0.38	0.38	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1774	2865	1615	1757	2935	1583	148	1516	1524	1101	1466	350
Grp Volume(v), veh/h	50	597	41	182	439	55	169	0	153	73	0	275
Grp Sat Flow(s),veh/h/ln	1774	1433	1615	1757	1467	1583	1664	0	1524	1101	0	1816
Q Serve(g_s), s	1.2	12.3	1.2	4.6	7.7	1.6	0.0	0.0	5.6	4.2	0.0	8.9
Cycle Q Clear(g_c), s	1.2	12.3	1.2	4.6	7.7	1.6	5.3	0.0	5.6	13.1	0.0	8.9
Prop In Lane	1.00		1.00	1.00		1.00	0.16		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	441	978	551	397	1124	606	553	0	453	290	0	539
V/C Ratio(X)	0.11	0.61	0.07	0.46	0.39	0.09	0.31	0.00	0.34	0.25	0.00	0.51
Avail Cap(c_a), veh/h	970	2415	1361	848	2474	1335	1198	0	1070	736	0	1276
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.6	19.5	15.8	14.0	15.9	14.0	19.4	0.0	19.5	26.2	0.0	20.7
Incr Delay (d2), s/veh	0.1	1.7	0.2	0.5	0.6	0.2	0.7	0.0	0.9	1.6	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	5.0	0.6	2.3	3.2	0.7	2.7	0.0	2.5	1.4	0.0	4.8
LnGrp Delay(d),s/veh	13.7	21.2	16.0	14.6	16.5	14.2	20.1	0.0	20.5	27.8	0.0	23.4
LnGrp LOS	B	C	B	B	B	B	C		C	C		C
Approach Vol, veh/h		688			676			322			348	
Approach Delay, s/veh		20.3			15.8			20.3			24.3	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.4	33.6		26.9	13.3	30.7		26.9
Change Period (Y+Rc), s	* 6.6	6.4		* 6	* 6.6	6.4		* 6
Max Green Setting (Gmax), s	* 25	60.0		* 50	* 25	60.0		* 50
Max Q Clear Time (g_c+I1), s	3.2	9.7		15.1	6.6	14.3		7.6
Green Ext Time (p_c), s	0.0	7.2		5.5	0.3	9.9		3.5

Intersection Summary	
HCM 2010 Ctrl Delay	19.5
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	266	19	51	472	672	113
Future Volume (veh/h)	266	19	51	472	672	113
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1813	1900	1696	1712	1743	1681
Adj Flow Rate, veh/h	292	21	55	513	772	0
Adj No. of Lanes	0	0	1	2	2	1
Peak Hour Factor	0.91	0.91	0.92	0.92	0.87	0.87
Percent Heavy Veh, %	7	37	12	11	9	13
Cap, veh/h	332	24	525	2186	1419	612
Arrive On Green	0.21	0.21	0.37	1.00	0.43	0.00
Sat Flow, veh/h	1593	115	1616	3338	3399	1429
Grp Volume(v), veh/h	314	0	55	513	772	0
Grp Sat Flow(s),veh/h/ln	1713	0	1616	1626	1656	1429
Q Serve(g_s), s	15.6	0.0	0.0	0.0	15.3	0.0
Cycle Q Clear(g_c), s	15.6	0.0	0.0	0.0	15.3	0.0
Prop In Lane	0.93	0.07	1.00			1.00
Lane Grp Cap(c), veh/h	357	0	525	2186	1419	612
V/C Ratio(X)	0.88	0.00	0.10	0.23	0.54	0.00
Avail Cap(c_a), veh/h	541	0	525	2186	1419	612
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.96	0.96	1.00	0.00
Uniform Delay (d), s/veh	33.8	0.0	12.5	0.0	18.7	0.0
Incr Delay (d2), s/veh	10.6	0.0	0.1	0.2	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	0.0	0.7	0.1	7.3	0.0
LnGrp Delay(d),s/veh	44.3	0.0	12.6	0.2	20.2	0.0
LnGrp LOS	D		B	A	C	
Approach Vol, veh/h	314			568	772	
Approach Delay, s/veh	44.3			1.4	20.2	
Approach LOS	D			A	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		64.5		23.5	21.5	43.0		
Change Period (Y+Rc), s		5.3		* 5.2	5.3	* 5.3		
Max Green Setting (Gmax), s		49.7		* 28	6.8	* 38		
Max Q Clear Time (g_c+I1), s		2.0		17.6	2.0	17.3		
Green Ext Time (p_c), s		3.5		0.7	0.0	4.9		

Intersection Summary	
HCM 2010 Ctrl Delay	18.4
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	73	91	16	414	527	196
Future Volume (veh/h)	73	91	16	414	527	196
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1773	1900	1681	1712	1776	1759
Adj Flow Rate, veh/h	84	105	18	460	599	0
Adj No. of Lanes	0	0	1	2	2	1
Peak Hour Factor	0.87	0.87	0.90	0.90	0.88	0.88
Percent Heavy Veh, %	12	11	13	11	7	8
Cap, veh/h	100	125	548	2409	2210	979
Arrive On Green	0.14	0.14	0.02	0.74	0.65	0.00
Sat Flow, veh/h	700	875	1601	3338	3463	1495
Grp Volume(v), veh/h	190	0	18	460	599	0
Grp Sat Flow(s),veh/h/ln	1584	0	1601	1626	1687	1495
Q Serve(g_s), s	10.3	0.0	0.3	3.8	6.6	0.0
Cycle Q Clear(g_c), s	10.3	0.0	0.3	3.8	6.6	0.0
Prop In Lane	0.44	0.55	1.00			1.00
Lane Grp Cap(c), veh/h	225	0	548	2409	2210	979
V/C Ratio(X)	0.84	0.00	0.03	0.19	0.27	0.00
Avail Cap(c_a), veh/h	378	0	630	2409	2210	979
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.91	0.00
Uniform Delay (d), s/veh	36.8	0.0	4.4	3.4	6.4	0.0
Incr Delay (d2), s/veh	8.4	0.0	0.0	0.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	0.1	1.7	3.1	0.0
LnGrp Delay(d),s/veh	45.2	0.0	4.4	3.6	6.6	0.0
LnGrp LOS	D		A	A	A	
Approach Vol, veh/h	190			478	599	
Approach Delay, s/veh	45.2			3.7	6.6	
Approach LOS	D			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		70.5		17.5	7.5	62.9		
Change Period (Y+Rc), s		5.3		5.0	5.4	5.3		
Max Green Setting (Gmax), s		56.7		21.0	6.6	44.7		
Max Q Clear Time (g_c+I1), s		5.8		12.3	2.3	8.6		
Green Ext Time (p_c), s		3.1		0.4	0.0	4.1		

Intersection Summary	
HCM 2010 Ctrl Delay	11.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	52	621	10	88	657	101	1	81	74	59	78	48
Future Volume (veh/h)	52	621	10	88	657	101	1	81	74	59	78	48
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1520	1727	1810	1557	1863	1900	1810	1827	1759	1827	1727
Adj Flow Rate, veh/h	61	731	12	95	706	109	1	98	89	70	93	57
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	1	1	1
Peak Hour Factor	0.85	0.85	0.85	0.93	0.93	0.93	0.83	0.83	0.83	0.84	0.84	0.84
Percent Heavy Veh, %	6	25	10	5	22	2	0	5	4	8	4	10
Cap, veh/h	84	1670	849	120	1773	948	37	258	222	177	261	210
Arrive On Green	0.05	0.58	0.58	0.07	0.60	0.60	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1707	2888	1468	1723	2959	1583	4	1805	1553	1125	1827	1468
Grp Volume(v), veh/h	61	731	12	95	706	109	99	0	89	70	93	57
Grp Sat Flow(s),veh/h/ln	1707	1444	1468	1723	1480	1583	1808	0	1553	1125	1827	1468
Q Serve(g_s), s	3.5	14.3	0.3	5.4	12.6	3.0	0.0	0.0	5.2	6.0	4.6	3.5
Cycle Q Clear(g_c), s	3.5	14.3	0.3	5.4	12.6	3.0	5.0	0.0	5.2	11.0	4.6	3.5
Prop In Lane	1.00		1.00	1.00		1.00	0.01		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	84	1670	849	120	1773	948	295	0	222	177	261	210
V/C Ratio(X)	0.73	0.44	0.01	0.79	0.40	0.11	0.34	0.00	0.40	0.40	0.36	0.27
Avail Cap(c_a), veh/h	227	1670	849	229	1773	948	637	0	517	399	621	499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.96	0.96	0.96	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	11.9	9.0	45.8	10.6	8.6	38.8	0.0	39.0	43.8	38.7	38.2
Incr Delay (d2), s/veh	11.5	0.8	0.0	10.6	0.6	0.2	0.9	0.0	1.7	2.0	1.2	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	5.9	0.1	2.9	5.3	1.3	2.6	0.0	2.3	2.0	2.4	1.5
LnGrp Delay(d),s/veh	58.4	12.7	9.0	56.4	11.2	8.9	39.8	0.0	40.6	45.9	39.9	39.2
LnGrp LOS	E	B	A	E	B	A	D		D	D	D	D
Approach Vol, veh/h		804			910			188			220	
Approach Delay, s/veh		16.1			15.6			40.2			41.6	
Approach LOS		B			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.6	67.4		21.0	13.7	65.3		21.0
Change Period (Y+Rc), s	6.7	7.5		* 6.7	6.7	7.5		* 6.7
Max Green Setting (Gmax), s	13.3	32.5		* 34	13.3	32.5		* 33
Max Q Clear Time (g_c+I1), s	5.5	14.6		13.0	7.4	16.3		7.2
Green Ext Time (p_c), s	0.1	7.9		1.3	0.1	7.1		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	20.7
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	657	58	99	629	125	96
Future Volume (veh/h)	657	58	99	629	125	96
Number	2	12	1	6	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1484	1845	1863	1545	1863	1810
Adj Flow Rate, veh/h	684	60	102	648	149	114
Adj No. of Lanes	2	1	2	2	2	1
Peak Hour Factor	0.96	0.96	0.97	0.97	0.84	0.84
Percent Heavy Veh, %	28	3	2	23	2	5
Cap, veh/h	1871	1040	194	2288	345	154
Arrive On Green	0.66	0.66	0.06	0.78	0.10	0.10
Sat Flow, veh/h	2895	1568	3442	3012	3442	1538
Grp Volume(v), veh/h	684	60	102	648	149	114
Grp Sat Flow(s),veh/h/ln	1410	1568	1721	1467	1721	1538
Q Serve(g_s), s	10.8	1.3	2.9	6.2	4.1	7.2
Cycle Q Clear(g_c), s	10.8	1.3	2.9	6.2	4.1	7.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1871	1040	194	2288	345	154
V/C Ratio(X)	0.37	0.06	0.52	0.28	0.43	0.74
Avail Cap(c_a), veh/h	1871	1040	344	2288	509	228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.5	5.9	45.9	3.1	42.3	43.7
Incr Delay (d2), s/veh	0.5	0.1	3.1	0.3	1.8	13.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.6	1.5	2.6	2.0	3.7
LnGrp Delay(d),s/veh	8.0	6.0	49.0	3.4	44.1	57.4
LnGrp LOS	A	A	D	A	D	E
Approach Vol, veh/h	744			750	263	
Approach Delay, s/veh	7.8			9.6	49.9	
Approach LOS	A			A	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	11.6	73.1				84.8		15.2
Change Period (Y+Rc), s	6.0	* 6.8				* 6.8		5.2
Max Green Setting (Gmax), s	10.0	* 57				* 73		14.8
Max Q Clear Time (g_c+I1), s	4.9	12.8				8.2		9.2
Green Ext Time (p_c), s	0.1	12.2				11.3		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	14.9
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	118	70	20	729	721	84
Future Volume (veh/h)	118	70	20	729	721	84
Number	3	18	1	6	2	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1845	1900	1520	1462	1863
Adj Flow Rate, veh/h	137	81	23	838	801	93
Adj No. of Lanes	1	1	1	2	2	1
Peak Hour Factor	0.86	0.86	0.87	0.87	0.90	0.90
Percent Heavy Veh, %	1	3	0	25	30	2
Cap, veh/h	180	157	456	2162	1842	1050
Arrive On Green	0.10	0.10	0.02	0.50	0.66	0.66
Sat Flow, veh/h	1792	1568	1810	2964	2850	1583
Grp Volume(v), veh/h	137	81	23	838	801	93
Grp Sat Flow(s),veh/h/ln	1792	1568	1810	1444	1388	1583
Q Serve(g_s), s	7.4	4.9	0.4	18.0	13.7	2.1
Cycle Q Clear(g_c), s	7.4	4.9	0.4	18.0	13.7	2.1
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	180	157	456	2162	1842	1050
V/C Ratio(X)	0.76	0.51	0.05	0.39	0.43	0.09
Avail Cap(c_a), veh/h	269	235	573	2162	1842	1050
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.79	0.79	1.00	1.00
Uniform Delay (d), s/veh	43.8	42.7	5.5	10.7	8.0	6.0
Incr Delay (d2), s/veh	13.4	5.5	0.1	0.4	0.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	2.4	0.2	7.2	5.3	1.0
LnGrp Delay(d),s/veh	57.2	48.1	5.6	11.2	8.7	6.2
LnGrp LOS	E	D	A	B	A	A
Approach Vol, veh/h	218			861	894	
Approach Delay, s/veh	53.8			11.0	8.5	
Approach LOS	D			B	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	8.5	74.4				83.0		17.0
Change Period (Y+Rc), s	* 5.7	* 8.1				* 8.1		7.0
Max Green Setting (Gmax), s	* 9.3	* 55				* 70		15.0
Max Q Clear Time (g_c+I1), s	2.4	15.7				20.0		9.4
Green Ext Time (p_c), s	0.0	14.6				15.4		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	14.6
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	209	11	80	306	44	132	663	110	64	489	121
Future Volume (veh/h)	90	209	11	80	306	44	132	663	110	64	489	121
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1848	1900	1845	1845	1863	1845	1557	1759	1863	1450	1792
Adj Flow Rate, veh/h	105	243	13	86	329	47	163	819	136	74	562	139
Adj No. of Lanes	1	2	0	1	2	1	1	2	1	1	2	1
Peak Hour Factor	0.86	0.86	0.86	0.93	0.93	0.93	0.81	0.81	0.81	0.87	0.87	0.87
Percent Heavy Veh, %	1	2	18	3	3	2	3	22	8	2	31	6
Cap, veh/h	241	502	27	262	484	219	167	1433	724	96	1222	676
Arrive On Green	0.07	0.15	0.15	0.06	0.14	0.14	0.09	0.48	0.48	0.02	0.15	0.15
Sat Flow, veh/h	1792	3391	181	1757	3505	1583	1757	2959	1495	1774	2756	1524
Grp Volume(v), veh/h	105	125	131	86	329	47	163	819	136	74	562	139
Grp Sat Flow(s),veh/h/ln	1792	1756	1816	1757	1752	1583	1757	1480	1495	1774	1378	1524
Q Serve(g_s), s	5.0	6.5	6.6	4.1	8.9	2.6	9.3	19.7	5.2	4.2	18.7	8.0
Cycle Q Clear(g_c), s	5.0	6.5	6.6	4.1	8.9	2.6	9.3	19.7	5.2	4.2	18.7	8.0
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	241	260	269	262	484	219	167	1433	724	96	1222	676
V/C Ratio(X)	0.44	0.48	0.49	0.33	0.68	0.21	0.98	0.57	0.19	0.77	0.46	0.21
Avail Cap(c_a), veh/h	290	393	407	328	785	355	167	1433	724	169	1222	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	34.0	39.1	39.1	34.3	41.0	38.3	45.1	18.4	14.6	48.5	31.7	27.2
Incr Delay (d2), s/veh	1.8	2.0	1.9	1.0	3.6	1.0	62.7	1.7	0.6	15.3	1.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	3.3	3.5	2.1	4.6	1.2	7.4	8.3	2.3	2.5	7.3	3.5
LnGrp Delay(d),s/veh	35.8	41.0	41.0	35.3	44.5	39.3	107.8	20.0	15.2	63.8	32.9	27.8
LnGrp LOS	D	D	D	D	D	D	F	C	B	E	C	C
Approach Vol, veh/h		361			462			1118			775	
Approach Delay, s/veh		39.5			42.3			32.3			34.9	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	56.4	12.2	19.4	16.0	52.3	11.2	20.4
Change Period (Y+Rc), s	6.5	8.0	* 5.6	* 5.6	6.5	8.0	* 5.6	* 5.6
Max Green Setting (Gmax), s	9.5	33.0	* 9.4	* 22	9.5	33.0	* 9.4	* 22
Max Q Clear Time (g_c+I1), s	6.2	21.7	7.0	10.9	11.3	20.7	6.1	8.6
Green Ext Time (p_c), s	0.1	7.2	0.1	2.9	0.0	5.8	0.1	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	35.7
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	22	550	18	437	791	20	25	50	4	17	100	38
Future Volume (veh/h)	22	550	18	437	791	20	25	50	4	17	100	38
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1520	1712	1845	1597	1900	1900	1832	1900	1900	1886	1900
Adj Flow Rate, veh/h	26	640	21	480	869	22	32	63	5	21	123	47
Adj No. of Lanes	1	2	1	2	2	1	1	1	0	1	1	0
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.79	0.79	0.79	0.81	0.81	0.81
Percent Heavy Veh, %	0	25	11	3	19	0	0	2	25	0	1	0
Cap, veh/h	56	1382	696	601	1893	1008	129	228	18	211	177	68
Arrive On Green	0.03	0.48	0.48	0.18	0.62	0.62	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1810	2888	1455	3408	3034	1615	1234	1676	133	1354	1301	497
Grp Volume(v), veh/h	26	640	21	480	869	22	32	0	68	21	0	170
Grp Sat Flow(s),veh/h/ln	1810	1444	1455	1704	1517	1615	1234	0	1809	1354	0	1799
Q Serve(g_s), s	1.4	14.8	0.8	13.5	15.1	0.5	2.5	0.0	3.4	1.4	0.0	9.0
Cycle Q Clear(g_c), s	1.4	14.8	0.8	13.5	15.1	0.5	11.6	0.0	3.4	4.8	0.0	9.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.07	1.00		0.28
Lane Grp Cap(c), veh/h	56	1382	696	601	1893	1008	129	0	246	211	0	245
V/C Ratio(X)	0.47	0.46	0.03	0.80	0.46	0.02	0.25	0.00	0.28	0.10	0.00	0.69
Avail Cap(c_a), veh/h	132	1382	696	965	1893	1008	143	0	268	227	0	266
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.6	17.5	13.8	39.5	9.9	7.2	46.7	0.0	38.8	40.9	0.0	41.2
Incr Delay (d2), s/veh	8.4	1.1	0.1	3.5	0.8	0.0	1.4	0.0	0.9	0.3	0.0	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	6.1	0.3	6.6	6.5	0.2	0.9	0.0	1.7	0.5	0.0	5.0
LnGrp Delay(d),s/veh	56.0	18.6	13.9	43.0	10.7	7.2	48.2	0.0	39.6	41.2	0.0	49.1
LnGrp LOS	E	B	B	D	B	A	D		D	D		D
Approach Vol, veh/h		687			1371			100			191	
Approach Delay, s/veh		19.9			21.9			42.4			48.3	
Approach LOS		B			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.8	71.4		19.8	23.3	56.8		19.8
Change Period (Y+Rc), s	* 5.7	9.0		6.2	* 5.7	9.0		6.2
Max Green Setting (Gmax), s	* 7.3	57.0		14.8	* 28	36.0		14.8
Max Q Clear Time (g_c+I1), s	3.4	17.1		11.0	15.5	16.8		13.6
Green Ext Time (p_c), s	0.0	15.5		0.4	2.1	7.8		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	24.3
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	94	706	51	26	710	44	32	49	42	42	48	146
Future Volume (veh/h)	94	706	51	26	710	44	32	49	42	42	48	146
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1508	1863	1827	1473	1776	1845	1900	1900	1900	1857	1810
Adj Flow Rate, veh/h	100	751	54	27	740	46	46	70	60	43	49	151
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.96	0.96	0.96	0.70	0.70	0.70	0.97	0.97	0.97
Percent Heavy Veh, %	12	26	2	4	29	7	3	0	0	5	0	5
Cap, veh/h	125	1740	961	55	1571	848	144	150	128	117	115	243
Arrive On Green	0.08	0.61	0.61	0.03	0.56	0.56	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1616	2865	1583	1740	2798	1509	1166	946	811	407	729	1538
Grp Volume(v), veh/h	100	751	54	27	740	46	46	0	130	92	0	151
Grp Sat Flow(s),veh/h/ln	1616	1433	1583	1740	1399	1509	1166	0	1757	1137	0	1538
Q Serve(g_s), s	6.1	14.0	1.4	1.5	15.8	1.4	3.9	0.0	6.7	2.9	0.0	9.2
Cycle Q Clear(g_c), s	6.1	14.0	1.4	1.5	15.8	1.4	13.5	0.0	6.7	9.6	0.0	9.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.46	0.47		1.00
Lane Grp Cap(c), veh/h	125	1740	961	55	1571	848	144	0	278	233	0	243
V/C Ratio(X)	0.80	0.43	0.06	0.49	0.47	0.05	0.32	0.00	0.47	0.40	0.00	0.62
Avail Cap(c_a), veh/h	233	1740	961	164	1571	848	185	0	339	285	0	297
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.4	10.5	8.0	47.6	13.1	9.9	45.8	0.0	38.3	39.4	0.0	39.3
Incr Delay (d2), s/veh	15.2	0.8	0.1	9.3	1.0	0.1	1.8	0.0	1.7	1.6	0.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	5.6	0.6	0.9	6.3	0.6	1.3	0.0	3.4	2.5	0.0	4.2
LnGrp Delay(d),s/veh	60.6	11.2	8.1	56.9	14.1	10.0	47.6	0.0	40.0	41.0	0.0	43.1
LnGrp LOS	E	B	A	E	B	B	D		D	D		D
Approach Vol, veh/h		905			813			176			243	
Approach Delay, s/veh		16.5			15.3			42.0			42.3	
Approach LOS		B			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.3	65.1		21.5	8.8	69.7		21.5
Change Period (Y+Rc), s	* 5.6	9.0		5.7	* 5.6	9.0		5.7
Max Green Setting (Gmax), s	* 14	46.0		19.3	* 9.4	51.0		19.3
Max Q Clear Time (g_c+I1), s	8.1	17.8		11.6	3.5	16.0		15.5
Green Ext Time (p_c), s	0.2	11.4		0.8	0.0	12.8		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	21.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	33	632	25	77	1177	58	15	2	66	7	1	4
Future Volume (veh/h)	33	632	25	77	1177	58	15	2	66	7	1	4
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1545	1900	1827	1667	1900	1681	1762	1900	1900	1696	1900
Adj Flow Rate, veh/h	38	726	29	89	1353	67	18	2	80	12	2	7
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	0	1	1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.83	0.83	0.83	0.60	0.60	0.60
Percent Heavy Veh, %	3	23	0	4	14	0	13	0	8	14	0	0
Cap, veh/h	69	1859	1023	114	2090	1066	146	4	170	136	17	187
Arrive On Green	0.04	0.63	0.63	0.07	0.66	0.66	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1757	2935	1615	1740	3167	1615	1264	37	1467	598	148	1615
Grp Volume(v), veh/h	38	726	29	89	1353	67	18	0	82	14	0	7
Grp Sat Flow(s),veh/h/ln	1757	1467	1615	1740	1583	1615	1264	0	1504	747	0	1615
Q Serve(g_s), s	2.1	12.0	0.7	5.0	25.4	1.5	1.4	0.0	5.1	0.6	0.0	0.4
Cycle Q Clear(g_c), s	2.1	12.0	0.7	5.0	25.4	1.5	7.1	0.0	5.1	5.7	0.0	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.98	0.86		1.00
Lane Grp Cap(c), veh/h	69	1859	1023	114	2090	1066	146	0	174	153	0	187
V/C Ratio(X)	0.55	0.39	0.03	0.78	0.65	0.06	0.12	0.00	0.47	0.09	0.00	0.04
Avail Cap(c_a), veh/h	237	1859	1023	235	2090	1066	164	0	195	171	0	210
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.83	0.83	0.83	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.2	8.9	6.8	46.0	10.1	6.0	44.9	0.0	41.3	41.9	0.0	39.3
Incr Delay (d2), s/veh	9.5	0.6	0.1	12.6	1.3	0.1	0.5	0.0	2.8	0.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	5.0	0.3	2.8	11.3	0.7	0.5	0.0	2.3	0.4	0.0	0.2
LnGrp Delay(d),s/veh	56.7	9.5	6.9	58.6	11.4	6.1	45.5	0.0	44.1	42.3	0.0	39.4
LnGrp LOS	E	A	A	E	B	A	D		D	D		D
Approach Vol, veh/h		793			1509			100			21	
Approach Delay, s/veh		11.7			13.9			44.4			41.3	
Approach LOS		B			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.4	73.0		17.6	12.1	70.4		17.6
Change Period (Y+Rc), s	5.5	7.0		6.0	5.5	7.0		6.0
Max Green Setting (Gmax), s	13.5	55.0		13.0	13.5	55.0		13.0
Max Q Clear Time (g_c+I1), s	4.1	27.4		7.7	7.0	14.0		9.1
Green Ext Time (p_c), s	0.0	20.4		0.0	0.1	12.6		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	176	81	60	22	92	30	26	473	97	66	762	12
Future Volume (veh/h)	176	81	60	22	92	30	26	473	97	66	762	12
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1815	1900	1900	1794	1681	1827	1473	1881	1845	1624	1900
Adj Flow Rate, veh/h	207	95	71	34	142	46	29	520	107	72	828	13
Adj No. of Lanes	1	1	0	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.85	0.85	0.85	0.65	0.65	0.65	0.91	0.91	0.91	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	7	14	4	13	4	29	1	3	17	0
Cap, veh/h	301	262	196	103	394	388	58	1363	779	93	1564	819
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.07	0.97	0.97	0.05	0.51	0.51
Sat Flow, veh/h	1191	966	722	222	1450	1429	1740	2798	1599	1757	3085	1615
Grp Volume(v), veh/h	207	0	166	176	0	46	29	520	107	72	828	13
Grp Sat Flow(s),veh/h/ln	1191	0	1687	1672	0	1429	1740	1399	1599	1757	1543	1615
Q Serve(g_s), s	17.0	0.0	7.9	0.0	0.0	2.4	1.6	0.8	0.2	4.0	18.1	0.4
Cycle Q Clear(g_c), s	25.0	0.0	7.9	8.0	0.0	2.4	1.6	0.8	0.2	4.0	18.1	0.4
Prop In Lane	1.00		0.43	0.19		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	301	0	459	497	0	388	58	1363	779	93	1564	819
V/C Ratio(X)	0.69	0.00	0.36	0.35	0.00	0.12	0.50	0.38	0.14	0.77	0.53	0.02
Avail Cap(c_a), veh/h	312	0	474	512	0	402	167	1363	779	221	1564	819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	0.0	29.4	29.4	0.0	27.4	45.9	0.7	0.7	46.8	16.6	12.3
Incr Delay (d2), s/veh	6.4	0.0	0.6	0.5	0.0	0.2	7.4	0.8	0.3	15.0	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	0.0	3.8	4.0	0.0	1.0	0.9	0.3	0.1	2.3	8.0	0.2
LnGrp Delay(d),s/veh	45.9	0.0	30.0	29.9	0.0	27.6	53.3	1.4	1.0	61.8	17.9	12.3
LnGrp LOS	D		C	C		C	D	A	A	E	B	B
Approach Vol, veh/h		373			222			656			913	
Approach Delay, s/veh		38.8			29.4			3.6			21.3	
Approach LOS		D			C			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.7	58.2		33.1	10.7	56.2		33.1
Change Period (Y+Rc), s	5.4	* 7.5		* 5.9	5.4	7.5		* 5.9
Max Green Setting (Gmax), s	9.6	* 44		* 28	12.6	40.5		* 28
Max Q Clear Time (g_c+I1), s	3.6	20.1		10.0	6.0	2.8		27.0
Green Ext Time (p_c), s	0.0	12.4		0.8	0.1	10.5		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	19.8
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	445	65	10	841	104	101	108	32	99	114	55
Future Volume (veh/h)	58	445	65	10	841	104	101	108	32	99	114	55
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1624	1473	1845	1583	1681	1597	1881	1817	1900	1681	1696	1827
Adj Flow Rate, veh/h	66	506	74	12	978	121	128	137	41	112	130	62
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	1	1
Peak Hour Factor	0.88	0.88	0.88	0.86	0.86	0.86	0.79	0.79	0.79	0.88	0.88	0.88
Percent Heavy Veh, %	17	29	3	20	13	19	1	5	3	13	12	4
Cap, veh/h	85	1379	773	26	1454	618	165	183	55	142	225	206
Arrive On Green	0.05	0.49	0.49	0.02	0.46	0.46	0.09	0.14	0.14	0.09	0.13	0.13
Sat Flow, veh/h	1547	2798	1568	1508	3195	1357	1792	1344	402	1601	1696	1553
Grp Volume(v), veh/h	66	506	74	12	978	121	128	0	178	112	130	62
Grp Sat Flow(s),veh/h/ln	1547	1399	1568	1508	1597	1357	1792	0	1747	1601	1696	1553
Q Serve(g_s), s	4.1	11.0	2.5	0.8	23.7	5.2	6.9	0.0	9.6	6.7	7.1	3.5
Cycle Q Clear(g_c), s	4.1	11.0	2.5	0.8	23.7	5.2	6.9	0.0	9.6	6.7	7.1	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	85	1379	773	26	1454	618	165	0	238	142	225	206
V/C Ratio(X)	0.78	0.37	0.10	0.47	0.67	0.20	0.77	0.00	0.75	0.79	0.58	0.30
Avail Cap(c_a), veh/h	472	1849	1036	460	2111	897	546	0	799	488	776	710
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	15.4	13.3	47.9	21.1	16.0	43.6	0.0	40.9	43.9	40.1	38.6
Incr Delay (d2), s/veh	27.0	0.5	0.1	17.6	1.5	0.4	10.4	0.0	7.8	12.8	4.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	4.3	1.1	0.4	10.6	2.0	3.9	0.0	5.2	3.5	3.6	1.6
LnGrp Delay(d),s/veh	72.9	15.9	13.4	65.5	22.6	16.5	54.1	0.0	48.7	56.8	44.1	40.0
LnGrp LOS	E	B	B	E	C	B	D		D	E	D	D
Approach Vol, veh/h		646			1111			306			304	
Approach Delay, s/veh		21.4			22.4			51.0			47.9	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	52.3	15.4	19.7	7.3	56.0	15.0	20.1
Change Period (Y+Rc), s	5.6	7.5	* 6.3	6.7	5.6	7.5	* 6.3	6.7
Max Green Setting (Gmax), s	30.0	65.0	* 30	45.0	30.0	65.0	* 30	45.0
Max Q Clear Time (g_c+I1), s	6.1	25.7	8.9	9.1	2.8	13.0	8.7	11.6
Green Ext Time (p_c), s	0.3	19.1	0.5	1.6	0.0	9.2	0.4	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	29.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	565	28	82	619	32	23	27	40	23	55	26
Future Volume (veh/h)	19	565	28	82	619	32	23	27	40	23	55	26
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1712	1418	1827	1900	1473	1845	1900	1813	1900	1900	1751	1900
Adj Flow Rate, veh/h	22	649	32	87	659	34	24	29	43	30	72	0
Adj No. of Lanes	1	2	1	1	2	1	0	1	0	0	1	1
Peak Hour Factor	0.87	0.87	0.87	0.94	0.94	0.94	0.94	0.94	0.94	0.76	0.76	0.76
Percent Heavy Veh, %	11	34	4	0	29	3	9	4	3	17	5	0
Cap, veh/h	413	1148	662	532	1490	835	98	105	115	111	214	260
Arrive On Green	0.03	0.43	0.43	0.14	0.53	0.53	0.16	0.16	0.16	0.16	0.16	0.00
Sat Flow, veh/h	1630	2694	1553	1810	2798	1568	227	653	714	297	1333	1615
Grp Volume(v), veh/h	22	649	32	87	659	34	96	0	0	102	0	0
Grp Sat Flow(s),veh/h/ln	1630	1347	1553	1810	1399	1568	1594	0	0	1630	0	1615
Q Serve(g_s), s	0.5	13.3	0.9	1.5	10.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	13.3	0.9	1.5	10.6	0.8	3.7	0.0	0.0	3.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.25		0.45	0.29		1.00
Lane Grp Cap(c), veh/h	413	1148	662	532	1490	835	318	0	0	326	0	260
V/C Ratio(X)	0.05	0.57	0.05	0.16	0.44	0.04	0.30	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	632	2207	1272	583	2292	1284	909	0	0	928	0	882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.1	15.9	12.3	8.3	10.5	8.2	27.4	0.0	0.0	27.4	0.0	0.0
Incr Delay (d2), s/veh	0.1	2.0	0.1	0.2	1.0	0.1	0.8	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	5.3	0.4	0.8	4.2	0.4	1.8	0.0	0.0	1.9	0.0	0.0
LnGrp Delay(d),s/veh	11.1	17.9	12.5	8.5	11.4	8.3	28.1	0.0	0.0	27.9	0.0	0.0
LnGrp LOS	B	B	B	A	B	A	C			C		
Approach Vol, veh/h		703			780			96			102	
Approach Delay, s/veh		17.5			11.0			28.1			27.9	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.9	47.5		17.9	15.7	39.7		17.9
Change Period (Y+Rc), s	* 5.7	8.5		6.1	* 5.7	8.5		6.1
Max Green Setting (Gmax), s	* 12	60.0		40.0	* 12	60.0		40.0
Max Q Clear Time (g_c+I1), s	2.5	12.6		5.8	3.5	15.3		5.7
Green Ext Time (p_c), s	0.0	16.5		0.5	0.1	15.9		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	15.7
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	533	31	162	690	29	29	203	199	81	181	82
Future Volume (veh/h)	41	533	31	162	690	29	29	203	199	81	181	82
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1484	1792	1759	1545	1776	1900	1814	1792	1881	1863	1900
Adj Flow Rate, veh/h	43	555	32	172	734	31	35	248	243	108	241	109
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.82	0.82	0.82	0.75	0.75	0.75
Percent Heavy Veh, %	0	28	6	8	23	7	17	3	6	1	2	2
Cap, veh/h	278	916	495	359	1090	560	89	563	559	271	446	202
Arrive On Green	0.04	0.32	0.32	0.09	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1810	2820	1524	1675	2935	1509	117	1532	1524	911	1216	550
Grp Volume(v), veh/h	43	555	32	172	734	31	283	0	243	108	0	350
Grp Sat Flow(s),veh/h/ln	1810	1410	1524	1675	1467	1509	1649	0	1524	911	0	1766
Q Serve(g_s), s	1.3	14.5	1.3	5.8	18.3	1.2	0.3	0.0	10.5	9.3	0.0	13.7
Cycle Q Clear(g_c), s	1.3	14.5	1.3	5.8	18.3	1.2	14.0	0.0	10.5	23.3	0.0	13.7
Prop In Lane	1.00		1.00	1.00		1.00	0.12		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	278	916	495	359	1090	560	652	0	559	271	0	648
V/C Ratio(X)	0.15	0.61	0.06	0.48	0.67	0.06	0.43	0.00	0.43	0.40	0.00	0.54
Avail Cap(c_a), veh/h	715	1934	1045	685	2013	1035	988	0	871	457	0	1009
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.1	24.8	20.4	18.2	23.1	17.7	20.8	0.0	20.8	31.2	0.0	21.9
Incr Delay (d2), s/veh	0.2	1.8	0.2	0.6	2.0	0.1	1.0	0.0	1.1	3.4	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.9	0.6	2.7	7.7	0.5	5.3	0.0	4.6	2.6	0.0	7.1
LnGrp Delay(d),s/veh	19.2	26.6	20.5	18.8	25.1	17.8	21.7	0.0	22.0	34.6	0.0	24.4
LnGrp LOS	B	C	C	B	C	B	C		C	C		C
Approach Vol, veh/h		630			937			526			458	
Approach Delay, s/veh		25.8			23.7			21.9			26.8	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.5	38.9		38.1	14.6	34.8		38.1
Change Period (Y+Rc), s	* 6.6	6.4		* 6	* 6.6	6.4		* 6
Max Green Setting (Gmax), s	* 25	60.0		* 50	* 25	60.0		* 50
Max Q Clear Time (g_c+I1), s	3.3	20.3		25.3	7.8	16.5		16.0
Green Ext Time (p_c), s	0.0	12.1		6.9	0.2	8.9		6.0

Intersection Summary	
HCM 2010 Ctrl Delay	24.4
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	329	31	69	843	1146	124
Future Volume (veh/h)	329	31	69	843	1146	124
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1918	1900	1727	1845	1863	1810
Adj Flow Rate, veh/h	374	35	75	916	1219	0
Adj No. of Lanes	0	0	1	2	2	1
Peak Hour Factor	0.88	0.88	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	3	3	10	3	2	5
Cap, veh/h	414	39	358	2207	1516	659
Arrive On Green	0.25	0.25	0.28	1.00	0.43	0.00
Sat Flow, veh/h	1650	154	1645	3597	3632	1538
Grp Volume(v), veh/h	410	0	75	916	1219	0
Grp Sat Flow(s),veh/h/ln	1809	0	1645	1752	1770	1538
Q Serve(g_s), s	19.3	0.0	0.0	0.0	26.4	0.0
Cycle Q Clear(g_c), s	19.3	0.0	0.0	0.0	26.4	0.0
Prop In Lane	0.91	0.09	1.00			1.00
Lane Grp Cap(c), veh/h	454	0	358	2207	1516	659
V/C Ratio(X)	0.90	0.00	0.21	0.42	0.80	0.00
Avail Cap(c_a), veh/h	571	0	358	2207	1516	659
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.93	0.93	1.00	0.00
Uniform Delay (d), s/veh	31.9	0.0	24.4	0.0	21.9	0.0
Incr Delay (d2), s/veh	15.2	0.0	0.3	0.5	4.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.6	0.0	1.3	0.2	13.8	0.0
LnGrp Delay(d),s/veh	47.2	0.0	24.6	0.5	26.6	0.0
LnGrp LOS	D		C	A	C	
Approach Vol, veh/h	410			991	1219	
Approach Delay, s/veh	47.2			2.4	26.6	
Approach LOS	D			A	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		60.7		27.3	17.7	43.0		
Change Period (Y+Rc), s		5.3		* 5.2	5.3	* 5.3		
Max Green Setting (Gmax), s		49.7		* 28	6.8	* 38		
Max Q Clear Time (g_c+I1), s		2.0		21.3	2.0	28.4		
Green Ext Time (p_c), s		7.1		0.8	0.0	5.2		

