APPENDIX C: PROPEL US 30 WEST EXISTING TRANSPORTATION CONDITIONS REPORT

PROPEL US 30

Smarter Transportation. Stronger Communities.

US 30 West

US 30 from SR 49 to Beech Road and US 31 from the W CR 700 N to US 30 Interchange

Existing Transportation Conditions Report

Revision 1 - March 27, 2024

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Indiana Department of Transportation

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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*



INDIANA DEPARTMENT OF TRANSPORTATION INDOT

NextLevel ROADS

TABLE OF CONTENTS

1. Introduction 5
2. Methodology 6
3. Infrastructure Conditions 6
   - 3.1. Roadway Characteristics 6
     - 3.1.1. Roadway Typical Section 6
     - 3.1.2. Roadway Classifications 7
     - 3.1.3. Posted Speed Limits 9
     - 3.1.4. Corridor Speed and Travel Time 9
     - 3.1.5. Railroad Crossings 10
     - 3.1.6. Existing Right-of-Way and Land Use 10
     - 3.1.7. Roadway Geometrics 11
     - 3.1.8. Ramp Geometrics 12
     - 3.1.9. Pavement 14
     - 3.1.10. Lighting 15
   - 3.2. Bridges 15
     - 3.2.1. Existing Bridges 15
   - 3.3. Utility Owner Listing 18
   - 3.4. Pedestrian, Bicycle, and Transit 18
4. Access Control 19
5. Safety 22
   - 5.1. Intersection Crashes 23
   - 5.2. Segment Crashes 23
   - 5.3. High Severity Crash Locations 24
   - 5.4. RoadHAT Evaluations: US 30 West 26
   - 5.5. Safety Review Conclusions 30
6. Traffic Operations 31
   - 6.1. Traffic Forecasting 33
   - 6.2. Capacity Analysis 33
     - 6.2.1. Freeway Analysis 33
     - 6.2.2. Interchange Analysis 35
     - 6.2.3. Intersection Analysis 38
7. Transportation Projects Within Study Limits 46
8. Public Involvement Summary 48
   - 8.1. Summary of Comments Received through December 2022 48

8.2. Key Messages 49
8.3. Tally of All Comment Topics 49
8.4. Public Information Meeting (PIM) Corridor Issue Identification 52
8.5. Future Vision of the Corridor 55
8.6. Board 1: Vision for the Future – Imagine It Is The Year 2035 56
8.7. Board 2: Vision for the Future – How Do You Use The Corridor? 56
8.8. Board 3: Vision for the Future – Transportation Function 57
8.9. Board 4: Vision for the Future – Economic Development 58
8.10. Board 5: Vision for the Future – Aesthetics/Community Character 59
8.11. Location-Based Comments Received Via PIMA 59

APPENDICES

Appendix A - US 30 West Study Area Existing Conditions Maps

Appendix B - Heavy Vehicle Percentages by Intersection

Appendix C - Growth Rate Percentages by Intersection

Appendix D - Existing Turning Movement Volumes

Appendix E - Future (2045) Turning Movement Volumes

Appendix F - Freeway Analysis Outputs

Appendix G - Interchange Analysis Outputs

Appendix H - Intersection Analysis Outputs

LIST OF FIGURES

Figure 1 – *ProPEL US 30 and ProPEL US 31 Corridors* 5
Figure 2 – *US 30 Typical Section* 7
Figure 3 – *US 31 Typical Section* 7
Figure 4 – *US 30 near Oak Drive Railroad Crossing* 10
Figure 5 – *US 30 Pavement (Oct 2022)* 14
Figure 6 – *US 35 Ramp Pavement (Sept 2022)* 14
Figure 7 – *US 30 over Kankakee River* 16
Figure 8 – *Segment Crash Heat Map* 24
Figure 9 – *Standard Deviation in a Bell Curve Distribution* 27
Figure 10 – *Public Comment Theme Chart* 48
Figure 11-1 – *Public Comment Infographic* 49
Figure 11-2 – *Public Comment Infographic* 50
Figure 12 – *SAC#1 Summary of Comments* 51
Figure 13 – *Comment Location Map* 52
Figure 14 – *Starke County Comments* 54
Figure 15 – *Board 2 Responses* 55
Figure 16 – *Board 3 Responses* 56
Figure 17 - *Board 4 Responses* 57
Figure 18 - *Board 5 Responses* 58

LIST OF TABLES

Table 1 – US 30 Mainline 8
Table 2 – US 31 Mainline 8
Table 3 – US 30 Mainline 9
Table 4 – U.S. 31 Mainline 9
Table 5 – Average Speeds 9
Table 6 – Average Travel Times 9
Table 7 – US 30 Mainline 10
Table 8 – U.S. 31 Mainline 10
Table 9 – US 30 Mainline 11
Table 10 – US 31 Mainline 12
Table 11 – Interchange Ramps 12
Table 12 – US 30 and US 31 Mainline Lighting Locations 15
Table 13 – US 30 Mainline Bridges 15
Table 14 – US 31 Mainline 17
Table 15 – Bridge Vertical Clearances 17
Table 16 – Utilities 18
Table 17 – Intersecting Roadways 19
Table 18 – Interchange Locations 21

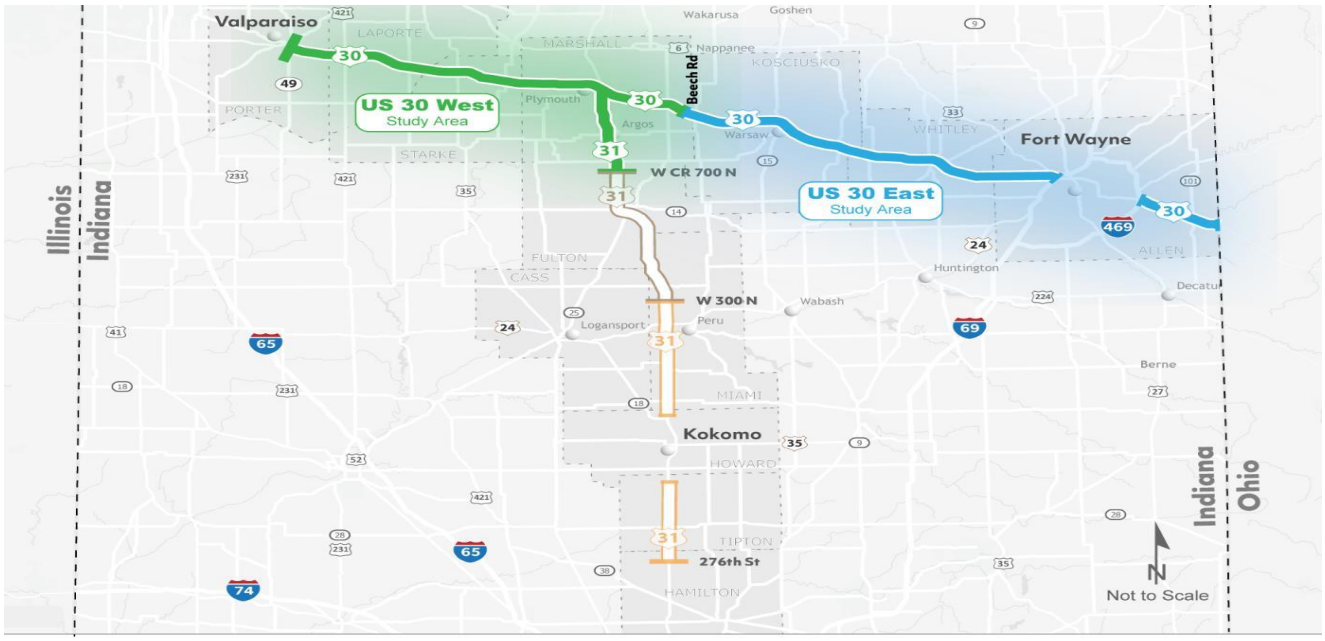
Table 19 – Type of Driveways 21
Table 20 – RoadHAT Results Summary for Segments 28
Table 21 – RoadHAT Results Summary for Intersections and Interchange Segments 29
Table 22 – Study Intersections 32
Table 23 – US 30 Mainline AADT Existing 2022 Volumes 32
Table 24 – US 31 Mainline AADT Existing 2022 Volumes 33
Table 25 – US 30 and US 31 Heavy Vehicle Percentages 33
Table 26 – LOS Thresholds for Freeway Segments 34
Table 27 – Basic Freeway Segment Analysis Summary for US 30 35
Table 28 – Interchange Analysis Summary for US 30 & SR 49 36
Table 29 – Interchange Analysis Summary for US 30 & US 35 36
Table 30 – Interchange Analysis Summary for US 30 & N Michigan Street 37
Table 31 – Interchange Analysis Summary for US 30 & US 31 37
Table 32 – Interchange Analysis Summary for US 30 & Main Street 38
Table 33 – Intersection LOS Thresholds 38
Table 34 – Signalized Intersections Existing (2022) Year Analysis 39
Table 35 – Signalized Intersections Design (2045) Year Analysis 40
Table 36 – Stop-Controlled Intersections Existing (2022) Year Analysis 42
Table 37 – Stop-Controlled Intersections Existing (2022) Year Analysis, Continued 43
Table 38 – Stop-Controlled Intersections Design (2045) Year Analysis 44
Table 39 – Stop-Controlled Intersections Design (2045) Year Analysis, Continued 45
Table 40 – List of Potential Projects - MACOG 46
Table 41 – List of Potential Projects - NIRPC 47
Table 42 – List of Potential Projects – Pipe Linings 47
Table 43 – Public Comment Summary 48

1. INTRODUCTION

ProPEL is an Indiana Department of Transportation (INDOT) initiative that uses collaborative Planning and Environment Linkages (PEL) studies to consider environmental, community, and economic goals early in the planning process. Through the PEL studies, INDOT aspires to create smarter transportation systems that build stronger communities. The ProPEL US 30 West study area consists of US 30 between S.R. 49 (City of Valparaiso) in Porter County and South Beech Road in Marshall County (approx. 53.2 miles) and US 31 from the northern limits of the US 30 and US 31 interchange in Marshall County south to W C.R. 700 N in Fulton County (approximately 13.9 miles). A map of the study area can be found in **Figure 1**.

The purpose of this technical report is to document the existing roadway, bridge, utility, pedestrian/transit, and traffic conditions within and along the US 30 West study limits.

Figure 1 – ProPEL US 30 and ProPEL US 31 Corridors



2. METHODOLOGY

The study methodology for this existing conditions report consisted of collecting existing roadway data within the noted study limits, including the following:

- Existing road plans from the INDOT Research & Documents Library provided typical section and geometric data for review.
- Existing railroad crossing data was taken from the Federal Railroad Administration's website.
- Posted speed limits and traffic signal locations were determined from on-site visits.
- Roadway classifications/designations were determined from a review of INDOT's website.
- Bridge type, size, location, year of construction, and condition were based on review of bridge inspection reports.
- Utility owners were identified based on an 811 utility ticket and on-site visits.
- Pedestrian, bicycle, and transit facilities were identified based on review of MPO and local agency websites, including MACOG and NIRPC; Starke, Porter, Marshall, Fulton and LaPorte Counties; and the cities/towns of Bourbon, Valparaiso, Plymouth, Argos, Hanna, and Wanatah.
- Crash history was based on crash data and narratives received from INDOT for crashes between 2017 and 2021.
- Existing traffic volumes and turning movement counts at designated intersections were provided by INDOT (12/21 through 11/22).
- Outputs from the Statewide Traffic Model were provided for 2019 Base and 2045 existing and committed (E+C) networks to estimate growth percentages.
- No-build (2045) traffic volumes were developed based upon the existing volumes and the growth rates.

Planned projects noted in Section 7, Study Area Transportation Projects, were determined based on review of INDOT's *Statewide Transportation Improvement Plan* (STIP) and projects included in each county's *Transportation Improvement Plan* (TIP).

3. INFRASTRUCTURE CONDITIONS

3.1. ROADWAY CHARACTERISTICS

3.1.1. ROADWAY TYPICAL SECTION

The US 30 roadway typical section consists of a four-lane divided roadway with a depressed grass median. The travel lanes are 12'-0" wide with a 4'-0" paved inside shoulder and a 10'-0" paved outside shoulder. Where turn lanes are present, the turn lanes are primarily 12'-0" in width. The median width (inside travel lane to inside travel lane) is generally as follows:

- US 30 from SR 49 to US 421 = 26'-0"
- US 30 from US 421 to 1900' W. of CR S 900 W = 40'-0"
- US 30 from 1900' W of CR S 900 W to Beech Road = 50'-0"

All but four intersections (CR S 450 W, West St (Old US 30), CR 300 W, and CR S 50 E) along US 30, where US 30 is intersecting a road classified as "Collector" or higher (see **Table 1**), have left turn lanes in the median. Of the 32 intersections classified as "Collector" or higher, 8 do not have right turn lanes. Many of the intersections at the "local" county roads classified lower than a "Collector" do not have left or right turn lanes.