Intersection Summary	
HCM 2010 Ctrl Delay	20.6
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	73	81	22	839	871	317
Future Volume (veh/h)	73	81	22	839	871	317
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1900	1743	1863	1863	1845
Adj Flow Rate, veh/h	87	96	24	912	927	0
Adj No. of Lanes	0	0	1	2	2	1
Peak Hour Factor	0.84	0.84	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	16	1	9	2	2	3
Cap, veh/h	104	115	473	2648	2324	1029
Arrive On Green	0.13	0.13	0.03	0.75	0.87	0.00
Sat Flow, veh/h	774	855	1660	3632	3632	1568
Grp Volume(v), veh/h	184	0	24	912	927	0
Grp Sat Flow(s),veh/h/ln	1638	0	1660	1770	1770	1568
Q Serve(g_s), s	9.6	0.0	0.4	7.7	4.5	0.0
Cycle Q Clear(g_c), s	9.6	0.0	0.4	7.7	4.5	0.0
Prop In Lane	0.47	0.52	1.00			1.00
Lane Grp Cap(c), veh/h	221	0	473	2648	2324	1029
V/C Ratio(X)	0.83	0.00	0.05	0.34	0.40	0.00
Avail Cap(c_a), veh/h	391	0	547	2648	2324	1029
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.69	0.00
Uniform Delay (d), s/veh	37.1	0.0	4.0	3.8	2.2	0.0
Incr Delay (d2), s/veh	8.0	0.0	0.0	0.4	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	0.2	3.8	2.2	0.0
LnGrp Delay(d),s/veh	45.1	0.0	4.1	4.1	2.6	0.0
LnGrp LOS	D		A	A	A	
Approach Vol, veh/h	184			936	927	
Approach Delay, s/veh	45.1			4.1	2.6	
Approach LOS	D			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		71.1		16.9	8.1	63.1		
Change Period (Y+Rc), s		5.3		5.0	5.4	5.3		
Max Green Setting (Gmax), s		56.7		21.0	6.6	44.7		
Max Q Clear Time (g_c+I1), s		9.7		11.6	2.4	6.5		
Green Ext Time (p_c), s		7.0		0.4	0.0	7.0		

Intersection Summary	
HCM 2010 Ctrl Delay	7.1
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	66	779	10	175	833	113	4	137	154	100	148	84
Future Volume (veh/h)	66	779	10	175	833	113	4	137	154	100	148	84
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1583	1900	1881	1583	1827	1900	1846	1845	1827	1881	1776
Adj Flow Rate, veh/h	67	787	10	188	896	122	5	165	186	115	170	97
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	1	1	1
Peak Hour Factor	0.99	0.99	0.99	0.93	0.93	0.93	0.83	0.83	0.83	0.87	0.87	0.87
Percent Heavy Veh, %	12	20	0	1	20	4	0	3	3	4	1	7
Cap, veh/h	84	1321	709	220	1534	792	40	417	359	224	431	346
Arrive On Green	0.05	0.44	0.44	0.12	0.51	0.51	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1616	3008	1615	1792	3008	1553	15	1821	1568	1006	1881	1509
Grp Volume(v), veh/h	67	787	10	188	896	122	170	0	186	115	170	97
Grp Sat Flow(s),veh/h/ln	1616	1504	1615	1792	1504	1553	1836	0	1568	1006	1881	1509
Q Serve(g_s), s	4.1	19.9	0.3	10.3	20.8	4.2	0.0	0.0	10.4	11.0	7.7	5.3
Cycle Q Clear(g_c), s	4.1	19.9	0.3	10.3	20.8	4.2	7.8	0.0	10.4	18.8	7.7	5.3
Prop In Lane	1.00		1.00	1.00		1.00	0.03		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	84	1321	709	220	1534	792	458	0	359	224	431	346
V/C Ratio(X)	0.80	0.60	0.01	0.86	0.58	0.15	0.37	0.00	0.52	0.51	0.39	0.28
Avail Cap(c_a), veh/h	215	1321	709	238	1534	792	646	0	522	335	640	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	21.3	15.8	43.0	17.1	13.0	32.7	0.0	33.7	40.7	32.7	31.8
Incr Delay (d2), s/veh	15.5	2.0	0.0	21.9	1.5	0.4	0.7	0.0	1.6	2.6	0.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	8.6	0.2	6.4	8.9	1.9	4.1	0.0	4.7	3.2	4.1	2.3
LnGrp Delay(d),s/veh	62.4	23.3	15.9	64.9	18.6	13.4	33.4	0.0	35.4	43.3	33.5	32.4
LnGrp LOS	E	C	B	E	B	B	C		D	D	C	C
Approach Vol, veh/h		864			1206			356			382	
Approach Delay, s/veh		26.2			25.3			34.4			36.2	
Approach LOS		C			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.9	58.5		29.6	19.0	51.4		29.6
Change Period (Y+Rc), s	6.7	7.5		* 6.7	6.7	7.5		* 6.7
Max Green Setting (Gmax), s	13.3	32.5		* 34	13.3	32.5		* 33
Max Q Clear Time (g_c+I1), s	6.1	22.8		20.8	12.3	21.9		12.4
Green Ext Time (p_c), s	0.1	6.3		2.1	0.0	5.7		2.3

Intersection Summary			
HCM 2010 Ctrl Delay		28.2	
HCM 2010 LOS		C	

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	941	94	121	840	209	185
Future Volume (veh/h)	941	94	121	840	209	185
Number	2	12	1	6	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1610	1881	1900	1583	1900	1881
Adj Flow Rate, veh/h	1001	100	134	933	232	206
Adj No. of Lanes	2	1	2	2	2	1
Peak Hour Factor	0.94	0.94	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	18	1	0	20	0	1
Cap, veh/h	1880	983	206	2206	515	235
Arrive On Green	0.61	0.61	0.06	0.73	0.15	0.15
Sat Flow, veh/h	3140	1599	3510	3088	3510	1599
Grp Volume(v), veh/h	1001	100	134	933	232	206
Grp Sat Flow(s),veh/h/ln	1530	1599	1755	1504	1755	1599
Q Serve(g_s), s	18.7	2.6	3.7	12.0	6.0	12.6
Cycle Q Clear(g_c), s	18.7	2.6	3.7	12.0	6.0	12.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1880	983	206	2206	515	235
V/C Ratio(X)	0.53	0.10	0.65	0.42	0.45	0.88
Avail Cap(c_a), veh/h	1880	983	421	2206	520	237
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.81	0.81	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.0	7.9	46.1	5.2	39.0	41.8
Incr Delay (d2), s/veh	0.9	0.2	4.9	0.6	1.3	30.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	1.2	1.9	5.1	3.0	7.6
LnGrp Delay(d),s/veh	11.9	8.1	51.0	5.8	40.3	72.3
LnGrp LOS	B	A	D	A	D	E
Approach Vol, veh/h	1101			1067	438	
Approach Delay, s/veh	11.6			11.4	55.3	
Approach LOS	B			B	E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	11.9	68.3				80.1		19.9
Change Period (Y+Rc), s	6.0	* 6.8				* 6.8		5.2
Max Green Setting (Gmax), s	12.0	* 55				* 73		14.8
Max Q Clear Time (g_c+I1), s	5.7	20.7				14.0		14.6
Green Ext Time (p_c), s	0.3	17.7				18.7		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	18.9
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	171	112	12	889	1012	82
Future Volume (veh/h)	171	112	12	889	1012	82
Number	3	18	1	6	2	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1881	1900	1624	1638	1881
Adj Flow Rate, veh/h	251	165	13	946	1124	91
Adj No. of Lanes	1	1	1	2	2	1
Peak Hour Factor	0.68	0.68	0.94	0.94	0.90	0.90
Percent Heavy Veh, %	2	1	0	17	16	1
Cap, veh/h	302	272	298	2095	1879	965
Arrive On Green	0.17	0.17	0.04	1.00	0.60	0.60
Sat Flow, veh/h	1774	1599	1810	3167	3194	1599
Grp Volume(v), veh/h	251	165	13	946	1124	91
Grp Sat Flow(s),veh/h/ln	1774	1599	1810	1543	1556	1599
Q Serve(g_s), s	13.7	9.5	0.3	0.0	22.4	2.4
Cycle Q Clear(g_c), s	13.7	9.5	0.3	0.0	22.4	2.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	302	272	298	2095	1879	965
V/C Ratio(X)	0.83	0.61	0.04	0.45	0.60	0.09
Avail Cap(c_a), veh/h	373	336	397	2095	1879	965
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.75	0.75	1.00	1.00
Uniform Delay (d), s/veh	40.1	38.4	9.3	0.0	12.3	8.3
Incr Delay (d2), s/veh	15.8	4.6	0.1	0.5	1.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	4.6	0.1	0.2	9.9	1.1
LnGrp Delay(d),s/veh	55.9	43.0	9.4	0.5	13.7	8.5
LnGrp LOS	E	D	A	A	B	A
Approach Vol, veh/h	416			959	1215	
Approach Delay, s/veh	50.8			0.6	13.3	
Approach LOS	D			A	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.5	68.5				76.0		24.0
Change Period (Y+Rc), s	* 5.7	* 8.1				* 8.1		7.0
Max Green Setting (Gmax), s	* 7.3	* 51				* 64		21.0
Max Q Clear Time (g_c+I1), s	2.3	24.4				2.0		15.7
Green Ext Time (p_c), s	0.0	18.0				21.8		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	14.6
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	347	21	180	411	139	54	612	121	155	778	163
Future Volume (veh/h)	131	347	21	180	411	139	54	612	121	155	778	163
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1900	1900	1863	1900	1881	1900	1508	1863	1845	1583	1863
Adj Flow Rate, veh/h	160	423	26	205	467	158	61	688	136	165	828	173
Adj No. of Lanes	1	2	0	1	2	1	1	2	1	1	2	1
Peak Hour Factor	0.82	0.82	0.82	0.88	0.88	0.88	0.89	0.89	0.89	0.94	0.94	0.94
Percent Heavy Veh, %	1	0	0	2	0	1	0	26	2	3	20	2
Cap, veh/h	275	544	33	293	608	269	89	1079	596	184	1302	685
Arrive On Green	0.09	0.16	0.16	0.10	0.17	0.17	0.05	0.38	0.38	0.03	0.14	0.14
Sat Flow, veh/h	1792	3456	212	1774	3610	1599	1810	2865	1583	1757	3008	1583
Grp Volume(v), veh/h	160	220	229	205	467	158	61	688	136	165	828	173
Grp Sat Flow(s),veh/h/ln	1792	1805	1863	1774	1805	1599	1810	1433	1583	1757	1504	1583
Q Serve(g_s), s	7.4	11.7	11.8	9.7	12.4	9.1	3.3	19.7	5.9	9.4	26.0	9.7
Cycle Q Clear(g_c), s	7.4	11.7	11.8	9.7	12.4	9.1	3.3	19.7	5.9	9.4	26.0	9.7
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	275	284	293	293	608	269	89	1079	596	184	1302	685
V/C Ratio(X)	0.58	0.78	0.78	0.70	0.77	0.59	0.69	0.64	0.23	0.89	0.64	0.25
Avail Cap(c_a), veh/h	294	350	361	293	700	310	190	1079	596	184	1302	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81	0.81	0.81
Uniform Delay (d), s/veh	31.6	40.4	40.5	31.7	39.7	38.4	46.8	25.6	21.3	47.7	35.4	28.5
Incr Delay (d2), s/veh	3.3	9.7	9.8	7.8	6.0	4.4	12.7	2.9	0.9	33.6	1.9	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	6.6	6.8	5.4	6.7	4.4	2.0	8.2	2.7	6.3	11.2	4.4
LnGrp Delay(d),s/veh	34.9	50.2	50.2	39.6	45.7	42.8	59.5	28.5	22.1	81.3	37.4	29.2
LnGrp LOS	C	D	D	D	D	D	E	C	C	F	D	C
Approach Vol, veh/h		609			830			885			1166	
Approach Delay, s/veh		46.2			43.6			29.6			42.4	
Approach LOS		D			D			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	45.7	14.9	22.4	11.4	51.3	16.0	21.3
Change Period (Y+Rc), s	6.5	8.0	* 5.6	* 5.6	6.5	8.0	* 5.6	* 5.6
Max Green Setting (Gmax), s	10.5	34.0	* 10	* 19	10.5	34.0	* 10	* 19
Max Q Clear Time (g_c+I1), s	11.4	21.7	9.4	14.4	5.3	28.0	11.7	13.8
Green Ext Time (p_c), s	0.0	6.8	0.1	2.5	0.1	4.4	0.0	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	40.1
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	35	939	60	403	754	10	52	113	16	12	76	41
Future Volume (veh/h)	35	939	60	403	754	10	52	113	16	12	76	41
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1597	1845	1863	1583	1900	1863	1851	1900	1759	1851	1900
Adj Flow Rate, veh/h	36	968	62	433	811	11	63	138	20	15	94	51
Adj No. of Lanes	1	2	1	2	2	1	1	1	0	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.93	0.93	0.93	0.82	0.82	0.82	0.81	0.81	0.81
Percent Heavy Veh, %	6	19	3	2	20	0	2	3	0	8	3	2
Cap, veh/h	65	1486	768	525	1819	976	160	235	34	150	168	91
Arrive On Green	0.04	0.49	0.49	0.15	0.60	0.60	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1707	3034	1568	3442	3008	1615	1238	1582	229	1156	1130	613
Grp Volume(v), veh/h	36	968	62	433	811	11	63	0	158	15	0	145
Grp Sat Flow(s),veh/h/ln	1707	1517	1568	1721	1504	1615	1238	0	1811	1156	0	1743
Q Serve(g_s), s	2.1	23.9	2.1	12.2	14.6	0.3	5.0	0.0	8.1	1.2	0.0	7.7
Cycle Q Clear(g_c), s	2.1	23.9	2.1	12.2	14.6	0.3	12.7	0.0	8.1	9.4	0.0	7.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.35
Lane Grp Cap(c), veh/h	65	1486	768	525	1819	976	160	0	269	150	0	259
V/C Ratio(X)	0.56	0.65	0.08	0.82	0.45	0.01	0.39	0.00	0.59	0.10	0.00	0.56
Avail Cap(c_a), veh/h	244	1486	768	664	1819	976	172	0	286	161	0	275
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.3	19.1	13.5	41.1	10.7	7.9	45.4	0.0	39.7	44.1	0.0	39.5
Incr Delay (d2), s/veh	10.2	2.2	0.2	7.6	0.8	0.0	2.2	0.0	3.6	0.4	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	10.4	1.0	6.3	6.2	0.1	1.8	0.0	4.3	0.4	0.0	3.9
LnGrp Delay(d),s/veh	57.5	21.3	13.8	48.7	11.5	7.9	47.7	0.0	43.3	44.5	0.0	42.5
LnGrp LOS	E	C	B	D	B	A	D		D	D		D
Approach Vol, veh/h		1066			1255			221			160	
Approach Delay, s/veh		22.1			24.3			44.5			42.7	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	69.5		21.1	21.0	58.0		21.1
Change Period (Y+Rc), s	* 5.7	9.0		6.2	* 5.7	9.0		6.2
Max Green Setting (Gmax), s	* 14	49.0		15.8	* 19	44.0		15.8
Max Q Clear Time (g_c+I1), s	4.1	16.6		11.4	14.2	25.9		14.7
Green Ext Time (p_c), s	0.0	12.9		0.4	1.1	11.3		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	26.2
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	191	1057	70	47	731	63	48	80	57	66	64	188
Future Volume (veh/h)	191	1057	70	47	731	63	48	80	57	66	64	188
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1583	1845	1863	1473	1863	1900	1861	1900	1900	1881	1881
Adj Flow Rate, veh/h	197	1090	72	51	786	68	54	90	64	69	67	196
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	0	1	1
Peak Hour Factor	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.96	0.96	0.96
Percent Heavy Veh, %	2	20	3	2	29	2	0	0	5	2	0	1
Cap, veh/h	222	1833	955	72	1470	832	132	209	149	143	125	330
Arrive On Green	0.13	0.61	0.61	0.04	0.53	0.53	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	3008	1568	1774	2798	1583	1134	1013	721	472	606	1599
Grp Volume(v), veh/h	197	1090	72	51	786	68	54	0	154	136	0	196
Grp Sat Flow(s),veh/h/ln	1774	1504	1568	1774	1399	1583	1134	0	1734	1079	0	1599
Q Serve(g_s), s	13.1	26.6	2.3	3.4	22.3	2.6	5.6	0.0	9.3	7.8	0.0	13.3
Cycle Q Clear(g_c), s	13.1	26.6	2.3	3.4	22.3	2.6	22.7	0.0	9.3	17.1	0.0	13.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.42	0.51		1.00
Lane Grp Cap(c), veh/h	222	1833	955	72	1470	832	132	0	357	268	0	330
V/C Ratio(X)	0.89	0.59	0.08	0.70	0.53	0.08	0.41	0.00	0.43	0.51	0.00	0.59
Avail Cap(c_a), veh/h	222	1833	955	222	1470	832	135	0	361	271	0	333
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.7	14.4	9.6	56.8	18.8	14.1	55.2	0.0	41.5	46.2	0.0	43.1
Incr Delay (d2), s/veh	33.0	1.4	0.2	16.2	1.4	0.2	2.9	0.0	1.2	2.1	0.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	11.3	1.0	2.0	8.8	1.2	1.9	0.0	4.6	4.4	0.0	6.2
LnGrp Delay(d),s/veh	84.6	15.8	9.7	73.0	20.2	14.3	58.1	0.0	42.7	48.3	0.0	46.5
LnGrp LOS	F	B	A	E	C	B	E		D	D		D
Approach Vol, veh/h		1359			905			208			332	
Approach Delay, s/veh		25.4			22.7			46.7			47.2	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.6	72.1		30.4	10.5	82.2		30.4
Change Period (Y+Rc), s	* 5.6	9.0		5.7	* 5.6	9.0		5.7
Max Green Setting (Gmax), s	* 15	60.0		25.0	* 15	60.0		25.0
Max Q Clear Time (g_c+I1), s	15.1	24.3		19.1	5.4	28.6		24.7
Green Ext Time (p_c), s	0.0	13.8		1.0	0.1	18.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	28.7
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	10	1117	31	85	1069	6	32	1	132	38	6	31
Future Volume (veh/h)	10	1117	31	85	1069	6	32	1	132	38	6	31
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1624	1845	1863	1652	1900	1900	1863	1900	1900	1900	1900
Adj Flow Rate, veh/h	11	1188	33	89	1125	6	33	1	138	79	12	65
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.96	0.96	0.96	0.48	0.48	0.48
Percent Heavy Veh, %	0	17	3	2	15	0	0	0	2	0	0	0
Cap, veh/h	29	1738	883	114	1921	988	138	2	295	193	25	303
Arrive On Green	0.02	0.56	0.56	0.06	0.61	0.61	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1810	3085	1568	1774	3139	1615	1343	11	1574	673	133	1615
Grp Volume(v), veh/h	11	1188	33	89	1125	6	33	0	139	91	0	65
Grp Sat Flow(s),veh/h/ln	1810	1543	1568	1774	1570	1615	1343	0	1585	806	0	1615
Q Serve(g_s), s	0.6	27.3	0.9	4.9	21.7	0.1	2.4	0.0	7.8	6.1	0.0	3.4
Cycle Q Clear(g_c), s	0.6	27.3	0.9	4.9	21.7	0.1	16.2	0.0	7.8	13.9	0.0	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.99	0.87		1.00
Lane Grp Cap(c), veh/h	29	1738	883	114	1921	988	138	0	297	218	0	303
V/C Ratio(X)	0.38	0.68	0.04	0.78	0.59	0.01	0.24	0.00	0.47	0.42	0.00	0.21
Avail Cap(c_a), veh/h	136	1738	883	204	1921	988	208	0	380	288	0	388
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.84	0.84	0.84	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.7	15.5	9.7	46.1	11.7	7.6	46.4	0.0	36.2	41.7	0.0	34.4
Incr Delay (d2), s/veh	11.6	2.2	0.1	12.7	1.1	0.0	1.3	0.0	1.6	1.8	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	12.1	0.4	2.8	9.7	0.1	0.9	0.0	3.6	2.5	0.0	1.6
LnGrp Delay(d),s/veh	60.4	17.7	9.8	58.8	12.9	7.6	47.6	0.0	37.8	43.5	0.0	34.9
LnGrp LOS	E	B	A	E	B	A	D		D	D		C
Approach Vol, veh/h		1232			1220			172			156	
Approach Delay, s/veh		17.9			16.2			39.7			39.9	
Approach LOS		B			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.1	68.2		24.7	11.9	63.3		24.7
Change Period (Y+Rc), s	5.5	7.0		6.0	5.5	7.0		6.0
Max Green Setting (Gmax), s	7.5	50.0		24.0	11.5	46.0		24.0
Max Q Clear Time (g_c+I1), s	2.6	23.7		15.9	6.9	29.3		18.2
Green Ext Time (p_c), s	0.0	16.3		0.5	0.1	12.3		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	19.7
HCM 2010 LOS	B

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	147	100	61	21	96	30	48	964	258	75	712	26
Future Volume (veh/h)	147	100	61	21	96	30	48	964	258	75	712	26
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1845	1900	1900	1825	1681	1727	1624	1881	1900	1473	1759
Adj Flow Rate, veh/h	186	127	77	26	120	38	53	1071	287	77	734	27
Adj No. of Lanes	1	1	0	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.79	0.79	0.79	0.80	0.80	0.80	0.90	0.90	0.90	0.97	0.97	0.97
Percent Heavy Veh, %	1	3	3	0	5	13	10	17	1	0	29	8
Cap, veh/h	242	259	157	83	342	344	76	1592	825	100	1469	785
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.09	1.00	1.00	0.06	0.52	0.52
Sat Flow, veh/h	1236	1077	653	170	1419	1429	1645	3085	1599	1810	2798	1495
Grp Volume(v), veh/h	186	0	204	146	0	38	53	1071	287	77	734	27
Grp Sat Flow(s),veh/h/ln	1236	0	1729	1590	0	1429	1645	1543	1599	1810	1399	1495
Q Serve(g_s), s	13.8	0.0	10.2	0.2	0.0	2.1	3.1	0.0	0.0	4.2	16.9	0.9
Cycle Q Clear(g_c), s	24.1	0.0	10.2	10.3	0.0	2.1	3.1	0.0	0.0	4.2	16.9	0.9
Prop In Lane	1.00		0.38	0.18		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	242	0	417	425	0	344	76	1592	825	100	1469	785
V/C Ratio(X)	0.77	0.00	0.49	0.34	0.00	0.11	0.70	0.67	0.35	0.77	0.50	0.03
Avail Cap(c_a), veh/h	242	0	417	425	0	344	141	1592	825	156	1469	785
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.70	0.70	0.70	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.7	0.0	32.7	31.3	0.0	29.6	44.7	0.0	0.0	46.6	15.3	11.5
Incr Delay (d2), s/veh	14.2	0.0	1.1	0.6	0.0	0.2	9.3	1.6	0.8	14.2	1.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	0.0	4.9	3.4	0.0	0.8	1.6	0.4	0.2	2.5	6.8	0.4
LnGrp Delay(d),s/veh	57.9	0.0	33.7	31.9	0.0	29.8	54.0	1.6	0.8	60.8	16.5	11.6
LnGrp LOS	E		C	C		C	D	A	A	E	B	B
Approach Vol, veh/h		390			184			1411			838	
Approach Delay, s/veh		45.3			31.5			3.4			20.4	
Approach LOS		D			C			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.0	60.0		30.0	10.9	59.1		30.0
Change Period (Y+Rc), s	5.4	* 7.5		* 5.9	5.4	7.5		* 5.9
Max Green Setting (Gmax), s	8.6	* 49		* 24	8.6	48.5		* 24
Max Q Clear Time (g_c+I1), s	5.1	18.9		12.3	6.2	2.0		26.1
Green Ext Time (p_c), s	0.0	12.7		0.5	0.0	28.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	16.1
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	977	110	42	542	83	69	93	32	78	112	43
Future Volume (veh/h)	45	977	110	42	542	83	69	93	32	78	112	43
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1743	1610	1881	1900	1407	1759	1845	1858	1900	1759	1810	1696
Adj Flow Rate, veh/h	49	1062	120	48	616	94	78	106	36	84	120	46
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.88	0.88	0.88	0.93	0.93	0.93
Percent Heavy Veh, %	9	18	1	0	35	8	3	2	3	8	5	12
Cap, veh/h	76	1536	803	82	1342	750	104	149	51	110	215	171
Arrive On Green	0.05	0.50	0.50	0.05	0.50	0.50	0.06	0.11	0.11	0.07	0.12	0.12
Sat Flow, veh/h	1660	3059	1599	1810	2674	1495	1757	1328	451	1675	1810	1442
Grp Volume(v), veh/h	49	1062	120	48	616	94	78	0	142	84	120	46
Grp Sat Flow(s),veh/h/ln	1660	1530	1599	1810	1337	1495	1757	0	1779	1675	1810	1442
Q Serve(g_s), s	2.8	25.2	3.8	2.5	14.2	3.2	4.2	0.0	7.3	4.7	5.9	2.8
Cycle Q Clear(g_c), s	2.8	25.2	3.8	2.5	14.2	3.2	4.2	0.0	7.3	4.7	5.9	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	76	1536	803	82	1342	750	104	0	200	110	215	171
V/C Ratio(X)	0.64	0.69	0.15	0.58	0.46	0.13	0.75	0.00	0.71	0.77	0.56	0.27
Avail Cap(c_a), veh/h	524	2093	1094	571	1829	1023	555	0	842	529	857	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	18.0	12.7	44.5	15.3	12.6	44.0	0.0	40.7	43.7	39.5	38.1
Incr Delay (d2), s/veh	17.8	1.6	0.2	9.1	0.7	0.2	14.4	0.0	7.7	14.5	3.8	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	11.0	1.8	1.4	5.3	1.3	2.4	0.0	4.0	2.6	3.2	1.2
LnGrp Delay(d),s/veh	62.4	19.6	13.0	53.6	16.0	12.8	58.4	0.0	48.4	58.2	43.4	39.5
LnGrp LOS	E	B	B	D	B	B	E		D	E	D	D
Approach Vol, veh/h		1231			758			220			250	
Approach Delay, s/veh		20.7			18.0			52.0			47.6	
Approach LOS		C			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	55.2	11.9	18.0	9.9	55.2	12.5	17.4
Change Period (Y+Rc), s	5.6	7.5	* 6.3	6.7	5.6	7.5	* 6.3	6.7
Max Green Setting (Gmax), s	30.0	65.0	* 30	45.0	30.0	65.0	* 30	45.0
Max Q Clear Time (g_c+I1), s	4.8	16.2	6.2	7.9	4.5	27.2	6.7	9.3
Green Ext Time (p_c), s	0.2	11.8	0.3	1.4	0.1	20.6	0.3	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	25.4
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	744	25	40	522	22	31	39	81	23	26	28
Future Volume (veh/h)	15	744	25	40	522	22	31	39	81	23	26	28
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1496	1484	1696	1418	1624	1900	1676	1900	1900	1666	1624
Adj Flow Rate, veh/h	17	836	28	48	629	27	44	55	114	37	42	0
Adj No. of Lanes	1	2	1	1	2	1	0	1	0	0	1	1
Peak Hour Factor	0.89	0.89	0.89	0.83	0.83	0.83	0.71	0.71	0.71	0.62	0.62	0.62
Percent Heavy Veh, %	0	27	28	12	34	17	25	11	10	5	22	17
Cap, veh/h	455	1360	604	393	1485	761	90	86	144	147	140	254
Arrive On Green	0.02	0.48	0.48	0.10	0.55	0.55	0.18	0.18	0.18	0.18	0.18	0.00
Sat Flow, veh/h	1810	2843	1262	1616	2694	1380	211	468	782	458	763	1380
Grp Volume(v), veh/h	17	836	28	48	629	27	213	0	0	79	0	0
Grp Sat Flow(s),veh/h/ln	1810	1421	1262	1616	1347	1380	1460	0	0	1221	0	1380
Q Serve(g_s), s	0.4	18.3	1.0	1.0	11.5	0.8	7.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.4	18.3	1.0	1.0	11.5	0.8	11.6	0.0	0.0	4.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.21		0.54	0.47		1.00
Lane Grp Cap(c), veh/h	455	1360	604	393	1485	761	320	0	0	288	0	254
V/C Ratio(X)	0.04	0.61	0.05	0.12	0.42	0.04	0.66	0.00	0.00	0.27	0.00	0.00
Avail Cap(c_a), veh/h	671	2028	900	468	1922	985	738	0	0	676	0	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.7	16.2	11.7	9.7	11.1	8.6	32.7	0.0	0.0	29.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.1	0.1	0.2	0.9	0.1	3.4	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	7.5	0.4	0.5	4.5	0.3	5.0	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	10.8	18.3	11.8	9.8	11.9	8.7	36.0	0.0	0.0	30.0	0.0	0.0
LnGrp LOS	B	B	B	A	B	A	D			C		
Approach Vol, veh/h		881			704			213			79	
Approach Delay, s/veh		17.9			11.7			36.0			30.0	
Approach LOS		B			B			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.7	54.9		21.6	13.8	48.7		21.6
Change Period (Y+Rc), s	* 5.7	8.5		6.1	* 5.7	8.5		6.1
Max Green Setting (Gmax), s	* 12	60.0		40.0	* 12	60.0		40.0
Max Q Clear Time (g_c+I1), s	2.4	13.5		6.1	3.0	20.3		13.6
Green Ext Time (p_c), s	0.0	15.4		0.4	0.1	20.0		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	18.1
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	634	44	204	489	64	28	142	156	65	192	46
Future Volume (veh/h)	55	634	44	204	489	64	28	142	156	65	192	46
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1508	1900	1845	1545	1863	1900	1765	1792	1900	1878	1900
Adj Flow Rate, veh/h	62	720	50	217	520	68	31	156	171	84	249	60
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.94	0.94	0.94	0.91	0.91	0.91	0.77	0.77	0.77
Percent Heavy Veh, %	2	26	0	3	23	2	21	5	6	0	1	2
Cap, veh/h	420	1067	602	370	1230	664	92	406	471	257	453	109
Arrive On Green	0.05	0.37	0.37	0.10	0.42	0.42	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1774	2865	1615	1757	2935	1583	141	1312	1524	1070	1463	352
Grp Volume(v), veh/h	62	720	50	217	520	68	187	0	171	84	0	309
Grp Sat Flow(s),veh/h/ln	1774	1433	1615	1757	1467	1583	1453	0	1524	1070	0	1815
Q Serve(g_s), s	1.8	18.4	1.7	6.5	10.9	2.3	0.4	0.0	7.6	6.2	0.0	12.4
Cycle Q Clear(g_c), s	1.8	18.4	1.7	6.5	10.9	2.3	12.8	0.0	7.6	19.0	0.0	12.4
Prop In Lane	1.00		1.00	1.00		1.00	0.17		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	420	1067	602	370	1230	664	498	0	471	257	0	562
V/C Ratio(X)	0.15	0.67	0.08	0.59	0.42	0.10	0.38	0.00	0.36	0.33	0.00	0.55
Avail Cap(c_a), veh/h	834	1972	1111	698	2020	1090	912	0	874	539	0	1041
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.2	22.9	17.7	16.6	17.9	15.4	23.3	0.0	23.4	33.2	0.0	25.1
Incr Delay (d2), s/veh	0.1	2.1	0.2	0.9	0.6	0.2	1.0	0.0	1.0	2.7	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	7.5	0.8	3.2	4.5	1.0	3.6	0.0	3.3	2.0	0.0	6.7
LnGrp Delay(d),s/veh	15.3	25.0	17.9	17.6	18.5	15.5	24.3	0.0	24.4	35.8	0.0	28.1
LnGrp LOS	B	C	B	B	B	B	C		C	D		C
Approach Vol, veh/h		832			805			358			393	
Approach Delay, s/veh		23.8			18.0			24.4			29.7	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.3	43.0		33.0	15.3	38.9		33.0
Change Period (Y+Rc), s	* 6.6	6.4		* 6	* 6.6	6.4		* 6
Max Green Setting (Gmax), s	* 25	60.0		* 50	* 25	60.0		* 50
Max Q Clear Time (g_c+I1), s	3.8	12.9		21.0	8.5	20.4		14.8
Green Ext Time (p_c), s	0.1	8.8		6.0	0.3	12.1		3.8

Intersection Summary	
HCM 2010 Ctrl Delay	22.9
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	252	19	55	508	819	136
Future Volume (veh/h)	252	19	55	508	819	136
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1811	1900	1696	1712	1743	1681
Adj Flow Rate, veh/h	277	21	60	552	941	0
Adj No. of Lanes	0	0	1	2	2	1
Peak Hour Factor	0.91	0.91	0.92	0.92	0.87	0.87
Percent Heavy Veh, %	7	37	12	11	9	13
Cap, veh/h	317	24	489	2214	1419	612
Arrive On Green	0.20	0.20	0.38	1.00	0.43	0.00
Sat Flow, veh/h	1585	120	1616	3338	3399	1429
Grp Volume(v), veh/h	299	0	60	552	941	0
Grp Sat Flow(s),veh/h/ln	1711	0	1616	1626	1656	1429
Q Serve(g_s), s	14.9	0.0	0.0	0.0	20.0	0.0
Cycle Q Clear(g_c), s	14.9	0.0	0.0	0.0	20.0	0.0
Prop In Lane	0.93	0.07	1.00			1.00
Lane Grp Cap(c), veh/h	342	0	489	2214	1419	612
V/C Ratio(X)	0.87	0.00	0.12	0.25	0.66	0.00
Avail Cap(c_a), veh/h	540	0	489	2214	1419	612
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.96	0.96	1.00	0.00
Uniform Delay (d), s/veh	34.1	0.0	14.5	0.0	20.1	0.0
Incr Delay (d2), s/veh	9.4	0.0	0.1	0.3	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.0	0.8	0.1	9.5	0.0
LnGrp Delay(d),s/veh	43.5	0.0	14.6	0.3	22.5	0.0
LnGrp LOS	D		B	A	C	
Approach Vol, veh/h	299			612	941	
Approach Delay, s/veh	43.5			1.7	22.5	
Approach LOS	D			A	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		65.2		22.8	22.2	43.0		
Change Period (Y+Rc), s		5.3		* 5.2	5.3	* 5.3		
Max Green Setting (Gmax), s		49.7		* 28	6.8	* 38		
Max Q Clear Time (g_c+I1), s		2.0		16.9	2.0	22.0		
Green Ext Time (p_c), s		3.8		0.7	0.0	5.5		

Intersection Summary	
HCM 2010 Ctrl Delay	19.0
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	69	87	17	445	641	239
Future Volume (veh/h)	69	87	17	445	641	239
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1773	1900	1681	1712	1776	1759
Adj Flow Rate, veh/h	79	100	19	494	728	0
Adj No. of Lanes	0	0	1	2	2	1
Peak Hour Factor	0.87	0.87	0.90	0.90	0.88	0.88
Percent Heavy Veh, %	12	11	13	11	7	8
Cap, veh/h	94	119	493	2430	2228	988
Arrive On Green	0.14	0.14	0.03	0.75	0.66	0.00
Sat Flow, veh/h	695	880	1601	3338	3463	1495
Grp Volume(v), veh/h	180	0	19	494	728	0
Grp Sat Flow(s),veh/h/ln	1583	0	1601	1626	1687	1495
Q Serve(g_s), s	9.8	0.0	0.3	4.0	8.2	0.0
Cycle Q Clear(g_c), s	9.8	0.0	0.3	4.0	8.2	0.0
Prop In Lane	0.44	0.56	1.00			1.00
Lane Grp Cap(c), veh/h	215	0	493	2430	2228	988
V/C Ratio(X)	0.84	0.00	0.04	0.20	0.33	0.00
Avail Cap(c_a), veh/h	378	0	572	2430	2228	988
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.85	0.00
Uniform Delay (d), s/veh	37.1	0.0	4.4	3.3	6.5	0.0
Incr Delay (d2), s/veh	8.3	0.0	0.0	0.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	0.1	1.8	3.8	0.0
LnGrp Delay(d),s/veh	45.4	0.0	4.4	3.5	6.8	0.0
LnGrp LOS	D		A	A	A	
Approach Vol, veh/h	180			513	728	
Approach Delay, s/veh	45.4			3.5	6.8	
Approach LOS	D			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		71.0		17.0	7.6	63.4		
Change Period (Y+Rc), s		5.3		5.0	5.4	5.3		
Max Green Setting (Gmax), s		56.7		21.0	6.6	44.7		
Max Q Clear Time (g_c+I1), s		6.0		11.8	2.3	10.2		
Green Ext Time (p_c), s		3.3		0.3	0.0	5.1		