Figure 2 – *US 30 Typical Section*

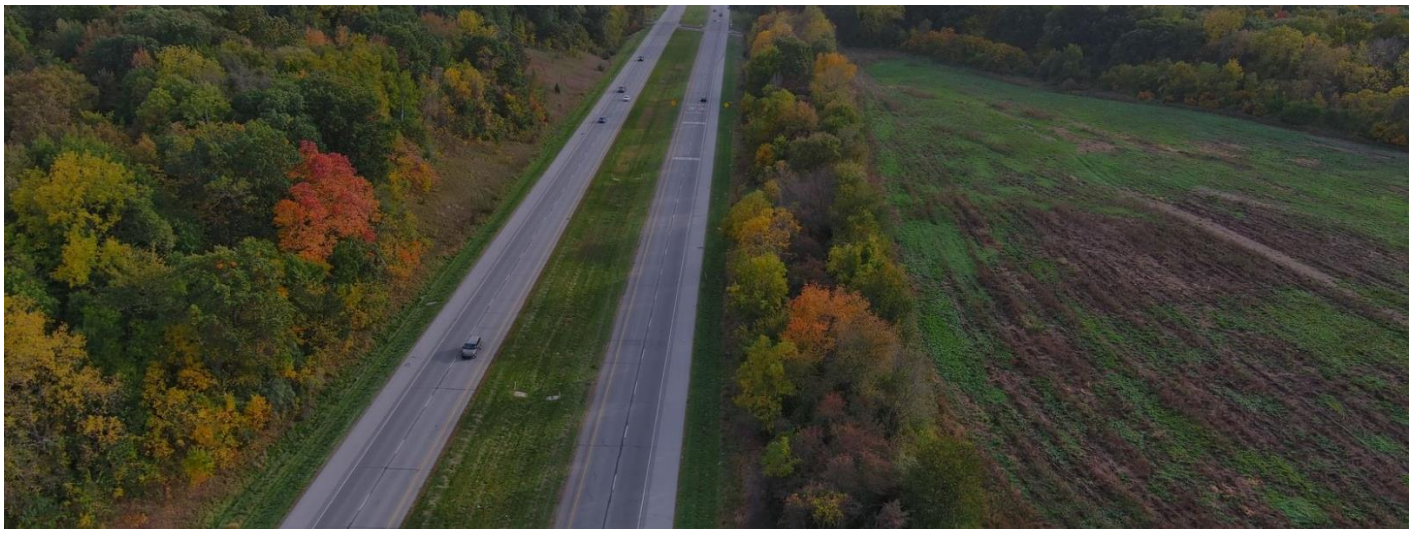


The US 31 roadway typical section consists of a four-lane divided roadway with a depressed grass median. The travel lanes are 12'-0" wide with a 4'-0" paved inside shoulder and a 10'-0" paved outside shoulder. Where turn lanes are present, the turn lanes are primarily 12'-0" in width. The median width (inside travel lane to inside travel lane) varies as noted below:

- US 31 from US 30 to 13th Road = 50'-0" to 52'-0"
- US 31 from 13th Road to C.R. 700 N = 60'-0"

All but one intersection along US 31 (12B Road), where US 31 is intersecting a road classified as a "Collector" or higher (see **Table 2**), have left turn lanes in the median. Of the 8 intersections classified as "Collector" or higher, one (12 B Road) does not have a right turn lane. Many of the intersections at the "local" county roads classified lower than a "Collector" do not have left or right turn lanes.

Figure 3 – *US 31 Typical Section*



3.1.2. ROADWAY CLASSIFICATIONS

US 30 and US 31 are both classified as Principal Arterials. **Tables 1 and 2** describe primary intersection roadways classified as "Collector" or above:

Table 1 – US 30 Mainline

In/Near	Intersecting Road	Classification	Rural/Urban	Signalized	Left/Right Turn Lanes
Valparaiso	SR 49	Principal Arterial	Urban	No (Interchange)	N/A
	Industrial Dr	Major Collector	Urban	Yes	Yes/Yes
	Porter CR 325 E	Major Collector	Urban	No	Yes/No
	Porter CR 400 E	Major Collector	Rural	No	Yes/No
	Porter CR 450 E	Minor Collector	Rural	No	Yes/No
	County Line Road	Minor Collector	Rural	No	Yes/No
Wanatah	Lincoln Street	Minor Collector	Urban	No	Yes/Yes
Wanatah	Main Street	Major Collector	Urban	No	Yes/Yes
Wanatah	US 421	Principal Arterial	Urban	Yes	Yes/Yes
	LaPorte CR 600 W	Major Collector	Rural	No	Yes EB/Yes WB
Hanna	LaPorte CR 450 W	Minor Collector	Rural	No	No/No
Hanna	Thompson Street	Maj Coll/Min Coll	Rural	No	Yes WB/Yes EB
	West St (Old US 30)	Major Collector	Rural	No	No/No
	LaPorte CR 300 W	Major Collector	Rural	No	No/No
	SR 39	Minor Arterial	Rural	Yes	Yes/Yes
	LaPorte CR 50 E	Major Collector	Rural	No	No/No
	US 35	Principal Arterial	Rural	No (Interchange)	N/A
Hamlet	LaPorte CR 600 N	Minor Collector	Rural	No	Yes/Yes
	LaPorte CR 750 E	Major Collector	Rural	Flashing R/Y	Yes/Yes
Grovertown	SR 23	Major Collector	Rural	Flashing R/Y	Yes/Yes
Donaldson	Union Road	Minor Collector	Rural	No	Yes/Yes
	Queen Road	Major Collector	Rural	Yes	Yes/Yes
Plymouth	Pioneer Drive	Major Collector	Urban	Yes	Yes/Yes
Plymouth	Oak Road	Minor Arterial	Urban	Yes	Yes/Yes
Plymouth	Western Ave	Major Collector	Urban	Underpass	N/A
Plymouth	Michigan Road	Minor Arterial	Urban	Interchange	N/A
Plymouth	Plymouth/Goshen Tr	Major Collector	Rural	No	Yes/ N/A
	US 31	Principal Arterial	Rural	Interchange	N/A
	King Road	Major Collector	Rural	Yes	Yes/Yes
	S. Hawthorn Road	Minor Collector	Rural	No	Yes/Yes
	Fir Road	Major Collector	Rural	No	Yes/Yes
Bourbon	SR 331	Minor Arterial	Rural	Interchange	N/A

Table 2 – US 31 Mainline

In/Near	Intersecting Road	Classification	Rural/Urban	Signalized	Left/Right Turn Lane
Plymouth	US 30	Principal Arterial	Rural	No (Interchange)	N/A
Plymouth	9A Road	Minor Arterial	Rural	Flashing R/Y	Yes/Yes
Plymouth	Lincoln Highway	Minor Arterial	Rural	Underpass	Yes/Yes
	Michigan Road	Major Arterial	Rural	No	Yes/Yes
	12B Road	Minor Collector	Rural	No	No/No
	13th Road	Major Collector	Rural	No	Yes/Yes
Argos	SR 10	Major Collector	Rural	Flashing R/Y	Yes/Yes
	SR 110	Major Collector	Rural	Flashing R/Y	Yes/Yes

3.1.3. POSTED SPEED LIMITS

US 30 and US 31 have varying posted speeds along the roadway. **Table 3** and **Table 4** describe the limits of the posted speeds within the study limits:

Table 3 – US 30 Mainline

From	To	Existing Speed Limit (mph)
SR 49	Porter CR 400 E	55
Porter CR 400 E	County Line Road	60
County Line Road	LaPorte CR 1100 W	55
LaPorte CR 1100 W	US 421	40
US 421	Long Lane	60
Long Lane	2100' E. of SR 39	55
2100' E. of SR 39	Queen Road	60
Queen Road	1800' E of King Road	50
1800' E. of King Road	Beech Road	60

Table 4 – US 31 Mainline

From	To	Existing Speed Limit (mph)
US 30	C.R. 700 N	60

3.1.4. CORRIDOR SPEED AND TRAVEL TIME

Speed data received from National Performance Management Research Data Set (NPMRDS) and INRIX for the year 2022 was analyzed to understand the free flow speeds/ travel times, and impact of congestion on the speeds along the corridor during peak periods. It was determined that there was no impact of peak period traffic operations on the average speeds or travel times in the study corridor. **Table 5 and Table 6** show the average speeds and travel times of the entire study area as well as along the US 30 and 31 corridors. It can be seen that the average speeds of all vehicles along the US 31 corridor are about 7-8 mph higher than on US 30. This is attributed to the existing posted speed limits rather than any congestion or control delays. Looking at the speeds by vehicle type on US 30 and US 31 corridors, the average speeds of passenger vehicles are 4-5 mph faster than the trucks.

Table 5 – Average Speeds

Average Speed (mph)	All Vehicles	Passenger Vehicles	Trucks
Entire Study Area[1]	58.9	61.0	57.1
US 30 Corridor (within study area)	57.1	59.2	55.6
US 31 Corridor (within study area)	65.8	67.8	62.9

Table 6 – Average Travel Times

Travel Time (minutes)	All Vehicles	Passenger Vehicles	Trucks
US 30 Eastbound	56.4	55.1	58.6
US 30 Westbound	56.9	55.3	59.2
US 31 Southbound	19.2	18.6	20.0
US 31 Northbound	19.3	18.8	20.2

[1] Study area limits include: SR 49 (City of Valparaiso) in Porter County and South Beech Road in Marshall County (approx. 53.2 miles); US 31 south corridor between US 30 and US 31 interchange in Marshall County south to W CR 700 N in Fulton County (approximately 13.9 miles)

3.1.5. RAILROAD CROSSINGS

Within the study limits there are five railroad crossings as shown in **Table 7** and **Table 8**.

Table 7 – US 30 Mainline

Crossing No./ Warning Devices	Railroad	Nearby Road	Intersection Type	Avg Trains	Avg Oper Speed	Date of Last Crash
483365P/ Yes	Norfolk Southern	Oak Drive (Plymouth)	At-Grade	4/day	10 mph (Thru)	1986
231996V/ Yes	Chesapeake & Indiana Railroad Company	N. Thompson Road (Hanna)	At-Grade	6/week	10 mph (Thru)	1983

Table 8 – US 31 Mainline

Crossing No./ Warning Devices	Railroad	Nearby Road	Intersection Type	Avg Trains	Avg Oper Speed	Date of Last Crash
478540T	Norfolk Southern	SR 10	US 31 Over	N/A	N/A	N/A
483388W/ Yes	Norfolk Southern	14th Road	At-Grade	1/week	20 mph (Switch)	2007
483365P	Chicago, Fort Wayne & Eastern Railroad	Lincoln Highway (Plymouth)	US 31 Over	N/A	N/A	N/A

The Norfolk Southern Railroad runs immediately south and adjacent to US 30 in three independent locations:

- SR 49 to the Porter/LaPorte County Line
- Long Lane (East of the Town of Hanna) to Old US 30
- Old US 30 to CR N 1200 E

Figure 4 – *US 30 near Oak Drive Railroad Crossing*



3.1.6. EXISTING RIGHT-OF-WAY AND LAND USE

Per review of existing road plans within the study limits, the existing right-of-way along US 30 appears to be 200'; 100' either side of the centerline. Along US 31 within the study limits, the existing right-of-way varies from a minimum of 150' to a maximum of

300'; 75' and 150' either side of centerline, respectively. All right of way is limited access except at the far west 1.5 miles of US 30 within the study limits.

The land use throughout most of the study limits is rural farmland. The City of Valparaiso is located at the far west end of the study limits near the SR 49 interchange. There is industrial development located near this interchange. The City of Plymouth is located west of the interchange of US 30 and US 31. There is substantial commercial and industrial development along US 30 which runs along the north side of the city. US 30 also traverses through, or close to, the rural Towns of Wanatah, Hanna, Hamlet, Grovertown, Inwood, Donaldson, and Bourbon. US 31 traverses along the east side of Plymouth and the west side of the Town of Argos.

The total number of parcels abutting US 30 and US 31 within the study limits is approximately 809, broken up by County as follows:

- Porter – 77 parcels
- LaPorte – 166 parcels
- Starke – 133 parcels
- Marshall – 429 parcels (US 30 – 296; US 31 – 133)
- Fulton – 4 parcels

3.1.7. ROADWAY GEOMETRICS

The geometry of the roadway generally meets current posted and design speed design standards. The lane widths of 12'-0" and shoulder widths of 4'-0" (paved median shoulder) and 10'-0" (paved outside shoulder) meet minimumdesign standards. The depressed median width design standard of 54'-6" is not being met and is substantially less near the town of Wanatah where the median diminishes in width to only 10'-0", substantially less than the desired 54'-6".

There are several horizontal curves throughout the two corridors. These horizontal curves are based on a review of existing plan information provided by INDOT and are summarized in **Table 9** and **Table 10**. All existing curve radii exceed the required radius values, based on a maximum superelevation rate of 8%.

There are a substantial number of vertical curves within the limits of the study. A general review of the existing plans where vertical information was provided indicates that all of the vertical curves meet and/or exceed the posted speed and design speed criteria for 70 MPH. Note that the design speed along US 30 as it runs along the north side of Plymouth appears to only be 55 mph per review of existing plans. Some existing plan information was difficult to read or no vertical profile information was included as part of the existing plans.

Table 9 – US 30 Mainline

Design Speed (MPH)	PI Location	Existing Radius (ft)	Minimum Required Radius (ft)	County
70	1277+29.9 "JJ"	5,733	1,810	Porter
70	285+68.1 "A"	11,474	1,810	Porter
70	419+39.5 "A"	10,748	1,810	LaPorte
70	451+83.1 "A"	11,462	1,810	LaPorte
70	484+25.6 "A"	10,748	1,810	LaPorte
70	538+39.9 "A"	220,479	1,810	LaPorte
70	559+40.03 "A"	114,647	1,810	LaPorte
70	574+00.00 "A"	550,381	1,810	LaPorte
70	584+98.4 "A"	86,380	1,810	LaPorte
70	773+24.48 "A"	8,603	1,810	LaPorte
70	929+88.0 "A"	8,579	1,810	LaPorte

Design Speed (MPH)	PI Location	Existing Radius (ft)	Minimum Required Radius (ft)	County
70	1226+99.5 "A"	11,432	1,810	Starke
70	1407+04 "F"	8,599	1,810	Starke
70	1580+25 "F"	29,194	1,810	Starke
70	1625+36.8 "F"	42,994	1,810	Starke
70	1668+45.4 "F"	42,994	1,810	Starke
70	1687+87.6 "F"	17,197	1,810	Starke
70	1718+62.5 "G"	8,368	1,810	Starke
70	1742+97.6 "G""	14,382	1,810	Starke
70	1776+06.8 "F"	8,576	1,810	Starke
70	2003+01.9 "F"	8,653	1,810	Starke
70	28+07.7 "A"	4,683	1,810	Marshall
70	144+80.0 "A"	21,619	1,810	Marshall
70	211+36.8 "A"	8,662	1,810	Marshall
70	245+21.7 "A"	8,662	1,810	Marshall
70	379+38.9 "A"	11,457	1,810	Marshall
70	656+22.3 "A"	11,510	1,810	Marshall
70	777+17.0 "A"	7,162	1,810	Marshall
70	886+80.4 "A"	11,459	1,810	Marshall

Table 10 – US 31 Mainline

Design Speed (MPH)	PI Location	Existing Radius (ft)	Required Radius (ft)	County
70	1739+88.6 U""	11,459	1,810	Marshall
70	1906+62.4 "U"	5,730	1,810	Marshall
70	1987+52.6 "U"	7,639	1,810	Marshall
70	2037+75.4 "U"	3,820	1,810	Marshall
70	34+89.2 "A"	8,614	1,810	Marshall

3.1.8. RAMP GEOMETRICS

There are five interchanges within the study limits. The following table (**Table 11**) is an assessment of the ramps at each of the interchanges.

Table 11 – Interchange Ramps

Interchange	Type	Accel/Dec Lane Length (ft)	Posted Exit/Ent Speed (MPH)	Required Length (ft)	Ramp Radius (ft)	Calculated S.E. * (%)	Mainline Speed + (MPH)	Calculated Ramp Speed $$(MPH)
SR 49	**Clover**							
EB on	Accel	900	-	910	300	8.0	60	30
EB Off	-	-	-					
WB on	-	-	-					
WB Off	Decel	900	30	405	358	8.0	60	35

Interchange	Type	Accel/Dec Lane Length (ft)	Posted Exit/Ent Speed (MPH)	Required Length (ft)	Ramp Radius (ft)	Calculated S.E. * (%)	Mainline Speed + (MPH)	Calculated Ramp Speed $$(MPH)
US 35	**Diamond**							
EB On	Accel	700		1230	580	8.2	70	35
EB Off	Decel	700	45	300	1600	7.7	60	45
WB On	Accel	700		910	650	7.1	60	30
WB Off	Decel	250	45	390	1730	7.8	70	45
Michigan St	**Partial Clover**							
EB on	Accel	350	-	1350	573	6.2	70	30
EB Off	Decel	990	25	570	208	7.2	70	20
WB on	Accel	1100	-	1520	208	5.6	70	20
WB Off	Decel	260	30	490	573	7.2	70	35
SR 331	**Diamond**							
EB On	Accel	1000		580	1448	6.6	70	50
EB Off	Decel	950	45	440	1850	4.3	70	40
WB On	Accel	1000		580	1527	6.6	70	50
WB Off	Decel	900	45	390	1800	4.7	70	45
US 30/US 31	**Clover**							
EB to SB Off	Decel	700	45	390	1310	7.4	70	55
EB to SB On	Accel	975		760	800	7.7	60	45
EB to NB Off	Decel	600	25	550	230	9.8	70	30
EB to NB On	Accel	680		1350	250	9.8	70	30
SB to EB On	Accel	600		1350	410	8.8	70	30
SB to EB Off	Decel	690	25	460	220	8.6	60	25
SB to WB On	Accel	750		820	850	7.4	70	45
SB to WB Off	Decel	540	45	240	910	7.8	60	50
NB to EB On	Accel	600		820	885	7.6	70	45
NB to EB Off	Decel	565	45	340	860	8.0	70	50
NB to WB On	Accel	540		1420	390	7.2	70	25
WB to NB Off	Decel	700	45	390	1220	7.8	70	55
WB to NB On	Accel	1140		1000	690	7.8	70	40
NB to WB On	Accel	540		1420	390	7.2	70	25
NB to WB Off	Decel	550	25	460	220	9.6	60	25
WB to SB On	Accel	690		1020	220	7.4	60	25
WB to SB Off	Decel	400	25	550	325	7.4	70	30

** Computed from existing plans*

+ Per IDM Table 53-1 and 53-2

$$ Per IDM Table 43-3A(3)

Numbers in red indicate actual ramp lengths that are less than required lengths, ramp exit calculated speeds that are less than posted ramp exit speeds, and superelevation rates greater than 8% max.

In general, none of the ramp gore areas at the interchanges meet current INDOT standards for entrance and exit ramps except for the SR 49 and SR 331 ramps. Acceleration and deceleration lengths that do not appear to meet current standards are noted in red in **Table 11**. Calculated ramp speeds are based on assumed mainline design speeds and radii per existing design plans. Those ramp speeds were compared to exit speed warning signs in the field. Those not meeting calculated ramp exit speeds are

shown in red. Superelevation rates appear to range from 4.3 to 9.8 percent. A superelevation rate of 8% is the maximum for rural settings per IDM Chapter 48. Five of the ramps (See **Table 11)** were calculated at slightly greater than this 8% maximum.

In addition, ramp travel lane widths appear to meet, or be very close to, the required 16' standard width. Required shoulder widths appear to meet standards on all ramps except the U.S. 30/31 interchange ramps.

3.1.9. PAVEMENT

The pavement condition varies within the study limits. The pavement primarily has at least one asphalt resurface. There are three specific sections of concrete pavement only: the Michigan Street interchange (mainline and ramps), the US 35 interchange (mainline only), and the US 31/30 interchange (mainline only). These sections of concrete pavement are generally in good condition. Several sections of roadway have more recently been resurfaced and several intersections have been more recently upgraded; therefore, many locations have a "good" pavement condition. However, in areas that have not been recently addressed, the pavement is in fair to poor condition, including interchange ramps that are not concrete. In general, some sections of pavement have severe transverse cracking and pavement edge deterioration. The cracking pattern indicates the presence of concrete pavement under the asphalt resurface.

Figure 5 – US 30 Pavement (Oct 2022)



Figure 6 – US 35 Ramp Pavement (Sept 2022)



Several pavement projects are being planned (see **Section 7**) in the near future to further address segments of pavement deterioration.

3.1.10. LIGHTING

In general, the US 30 and US 31 corridors do not currently have lighting in place. However, there is lighting present at specific intersections/interchanges shown below in **Table 12**.

Table 12 – US 30 and US 31 Mainline Lighting Locations

US 30/SR 49 interchange	US 31/C.R. 9A intersection
US 30/US 421 intersection	US 31/Michigan Road intersection
US 30/SR 39 intersection	US 31/13th Road intersection
US 30/US 35 interchange	US 31/SR 10 intersection
US 30/SR 17/Michigan Street interchange	US 31/SR 110 intersection
US 30/US 31 interchange	

3.2. BRIDGES

3.2.1. EXISTING BRIDGES

In reviewing the bridge inventory database bridge inspection reports (2020-2022), the following bridges were identified within the study limits. The bridge size, type, location, year of construction, condition, and vertical clearances are noted in **Table 13, Table 14,** and **Table 15**. In general, the bridges along both US 30 and US 31 are in good condition and all meet the minimum clear roadway width of 38'-0" and 28'-0" for existing bridges to remain in place for both Freeways and Rural Arterials, respectively. **Appendix A** shows the location of each bridge.

Table 13 – US 30 Mainline Bridges

SN	County	Location	Type	Size (L x W) (ft)	Yr Latest Const	Overall Sufficiency Rating
8190	Porter	Crooked Creek	3-Span RC Slab	66 x 91	1955	75.2
8200	LaPorte	Slocum Ditch	Flat Top 3-Sided	29 x 82	2001	98.2
8220	LaPorte	Hunsley Ditch	3-Span RC Slab	82 x 41	1990	99.3
8230	LaPorte	Hunsley Ditch	3-Span RC Slab	82 x 41	1990	99.3
8240	LaPorte	Kankakee River	4-Span PC Girder	165 x 41	2021	99.3
8250	LaPorte	Kankakee River	4-Span PC Girder	165 x 41	2021	99.5
8260	Starke	Shearing Ditch	3-Span PC Girder	82 x 53	2021	99.4
8270	Starke	Shearing Ditch	3-Span PC Girder	82 x 53	2021	99.4
8280	Starke	Robbins Ditch	3-Span PC Girder	120 x 39	1990	88.3
8290	Starke	Robbins Ditch	3-Span PC Girder	120 x 41	1990	78.5
8300	Starke	U.S. 35	3-Span PC Girder	165 x 38	2001	98.0

SN	County	Location	Type	Size (L x W) (ft)	Yr Latest Const	Overall Sufficiency Rating
8310	Starke	U.S. 35	3-Span PC Girder	165 x 38	2001	98.0
8340	Starke	Jain Ditch	3-Span RC Slab	62 x 42	2004	97.4
8350	Starke	Jain Ditch	3-Span RC Slab	62 x 42	2004	97.4
8360	Marshall	Western Ave	3-Span Steel Girder	131 x 39	2004	94.4
8370	Marshall	Western Ave	3-Span Steel Girder	131 x 39	2004	100.0
8400	Marshall	S.R. 17	3-Span Steel Girder	164 x 51	2004	98.3
8410	Marshall	S.R. 17	3-Span Steel Girder	164 x 51	2004	98.3
8420	Marshall	Baker Ditch	1-Span BT Girder	79 x 41	2018	99.1
8430	Marshall	Baker Ditch	1-Span BT Girder	79 x 41	2018	99.1
8440	Marshall	Yellow River	3-Span Steel Girder	195 x 39	2021	99.3
8450	Marshall	Yellow River	3-Span Steel Girder	195 x 39	2021	99.3

Figure 7 – *US 30 over Kankakee River*



Table 14 – US 31 Mainline Bridges

SN	County	Location	Type	Size (L x W) (ft)	Yr Latest Const	Overall Sufficiency Rating
10040	Marshall	N&S Railroad	3-Span Steel Girder	140 x 40	1996	99.4
10050	Marshall	N&S Railroad	3-Span Steel Girder	140 x 40	1996	99.4
10060	Marshall	CFE Railroad	5-Span Steel Girder	268 x 39	1994	95.3
10070	Marshall	CFE Railroad	5-Span Steel Girder	268 x 39	1994	94.4
10080	Marshall	US 30 EB/WB	4-Span Steel Girder	229 x 44	1998	81.1
10090	Marshall	US 30 EB/WB	4-Span Steel Girder	229 x 44	1998	81.1

Table 15 – Bridge Vertical Clearances

SN	County	Location	Req'd Vertical Clearance (ft)	Actual Vertical Clearance (ft)
8300/8310	Starke	US 30 over US 35	16.5	16.8 EB/16.44 WB
8360/8370	Marshall	US 30 over Western Ave	16.5	20.75 EB/20.07 WB
8400/8410	Marshall	US 30 over SR 17	16.5	16.22 EB/17.14 WB
31435	Marshall	SR 331 over US 30	16.5	15.33
10080/10090	Marshall	US 31 over US 30	16.5	16.86 NB/16.96 SB
10040/10050	Marshall	US 31 over NSRR	23	22.33 NB/22.58 SB
10060/10070	Marshall	US 31 over CFE RR and 2 County Roads	23/16.5	13.56 NB/13.83 SB

The vertical clearances for SR 331 over US 30 and US 31 over the two county roads do not meet the 16.5' vertical clearance design standards. Three vertical clearances are slightly under the 23' and 16.5' thresholds as noted in **Table 15**.

3.3. UTILITY OWNER LISTING

A design ticket was requested from Indiana 811 and the following utilities were noted (**Table 16**) as having potential to be located along the US 30 and US 31 corridors within the study limits.

Table 16 – Utilities

Utility Name	Utility Type	Utility Name	Utility Type
AT&T Distribution	Communications	Town of Etna Green	Electric, Sewer, Water
AT&T Transmission	Fiber Optic	Frontier	Telephone
Bourbon Utilities	Sewer, Storm, Water	Town of Hamlet	Sewer, Water
Brightspeed	Communications	Intercarrier Networks	Fiber Optic
Chillicothe Telephone Co. DBA Horizon Telecom	Fiber Optic	Kankakee Valley R.E.M.C.	Electric
Choice Light Inc.	Fiber Optic	Marshall County Fiber, LLC	Fiber Optic
Comcast North	Cable TV	Marshall County R.E.M.C.	Electric
Commercial Broadband Solutions	Fiber Optic	Mediacom, LLC	Cable TV
NIPSCO Electric (LaPorte)	Electric	NIPSCO Gas (Valparaiso)	Gas
NIPSCO Electric (Plymouth)	Electric	Northwestern Indiana Telephone Co.	Telephone
NIPSCO Electric (Valparaiso)	Electric	Pembina Cochin Pipeline	Pipeline
NIPSCO Gas (LaPorte)	Gas	Plymouth Sewer and Water Department	Water, Sewer
NIPSCO Gas (Plymouth)	Gas	Task Force TIPS, Inc.	Fiber Optic
Trunkline Gas Co. (North Judson)	Pipeline	Town of Wanatah	Sewer, Water
Valparaiso Utilities	Sewer, Water	Windstream	Communications
Town of Argos	Electric, Sewer, Storm, Water		

3.4. PEDESTRIAN, BICYCLE, AND TRANSIT

No transit routes or facilities appear to be using the US 30 or US 31 corridors at this time.