Intersection Summary	
HCM 2010 Ctrl Delay	10.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	65	778	13	105	784	120	1	94	87	69	92	57
Future Volume (veh/h)	65	778	13	105	784	120	1	94	87	69	92	57
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1520	1727	1810	1557	1863	1900	1810	1827	1759	1827	1727
Adj Flow Rate, veh/h	76	915	15	113	843	129	1	113	105	81	108	67
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	1	1	1
Peak Hour Factor	0.85	0.85	0.85	0.93	0.93	0.93	0.83	0.83	0.83	0.85	0.85	0.85
Percent Heavy Veh, %	6	25	10	5	22	2	0	5	4	8	4	10
Cap, veh/h	97	1577	802	141	1690	904	37	295	253	189	298	239
Arrive On Green	0.06	0.55	0.55	0.08	0.57	0.57	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1707	2888	1468	1723	2959	1583	3	1806	1553	1094	1827	1468
Grp Volume(v), veh/h	76	915	15	113	843	129	114	0	105	81	108	67
Grp Sat Flow(s),veh/h/ln	1707	1444	1468	1723	1480	1583	1809	0	1553	1094	1827	1468
Q Serve(g_s), s	4.4	21.0	0.5	6.4	17.1	3.8	0.0	0.0	6.1	7.1	5.3	4.0
Cycle Q Clear(g_c), s	4.4	21.0	0.5	6.4	17.1	3.8	5.6	0.0	6.1	12.8	5.3	4.0
Prop In Lane	1.00		1.00	1.00		1.00	0.01		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	97	1577	802	141	1690	904	331	0	253	189	298	239
V/C Ratio(X)	0.78	0.58	0.02	0.80	0.50	0.14	0.34	0.00	0.41	0.43	0.36	0.28
Avail Cap(c_a), veh/h	227	1577	802	229	1690	904	637	0	517	382	621	499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	15.1	10.4	45.1	12.9	10.0	37.4	0.0	37.6	43.1	37.2	36.7
Incr Delay (d2), s/veh	12.8	1.6	0.0	9.6	1.0	0.3	0.9	0.0	1.5	2.2	1.1	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	8.6	0.2	3.4	7.1	1.7	2.9	0.0	2.7	2.3	2.7	1.7
LnGrp Delay(d),s/veh	59.4	16.6	10.4	54.7	13.9	10.3	38.2	0.0	39.1	45.3	38.3	37.6
LnGrp LOS	E	B	B	D	B	B	D		D	D	D	D
Approach Vol, veh/h		1006			1085			219			256	
Approach Delay, s/veh		19.8			17.7			38.7			40.3	
Approach LOS		B			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	64.6		23.0	14.9	62.1		23.0
Change Period (Y+Rc), s	6.7	7.5		* 6.7	6.7	7.5		* 6.7
Max Green Setting (Gmax), s	13.3	32.5		* 34	13.3	32.5		* 33
Max Q Clear Time (g_c+I1), s	6.4	19.1		14.8	8.4	23.0		8.1
Green Ext Time (p_c), s	0.1	7.7		1.5	0.1	5.9		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	22.6
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	825	74	117	750	146	112
Future Volume (veh/h)	825	74	117	750	146	112
Number	2	12	1	6	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1484	1845	1863	1545	1863	1810
Adj Flow Rate, veh/h	859	77	121	773	174	133
Adj No. of Lanes	2	1	2	2	2	1
Peak Hour Factor	0.96	0.96	0.97	0.97	0.84	0.84
Percent Heavy Veh, %	28	3	2	23	2	5
Cap, veh/h	1833	1019	199	2253	387	173
Arrive On Green	0.65	0.65	0.06	0.77	0.11	0.11
Sat Flow, veh/h	2895	1568	3442	3012	3442	1538
Grp Volume(v), veh/h	859	77	121	773	174	133
Grp Sat Flow(s),veh/h/ln	1410	1568	1721	1467	1721	1538
Q Serve(g_s), s	15.3	1.8	3.4	8.3	4.7	8.4
Cycle Q Clear(g_c), s	15.3	1.8	3.4	8.3	4.7	8.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1833	1019	199	2253	387	173
V/C Ratio(X)	0.47	0.08	0.61	0.34	0.45	0.77
Avail Cap(c_a), veh/h	1833	1019	344	2253	509	228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.81	0.81	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.8	6.4	46.0	3.7	41.5	43.1
Incr Delay (d2), s/veh	0.7	0.1	4.2	0.4	1.8	16.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	0.8	1.7	3.5	2.3	4.4
LnGrp Delay(d),s/veh	9.5	6.6	50.2	4.1	43.2	59.8
LnGrp LOS	A	A	D	A	D	E
Approach Vol, veh/h	936			894	307	
Approach Delay, s/veh	9.3			10.3	50.4	
Approach LOS	A			B	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	11.8	71.8				83.6		16.4
Change Period (Y+Rc), s	6.0	* 6.8				* 6.8		5.2
Max Green Setting (Gmax), s	10.0	* 57				* 73		14.8
Max Q Clear Time (g_c+I1), s	5.4	17.3				10.3		10.4
Green Ext Time (p_c), s	0.2	15.8				14.4		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	15.6
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	140	84	26	893	918	107
Future Volume (veh/h)	140	84	26	893	918	107
Number	3	18	1	6	2	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1845	1900	1520	1462	1863
Adj Flow Rate, veh/h	165	99	30	1026	1009	118
Adj No. of Lanes	1	1	1	2	2	1
Peak Hour Factor	0.85	0.85	0.87	0.87	0.91	0.91
Percent Heavy Veh, %	1	3	0	25	30	2
Cap, veh/h	207	181	382	2118	1784	1017
Arrive On Green	0.12	0.12	0.07	1.00	0.64	0.64
Sat Flow, veh/h	1792	1568	1810	2964	2850	1583
Grp Volume(v), veh/h	165	99	30	1026	1009	118
Grp Sat Flow(s),veh/h/ln	1792	1568	1810	1444	1388	1583
Q Serve(g_s), s	9.0	6.0	0.5	0.0	20.4	2.9
Cycle Q Clear(g_c), s	9.0	6.0	0.5	0.0	20.4	2.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	207	181	382	2118	1784	1017
V/C Ratio(X)	0.80	0.55	0.08	0.48	0.57	0.12
Avail Cap(c_a), veh/h	269	235	489	2118	1784	1017
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.55	0.55	1.00	1.00
Uniform Delay (d), s/veh	43.1	41.7	7.1	0.0	10.0	6.9
Incr Delay (d2), s/veh	16.7	5.4	0.1	0.4	1.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	2.8	0.3	0.1	8.0	1.3
LnGrp Delay(d),s/veh	59.8	47.1	7.1	0.4	11.4	7.1
LnGrp LOS	E	D	A	A	B	A
Approach Vol, veh/h	264			1056	1127	
Approach Delay, s/veh	55.0			0.6	10.9	
Approach LOS	E			A	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.1	72.3				81.4		18.6
Change Period (Y+Rc), s	* 5.7	* 8.1				* 8.1		7.0
Max Green Setting (Gmax), s	* 9.3	* 55				* 70		15.0
Max Q Clear Time (g_c+I1), s	2.5	22.4				2.0		11.0
Green Ext Time (p_c), s	0.0	19.1				25.5		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	11.2
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	248	12	89	343	49	162	813	136	81	622	153
Future Volume (veh/h)	107	248	12	89	343	49	162	813	136	81	622	153
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1849	1900	1845	1845	1863	1845	1557	1759	1863	1450	1792
Adj Flow Rate, veh/h	124	288	14	96	369	53	200	1004	168	88	676	166
Adj No. of Lanes	1	2	0	1	2	1	1	2	1	1	2	1
Peak Hour Factor	0.86	0.86	0.86	0.93	0.93	0.93	0.81	0.81	0.81	0.92	0.92	0.92
Percent Heavy Veh, %	1	2	18	3	3	2	3	22	8	2	31	6
Cap, veh/h	257	562	27	273	528	238	167	1340	677	113	1162	643
Arrive On Green	0.08	0.16	0.16	0.06	0.15	0.15	0.09	0.45	0.45	0.02	0.14	0.14
Sat Flow, veh/h	1792	3412	165	1757	3505	1583	1757	2959	1495	1774	2756	1524
Grp Volume(v), veh/h	124	148	154	96	369	53	200	1004	168	88	676	166
Grp Sat Flow(s),veh/h/ln	1792	1757	1820	1757	1752	1583	1757	1480	1495	1774	1378	1524
Q Serve(g_s), s	5.8	7.7	7.7	4.6	10.0	2.9	9.5	28.1	6.9	4.9	23.0	9.7
Cycle Q Clear(g_c), s	5.8	7.7	7.7	4.6	10.0	2.9	9.5	28.1	6.9	4.9	23.0	9.7
Prop In Lane	1.00		0.09	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	257	289	300	273	528	238	167	1340	677	113	1162	643
V/C Ratio(X)	0.48	0.51	0.51	0.35	0.70	0.22	1.20	0.75	0.25	0.78	0.58	0.26
Avail Cap(c_a), veh/h	290	394	408	330	785	355	167	1340	677	169	1162	643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81	0.81	0.81
Uniform Delay (d), s/veh	32.7	38.1	38.1	33.0	40.3	37.3	45.3	22.7	16.9	48.2	34.8	29.1
Incr Delay (d2), s/veh	2.0	2.0	1.9	1.1	3.6	1.0	133.0	3.9	0.9	13.4	1.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	3.9	4.1	2.3	5.1	1.3	10.8	12.2	3.0	2.9	9.1	4.2
LnGrp Delay(d),s/veh	34.7	40.1	40.1	34.1	43.9	38.3	178.2	26.5	17.7	61.6	36.5	29.9
LnGrp LOS	C	D	D	C	D	D	F	C	B	E	D	C
Approach Vol, veh/h		426			518			1372			930	
Approach Delay, s/veh		38.5			41.5			47.6			37.7	
Approach LOS		D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	53.3	13.2	20.7	16.0	50.2	11.8	22.1
Change Period (Y+Rc), s	6.5	8.0	* 5.6	* 5.6	6.5	8.0	* 5.6	* 5.6
Max Green Setting (Gmax), s	9.5	33.0	* 9.4	* 22	9.5	33.0	* 9.4	* 22
Max Q Clear Time (g_c+I1), s	6.9	30.1	7.8	12.0	11.5	25.0	6.6	9.7
Green Ext Time (p_c), s	0.1	2.4	0.1	3.1	0.0	4.9	0.1	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	42.6
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	26	633	21	494	895	23	34	64	6	21	120	45
Future Volume (veh/h)	26	633	21	494	895	23	34	64	6	21	120	45
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1520	1712	1845	1597	1900	1900	1826	1900	1900	1886	1900
Adj Flow Rate, veh/h	30	736	24	543	984	25	43	81	8	26	150	56
Adj No. of Lanes	1	2	1	2	2	1	1	1	0	1	1	0
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.79	0.79	0.79	0.80	0.80	0.80
Percent Heavy Veh, %	0	25	11	3	19	0	0	2	25	0	1	0
Cap, veh/h	61	1293	651	666	1848	984	117	242	24	210	194	72
Arrive On Green	0.03	0.45	0.45	0.20	0.61	0.61	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1810	2888	1455	3408	3034	1615	1195	1636	162	1329	1311	489
Grp Volume(v), veh/h	30	736	24	543	984	25	43	0	89	26	0	206
Grp Sat Flow(s),veh/h/ln	1810	1444	1455	1704	1517	1615	1195	0	1797	1329	0	1800
Q Serve(g_s), s	1.6	18.9	0.9	15.2	18.8	0.6	3.6	0.0	4.4	1.8	0.0	11.0
Cycle Q Clear(g_c), s	1.6	18.9	0.9	15.2	18.8	0.6	14.6	0.0	4.4	6.2	0.0	11.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		0.27
Lane Grp Cap(c), veh/h	61	1293	651	666	1848	984	117	0	266	210	0	266
V/C Ratio(X)	0.49	0.57	0.04	0.82	0.53	0.03	0.37	0.00	0.33	0.12	0.00	0.77
Avail Cap(c_a), veh/h	132	1293	651	965	1848	984	117	0	266	210	0	266
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.5	20.5	15.5	38.5	11.3	7.8	48.0	0.0	38.2	41.0	0.0	41.0
Incr Delay (d2), s/veh	8.3	1.8	0.1	4.5	1.1	0.0	2.7	0.0	1.0	0.4	0.0	13.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	7.8	0.4	7.6	8.1	0.3	1.3	0.0	2.3	0.7	0.0	6.5
LnGrp Delay(d),s/veh	55.8	22.3	15.6	43.0	12.4	7.8	50.7	0.0	39.2	41.4	0.0	54.9
LnGrp LOS	E	C	B	D	B	A	D		D	D		D
Approach Vol, veh/h		790			1552			132			232	
Approach Delay, s/veh		23.4			23.0			43.0			53.4	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.1	69.9		21.0	25.2	53.8		21.0
Change Period (Y+Rc), s	* 5.7	9.0		6.2	* 5.7	9.0		6.2
Max Green Setting (Gmax), s	* 7.3	57.0		14.8	* 28	36.0		14.8
Max Q Clear Time (g_c+I1), s	3.6	20.8		13.0	17.2	20.9		16.6
Green Ext Time (p_c), s	0.0	17.3		0.3	2.3	7.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	26.7
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	116	882	65	32	859	55	40	61	52	49	55	170
Future Volume (veh/h)	116	882	65	32	859	55	40	61	52	49	55	170
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1508	1863	1827	1473	1776	1845	1900	1900	1900	1856	1810
Adj Flow Rate, veh/h	123	938	69	33	895	57	57	87	74	51	57	177
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.96	0.96	0.96	0.70	0.70	0.70	0.96	0.96	0.96
Percent Heavy Veh, %	12	26	2	4	29	7	3	0	0	5	0	5
Cap, veh/h	151	1633	903	63	1435	774	151	181	154	130	127	294
Arrive On Green	0.09	0.57	0.57	0.04	0.51	0.51	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1616	2865	1583	1740	2798	1509	1131	950	808	402	666	1538
Grp Volume(v), veh/h	123	938	69	33	895	57	57	0	161	108	0	177
Grp Sat Flow(s),veh/h/ln	1616	1433	1583	1740	1399	1509	1131	0	1757	1068	0	1538
Q Serve(g_s), s	7.5	20.9	2.0	1.9	22.9	1.9	4.9	0.0	8.2	4.0	0.0	10.5
Cycle Q Clear(g_c), s	7.5	20.9	2.0	1.9	22.9	1.9	17.1	0.0	8.2	12.1	0.0	10.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.46	0.47		1.00
Lane Grp Cap(c), veh/h	151	1633	903	63	1435	774	151	0	336	257	0	294
V/C Ratio(X)	0.82	0.57	0.08	0.53	0.62	0.07	0.38	0.00	0.48	0.42	0.00	0.60
Avail Cap(c_a), veh/h	233	1633	903	164	1435	774	153	0	339	260	0	297
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.5	13.7	9.7	47.4	17.5	12.3	45.6	0.0	36.0	38.0	0.0	37.0
Incr Delay (d2), s/veh	15.5	1.5	0.2	9.4	2.1	0.2	2.2	0.0	1.5	1.6	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	8.5	0.9	1.1	9.2	0.8	1.6	0.0	4.1	2.9	0.0	4.8
LnGrp Delay(d),s/veh	60.0	15.2	9.8	56.8	19.5	12.5	47.8	0.0	37.5	39.5	0.0	41.0
LnGrp LOS	E	B	A	E	B	B	D		D	D		D
Approach Vol, veh/h		1130			985			218			285	
Approach Delay, s/veh		19.8			20.4			40.2			40.4	
Approach LOS		B			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.9	60.3		24.8	9.2	66.0		24.8
Change Period (Y+Rc), s	* 5.6	9.0		5.7	* 5.6	9.0		5.7
Max Green Setting (Gmax), s	* 14	46.0		19.3	* 9.4	51.0		19.3
Max Q Clear Time (g_c+I1), s	9.5	24.9		14.1	3.9	22.9		19.1
Green Ext Time (p_c), s	0.2	11.8		0.8	0.0	14.8		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	23.9
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	42	794	31	93	1426	70	18	2	83	7	1	4
Future Volume (veh/h)	42	794	31	93	1426	70	18	2	83	7	1	4
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1545	1900	1827	1667	1900	1681	1762	1900	1900	1696	1900
Adj Flow Rate, veh/h	48	913	36	107	1639	80	22	2	100	12	2	7
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	0	1	1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.83	0.83	0.83	0.60	0.60	0.60
Percent Heavy Veh, %	3	23	0	4	14	0	13	0	8	14	0	0
Cap, veh/h	78	1818	1000	135	2068	1055	132	3	174	123	15	190
Arrive On Green	0.04	0.62	0.62	0.08	0.65	0.65	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1757	2935	1615	1740	3167	1615	1264	29	1473	478	128	1615
Grp Volume(v), veh/h	48	913	36	107	1639	80	22	0	102	14	0	7
Grp Sat Flow(s),veh/h/ln	1757	1467	1615	1740	1583	1615	1264	0	1502	606	0	1615
Q Serve(g_s), s	2.7	17.2	0.9	6.0	37.2	1.8	1.7	0.0	6.4	0.6	0.0	0.4
Cycle Q Clear(g_c), s	2.7	17.2	0.9	6.0	37.2	1.8	8.7	0.0	6.4	7.1	0.0	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.98	0.86		1.00
Lane Grp Cap(c), veh/h	78	1818	1000	135	2068	1055	132	0	177	138	0	190
V/C Ratio(X)	0.62	0.50	0.04	0.79	0.79	0.08	0.17	0.00	0.58	0.10	0.00	0.04
Avail Cap(c_a), veh/h	237	1818	1000	235	2068	1055	147	0	195	153	0	210
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.58	0.58	0.58	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.0	10.5	7.4	45.3	12.5	6.3	46.2	0.0	41.7	42.4	0.0	39.1
Incr Delay (d2), s/veh	10.9	1.0	0.1	8.2	1.9	0.1	0.8	0.0	4.6	0.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	7.1	0.4	3.2	16.7	0.8	0.6	0.0	2.9	0.4	0.0	0.2
LnGrp Delay(d),s/veh	57.8	11.5	7.5	53.5	14.4	6.4	47.0	0.0	46.3	42.9	0.0	39.2
LnGrp LOS	E	B	A	D	B	A	D		D	D		D
Approach Vol, veh/h		997			1826			124			21	
Approach Delay, s/veh		13.6			16.3			46.4			41.6	
Approach LOS		B			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.9	72.3		17.8	13.3	68.9		17.8
Change Period (Y+Rc), s	5.5	7.0		6.0	5.5	7.0		6.0
Max Green Setting (Gmax), s	13.5	55.0		13.0	13.5	55.0		13.0
Max Q Clear Time (g_c+I1), s	4.7	39.2		9.1	8.0	19.2		10.7
Green Ext Time (p_c), s	0.1	14.2		0.0	0.2	15.9		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.8
HCM 2010 LOS	B

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	261	121	91	37	152	52	32	600	123	70	825	12
Future Volume (veh/h)	261	121	91	37	152	52	32	600	123	70	825	12
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1814	1900	1900	1793	1681	1827	1473	1881	1845	1624	1900
Adj Flow Rate, veh/h	307	142	107	57	234	80	35	659	135	76	897	13
Adj No. of Lanes	1	1	0	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.85	0.85	0.85	0.65	0.65	0.65	0.91	0.91	0.91	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	7	14	4	13	4	29	1	3	17	0
Cap, veh/h	129	270	204	92	312	402	65	1330	760	98	1523	797
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.07	0.95	0.95	0.06	0.49	0.49
Sat Flow, veh/h	1061	962	725	173	1110	1429	1740	2798	1599	1757	3085	1615
Grp Volume(v), veh/h	307	0	249	291	0	80	35	659	135	76	897	13
Grp Sat Flow(s),veh/h/ln	1061	0	1686	1284	0	1429	1740	1399	1599	1757	1543	1615
Q Serve(g_s), s	5.4	0.0	12.5	10.3	0.0	4.3	1.9	2.2	0.5	4.3	20.8	0.4
Cycle Q Clear(g_c), s	28.1	0.0	12.5	22.7	0.0	4.3	1.9	2.2	0.5	4.3	20.8	0.4
Prop In Lane	1.00		0.43	0.20		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	129	0	474	404	0	402	65	1330	760	98	1523	797
V/C Ratio(X)	2.38	0.00	0.53	0.72	0.00	0.20	0.54	0.50	0.18	0.77	0.59	0.02
Avail Cap(c_a), veh/h	129	0	474	404	0	402	167	1330	760	221	1523	797
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	0.0	30.3	34.3	0.0	27.4	45.4	1.4	1.3	46.6	18.1	12.9
Incr Delay (d2), s/veh	644.7	0.0	1.1	6.4	0.0	0.3	7.0	1.1	0.4	14.4	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.6	0.0	6.0	8.3	0.0	1.7	1.1	0.8	0.3	2.5	9.2	0.2
LnGrp Delay(d),s/veh	693.5	0.0	31.4	40.8	0.0	27.7	52.4	2.5	1.8	61.0	19.7	13.0
LnGrp LOS	F		C	D		C	D	A	A	E	B	B
Approach Vol, veh/h		556			371			829			986	
Approach Delay, s/veh		397.0			38.0			4.5			22.8	
Approach LOS		F			D			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.1	56.9		34.0	11.0	55.0		34.0
Change Period (Y+Rc), s	5.4	* 7.5		* 5.9	5.4	7.5		* 5.9
Max Green Setting (Gmax), s	9.6	* 44		* 28	12.6	40.5		* 28
Max Q Clear Time (g_c+I1), s	3.9	22.8		24.7	6.3	4.2		30.1
Green Ext Time (p_c), s	0.0	12.4		0.5	0.1	13.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	95.2
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	547	81	12	991	125	110	119	35	112	130	62
Future Volume (veh/h)	72	547	81	12	991	125	110	119	35	112	130	62
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1624	1473	1845	1583	1681	1597	1881	1817	1900	1681	1696	1827
Adj Flow Rate, veh/h	82	622	92	14	1166	147	139	151	44	127	148	70
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	1	1
Peak Hour Factor	0.88	0.88	0.88	0.85	0.85	0.85	0.79	0.79	0.79	0.88	0.88	0.88
Percent Heavy Veh, %	17	29	3	20	13	19	1	5	3	13	12	4
Cap, veh/h	105	1465	821	28	1516	644	173	190	55	155	240	220
Arrive On Green	0.07	0.52	0.52	0.02	0.47	0.47	0.10	0.14	0.14	0.10	0.14	0.14
Sat Flow, veh/h	1547	2798	1568	1508	3195	1357	1792	1353	394	1601	1696	1553
Grp Volume(v), veh/h	82	622	92	14	1166	147	139	0	195	127	148	70
Grp Sat Flow(s),veh/h/ln	1547	1399	1568	1508	1597	1357	1792	0	1748	1601	1696	1553
Q Serve(g_s), s	6.2	16.1	3.5	1.1	35.8	7.6	9.0	0.0	12.8	9.2	9.7	4.8
Cycle Q Clear(g_c), s	6.2	16.1	3.5	1.1	35.8	7.6	9.0	0.0	12.8	9.2	9.7	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	105	1465	821	28	1516	644	173	0	246	155	240	220
V/C Ratio(X)	0.78	0.42	0.11	0.50	0.77	0.23	0.81	0.00	0.79	0.82	0.62	0.32
Avail Cap(c_a), veh/h	391	1535	860	382	1752	744	454	0	664	405	644	590
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	17.3	14.3	57.6	25.8	18.4	52.5	0.0	49.3	52.5	47.9	45.7
Incr Delay (d2), s/veh	23.3	0.5	0.2	18.0	2.8	0.5	11.7	0.0	9.4	13.7	4.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	6.3	1.5	0.6	16.3	2.9	5.0	0.0	6.8	4.7	4.9	2.1
LnGrp Delay(d),s/veh	77.6	17.8	14.5	75.6	28.6	18.8	64.2	0.0	58.7	66.2	52.2	47.2
LnGrp LOS	E	B	B	E	C	B	E		E	E	D	D
Approach Vol, veh/h		796			1327			334			345	
Approach Delay, s/veh		23.6			28.0			61.0			56.3	
Approach LOS		C			C			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.6	63.7	17.7	23.5	7.8	69.5	17.8	23.4
Change Period (Y+Rc), s	5.6	7.5	* 6.3	6.7	5.6	7.5	* 6.3	6.7
Max Green Setting (Gmax), s	30.0	65.0	* 30	45.0	30.0	65.0	* 30	45.0
Max Q Clear Time (g_c+I1), s	8.2	37.8	11.0	11.7	3.1	18.1	11.2	14.8
Green Ext Time (p_c), s	0.4	18.4	0.5	1.8	0.0	11.7	0.5	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	34.2
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	749	39	99	731	38	27	31	45	28	63	29
Future Volume (veh/h)	26	749	39	99	731	38	27	31	45	28	63	29
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1712	1418	1827	1900	1473	1845	1900	1812	1900	1900	1749	1900
Adj Flow Rate, veh/h	30	861	45	105	778	40	28	33	47	36	82	0
Adj No. of Lanes	1	2	1	1	2	1	0	1	0	0	1	1
Peak Hour Factor	0.87	0.87	0.87	0.94	0.94	0.94	0.95	0.95	0.95	0.77	0.77	0.77
Percent Heavy Veh, %	11	34	4	0	29	3	9	4	3	17	5	0
Cap, veh/h	406	1338	771	478	1649	924	90	89	97	103	179	224
Arrive On Green	0.04	0.50	0.50	0.13	0.59	0.59	0.14	0.14	0.14	0.14	0.14	0.00
Sat Flow, veh/h	1630	2694	1553	1810	2798	1568	267	643	701	345	1285	1615
Grp Volume(v), veh/h	30	861	45	105	778	40	108	0	0	118	0	0
Grp Sat Flow(s),veh/h/ln	1630	1347	1553	1810	1399	1568	1610	0	0	1630	0	1615
Q Serve(g_s), s	0.8	20.3	1.3	1.9	13.6	0.9	0.0	0.0	0.0	0.4	0.0	0.0
Cycle Q Clear(g_c), s	0.8	20.3	1.3	1.9	13.6	0.9	5.0	0.0	0.0	5.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.26		0.44	0.31		1.00
Lane Grp Cap(c), veh/h	406	1338	771	478	1649	924	277	0	0	281	0	224
V/C Ratio(X)	0.07	0.64	0.06	0.22	0.47	0.04	0.39	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	575	1881	1084	499	1954	1095	775	0	0	787	0	752
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.8	16.0	11.2	9.1	10.0	7.4	34.0	0.0	0.0	34.2	0.0	0.0
Incr Delay (d2), s/veh	0.1	2.4	0.1	0.3	1.0	0.1	1.3	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	8.0	0.6	0.9	5.4	0.4	2.4	0.0	0.0	2.7	0.0	0.0
LnGrp Delay(d),s/veh	9.9	18.4	11.4	9.4	11.0	7.5	35.3	0.0	0.0	35.2	0.0	0.0
LnGrp LOS	A	B	B	A	B	A	D			D		
Approach Vol, veh/h		936			923			108			118	
Approach Delay, s/veh		17.8			10.7			35.3			35.2	
Approach LOS		B			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.8	59.1		18.0	16.7	51.2		18.0
Change Period (Y+Rc), s	* 5.7	8.5		6.1	* 5.7	8.5		6.1
Max Green Setting (Gmax), s	* 12	60.0		40.0	* 12	60.0		40.0
Max Q Clear Time (g_c+I1), s	2.8	15.6		7.4	3.9	22.3		7.0
Green Ext Time (p_c), s	0.0	19.7		0.6	0.2	20.3		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	16.5
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	644	38	195	829	36	33	227	222	91	201	93
Future Volume (veh/h)	51	644	38	195	829	36	33	227	222	91	201	93
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1484	1792	1759	1545	1776	1900	1813	1792	1881	1863	1900
Adj Flow Rate, veh/h	53	671	40	207	882	38	41	280	274	121	268	124
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.81	0.81	0.81	0.75	0.75	0.75
Percent Heavy Veh, %	0	28	6	8	23	7	17	3	6	1	2	2
Cap, veh/h	225	960	519	320	1158	596	82	523	600	227	475	220
Arrive On Green	0.04	0.34	0.34	0.10	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1810	2820	1524	1675	2935	1509	117	1327	1524	859	1206	558
Grp Volume(v), veh/h	53	671	40	207	882	38	321	0	274	121	0	392
Grp Sat Flow(s),veh/h/ln	1810	1410	1524	1675	1467	1509	1443	0	1524	859	0	1764
Q Serve(g_s), s	2.1	23.3	2.0	8.7	29.4	1.8	3.6	0.0	15.0	15.0	0.0	19.5
Cycle Q Clear(g_c), s	2.1	23.3	2.0	8.7	29.4	1.8	23.1	0.0	15.0	38.1	0.0	19.5
Prop In Lane	1.00		1.00	1.00		1.00	0.13		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	225	960	519	320	1158	596	605	0	600	227	0	695
V/C Ratio(X)	0.24	0.70	0.08	0.65	0.76	0.06	0.53	0.00	0.46	0.53	0.00	0.56
Avail Cap(c_a), veh/h	547	1498	809	528	1559	802	684	0	674	268	0	781
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.7	32.2	25.2	23.3	29.6	21.2	26.0	0.0	25.3	43.2	0.0	26.7
Incr Delay (d2), s/veh	0.3	2.6	0.2	1.3	3.1	0.1	1.5	0.0	1.2	6.9	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	9.4	0.9	4.1	12.4	0.8	8.4	0.0	6.5	4.0	0.0	10.0
LnGrp Delay(d),s/veh	25.1	34.8	25.4	24.6	32.7	21.4	27.6	0.0	26.4	50.1	0.0	29.3
LnGrp LOS	C	C	C	C	C	C	C		C	D		C
Approach Vol, veh/h		764			1127			595			513	
Approach Delay, s/veh		33.6			30.8			27.0			34.2	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	51.0		50.5	17.6	44.8		50.5
Change Period (Y+Rc), s	* 6.6	6.4		* 6	* 6.6	6.4		* 6
Max Green Setting (Gmax), s	* 25	60.0		* 50	* 25	60.0		* 50
Max Q Clear Time (g_c+I1), s	4.1	31.4		40.1	10.7	25.3		25.1
Green Ext Time (p_c), s	0.1	13.2		4.4	0.3	10.6		6.3

Intersection Summary	
HCM 2010 Ctrl Delay	31.4
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	313	30	75	906	1395	151
Future Volume (veh/h)	313	30	75	906	1395	151
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1918	1900	1727	1845	1863	1810
Adj Flow Rate, veh/h	356	34	82	985	1484	0
Adj No. of Lanes	0	0	1	2	2	1
Peak Hour Factor	0.88	0.88	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	3	3	10	3	2	5
Cap, veh/h	397	38	330	2242	1516	659
Arrive On Green	0.24	0.24	0.30	1.00	0.43	0.00
Sat Flow, veh/h	1646	157	1645	3597	3632	1538
Grp Volume(v), veh/h	391	0	82	985	1484	0
Grp Sat Flow(s),veh/h/ln	1808	0	1645	1752	1770	1538
Q Serve(g_s), s	18.4	0.0	0.0	0.0	36.3	0.0
Cycle Q Clear(g_c), s	18.4	0.0	0.0	0.0	36.3	0.0
Prop In Lane	0.91	0.09	1.00			1.00
Lane Grp Cap(c), veh/h	436	0	330	2242	1516	659
V/C Ratio(X)	0.90	0.00	0.25	0.44	0.98	0.00
Avail Cap(c_a), veh/h	571	0	330	2242	1516	659
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.92	0.92	1.00	0.00
Uniform Delay (d), s/veh	32.3	0.0	26.1	0.0	24.8	0.0
Incr Delay (d2), s/veh	14.0	0.0	0.4	0.6	18.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	0.0	1.4	0.2	21.4	0.0
LnGrp Delay(d),s/veh	46.3	0.0	26.4	0.6	43.3	0.0
LnGrp LOS	D		C	A	D	
Approach Vol, veh/h	391			1067	1484	
Approach Delay, s/veh	46.3			2.6	43.3	
Approach LOS	D			A	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		61.6		26.4	18.6	43.0		
Change Period (Y+Rc), s		5.3		* 5.2	5.3	* 5.3		
Max Green Setting (Gmax), s		49.7		* 28	6.8	* 38		
Max Q Clear Time (g_c+I1), s		2.0		20.4	2.0	38.3		
Green Ext Time (p_c), s		7.9		0.8	0.1	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	28.9
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	69	77	24	901	1060	386
Future Volume (veh/h)	69	77	24	901	1060	386
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1828	1900	1743	1863	1863	1845
Adj Flow Rate, veh/h	83	93	26	979	1128	0
Adj No. of Lanes	0	0	1	2	2	1
Peak Hour Factor	0.83	0.83	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	16	1	9	2	2	3
Cap, veh/h	100	112	410	2664	2333	1034
Arrive On Green	0.13	0.13	0.03	0.75	0.88	0.00
Sat Flow, veh/h	768	861	1660	3632	3632	1568
Grp Volume(v), veh/h	177	0	26	979	1128	0
Grp Sat Flow(s),veh/h/ln	1638	0	1660	1770	1770	1568
Q Serve(g_s), s	9.3	0.0	0.4	8.3	6.0	0.0
Cycle Q Clear(g_c), s	9.3	0.0	0.4	8.3	6.0	0.0
Prop In Lane	0.47	0.53	1.00			1.00
Lane Grp Cap(c), veh/h	213	0	410	2664	2333	1034
V/C Ratio(X)	0.83	0.00	0.06	0.37	0.48	0.00
Avail Cap(c_a), veh/h	391	0	481	2664	2333	1034
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.49	0.00
Uniform Delay (d), s/veh	37.3	0.0	4.0	3.7	2.2	0.0
Incr Delay (d2), s/veh	8.0	0.0	0.1	0.4	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	0.2	4.1	2.9	0.0
LnGrp Delay(d),s/veh	45.3	0.0	4.1	4.1	2.6	0.0
LnGrp LOS	D		A	A	A	
Approach Vol, veh/h	177			1005	1128	
Approach Delay, s/veh	45.3			4.1	2.6	
Approach LOS	D			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		71.5		16.5	8.2	63.3		
Change Period (Y+Rc), s		5.3		5.0	5.4	5.3		
Max Green Setting (Gmax), s		56.7		21.0	6.6	44.7		
Max Q Clear Time (g_c+I1), s		10.3		11.3	2.4	8.0		
Green Ext Time (p_c), s		7.8		0.3	0.0	9.2		

Intersection Summary	
HCM 2010 Ctrl Delay	6.5
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	84	977	13	209	994	135	4	159	180	119	175	100
Future Volume (veh/h)	84	977	13	209	994	135	4	159	180	119	175	100
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1583	1900	1881	1583	1827	1900	1846	1845	1827	1881	1776
Adj Flow Rate, veh/h	88	1028	14	225	1069	145	5	194	220	138	203	116
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.93	0.93	0.93	0.82	0.82	0.82	0.86	0.86	0.86
Percent Heavy Veh, %	12	20	0	1	20	4	0	3	3	4	1	7
Cap, veh/h	110	1170	628	238	1365	705	40	491	422	244	506	406
Arrive On Green	0.07	0.39	0.39	0.13	0.45	0.45	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1616	3008	1615	1792	3008	1553	12	1825	1568	950	1881	1509
Grp Volume(v), veh/h	88	1028	14	225	1069	145	199	0	220	138	203	116
Grp Sat Flow(s),veh/h/ln	1616	1504	1615	1792	1504	1553	1837	0	1568	950	1881	1509
Q Serve(g_s), s	5.4	31.7	0.5	12.5	30.1	5.6	0.0	0.0	11.9	13.9	8.8	6.1
Cycle Q Clear(g_c), s	5.4	31.7	0.5	12.5	30.1	5.6	8.8	0.0	11.9	22.8	8.8	6.1
Prop In Lane	1.00		1.00	1.00		1.00	0.03		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	110	1170	628	238	1365	705	531	0	422	244	506	406
V/C Ratio(X)	0.80	0.88	0.02	0.94	0.78	0.21	0.37	0.00	0.52	0.57	0.40	0.29
Avail Cap(c_a), veh/h	215	1170	628	238	1365	705	647	0	522	311	640	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.85	0.85	0.85	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	28.4	18.8	43.0	23.1	16.5	29.9	0.0	31.1	39.3	29.9	28.9
Incr Delay (d2), s/veh	12.5	9.5	0.1	38.9	3.9	0.6	0.6	0.0	1.4	2.9	0.7	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	14.7	0.2	8.8	13.2	2.5	4.6	0.0	5.3	3.8	4.7	2.6
LnGrp Delay(d),s/veh	58.4	37.9	18.9	81.9	27.0	17.0	30.6	0.0	32.5	42.2	30.7	29.5
LnGrp LOS	E	D	B	F	C	B	C		C	D	C	C
Approach Vol, veh/h		1130			1439			419			457	
Approach Delay, s/veh		39.2			34.6			31.6			33.8	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.5	52.9		33.6	20.0	46.4		33.6
Change Period (Y+Rc), s	6.7	7.5		* 6.7	6.7	7.5		* 6.7
Max Green Setting (Gmax), s	13.3	32.5		* 34	13.3	32.5		* 33
Max Q Clear Time (g_c+I1), s	7.4	32.1		24.8	14.5	33.7		13.9
Green Ext Time (p_c), s	0.1	0.3		2.2	0.0	0.0		2.7