No sidewalks are currently present along US 30 or US 31 except for very limited sidewalk along US 30 in Wanatah.

US 30 and US 31 are noted as “unsuitable” bicycle routes based on the INDOT Roadways Bicycle Suitability document.

- Noted Suitable Routes – SR 39, US 35, SR 331, SR 10, SR 17
- Other Noted Unsuitable Routes – US 421, SR 23

MACOG noted several “unsigned” bike routes that intersect US 30 and US 31

- Rose Road, Oak Road, King Road, Elm Road, 12th Road (all near Plymouth)

NIRPC has indicated the following roadways cross US 30 with suitability for bicycles as noted:

- Porter Co. CR 325 E and CR 450 E – Good
- Illinois Street in Wanatah – Excellent

- LaPorte Co. CR 600 W – Fair
- LaPorte Co. CR 450 W and CR 1350 S – Good

4. ACCESS CONTROL

Access along US 30 consists of both limited access right-of-way and non-limited access right-of-way within the study limits. There are 67 roadway intersections along US 30 and 10 of the intersections are currently signalized. There are 17 roadway intersections along US 31 and 4 of the intersections are currently signalized. All of the signalized intersections are spaced at least ½ mile apart which meets the current *INDOT Access Management Guidelines* (AMG). The higher density of driveway/intersections includes 9 median access points in a 2.65 mile stretch east of SR 49 on US 30 and 15 median access points in a 1.75 mile stretch of US 30 through Wanatah. There are also five interchanges located within the study limits. The roadway intersections and interchanges are summarized below in **Table 17** and **Table 18**.

Table 17 – Intersecting Roadways

Mainline	Intersection	Signal Type	Near Location	County	Distance to Closest Signal
US 30	SR 49	Interchange	Valpo	Porter	N/A
US 30	Comeford Rd	Unsignalized	Just E. of SR 49 Valpo	Porter	0.18 mi
US 30	Industrial Drive	Signal	Just E. of SR 49 Valpo	Porter	0.32 mi
US 30	Pilot Travel Center	Signal	E. of SR 49 Valpo	Porter	0.32 mi
US 30	CR N 325 E	Unsignalized	E. of SR 49	Porter	0.77 mi
US 30	CR N 400 E	Unslignalized	E. of SR 49	Porter	N/A
US 30	CR. N 450 E	Unsignalized		Porter	N/A
US 30	CR 575 E	Unsignalized		Porter	N/A
US 30	County Line Road	Unsignalized		Porter/LaPorte	N/A
US 30	CR W 1200 S	Unsignalized		LaPorte	N/A
US 30	CR S 1100 W	Unsignalized	Wanatah	LaPorte	1.00 mi
US 30	N. Lincoln Street	Unsignalized	Wanatah	LaPorte	0.65 mi
US 30	Stoneyard Drive	Unsignalized	Wanatah	LaPorte	0.55 mi
US 30	N. Illinois Street	Unsignalized	Wanatah	LaPorte	0.37 mi
US 30	N. Main Street	Unsignalized	Wanatah	LaPorte	0.31 mi
US 30	Condon Road	Unsignalized	Wanatah	LaPorte	0.25 mi
US 30	N. Ohio Street	Unsignalized	Wanatah	LaPorte	0.23 mi
US 30	US 421	Signal	Wanatah	LaPorte	
US 30	CR S 900 W	Unsignalized		LaPorte	1.0 mi
US 30	CR S 800 W	Unsignalized		LaPorte	N/A
US 30	CR S 700 W	Unsignalized		LaPorte	N/A
US 30	CR S 600 W	Unsignalized		LaPorte	N/A
US 30	CR S 450 W	Unsignalized	Hanna	LaPorte	N/A
US 30	Thompson St	Unsignalized	Hanna	LaPorte	N/A
US 30	CR W 1350 S	Unsignalized	Hanna	LaPorte	N/A
US 30	US 30 Alt Route	Unsignalized	E of Hanna	LaPorte	N/A
US 30	Long Lane	Unsignalized	E of Hanna	LaPorte	1.0 mi
US 30	SR 39	Signal	E of Hanna	LaPorte	
US 30	CR W 1400 S	Unsignalized		LaPorte	0.5 mi
US 30	CR S 100 W	Unsignalized		LaPorte	1.0 mi
US 30	CR N 50 E	Unsignalized		LaPorte	N/A
US 30	CR N 125 E	Unsignalized		LaPorte	N/A

Mainline	Intersection	Signal Type	Near Location	County	Distance to Closest Signal
US 30	E Old US 30	Unsignalized		LaPorte	N/A
US 30	CR N 300 E	Unsignalized		LaPorte	N/A
US 30	US 35	Interchange		LaPorte	N/A
US 30	CR N 500 E	Unsignalized	W of Hamlet	LaPorte	N/A
US 30	CR N 600 E	Unsignalized	Hamlet	LaPorte	N/A
US 30	E Old US 30	Unsignalized	E of Hamlet	LaPorte	N/A
US 30	CR 750 E	Flashing Y/R	E of Hamlet	LaPorte	
US 30	CR E 500 N	Unsignalized		LaPorte	N/A
US 30	C.R. N 900 E	Unsignalized	W of Grovertown	Starke	0.9 mi
US 30	S.R. 23	Flashing Y/R	Grovertown	Starke	
US 30	C.R. N 1100 E	Unsignalized	E of Grovertown	Starke	N/A
US 30	C.R. N 1150 E	Unsignalized		Starke	N/A
US 30	C.R. N 1200 E	Unsignalized		Starke	N/A
US 30	Old U.S. 30	Unsignalized		Marshall	N/A
US 30	Union Road	Unsignalized		Marshall	N/A
US 30	Tulip Road	Unsignalized		Marshall	N/A
US 30	Rose Road	Unsignalized		Marshall	N/A
US 30	Redwood Road	Unsignalized		Marshall	0.51 mi
US 30	Queen	Signal	Plymouth	Marshall	1.52 mi
US 30	Pioneer	Signal	Plymouth	Marshall	1.0 mi
US 30	N. Oak Drive	Signal	Plymouth	Marshall	1.0 mi
US 30	Michigan Road	Interchange	Plymouth	Marshall	N/A
US 30	Plymouth/Goshen	Unsignalized	Plymouth	Marshall	N/A
US 30	US 31	Interchange	Plymouth	Marshall	N/A
US 30	King/9A	Signal	Plymouth	Marshall	
US 30	S. Irish Rd	Unsignalized		Marshall	N/A
US 30	Hawthorn Road	Unsignalized		Marshall	N/A
US 30	Gumwood Road	Unsignalized		Marshall	N/A
US 30	Fir Road	Unsignalized		Marshall	N/A
US 30	Elm Road	Unsignalized	NW of Bourbon	Marshall	N/A
US 30	SR 331	Interchange	N of Bourbon	Marshall	N/A
US 30	12th Road	Unsignalized	NE of Bourbon	Marshall	N/A
US 30	12B Road	Unsignalized		Marshall	N/A
US 30	Beech Road	Unsignalized		Marshall	N/A
US 31	9A	Flashing Y/R	Plymouth	Marshall	3.0 mi
US 31	11th Road	Unsignalized		Marshall	N/A
US 31	12th Road	Unsignalized		Marshall	N/A
US 31	MIchigan Road	Unsignalized		Marshall	N/A
US 31	12B Road	Unsignlaized		Marshall	N/A
US 31	13th/Michigan Rd	Unsignalized		Marshall	N/A
US 31	14th Road	Unsignalized		Marshall	N/A
US 31	W. 14C Road	Unsignalized		Marshall	N/A
US 31	16th Road	Unsignalized		Marshall	0.44 mi
US 31	S.R. 10	Flashing Y/R	Argos	Marshall	0.5 mi
US 31	Dewey Street	Flashing Y/R	Argos	Marshall	0.5 mi
US 31	18th Road	Unsignalized		Marshall	N/A
US 31	19th Road	Unsignalized		Marshall	N/A
US 31	Kennilworth Road	Unsignalized		Marshall	N/A

Mainline	Intersection	Signal Type	Near Location	County	Distance to Closest Signal
US 31	20B Road	Unsignalized		Marshall	0.53
US 31	SR 110	Flashing Y/R	S. of Argos	Marshall/Fulton	3.0 mi
US 31	CR 700 N	Unsignalized		Fulton	N/A

Table 18 – Interchange Locations

Interchange Location	Interchange Type	County
US 30 and SR 49	3 Quad Cloverleaf	Porter
US 30 and US 35	Diamond	Starke
US 30 at Michigan Road	E. Side Parclo	Marshall
US 30 and US 31	Full Cloverleaf	Marshall
US 30 and SR 331	Diamond	Marshall

Access to the US 30 and US 31 corridors is currently available outside of the public road approaches as well. There are a total of 120 driveway access points in the study area and 30 farm field approaches. 115 of the driveways are on US 30 while the remaining 5 are on US 31. **Table 19** shows the type of driveway as defined by the AMG.

Table 19 – Type of Driveways

US 30				
Driveway Type	**Number of Driveways**	**Min. Separation Violation**	**Frontage Violation**	**Full Access Violation**
Major Commercial	11	4	2	n/a
Minor Commercial	9	7	2	7
Sub-Minor Commercial	40	33	14	12
Private	55	43	6	30
Farm Field	27	3	0	17
US 31				
Driveway Type	**Number of Driveways**	**Min. Separation Violation**	**Frontage Violation**	**Full Access Violation**
Major Commercial	0	0	0	n/a
Minor Commercial	0	0	0	0
Sub-Minor Commercial	0	0	0	0
Private	5	2	0	4
Farm Field	3	3	2	0

A major commercial driveway serves a private commercial property and generates enough traffic to require auxiliary lanes. A minor commercial driveway serves a private commercial property that does not have auxiliary lanes whereas a sub-minor commercial driveway serves a private commercial property that has less than or equal to 25 vehicles per day access the drive. A private driveway services a private residence, barn, or private garage. A farm field approach was not defined in the AMG, but is an unimproved access into a field for use by farm equipment.

For access management purposes, both US 30 and US 31 in the study area are considered Tier 1A corridors as they are statewide mobility corridors that provide safe, high-speed connnections for long distance trips, serve as freight arteries, and are part of the National Highway System. According to the AMG and the INDOT Driveway Permit Manual, the following guidelines apply to a Tier 1A mobility corridor for driveways:

- Driveways with a minimum separation of 495 feet for a posted speed of 55 mph
- Only major commercial driveways may provide full access to US 30 or US 31
- All other driveways should be restricted to right-in/right-out (RIRO)
- Left-turn access from US 30 or US 31 is allowed, if reviewed and approved by INDOT
- Parcels should have only one driveway unless the parcel frontage exceeds 400 feet in length
- Median openings may be provided only when all of the following criteria are met:
    - The median opening is more than 400 feet from an existing median opening
    - The median opening will improve safety
    - There is sufficient room for turn lanes and recover tapers
    - The median opening will operate acceptably
- A mainline left-turn lane is required at a driveway when one or more of the following criteria are met:
    - On divided highways where median width is equal to or greater than 24 feet
    - Where a new approach is constructed as the 4th leg of a 3-legged itnesection
    - Where capacity analysis determines a left turn is necessary to meet level of service criteria
    - Where crash data, existing traffic operations, sight distance, or engineering judgment indicate a significant conflict related to right-turning vehicles

Give these guidelines, all driveways are restricted along the corridors. Full movements may be allowed at major commercial driveways, but all other driveways should be limited to (RIRO). As shown in **Table 19**, there are 70 drives that are not major commercial that have full access. In addition, 89 of the 120 driveways do not meet the spacing requirements of 495 feet between driveways for 55 mph. Twenty-six driveways are located on parcels that have less than 400 feet of frontage, but more than one drive. There is a particularly high concentration of driveways near Wanatah and Grovertown along US 30 and the only driveways on US 31 are near the Michigan Road intersection. As shown in Section 5 of this report, these areas also feature a higher concentration of crashes.

5. SAFETY

A review of crash data within the study limits revealed a total of 1,017 crashes occurred between 2017 – 2021. In this period, 14 fatal crashes (1.4% of total) and 258 injury crashes (25% of total) were reported. The most common crash types were rear-end (27% of total), roadway departure (23% of total), and right-angle crashes (16% of total). Deer crashes (231 crashes) appeared to be random throughout the corridors with no specific “hot spot” locations. The deer crashes were removed from the crash analysis to more accurately assess the safety of the corridor.

Throughout the corridor there were 230 run-off-the-road crashes which comprised 23% of the total crashes, 35% of which occurred during dark-not lighted conditions. Clear/cloudy conditions were present for 44% of the crashes however the road surface condition was noted as “dry” in only 37% of the crashes. Rain (17%), snow (20%), or other weather conditions present such as blowing sand/soil/snow (9%), sleet/freezing rain (7%), or severe winds (1%) were observed for 56% of the total crashes. The run-off the road crashes are higher than the statewide averages[2] for dark not lighted (15%*) and weather related (15%*) crashes. Further evaluation was conducted at four (4) hot spots along the corridor, which included the following locations:

1. US 30 & SR 421
2. US 30 & SR 35
3. US 30, east of Hawthorne Road
4. US 31, 14th Road to North of Michigan Road

[2] Statewide rates from Indiana Crash Facts 2020, A publication of the Indiana University Public Policy Institute in partnership with the Indiana Criminal Justice Institute

These locations comprised 45% (104) of the run-off-the-road crashes for the US 30 and US 31 west study area. A combination of dark – not lighted conditions, weather related, and road surface conditions were significant contributing factors to the crashes at these locations as well, mirroring the overall statistics of the corridors. It should be noted that the apparent hotspot along US 30 east of Hawthorne Road appears to be erroneous location (Lat/Long info) as a significant number of crashes were reported at the identical coordinates but does not appear to have the characteristics where this level of crashes (25/230, nearly 11% of total off-road crashes) would occur.

The crash data was sorted by location with the intent to identify high concentrations of crashes at intersections or within segments along each corridor. Crashes were then sorted by the type of roadway junction feature of the crash report, which either identified a type of junction to denote an intersection crash or no relation to junction to denote a segment crash.

5.1. INTERSECTION CRASHES

Intersection crashes accounted for 386 crashes, including 5 fatal and 118 injury crashes. Right angle (32% of total) and rear-end crashes (30% of total) were the predominant crash types at intersections in the study area. Twenty-two percent of crashes occurred in wet, snowy, or icy road surface conditions and 14% of crashes occurred in dark (not lighted) conditions.

5.2. SEGMENT CRASHES

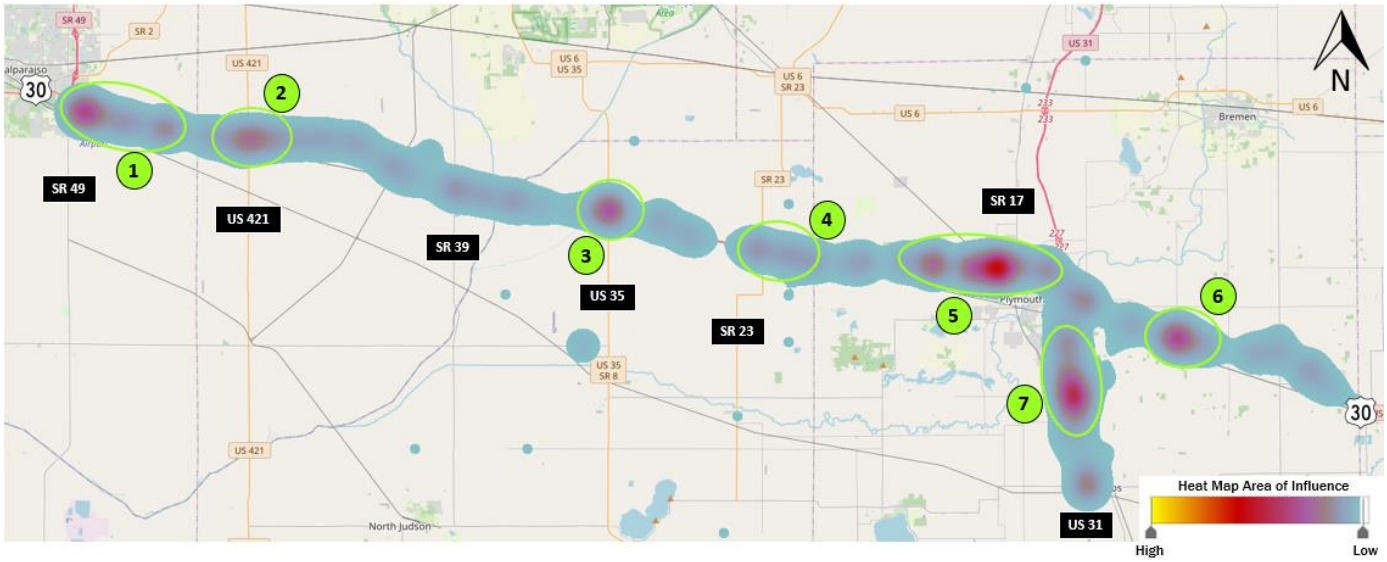
The crash data from 2017-2021 indicated 631 crashes were reported to have no relation to junction including 9 fatal, 140 injury, and 482 property damage-only crashes. The main crash types excluding deer crashes were roadway departure (32% of total), and rear-end (26% of total) crashes. Segments with high crash concentrations were identified as shown in **Figure 8.**

1. US 30 from Industrial Drive to N 450 East
2. US 30 from S 1100 West to S 900 West
3. US 30 between US 35 ramps
4. US 30 from west of SR 23 to North 1200 East West County Line Road
5. US 30 from Pioneer Drive to east of Plymouth Goshen Trail
6. US 30 from west of South Iris Road to Fir Road
7. US 31 from south of West 14th Road to S of Lincoln Highway

For segment (no relation to junction) fatal and injury crashes, 29% of crashes were rear-end, 27% were roadway departure, and 13% were right angles. Thirty-four percent of crashes occurred in dark (not lighted) conditions. The combined percentage of fatal and injury segment crashes that occurred in ice, snow, or wet road surface conditions was 32%.

Common crash factors were distracted/inattentive driving as drivers were often not able to stop for vehicles stopped at red lights or failed to yield to mainline vehicles turning from side streets and driveways.

Figure 8 – Segment Crash Heat Map



5.3. HIGH SEVERITY CRASH LOCATIONS

High severity (fatal and incapacitating injury) crashes included 171 incapacitating injury crashes and 14 fatal crashes between 2017 – 2021. These crashes involved predominantly right angle, rear end, and roadway departure (run off the road) crashes. These high severity crash locations were identified by examining crash locations plotted on a map using geographic coordinates as shown in **Figure 8**. Crash narratives were examined to identify common factors and recurring issues. The RoadHAT evaluation analysis for these locations are presented in Section 5.4 of this report. The common factors and recurring issues for each location were noted as follows:

- **US 30 near intersection of CR 575, approximately 4 miles east of SR 49**: Vehicles running off road was a recurring issue. Although some crashes were noted as not related to intersection, the open median at the intersection was a factor as drivers entering from the side street failed to yield to mainline vehicles or drove in the wrong direction of travel. The lack of barrier along the US 30 grass median was also an issue as one driver that departed the roadway through the median proceeded to enter the opposite direction of travel.

- **US 30 West of US 421 in Wanatah**: Crashes in this area were related to conflicts and potential speed differential between turning vehicles and thru traffic as many driveways and full median openings are closely spaced within a short segment. Improper turning or lane use were also reported to have resulted in crashes at this location. There is also a continuous left turn lane within the closely spaced drives/intersections that may be contributing to crashes.

- **US 30 and US 421**: Crashes at this signalized intersection were rear-end crashes related to distracted/inattentive drivers, possible speeding or speed differential, and improper lane use. Driver expectancy appears to be an issue as drivers were unable to brake in time to avoid rear-end collisions when other vehicles were stopped at the red light.

- **US 30 and SR 39**: Crashes at this signalized intersection were related to distracted/inattentive drivers, possible speeding or speed differential, and improper lane use or turning. Driver expectancy appears to be an issue as drivers were unable to brake in time to avoid rear-end collisions when other vehicles were stopped at the red light. Failure to yield to through traffic was also reported.

- **US 30 and Truck Stop Driveway, approximately 1,070 feet east of SR 39**: The driveway east of the SR 39 intersection includes a full-access median opening. Crashes at this intersection were rear-end crashes related to distracted/inattentive drivers,

possible speeding or speed differential, and improper lane use or turning. Driver expectancy appears to be an issue as drivers were unable to brake in time to avoid rear-end collisions when other vehicles were stopped at the red light. Failure to yield to through traffic was also reported. A direct conflict between through and right-turning vehicles may be contributing to rear-end crashes as there is no exclusive westbound right turn lane for right turning vehicles to clear the travel way when reducing speed to complete the turn that may be contributing to the rear-end crashes as well.

- **US 30 and North 600 East/North Starke Road**: Crashes at this unsignalized intersection involved turning, angle, and rear-end crashes. Review of crash narratives indicated distracted/inattentive drivers, possible speeding or speed differential, and improper lane use or turning were common causes. Construction and poor lighting/poor visibility were reported as contributing factors. Failing to yield to through traffic and vehicles stopped in median attempting to complete a two-stage turning movement were situations reported that led to crashes at this location. One rear-end crash report indicated snow on the road surface was a factor.

- **US 30 near SR 23**: Crashes at or near the unsignalized intersection involved right angle and turning crashes, and one pedestrian crash. Review of crash narratives indicated failing to yield to through traffic from side streets/driveways, and improper lane use or turning were situations that led to crashes. The one pedestrian crash included a pedestrian walking in the roadway in the path of a vehicle, leading to the crash.

- **US 30 and Tulip Road**: Head-on, right-angle, and roadway departure crashes were reported near this unsignalized intersection. Wrong-way travel resulted in head-on crashes, including one reported with alcohol involvement. One roadway departure crash indicated ice on the road as a contributing factor.

- **US 30 and Queen Road**: Crashes at this signalized intersection involved right-angle and rear-end crashes. Review of crash narratives indicated distracted/inattentive drivers, possible speeding or speed differential, and failing to yield were common causes of crashes. Suspected drug use was also reported as a contributing factor in one instance. Driver expectancy appears to be an issue as drivers disregarded or were unable to brake in time to avoid entering the intersection on the red light or avoid collisions with other vehicles stopped at the red light. Power outages that reportedly resulted in a flashing red or dark signal at the time of the crash were contributing factors in two instances.

- **US 30 and Pioneer Drive**: Crashes at this signalized intersection involved right angle, rear-end, turning, and roadway departure crashes. Review of crash narratives indicated distracted/inattentive drivers, possible speeding or speed differential near the intersection, and red-light running/failing to yield were common causes. Alcohol and drug use was also reported as a contributing factor in two instances. Driver expectancy appears to be an issue as drivers disregarded or were unable to brake in time to avoid entering the intersection on the red light or avoid collisions with other vehicles stopped at the red light.

- **US 30 and Oak Road**: Crashes at the signalized intersection were mostly rear-end crashes, but also involved angle, turning, and roadway departure crashes. Review of crash narratives indicated distracted/inattentive drivers, possible speeding or speed differential near the intersection, following too closely and red-light running/failing to yield were common causes of crashes. Driver expectancy appears to be an issue as drivers disregarded or were unable to brake in time to avoid entering the intersection on the red light or avoid collisions with other vehicles stopped at the red light. One roadway departure crash report indicated ice on the road surface was a factor while one right-angle crash in which a driver ran a red light indicated poor visibility due to snow.

- **US 30 and Plymouth Goshen Trail**: Right angle, turning, and roadway departure crashes were reported at or near this unsignalized intersection. Crash narratives reported failing to yield (from controlled approach to mainline) led to most crashes, indicating potential sight distance deficiencies and/or potential speeding or speed differential near the intersection. It appears the median is now closed for side street through and turning traffic.

- **US 31 and 12th Road**: Two crashes in this area were a result of roadway departure. Distracted/inattentive driving was reported as a contributing factor in two instances and failure to yield in the remaining instance.

- **US 31 and 11th Road**: Right angle and left turn angle crashes were reported at this unsignalized intersection. Crash narratives reported failing to yield (from controlled approach to mainline) led to most crashes, including one fatal crash. These contributing actions indicate potential sight distance deficiencies and/or potential speeding or speed differential near the intersection. Conflicting vehicles stopping in the median attempting to complete a two-stage turning movement were situations reported that led to crashes at this location as well, including vehicles with trailers that remain in direct conflict with mainline traffic while stopped in the median. There was not enough storage to accommodate the full length of the vehicle.

- **US 31 and Michigan Road**: Right angle, left turn angle, rear-end, and roadway departure crashes were reported at or near this unsignalized intersection. Crash narratives reported failing to yield (from controlled approach to mainline) led to most crashes, indicating potential sight distance deficiencies and/or potential speeding or speed differential near the intersection. In two instances, drivers failed to brake in time to avoid colliding with vehicles that are required to stop at RR crossings, leading to rear-end crashes. The RR crossing is located approximately 0.5 mi. south of the intersection. In these two crashes, potentially inattentive drivers were involved in addition to poor visibility due to weather (in one instance). In the roadway departure crashes reported, drivers lost control of the vehicle while attempting to turn at the intersection

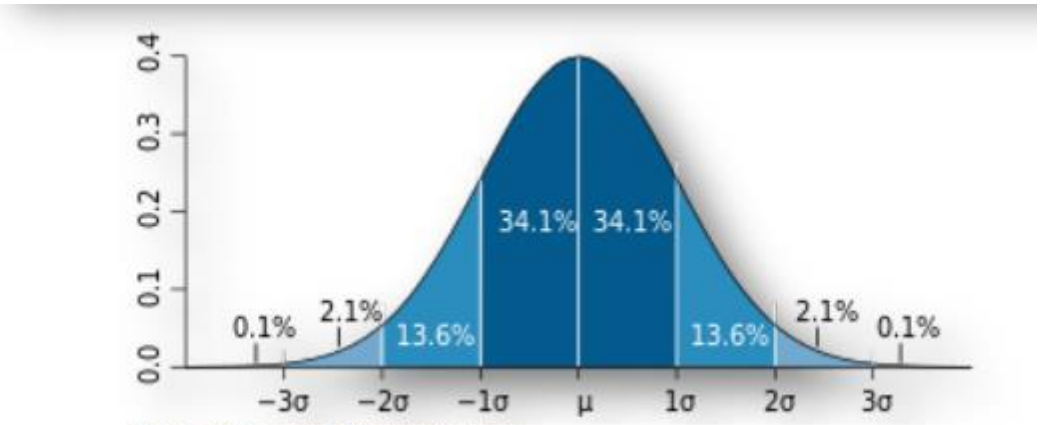
- **US 31 and SR 10/Indiana Avenue**: Right-angle and left turn angle crashes were reported at this unsignalized intersection. Crash narratives reported failing to yield (from controlled approach to mainline) led to most crashes. These contributing actions indicate potential sight distance deficiencies (to the south) and/or potential speeding or speed differential near the intersection. Conflicting vehicles stopping in the median attempting to complete a two-stage turning movement were situations reported that led to crashes at this location as well, including vehicles with trailers that remain in direct conflict with mainline traffic while stopped in the median where there is not enough storage to accommodate the full length of the vehicle. Suspected alcohol and drug involvement were reported in one instance.