Intersection Summary			
HCM 2010 Ctrl Delay		35.7	
HCM 2010 LOS		D	

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	1180	117	145	1002	243	215
Future Volume (veh/h)	1180	117	145	1002	243	215
Number	2	12	1	6	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1610	1881	1900	1583	1900	1881
Adj Flow Rate, veh/h	1255	124	161	1113	270	239
Adj No. of Lanes	2	1	2	2	2	1
Peak Hour Factor	0.94	0.94	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	18	1	0	20	0	1
Cap, veh/h	1850	967	236	2202	520	237
Arrive On Green	0.60	0.60	0.07	0.73	0.15	0.15
Sat Flow, veh/h	3140	1599	3510	3088	3510	1599
Grp Volume(v), veh/h	1255	124	161	1113	270	239
Grp Sat Flow(s),veh/h/ln	1530	1599	1755	1504	1755	1599
Q Serve(g_s), s	27.5	3.3	4.5	15.7	7.1	14.8
Cycle Q Clear(g_c), s	27.5	3.3	4.5	15.7	7.1	14.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1850	967	236	2202	520	237
V/C Ratio(X)	0.68	0.13	0.68	0.51	0.52	1.01
Avail Cap(c_a), veh/h	1850	967	421	2202	520	237
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.2	8.5	45.6	5.7	39.3	42.6
Incr Delay (d2), s/veh	1.1	0.2	4.9	0.8	1.8	61.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.1
%ile BackOfQ(50%),veh/ln	11.8	1.5	2.3	6.6	3.6	10.5
LnGrp Delay(d),s/veh	14.4	8.6	50.5	6.5	41.1	103.7
LnGrp LOS	B	A	D	A	D	F
Approach Vol, veh/h	1379			1274	509	
Approach Delay, s/veh	13.9			12.1	70.5	
Approach LOS	B			B	E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.7	67.3				80.0		20.0
Change Period (Y+Rc), s	6.0	* 6.8				* 6.8		5.2
Max Green Setting (Gmax), s	12.0	* 55				* 73		14.8
Max Q Clear Time (g_c+I1), s	6.5	29.5				17.7		16.8
Green Ext Time (p_c), s	0.3	18.4				23.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	22.3
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	204	133	15	1091	1288	104
Future Volume (veh/h)	204	133	15	1091	1288	104
Number	3	18	1	6	2	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1881	1900	1624	1638	1881
Adj Flow Rate, veh/h	300	196	16	1161	1431	116
Adj No. of Lanes	1	1	1	2	2	1
Peak Hour Factor	0.68	0.68	0.94	0.94	0.90	0.90
Percent Heavy Veh, %	2	1	0	17	16	1
Cap, veh/h	343	309	194	2024	1797	923
Arrive On Green	0.19	0.19	0.04	1.00	0.58	0.58
Sat Flow, veh/h	1774	1599	1810	3167	3194	1599
Grp Volume(v), veh/h	300	196	16	1161	1431	116
Grp Sat Flow(s),veh/h/ln	1774	1599	1810	1543	1556	1599
Q Serve(g_s), s	16.4	11.3	0.3	0.0	36.0	3.3
Cycle Q Clear(g_c), s	16.4	11.3	0.3	0.0	36.0	3.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	343	309	194	2024	1797	923
V/C Ratio(X)	0.88	0.63	0.08	0.57	0.80	0.13
Avail Cap(c_a), veh/h	373	336	287	2024	1797	923
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.55	0.55	1.00	1.00
Uniform Delay (d), s/veh	39.2	37.1	14.5	0.0	16.5	9.6
Incr Delay (d2), s/veh	21.2	5.4	0.1	0.7	3.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	5.5	0.2	0.2	16.2	1.5
LnGrp Delay(d),s/veh	60.4	42.5	14.7	0.7	20.3	9.9
LnGrp LOS	E	D	B	A	C	A
Approach Vol, veh/h	496			1177	1547	
Approach Delay, s/veh	53.4			0.8	19.5	
Approach LOS	D			A	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.9	65.8				73.7		26.3
Change Period (Y+Rc), s	* 5.7	* 8.1				* 8.1		7.0
Max Green Setting (Gmax), s	* 7.3	* 51				* 64		21.0
Max Q Clear Time (g_c+I1), s	2.3	38.0				2.0		18.4
Green Ext Time (p_c), s	0.0	11.5				29.5		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	17.9
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	411	24	201	459	155	65	751	148	197	990	207
Future Volume (veh/h)	155	411	24	201	459	155	65	751	148	197	990	207
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1900	1900	1863	1900	1881	1900	1508	1863	1845	1583	1863
Adj Flow Rate, veh/h	189	501	29	228	522	176	73	844	166	212	1065	223
Adj No. of Lanes	1	2	0	1	2	1	1	2	1	1	2	1
Peak Hour Factor	0.82	0.82	0.82	0.88	0.88	0.88	0.89	0.89	0.89	0.93	0.93	0.93
Percent Heavy Veh, %	1	0	0	2	0	1	0	26	2	3	20	2
Cap, veh/h	288	620	36	291	645	286	95	1018	563	184	1227	646
Arrive On Green	0.10	0.18	0.18	0.10	0.18	0.18	0.05	0.36	0.36	0.03	0.13	0.13
Sat Flow, veh/h	1792	3469	200	1774	3610	1599	1810	2865	1583	1757	3008	1583
Grp Volume(v), veh/h	189	260	270	228	522	176	73	844	166	212	1065	223
Grp Sat Flow(s),veh/h/ln	1792	1805	1865	1774	1805	1599	1810	1433	1583	1757	1504	1583
Q Serve(g_s), s	8.5	13.8	13.9	10.4	13.9	10.2	4.0	26.9	7.6	10.5	34.7	12.8
Cycle Q Clear(g_c), s	8.5	13.8	13.9	10.4	13.9	10.2	4.0	26.9	7.6	10.5	34.7	12.8
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	323	333	291	645	286	95	1018	563	184	1227	646
V/C Ratio(X)	0.66	0.81	0.81	0.78	0.81	0.62	0.77	0.83	0.30	1.15	0.87	0.35
Avail Cap(c_a), veh/h	288	350	362	291	700	310	190	1018	563	184	1227	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.59	0.59	0.59
Uniform Delay (d), s/veh	30.0	39.4	39.4	31.0	39.4	37.9	46.8	29.5	23.2	48.3	40.6	31.2
Incr Delay (d2), s/veh	6.0	13.0	12.9	13.7	7.9	5.2	16.6	7.8	1.3	97.8	5.3	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	8.0	8.3	6.2	7.6	4.9	2.4	11.8	3.5	10.1	15.4	5.8
LnGrp Delay(d),s/veh	36.0	52.5	52.4	44.7	47.3	43.1	63.4	37.3	24.5	146.1	45.9	32.0
LnGrp LOS	D	D	D	D	D	D	E	D	C	F	D	C
Approach Vol, veh/h		719			926			1083			1500	
Approach Delay, s/veh		48.1			45.9			37.1			58.0	
Approach LOS		D			D			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	43.5	16.0	23.5	11.8	48.8	16.0	23.5
Change Period (Y+Rc), s	6.5	8.0	* 5.6	* 5.6	6.5	8.0	* 5.6	* 5.6
Max Green Setting (Gmax), s	10.5	34.0	* 10	* 19	10.5	34.0	* 10	* 19
Max Q Clear Time (g_c+I1), s	12.5	28.9	10.5	15.9	6.0	36.7	12.4	15.9
Green Ext Time (p_c), s	0.0	3.8	0.0	2.0	0.1	0.0	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	48.3
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	40	1081	69	455	853	11	68	147	21	13	92	49
Future Volume (veh/h)	40	1081	69	455	853	11	68	147	21	13	92	49
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1597	1900	1863	1583	1900	1863	1851	1900	1759	1851	1900
Adj Flow Rate, veh/h	41	1114	71	489	917	12	83	179	26	16	115	61
Adj No. of Lanes	1	2	1	2	2	1	1	1	0	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.93	0.93	0.93	0.82	0.82	0.82	0.80	0.80	0.80
Percent Heavy Veh, %	6	19	0	2	20	0	2	3	0	8	3	2
Cap, veh/h	70	1414	753	575	1782	956	148	250	36	128	180	96
Arrive On Green	0.04	0.47	0.47	0.17	0.59	0.59	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1707	3034	1615	3442	3008	1615	1204	1581	230	1107	1140	605
Grp Volume(v), veh/h	41	1114	71	489	917	12	83	0	205	16	0	176
Grp Sat Flow(s),veh/h/ln	1707	1517	1615	1721	1504	1615	1204	0	1811	1107	0	1744
Q Serve(g_s), s	2.4	31.0	2.5	13.8	17.9	0.3	6.4	0.0	10.7	1.4	0.0	9.4
Cycle Q Clear(g_c), s	2.4	31.0	2.5	13.8	17.9	0.3	15.8	0.0	10.7	12.1	0.0	9.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.35
Lane Grp Cap(c), veh/h	70	1414	753	575	1782	956	148	0	286	128	0	276
V/C Ratio(X)	0.59	0.79	0.09	0.85	0.51	0.01	0.56	0.00	0.72	0.13	0.00	0.64
Avail Cap(c_a), veh/h	244	1414	753	664	1782	956	148	0	286	128	0	276
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.1	22.5	14.9	40.4	12.0	8.4	47.1	0.0	40.0	45.7	0.0	39.4
Incr Delay (d2), s/veh	10.8	4.5	0.2	9.9	1.1	0.0	5.8	0.0	9.0	0.6	0.0	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	13.7	1.1	7.3	7.7	0.1	2.5	0.0	6.1	0.4	0.0	5.0
LnGrp Delay(d),s/veh	57.9	27.1	15.2	50.3	13.0	8.4	52.9	0.0	49.0	46.4	0.0	45.0
LnGrp LOS	E	C	B	D	B	A	D		D	D		D
Approach Vol, veh/h		1226			1418			288			192	
Approach Delay, s/veh		27.4			25.8			50.1			45.1	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.8	68.2		22.0	22.4	55.6		22.0
Change Period (Y+Rc), s	* 5.7	9.0		6.2	* 5.7	9.0		6.2
Max Green Setting (Gmax), s	* 14	49.0		15.8	* 19	44.0		15.8
Max Q Clear Time (g_c+I1), s	4.4	19.9		14.1	15.8	33.0		17.8
Green Ext Time (p_c), s	0.1	14.1		0.2	0.9	8.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	29.9
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	239	1322	90	58	883	76	60	100	72	76	74	212
Future Volume (veh/h)	239	1322	90	58	883	76	60	100	72	76	74	212
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1583	1845	1863	1473	1863	1900	1861	1900	1900	1881	1881
Adj Flow Rate, veh/h	246	1363	93	62	949	82	66	110	79	80	78	223
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	0	1	1
Peak Hour Factor	0.97	0.97	0.97	0.93	0.93	0.93	0.91	0.91	0.91	0.95	0.95	0.95
Percent Heavy Veh, %	2	20	3	2	29	2	0	0	5	2	0	1
Cap, veh/h	222	1977	1030	81	1616	914	90	210	151	128	111	333
Arrive On Green	0.13	0.66	0.66	0.05	0.58	0.58	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	3008	1568	1774	2798	1583	1095	1009	724	396	533	1599
Grp Volume(v), veh/h	246	1363	93	62	949	82	66	0	189	158	0	223
Grp Sat Flow(s),veh/h/ln	1774	1504	1568	1774	1399	1583	1095	0	1733	929	0	1599
Q Serve(g_s), s	15.0	34.1	2.6	4.1	26.0	2.8	3.3	0.0	11.6	10.1	0.0	15.4
Cycle Q Clear(g_c), s	15.0	34.1	2.6	4.1	26.0	2.8	25.0	0.0	11.6	21.7	0.0	15.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.42	0.51		1.00
Lane Grp Cap(c), veh/h	222	1977	1030	81	1616	914	90	0	361	239	0	333
V/C Ratio(X)	1.11	0.69	0.09	0.77	0.59	0.09	0.73	0.00	0.52	0.66	0.00	0.67
Avail Cap(c_a), veh/h	222	1977	1030	222	1616	914	90	0	361	239	0	333
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.5	12.9	7.5	56.6	16.2	11.3	59.3	0.0	42.2	48.8	0.0	43.7
Incr Delay (d2), s/veh	92.8	2.0	0.2	19.3	1.6	0.2	28.4	0.0	1.8	7.5	0.0	5.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.0	14.6	1.2	2.5	10.4	1.3	2.9	0.0	5.8	5.6	0.0	7.3
LnGrp Delay(d),s/veh	145.3	14.9	7.7	75.9	17.8	11.5	87.7	0.0	44.1	56.3	0.0	49.4
LnGrp LOS	F	B	A	E	B	B	F		D	E		D
Approach Vol, veh/h		1702			1093			255			381	
Approach Delay, s/veh		33.4			20.6			55.3			52.3	
Approach LOS		C			C			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.6	78.6		30.7	11.1	88.1		30.7
Change Period (Y+Rc), s	* 5.6	9.0		5.7	* 5.6	9.0		5.7
Max Green Setting (Gmax), s	* 15	60.0		25.0	* 15	60.0		25.0
Max Q Clear Time (g_c+I1), s	17.0	28.0		23.7	6.1	36.1		27.0
Green Ext Time (p_c), s	0.0	16.3		0.3	0.1	18.5		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	33.0
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	14	1404	39	103	1295	7	40	1	164	44	7	36
Future Volume (veh/h)	14	1404	39	103	1295	7	40	1	164	44	7	36
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1624	1845	1863	1652	1900	1900	1863	1900	1900	1900	1900
Adj Flow Rate, veh/h	15	1494	41	110	1378	7	41	1	169	92	15	75
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.97	0.97	0.97	0.48	0.48	0.48
Percent Heavy Veh, %	0	17	3	2	15	0	0	0	2	0	0	0
Cap, veh/h	37	1595	811	139	1804	928	142	2	346	208	29	355
Arrive On Green	0.02	0.52	0.52	0.08	0.57	0.57	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1810	3085	1568	1774	3139	1615	1327	9	1576	640	133	1615
Grp Volume(v), veh/h	15	1494	41	110	1378	7	41	0	170	107	0	75
Grp Sat Flow(s),veh/h/ln	1810	1543	1568	1774	1570	1615	1327	0	1585	773	0	1615
Q Serve(g_s), s	0.8	45.3	1.3	6.1	33.3	0.2	3.0	0.0	9.4	7.3	0.0	3.8
Cycle Q Clear(g_c), s	0.8	45.3	1.3	6.1	33.3	0.2	19.7	0.0	9.4	16.7	0.0	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.99	0.86		1.00
Lane Grp Cap(c), veh/h	37	1595	811	139	1804	928	142	0	348	237	0	355
V/C Ratio(X)	0.41	0.94	0.05	0.79	0.76	0.01	0.29	0.00	0.49	0.45	0.00	0.21
Avail Cap(c_a), veh/h	136	1595	811	204	1804	928	169	0	380	263	0	388
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.63	0.63	0.63	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.4	22.6	12.0	45.3	16.1	9.1	46.3	0.0	34.1	40.6	0.0	31.9
Incr Delay (d2), s/veh	9.9	11.8	0.1	10.2	2.0	0.0	1.6	0.0	1.5	1.9	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	21.7	0.6	3.4	14.9	0.1	1.2	0.0	4.3	2.9	0.0	1.7
LnGrp Delay(d),s/veh	58.2	34.4	12.1	55.5	18.1	9.1	47.8	0.0	35.6	42.6	0.0	32.3
LnGrp LOS	E	C	B	E	B	A	D		D	D		C
Approach Vol, veh/h		1550			1495			211			182	
Approach Delay, s/veh		34.0			20.8			38.0			38.4	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.5	64.5		28.0	13.3	58.7		28.0
Change Period (Y+Rc), s	5.5	7.0		6.0	5.5	7.0		6.0
Max Green Setting (Gmax), s	7.5	50.0		24.0	11.5	46.0		24.0
Max Q Clear Time (g_c+I1), s	2.8	35.3		18.7	8.1	47.3		21.7
Green Ext Time (p_c), s	0.0	12.1		0.5	0.1	0.0		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	28.7
HCM 2010 LOS	C

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	216	150	92	36	157	52	62	1218	325	82	772	29
Future Volume (veh/h)	216	150	92	36	157	52	62	1218	325	82	772	29
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1845	1900	1900	1826	1681	1727	1624	1881	1900	1473	1759
Adj Flow Rate, veh/h	277	192	118	45	196	65	69	1353	361	85	796	30
Adj No. of Lanes	1	1	0	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.78	0.78	0.78	0.80	0.80	0.80	0.90	0.90	0.90	0.97	0.97	0.97
Percent Heavy Veh, %	1	3	3	0	5	13	10	17	1	0	29	8
Cap, veh/h	72	258	159	65	218	344	86	1576	817	109	1452	776
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.10	1.00	1.00	0.06	0.52	0.52
Sat Flow, veh/h	1125	1071	658	93	903	1429	1645	3085	1599	1810	2798	1495
Grp Volume(v), veh/h	277	0	310	241	0	65	69	1353	361	85	796	30
Grp Sat Flow(s),veh/h/ln	1125	0	1729	996	0	1429	1645	1543	1599	1810	1399	1495
Q Serve(g_s), s	0.0	0.0	16.6	7.5	0.0	3.6	4.1	0.0	0.0	4.6	19.1	1.0
Cycle Q Clear(g_c), s	24.1	0.0	16.6	24.1	0.0	3.6	4.1	0.0	0.0	4.6	19.1	1.0
Prop In Lane	1.00		0.38	0.19		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	72	0	417	283	0	344	86	1576	817	109	1452	776
V/C Ratio(X)	3.85	0.00	0.74	0.85	0.00	0.19	0.80	0.86	0.44	0.78	0.55	0.04
Avail Cap(c_a), veh/h	72	0	417	283	0	344	141	1576	817	156	1452	776
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.30	0.30	0.30	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.0	0.0	35.1	37.8	0.0	30.2	44.3	0.0	0.0	46.3	16.2	11.8
Incr Delay (d2), s/veh	1314.2	0.0	7.3	21.6	0.0	0.3	6.3	2.1	0.5	16.3	1.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.3	0.0	8.8	8.3	0.0	1.5	2.0	0.4	0.1	2.8	7.6	0.4
LnGrp Delay(d),s/veh	1364.2	0.0	42.4	59.4	0.0	30.5	50.6	2.1	0.5	62.7	17.7	11.9
LnGrp LOS	F		D	E		C	D	A	A	E	B	B
Approach Vol, veh/h		587			306			1783			911	
Approach Delay, s/veh		666.2			53.3			3.6			21.7	
Approach LOS		F			D			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.6	59.4		30.0	11.4	58.6		30.0
Change Period (Y+Rc), s	5.4	* 7.5		* 5.9	5.4	7.5		* 5.9
Max Green Setting (Gmax), s	8.6	* 49		* 24	8.6	48.5		* 24
Max Q Clear Time (g_c+I1), s	6.1	21.1		26.1	6.6	2.0		26.1
Green Ext Time (p_c), s	0.0	13.3		0.0	0.0	36.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	120.9
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	1203	133	51	638	100	76	101	35	89	126	48
Future Volume (veh/h)	58	1203	133	51	638	100	76	101	35	89	126	48
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1743	1610	1881	1900	1407	1759	1845	1858	1900	1759	1810	1696
Adj Flow Rate, veh/h	63	1308	145	58	725	114	86	115	40	96	135	52
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.88	0.88	0.88	0.93	0.93	0.93
Percent Heavy Veh, %	9	18	1	0	35	8	3	2	3	8	5	12
Cap, veh/h	83	1627	851	81	1409	788	113	153	53	123	226	180
Arrive On Green	0.05	0.53	0.53	0.04	0.53	0.53	0.06	0.12	0.12	0.07	0.13	0.13
Sat Flow, veh/h	1660	3059	1599	1810	2674	1495	1757	1319	459	1675	1810	1442
Grp Volume(v), veh/h	63	1308	145	58	725	114	86	0	155	96	135	52
Grp Sat Flow(s),veh/h/ln	1660	1530	1599	1810	1337	1495	1757	0	1777	1675	1810	1442
Q Serve(g_s), s	4.2	39.0	5.2	3.5	19.6	4.4	5.4	0.0	9.4	6.3	7.9	3.6
Cycle Q Clear(g_c), s	4.2	39.0	5.2	3.5	19.6	4.4	5.4	0.0	9.4	6.3	7.9	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	83	1627	851	81	1409	788	113	0	206	123	226	180
V/C Ratio(X)	0.76	0.80	0.17	0.71	0.51	0.14	0.76	0.00	0.75	0.78	0.60	0.29
Avail Cap(c_a), veh/h	447	1784	932	487	1559	872	473	0	717	451	730	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.3	21.3	13.4	52.5	17.1	13.5	51.3	0.0	47.8	50.8	46.1	44.3
Incr Delay (d2), s/veh	25.9	3.4	0.3	15.2	0.8	0.2	14.1	0.0	9.2	14.1	4.3	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	17.1	2.4	2.1	7.4	1.8	3.0	0.0	5.1	3.4	4.2	1.5
LnGrp Delay(d),s/veh	78.2	24.8	13.7	67.8	17.9	13.7	65.4	0.0	56.9	64.9	50.4	45.8
LnGrp LOS	E	C	B	E	B	B	E		E	E	D	D
Approach Vol, veh/h		1516			897			241			283	
Approach Delay, s/veh		25.9			20.6			60.0			54.4	
Approach LOS		C			C			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	66.3	13.4	20.6	10.6	66.8	14.5	19.6
Change Period (Y+Rc), s	5.6	7.5	* 6.3	6.7	5.6	7.5	* 6.3	6.7
Max Green Setting (Gmax), s	30.0	65.0	* 30	45.0	30.0	65.0	* 30	45.0
Max Q Clear Time (g_c+I1), s	6.2	21.6	7.4	9.9	5.5	41.0	8.3	11.4
Green Ext Time (p_c), s	0.3	14.1	0.3	1.5	0.2	18.3	0.3	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	29.8
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCS Two-Way Stop-Control Report

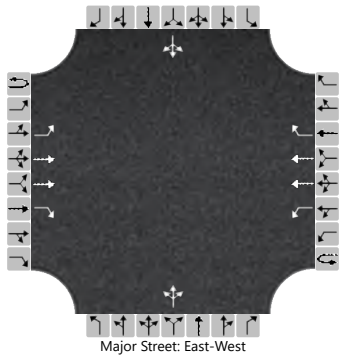
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/16/2022
Analysis Year	2022
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	US 30 PEL KOSCIUSKO CO

Site Information

Intersection	US 30 AND BEECH RD
Jurisdiction	
East/West Street	US 30
North/South Street	BEECH RD
Peak Hour Factor	0.96
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	R		L	T	R			LTR				LTR	
Volume (veh/h)	0	1	587	2	0	0	456	1		3	1	0		1	2	1
Percent Heavy Vehicles (%)	0	0			0	0				0	0	0		0	50	100
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No										
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	7.50	8.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.50	4.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				0					4				4	
Capacity, c (veh/h)		1097				976					353				328	
v/c Ratio		0.00				0.00					0.01				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.0	
Control Delay (s/veh)		8.3				8.7					15.3				16.1	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)		0.0				0.0				15.3				16.1		
Approach LOS		A				A				C				C		

HCS Two-Way Stop-Control Report

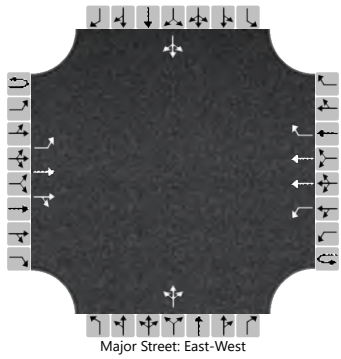
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/16/2022
Analysis Year	2022
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	US 30 PEL KOSCIUSKO CO

Site Information

Intersection	US 30 AND CR 800 W
Jurisdiction	
East/West Street	US 30
North/South Street	CR 800 W
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	TR		L	T	R			LTR				LTR	
Volume (veh/h)	0	8	588	3	0	4	405	36		3	19	6		40	21	7
Percent Heavy Vehicles (%)	0	13			0	25				0	0	33		5	5	14
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized						No										
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.36				4.60				7.50	6.50	7.56		7.60	6.60	7.18
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.33				2.45				3.50	4.00	3.63		3.55	4.05	3.44

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		9				4					30				74	
Capacity, c (veh/h)		1006				798					353				371	
v/c Ratio		0.01				0.01					0.09				0.20	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.3				0.7	
Control Delay (s/veh)		8.6				9.5					16.2				17.1	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)		0.1				0.1				16.2				17.1		
Approach LOS		A				A				C				C		

HCS Two-Way Stop-Control Report

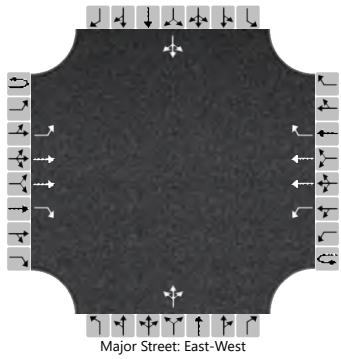
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/16/2022
Analysis Year	2022
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	US 30 PEL KOSCIUSKO CO

Site Information

Intersection	US 30 AND FOX FARM RD
Jurisdiction	
East/West Street	US 30
North/South Street	FOX FARM RD
Peak Hour Factor	0.91
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	R		L	T	R			LTR				LTR	
Volume (veh/h)	0	0	466	3	0	12	441	21		2	2	9		13	4	2
Percent Heavy Vehicles (%)	0	0			0	25				50	0	44		62	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No										
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.60				8.50	6.50	7.78		8.74	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.45				4.00	4.00	3.74		4.12	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				13					14				21	
Capacity, c (veh/h)		1068				902					489				322	
v/c Ratio		0.00				0.01					0.03				0.06	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.1				0.2	
Control Delay (s/veh)		8.4				9.1					12.6				17.0	
Level of Service (LOS)		A				A					B				C	
Approach Delay (s/veh)		0.0				0.2				12.6				17.0		
Approach LOS		A				A				B				C		

HCS Two-Way Stop-Control Report

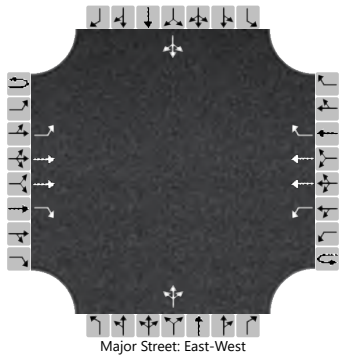
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/16/2022
Analysis Year	2022
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	US 30 PEL KOSCIUSKO CO

Site Information

Intersection	US 30 AND BEECH RD
Jurisdiction	
East/West Street	US 30
North/South Street	BEECH RD
Peak Hour Factor	0.98
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	R		L	T	R			LTR				LTR	
Volume (veh/h)	0	1	601	1	0	0	661	2		8	3	0		1	5	0
Percent Heavy Vehicles (%)	0	0			0	0				0	0	0		100	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No										
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		9.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		4.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				0					11				6	
Capacity, c (veh/h)		925				975					320				264	
v/c Ratio		0.00				0.00					0.04				0.02	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.1				0.1	
Control Delay (s/veh)		8.9				8.7					16.7				18.9	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)		0.0				0.0				16.7				18.9		
Approach LOS		A				A				C				C		

HCS Two-Way Stop-Control Report

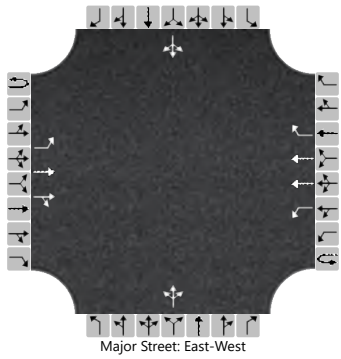
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/16/2022
Analysis Year	2022
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	US 30 PEL KOSCIUSKO CO

Site Information

Intersection	US 30 AND CR 800 W
Jurisdiction	
East/West Street	US 30
North/South Street	CR 800 W
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	TR		L	T	R			LTR				LTR	
Volume (veh/h)	0	4	553	6	0	4	658	38		1	24	3		54	86	9
Percent Heavy Vehicles (%)	0	0			0	0				0	8	33		4	3	22
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized						No										
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.66	7.56		7.58	6.56	7.34
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.08	3.63		3.54	4.03	3.52

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4				4					30				162	
Capacity, c (veh/h)		863				981					272				283	
v/c Ratio		0.01				0.00					0.11				0.57	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.4				3.3	
Control Delay (s/veh)		9.2				8.7					19.9				33.4	
Level of Service (LOS)		A				A					C				D	
Approach Delay (s/veh)		0.1				0.0				19.9				33.4		
Approach LOS		A				A				C				D		

HCS Two-Way Stop-Control Report

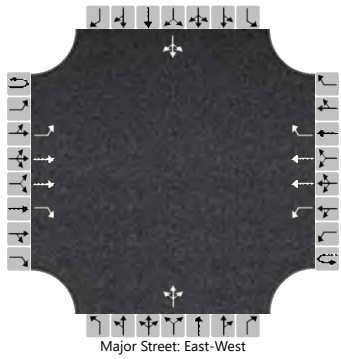
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/16/2022
Analysis Year	2022
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	US 30 PEL KOSCIUSKO CO

Site Information

Intersection	US 30 AND FOX FARM RD
Jurisdiction	
East/West Street	US 30
North/South Street	FOX FARM RD
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	R		L	T	R			LTR				LTR	
Volume (veh/h)	0	3	552	3	0	9	668	13		4	4	22		12	8	5
Percent Heavy Vehicles (%)	0	33			0	11				0	0	0		17	13	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No										
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.76				4.32				7.50	6.50	6.90		7.84	6.76	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.53				2.31				3.50	4.00	3.30		3.67	4.13	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		3				10					33				28	
Capacity, c (veh/h)		675				900					502				282	
v/c Ratio		0.00				0.01					0.07				0.10	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.2				0.3	
Control Delay (s/veh)		10.4				9.0					12.7				19.2	
Level of Service (LOS)		B				A					B				C	
Approach Delay (s/veh)		0.1				0.1				12.7				19.2		
Approach LOS		A				A				B				C		

HCS Two-Way Stop-Control Report

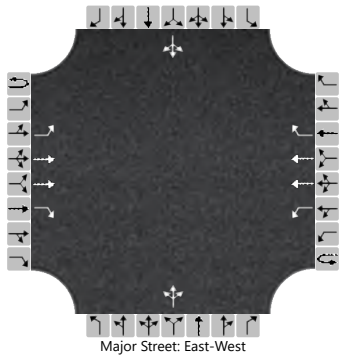
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/16/2022
Analysis Year	2045
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	US 30 PEL KOSCIUSKO CO

Site Information

Intersection	US 30 AND BEECH RD
Jurisdiction	
East/West Street	US 30
North/South Street	BEECH RD
Peak Hour Factor	0.96
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	R		L	T	R			LTR				LTR	
Volume (veh/h)	0	1	777	2	0	0	537	1		4	1	0		1	2	1
Percent Heavy Vehicles (%)	0	0			0	0				0	0	0		0	50	100
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No										
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	7.50	8.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.50	4.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				0					5				4	
Capacity, c (veh/h)		1021				824					273				265	
v/c Ratio		0.00				0.00					0.02				0.02	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.1				0.0	
Control Delay (s/veh)		8.5				9.4					18.4				18.8	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)		0.0				0.0				18.4				18.8		
Approach LOS		A				A				C				C		

HCS Two-Way Stop-Control Report

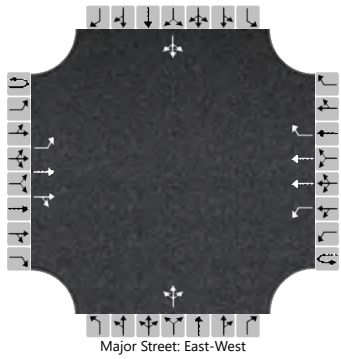
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/16/2022
Analysis Year	2045
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	US 30 PEL KOSCIUSKO CO

Site Information

Intersection	US 30 AND CR 800 W
Jurisdiction	
East/West Street	US 30
North/South Street	CR 800 W
Peak Hour Factor	0.97
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	TR		L	T	R			LTR				LTR	
Volume (veh/h)	0	11	785	4	0	5	477	43		3	21	6		45	24	7
Percent Heavy Vehicles (%)	0	13			0	25				0	0	0		5	5	14
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized					No											
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.36				4.60				7.50	6.50	6.90		7.60	6.60	7.18
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.33				2.45				3.50	4.00	3.30		3.55	4.05	3.44

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		11				5					31				78	
Capacity, c (veh/h)		955				677					294				313	
v/c Ratio		0.01				0.01					0.11				0.25	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.3				1.0	
Control Delay (s/veh)		8.8				10.4					18.7				20.3	
Level of Service (LOS)		A				B					C				C	
Approach Delay (s/veh)	0.1				0.1				18.7				20.3			
Approach LOS	A				A				C				C			

HCS Two-Way Stop-Control Report

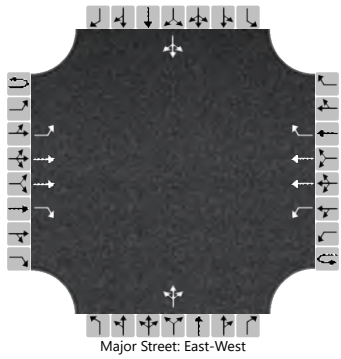
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/16/2022
Analysis Year	2045
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	US 30 PEL KOSCIUSKO CO

Site Information

Intersection	US 30 AND FOX FARM RD
Jurisdiction	
East/West Street	US 30
North/South Street	FOX FARM RD
Peak Hour Factor	0.91
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	R		L	T	R			LTR				LTR	
Volume (veh/h)	0	0	615	4	0	15	533	25		2	2	9		13	4	2
Percent Heavy Vehicles (%)	0	0			0	25				50	0	44		62	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No										
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.60				8.50	6.50	7.78		8.74	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.45				4.00	4.00	3.74		4.12	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				16					14				21	
Capacity, c (veh/h)		976				770					406				259	
v/c Ratio		0.00				0.02					0.04				0.08	
95% Queue Length, Q_{95} (veh)		0.0				0.1					0.1				0.3	
Control Delay (s/veh)		8.7				9.8					14.2				20.1	
Level of Service (LOS)		A				A					B				C	
Approach Delay (s/veh)		0.0				0.3				14.2				20.1		
Approach LOS		A				A				B				C		

HCS Two-Way Stop-Control Report

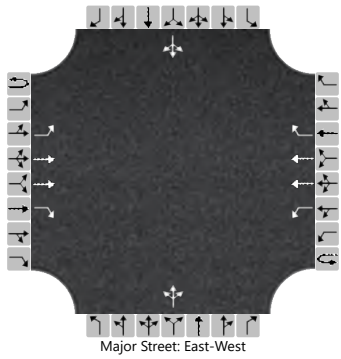
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/16/2022
Analysis Year	2045
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	US 30 PEL KOSCIUSKO CO

Site Information

Intersection	US 30 AND BEECH RD
Jurisdiction	
East/West Street	US 30
North/South Street	BEECH RD
Peak Hour Factor	0.98
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	R		L	T	R			LTR				LTR	
Volume (veh/h)	0	1	796	1	0	0	781	2		11	4	0		1	7	0
Percent Heavy Vehicles (%)	0	0			0	0				0	0	0		100	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No										
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		9.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		4.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				0					15				8	
Capacity, c (veh/h)		833				822					246				213	
v/c Ratio		0.00				0.00					0.06				0.04	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.2				0.1	
Control Delay (s/veh)		9.3				9.4					20.6				22.6	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)		0.0				0.0				20.6				22.6		
Approach LOS		A				A				C				C		

HCS Two-Way Stop-Control Report

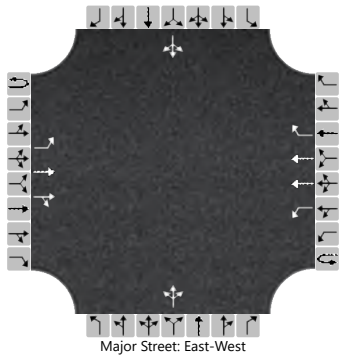
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/16/2022
Analysis Year	2045
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	US 30 PEL KOSCIUSKO CO

Site Information

Intersection	US 30 AND CR 800 W
Jurisdiction	
East/West Street	US 30
North/South Street	CR 800 W
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	TR		L	T	R			LTR				LTR	
Volume (veh/h)	0	5	737	9	0	4	776	45		1	28	3		62	98	10
Percent Heavy Vehicles (%)	0	0			0	0				0	8	33		4	3	22
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized						No										
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.66	7.56		7.58	6.56	7.34
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.08	3.63		3.54	4.03	3.52

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		5				4					34				183	
Capacity, c (veh/h)		775				830					213				226	
v/c Ratio		0.01				0.01					0.16				0.81	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.6				6.0	
Control Delay (s/veh)		9.7				9.4					25.2				65.1	
Level of Service (LOS)		A				A					D				F	
Approach Delay (s/veh)		0.1				0.0				25.2				65.1		
Approach LOS		A				A				D				F		

HCS Two-Way Stop-Control Report

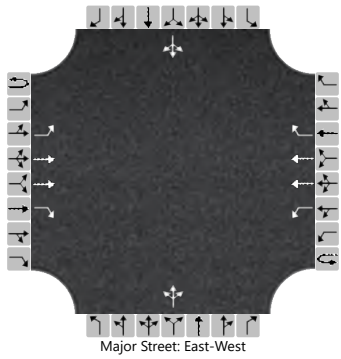
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/16/2022
Analysis Year	2045
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	US 30 PEL KOSCIUSKO CO

Site Information

Intersection	US 30 AND FOX FARM RD
Jurisdiction	
East/West Street	US 30
North/South Street	FOX FARM RD
Peak Hour Factor	0.91
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	R		L	T	R			LTR				LTR	
Volume (veh/h)	0	4	728	4	0	10	807	15		4	4	22		12	8	5
Percent Heavy Vehicles (%)	0	33			0	11				0	0	0		17	13	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No										
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.76				4.32				7.50	6.50	6.90		7.84	6.76	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.53				2.31				3.50	4.00	3.30		3.67	4.13	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4				11					33				27	
Capacity, c (veh/h)		582				760					413				222	
v/c Ratio		0.01				0.01					0.08				0.12	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.3				0.4	
Control Delay (s/veh)		11.2				9.8					14.5				23.5	
Level of Service (LOS)		B				A					B				C	
Approach Delay (s/veh)		0.1				0.1				14.5				23.5		
Approach LOS		A				A				B				C		