5.4. ROADHAT EVALUATIONS: US 30 WEST

RoadHAT evaluations were performed for the purpose of comparing the safety performance of study locations to that of state averages. The two main measures used for this purpose are RoadHAT outputs index of crash frequency (ICF) and index of crash cost (ICC). Crash frequency is a measure of the number of crashes that occurred within a set period of time (usually one year). It does not consider exposure to risk (volume, segment length, etc.).

The index of crash frequency (ICF) accounts for random crash variability to measure the difference between expected crashes and reported crashes. This measure indicates by how many standard deviations the reported number of crashes differs from the expected number of crashes. **Figure 9** illustrates how the ICF may be interpreted in terms of the standard deviation of a bell curve. This reference figure is provided in the RoadHAT practice pointers for design exceptions. The ICF is a measure useful for comparison of the analysis locations to system-wide statistics.

Figure 9 – *Standard Deviation in a Bell Curve Distribution*



Bell Curve illustrating Standard Deviation

In evaluating the ICF measure, an ICF=0 indicates the facility's crash performance is equal to the average (or what is expected) from that facility. Locations with an ICF greater than 0 indicates a higher crash frequency than the average while locations with an ICF less than 0 indicate a lower than average crash frequency. A higher ICF value indicates greater variation from the expected crash average of a facility. Therefore, the ICF is used to prioritize high crash locations with the intent to focus safety improvement efforts on locations with greater potential for risk.

Similarly, the index of crash cost (ICC) measures the difference between expected and estimated crash costs, indicating by how many standard deviations actual crash cost differs from the expected crash cost. Due to the higher cost of fatal and injury crashes, a high ICC could indicate higher than average fatal and injury crashes in the analysis facility.

RoadHAT Evaluation Results

The evaluation encompassed crash history between 2017 – 2021. The RoadHAT evaluation was performed to function as a primary filter of study segments (roadway sections subdivided by major crossroads and county lines) in order to identify segments with the highest potential for safety improvement. The analysis results of the RoadHAT evaluation developed for the US 30 West study are summarized in **Table 20** for segments and **Table 21** for interchange segments/intersections. Deer crashes have been removed from the evaluation.

Table 20 – RoadHAT Results Summary for Segments

Segment	Facility Type	AADT	Length (mi)	Reported Crashes (2017 - 2021)			Expected (crashes/year)			ICF	ICC
				F&I	NI & P	PDO	F&I	NI & P	PDO		
Segment 13: US 31 from SR 10 to Michigan Rd/13th Rd	Rural Multilane Segment	16200	3.54	21	8	75	2.39	1.5	8.63	0.85	0.65
Segment 1: US 30 from Comeford Rd to LaPorte County Line	Rural Multilane Segment	19200	4.78	25	18	83	3.235	2.09	10.54	0.78	0.53
Segment 8: US 30 Starke County Line to Pioneer Dr	Rural Multilane Segment	14600	4.55	15	11	45	2.496	1.46	8.32	0.2	0.21
Segment 14: US 31 from Michigan Rd/13th Rd to Michigan Rd	Rural Multilane Segment	20500	0.82	4	3	26	0.726	0.52	4.43	0.19	0.1
Segment 15: US 31 from Michigan Rd to US 30	Urban Multilane Segment	13100	3.05	12	7	53	2.43	1.63	14.79	-0.29	-0.06
Segment 11: US 30 from US 31 to SR 331	Rural Multilane Segment	13700	8.01	7	3	52	3.725	2.06	10.19	-0.3	-0.58
Segment 3: US 30 from US 421 to SR 39	Rural Multilane Segment	16000	8.31	12	8	62	4.987	3.01	13.29	-0.32	-0.48
Segment 9: US 30 from Pioneer Dr to N Michigan Blvd/SR 17	Urban Multilane Segment	21100	3.07	19	5	77	3.533	2.7	23.29	-0.39	-0.05
Segment 2: US 30 from Porter County Line to US 421	Rural Multilane Segment	17500	1.93	4	0	38	2.042	1.45	8.93	-0.41	-0.61
Segment 7: US 30 from SR 23 to Marshall County Line	Rural Multilane Segment	15300	2.19	5	0	20	1.272	0.76	5.46	-0.42	-0.26
Segment 6: US 30 from US 35 to US 23	Rural Multilane Segment	13500	5.84	14	2	27	2.983	1.69	9.14	-0.5	-0.12
Segment 5: US 30 from LaPorte County Line to US 35	Rural Multilane Segment	11900	3.81	4	1	22	1.781	0.97	6.36	-0.53	-0.53
Segment 10: US 30 from N Michigan Rd/SR 17 to US 31	Urban Multilane Segment	14200	1.57	6	6	13	1.184	0.9	9.03	-0.66	-0.04
Segment 4: US 30 from SR 39 to Starke County Line	Rural Multilane Segment	12500	1.95	6	1	5	0.925	0.52	4.23	-0.71	0.15
Segment 12: US 30 from SR 331 to Kosciusko County Line	Rural Multilane Segment	14700	3.24	10	2	9	1.772	1.05	6.69	-0.72	0.03

**F&I = Fatal and Incapacitating, NI&P = Non-Incapacitating and Possible Injury, PDO + Property Damage Only*

Table 21 – RoadHAT Results Summary for Intersections and Interchange Segments

Intersection/Interchange Segments	Facility Type	AADT	Length (mi)	Reported Crashes (2017 - 2021)			Expected (crashes/year)			ICF	ICC
				F&I	NI & P	PDO	F&I	NI & P	PDO		
US 30 & Tulip Rd	Rural State Intersection	14800		4	2	5	0.197	0.07	0.66	1.32	1.32
US 31 & SR 10	Rural State Intersection	19600		11	6	26	0.708	0.4	3.14	1.28	1.54
US 30 & Oak Rd	Urban State Intersection	25100		13	4	69	0.773	0.83	8.07	1.04	1.87
US 30 & Queen Rd	Urban State Intersection	16400		7	8	27	0.414	0.4	3.89	1.02	1.82
US 31 & Michigan Rd/13th Rd	Urban State Intersection	23300		5	1	25	0.322	0.29	2.75	0.9	1.11
US 30 & Plymouth Goshen Tr	Urban State Intersection	15200		6	6	8	0.236	0.21	2.02	0.77	1.98
US 30 & 12th Rd/Cedar Rd	Rural State Intersection	13600		5	1	4	0.189	0.11	0.94	0.6	1.5
US 31 & 11th Rd	Urban State Intersection	19200		5	0	11	0.222	0.19	1.91	0.4	1.32
US 30 & King Rd/9A Rd	Rural State Intersection	14200		2	2	21	0.596	0.4	2.98	0.34	-0.25
US 30 & Montdale Dr	Urban State Intersection	19500		3	5	14	0.649	0.36	2.44	0.31	0.07
US 30 & Pioneer Dr	Urban State Intersection	24500		7	2	39	0.662	0.79	6.74	0.23	0.81
US 30 & Condon Rd	Rural State Intersection	18600		2	0	4	0.136	0.09	0.83	0.13	0.67
US 30 & SR 39	Rural State Intersection	18300		3	4	20	0.667	0.5	3.75	0.13	0
US 30 & Truck Stop	Rural State Intersection	13100		4	0	0	0.102	0.06	0.66	-0.02	1.52
US 30 & County Rd 575 E	Rural State Intersection	18200		2	0	5	0.239	0.14	1.15	-0.09	0.29
US 30 & Industrial Drive	Urban State Intersection	23400		6	4	23	0.599	0.7	6	-0.13	0.76
US 30 & N 600 E	Rural State Intersection	16100		6	1	8	0.592	0.33	2.61	-0.19	0.66
US 30 & Thompson	Rural State Intersection	14500		1	0	10	0.511	0.28	2	-0.24	-0.49
US 30 & US 421	Rural State Intersection	22400		5	7	18	0.864	0.8	6.24	-0.32	0.2
US 30 & S 600 W	Rural State Intersection	14600		1	4	5	0.514	0.28	2.01	-0.32	-0.33
US 30 & N Main	Urban State Intersection	18700		1	0	11	0.628	0.35	2.37	-0.33	-0.56

Intersection/Interchange Segments	Facility Type	AADT	Length (mi)	Reported Crashes			Expected			ICF	ICC
				F&I	NI & P	PDO	F&I	NI & P	PDO		
US 30 & N 400 E	Unsignalized Urban State Intersection	17900		0	2	6	0.606	0.34	2.3	-0.59	-0.74
US 30 & SR 17/N Michigan St	Urban Interchange Freeway Segment	20000	0.56	2	0	10	0.208	0.17	4.82	-0.72	0.27
US 30 & SR 23	Unsignalized Rural State Intersection	15200		3	1	3	0.532	0.28	2.3	-0.73	0.04
US 30 & S 300 W (Long Ln)	Unsignalized Rural State Intersection	14100		1	0	3	0.5	0.27	1.96	-0.82	-0.51
US 31 & Michigan Rd	Unsignalized Rural State Intersection	22100		1	0	2	0.401	0.25	1.91	-0.87	-0.44
US 30 & Fir Rd	Unsignalized Rural State Intersection	12900		1	0	2	0.465	0.25	1.84	-0.88	-0.48
US 30 & Pilot Travel Center	Signalized Urban State Intersection	20700		3	0	5	0.462	0.51	4.5	-0.9	-0.07
US 30 & County Line Rd	Unsignalized Rural State Intersection	19300		1	1	2	0.644	0.36	2.42	-0.9	-0.56
US 30 & CR 750 E	Unsignalized Rural State Intersection	14500		0	0	3	0.362	0.17	1.42	-0.91	-0.87
US 31 & 9A Rd	Unsignalized Urban State Intersection	19400		1	0	2	0.307	0.27	2.62	-0.92	-0.42
US 30 & US 31	Urban Interchange Freeway Segment	13300	0.66	1	0	5	0.162	0.15	4.37	-1	-0.2
US 30 & US 30 Alt	Unsignalized Rural State Intersection	14100		0	0	0	0.279	0.17	1.4	-1.12	-0.78
US 30 & SR 331	Rural Interchange Freeway Segment	3400	0.91	0	0	10	0.71	0.037	7.39	-1.22	-1.7

The analysis results indicated several locations in the US 30 and US 31 corridors had a negative ICF value, which indicates fewer crashes occurred during the study period (2017 - 2021) than what would be expected from these facilities. The ICC for the US 30 and US 31 segment locations confirmed that crash costs were not substantially in excess of the expected crash costs, indicating a normal crash severity distribution (comparable to safety performance of the average facility). The high severity crash location narratives were reviewed and common factors and recurring issues were provided in Section 5.3. A summary of the overall observations are contained in the next section.

5.5. SAFETY REVIEW CONCLUSIONS

The crash data evaluation enabled various conclusions to be drawn from crash history within the study limits:

- The RoadHAT evaluation results were sorted in order of highest to lowest index of crash frequency (ICF) that is intended to identify high crash locations within the study area and develop safety improvement priorities accordingly.

- A substantial number of crashes occurred in segments with **higher concentrations of intersections/driveways/median openings** and tended to be closer to the intersections and/or median openings, even though some were reported as 'no relation to junction'.
- Areas with **higher concentrations of driveways** (areas 1, 2, and 5 in **Figure 8**) had more crashes due to higher potential for conflicts.
- **Speeding** and **speed differential** is suspected to be an issue as the vehicles that enter or exit the roadway from side streets and driveways maneuver at slower speeds than vehicles traveling along the mainline. Where no turning or acceleration lanes are present, the speed differential created substantial potential for conflict.
- Many crashes reported **involved trailers**. Often vehicles that had a trailer would attempt to cross the road to either turn left or travel through and/or across in two-stage movements while the median width is insufficient to fully store a vehicle with a trailer. Therefore, this left the vehicles exposed and in direct conflict with mainline vehicles, which then resulted in crashes.

The high-speed profile of the mainline roadway,coupled with predominantly unrestricted access throughout the study area, results in substantial conflicting vehicle movements that lead to the crash types experienced.

6. TRAFFIC OPERATIONS

The following intersections within the study area were analyzed to evaluate traffic operations at these locations for the existing (2022) and design year (2045) traffic conditions. The study limits consist of 23 selected at-grade intersections and 5 interchanges. **Table 22** provides a brief description of the roadways forming the study intersections.

Table 22 – Study Intersections

ID	Intersection	Existing Traffic Control
1	US 30 & SR 49	Interchange
2	US 30 & E Industrial Drive	Signalized
3	US 30 & Montdale Drive	Stop-Controlled
4	US 30 & N 400 E	Stop-Controlled
5	US 30 & County Line Road	Stop-Controlled
6	US 30 & N Main Street	Stop-Controlled
7	US 30 & US Hwy 421	Signalized
8	US 30 & S 600 W	Stop-Controlled
9	US 30 & N Thompson Street	Stop-Controlled
10	US 30 & US 30 Alternate Rte.	Stop-Controlled
11	US 30 & S 300 W	Stop-Controlled
12	US 30 & SR 39	Signalized
13	US 30 & US 35 Interchange	Interchange
14	US 30 & N 750 E	Stop-Controlled
15	US 30 & N 1000 E	Stop-Controlled
16	US 30 & Queen Road	Signalized
17	US 30 & Pioneer Drive	Signalized
18	US 30 & N Oak Road	Signalized
19	US 30 & N Michigan Street	Interchange
20	US 30 & Plymouth Goshen Trail	Stop-Controlled
21	US 30 & US 31 Interchange	Interchange
22	US 30 & 9a Road	Signalized
23	US 30 & Fir Road	Stop-Controlled
24	US 30 & Main St Interchange	Interchange
25	US 31 & W 9a Road	Stop-Controlled
26	US 31 & Michigan Road	Stop-Controlled
27	US 31 & 13th Road	Stop-Controlled
28	US 31 & SR 10	Stop-Controlled

Existing AADT volumes *(2022)* were collected from the INDOT Traffic Count Database System (TCDS) for the US 30 and US 31 mainlines. The segment AADT volumes are shown in **Table 23** and **Table 24**.

Table 23 – US 30 Mainline AADT Existing 2022 Volumes

From	To	AADT
SR 49	Porter CR 400 E	21,400
Porter CR 400 E	County Line Road	18,300
County Line Road	LaPorte CR 1100 W	18,900
LaPorte CR 1100 W	US 421	18,200
US 421	Long Lane	14,600
Long Lane	2100’ E. of SR 39	13,100
2100’ E. of SR 39	Queen Road	14,000
Queen Road	1800’ E of King Road	14,100
1800’ E. of King Road	Beech Road	14,600

Table 24 – US 31 Mainline AADT Existing 2022 Volumes

From	To	AADT
US 30	Michigan Road	17,700
Michigan Road	SR 10	19,800
SR 10	CR 700 N	15,200

A review of the existing data confirmed that the US 30 and US 31 corridors have substantial heavy vehicle percentages along both the mainlines and the side streets. The range of existing truck percentages is shown in Table 25 for each mainline approach based upon the turning movement counts (TMCs) that were collected for the key intersections, as well as the data for the interchanges that was taken from the TCDS website. An average heavy vehicle percentage was also provided for the mainline movements. The heavy vehicle percentages by intersection are provided in **Appendix B**.

Table 25 – US 30 and US 31 Heavy Vehicle Percentages

Roadway	Direction	AM Peak Period % Heavy Vehicles Range (Average)	PM Peak Period % Heavy Vehicles Range (Average)
US 30	Eastbound	22% – 51% (38%)	17% - 41% (27%)
	Westbound	18% – 50% (33%)	18% - 45% (33%)
US 31	Northbound	26% - 31% (28%)	19% - 27% (24%)
	Southbound	22% - 26% (24%)	18% - 21% (20%)

6.1. TRAFFIC FORECASTING

Twenty-four-hour turning movement counts at the study intersections were collected between November 2021 and November 2022. Traffic data from the INDOT Traffic Count Database System (TCDS) was utilized for interchange mainline and ramps that were not captured by the turning movement counts.

Year 2019 and 2045 transportation demand models were developed by INDOT for the PROPEL US 30 and US 31 studies. These included the 2019 and 2045 expected daily turning movement volumes at all study intersections, which were utilized to develop annual growth rates for each approach at the study area intersections and interchanges. A linear annual growth rate was developed for each study intersection and applied by movement. It was then applied to the collected traffic turning movement counts to develop the design year (2045) volumes at the study intersections. The growth rate percentages and intersection turning movement volumes for the existing and design year are provided in **Appendix C, Appendix D and Appendix E**, respectively.

6.2. CAPACITY ANALYSIS

6.2.1. FREEWAY ANALYSIS

A capacity analysis was performed for the freeway segments in the interchange area of influence to evaluate the existing (2022) and future (2045) condition operations at the following interchanges:

- US 30 and SR 49
- US 30 and US 35
- US 30 and N Michigan Street

- US 30 and US 31
- US 30 and Main Street

The freeway segment types that were analyzed consisted of the following: mainline, merge, and diverge. HCS 2022 was used to facilitate the analysis of the freeway segments. The freeway analysis measures of effectiveness consisted of density and Level-of-Service (LOS). Queuing and volume-to-capacity ratios were also evaluated as a check against the density values. Operating conditions of the freeway segments were considered to be acceptable if found to operate at LOS D or better as many jurisdictions currently apply this threshold for defining when automobile site traffic mitigation is required (per INDOT Applicant's Guide to Traffic Impact Studies). The LOS criteria for freeway segments as defined in the *Highway Capacity Manual* are provided in **Table 26**. Outputs for the analysis contained in this section is contained in **Appendices F**.

Table 26 – LOS Thresholds for Freeway Segments

LOS	Density (pc/mi/ln)		Comments
	Basic Freeway Segment	Ramp Merge/Diverge	
A	≤ 11	≤ 10	Unrestricted operations
B	> 11-18	> 10-20	Merging and diverging maneuvers noticeable to drivers
C	> 18-26	> 20-28	Influence area speeds begin to decline
D	> 26-35	> 28-35	Influence area turbulence becomes intrusive
E	> 35-45	> 35	Turbulence felt by virtually all drivers
F	>45 or v/c > 1.0	v/c > 1.0	Ramp and freeway queues form

US 30 Mainline Analysis

US 30 includes two travel lanes in each direction within the study limits. The basic freeway segments (mainline) level-of-service results during the AM and PM Peak hours for the existing (2022) and design year (2045) no-build traffic conditions are shown in **Table 27**. The capacity analysis results indicate that for both peak periods, during all analysis periods, each segment is anticipated to operate at LOS C or better. Analysis of the intersecting freeway segments was also included and is provided in **Table 27** as well.

US 31 Mainline Analysis

US 30 includes two travel lanes in each direction within the study limits. The basic freeway segments (mainline) level-of-service results during the AM and PM Peak hours for the existing (2022) and design year (2045) no-build traffic conditions are shown in **Table 27**. The capacity analysis results indicate that for both peak periods, during all analysis periods, each segment is anticipated to operate at LOS B or better.

Table 27 – Basic Freeway Segment Analysis Summary for US 30

Location, Movement		Existing 2022				Design year 2045			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Avg. Density (pc/mi/hr)	LOS	Avg. Density (pc/mi/hr)	LOS	Avg. Density (pc/mi/hr)	LOS	Avg. Density (pc/mi/hr)	LOS
US 30 Mainline, E of SR 49	**EB**	10.4	A	11.2	B	12.8	B	13.8	B
	WB	10.3	A	11.4	B	12.7	B	14.1	B
US 30 Mainline, W of SR 49	**EB**	8.6	A	9.7	A	12.5	B	14.1	B
	WB	6.2	A	7.6	A	9.0	A	11.1	B
SR 49 Mainline, S of US 30	**NB**	7.0	A	11.6	B	8.6	A	14.3	B
	SB	11.6	B	9.4	A	14.2	B	11.5	B
SR 49 Mainline, N of US 30	**NB**	13.8	B	18.3	C	16.9	B	22.5	C
	SB	10.6	A	16.0	B	13.1	B	19.6	C
US 30 Mainline, E of US 35	**EB**	6.3	A	6.9	A	7.7	A	8.4	A
	WB	5.7	A	8.2	A	7.0	A	10.1	A
US 30 Mainline, W of US 35	**EB**	5.6	A	6.6	A	6.9	A	8.2	A
	WB	5.6	A	7.5	A	6.9	A	9.3	A
US 35 Mainline, N of US 30	**NB**	1.7	A	1.8	A	2.0	A	2.2	A
	SB	1.7	A	1.8	A	2.1	A	2.2	A
US 35 Mainline, S of US 30	**NB**	2.6	A	2.6	A	3.2	A	3.2	A
	SB	2.3	A	3.1	A	2.8	A	3.8	A
US 30 Mainline, E of Michigan Rd	**EB**	6.3	A	7.8	A	7.8	A	9.6	A
	WB	6.4	A	7.3	A	7.9	A	9.0	A
US 30 Mainline, W of Michigan Rd	**EB**	6.3	A	7.3	A	7.7	A	8.9	A
	WB	6.9	A	7.8	A	8.6	A	9.7	A
US 30 Mainline, E of US 31	**EB**	5.2	A	6.2	A	6.4	A	7.7	A
	WB	5.1	A	6.4	A	6.3	A	7.8	A
US 30 Mainline, W of US 31	**EB**	6.2	A	8.9	A	7.6	A	10.9	A
	WB	7.3	A	10.9	A	9.0	A	13.4	B
US 31 Mainline, N of US 30	**NB**	7.6	A	8.2	A	9.4	A	10.1	A
	SB	7.1	A	10.7	A	8.8	A	13.1	B
US 31 Mainline, S of US 30	**NB**	6.9	A	7.5	A	8.5	A	9.3	A
	SB	6.3	A	8.8	A	7.7	A	10.8	A
US 30 Mainline, E of Main St	**EB**	4.8	A	6.2	A	5.9	A	7.7	A
	WB	5.5	A	6.3	A	6.8	A	7.8	A
US 30 Mainline, W of Main St	**EB**	4.6	A	5.8	A	5.7	A	7.1	A
	WB	4.7	A	6.5	A	5.8	A	8.0	A

6.2.2. INTERCHANGE ANALYSIS

A capacity analysis was performed for the merge and diverge operations at the previously identified interchange locations for the existing (2022) conditions and design year (2045) operations. The LOS criteria for freeway segments as defined in the *Highway Capacity Manual* are provided in **Table 26**. Results are shown for each interchange in **Table 28** through **Table 32.** The interchange analysis results indicate that for both peak periods, during all analysis periods, each segment is anticipated to operate at LOS C or better. Outputs for the analysis contained in this section is contained in **Appendix G**.

Table 28 – Interchange Analysis Summary for US 30 & SR 49

Movement		Existing 2022				Design year 2045			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Avg. Density (pc/mi/hr)	LOS	Avg. Density (pc/mi/hr)	LOS	Avg. Density (pc/mi/hr)	LOS	Avg. Density (pc/mi/hr)	LOS
NB SR 49 to EB US 30	Diverge	7.2	A	11.9	B	8.8	A	14.6	B
	Merge	10.7	A	11.5	A	15.1	B	16.5	B
WB US 30 to NB SR 49	Diverge	11.5	A	12.5	A	14.3	B	15.5	B
	Merge	14.7	B	20.0	B	19.9	B	27.0	C
SB SR 49 to WB US 30	Diverge	10.5	A	16.0	A	12.9	A	19.8	A
	Merge	6.1	A	7.3	A	7.5	A	8.9	A
EB US 30 to SB SR 49	Diverge	8.8	A	9.9	A	12.8	A	14.5	A
	Merge	11.7	A	9.4	A	14.1	B	11.1	A
NB SR 49 to WB US 30	Diverge	5.6	A	11.3	A	6.9	A	13.9	A
	Merge	5.3	A	5.3	A	6.2	A	6.2	A
SB SR 49 to EB US 30	Diverge	12.7	A	17.1	B	15.7	B	21.2	B
	Merge	12.1	B	13.1	B	17.7	B	19.2	B
WB US 30 to SB SR 49	Diverge	4.5	A	4.9	A	5.5	A	6.0	A
	Merge	8.5	A	13.7	B	10.3	A	16.7	B

Table 29 – Interchange Analysis Summary for US 30 & US 35

Movement		Existing 2022				Design year 2045			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Avg. Density (pc/mi/hr)	LOS	Avg. Density (pc/mi/hr)	LOS	Avg. Density (pc/mi/hr)	LOS	Avg. Density (pc/mi/hr)	LOS
NB US 35 to EB US 30	Diverge	2.8	A	2.8	A	3.4	A	3.4	A
	Merge	5.9	A	6.6	A	6.9	A	7.7	A
SB US 35 to WB US 30	Diverge	1.8	A	1.9	A	2.2	A	2.3	A
	Merge	5.3	A	7.1	A	6.3	A	8.6	A
WB US 30 to NB US 35	Diverge	5.7	A	8.1	A	7.0	A	10.0	B
	Merge	1.7	A	1.9	A	2.0	A	2.2	A
WB US 30 to SB US 35	Diverge	5.5	A	6.5	A	6.8	A	8.1	A
	Merge	2.3	A	3.3	A	2.7	A	3.7	A