HCS Freeway Diverge Report

Project Information			
Analyst	WSP	Date	3/29/2023
Agency	WSP	Analysis Year	2022
Jurisdiction	INDOT	Time Analyzed	AM PEAK
Project Description	US 30 EB DIVERGE TO SR 15	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	400
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	475	164
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	26.00	12.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.794	0.893
Flow Rate (v_i), pc/h	636	195
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.09	0.10

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.446
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	117
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	60.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.735	Outer Lanes Freeway Speed (S_O), mi/h	82.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	519	Ramp Junction Speed (S), mi/h	63.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	3.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	5.1

HCS Freeway Diverge Report

Project Information			
Analyst	WSP	Date	3/29/2023
Agency	WSP	Analysis Year	2022
Jurisdiction	INDOT	Time Analyzed	PM PEAK
Project Description	US 30 EB DIVERGE TO SR 15	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	400
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	575	154
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	28.00	16.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.781	0.862
Flow Rate (v_i), pc/h	783	190
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.11	0.10

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.445
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	159
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	60.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.732	Outer Lanes Freeway Speed (S_O), mi/h	82.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	624	Ramp Junction Speed (S), mi/h	64.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	4.1
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.0

HCS Freeway Diverge Report

Project Information			
Analyst	WSP	Date	3/29/2023
Agency	WSP	Analysis Year	2045
Jurisdiction	INDOT	Time Analyzed	AM PEAK
Project Description	US 30 EB DIVERGE TO SR 15	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	400
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	650	156
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	26.00	12.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.794	0.893
Flow Rate (v_i), pc/h	871	186
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.12	0.09

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.445
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	185
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	60.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.730	Outer Lanes Freeway Speed (S_O), mi/h	82.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	686	Ramp Junction Speed (S), mi/h	64.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	4.5
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.6

HCS Freeway Diverge Report

Project Information			
Analyst	WSP	Date	3/29/2023
Agency	WSP	Analysis Year	2045
Jurisdiction	INDOT	Time Analyzed	PM PEAK
Project Description	US 30 EB DIVERGE TO SR 15	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	400
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	725	146
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	28.00	16.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.781	0.862
Flow Rate (v_i), pc/h	988	180
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.14	0.09

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.444
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	221
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	60.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.727	Outer Lanes Freeway Speed (S_O), mi/h	82.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	767	Ramp Junction Speed (S), mi/h	64.5

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	5.1
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	7.2

HCS Freeway Merge Report

Project Information			
Analyst	Mike MacNeill	Date	3/29/2023
Agency	WSP	Analysis Year	2022
Jurisdiction	INDOT	Time Analyzed	AM PEAK
Project Description	US 30 EB Merge from SR 15	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	475	212
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	26.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.794	0.885
Flow Rate (v_i), pc/h	636	255
Capacity (c_{md}), pc/h	4800	2000
Adjusted Capacity (c_{md}), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.19	0.13

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.275
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	66.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	75.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	636	Ramp Junction Speed (S), mi/h	66.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	891	Average Density (D), pc/mi/ln	6.7
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	7.4

HCS Freeway Merge Report

Project Information			
Analyst	Mike MacNeill	Date	3/29/2023
Agency	WSP	Analysis Year	2022
Jurisdiction	INDOT	Time Analyzed	PM PEAK
Project Description	US 30 EB Merge from SR 15	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	575	339
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	28.00	9.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.781	0.917
Flow Rate (v_i), pc/h	783	393
Capacity (c_{md}), pc/h	4800	2000
Adjusted Capacity (c_{md}), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.25	0.20

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.278
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	66.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	75.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	783	Ramp Junction Speed (S), mi/h	66.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1176	Average Density (D), pc/mi/ln	8.9
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	9.5

HCS Freeway Merge Report

Project Information			
Analyst	Mike MacNeill	Date	3/29/2023
Agency	WSP	Analysis Year	2045
Jurisdiction	INDOT	Time Analyzed	AM PEAK
Project Description	US 30 EB Merge from SR 15	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	650	256
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	26.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.794	0.885
Flow Rate (v_i), pc/h	871	308
Capacity (c_{md}), pc/h	4800	2000
Adjusted Capacity (c_{md}), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.25	0.15

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.278
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	66.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	75.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	871	Ramp Junction Speed (S), mi/h	66.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1179	Average Density (D), pc/mi/ln	8.9
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	9.6

HCS Freeway Merge Report

Project Information			
Analyst	Mike MacNeill	Date	3/29/2023
Agency	WSP	Analysis Year	2045
Jurisdiction	INDOT	Time Analyzed	PM PEAK
Project Description	US 30 EB Merge from SR 15	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	725	410
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	28.00	9.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.781	0.917
Flow Rate (v_i), pc/h	988	476
Capacity (c_{md}), pc/h	4800	2000
Adjusted Capacity (c_{md}), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.31	0.24

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.282
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	66.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	75.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	988	Ramp Junction Speed (S), mi/h	66.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1464	Average Density (D), pc/mi/ln	11.1
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	11.7

HCS Freeway Diverge Report

Project Information			
Analyst	WSP	Date	3/29/2023
Agency	WSP	Analysis Year	2022
Jurisdiction	INDOT	Time Analyzed	AM PEAK
Project Description	US 30 WB DIVERGE TO SR 15	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	400
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	445	285
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	22.00	37.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.820	0.730
Flow Rate (v_i), pc/h	577	415
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.08	0.21

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.465
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	44
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	59.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.726	Outer Lanes Freeway Speed (S_O), mi/h	82.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	533	Ramp Junction Speed (S), mi/h	61.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	3.1
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	5.2

HCS Freeway Diverge Report

Project Information			
Analyst	WSP	Date	3/29/2023
Agency	WSP	Analysis Year	2022
Jurisdiction	INDOT	Time Analyzed	PM PEAK
Project Description	US 30 WB DIVERGE TO SR 15	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	400
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	625	360
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.833	0.971
Flow Rate (v_i), pc/h	798	394
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.11	0.20

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.463
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	112
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	59.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.722	Outer Lanes Freeway Speed (S_O), mi/h	82.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	686	Ramp Junction Speed (S), mi/h	62.3

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	4.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.6

HCS Freeway Diverge Report

Project Information			
Analyst	WSP	Date	3/29/2023
Agency	WSP	Analysis Year	2045
Jurisdiction	INDOT	Time Analyzed	AM PEAK
Project Description	US 30 WB DIVERGE TO SR 15	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	400
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	568	271
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	22.00	37.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.820	0.730
Flow Rate (v_i), pc/h	737	395
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.10	0.20

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.464
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	95
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	59.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.723	Outer Lanes Freeway Speed (S_O), mi/h	82.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	642	Ramp Junction Speed (S), mi/h	62.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	4.0
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.2

HCS Freeway Diverge Report

Project Information			
Analyst	WSP	Date	3/29/2023
Agency	WSP	Analysis Year	2045
Jurisdiction	INDOT	Time Analyzed	PM PEAK
Project Description	US 30 WB DIVERGE TO SR 15	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	400
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	790	343
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.833	0.971
Flow Rate (v_i), pc/h	1009	376
Capacity (c_{md}), pc/h	7200	2000
Adjusted Capacity (c_{md}), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.14	0.19

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.462
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	179
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	60.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.717	Outer Lanes Freeway Speed (S_O), mi/h	82.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	830	Ramp Junction Speed (S), mi/h	63.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	5.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	7.8

HCS Freeway Merge Report

Project Information			
Analyst	Mike MacNeill	Date	3/29/2023
Agency	WSP	Analysis Year	2022
Jurisdiction	INDOT	Time Analyzed	AM PEAK
Project Description	US 30 WB Merge from SR 15	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	445	164
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	22.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.820	0.885
Flow Rate (v_i), pc/h	577	197
Capacity (c_{md}), pc/h	4800	2000
Adjusted Capacity (c_{md}), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.16	0.10

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.273
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	66.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	75.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	577	Ramp Junction Speed (S), mi/h	66.3

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	774	Average Density (D), pc/mi/ln	5.8
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.5

HCS Freeway Merge Report

Project Information			
Analyst	Mike MacNeill	Date	3/29/2023
Agency	WSP	Analysis Year	2022
Jurisdiction	INDOT	Time Analyzed	PM PEAK
Project Description	US 30 WB Merge from SR 15	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	625	193
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	10.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.833	0.909
Flow Rate (v_i), pc/h	798	226
Capacity (c_{md}), pc/h	4800	2000
Adjusted Capacity (c_{md}), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.21	0.11

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.276
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	66.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	75.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	798	Ramp Junction Speed (S), mi/h	66.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1024	Average Density (D), pc/mi/ln	7.7
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	8.4

HCS Freeway Merge Report

Project Information			
Analyst	Mike MacNeill	Date	3/29/2023
Agency	WSP	Analysis Year	2045
Jurisdiction	INDOT	Time Analyzed	AM PEAK
Project Description	US 30 WB Merge from SR 15	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	568	191
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	22.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.820	0.885
Flow Rate (v_i), pc/h	737	230
Capacity (c_{md}), pc/h	4800	2000
Adjusted Capacity (c_{md}), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.20	0.12

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.275
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	66.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	75.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	737	Ramp Junction Speed (S), mi/h	66.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	967	Average Density (D), pc/mi/ln	7.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	8.0

HCS Freeway Merge Report

Project Information			
Analyst	Mike MacNeill	Date	3/29/2023
Agency	WSP	Analysis Year	2045
Jurisdiction	INDOT	Time Analyzed	PM PEAK
Project Description	US 30 WB Merge from SR 15	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	790	226
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	10.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.833	0.909
Flow Rate (v_i), pc/h	1009	264
Capacity (c_{md}), pc/h	4800	2000
Adjusted Capacity (c_{md}), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.27	0.13

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.279
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	66.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	75.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	1009	Ramp Junction Speed (S), mi/h	66.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1273	Average Density (D), pc/mi/ln	9.6
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	10.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	574	15	4	730	11	22	4	15	9	8	11
Future Volume (veh/h)	6	574	15	4	730	11	22	4	15	9	8	11
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1508	1583	1900	1557	1900	1496	1900	1900	1900	1640	1900
Adj Flow Rate, veh/h	7	638	17	4	811	12	30	5	21	16	14	19
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.73	0.73	0.73	0.58	0.58	0.58
Percent Heavy Veh, %	0	26	20	0	22	0	27	0	0	0	13	18
Cap, veh/h	277	1269	596	340	1297	708	90	15	61	232	70	95
Arrive On Green	0.01	0.44	0.44	0.01	0.44	0.44	0.06	0.05	0.05	0.13	0.11	0.11
Sat Flow, veh/h	1810	2865	1346	1810	2959	1615	1425	320	1343	1810	631	857
Grp Volume(v), veh/h	7	638	17	4	811	12	30	0	26	16	0	33
Grp Sat Flow(s),veh/h/ln	1810	1433	1346	1810	1480	1615	1425	0	1663	1810	0	1488
Q Serve(g_s), s	0.1	11.0	0.2	0.1	14.6	0.3	1.4	0.0	1.0	0.5	0.0	1.4
Cycle Q Clear(g_c), s	0.1	11.0	0.2	0.1	14.6	0.3	1.4	0.0	1.0	0.5	0.0	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.81	1.00		0.58
Lane Grp Cap(c), veh/h	277	1269	596	340	1297	708	90	0	76	232	0	164
V/C Ratio(X)	0.03	0.50	0.03	0.01	0.63	0.02	0.33	0.00	0.34	0.07	0.00	0.20
Avail Cap(c_a), veh/h	913	2284	1073	984	2359	1287	826	0	964	1060	0	863
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.1	13.8	1.8	11.5	15.0	11.0	30.9	0.0	31.9	26.4	0.0	27.9
Incr Delay (d2), s/veh	0.0	0.9	0.1	0.0	1.4	0.0	2.1	0.0	3.8	0.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.5	0.2	0.0	6.2	0.1	0.6	0.0	0.6	0.3	0.0	0.6
LnGrp Delay(d),s/veh	12.1	14.6	1.8	11.5	16.4	11.0	33.0	0.0	35.7	26.6	0.0	28.5
LnGrp LOS	B	B	A	B	B	B	C		D	C		C
Approach Vol, veh/h		662			827			56			49	
Approach Delay, s/veh		14.3			16.3			34.3			27.9	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	38.2	10.4	13.6	6.4	38.6	14.9	9.1
Change Period (Y+Rc), s	6.0	8.0	6.0	6.0	6.0	8.0	6.0	* 6
Max Green Setting (Gmax), s	25.0	55.0	40.0	40.0	25.0	55.0	40.4	* 40
Max Q Clear Time (g_c+I1), s	2.1	16.6	3.4	3.4	2.1	13.0	2.5	3.0
Green Ext Time (p_c), s	0.0	13.6	0.1	0.1	0.0	10.5	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.4
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

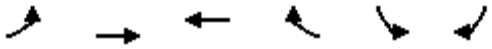
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	561	12	18	833	36	36	26	35	120	62	9
Future Volume (veh/h)	1	561	12	18	833	36	36	26	35	120	62	9
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1615	1900	1900	1624	1759	1900	1900	1900	1845	1867	1900
Adj Flow Rate, veh/h	1	729	16	21	992	43	40	29	39	143	74	11
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.77	0.77	0.77	0.84	0.84	0.84	0.90	0.90	0.90	0.84	0.84	0.84
Percent Heavy Veh, %	0	18	0	0	17	8	0	0	0	3	2	0
Cap, veh/h	277	1756	39	406	1811	877	115	70	94	171	195	29
Arrive On Green	0.00	0.57	0.57	0.02	0.59	0.59	0.06	0.10	0.10	0.10	0.12	0.12
Sat Flow, veh/h	1810	3071	67	1810	3085	1495	1810	736	990	1757	1590	236
Grp Volume(v), veh/h	1	364	381	21	992	43	40	0	68	143	0	85
Grp Sat Flow(s),veh/h/ln	1810	1535	1604	1810	1543	1495	1810	0	1725	1757	0	1826
Q Serve(g_s), s	0.0	16.8	16.8	0.6	24.7	1.5	2.7	0.0	4.7	10.1	0.0	5.4
Cycle Q Clear(g_c), s	0.0	16.8	16.8	0.6	24.7	1.5	2.7	0.0	4.7	10.1	0.0	5.4
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.57	1.00		0.13
Lane Grp Cap(c), veh/h	277	878	917	406	1811	877	115	0	164	171	0	224
V/C Ratio(X)	0.00	0.42	0.42	0.05	0.55	0.05	0.35	0.00	0.41	0.84	0.00	0.38
Avail Cap(c_a), veh/h	366	878	917	468	1811	877	250	0	249	270	0	252
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.5	15.1	15.1	11.9	15.9	11.1	56.5	0.0	53.7	55.9	0.0	50.9
Incr Delay (d2), s/veh	0.0	1.4	1.4	0.1	1.2	0.1	1.8	0.0	2.4	12.0	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.4	7.8	0.3	10.8	0.7	1.4	0.0	2.3	5.5	0.0	2.9
LnGrp Delay(d),s/veh	13.5	16.6	16.5	12.0	17.1	11.2	58.3	0.0	56.1	67.9	0.0	53.1
LnGrp LOS	B	B	B	B	B	B	E		E	E		D
Approach Vol, veh/h		746			1056			108			228	
Approach Delay, s/veh		16.6			16.7			56.9			62.4	
Approach LOS		B			B			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	81.5	15.6	23.1	7.7	79.7	19.9	18.8
Change Period (Y+Rc), s	5.6	7.6	7.6	7.6	5.6	7.6	* 7.6	* 6.8
Max Green Setting (Gmax), s	6.4	56.4	17.4	17.4	6.4	52.4	* 19	* 18
Max Q Clear Time (g_c+I1), s	2.0	26.7	4.7	7.4	2.6	18.8	12.1	6.7
Green Ext Time (p_c), s	0.0	15.6	0.0	0.4	0.0	10.8	0.2	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	23.6
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	35	678	874	73	59	50
Future Volume (veh/h)	35	678	874	73	59	50
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1638	1624	1845	1810	1863
Adj Flow Rate, veh/h	38	745	930	78	81	68
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.91	0.91	0.94	0.94	0.73	0.73
Percent Heavy Veh, %	0	16	17	3	5	2
Cap, veh/h	479	2532	2018	1025	113	104
Arrive On Green	0.10	0.81	0.44	0.44	0.07	0.07
Sat Flow, veh/h	1810	3194	3167	1568	1723	1583
Grp Volume(v), veh/h	38	745	930	78	81	68
Grp Sat Flow(s),veh/h/ln	1810	1556	1543	1568	1723	1583
Q Serve(g_s), s	0.0	7.4	26.7	3.6	5.8	5.3
Cycle Q Clear(g_c), s	0.0	7.4	26.7	3.6	5.8	5.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	479	2532	2018	1025	113	104
V/C Ratio(X)	0.08	0.29	0.46	0.08	0.71	0.65
Avail Cap(c_a), veh/h	479	2532	2018	1025	224	206
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.81	0.81	1.00	1.00
Uniform Delay (d), s/veh	15.2	2.9	19.8	13.3	57.7	57.5
Incr Delay (d2), s/veh	0.1	0.3	0.6	0.1	16.3	13.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.2	11.6	1.6	3.3	2.7
LnGrp Delay(d),s/veh	15.3	3.2	20.4	13.4	74.0	71.3
LnGrp LOS	B	A	C	B	E	E
Approach Vol, veh/h		783	1008		149	
Approach Delay, s/veh		3.8	19.8		72.8	
Approach LOS		A	B		E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	20.1	90.0		15.9		110.1		
Change Period (Y+Rc), s	7.6	* 7.6		7.6		7.6		
Max Green Setting (Gmax), s	6.4	* 82		16.4		94.4		
Max Q Clear Time (g_c+I1), s	2.0	28.7		7.8		9.4		
Green Ext Time (p_c), s	0.0	19.3		0.5		14.0		

Intersection Summary	
HCM 2010 Ctrl Delay	17.4
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	597	67	21	810	55	41	112	46	198	200	58
Future Volume (veh/h)	38	597	67	21	810	55	41	112	46	198	200	58
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1597	1863	1900	1624	1712	1727	1848	1900	1810	1835	1900
Adj Flow Rate, veh/h	42	663	74	23	880	60	55	149	61	241	244	71
Adj No. of Lanes	1	2	1	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.75	0.75	0.75	0.82	0.82	0.82
Percent Heavy Veh, %	0	19	2	0	17	11	10	4	0	5	4	2
Cap, veh/h	66	1271	730	263	1655	964	69	235	92	217	480	137
Arrive On Green	0.04	0.42	0.42	0.29	1.00	1.00	0.04	0.10	0.10	0.13	0.18	0.18
Sat Flow, veh/h	1810	3034	1583	1810	3085	1455	1645	2464	968	1723	2680	763
Grp Volume(v), veh/h	42	663	74	23	880	60	55	104	106	241	157	158
Grp Sat Flow(s),veh/h/ln	1810	1517	1583	1810	1543	1455	1645	1755	1677	1723	1743	1700
Q Serve(g_s), s	2.9	20.5	1.4	1.2	0.0	0.0	4.2	7.2	7.7	15.9	10.2	10.6
Cycle Q Clear(g_c), s	2.9	20.5	1.4	1.2	0.0	0.0	4.2	7.2	7.7	15.9	10.2	10.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.58	1.00		0.45
Lane Grp Cap(c), veh/h	66	1271	730	263	1655	964	69	167	160	217	312	305
V/C Ratio(X)	0.63	0.52	0.10	0.09	0.53	0.06	0.79	0.62	0.66	1.11	0.50	0.52
Avail Cap(c_a), veh/h	171	1271	730	263	1655	964	181	272	259	217	312	305
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	0.84	0.84	0.84	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.9	27.2	6.2	38.6	0.0	0.0	59.8	54.8	55.0	55.0	46.6	46.8
Incr Delay (d2), s/veh	9.2	1.5	0.3	0.1	1.0	0.1	18.0	5.3	6.5	93.0	1.8	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	8.8	0.9	0.6	0.2	0.0	2.2	3.8	3.8	13.2	5.1	5.2
LnGrp Delay(d),s/veh	69.0	28.7	6.5	38.7	1.0	0.1	77.8	60.2	61.6	148.1	48.4	48.9
LnGrp LOS	E	C	A	D	A	A	E	E	E	F	D	D
Approach Vol, veh/h		779			963			265			556	
Approach Delay, s/veh		28.7			1.9			64.4			91.8	
Approach LOS		C			A			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.5	60.0	11.4	29.1	10.7	74.8	22.0	18.5
Change Period (Y+Rc), s	7.2	* 7.2	6.1	6.5	6.1	7.2	6.1	6.5
Max Green Setting (Gmax), s	11.9	* 53	13.9	21.5	11.9	52.8	15.9	19.5
Max Q Clear Time (g_c+I1), s	3.2	22.5	6.2	12.6	4.9	2.0	17.9	9.7
Green Ext Time (p_c), s	0.0	11.9	0.0	1.0	0.0	17.7	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	36.0
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	677	90	62	667	126	73	165	83	230	267	90
Future Volume (veh/h)	70	677	90	62	667	126	73	165	83	230	267	90
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1624	1743	1863	1583	1845	1712	1881	1827	1827	1827	1759
Adj Flow Rate, veh/h	78	752	100	69	741	140	94	212	106	280	326	110
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.78	0.78	0.78	0.82	0.82	0.82
Percent Heavy Veh, %	0	17	9	2	20	3	11	1	4	4	4	8
Cap, veh/h	259	1531	735	88	1213	632	115	340	225	254	592	469
Arrive On Green	0.10	0.33	0.33	0.05	0.40	0.40	0.07	0.10	0.10	0.15	0.17	0.17
Sat Flow, veh/h	1810	3085	1482	1774	3008	1568	1630	3574	1553	1740	3471	1495
Grp Volume(v), veh/h	78	752	100	69	741	140	94	212	106	280	326	110
Grp Sat Flow(s),veh/h/ln	1810	1543	1482	1774	1504	1568	1630	1787	1553	1740	1736	1495
Q Serve(g_s), s	5.1	24.5	5.9	4.8	24.6	4.3	7.2	7.2	7.9	18.4	10.8	1.2
Cycle Q Clear(g_c), s	5.1	24.5	5.9	4.8	24.6	4.3	7.2	7.2	7.9	18.4	10.8	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	1531	735	88	1213	632	115	340	225	254	592	469
V/C Ratio(X)	0.30	0.49	0.14	0.78	0.61	0.22	0.82	0.62	0.47	1.10	0.55	0.23
Avail Cap(c_a), veh/h	259	1531	735	152	1213	632	186	545	314	254	639	489
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	29.4	23.2	59.2	29.8	8.4	57.7	54.8	49.4	53.8	47.8	15.3
Incr Delay (d2), s/veh	0.5	0.9	0.3	13.9	2.3	0.8	13.3	2.6	2.2	86.5	1.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	10.6	2.5	2.7	10.6	3.0	3.7	3.7	3.5	14.9	5.3	1.9
LnGrp Delay(d),s/veh	51.6	30.2	23.5	73.0	32.1	9.2	71.1	57.5	51.6	140.3	49.0	15.7
LnGrp LOS	D	C	C	E	C	A	E	E	D	F	D	B
Approach Vol, veh/h		930			950			412			716	
Approach Delay, s/veh		31.3			31.7			59.1			79.6	
Approach LOS		C			C			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	69.7	14.5	28.3	25.2	58.0	24.0	18.8
Change Period (Y+Rc), s	7.2	* 7.2	5.6	* 6.8	7.2	7.2	5.6	* 6.8
Max Green Setting (Gmax), s	10.8	* 51	14.4	* 23	10.8	50.8	18.4	* 19
Max Q Clear Time (g_c+I1), s	6.8	26.5	9.2	12.8	7.1	26.6	20.4	9.9
Green Ext Time (p_c), s	0.0	11.1	0.1	1.7	0.0	11.3	0.0	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	46.7
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	47	63	121	57	170	139	72	820	99	123	706	16
Future Volume (veh/h)	47	63	121	57	170	139	72	820	99	123	706	16
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1792	1881	1827	1881	1881	1827	1681	1863	1792	1597	1597
Adj Flow Rate, veh/h	49	66	127	66	195	160	76	863	104	150	861	20
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.87	0.87	0.87	0.95	0.95	0.95	0.82	0.82	0.82
Percent Heavy Veh, %	4	6	1	4	1	1	4	13	2	6	19	19
Cap, veh/h	134	285	254	219	299	254	153	1591	788	181	1566	700
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.09	0.50	0.50	0.11	0.52	0.52
Sat Flow, veh/h	1002	1792	1599	1162	1881	1599	1740	3195	1583	1707	3034	1357
Grp Volume(v), veh/h	49	66	127	66	195	160	76	863	104	150	861	20
Grp Sat Flow(s),veh/h/ln	1002	1792	1599	1162	1881	1599	1740	1597	1583	1707	1517	1357
Q Serve(g_s), s	4.8	3.2	7.3	5.3	9.7	9.4	4.2	18.6	3.5	8.6	19.2	0.7
Cycle Q Clear(g_c), s	14.5	3.2	7.3	8.5	9.7	9.4	4.2	18.6	3.5	8.6	19.2	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	134	285	254	219	299	254	153	1591	788	181	1566	700
V/C Ratio(X)	0.37	0.23	0.50	0.30	0.65	0.63	0.50	0.54	0.13	0.83	0.55	0.03
Avail Cap(c_a), veh/h	134	285	254	219	299	254	303	1591	788	280	1566	700
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	36.7	38.4	40.4	39.5	39.3	43.5	17.3	13.5	43.8	16.3	11.9
Incr Delay (d2), s/veh	1.2	0.3	1.1	0.6	4.6	4.4	2.5	1.3	0.3	11.4	1.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.6	3.3	1.7	5.4	4.4	2.1	8.4	1.6	4.6	8.3	0.3
LnGrp Delay(d),s/veh	47.5	37.0	39.5	41.0	44.0	43.7	46.0	18.6	13.8	55.2	17.7	12.0
LnGrp LOS	D	D	D	D	D	D	D	B	B	E	B	B
Approach Vol, veh/h		242			421			1043			1031	
Approach Delay, s/veh		40.5			43.4			20.1			23.1	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.4	60.6		24.0	17.2	58.8		24.0
Change Period (Y+Rc), s	6.6	9.0		* 8.1	6.6	9.0		* 8.1
Max Green Setting (Gmax), s	17.4	43.0		* 16	16.4	44.0		* 16
Max Q Clear Time (g_c+I1), s	6.2	21.2		11.7	10.6	20.6		16.5
Green Ext Time (p_c), s	0.1	11.9		0.6	0.2	13.2		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	26.6
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	841	22	92	637	4	4	33	130	16	46	49
Future Volume (veh/h)	59	841	22	92	637	4	4	33	130	16	46	49
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1776	1667	1743	1776	1532	1900	1900	1900	1810	1900	1838	1792
Adj Flow Rate, veh/h	63	904	24	102	708	4	5	39	155	17	49	53
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	1
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.84	0.84	0.84	0.93	0.93	0.93
Percent Heavy Veh, %	7	14	9	7	24	0	0	0	5	13	0	6
Cap, veh/h	441	1456	681	392	1384	768	64	285	387	99	229	359
Arrive On Green	0.08	0.46	0.46	0.09	0.48	0.48	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1691	3167	1482	1691	2911	1615	68	1802	1538	247	1449	1524
Grp Volume(v), veh/h	63	904	24	102	708	4	44	0	155	66	0	53
Grp Sat Flow(s),veh/h/ln	1691	1583	1482	1691	1456	1615	1870	0	1538	1697	0	1524
Q Serve(g_s), s	1.4	16.4	0.7	2.2	12.8	0.1	0.0	0.0	6.4	0.0	0.0	2.1
Cycle Q Clear(g_c), s	1.4	16.4	0.7	2.2	12.8	0.1	1.5	0.0	6.4	2.4	0.0	2.1
Prop In Lane	1.00		1.00	1.00		1.00	0.11		1.00	0.26		1.00
Lane Grp Cap(c), veh/h	441	1456	681	392	1384	768	348	0	387	328	0	359
V/C Ratio(X)	0.14	0.62	0.04	0.26	0.51	0.01	0.13	0.00	0.40	0.20	0.00	0.15
Avail Cap(c_a), veh/h	868	2715	1270	792	2496	1385	1136	0	1056	1026	0	1022
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.4	15.5	11.2	10.2	13.8	10.5	27.5	0.0	23.6	27.9	0.0	22.9
Incr Delay (d2), s/veh	0.1	1.2	0.1	0.3	0.8	0.0	0.2	0.0	0.8	0.4	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	7.3	0.3	1.0	5.3	0.0	0.8	0.0	2.8	1.2	0.0	0.9
LnGrp Delay(d),s/veh	9.5	16.7	11.3	10.6	14.6	10.5	27.7	0.0	24.4	28.2	0.0	23.2
LnGrp LOS	A	B	B	B	B	B	C		C	C		C
Approach Vol, veh/h		991			814			199			119	
Approach Delay, s/veh		16.1			14.1			25.2			26.0	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.7	44.0		19.1	13.9	42.9		19.1
Change Period (Y+Rc), s	* 6.8	8.0		7.1	* 6.8	8.0		7.1
Max Green Setting (Gmax), s	* 25	65.0		45.0	* 25	65.0		45.0
Max Q Clear Time (g_c+I1), s	3.4	14.8		4.4	4.2	18.4		8.4
Green Ext Time (p_c), s	0.1	12.0		0.7	0.2	16.5		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	1029	61	62	910	28	64	11	37	17	16	7
Future Volume (veh/h)	18	1029	61	62	910	28	64	11	37	17	16	7
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1624	1667	1583	1712	1610	1667	1712	1569	1900	1610	1613	1900
Adj Flow Rate, veh/h	21	1197	71	68	1000	31	75	13	44	22	21	9
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.85	0.85	0.85	0.77	0.77	0.77
Percent Heavy Veh, %	17	14	20	11	18	14	11	18	22	18	13	29
Cap, veh/h	327	1736	738	319	1796	832	242	44	150	206	151	65
Arrive On Green	0.04	0.55	0.55	0.08	0.59	0.59	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1547	3167	1346	1630	3059	1417	1263	315	1066	1159	1072	460
Grp Volume(v), veh/h	21	1197	71	68	1000	31	75	0	57	22	0	30
Grp Sat Flow(s),veh/h/ln	1547	1583	1346	1630	1530	1417	1263	0	1381	1159	0	1532
Q Serve(g_s), s	0.5	23.0	2.1	1.4	16.8	0.8	4.6	0.0	3.1	1.5	0.0	1.4
Cycle Q Clear(g_c), s	0.5	23.0	2.1	1.4	16.8	0.8	6.1	0.0	3.1	4.6	0.0	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.77	1.00		0.30
Lane Grp Cap(c), veh/h	327	1736	738	319	1796	832	242	0	195	206	0	216
V/C Ratio(X)	0.06	0.69	0.10	0.21	0.56	0.04	0.31	0.00	0.29	0.11	0.00	0.14
Avail Cap(c_a), veh/h	823	2265	963	778	2188	1013	440	0	412	388	0	456
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.5	13.8	9.0	10.0	10.6	7.3	34.2	0.0	32.3	34.3	0.0	31.6
Incr Delay (d2), s/veh	0.1	1.4	0.2	0.3	0.7	0.0	1.5	0.0	1.8	0.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	10.3	0.8	0.6	7.3	0.3	1.7	0.0	1.3	0.5	0.0	0.6
LnGrp Delay(d),s/veh	8.6	15.2	9.2	10.3	11.4	7.4	35.8	0.0	34.0	34.8	0.0	32.2
LnGrp LOS	A	B	A	B	B	A	D		C	C		C
Approach Vol, veh/h		1289			1099			132			52	
Approach Delay, s/veh		14.7			11.2			35.0			33.3	
Approach LOS		B			B			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.7	57.2		18.0	12.0	53.9		18.0
Change Period (Y+Rc), s	* 5.6	7.9		* 6.2	* 5.6	7.9		* 6.2
Max Green Setting (Gmax), s	* 30	60.0		* 25	* 30	60.0		* 25
Max Q Clear Time (g_c+I1), s	2.5	18.8		6.6	3.4	25.0		8.1
Green Ext Time (p_c), s	0.0	18.1		0.3	0.1	21.0		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	14.6
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	707	129	84	723	3	99	13	99	15	34	10
Future Volume (veh/h)	3	707	129	84	723	3	99	13	99	15	34	10
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1652	1652	1624	1557	1900	1610	1759	1473	1900	1836	1900
Adj Flow Rate, veh/h	3	744	136	90	777	3	116	15	116	19	44	13
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.93	0.93	0.93	0.85	0.85	0.85	0.78	0.78	0.78
Percent Heavy Veh, %	0	15	15	17	22	0	18	8	29	7	3	0
Cap, veh/h	385	1338	599	430	1595	871	293	261	186	100	173	42
Arrive On Green	0.01	0.43	0.43	0.12	0.54	0.54	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1810	3139	1404	1547	2959	1615	1159	1759	1252	224	1166	287
Grp Volume(v), veh/h	3	744	136	90	777	3	116	15	116	76	0	0
Grp Sat Flow(s),veh/h/ln	1810	1570	1404	1547	1480	1615	1159	1759	1252	1677	0	0
Q Serve(g_s), s	0.1	12.0	4.1	1.8	11.0	0.1	2.9	0.5	5.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	12.0	4.1	1.8	11.0	0.1	5.5	0.5	5.9	2.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.25		0.17
Lane Grp Cap(c), veh/h	385	1338	599	430	1595	871	293	261	186	315	0	0
V/C Ratio(X)	0.01	0.56	0.23	0.21	0.49	0.00	0.40	0.06	0.63	0.24	0.00	0.00
Avail Cap(c_a), veh/h	1043	3031	1356	817	2857	1559	810	1045	744	1026	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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.9	14.5	12.3	8.1	9.7	7.2	26.6	24.6	26.9	25.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.5	0.2	0.6	0.0	1.2	0.1	4.8	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.4	1.7	0.8	4.6	0.0	2.1	0.2	2.3	1.3	0.0	0.0
LnGrp Delay(d),s/veh	10.9	15.5	12.8	8.4	10.3	7.2	27.8	24.8	31.8	25.8	0.0	0.0
LnGrp LOS	B	B	B	A	B	A	C	C	C	C		
Approach Vol, veh/h		883			870			247			76	
Approach Delay, s/veh		15.1			10.1			29.5			25.8	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.9	44.3		16.1	14.5	36.7		16.1
Change Period (Y+Rc), s	6.4	8.0		6.1	6.4	8.0		6.1
Max Green Setting (Gmax), s	25.0	65.0		40.0	25.0	65.0		40.0
Max Q Clear Time (g_c+I1), s	2.1	13.0		4.6	3.8	14.0		7.9
Green Ext Time (p_c), s	0.0	13.7		0.3	0.2	14.7		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	15.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	819	28	27	614	12	6	15	20	12	17	9
Future Volume (veh/h)	12	819	28	27	614	12	6	15	20	12	17	9
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1570	1610	1900	1520	1900	1624	1748	1900	1900	1833	1900
Adj Flow Rate, veh/h	13	871	30	29	667	13	8	19	25	14	20	10
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.79	0.79	0.79	0.86	0.86	0.86
Percent Heavy Veh, %	0	21	18	0	25	0	17	7	10	0	0	11
Cap, veh/h	384	1374	630	318	1381	772	32	45	59	129	134	67
Arrive On Green	0.02	0.46	0.46	0.04	0.48	0.48	0.02	0.07	0.07	0.07	0.12	0.12
Sat Flow, veh/h	1810	2983	1369	1810	2888	1615	1547	686	903	1810	1154	577
Grp Volume(v), veh/h	13	871	30	29	667	13	8	0	44	14	0	30
Grp Sat Flow(s),veh/h/ln	1810	1492	1369	1810	1444	1615	1547	0	1589	1810	0	1731
Q Serve(g_s), s	0.3	15.8	0.4	0.6	11.1	0.3	0.4	0.0	1.9	0.5	0.0	1.1
Cycle Q Clear(g_c), s	0.3	15.8	0.4	0.6	11.1	0.3	0.4	0.0	1.9	0.5	0.0	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.57	1.00		0.33
Lane Grp Cap(c), veh/h	384	1374	630	318	1381	772	32	0	104	129	0	201
V/C Ratio(X)	0.03	0.63	0.05	0.09	0.48	0.02	0.25	0.00	0.42	0.11	0.00	0.15
Avail Cap(c_a), veh/h	987	2311	1060	888	2237	1251	871	0	895	1029	0	975
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.4	14.6	2.7	11.0	12.6	9.7	34.2	0.0	31.9	30.9	0.0	28.2
Incr Delay (d2), s/veh	0.0	1.3	0.1	0.1	0.7	0.0	4.1	0.0	3.9	0.4	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	6.7	0.3	0.3	4.5	0.1	0.2	0.0	0.9	0.3	0.0	0.5
LnGrp Delay(d),s/veh	10.4	15.9	2.8	11.1	13.3	9.8	38.3	0.0	35.8	31.2	0.0	28.6
LnGrp LOS	B	B	A	B	B	A	D		D	C		C
Approach Vol, veh/h		914			709			52			44	
Approach Delay, s/veh		15.4			13.1			36.2			29.4	
Approach LOS		B			B			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	42.0	7.5	14.2	8.6	40.7	11.1	10.6
Change Period (Y+Rc), s	6.0	8.0	6.0	6.0	6.0	8.0	6.0	* 6
Max Green Setting (Gmax), s	25.0	55.0	40.0	40.0	25.0	55.0	40.4	* 40
Max Q Clear Time (g_c+I1), s	2.3	13.1	2.4	3.1	2.6	17.8	2.5	3.9
Green Ext Time (p_c), s	0.0	11.0	0.0	0.1	0.0	14.9	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	15.5
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

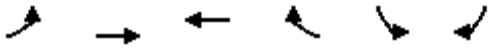
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	846	25	49	718	106	13	57	49	69	59	8
Future Volume (veh/h)	7	846	25	49	718	106	13	57	49	69	59	8
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1616	1900	1900	1545	1810	1759	1880	1900	1792	1900	1900
Adj Flow Rate, veh/h	7	872	26	52	764	113	17	73	63	97	83	11
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.94	0.94	0.94	0.78	0.78	0.78	0.71	0.71	0.71
Percent Heavy Veh, %	0	18	4	0	23	5	8	2	0	6	0	0
Cap, veh/h	372	1782	53	369	1766	926	106	90	77	124	163	22
Arrive On Green	0.01	0.59	0.59	0.03	0.60	0.60	0.06	0.10	0.10	0.07	0.10	0.10
Sat Flow, veh/h	1810	3044	91	1810	2935	1538	1675	933	805	1707	1644	218
Grp Volume(v), veh/h	7	440	458	52	764	113	17	0	136	97	0	94
Grp Sat Flow(s),veh/h/ln	1810	1535	1600	1810	1467	1538	1675	0	1738	1707	0	1862
Q Serve(g_s), s	0.2	21.0	21.0	1.4	17.7	4.0	1.2	0.0	9.7	7.0	0.0	6.0
Cycle Q Clear(g_c), s	0.2	21.0	21.0	1.4	17.7	4.0	1.2	0.0	9.7	7.0	0.0	6.0
Prop In Lane	1.00		0.06	1.00		1.00	1.00		0.46	1.00		0.12
Lane Grp Cap(c), veh/h	372	899	937	369	1766	926	106	0	167	124	0	184
V/C Ratio(X)	0.02	0.49	0.49	0.14	0.43	0.12	0.16	0.00	0.81	0.78	0.00	0.51
Avail Cap(c_a), veh/h	446	899	937	413	1766	926	231	0	251	263	0	257
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.3	15.2	15.2	11.7	13.5	10.8	55.8	0.0	55.8	57.4	0.0	53.9
Incr Delay (d2), s/veh	0.0	1.9	1.8	0.2	0.8	0.3	0.7	0.0	14.7	10.1	0.0	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	9.3	9.6	0.7	7.3	1.7	0.6	0.0	5.3	3.7	0.0	3.3
LnGrp Delay(d),s/veh	11.3	17.1	17.0	11.8	14.3	11.1	56.5	0.0	70.6	67.5	0.0	58.5
LnGrp LOS	B	B	B	B	B	B	E		E	E		E
Approach Vol, veh/h		905			929			153			191	
Approach Delay, s/veh		17.0			13.8			69.0			63.1	
Approach LOS		B			B			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	83.4	15.6	20.1	9.0	81.4	16.8	18.9
Change Period (Y+Rc), s	5.6	7.6	7.6	7.6	5.6	7.6	* 7.6	* 6.8
Max Green Setting (Gmax), s	6.4	56.4	17.4	17.4	6.4	52.4	* 19	* 18
Max Q Clear Time (g_c+I1), s	2.2	19.7	3.2	8.0	3.4	23.0	9.0	11.7
Green Ext Time (p_c), s	0.0	13.7	0.0	0.4	0.0	12.8	0.1	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	23.3
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	57	964	799	105	95	62
Future Volume (veh/h)	57	964	799	105	95	62
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1624	1545	1827	1881	1776
Adj Flow Rate, veh/h	63	1059	850	112	112	73
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.91	0.91	0.94	0.94	0.85	0.85
Percent Heavy Veh, %	2	17	23	4	1	7
Cap, veh/h	430	2462	1919	1016	146	123
Arrive On Green	0.08	0.80	0.22	0.22	0.08	0.08
Sat Flow, veh/h	1774	3167	3012	1553	1792	1509
Grp Volume(v), veh/h	63	1059	850	112	112	73
Grp Sat Flow(s),veh/h/ln	1774	1543	1467	1553	1792	1509
Q Serve(g_s), s	0.0	13.3	31.6	7.3	7.7	5.9
Cycle Q Clear(g_c), s	0.0	13.3	31.6	7.3	7.7	5.9
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	430	2462	1919	1016	146	123
V/C Ratio(X)	0.15	0.43	0.44	0.11	0.77	0.59
Avail Cap(c_a), veh/h	430	2462	1919	1016	233	196
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.77	0.77	1.00	1.00
Uniform Delay (d), s/veh	19.8	3.9	29.5	20.0	56.7	55.8
Incr Delay (d2), s/veh	0.2	0.6	0.6	0.2	16.2	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	5.8	13.0	3.2	4.5	2.8
LnGrp Delay(d),s/veh	20.0	4.5	30.1	20.1	72.9	65.2
LnGrp LOS	B	A	C	C	E	E
Approach Vol, veh/h		1122	962		185	
Approach Delay, s/veh		5.3	28.9		69.8	
Approach LOS		A	C		E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	18.1	90.0		17.9		108.1		
Change Period (Y+Rc), s	7.6	* 7.6		7.6		7.6		
Max Green Setting (Gmax), s	6.4	* 82		16.4		94.4		
Max Q Clear Time (g_c+I1), s	2.0	33.6		9.7		15.3		
Green Ext Time (p_c), s	0.0	17.2		0.6		24.4		

Intersection Summary	
HCM 2010 Ctrl Delay	20.6
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	849	134	71	780	115	98	288	94	121	264	40
Future Volume (veh/h)	64	849	134	71	780	115	98	288	94	121	264	40
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1583	1881	1827	1532	1863	1810	1877	1900	1845	1884	1900
Adj Flow Rate, veh/h	66	875	138	76	839	124	103	303	99	132	287	43
Adj No. of Lanes	1	2	1	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.93	0.93	0.93	0.95	0.95	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	3	20	1	4	24	2	5	0	5	3	1	0
Cap, veh/h	84	1261	787	248	1520	969	126	357	115	158	472	70
Arrive On Green	0.06	0.56	0.56	0.28	1.00	1.00	0.07	0.13	0.13	0.09	0.15	0.15
Sat Flow, veh/h	1757	3008	1599	1740	2911	1583	1723	2657	852	1757	3128	464
Grp Volume(v), veh/h	66	875	138	76	839	124	103	201	201	132	163	167
Grp Sat Flow(s),veh/h/ln	1757	1504	1599	1740	1456	1583	1723	1783	1727	1757	1789	1802
Q Serve(g_s), s	4.7	26.5	1.9	4.3	0.0	0.0	7.4	13.9	14.3	9.3	10.7	10.9
Cycle Q Clear(g_c), s	4.7	26.5	1.9	4.3	0.0	0.0	7.4	13.9	14.3	9.3	10.7	10.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.49	1.00		0.26
Lane Grp Cap(c), veh/h	84	1261	787	248	1520	969	126	240	232	158	270	272
V/C Ratio(X)	0.78	0.69	0.18	0.31	0.55	0.13	0.81	0.84	0.86	0.84	0.60	0.61
Avail Cap(c_a), veh/h	166	1261	787	248	1520	969	190	276	267	222	305	307
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	0.78	0.78	0.78	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.3	22.1	4.2	40.2	0.0	0.0	57.5	53.2	53.4	56.4	50.0	50.1
Incr Delay (d2), s/veh	13.1	2.8	0.4	0.5	1.1	0.2	14.9	19.4	23.3	17.2	3.5	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	11.4	1.2	2.1	0.2	0.1	4.1	8.1	8.4	5.3	5.6	5.7
LnGrp Delay(d),s/veh	71.4	24.9	4.6	40.7	1.1	0.2	72.5	72.6	76.7	73.7	53.5	53.9
LnGrp LOS	E	C	A	D	A	A	E	E	E	E	D	D
Approach Vol, veh/h		1079			1039			505			462	
Approach Delay, s/veh		25.1			3.9			74.2			59.4	
Approach LOS		C			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.1	60.0	15.3	25.5	12.1	73.0	17.4	23.4
Change Period (Y+Rc), s	7.2	* 7.2	6.1	6.5	6.1	7.2	6.1	6.5
Max Green Setting (Gmax), s	11.9	* 53	13.9	21.5	11.9	52.8	15.9	19.5
Max Q Clear Time (g_c+I1), s	6.3	28.5	9.4	12.9	6.7	2.0	11.3	16.3
Green Ext Time (p_c), s	0.1	14.4	0.1	1.0	0.0	17.8	0.1	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	31.2
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	785	74	92	686	377	106	356	83	190	351	104
Future Volume (veh/h)	148	785	74	92	686	377	106	356	83	190	351	104
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1570	1727	1900	1520	1881	1792	1881	1900	1845	1881	1863
Adj Flow Rate, veh/h	159	844	80	101	754	414	116	391	91	211	390	116
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.91	0.91	0.90	0.90	0.90
Percent Heavy Veh, %	2	21	10	0	25	1	6	1	0	3	1	2
Cap, veh/h	212	1353	666	125	1164	645	140	465	322	237	653	478
Arrive On Green	0.04	0.15	0.15	0.07	0.40	0.40	0.08	0.13	0.13	0.13	0.18	0.18
Sat Flow, veh/h	1774	2983	1468	1810	2888	1599	1707	3574	1615	1757	3574	1583
Grp Volume(v), veh/h	159	844	80	101	754	414	116	391	91	211	390	116
Grp Sat Flow(s),veh/h/ln	1774	1492	1468	1810	1444	1599	1707	1787	1615	1757	1787	1583
Q Serve(g_s), s	11.2	33.4	5.9	6.9	26.6	15.9	8.4	13.5	6.0	14.9	12.6	1.3
Cycle Q Clear(g_c), s	11.2	33.4	5.9	6.9	26.6	15.9	8.4	13.5	6.0	14.9	12.6	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	1353	666	125	1164	645	140	465	322	237	653	478
V/C Ratio(X)	0.75	0.62	0.12	0.81	0.65	0.64	0.83	0.84	0.28	0.89	0.60	0.24
Avail Cap(c_a), veh/h	212	1353	666	155	1164	645	195	545	358	257	658	481
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.7	43.5	31.8	57.8	30.4	11.1	57.0	53.5	42.8	53.6	47.2	15.5
Incr Delay (d2), s/veh	10.5	1.6	0.3	21.9	2.8	4.9	18.3	10.9	0.7	28.6	1.8	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	14.2	2.5	4.2	11.0	9.4	4.7	7.4	2.7	9.1	6.4	2.0
LnGrp Delay(d),s/veh	69.2	45.1	32.1	79.7	33.2	15.9	75.2	64.4	43.5	82.2	49.0	15.9
LnGrp LOS	E	D	C	E	C	B	E	E	D	F	D	B
Approach Vol, veh/h		1083			1269			598			717	
Approach Delay, s/veh		47.7			31.2			63.3			53.4	
Approach LOS		D			C			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.9	64.3	15.9	29.8	22.3	58.0	22.6	23.2
Change Period (Y+Rc), s	7.2	* 7.2	5.6	* 6.8	7.2	7.2	5.6	* 6.8
Max Green Setting (Gmax), s	10.8	* 51	14.4	* 23	10.8	50.8	18.4	* 19
Max Q Clear Time (g_c+I1), s	8.9	35.4	10.4	14.6	13.2	28.6	16.9	15.5
Green Ext Time (p_c), s	0.0	9.1	0.1	1.8	0.0	13.4	0.1	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	45.7
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	107	152	79	10	120	116	166	874	72	149	997	23
Future Volume (veh/h)	107	152	79	10	120	116	166	874	72	149	997	23
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1863	1845	1357	1827	1827	1827	1597	1900	1881	1624	1827
Adj Flow Rate, veh/h	130	185	96	13	152	147	178	940	77	160	1072	25
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.82	0.82	0.82	0.79	0.79	0.79	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	2	3	40	4	4	4	19	0	1	17	4
Cap, veh/h	162	296	249	125	290	247	211	1505	801	193	1490	750
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.12	0.50	0.50	0.11	0.48	0.48
Sat Flow, veh/h	1087	1863	1568	797	1827	1553	1740	3034	1615	1792	3085	1553
Grp Volume(v), veh/h	130	185	96	13	152	147	178	940	77	160	1072	25
Grp Sat Flow(s),veh/h/ln	1087	1863	1568	797	1827	1553	1740	1517	1615	1792	1543	1553
Q Serve(g_s), s	8.3	9.3	5.5	1.5	7.6	8.8	10.0	22.6	2.5	8.7	27.5	0.8
Cycle Q Clear(g_c), s	15.9	9.3	5.5	10.8	7.6	8.8	10.0	22.6	2.5	8.7	27.5	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	162	296	249	125	290	247	211	1505	801	193	1490	750
V/C Ratio(X)	0.80	0.62	0.39	0.10	0.52	0.60	0.84	0.62	0.10	0.83	0.72	0.03
Avail Cap(c_a), veh/h	162	296	249	125	290	247	303	1505	801	294	1490	750
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	39.3	37.7	44.3	38.6	39.1	43.0	18.4	13.3	43.7	20.5	13.6
Incr Delay (d2), s/veh	23.9	3.7	0.7	0.3	1.3	3.4	13.7	2.0	0.2	11.2	3.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	5.1	2.4	0.3	4.0	4.0	5.6	9.8	1.2	4.9	12.2	0.4
LnGrp Delay(d),s/veh	71.1	42.9	38.4	44.6	39.9	42.4	56.7	20.4	13.6	54.9	23.5	13.7
LnGrp LOS	E	D	D	D	D	D	E	C	B	D	C	B
Approach Vol, veh/h		411			312			1195			1257	
Approach Delay, s/veh		50.8			41.3			25.3			27.3	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	18.7	57.3		24.0	17.4	58.6		24.0
Change Period (Y+Rc), s	6.6	9.0		* 8.1	6.6	9.0		* 8.1
Max Green Setting (Gmax), s	17.4	43.0		* 16	16.4	44.0		* 16
Max Q Clear Time (g_c+I1), s	12.0	29.5		12.8	10.7	24.6		17.9
Green Ext Time (p_c), s	0.2	9.9		0.3	0.2	12.3		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	31.0
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	758	17	129	921	9	34	67	149	6	76	119
Future Volume (veh/h)	63	758	17	129	921	9	34	67	149	6	76	119
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1557	1792	1652	1638	1900	1900	1887	1638	1900	1848	1845
Adj Flow Rate, veh/h	73	881	20	147	1047	10	41	81	180	9	119	186
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	1
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	0.83	0.83	0.83	0.64	0.64	0.64
Percent Heavy Veh, %	8	22	6	15	16	0	0	1	16	0	3	3
Cap, veh/h	343	1447	745	380	1566	813	105	175	347	54	276	368
Arrive On Green	0.08	0.49	0.49	0.09	0.50	0.50	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1675	2959	1524	1573	3112	1615	304	1119	1392	50	1765	1568
Grp Volume(v), veh/h	73	881	20	147	1047	10	122	0	180	128	0	186
Grp Sat Flow(s),veh/h/ln	1675	1480	1524	1573	1556	1615	1423	0	1392	1815	0	1568
Q Serve(g_s), s	1.6	18.1	0.6	3.6	21.1	0.3	1.8	0.0	9.3	0.0	0.0	8.6
Cycle Q Clear(g_c), s	1.6	18.1	0.6	3.6	21.1	0.3	7.0	0.0	9.3	5.2	0.0	8.6
Prop In Lane	1.00		1.00	1.00		1.00	0.34		1.00	0.07		1.00
Lane Grp Cap(c), veh/h	343	1447	745	380	1566	813	280	0	347	330	0	368
V/C Ratio(X)	0.21	0.61	0.03	0.39	0.67	0.01	0.44	0.00	0.52	0.39	0.00	0.51
Avail Cap(c_a), veh/h	713	2300	1184	705	2419	1255	857	0	878	1004	0	966
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.0	15.6	11.1	10.8	15.5	10.4	32.2	0.0	27.1	31.9	0.0	27.8
Incr Delay (d2), s/veh	0.3	1.1	0.0	0.6	1.4	0.0	1.3	0.0	1.4	0.9	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	7.6	0.2	1.6	9.3	0.1	2.7	0.0	3.7	2.7	0.0	3.9
LnGrp Delay(d),s/veh	11.3	16.7	11.1	11.4	16.9	10.4	33.5	0.0	28.5	32.8	0.0	29.1
LnGrp LOS	B	B	B	B	B	B	C		C	C		C
Approach Vol, veh/h		974			1204			302			314	
Approach Delay, s/veh		16.2			16.2			30.5			30.6	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.3	50.1		20.2	14.5	48.9		20.2
Change Period (Y+Rc), s	* 6.8	8.0		7.1	* 6.8	8.0		7.1
Max Green Setting (Gmax), s	* 25	65.0		45.0	* 25	65.0		45.0
Max Q Clear Time (g_c+I1), s	3.6	23.1		10.6	5.6	20.1		11.3
Green Ext Time (p_c), s	0.1	19.0		1.8	0.3	15.8		1.8

Intersection Summary	
HCM 2010 Ctrl Delay	19.4
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	956	74	46	1046	11	83	28	76	31	25	19
Future Volume (veh/h)	6	956	74	46	1046	11	83	28	76	31	25	19
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1267	1638	1792	1583	1638	1397	1776	1602	1900	1508	1577	1900
Adj Flow Rate, veh/h	7	1051	81	48	1090	11	163	55	149	48	38	29
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.51	0.51	0.51	0.65	0.65	0.65
Percent Heavy Veh, %	50	16	6	20	16	36	7	4	24	26	4	42
Cap, veh/h	206	1545	757	281	1698	648	302	80	218	158	175	133
Arrive On Green	0.01	0.50	0.50	0.06	0.55	0.55	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1206	3112	1524	1508	3112	1188	1267	383	1036	950	831	634
Grp Volume(v), veh/h	7	1051	81	48	1090	11	163	0	204	48	0	67
Grp Sat Flow(s),veh/h/ln	1206	1556	1524	1508	1556	1188	1267	0	1419	950	0	1466
Q Serve(g_s), s	0.2	22.0	2.4	1.2	21.0	0.4	10.5	0.0	11.4	4.2	0.0	3.2
Cycle Q Clear(g_c), s	0.2	22.0	2.4	1.2	21.0	0.4	13.7	0.0	11.4	15.6	0.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.73	1.00		0.43
Lane Grp Cap(c), veh/h	206	1545	757	281	1698	648	302	0	299	158	0	308
V/C Ratio(X)	0.03	0.68	0.11	0.17	0.64	0.02	0.54	0.00	0.68	0.30	0.00	0.22
Avail Cap(c_a), veh/h	610	2176	1065	712	2176	830	405	0	413	235	0	427
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.0	16.4	11.5	11.7	13.6	8.9	33.7	0.0	31.2	38.4	0.0	28.0
Incr Delay (d2), s/veh	0.1	1.5	0.2	0.3	1.1	0.0	3.2	0.0	5.8	2.3	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	9.7	1.0	0.5	9.2	0.1	3.9	0.0	5.0	1.2	0.0	1.4
LnGrp Delay(d),s/veh	12.1	17.9	11.7	12.0	14.8	9.0	36.9	0.0	37.0	40.7	0.0	28.8
LnGrp LOS	B	B	B	B	B	A	D		D	D		C
Approach Vol, veh/h		1139			1149			367			115	
Approach Delay, s/veh		17.4			14.6			37.0			33.8	
Approach LOS		B			B			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.8	54.7		24.3	11.1	50.5		24.3
Change Period (Y+Rc), s	* 5.6	7.9		* 6.2	* 5.6	7.9		* 6.2
Max Green Setting (Gmax), s	* 30	60.0		* 25	* 30	60.0		* 25
Max Q Clear Time (g_c+I1), s	2.2	23.0		17.6	3.2	24.0		15.7
Green Ext Time (p_c), s	0.0	18.8		0.5	0.1	18.6		2.2

Intersection Summary	
HCM 2010 Ctrl Delay	19.5
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	896	206	70	825	9	118	36	77	12	47	0
Future Volume (veh/h)	3	896	206	70	825	9	118	36	77	12	47	0
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1624	1792	1776	1624	1900	1792	1712	1638	1900	1870	1900
Adj Flow Rate, veh/h	3	953	219	80	938	10	139	42	91	17	67	0
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.85	0.85	0.85	0.70	0.70	0.70
Percent Heavy Veh, %	0	17	6	7	17	0	6	11	16	0	2	0
Cap, veh/h	360	1556	768	394	1852	969	280	231	188	80	214	0
Arrive On Green	0.01	0.50	0.50	0.10	0.60	0.60	0.14	0.14	0.14	0.14	0.14	0.00
Sat Flow, veh/h	1810	3085	1524	1691	3085	1615	1279	1712	1392	192	1584	0
Grp Volume(v), veh/h	3	953	219	80	938	10	139	42	91	84	0	0
Grp Sat Flow(s),veh/h/ln	1810	1543	1524	1691	1543	1615	1279	1712	1392	1776	0	0
Q Serve(g_s), s	0.1	17.7	6.6	1.5	14.0	0.2	4.0	1.7	4.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	17.7	6.6	1.5	14.0	0.2	7.2	1.7	4.8	3.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.20		0.00
Lane Grp Cap(c), veh/h	360	1556	768	394	1852	969	280	231	188	294	0	0
V/C Ratio(X)	0.01	0.61	0.29	0.20	0.51	0.01	0.50	0.18	0.48	0.29	0.00	0.00
Avail Cap(c_a), veh/h	912	2510	1240	748	2510	1314	748	857	697	916	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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.8	14.2	11.5	8.6	9.2	6.4	32.7	30.6	32.0	31.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	0.6	0.3	0.6	0.0	1.9	0.5	2.7	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.6	2.9	0.7	6.0	0.1	3.1	0.9	2.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	9.8	15.3	12.0	8.8	9.8	6.4	34.7	31.2	34.7	31.7	0.0	0.0
LnGrp LOS	A	B	B	A	A	A	C	C	C	C		
Approach Vol, veh/h		1175			1028			272			84	
Approach Delay, s/veh		14.7			9.7			34.1			31.7	
Approach LOS		B			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.0	55.9		16.9	14.7	48.3		16.9
Change Period (Y+Rc), s	6.4	8.0		6.1	6.4	8.0		6.1
Max Green Setting (Gmax), s	25.0	65.0		40.0	25.0	65.0		40.0
Max Q Clear Time (g_c+I1), s	2.1	16.0		5.2	3.5	19.7		9.2
Green Ext Time (p_c), s	0.0	17.5		0.4	0.2	20.6		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	15.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	726	19	4	878	14	27	4	18	8	7	9
Future Volume (veh/h)	8	726	19	4	878	14	27	4	18	8	7	9
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1508	1583	1900	1557	1900	1496	1900	1900	1900	1640	1900
Adj Flow Rate, veh/h	9	807	21	4	976	16	38	6	25	12	10	13
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.72	0.72	0.72	0.67	0.67	0.67
Percent Heavy Veh, %	0	26	20	0	22	0	27	0	0	0	13	18
Cap, veh/h	250	1408	661	300	1433	782	102	16	67	216	63	82
Arrive On Green	0.01	0.49	0.49	0.01	0.48	0.48	0.07	0.05	0.05	0.12	0.10	0.10
Sat Flow, veh/h	1810	2865	1346	1810	2959	1615	1425	322	1341	1810	649	843
Grp Volume(v), veh/h	9	807	21	4	976	16	38	0	31	12	0	23
Grp Sat Flow(s),veh/h/ln	1810	1433	1346	1810	1480	1615	1425	0	1663	1810	0	1492
Q Serve(g_s), s	0.2	15.6	0.3	0.1	19.8	0.4	2.0	0.0	1.4	0.5	0.0	1.1
Cycle Q Clear(g_c), s	0.2	15.6	0.3	0.1	19.8	0.4	2.0	0.0	1.4	0.5	0.0	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.81	1.00		0.57
Lane Grp Cap(c), veh/h	250	1408	661	300	1433	782	102	0	83	216	0	145
V/C Ratio(X)	0.04	0.57	0.03	0.01	0.68	0.02	0.37	0.00	0.37	0.06	0.00	0.16
Avail Cap(c_a), veh/h	804	2017	948	868	2083	1137	730	0	852	936	0	764
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.5	14.1	1.8	11.6	15.5	10.5	34.6	0.0	35.9	30.5	0.0	32.3
Incr Delay (d2), s/veh	0.1	1.0	0.1	0.0	1.6	0.0	2.2	0.0	2.7	0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	6.4	0.2	0.0	8.3	0.2	0.8	0.0	0.7	0.2	0.0	0.5
LnGrp Delay(d),s/veh	12.5	15.1	1.8	11.6	17.1	10.5	36.8	0.0	38.6	30.6	0.0	32.8
LnGrp LOS	B	B	A	B	B	B	D		D	C		C
Approach Vol, veh/h		837			996			69			35	
Approach Delay, s/veh		14.7			17.0			37.6			32.1	
Approach LOS		B			B			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	45.8	11.6	13.6	6.5	46.4	15.3	9.9
Change Period (Y+Rc), s	6.0	8.0	6.0	6.0	6.0	8.0	6.0	* 6
Max Green Setting (Gmax), s	25.0	55.0	40.0	40.0	25.0	55.0	40.4	* 40
Max Q Clear Time (g_c+I1), s	2.2	21.8	4.0	3.1	2.1	17.6	2.5	3.4
Green Ext Time (p_c), s	0.0	16.0	0.1	0.1	0.0	13.6	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	17.0
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

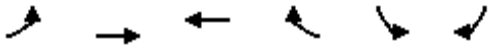
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	689	16	21	986	44	39	28	39	138	73	11
Future Volume (veh/h)	1	689	16	21	986	44	39	28	39	138	73	11
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1616	1900	1900	1624	1759	1900	1900	1900	1845	1868	1900
Adj Flow Rate, veh/h	1	895	21	25	1174	52	44	32	44	162	86	13
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.77	0.77	0.77	0.84	0.84	0.84	0.88	0.88	0.88	0.85	0.85	0.85
Percent Heavy Veh, %	0	18	0	0	17	8	0	0	0	3	2	0
Cap, veh/h	206	1715	40	324	1777	861	115	69	95	190	212	32
Arrive On Green	0.00	0.56	0.56	0.02	0.58	0.58	0.06	0.10	0.10	0.11	0.13	0.13
Sat Flow, veh/h	1810	3066	72	1810	3085	1495	1810	726	998	1757	1586	240
Grp Volume(v), veh/h	1	448	468	25	1174	52	44	0	76	162	0	99
Grp Sat Flow(s),veh/h/ln	1810	1535	1603	1810	1543	1495	1810	0	1724	1757	0	1825
Q Serve(g_s), s	0.0	22.9	22.9	0.7	32.8	1.9	2.9	0.0	5.3	11.4	0.0	6.3
Cycle Q Clear(g_c), s	0.0	22.9	22.9	0.7	32.8	1.9	2.9	0.0	5.3	11.4	0.0	6.3
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.58	1.00		0.13
Lane Grp Cap(c), veh/h	206	858	896	324	1777	861	115	0	164	190	0	244
V/C Ratio(X)	0.00	0.52	0.52	0.08	0.66	0.06	0.38	0.00	0.46	0.85	0.00	0.41
Avail Cap(c_a), veh/h	295	858	896	383	1777	861	250	0	249	270	0	252
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.9	17.3	17.3	13.6	18.3	11.7	56.6	0.0	54.0	55.2	0.0	50.0
Incr Delay (d2), s/veh	0.0	2.3	2.2	0.1	1.9	0.1	2.1	0.0	2.9	16.4	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.2	10.7	0.4	14.3	0.8	1.5	0.0	2.6	6.4	0.0	3.3
LnGrp Delay(d),s/veh	15.9	19.6	19.5	13.7	20.2	11.9	58.7	0.0	56.8	71.6	0.0	52.3
LnGrp LOS	B	B	B	B	C	B	E		E	E		D
Approach Vol, veh/h		917			1251			120			261	
Approach Delay, s/veh		19.5			19.7			57.5			64.3	
Approach LOS		B			B			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	80.2	15.6	24.4	7.9	78.1	21.2	18.8
Change Period (Y+Rc), s	5.6	7.6	7.6	7.6	5.6	7.6	* 7.6	* 6.8
Max Green Setting (Gmax), s	6.4	56.4	17.4	17.4	6.4	52.4	* 19	* 18
Max Q Clear Time (g_c+I1), s	2.0	34.8	4.9	8.3	2.7	24.9	13.4	7.3
Green Ext Time (p_c), s	0.0	14.8	0.0	0.5	0.0	12.6	0.2	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	26.0
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	43	832	1035	88	73	64
Future Volume (veh/h)	43	832	1035	88	73	64
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1638	1624	1845	1810	1863
Adj Flow Rate, veh/h	47	914	1089	93	100	88
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.91	0.91	0.95	0.95	0.73	0.73
Percent Heavy Veh, %	0	16	17	3	5	2
Cap, veh/h	372	2495	2018	1025	134	123
Arrive On Green	0.09	0.80	0.22	0.22	0.08	0.08
Sat Flow, veh/h	1810	3194	3167	1568	1723	1583
Grp Volume(v), veh/h	47	914	1089	93	100	88
Grp Sat Flow(s),veh/h/ln	1810	1556	1543	1568	1723	1583
Q Serve(g_s), s	0.0	10.4	39.5	6.0	7.2	6.8
Cycle Q Clear(g_c), s	0.0	10.4	39.5	6.0	7.2	6.8
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	372	2495	2018	1025	134	123
V/C Ratio(X)	0.13	0.37	0.54	0.09	0.75	0.72
Avail Cap(c_a), veh/h	372	2495	2018	1025	224	206
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.72	0.72	1.00	1.00
Uniform Delay (d), s/veh	24.1	3.5	32.6	19.4	56.9	56.8
Incr Delay (d2), s/veh	0.2	0.4	0.7	0.1	16.2	15.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.5	17.1	2.6	4.0	3.5
LnGrp Delay(d),s/veh	24.3	3.9	33.3	19.6	73.1	72.0
LnGrp LOS	C	A	C	B	E	E
Approach Vol, veh/h		961	1182		188	
Approach Delay, s/veh		4.9	32.2		72.6	
Approach LOS		A	C		E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	18.6	90.0		17.4		108.6		
Change Period (Y+Rc), s	7.6	* 7.6		7.6		7.6		
Max Green Setting (Gmax), s	6.4	* 82		16.4		94.4		
Max Q Clear Time (g_c+I1), s	2.0	41.5		9.2		12.4		
Green Ext Time (p_c), s	0.0	21.3		0.6		19.2		

Intersection Summary	
HCM 2010 Ctrl Delay	24.2
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	731	82	25	933	64	45	125	51	224	227	67
Future Volume (veh/h)	48	731	82	25	933	64	45	125	51	224	227	67
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1597	1863	1900	1624	1712	1727	1848	1900	1810	1835	1900
Adj Flow Rate, veh/h	53	812	91	27	1014	70	59	164	67	273	277	82
Adj No. of Lanes	1	2	1	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.76	0.76	0.76	0.82	0.82	0.82
Percent Heavy Veh, %	0	19	2	0	17	11	10	4	0	5	4	2
Cap, veh/h	73	1271	735	263	1644	959	74	235	92	217	470	136
Arrive On Green	0.05	0.56	0.56	0.29	1.00	1.00	0.05	0.10	0.10	0.13	0.18	0.18
Sat Flow, veh/h	1810	3034	1583	1810	3085	1455	1645	2464	968	1723	2667	774
Grp Volume(v), veh/h	53	812	91	27	1014	70	59	115	116	273	179	180
Grp Sat Flow(s),veh/h/ln	1810	1517	1583	1810	1543	1455	1645	1755	1677	1723	1743	1698
Q Serve(g_s), s	3.6	23.2	1.4	1.4	0.0	0.0	4.5	8.0	8.5	15.9	11.9	12.3
Cycle Q Clear(g_c), s	3.6	23.2	1.4	1.4	0.0	0.0	4.5	8.0	8.5	15.9	11.9	12.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.58	1.00		0.46
Lane Grp Cap(c), veh/h	73	1271	735	263	1644	959	74	167	160	217	307	299
V/C Ratio(X)	0.73	0.64	0.12	0.10	0.62	0.07	0.79	0.69	0.73	1.26	0.58	0.60
Avail Cap(c_a), veh/h	171	1271	735	263	1644	959	181	272	259	217	307	299
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	0.75	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.0	21.3	4.7	38.7	0.0	0.0	59.6	55.2	55.4	55.0	47.7	47.8
Incr Delay (d2), s/veh	12.1	2.3	0.3	0.1	1.3	0.1	16.9	7.0	8.6	146.8	3.4	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	10.0	0.8	0.7	0.3	0.0	2.4	4.2	4.3	16.4	6.0	6.1
LnGrp Delay(d),s/veh	71.1	23.6	5.0	38.8	1.3	0.1	76.5	62.1	64.0	201.8	51.1	51.8
LnGrp LOS	E	C	A	D	A	A	E	E	E	F	D	D
Approach Vol, veh/h		956			1111			290			632	
Approach Delay, s/veh		24.5			2.2			65.8			116.4	
Approach LOS		C			A			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.5	60.0	11.8	28.7	11.2	74.3	22.0	18.5
Change Period (Y+Rc), s	7.2	* 7.2	6.1	6.5	6.1	7.2	6.1	6.5
Max Green Setting (Gmax), s	11.9	* 53	13.9	21.5	11.9	52.8	15.9	19.5
Max Q Clear Time (g_c+I1), s	3.4	25.2	6.5	14.3	5.6	2.0	17.9	10.5
Green Ext Time (p_c), s	0.0	14.1	0.1	1.0	0.0	21.7	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	39.6
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	806	106	75	794	149	75	170	86	246	285	97
Future Volume (veh/h)	83	806	106	75	794	149	75	170	86	246	285	97
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1624	1743	1863	1583	1845	1712	1881	1827	1827	1827	1759
Adj Flow Rate, veh/h	92	896	118	82	873	164	96	218	110	296	343	117
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.78	0.78	0.78	0.83	0.83	0.83
Percent Heavy Veh, %	0	17	9	2	20	3	11	1	4	4	4	8
Cap, veh/h	259	1505	723	103	1213	632	117	340	238	254	588	467
Arrive On Green	0.05	0.16	0.16	0.06	0.40	0.40	0.07	0.10	0.10	0.15	0.17	0.17
Sat Flow, veh/h	1810	3085	1482	1774	3008	1568	1630	3574	1553	1740	3471	1495
Grp Volume(v), veh/h	92	896	118	82	873	164	96	218	110	296	343	117
Grp Sat Flow(s),veh/h/ln	1810	1543	1482	1774	1504	1568	1630	1787	1553	1740	1736	1495
Q Serve(g_s), s	6.2	34.0	8.6	5.8	30.7	5.1	7.3	7.4	8.1	18.4	11.5	1.2
Cycle Q Clear(g_c), s	6.2	34.0	8.6	5.8	30.7	5.1	7.3	7.4	8.1	18.4	11.5	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	1505	723	103	1213	632	117	340	238	254	588	467
V/C Ratio(X)	0.36	0.60	0.16	0.79	0.72	0.26	0.82	0.64	0.46	1.16	0.58	0.25
Avail Cap(c_a), veh/h	259	1505	723	152	1213	632	186	545	327	254	639	489
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	41.3	30.7	58.6	31.6	8.6	57.7	54.9	48.6	53.8	48.2	15.4
Incr Delay (d2), s/veh	0.5	1.1	0.3	15.8	3.7	1.0	14.1	2.8	2.0	108.5	1.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	14.8	3.6	3.3	13.4	3.5	3.8	3.8	3.6	16.5	5.7	2.1
LnGrp Delay(d),s/veh	54.9	42.4	31.0	74.4	35.3	9.6	71.8	57.8	50.6	162.3	49.8	15.8
LnGrp LOS	D	D	C	E	D	A	E	E	D	F	D	B
Approach Vol, veh/h		1106			1119			424			756	
Approach Delay, s/veh		42.3			34.4			59.1			88.6	
Approach LOS		D			C			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.5	68.7	14.7	28.1	25.2	58.0	24.0	18.8
Change Period (Y+Rc), s	7.2	* 7.2	5.6	* 6.8	7.2	7.2	5.6	* 6.8
Max Green Setting (Gmax), s	10.8	* 51	14.4	* 23	10.8	50.8	18.4	* 19
Max Q Clear Time (g_c+I1), s	7.8	36.0	9.3	13.5	8.2	32.7	20.4	10.1
Green Ext Time (p_c), s	0.0	9.5	0.1	1.7	0.0	11.0	0.0	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	52.1
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	54	73	136	67	196	159	88	1004	121	143	822	19
Future Volume (veh/h)	54	73	136	67	196	159	88	1004	121	143	822	19
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1792	1881	1827	1881	1881	1827	1681	1863	1792	1597	1597
Adj Flow Rate, veh/h	57	78	145	78	228	185	93	1057	127	174	1002	23
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.86	0.86	0.86	0.95	0.95	0.95	0.82	0.82	0.82
Percent Heavy Veh, %	4	6	1	4	1	1	4	13	2	6	19	19
Cap, veh/h	113	285	254	209	299	254	161	1545	766	206	1552	694
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.09	0.48	0.48	0.12	0.51	0.51
Sat Flow, veh/h	950	1792	1599	1131	1881	1599	1740	3195	1583	1707	3034	1357
Grp Volume(v), veh/h	57	78	145	78	228	185	93	1057	127	174	1002	23
Grp Sat Flow(s),veh/h/ln	950	1792	1599	1131	1881	1599	1740	1597	1583	1707	1517	1357
Q Serve(g_s), s	4.3	3.8	8.4	6.5	11.6	11.0	5.1	25.5	4.5	10.0	24.1	0.8
Cycle Q Clear(g_c), s	15.9	3.8	8.4	10.3	11.6	11.0	5.1	25.5	4.5	10.0	24.1	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	113	285	254	209	299	254	161	1545	766	206	1552	694
V/C Ratio(X)	0.50	0.27	0.57	0.37	0.76	0.73	0.58	0.68	0.17	0.85	0.65	0.03
Avail Cap(c_a), veh/h	113	285	254	209	299	254	303	1545	766	280	1552	694
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	37.0	38.9	41.5	40.2	40.0	43.5	19.9	14.5	43.1	17.8	12.1
Incr Delay (d2), s/veh	2.7	0.4	2.6	0.8	10.6	9.5	3.3	2.5	0.5	15.9	2.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.9	3.9	2.1	6.9	5.5	2.6	11.7	2.1	5.6	10.5	0.3
LnGrp Delay(d),s/veh	51.2	37.4	41.5	42.3	50.8	49.5	46.8	22.4	15.0	59.0	19.9	12.2
LnGrp LOS	D	D	D	D	D	D	D	C	B	E	B	B
Approach Vol, veh/h		280			491			1277			1199	
Approach Delay, s/veh		42.3			49.0			23.4			25.4	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.8	60.2		24.0	18.6	57.4		24.0
Change Period (Y+Rc), s	6.6	9.0		* 8.1	6.6	9.0		* 8.1
Max Green Setting (Gmax), s	17.4	43.0		* 16	16.4	44.0		* 16
Max Q Clear Time (g_c+I1), s	7.1	26.1		13.6	12.0	27.5		17.9
Green Ext Time (p_c), s	0.1	11.3		0.5	0.2	12.1		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	29.7
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	1015	27	107	734	4	4	34	136	21	61	65
Future Volume (veh/h)	71	1015	27	107	734	4	4	34	136	21	61	65
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1776	1667	1743	1776	1532	1900	1900	1900	1810	1900	1840	1792
Adj Flow Rate, veh/h	76	1091	29	119	816	4	5	40	162	23	68	72
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	1
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.84	0.84	0.84	0.90	0.90	0.90
Percent Heavy Veh, %	7	14	9	7	24	0	0	0	5	13	0	6
Cap, veh/h	432	1629	762	357	1527	847	56	253	352	87	204	334
Arrive On Green	0.08	0.51	0.51	0.09	0.52	0.52	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1691	3167	1482	1691	2911	1615	68	1798	1538	244	1453	1524
Grp Volume(v), veh/h	76	1091	29	119	816	4	45	0	162	91	0	72
Grp Sat Flow(s),veh/h/ln	1691	1583	1482	1691	1456	1615	1866	0	1538	1697	0	1524
Q Serve(g_s), s	1.6	21.8	0.8	2.6	15.8	0.1	0.0	0.0	7.7	0.0	0.0	3.3
Cycle Q Clear(g_c), s	1.6	21.8	0.8	2.6	15.8	0.1	1.8	0.0	7.7	3.8	0.0	3.3
Prop In Lane	1.00		1.00	1.00		1.00	0.11		1.00	0.25		1.00
Lane Grp Cap(c), veh/h	432	1629	762	357	1527	847	309	0	352	292	0	334
V/C Ratio(X)	0.18	0.67	0.04	0.33	0.53	0.00	0.15	0.00	0.46	0.31	0.00	0.22
Avail Cap(c_a), veh/h	795	2412	1129	704	2218	1230	1006	0	947	911	0	923
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.9	15.3	10.3	10.9	13.4	9.7	32.3	0.0	28.4	33.1	0.0	27.3
Incr Delay (d2), s/veh	0.2	1.3	0.1	0.5	0.8	0.0	0.3	0.0	1.1	0.7	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	9.7	0.4	1.2	6.5	0.0	1.0	0.0	3.4	2.0	0.0	1.4
LnGrp Delay(d),s/veh	9.1	16.7	10.3	11.5	14.2	9.7	32.5	0.0	29.5	33.9	0.0	27.7
LnGrp LOS	A	B	B	B	B	A	C		C	C		C
Approach Vol, veh/h		1196			939			207			163	
Approach Delay, s/veh		16.0			13.8			30.2			31.1	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.5	52.7		19.1	14.3	51.9		19.1
Change Period (Y+Rc), s	* 6.8	8.0		7.1	* 6.8	8.0		7.1
Max Green Setting (Gmax), s	* 25	65.0		45.0	* 25	65.0		45.0
Max Q Clear Time (g_c+I1), s	3.6	17.8		5.8	4.6	23.8		9.7
Green Ext Time (p_c), s	0.1	14.3		1.0	0.3	20.1		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	17.4
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	1240	74	75	1077	34	72	11	41	11	11	5
Future Volume (veh/h)	21	1240	74	75	1077	34	72	11	41	11	11	5
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1624	1667	1583	1712	1610	1667	1712	1568	1900	1610	1609	1900
Adj Flow Rate, veh/h	24	1442	86	82	1184	37	84	13	48	15	15	7
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.86	0.86	0.86	0.75	0.75	0.75
Percent Heavy Veh, %	17	14	20	11	18	14	11	18	22	18	13	29
Cap, veh/h	290	1850	786	275	1897	879	224	38	139	179	133	62
Arrive On Green	0.04	0.58	0.58	0.08	0.62	0.62	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1547	3167	1346	1630	3059	1417	1272	293	1084	1155	1039	485
Grp Volume(v), veh/h	24	1442	86	82	1184	37	84	0	61	15	0	22
Grp Sat Flow(s),veh/h/ln	1547	1583	1346	1630	1530	1417	1272	0	1377	1155	0	1523
Q Serve(g_s), s	0.6	32.3	2.6	1.7	22.3	0.9	5.8	0.0	3.8	1.1	0.0	1.2
Cycle Q Clear(g_c), s	0.6	32.3	2.6	1.7	22.3	0.9	7.0	0.0	3.8	4.9	0.0	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.79	1.00		0.32
Lane Grp Cap(c), veh/h	290	1850	786	275	1897	879	224	0	176	179	0	195
V/C Ratio(X)	0.08	0.78	0.11	0.30	0.62	0.04	0.37	0.00	0.35	0.08	0.00	0.11
Avail Cap(c_a), veh/h	728	2046	869	678	1976	915	404	0	371	342	0	410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.7	14.7	8.6	13.3	10.9	6.9	38.9	0.0	36.9	39.2	0.0	35.8
Incr Delay (d2), s/veh	0.1	2.6	0.2	0.7	1.1	0.1	2.2	0.0	2.5	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	14.7	1.0	1.0	9.5	0.4	2.2	0.0	1.5	0.4	0.0	0.5
LnGrp Delay(d),s/veh	8.8	17.3	8.7	14.0	12.0	6.9	41.1	0.0	39.4	39.6	0.0	36.4
LnGrp LOS	A	B	A	B	B	A	D		D	D		D
Approach Vol, veh/h		1552			1303			145			37	
Approach Delay, s/veh		16.7			12.0			40.4			37.7	
Approach LOS		B			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.6	62.2		18.1	9.3	65.5		18.1
Change Period (Y+Rc), s	* 5.6	7.9		* 6.2	* 5.6	7.9		* 6.2
Max Green Setting (Gmax), s	* 30	60.0		* 25	* 30	60.0		* 25
Max Q Clear Time (g_c+I1), s	3.7	34.3		6.9	2.6	24.3		9.0
Green Ext Time (p_c), s	0.2	20.0		0.2	0.0	20.7		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	16.1
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	862	157	98	847	3	122	16	121	23	53	17
Future Volume (veh/h)	3	862	157	98	847	3	122	16	121	23	53	17
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1652	1652	1624	1557	1900	1610	1759	1473	1900	1837	1900
Adj Flow Rate, veh/h	3	917	167	105	911	3	144	19	142	29	68	22
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.85	0.85	0.85	0.78	0.78	0.78
Percent Heavy Veh, %	0	15	15	17	22	0	18	8	29	7	3	0
Cap, veh/h	344	1486	665	377	1707	931	279	287	204	95	180	50
Arrive On Green	0.01	0.47	0.47	0.11	0.58	0.58	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1810	3139	1404	1547	2959	1615	1125	1759	1252	244	1104	306
Grp Volume(v), veh/h	3	917	167	105	911	3	144	19	142	119	0	0
Grp Sat Flow(s),veh/h/ln	1810	1570	1404	1547	1480	1615	1125	1759	1252	1655	0	0
Q Serve(g_s), s	0.1	17.7	5.8	2.3	15.3	0.1	4.5	0.7	8.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	17.7	5.8	2.3	15.3	0.1	9.4	0.7	8.7	4.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.24		0.18
Lane Grp Cap(c), veh/h	344	1486	665	377	1707	931	279	287	204	325	0	0
V/C Ratio(X)	0.01	0.62	0.25	0.28	0.53	0.00	0.52	0.07	0.69	0.37	0.00	0.00
Avail Cap(c_a), veh/h	885	2507	1122	679	2363	1290	649	865	615	845	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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.3	15.9	12.8	9.8	10.5	7.3	32.3	28.8	32.1	30.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.5	0.4	0.7	0.0	2.1	0.1	5.9	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.9	2.3	1.0	6.4	0.0	3.2	0.4	3.3	2.4	0.0	0.0
LnGrp Delay(d),s/veh	11.3	17.1	13.3	10.2	11.2	7.3	34.4	28.9	38.0	31.0	0.0	0.0
LnGrp LOS	B	B	B	B	B	A	C	C	D	C		
Approach Vol, veh/h		1087			1019			305			119	
Approach Delay, s/veh		16.5			11.1			35.8			31.0	
Approach LOS		B			B			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.1	54.9		19.4	15.5	46.5		19.4
Change Period (Y+Rc), s	6.4	8.0		6.1	6.4	8.0		6.1
Max Green Setting (Gmax), s	25.0	65.0		40.0	25.0	65.0		40.0
Max Q Clear Time (g_c+I1), s	2.1	17.3		6.9	4.3	19.7		11.4
Green Ext Time (p_c), s	0.0	16.6		0.6	0.2	18.8		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	17.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	1037	35	32	739	15	6	18	23	10	13	7
Future Volume (veh/h)	16	1037	35	32	739	15	6	18	23	10	13	7
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1570	1610	1900	1520	1900	1624	1748	1900	1900	1833	1900
Adj Flow Rate, veh/h	17	1103	37	35	803	16	8	23	29	12	16	8
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.78	0.78	0.78	0.83	0.83	0.83
Percent Heavy Veh, %	0	21	18	0	25	0	17	7	10	0	0	11
Cap, veh/h	371	1546	709	278	1545	864	31	80	100	32	121	61
Arrive On Green	0.02	0.52	0.52	0.04	0.53	0.53	0.02	0.11	0.11	0.02	0.11	0.11
Sat Flow, veh/h	1810	2983	1369	1810	2888	1615	1547	704	888	1810	1154	577
Grp Volume(v), veh/h	17	1103	37	35	803	16	8	0	52	12	0	24
Grp Sat Flow(s),veh/h/ln	1810	1492	1369	1810	1444	1615	1547	0	1592	1810	0	1731
Q Serve(g_s), s	0.4	23.2	1.1	0.7	14.7	0.4	0.4	0.0	2.5	0.5	0.0	1.0
Cycle Q Clear(g_c), s	0.4	23.2	1.1	0.7	14.7	0.4	0.4	0.0	2.5	0.5	0.0	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.56	1.00		0.33
Lane Grp Cap(c), veh/h	371	1546	709	278	1545	864	31	0	180	32	0	182
V/C Ratio(X)	0.05	0.71	0.05	0.13	0.52	0.02	0.25	0.00	0.29	0.38	0.00	0.13
Avail Cap(c_a), veh/h	879	1994	915	755	1930	1079	752	0	774	888	0	841
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.8	15.1	9.8	11.7	12.3	9.0	39.7	0.0	33.5	40.0	0.0	33.4
Incr Delay (d2), s/veh	0.1	1.8	0.1	0.2	0.7	0.0	4.2	0.0	0.9	7.3	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	9.9	0.4	0.4	6.0	0.2	0.2	0.0	1.1	0.3	0.0	0.5
LnGrp Delay(d),s/veh	9.9	17.0	9.9	11.9	13.1	9.0	43.9	0.0	34.3	47.3	0.0	33.7
LnGrp LOS	A	B	A	B	B	A	D		C	D		C
Approach Vol, veh/h		1157			854			60			36	
Approach Delay, s/veh		16.6			12.9			35.6			38.2	
Approach LOS		B			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	52.0	7.7	14.7	9.3	50.6	7.0	15.3
Change Period (Y+Rc), s	6.0	8.0	6.0	6.0	6.0	8.0	5.6	6.0
Max Green Setting (Gmax), s	25.0	55.0	40.0	40.0	25.0	55.0	40.4	40.0
Max Q Clear Time (g_c+I1), s	2.4	16.7	2.4	3.0	2.7	25.2	2.5	4.5
Green Ext Time (p_c), s	0.0	13.5	0.0	0.1	0.0	17.4	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	16.1
HCM 2010 LOS	B

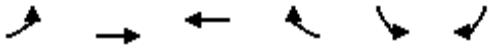
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1039	31	58	851	125	13	62	53	81	70	9
Future Volume (veh/h)	10	1039	31	58	851	125	13	62	53	81	70	9
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1616	1900	1900	1545	1810	1759	1880	1900	1792	1900	1900
Adj Flow Rate, veh/h	10	1082	32	62	905	133	17	79	68	116	100	13
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.78	0.78	0.78	0.70	0.70	0.70
Percent Heavy Veh, %	0	18	4	0	23	5	8	2	0	6	0	0
Cap, veh/h	300	1725	51	276	1704	893	106	96	82	143	192	25
Arrive On Green	0.01	0.57	0.57	0.03	0.58	0.58	0.06	0.10	0.10	0.08	0.12	0.12
Sat Flow, veh/h	1810	3045	90	1810	2935	1538	1675	934	804	1707	1648	214
Grp Volume(v), veh/h	10	545	569	62	905	133	17	0	147	116	0	113
Grp Sat Flow(s),veh/h/ln	1810	1535	1600	1810	1467	1538	1675	0	1738	1707	0	1862
Q Serve(g_s), s	0.3	30.1	30.1	1.8	23.6	5.0	1.2	0.0	10.5	8.4	0.0	7.2
Cycle Q Clear(g_c), s	0.3	30.1	30.1	1.8	23.6	5.0	1.2	0.0	10.5	8.4	0.0	7.2
Prop In Lane	1.00		0.06	1.00		1.00	1.00		0.46	1.00		0.12
Lane Grp Cap(c), veh/h	300	870	906	276	1704	893	106	0	178	143	0	217
V/C Ratio(X)	0.03	0.63	0.63	0.22	0.53	0.15	0.16	0.00	0.83	0.81	0.00	0.52
Avail Cap(c_a), veh/h	366	870	906	317	1704	893	231	0	251	263	0	257
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.1	18.4	18.4	14.8	16.0	12.1	55.8	0.0	55.5	56.7	0.0	52.4
Incr Delay (d2), s/veh	0.0	3.4	3.3	0.4	1.2	0.4	0.7	0.0	16.9	10.3	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	13.6	14.1	0.9	9.8	2.2	0.6	0.0	5.9	4.4	0.0	4.0
LnGrp Delay(d),s/veh	13.1	21.8	21.6	15.2	17.2	12.5	56.5	0.0	72.4	67.0	0.0	56.5
LnGrp LOS	B	C	C	B	B	B	E		E	E		E
Approach Vol, veh/h		1124			1100			164			229	
Approach Delay, s/veh		21.6			16.5			70.8			61.8	
Approach LOS		C			B			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	80.8	15.6	22.3	9.1	79.0	18.2	19.7
Change Period (Y+Rc), s	5.6	7.6	7.6	7.6	5.6	7.6	* 7.6	* 6.8
Max Green Setting (Gmax), s	6.4	56.4	17.4	17.4	6.4	52.4	* 19	* 18
Max Q Clear Time (g_c+I1), s	2.3	25.6	3.2	9.2	3.8	32.1	10.4	12.5
Green Ext Time (p_c), s	0.0	15.4	0.0	0.5	0.0	12.9	0.2	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	26.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	71	1180	947	123	114	75
Future Volume (veh/h)	71	1180	947	123	114	75
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1624	1545	1827	1881	1776
Adj Flow Rate, veh/h	78	1297	1007	131	133	87
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.91	0.91	0.94	0.94	0.86	0.86
Percent Heavy Veh, %	2	17	23	4	1	7
Cap, veh/h	349	2425	1919	1016	167	141
Arrive On Green	0.07	0.79	0.22	0.22	0.09	0.09
Sat Flow, veh/h	1774	3167	3012	1553	1792	1509
Grp Volume(v), veh/h	78	1297	1007	131	133	87
Grp Sat Flow(s),veh/h/ln	1774	1543	1467	1553	1792	1509
Q Serve(g_s), s	0.0	19.5	38.2	8.6	9.2	7.0
Cycle Q Clear(g_c), s	0.0	19.5	38.2	8.6	9.2	7.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	349	2425	1919	1016	167	141
V/C Ratio(X)	0.22	0.53	0.52	0.13	0.80	0.62
Avail Cap(c_a), veh/h	349	2425	1919	1016	233	196
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.65	0.65	1.00	1.00
Uniform Delay (d), s/veh	26.4	5.0	32.1	20.5	55.9	55.0
Incr Delay (d2), s/veh	0.3	0.8	0.7	0.2	18.7	9.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	8.4	15.7	3.7	5.4	3.3
LnGrp Delay(d),s/veh	26.7	5.8	32.8	20.6	74.7	64.0
LnGrp LOS	C	A	C	C	E	E
Approach Vol, veh/h		1375	1138		220	
Approach Delay, s/veh		7.0	31.4		70.5	
Approach LOS		A	C		E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	16.6	90.0		19.4		106.6		
Change Period (Y+Rc), s	7.6	* 7.6		7.6		7.6		
Max Green Setting (Gmax), s	6.4	* 82		16.4		94.4		
Max Q Clear Time (g_c+I1), s	2.0	40.2		11.2		21.5		
Green Ext Time (p_c), s	0.0	20.3		0.6		33.5		

Intersection Summary	
HCM 2010 Ctrl Delay	22.3
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	1041	164	83	899	130	108	314	104	137	301	47
Future Volume (veh/h)	78	1041	164	83	899	130	108	314	104	137	301	47
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1583	1881	1827	1532	1863	1810	1877	1900	1845	1884	1900
Adj Flow Rate, veh/h	80	1073	169	89	967	140	114	331	109	147	324	51
Adj No. of Lanes	1	2	1	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.93	0.93	0.93	0.95	0.95	0.95	0.93	0.93	0.93
Percent Heavy Veh, %	3	20	1	4	24	2	5	0	5	3	1	0
Cap, veh/h	101	1261	798	216	1441	940	138	381	123	173	503	78
Arrive On Green	0.08	0.56	0.56	0.25	0.99	0.99	0.08	0.14	0.14	0.10	0.16	0.16
Sat Flow, veh/h	1757	3008	1599	1740	2911	1583	1723	2650	858	1757	3104	484
Grp Volume(v), veh/h	80	1073	169	89	967	140	114	221	219	147	185	190
Grp Sat Flow(s),veh/h/ln	1757	1504	1599	1740	1456	1583	1723	1783	1725	1757	1790	1798
Q Serve(g_s), s	5.6	37.8	2.5	5.4	1.3	0.1	8.2	15.3	15.7	10.4	12.2	12.4
Cycle Q Clear(g_c), s	5.6	37.8	2.5	5.4	1.3	0.1	8.2	15.3	15.7	10.4	12.2	12.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		0.27
Lane Grp Cap(c), veh/h	101	1261	798	216	1441	940	138	256	248	173	290	292
V/C Ratio(X)	0.79	0.85	0.21	0.41	0.67	0.15	0.83	0.86	0.88	0.85	0.64	0.65
Avail Cap(c_a), veh/h	166	1261	798	216	1441	940	190	276	267	222	305	307
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.81	0.81	0.81	0.65	0.65	0.65	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	24.6	4.1	43.5	0.3	0.2	57.1	52.7	52.9	55.9	49.3	49.4
Incr Delay (d2), s/veh	10.8	6.0	0.5	0.8	1.6	0.2	18.5	23.1	27.2	21.1	4.9	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	16.7	1.5	2.6	0.6	0.1	4.6	9.2	9.4	6.0	6.4	6.6
LnGrp Delay(d),s/veh	68.3	30.6	4.6	44.3	2.0	0.4	75.6	75.9	80.1	77.0	54.2	54.7
LnGrp LOS	E	C	A	D	A	A	E	E	F	E	D	D
Approach Vol, veh/h		1322			1196			554			522	
Approach Delay, s/veh		29.6			4.9			77.5			60.8	
Approach LOS		C			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.9	60.0	16.2	26.9	13.3	69.6	18.5	24.6
Change Period (Y+Rc), s	7.2	* 7.2	6.1	6.5	6.1	7.2	6.1	6.5
Max Green Setting (Gmax), s	11.9	* 53	13.9	21.5	11.9	52.8	15.9	19.5
Max Q Clear Time (g_c+I1), s	7.4	39.8	10.2	14.4	7.6	3.3	12.4	17.7
Green Ext Time (p_c), s	0.1	10.3	0.1	1.0	0.0	21.4	0.1	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	33.3
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	938	90	107	818	450	110	369	86	205	375	112
Future Volume (veh/h)	177	938	90	107	818	450	110	369	86	205	375	112
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1570	1727	1900	1520	1881	1792	1881	1900	1845	1881	1863
Adj Flow Rate, veh/h	190	1009	97	119	909	500	121	405	95	228	417	124
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.91	0.91	0.91	0.90	0.90	0.90
Percent Heavy Veh, %	2	21	10	0	25	1	6	1	0	3	1	2
Cap, veh/h	190	1285	632	144	1164	645	145	477	344	252	686	473
Arrive On Green	0.04	0.14	0.14	0.08	0.40	0.40	0.09	0.13	0.13	0.14	0.19	0.19
Sat Flow, veh/h	1774	2983	1468	1810	2888	1599	1707	3574	1615	1757	3574	1583
Grp Volume(v), veh/h	190	1009	97	119	909	500	121	405	95	228	417	124
Grp Sat Flow(s),veh/h/ln	1774	1492	1468	1810	1444	1599	1707	1787	1615	1757	1787	1583
Q Serve(g_s), s	13.5	41.1	7.3	8.2	34.5	20.2	8.8	14.0	6.2	16.1	13.4	1.4
Cycle Q Clear(g_c), s	13.5	41.1	7.3	8.2	34.5	20.2	8.8	14.0	6.2	16.1	13.4	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	190	1285	632	144	1164	645	145	477	344	252	686	473
V/C Ratio(X)	1.00	0.79	0.15	0.83	0.78	0.78	0.83	0.85	0.28	0.90	0.61	0.26
Avail Cap(c_a), veh/h	190	1285	632	155	1164	645	195	545	375	257	686	473
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.49	0.49	0.49	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.8	48.4	33.9	57.1	32.7	11.3	56.8	53.4	41.5	53.1	46.6	15.6
Incr Delay (d2), s/veh	45.8	2.4	0.3	27.9	5.2	8.9	19.8	11.7	0.6	31.7	1.8	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	17.5	3.0	5.2	14.6	11.9	5.0	7.7	2.8	10.0	6.8	2.2
LnGrp Delay(d),s/veh	106.6	50.9	34.2	85.1	38.0	20.2	76.5	65.1	42.1	84.8	48.4	16.0
LnGrp LOS	F	D	C	F	D	C	E	E	D	F	D	B
Approach Vol, veh/h		1296			1528			621			769	
Approach Delay, s/veh		57.8			35.8			63.8			54.0	
Approach LOS		E			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.2	61.5	16.3	31.0	20.7	58.0	23.7	23.6
Change Period (Y+Rc), s	7.2	* 7.2	5.6	* 6.8	7.2	7.2	5.6	* 6.8
Max Green Setting (Gmax), s	10.8	* 51	14.4	* 23	10.8	50.8	18.4	* 19
Max Q Clear Time (g_c+I1), s	10.2	43.1	10.8	15.4	15.5	36.5	18.1	16.0
Green Ext Time (p_c), s	0.0	5.9	0.1	1.8	0.0	11.1	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	50.0
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	123	171	92	11	137	132	204	1070	88	174	1160	28
Future Volume (veh/h)	123	171	92	11	137	132	204	1070	88	174	1160	28
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1863	1845	1357	1827	1827	1827	1597	1900	1881	1624	1827
Adj Flow Rate, veh/h	150	209	112	14	173	167	219	1151	95	187	1247	30
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.82	0.82	0.82	0.79	0.79	0.79	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	2	3	40	4	4	4	19	0	1	17	4
Cap, veh/h	146	296	249	112	290	247	251	1459	776	221	1418	713
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.14	0.48	0.48	0.12	0.46	0.46
Sat Flow, veh/h	1046	1863	1568	768	1827	1553	1740	3034	1615	1792	3085	1553
Grp Volume(v), veh/h	150	209	112	14	173	167	219	1151	95	187	1247	30
Grp Sat Flow(s),veh/h/ln	1046	1863	1568	768	1827	1553	1740	1517	1615	1792	1543	1553
Q Serve(g_s), s	7.1	10.6	6.5	1.8	8.8	10.1	12.3	31.7	3.2	10.2	36.7	1.1
Cycle Q Clear(g_c), s	15.9	10.6	6.5	12.4	8.8	10.1	12.3	31.7	3.2	10.2	36.7	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	146	296	249	112	290	247	251	1459	776	221	1418	713
V/C Ratio(X)	1.03	0.71	0.45	0.12	0.60	0.68	0.87	0.79	0.12	0.85	0.88	0.04
Avail Cap(c_a), veh/h	146	296	249	112	290	247	303	1459	776	294	1418	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.2	39.8	38.1	45.7	39.1	39.6	41.9	21.7	14.3	42.9	24.5	14.9
Incr Delay (d2), s/veh	81.2	7.0	0.9	0.4	2.9	6.7	20.3	4.4	0.3	15.8	8.1	0.1
Initial Q Delay(d3),s/veh	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	6.0	2.9	0.4	4.7	4.8	7.3	14.2	1.5	6.0	17.2	0.5
LnGrp Delay(d),s/veh	129.7	46.8	39.0	46.1	41.9	46.3	62.1	26.1	14.6	58.7	32.6	15.0
LnGrp LOS	F	D	D	D	D	D	E	C	B	E	C	B
Approach Vol, veh/h		471			354			1465			1464	
Approach Delay, s/veh		71.4			44.2			30.8			35.6	
Approach LOS		E			D			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.1	54.9		24.0	18.9	57.1		24.0
Change Period (Y+Rc), s	6.6	9.0		* 8.1	6.6	9.0		* 8.1
Max Green Setting (Gmax), s	17.4	43.0		* 16	16.4	44.0		* 16
Max Q Clear Time (g_c+I1), s	14.3	38.7		14.4	12.2	33.7		17.9
Green Ext Time (p_c), s	0.2	3.8		0.2	0.2	8.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	39.0
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	916	21	150	1062	10	35	71	156	7	100	159
Future Volume (veh/h)	76	916	21	150	1062	10	35	71	156	7	100	159
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1557	1792	1652	1638	1900	1900	1887	1638	1900	1848	1845
Adj Flow Rate, veh/h	88	1065	24	170	1207	11	42	85	186	11	159	252
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	1
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	0.84	0.84	0.84	0.63	0.63	0.63
Percent Heavy Veh, %	8	22	6	15	16	0	0	1	16	0	3	3
Cap, veh/h	198	1278	658	228	1399	726	40	66	561	30	323	605
Arrive On Green	0.06	0.43	0.43	0.08	0.45	0.45	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1675	2959	1524	1573	3112	1615	13	202	1392	3	985	1568
Grp Volume(v), veh/h	88	1065	24	170	1207	11	127	0	186	170	0	252
Grp Sat Flow(s),veh/h/ln	1675	1480	1524	1573	1556	1615	215	0	1392	988	0	1568
Q Serve(g_s), s	3.8	42.5	1.2	7.9	46.4	0.5	1.2	0.0	12.2	1.2	0.0	15.6
Cycle Q Clear(g_c), s	3.8	42.5	1.2	7.9	46.4	0.5	43.6	0.0	12.2	43.6	0.0	15.6
Prop In Lane	1.00		1.00	1.00		1.00	0.33		1.00	0.06		1.00
Lane Grp Cap(c), veh/h	198	1278	658	228	1399	726	107	0	561	353	0	605
V/C Ratio(X)	0.45	0.83	0.04	0.74	0.86	0.02	1.19	0.00	0.33	0.48	0.00	0.42
Avail Cap(c_a), veh/h	416	1447	745	406	1522	790	122	0	576	372	0	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.0	33.5	21.8	27.8	32.9	20.3	44.0	0.0	27.3	34.7	0.0	29.9
Incr Delay (d2), s/veh	1.6	5.2	0.1	4.8	6.1	0.0	147.8	0.0	0.4	1.2	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	18.2	0.5	3.7	21.0	0.2	8.3	0.0	4.8	4.7	0.0	6.9
LnGrp Delay(d),s/veh	28.6	38.7	21.8	32.6	39.0	20.3	191.7	0.0	27.7	35.9	0.0	30.4
LnGrp LOS	C	D	C	C	D	C	F		C	D		C
Approach Vol, veh/h		1177			1388			313			422	
Approach Delay, s/veh		37.6			38.1			94.3			32.7	
Approach LOS		D			D			F			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.5	68.1		51.4	16.9	65.6		51.4
Change Period (Y+Rc), s	* 6.8	8.0		7.1	* 6.8	8.0		7.1
Max Green Setting (Gmax), s	* 25	65.0		45.0	* 25	65.0		45.0
Max Q Clear Time (g_c+I1), s	5.8	48.4		45.6	9.9	44.5		45.6
Green Ext Time (p_c), s	0.2	12.1		0.0	0.4	12.9		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	42.5
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	1153	90	56	1238	14	92	32	84	21	17	12
Future Volume (veh/h)	6	1153	90	56	1238	14	92	32	84	21	17	12
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1267	1638	1792	1583	1638	1397	1776	1604	1900	1508	1589	1900
Adj Flow Rate, veh/h	7	1267	99	58	1290	15	177	62	162	32	26	18
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.52	0.52	0.52	0.66	0.66	0.66
Percent Heavy Veh, %	50	16	6	20	16	36	7	4	24	26	4	42
Cap, veh/h	172	1651	808	241	1808	690	306	81	210	125	179	124
Arrive On Green	0.01	0.53	0.53	0.06	0.58	0.58	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1206	3112	1524	1508	3112	1188	1293	394	1029	933	876	606
Grp Volume(v), veh/h	7	1267	99	58	1290	15	177	0	224	32	0	44
Grp Sat Flow(s),veh/h/ln	1206	1556	1524	1508	1556	1188	1293	0	1422	933	0	1482
Q Serve(g_s), s	0.3	31.7	3.2	1.5	29.2	0.5	12.8	0.0	14.6	3.3	0.0	2.4
Cycle Q Clear(g_c), s	0.3	31.7	3.2	1.5	29.2	0.5	15.2	0.0	14.6	17.9	0.0	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.72	1.00		0.41
Lane Grp Cap(c), veh/h	172	1651	808	241	1808	690	306	0	291	125	0	303
V/C Ratio(X)	0.04	0.77	0.12	0.24	0.71	0.02	0.58	0.00	0.77	0.26	0.00	0.15
Avail Cap(c_a), veh/h	523	1900	930	603	1900	725	371	0	362	172	0	377
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.3	18.3	11.6	14.5	14.7	8.7	38.3	0.0	36.9	45.4	0.0	32.1
Incr Delay (d2), s/veh	0.1	2.6	0.2	0.6	1.8	0.0	3.7	0.0	11.1	2.3	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	14.1	1.4	0.7	12.8	0.2	4.9	0.0	6.6	0.9	0.0	1.0
LnGrp Delay(d),s/veh	13.4	20.9	11.8	15.1	16.6	8.8	41.9	0.0	48.0	47.6	0.0	32.5
LnGrp LOS	B	C	B	B	B	A	D		D	D		C
Approach Vol, veh/h		1373			1363			401			76	
Approach Delay, s/veh		20.2			16.4			45.3			38.9	
Approach LOS		C			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	60.0		26.3	7.0	65.0		26.3
Change Period (Y+Rc), s	* 5.6	7.9		* 6.2	* 5.6	7.9		* 6.2
Max Green Setting (Gmax), s	* 30	60.0		* 25	* 30	60.0		* 25
Max Q Clear Time (g_c+I1), s	3.5	33.7		19.9	2.3	31.2		17.2
Green Ext Time (p_c), s	0.1	18.4		0.2	0.0	19.4		2.1

Intersection Summary	
HCM 2010 Ctrl Delay	22.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	1092	252	82	966	11	144	44	94	19	71	0
Future Volume (veh/h)	3	1092	252	82	966	11	144	44	94	19	71	0
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1624	1792	1776	1624	1900	1792	1712	1638	1900	1870	1900
Adj Flow Rate, veh/h	3	1162	268	93	1098	12	169	52	111	27	101	0
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.85	0.85	0.85	0.70	0.70	0.70
Percent Heavy Veh, %	0	17	6	7	17	0	6	11	16	0	2	0
Cap, veh/h	292	1630	805	314	1890	989	283	299	243	82	267	0
Arrive On Green	0.01	0.53	0.53	0.09	0.61	0.61	0.17	0.17	0.17	0.17	0.17	0.00
Sat Flow, veh/h	1810	3085	1524	1691	3085	1615	1240	1712	1392	222	1530	0
Grp Volume(v), veh/h	3	1162	268	93	1098	12	169	52	111	128	0	0
Grp Sat Flow(s),veh/h/ln	1810	1543	1524	1691	1543	1615	1240	1712	1392	1753	0	0
Q Serve(g_s), s	0.1	28.5	10.1	2.1	21.4	0.3	7.5	2.6	7.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	28.5	10.1	2.1	21.4	0.3	13.6	2.6	7.2	6.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.21		0.00
Lane Grp Cap(c), veh/h	292	1630	805	314	1890	989	283	299	243	350	0	0
V/C Ratio(X)	0.01	0.71	0.33	0.30	0.58	0.01	0.60	0.17	0.46	0.37	0.00	0.00
Avail Cap(c_a), veh/h	729	2002	989	580	2002	1048	561	684	556	728	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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.6	17.9	13.5	13.2	11.7	7.6	39.8	35.2	37.1	36.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.8	0.7	0.5	0.8	0.0	2.9	0.4	1.9	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	12.5	4.4	1.1	9.2	0.1	4.7	1.3	2.9	3.2	0.0	0.0
LnGrp Delay(d),s/veh	11.7	19.7	14.2	13.7	12.5	7.6	42.7	35.6	39.0	37.1	0.0	0.0
LnGrp LOS	B	B	B	B	B	A	D	D	D	D		
Approach Vol, veh/h		1433			1203			332			128	
Approach Delay, s/veh		18.6			12.5			40.3			37.1	
Approach LOS		B			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.2	69.4		23.6	15.6	60.9		23.6
Change Period (Y+Rc), s	6.4	8.0		6.1	6.4	8.0		6.1
Max Green Setting (Gmax), s	25.0	65.0		40.0	25.0	65.0		40.0
Max Q Clear Time (g_c+I1), s	2.1	23.4		8.1	4.1	30.5		15.6
Green Ext Time (p_c), s	0.0	20.2		0.6	0.2	22.4		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	19.4
HCM 2010 LOS	B

HCS Two-Way Stop-Control Report

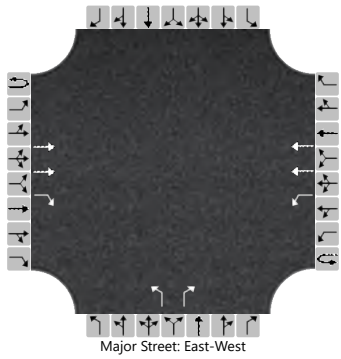
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/16/2022
Analysis Year	2022
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	US 30 PEL WHITLEY CO

Site Information

Intersection	US 30 AND VAN BUREN ST
Jurisdiction	
East/West Street	US 30
North/South Street	VAN BUREN ST
Peak Hour Factor	0.91
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	1	0	1	2	0		1	0	1		0	0	0
Configuration			T	R		L	T			L		R				
Volume (veh/h)			566	38	0	0	661			53		0				
Percent Heavy Vehicles (%)					0	0				0		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage			Left + Thru							1						

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.10				6.80		6.90				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						0				58		0				
Capacity, c (veh/h)						935				373		691				
v/c Ratio						0.00				0.16		0.00				
95% Queue Length, Q_{95} (veh)						0.0				0.5		0.0				
Control Delay (s/veh)						8.9				16.4		10.2				
Level of Service (LOS)						A				C		B				
Approach Delay (s/veh)						0.0				16.4						
Approach LOS						A				C						

HCS Two-Way Stop-Control Report

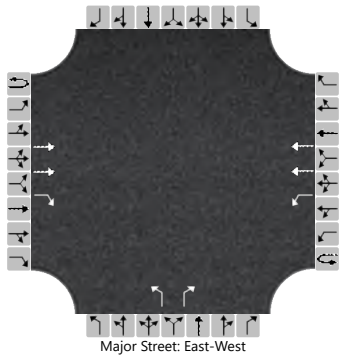
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/16/2022
Analysis Year	2022
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	US 30 PEL WHITLEY CO

Site Information

Intersection	US 30 AND VAN BUREN ST
Jurisdiction	
East/West Street	US 30
North/South Street	VAN BUREN ST
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	1	0	1	2	0		1	0	1		0	0	0
Configuration			T	R		L	T			L		R				
Volume (veh/h)			827	87	0	0	651			52		0				
Percent Heavy Vehicles (%)					0	0				2		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage			Left + Thru							1						

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.10				6.84		6.90				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.52		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						0				55		0				
Capacity, c (veh/h)						724				289		574				
v/c Ratio						0.00				0.19		0.00				
95% Queue Length, Q_{95} (veh)						0.0				0.7		0.0				
Control Delay (s/veh)						10.0				20.4		11.3				
Level of Service (LOS)						A				C		B				
Approach Delay (s/veh)						0.0				20.4						
Approach LOS						A				C						

HCS Two-Way Stop-Control Report

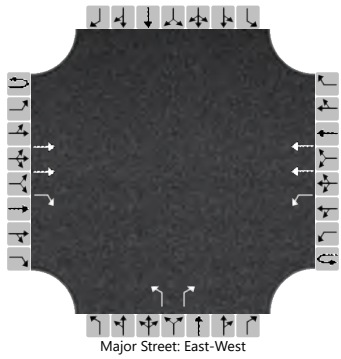
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/16/2022
Analysis Year	2045
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	US 30 PEL WHITLEY CO

Site Information

Intersection	US 30 AND VAN BUREN ST
Jurisdiction	
East/West Street	US 30
North/South Street	VAN BUREN ST
Peak Hour Factor	0.91
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	1	0	1	2	0		1	0	1		0	0	0
Configuration			T	R		L	T			L		R				
Volume (veh/h)			691	47	0	0	793			61		0				
Percent Heavy Vehicles (%)					0	0				0		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage			Left + Thru							1						

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.10				6.80		6.90				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						0				67		0				
Capacity, c (veh/h)						824				311		624				
v/c Ratio						0.00				0.22		0.00				
95% Queue Length, Q_{95} (veh)						0.0				0.8		0.0				
Control Delay (s/veh)						9.4				19.8		10.8				
Level of Service (LOS)						A				C		B				
Approach Delay (s/veh)						0.0				19.8						
Approach LOS						A				C						

HCS Two-Way Stop-Control Report

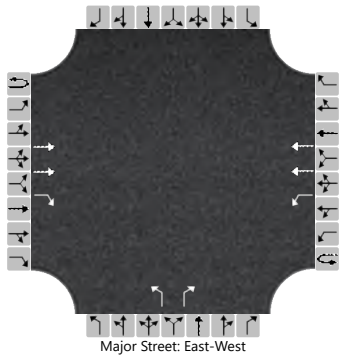
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/16/2022
Analysis Year	2045
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	US 30 PEL WHITLEY CO

Site Information

Intersection	US 30 AND VAN BUREN ST
Jurisdiction	
East/West Street	US 30
North/South Street	VAN BUREN ST
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	1	0	1	2	0		1	0	1		0	0	0
Configuration			T	R		L	T			L		R				
Volume (veh/h)			1009	107	0	0	780			61		0				
Percent Heavy Vehicles (%)					0	0				2		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No							No						
Median Type | Storage			Left + Thru							1						

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.10				6.84		6.90				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.52		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						0				64		0				
Capacity, c (veh/h)						602				227		498				
v/c Ratio						0.00				0.28		0.00				
95% Queue Length, Q_{95} (veh)						0.0				1.1		0.0				
Control Delay (s/veh)						11.0				27.0		12.2				
Level of Service (LOS)						B				D		B				
Approach Delay (s/veh)						0.0				27.0						
Approach LOS						A				D						

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	354	59	31	616	21	68	15	45	3	7	44
Future Volume (veh/h)	96	354	59	31	616	21	68	15	45	3	7	44
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1727	1439	1166	1284	1520	1667	1195	1214	1900	1138	1617	1900
Adj Flow Rate, veh/h	109	402	67	36	708	24	87	19	58	4	10	65
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.87	0.87	0.87	0.78	0.78	0.78	0.68	0.68	0.68
Percent Heavy Veh, %	10	32	63	48	25	14	59	40	62	67	14	18
Cap, veh/h	149	1153	418	57	1091	535	262	51	156	242	36	236
Arrive On Green	0.09	0.42	0.42	0.05	0.38	0.38	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1645	2735	991	1223	2888	1417	846	264	807	804	187	1216
Grp Volume(v), veh/h	109	402	67	36	708	24	87	0	77	4	0	75
Grp Sat Flow(s),veh/h/ln	1645	1367	991	1223	1444	1417	846	0	1071	804	0	1403
Q Serve(g_s), s	3.4	5.3	2.2	1.5	10.7	0.6	5.2	0.0	3.3	0.2	0.0	2.4
Cycle Q Clear(g_c), s	3.4	5.3	2.2	1.5	10.7	0.6	7.6	0.0	3.3	3.5	0.0	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.75	1.00		0.87
Lane Grp Cap(c), veh/h	149	1153	418	57	1091	535	262	0	208	242	0	272
V/C Ratio(X)	0.73	0.35	0.16	0.63	0.65	0.04	0.33	0.00	0.37	0.02	0.00	0.28
Avail Cap(c_a), veh/h	1087	3615	1309	808	3817	1872	737	0	809	693	0	1060
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.5	10.4	9.5	24.8	13.6	10.4	21.4	0.0	18.5	20.1	0.0	18.2
Incr Delay (d2), s/veh	2.6	0.2	0.2	4.2	0.7	0.0	0.7	0.0	1.0	0.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.0	0.6	0.6	4.3	0.2	1.3	0.0	1.0	0.1	0.0	1.0
LnGrp Delay(d),s/veh	26.0	10.6	9.7	29.0	14.3	10.5	22.1	0.0	19.5	20.1	0.0	18.6
LnGrp LOS	C	B	A	C	B	B	C		B	C		B
Approach Vol, veh/h		578			768			164			79	
Approach Delay, s/veh		13.4			14.9			20.9			18.7	
Approach LOS		B			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.5	26.2		16.3	8.2	28.5		16.3
Change Period (Y+Rc), s	* 5.7	* 6.2		6.0	* 5.7	* 6.2		6.0
Max Green Setting (Gmax), s	* 35	* 70		40.0	* 35	* 70		40.0
Max Q Clear Time (g_c+I1), s	5.4	12.7		5.5	3.5	7.3		9.6
Green Ext Time (p_c), s	0.1	5.4		0.4	0.0	3.0		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	15.1
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	715	99	35	523	22	72	13	54	21	20	140
Future Volume (veh/h)	69	715	99	35	523	22	72	13	54	21	20	140
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1681	1520	1329	1275	1418	1667	1218	1398	1900	1810	1718	1900
Adj Flow Rate, veh/h	75	777	108	37	551	23	87	16	65	24	23	161
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.83	0.83	0.83	0.87	0.87	0.87
Percent Heavy Veh, %	13	25	43	49	34	14	56	15	41	5	15	10
Cap, veh/h	115	1135	444	56	990	520	243	63	256	386	48	339
Arrive On Green	0.07	0.39	0.39	0.05	0.37	0.37	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1601	2888	1129	1214	2694	1417	781	242	983	1275	186	1302
Grp Volume(v), veh/h	75	777	108	37	551	23	87	0	81	24	0	184
Grp Sat Flow(s),veh/h/ln	1601	1444	1129	1214	1347	1417	781	0	1225	1275	0	1488
Q Serve(g_s), s	2.7	13.3	3.8	1.8	9.7	0.6	6.3	0.0	3.1	0.9	0.0	6.2
Cycle Q Clear(g_c), s	2.7	13.3	3.8	1.8	9.7	0.6	12.5	0.0	3.1	4.0	0.0	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		0.88
Lane Grp Cap(c), veh/h	115	1135	444	56	990	520	243	0	319	386	0	387
V/C Ratio(X)	0.65	0.68	0.24	0.66	0.56	0.04	0.36	0.00	0.25	0.06	0.00	0.48
Avail Cap(c_a), veh/h	942	3396	1328	714	3168	1666	564	0	823	911	0	1000
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.9	15.0	12.1	27.9	15.0	12.1	23.9	0.0	17.4	19.0	0.0	18.6
Incr Delay (d2), s/veh	2.3	0.8	0.3	4.8	0.5	0.0	0.8	0.0	0.4	0.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	5.4	1.2	0.7	3.7	0.2	1.4	0.0	1.1	0.3	0.0	2.6
LnGrp Delay(d),s/veh	29.2	15.8	12.4	32.8	15.5	12.1	24.7	0.0	17.8	19.1	0.0	19.4
LnGrp LOS	C	B	B	C	B	B	C		B	B		B
Approach Vol, veh/h		960			611			168			208	
Approach Delay, s/veh		16.5			16.4			21.4			19.3	
Approach LOS		B			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.0	28.1		21.5	8.4	29.6		21.5
Change Period (Y+Rc), s	* 5.7	* 6.2		6.0	* 5.7	* 6.2		6.0
Max Green Setting (Gmax), s	* 35	* 70		40.0	* 35	* 70		40.0
Max Q Clear Time (g_c+I1), s	4.7	11.7		8.2	3.8	15.3		14.5
Green Ext Time (p_c), s	0.1	5.0		1.2	0.0	8.1		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	17.2
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
101: Doyle Rd & US 30

03/29/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	435	72	40	789	27	84	18	56	3	8	54
Future Volume (veh/h)	118	435	72	40	789	27	84	18	56	3	8	54
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1727	1439	1166	1284	1520	1667	1195	1213	1900	1138	1617	1900
Adj Flow Rate, veh/h	134	494	82	46	907	31	106	23	71	4	12	79
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.87	0.87	0.87	0.79	0.79	0.79	0.68	0.68	0.68
Percent Heavy Veh, %	10	32	63	48	25	14	59	40	62	67	14	18
Cap, veh/h	167	1301	471	62	1226	601	241	58	178	217	41	268
Arrive On Green	0.10	0.48	0.48	0.05	0.42	0.42	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1645	2735	991	1223	2888	1417	834	262	809	792	185	1218
Grp Volume(v), veh/h	134	494	82	46	907	31	106	0	94	4	0	91
Grp Sat Flow(s),veh/h/ln	1645	1367	991	1223	1444	1417	834	0	1070	792	0	1403
Q Serve(g_s), s	5.6	8.2	3.3	2.6	18.6	0.9	8.6	0.0	5.3	0.3	0.0	3.8
Cycle Q Clear(g_c), s	5.6	8.2	3.3	2.6	18.6	0.9	12.4	0.0	5.3	5.6	0.0	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.76	1.00		0.87
Lane Grp Cap(c), veh/h	167	1301	471	62	1226	601	241	0	236	217	0	309
V/C Ratio(X)	0.80	0.38	0.17	0.74	0.74	0.05	0.44	0.00	0.40	0.02	0.00	0.29
Avail Cap(c_a), veh/h	816	2713	983	607	2865	1406	530	0	607	492	0	795
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.0	11.8	10.6	33.0	17.0	11.9	28.1	0.0	23.5	25.9	0.0	22.9
Incr Delay (d2), s/veh	3.4	0.2	0.2	6.4	1.0	0.0	1.1	0.0	1.0	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	3.1	0.9	1.0	7.5	0.4	2.0	0.0	1.6	0.1	0.0	1.5
LnGrp Delay(d),s/veh	34.3	12.0	10.8	39.5	18.0	12.0	29.3	0.0	24.5	25.9	0.0	23.4
LnGrp LOS	C	B	B	D	B	B	C		C	C		C
Approach Vol, veh/h		710			984			200			95	
Approach Delay, s/veh		16.1			18.8			27.0			23.5	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.9	36.1		21.5	9.3	39.8		21.5
Change Period (Y+Rc), s	* 5.7	* 6.2		6.0	* 5.7	* 6.2		6.0
Max Green Setting (Gmax), s	* 35	* 70		40.0	* 35	* 70		40.0
Max Q Clear Time (g_c+I1), s	7.6	20.6		7.6	4.6	10.2		14.4
Green Ext Time (p_c), s	0.1	9.4		0.5	0.0	4.7		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	18.9
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
101: Doyle Rd & US 30

03/29/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	878	121	45	670	28	88	16	67	26	25	172
Future Volume (veh/h)	85	878	121	45	670	28	88	16	67	26	25	172
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1681	1520	1329	1275	1429	1667	1218	1398	1900	1810	1717	1900
Adj Flow Rate, veh/h	92	954	132	47	705	29	107	20	82	30	29	198
Adj No. of Lanes	1	2	1	1	2	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.82	0.82	0.82	0.87	0.87	0.87
Percent Heavy Veh, %	13	25	43	49	33	14	56	15	41	5	15	10
Cap, veh/h	115	1250	489	58	1111	580	219	72	296	385	57	391
Arrive On Green	0.07	0.43	0.43	0.05	0.41	0.41	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1601	2888	1129	1214	2714	1417	751	240	984	1251	190	1298
Grp Volume(v), veh/h	92	954	132	47	705	29	107	0	102	30	0	227
Grp Sat Flow(s),veh/h/ln	1601	1444	1129	1214	1357	1417	751	0	1224	1251	0	1488
Q Serve(g_s), s	4.6	23.0	6.2	3.1	17.0	1.0	11.2	0.0	5.2	1.5	0.0	10.3
Cycle Q Clear(g_c), s	4.6	23.0	6.2	3.1	17.0	1.0	21.6	0.0	5.2	6.8	0.0	10.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		0.87
Lane Grp Cap(c), veh/h	115	1250	489	58	1111	580	219	0	368	385	0	448
V/C Ratio(X)	0.80	0.76	0.27	0.81	0.63	0.05	0.49	0.00	0.28	0.08	0.00	0.51
Avail Cap(c_a), veh/h	683	2462	963	518	2314	1208	359	0	596	617	0	725
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.5	19.7	14.9	38.7	19.4	14.6	32.6	0.0	21.9	24.5	0.0	23.7
Incr Delay (d2), s/veh	4.8	1.1	0.3	9.2	0.7	0.0	1.5	0.0	0.4	0.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	9.3	1.9	1.2	6.5	0.4	2.4	0.0	1.8	0.5	0.0	4.3
LnGrp Delay(d),s/veh	42.3	20.8	15.3	47.9	20.0	14.7	34.1	0.0	22.3	24.5	0.0	24.4
LnGrp LOS	D	C	B	D	C	B	C		C	C		C
Approach Vol, veh/h		1178			781			209			257	
Approach Delay, s/veh		21.8			21.5			28.3			24.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.6	39.8		30.7	9.6	41.8		30.7
Change Period (Y+Rc), s	* 5.7	* 6.2		6.0	* 5.7	* 6.2		6.0
Max Green Setting (Gmax), s	* 35	* 70		40.0	* 35	* 70		40.0
Max Q Clear Time (g_c+I1), s	6.6	19.0		12.3	5.1	25.0		23.6
Green Ext Time (p_c), s	0.1	6.8		1.4	0.0	10.6		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	22.6
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCS Two-Way Stop-Control Report

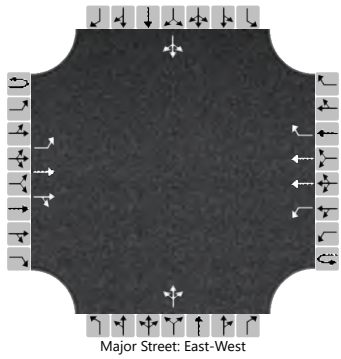
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/18/2022
Analysis Year	2022
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	US 30 PEL ALLEN CO

Site Information

Intersection	US 30 AND RYAN RD
Jurisdiction	
East/West Street	US 30
North/South Street	RYAN RD
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	TR		L	T	R			LTR				LTR	
Volume (veh/h)	0	17	356	0	0	0	619	7		1	2	1		2	3	11
Percent Heavy Vehicles (%)	0	12			0	0				100	0	0		0	0	9
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized						No										
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.34				4.10				9.50	6.50	6.90		7.50	6.50	7.08
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.32				2.20				4.50	4.00	3.30		3.50	4.00	3.39

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		19				0					4				18	
Capacity, c (veh/h)		832				1174					341				486	
v/c Ratio		0.02				0.00					0.01				0.04	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.0				0.1	
Control Delay (s/veh)		9.4				8.1					15.7				12.7	
Level of Service (LOS)		A				A					C				B	
Approach Delay (s/veh)	0.4				0.0				15.7				12.7			
Approach LOS	A				A				C				B			

HCS Two-Way Stop-Control Report

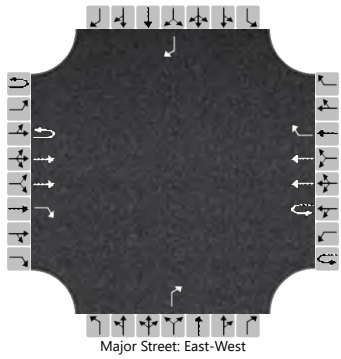
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/18/2022
Analysis Year	2022
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	US 30 PEL ALLEN CO

Site Information

Intersection	US 30 AND SR 101
Jurisdiction	
East/West Street	US 30
North/South Street	SR 101
Peak Hour Factor	0.99
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	1	0	2	1	1	0	2	1		0	0	1		0	0	1
Configuration	U		T	R	U		T	R				R				R
Volume (veh/h)	84		344	46	23		537	24				88				30
Percent Heavy Vehicles (%)	6				57							8				27
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized	No				No				Yes				Yes			
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)	6.4				6.4							6.9				6.9
Critical Headway (sec)	6.52				7.54							7.06				7.44
Base Follow-Up Headway (sec)	2.5				2.5							3.3				3.3
Follow-Up Headway (sec)	2.56				3.07							3.38				3.57

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)	85				23							89				30
Capacity, c (veh/h)	605				584							821				657
v/c Ratio	0.14				0.04							0.11				0.05
95% Queue Length, Q_{95} (veh)	0.5				0.1							0.4				0.1
Control Delay (s/veh)	11.9				11.4							9.9				10.7
Level of Service (LOS)	B				B							A				B
Approach Delay (s/veh)	2.1				0.4				9.9				10.7			
Approach LOS	A				A				A				B			

HCS Two-Way Stop-Control Report

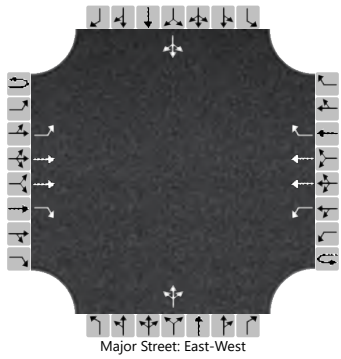
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/18/2022
Analysis Year	2022
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	US 30 PEL ALLEN CO

Site Information

Intersection	US 30 AND STATE LINE RD
Jurisdiction	
East/West Street	US 30
North/South Street	STATE LINE RD
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	R		L	T	R			LTR				LTR	
Volume (veh/h)	0	9	415	2	0	2	434	5		6	6	1		1	4	9
Percent Heavy Vehicles (%)	0	33			0	50				0	17	0		0	75	11
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No										
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.76				5.10				7.50	6.84	6.90		7.50	8.00	7.12
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.53				2.70				3.50	4.17	3.30		3.50	4.75	3.41

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		10				2					14				15	
Capacity, c (veh/h)		896				832					392				467	
v/c Ratio		0.01				0.00					0.04				0.03	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.1				0.1	
Control Delay (s/veh)		9.1				9.3					14.5				13.0	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)		0.2				0.0				14.5				13.0		
Approach LOS		A				A				B				B		

HCS Two-Way Stop-Control Report

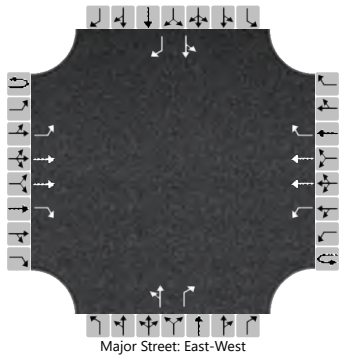
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/18/2022
Analysis Year	2022
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	US 30 PEL ALLEN CO

Site Information

Intersection	US 30 AND WEBSTER
Jurisdiction	
East/West Street	US 30
North/South Street	WEBSTER
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	1		0	1	1
Configuration		L	T	R		L	T	R		LT		R		LT		R
Volume (veh/h)	0	0	465	1	0	3	462	5		3	6	1		8	4	2
Percent Heavy Vehicles (%)	0	0			0	0				0	0	0		50	50	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		8.50	7.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		4.00	4.50	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				3				10		1		13		2
Capacity, c (veh/h)		1077				1078				376		759		304		761
v/c Ratio		0.00				0.00				0.03		0.00		0.04		0.00
95% Queue Length, Q_{95} (veh)		0.0				0.0				0.1		0.0		0.1		0.0
Control Delay (s/veh)		8.3				8.3				14.8		9.8		17.3		9.7
Level of Service (LOS)		A				A				B		A		C		A
Approach Delay (s/veh)		0.0				0.1				14.3				16.3		
Approach LOS		A				A				B				C		

HCS Two-Way Stop-Control Report

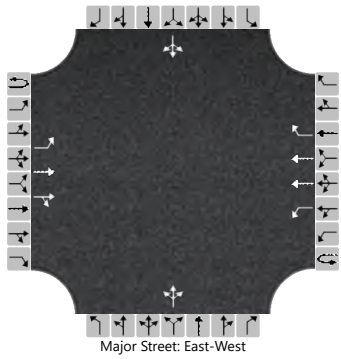
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/18/2022
Analysis Year	2022
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	US 30 PEL ALLEN CO

Site Information

Intersection	US 30 AND RYAN RD
Jurisdiction	
East/West Street	US 30
North/South Street	RYAN RD
Peak Hour Factor	0.96
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	TR		L	T	R			LTR				LTR	
Volume (veh/h)	0	11	727	1	0	1	564	4		0	1	1		5	7	8
Percent Heavy Vehicles (%)	0	9			0	0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized						No										
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.28				4.10				7.50	6.50	6.90		7.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.29				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		11				1					2				21	
Capacity, c (veh/h)		934				862					373				380	
v/c Ratio		0.01				0.00					0.01				0.05	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.2	
Control Delay (s/veh)		8.9				9.2					14.7				15.0	
Level of Service (LOS)		A				A					B				C	
Approach Delay (s/veh)		0.1				0.0				14.7				15.0		
Approach LOS		A				A				B				C		

HCS Two-Way Stop-Control Report

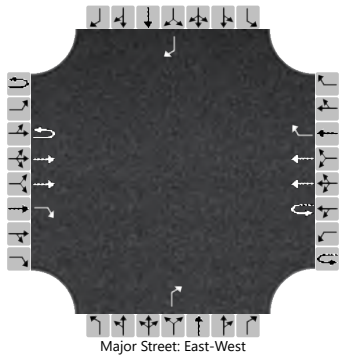
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/18/2022
Analysis Year	2022
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	US 30 PEL ALLEN CO

Site Information

Intersection	US 30 AND SR 101
Jurisdiction	
East/West Street	US 30
North/South Street	SR 101
Peak Hour Factor	0.97
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	1	0	2	1	1	0	2	1		0	0	1		0	0	1
Configuration	U		T	R	U		T	R				R				R
Volume (veh/h)	57		635	115	52		576	42				58				50
Percent Heavy Vehicles (%)	12				14							14				16
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized	No				No				Yes				Yes			
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)	6.4				6.4							6.9				6.9
Critical Headway (sec)	6.64				6.68							7.18				7.22
Base Follow-Up Headway (sec)	2.5				2.5							3.3				3.3
Follow-Up Headway (sec)	2.62				2.64							3.44				3.46

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)	59				54							60				52
Capacity, c (veh/h)	522				462							634				659
v/c Ratio	0.11				0.12							0.09				0.08
95% Queue Length, Q_{95} (veh)	0.4				0.4							0.3				0.3
Control Delay (s/veh)	12.8				13.8							11.3				10.9
Level of Service (LOS)	B				B							B				B
Approach Delay (s/veh)	0.9				1.1				11.3				10.9			
Approach LOS	A				A				B				B			

HCS Two-Way Stop-Control Report

General Information

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Date Performed	11/18/2022
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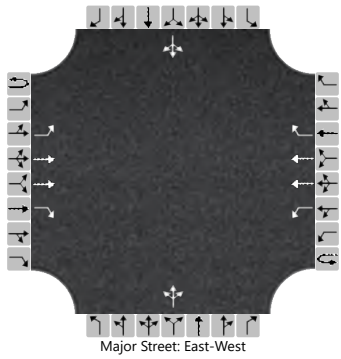
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	US 30 PEL ALLEN CO

Site Information

Intersection	US 30 AND STATE LINE RD
Jurisdiction	
East/West Street	US 30
North/South Street	STATE LINE RD
Peak Hour Factor	0.96
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	R		L	T	R			LTR				LTR	
Volume (veh/h)	0	14	594	22	0	1	528	6		8	16	1		2	12	8
Percent Heavy Vehicles (%)	0	7			0	100				13	6	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No										
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.24				6.10				7.76	6.62	6.90		7.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.27				3.20				3.63	4.06	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		15				1					26				23	
Capacity, c (veh/h)		977				498					302				388	
v/c Ratio		0.01				0.00					0.09				0.06	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.3				0.2	
Control Delay (s/veh)		8.7				12.2					18.1				14.9	
Level of Service (LOS)		A				B					C				B	
Approach Delay (s/veh)		0.2				0.0				18.1				14.9		
Approach LOS		A				A				C				B		

HCS Two-Way Stop-Control Report

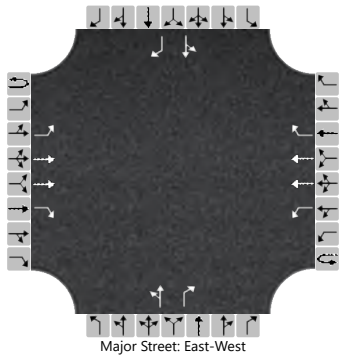
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/18/2022
Analysis Year	2022
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	US 30 PEL ALLEN CO

Site Information

Intersection	US 30 AND WEBSTER
Jurisdiction	
East/West Street	US 30
North/South Street	WEBSTER
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	1		0	1	1
Configuration		L	T	R		L	T	R		LT		R		LT		R
Volume (veh/h)	0	1	691	13	0	1	540	8		7	13	9		5	12	4
Percent Heavy Vehicles (%)	0	0			0	0				0	8	22		0	8	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.66	7.34		7.50	6.66	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.08	3.52		3.50	4.08	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				1				21		9		18		4
Capacity, c (veh/h)		1007				875				279		579		285		719
v/c Ratio		0.00				0.00				0.08		0.02		0.06		0.01
95% Queue Length, Q_{95} (veh)		0.0				0.0				0.2		0.0		0.2		0.0
Control Delay (s/veh)		8.6				9.1				18.9		11.3		18.5		10.0
Level of Service (LOS)		A				A				C		B		C		B
Approach Delay (s/veh)		0.0				0.0				16.6				16.9		
Approach LOS		A				A				C				C		

HCS Two-Way Stop-Control Report

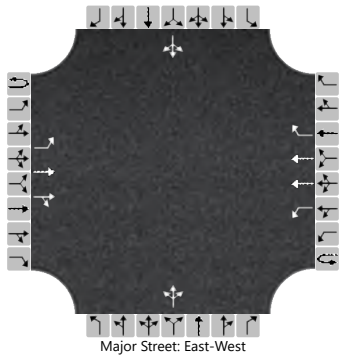
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/18/2022
Analysis Year	2045
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	US 30 PEL ALLEN CO

Site Information

Intersection	US 30 AND RYAN RD
Jurisdiction	
East/West Street	US 30
North/South Street	RYAN RD
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	TR		L	T	R			LTR				LTR	
Volume (veh/h)	0	21	437	0	0	0	793	9		1	2	1		4	6	18
Percent Heavy Vehicles (%)	0	12			0	0				100	0	0		0	0	9
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized					No											
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.34				4.10				9.50	6.50	6.90		7.50	6.50	7.08
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.32				2.20				4.50	4.00	3.30		3.50	4.00	3.39

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		23				0					4				31	
Capacity, c (veh/h)		697				1088					268				385	
v/c Ratio		0.03				0.00					0.02				0.08	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.1				0.3	
Control Delay (s/veh)		10.3				8.3					18.6				15.2	
Level of Service (LOS)		B				A					C				C	
Approach Delay (s/veh)	0.5				0.0				18.6				15.2			
Approach LOS	A				A				C				C			

HCS Two-Way Stop-Control Report

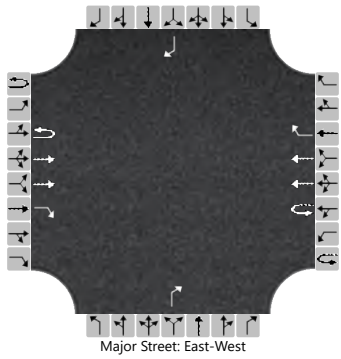
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/18/2022
Analysis Year	2045
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	US 30 PEL ALLEN CO

Site Information

Intersection	US 30 AND SR 101
Jurisdiction	
East/West Street	US 30
North/South Street	SR 101
Peak Hour Factor	0.99
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	1	0	2	1	1	0	2	1		0	0	1		0	0	1
Configuration	U		T	R	U		T	R				R				R
Volume (veh/h)	103		420	56	29		685	30				107				38
Percent Heavy Vehicles (%)	6				57							8				27
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized	No				No				Yes				Yes			
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)	6.4				6.4							6.9				6.9
Critical Headway (sec)	6.52				7.54							7.06				7.44
Base Follow-Up Headway (sec)	2.5				2.5							3.3				3.3
Follow-Up Headway (sec)	2.56				3.07							3.38				3.57

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)	104				29							108				38
Capacity, c (veh/h)	475				495							775				583
v/c Ratio	0.22				0.06							0.14				0.07
95% Queue Length, Q_{95} (veh)	0.8				0.2							0.5				0.2
Control Delay (s/veh)	14.7				12.7							10.4				11.6
Level of Service (LOS)	B				B							B				B
Approach Delay (s/veh)	2.6				0.5				10.4				11.6			
Approach LOS	A				A				B				B			

HCS Two-Way Stop-Control Report

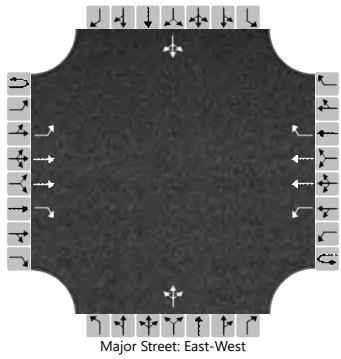
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/18/2022
Analysis Year	2045
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	US 30 PEL ALLEN CO

Site Information

Intersection	US 30 AND STATE LINE RD
Jurisdiction	
East/West Street	US 30
North/South Street	STATE LINE RD
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	R		L	T	R			LTR				LTR	
Volume (veh/h)	0	11	498	2	0	2	554	6		7	7	1		1	4	10
Percent Heavy Vehicles (%)	0	33			0	50				0	17	0		0	75	11
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No										
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.76				5.10				7.50	6.84	6.90		7.50	8.00	7.12
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.53				2.70				3.50	4.17	3.30		3.50	4.75	3.41

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		12				2					16				16	
Capacity, c (veh/h)		787				756					328				406	
v/c Ratio		0.02				0.00					0.05				0.04	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.2				0.1	
Control Delay (s/veh)		9.6				9.8					16.6				14.2	
Level of Service (LOS)		A				A					C				B	
Approach Delay (s/veh)		0.2				0.0				16.6				14.2		
Approach LOS		A				A				C				B		

HCS Two-Way Stop-Control Report

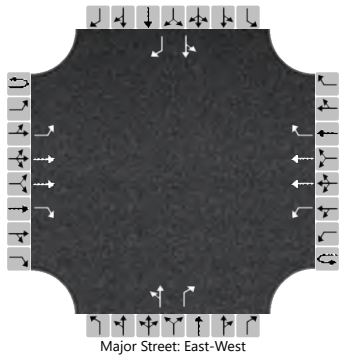
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/18/2022
Analysis Year	2045
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	US 30 PEL ALLEN CO

Site Information

Intersection	US 30 AND WEBSTER
Jurisdiction	
East/West Street	US 30
North/South Street	WEBSTER
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	1		0	1	1
Configuration		L	T	R		L	T	R		LT		R		LT		R
Volume (veh/h)	0	0	566	1	0	3	577	5		3	6	1		11	5	2
Percent Heavy Vehicles (%)	0	0			0	0				0	0	0		50	50	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		8.50	7.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		4.00	4.50	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				3				10		1		17		2
Capacity, c (veh/h)		971				984				315		701		248		695
v/c Ratio		0.00				0.00				0.03		0.00		0.07		0.00
95% Queue Length, Q_{95} (veh)		0.0				0.0				0.1		0.0		0.2		0.0
Control Delay (s/veh)		8.7				8.7				16.8		10.1		20.6		10.2
Level of Service (LOS)		A				A				C		B		C		B
Approach Delay (s/veh)		0.0				0.0				16.1				19.4		
Approach LOS		A				A				C				C		

HCS Two-Way Stop-Control Report

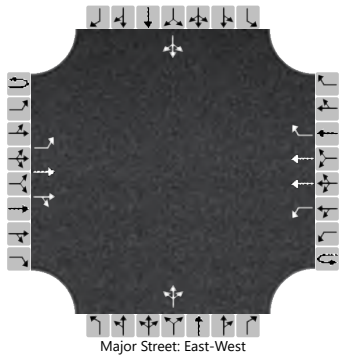
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/18/2022
Analysis Year	2045
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	US 30 PEL ALLEN CO

Site Information

Intersection	US 30 AND RYAN RD
Jurisdiction	
East/West Street	US 30
North/South Street	RYAN RD
Peak Hour Factor	0.96
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	TR		L	T	R			LTR				LTR	
Volume (veh/h)	0	13	892	1	0	1	722	5		0	1	1		9	12	13
Percent Heavy Vehicles (%)	0	9			0	0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized						No										
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.28				4.10				7.50	6.50	6.90		7.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.29				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14				1					2				35	
Capacity, c (veh/h)		805				744					301				300	
v/c Ratio		0.02				0.00					0.01				0.12	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.0				0.4	
Control Delay (s/veh)		9.5				9.8					17.1				18.6	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)		0.1				0.0				17.1				18.6		
Approach LOS		A				A				C				C		

HCS Two-Way Stop-Control Report

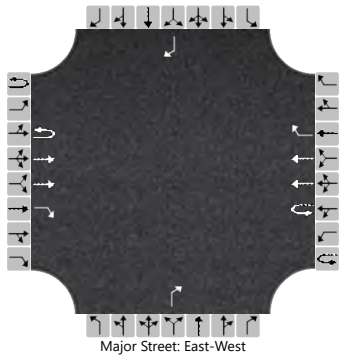
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/18/2022
Analysis Year	2045
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	US 30 PEL ALLEN CO

Site Information

Intersection	US 30 AND SR 101
Jurisdiction	
East/West Street	US 30
North/South Street	SR 101
Peak Hour Factor	0.97
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	1	0	2	1	1	0	2	1		0	0	1		0	0	1
Configuration	U		T	R	U		T	R				R				R
Volume (veh/h)	69		774	140	66		734	53				70				63
Percent Heavy Vehicles (%)	12				14							14				16
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized	No				No				Yes				Yes			
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)	6.4				6.4							6.9				6.9
Critical Headway (sec)	6.64				6.68							7.18				7.22
Base Follow-Up Headway (sec)	2.5				2.5							3.3				3.3
Follow-Up Headway (sec)	2.62				2.64							3.44				3.46

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)	71				68							72				65
Capacity, c (veh/h)	393				358							568				581
v/c Ratio	0.18				0.19							0.13				0.11
95% Queue Length, Q_{95} (veh)	0.7				0.7							0.4				0.4
Control Delay (s/veh)	16.2				17.4							12.3				12.0
Level of Service (LOS)	C				C							B				B
Approach Delay (s/veh)	1.1				1.3				12.3				12.0			
Approach LOS	A				A				B				B			

HCS Two-Way Stop-Control Report

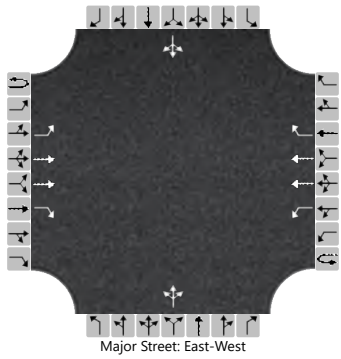
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/18/2022
Analysis Year	2045
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	US 30 PEL ALLEN CO

Site Information

Intersection	US 30 AND STATE LINE RD
Jurisdiction	
East/West Street	US 30
North/South Street	STATE LINE RD
Peak Hour Factor	0.96
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	R		L	T	R			LTR				LTR	
Volume (veh/h)	0	17	712	26	0	1	675	8		10	21	1		2	15	9
Percent Heavy Vehicles (%)	0	7			0	100				13	6	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No										
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.24				6.10				7.76	6.62	6.90		7.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.27				3.20				3.63	4.06	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		18				1					33				27	
Capacity, c (veh/h)		851				422					240				313	
v/c Ratio		0.02				0.00					0.14				0.09	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.5				0.3	
Control Delay (s/veh)		9.3				13.6					22.4				17.6	
Level of Service (LOS)		A				B					C				C	
Approach Delay (s/veh)		0.2				0.0				22.4				17.6		
Approach LOS		A				A				C				C		

HCS Two-Way Stop-Control Report

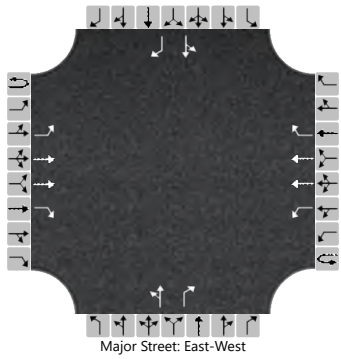
General Information

Analyst	MIKE MACNEILL
Agency/Co.	WSP
Date Performed	11/18/2022
Analysis Year	2045
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	US 30 PEL ALLEN CO

Site Information

Intersection	US 30 AND WEBSTER
Jurisdiction	
East/West Street	US 30
North/South Street	WEBSTER
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	1		0	1	1
Configuration		L	T	R		L	T	R		LT		R		LT		R
Volume (veh/h)	0	1	843	16	0	1	675	10		7	14	10		7	17	5
Percent Heavy Vehicles (%)	0	0			0	0				0	8	22		0	8	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left + Thru								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.66	7.34		7.50	6.66	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.08	3.52		3.50	4.08	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				1				22		11		25		5
Capacity, c (veh/h)		890				761				221		510		227		647
v/c Ratio		0.00				0.00				0.10		0.02		0.11		0.01
95% Queue Length, Q_{95} (veh)		0.0				0.0				0.3		0.1		0.4		0.0
Control Delay (s/veh)		9.0				9.7				23.1		12.2		22.8		10.6
Level of Service (LOS)		A				A				C		B		C		B
Approach Delay (s/veh)		0.0				0.0				19.6				20.7		
Approach LOS		A				A				C				C		