Table 30 – Interchange Analysis Summary for US 30 & N Michigan Street

Movement		Existing 2022				Design year 2045			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Avg. Density (pc/mi/hr)	LOS	Avg. Density (pc/mi/hr)	LOS	Avg. Density (pc/mi/hr)	LOS	Avg. Density (pc/mi/hr)	LOS
EB US 30 to SB Michigan St	Diverge	6.7	A	8.2	A	8.2	A	10.1	A
	Merge	--	--	--	--	--	--	--	--
NB Michigan St to EB US 30	Diverge	--	--	--	--	--	--	--	--
	Merge	6.3	A	8.7	B	7.5	A	10.6	B
SB Michigan St to WB US 30	Diverge	--	--	--	--	--	--	--	--
	Merge	6.9	A	7.6	A	8.5	A	9.3	A
WB US 30 to NB Michigan St	Diverge	6.9	A	8.2	A	8.4	A	10.0	A
	Merge	--	--	--	--	--	--	--	--

Table 31 – Interchange Analysis Summary for US 30 & US 31

Movement		Existing 2022				Design year 2045			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Avg. Density (pc/mi/hr)	LOS	Avg. Density (pc/mi/hr)	LOS	Avg. Density (pc/mi/hr)	LOS	Avg. Density (pc/mi/hr)	LOS
EB US 30 to NB US 31	Diverge	4.5	A	6.7	A	5.6	A	8.3	A
	Merge	6.8	A	7.5	A	8.4	A	9.2	A
EB US 30 to SB US 31	Diverge	6.3	A	9.0	A	7.7	A	11.1	A
	Merge	4.8	A	6.2	A	5.9	A	7.7	A
NB US 31 to EB US 30	Diverge	7.0	A	7.6	A	8.6	A	9.4	A
	Merge	5.0	A	6.2	A	5.0	A	7.6	A
NB US 31 to WB US 30	Diverge	8.6	A	9.1	A	10.6	A	11.1	A
	Merge	3.7	A	4.3	A	4.5	A	5.3	A
SB US 31 to EB US 30	Diverge	6.2	A	7.8	A	7.6	A	9.6	A
	Merge	5.0	A	7.7	A	6.1	A	9.5	A
SB US 31 to WB US 30	Diverge	7.3	A	10.8	A	8.9	A	13.3	A
	Merge	6.5	A	10.1	A	8.0	A	12.4	A
WB US 30 to NB US 31	Diverge	5.2	A	6.5	A	6.4	A	8.0	A
	Merge	6.7	A	7.0	A	8.2	A	8.6	A
WB US 30 to SB US 31	Diverge	6.8	A	10.6	A	8.4	A	13.0	A
	Merge	7.4	A	10.3	A	9.1	A	12.7	A

Table 32 – Interchange Analysis Summary for US 30 & Main Street

Movement		Existing 2022				Design year 2045			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Avg. Density (pc/mi/hr)	LOS	Avg. Density (pc/mi/hr)	LOS	Avg. Density (pc/mi/hr)	LOS	Avg. Density (pc/mi/hr)	LOS
EB US 30 to SB Main St	Diverge	4.9	A	6.0	A	6.0	A	7.5	A
	Merge	--	--	--	--	--	--	--	--
NB Main St to EB US 30	Diverge	--	--	--	--	--	--	--	--
	Merge	4.9	A	6.4	A	6	A	7.9	A
SB Main St to WB US 30	Diverge	--	--	--	--	--	--	--	--
	Merge	4.8	A	5.8	A	5.8	A	7.0	A
WB US 30 to NB Main St	Diverge	5.1	A	6.7	A	6.2	A	8.2	A
	Merge	--	--	--	--	--	--	--	--

6.2.3. INTERSECTION ANALYSIS

The traffic analysis for at-grade study intersections for the existing (2022) and design year (2045) no-build traffic conditions was evaluated based on meeting the criteria for acceptable traffic operations. In general, the operating conditions were considered to be acceptable if found to operate at a level-of-service of LOS D or better as many jurisdictions currently apply this threshold for defining when automobile site traffic mitigation is required (per INDOT Applicant's Guide to Traffic Impact Studies). The 95th percentile queue lengths were also taken into consideration when determining the need for improvements based on queuing impacts.

Capacity analysis of signalized and stop-controlled intersections was performed using Synchro (Version 11.0) utilizing the methodology outlined in the *Highway Capacity Manual* (HCM 6th Edition or HCM 2000 wherever required).

The standard parameter used to evaluate traffic operating conditions is referred to as the level-of-service (LOS). There are six LOS (A through F) which relate to driving conditions from best to worst, respectively. LOS for signalized and unsignalized (stop-control and roundabout) intersections is defined in terms of control delay per vehicle, which is a direct correlation to driver discomfort, frustration, fuel consumption, and lost travel time. **Table 33** provides the LOS criteria as defined in the *Highway Capacity Manual*.

Table 33 – Intersection LOS Thresholds

LOS	Signalized/Roundabout Intersection Control Delay per Vehicle (seconds)	Unsignalized Intersection Control Delay per Vehicle (seconds)
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80 or v/c > 1.0	> 50 or v/c > 1.0

Based on the results of the capacity analysis, all signalized study intersections are anticipated to operate at overall acceptable level of service (LOS D) during both the AM and PM peak hours under the existing (2022) and design year (2045) no-build traffic conditions. All movements at the signalized intersections are also anticipated to operate with acceptable levels-of-service. Results for the signalized intersection capacity analysis for the existing (2022) and design year (2045) are summarized in **Table 34** and **Table 35**, respectively. Outputs for the analysis contained in this section is contained in **Appendix H**.

Table 34 – Signalized Intersections Existing (2022) Year Analysis

Signalized Intersections Existing			Existing (2022) AM Peak			Existing (2022) PM Peak		
ID	Intersection	Approach	Delay (s/veh) / LOS	V/C	95th %tile Queues (feet)	Delay (s/veh) / LOS	V/C	95th %tile Queues (feet)
2	US 30 and E Industrial Dr	***Overall***	***16.4 / B***	--		***20.7 / C***	--	
		Eastbound	15.5 / B	0.77	150	19.2 / B	0.52	100
		Westbound	12.7 / B	0.48	250	17.7 / B	0.6	275
		Northbound	37.1 / D	0.52	125	35.6 / D	0.58	150
		Southbound	32.1 / C	0.29	50	28.4 / C	0.45	50
7	US 30 and US Hwy 421	***Overall***	***25.4 / C***	--		***23.2 / C***	--	
		Eastbound	16.3 / B	0.52	150	17.2 / B	0.63	200
		Westbound	20.3 / C	0.8	175	20.2 / C	0.64	200
		Northbound	45.3 / D	0.79	150	37.1 / D	0.53	100
		Southbound	43.8 / D	0.64	100	41.1 / D	0.64	150
12	US 30 and SR 39	***Overall***	***11.9 / B***	--		***11.5 / B***	--	
		Eastbound	8.2 / A	0.28	100	7.9 / A	0.27	100
		Westbound	8.4 / A	0.26	100	8.0 / A	0.30	125
		Northbound	28.8 / C	0.51	125	30.3 / C	0.46	100
		Southbound	25.7 / C	0.17	50	28.1 / C	0.34	100
16	US 30 and Queen Rd	***Overall***	***10.1 / B***	--		***10.5 / B***	--	
		Eastbound	3.6 / A	0.21	75	6.6 / A	0.30	125
		Westbound	6.0 / A	0.21	75	6.5 / A	0.35	150
		Northbound	29.6 / C	0.32	75	35.7 / D	0.56	100
		Southbound	36.3 / D	0.64	125	33.6 / C	0.49	100
17	US 30 and Pioneer Dr	***Overall***	***15.5 / B***	--		***17.3 / B***	--	
		Eastbound	12.6 / B	0.27	100	14.0 / B	0.35	125
		Westbound	12.6 / B	0.23	100	14.3 / B	0.41	100
		Northbound	26.1 / C	0.35	50	27.9 / C	0.53	75
		Southbound	27.4 / C	0.30	75	28.3 / C	0.30	75
18	US 30 and N Oak Rd	***Overall***	***22.9 / C***	--		***28.7 / C***	--	
		Eastbound	17.5 / B	0.32	100	21.3 / C	0.33	125
		Westbound	16.8 / B	0.32	100	20.0 / B	0.42	100
		Northbound	32.3 / C	0.52	50	33.7 / C	0.62	75
		Southbound	35.5 / D	0.68	75	40.6 / D	0.81	75
22	US 30 and 9a Rd	***Overall***	***13.1 / B***	--		***12.7 / B***	--	
		Eastbound	8.5 / A	0.23	100	9.1 / A	0.26	100
		Westbound	10.0 / B	0.22	75	9.7 / A	0.24	100
		Northbound	26.9 / C	0.36	100	27.9 / C	0.31	75
		Southbound	25.6 / C	0.24	50	26.1 / C	0.00	50

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

Table 35 – Signalized Intersections Design (2045) Year Analysis

Signalized Intersections No-Build			Design (2045) AM Peak			Design (2045) PM Peak		
ID	Intersection	Approach	Delay (s/veh) / LOS	V/C	95th %tile Queues (feet)	Delay (s/veh) / LOS	V/C	95th %tile Queues (feet)
2	US 30 and E Industrial Dr	***Overall***	***22.1 / C***	--		***20.7 / C***	--	
		Eastbound	20.2 / C	0.87	250	19.2 / B	0.52	#157
		Westbound	19.5 / B	0.66	325	17.7 / B	0.6	350
		Northbound	43.8 / D	0.57	#115	35.6 / D	0.58	#167
		Southbound	38.3 / D	0.56	75	28.4 / C	0.45	150
7	US 30 and US Hwy 421	***Overall***	***31.4 / C***	--		***30.5 / C***	--	
		Eastbound	23.5 / C	0.72	175	22.9 / C	0.8	225
		Westbound	32.3 / C	1.07	200	26.8 / C	0.43	225
		Northbound	38.5 / D	0.69	#140	46.6 / D	0.72	#94
		Southbound	46.4 / D	0.71	150	53.9 / D	0.74	#228
12	US 30 and SR 39	***Overall***	***15.4 / B***	--		***11.5 / B***	--	
		Eastbound	10.1 / B	0.36	150	7.9 / A	0.27	150
		Westbound	14.0 / B	0.28	125	8.0 / A	0.30	125
		Northbound	31.0 / C	0.59	150	30.3 / C	0.46	125
		Southbound	27.1 / C	0.21	75	28.1 / C	0.34	125
16	US 30 and Queen Rd	***Overall***	***10.1 / B***	--		***10.8 / B***	--	
		Eastbound	4.5 / A	0.26	75	6.9 / A	0.35	150
		Westbound	7.2 / A	0.25	100	7.0 / A	0.40	175
		Northbound	27.6 / C	0.30	75	37.5 / D	0.61	125
		Southbound	31.4 / C	0.58	125	33.9 / C	0.52	100
17	US 30 and Pioneer Dr	***Overall***	***16.1 / B***	--		***17.3 / B***	--	
		Eastbound	12.9 / B	0.31	125	14.0 / B	0.35	175
		Westbound	13.6 / B	0.26	100	14.3 / B	0.41	125
		Northbound	27.7 / C	0.38	75	27.9 / C	0.53	75
		Southbound	28.9 / C	0.30	75	28.3 / C	0.30	75
18	US 30 and N Oak Rd	***Overall***	***24.0 / C***	--		***28.7 / C***	--	
		Eastbound	18.9 / B	0.39	125	21.3 / C	0.33	175
		Westbound	17.9 / B	0.39	100	20.0 / B	0.42	125
		Northbound	34.2 / C	0.56	75	33.7 / C	0.62	75
		Southbound	37.7 / D	0.70	75	40.6 / D	0.81	75
22	US 30 and 9a Rd	***Overall***	***14.6 / B***	--		***12.7 / B***	--	
		Eastbound	10.7 / B	0.31	125	9.1 / A	0.26	150
		Westbound	12.1 / B	0.25	100	9.7 / A	0.24	125
		Northbound	27.5 / C	0.41	100	27.9 / C	0.31	100
		Southbound	24.7 / C	0.00	50	26.1 / C	0.00	50

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

All movements at the stop-controlled intersections, with the exception of the eastbound approach at US 31 and SR 10 intersection (#28), are anticipated to operate with acceptable levels-of-service during both the AM and PM peak hours under the existing (2022) and design year (2045) no-build traffic conditions. The eastbound approach at the US 31 and SR 10 intersection is anticipated to operate at LOS E during the PM peak hour of the design year (2045) traffic conditions. INDOT currently has a project in the design phase at both the SR 10 and SR 110 intersections which is intended to address these operations issues. Results for the stop-controlled intersection capacity analysis for the existing (2022) and design year (2045) are summarized in **Table 36** and **Table 37**, respectively.

Table 36 – Stop-Controlled Intersections Existing (2022) Year Analysis

Stop-Controlled Intersections Existing			Existing (2022) AM Peak			Existing (2022) PM Peak		
ID	Intersection	Approach	Delay (s/veh) / LOS	V/C	95th %tile Queues (feet)	Delay (s/veh) / LOS	V/C	95th %tile Queues (feet)
3	US 30 and Montdale Dr	Eastbound*	8.4 / A	0.02	25	9.7 / A	0.02	25
		Westbound*	9.8 / A	0.06	25	9.4 / A	0.04	25
		Northbound	13.9 / B	0.11	25	14.8 / B	0.12	25
		Southbound	16.4 / C	0.09	25	19.7 / C	0.14	25
4	US 30 and N 400 E	Eastbound*	9.4/A	0.02	25	9.2 / A	0.01	25
		Westbound*	8.4/A	0.001	25	9.6 / A	0.011	25
		Northbound	13.3/B	0.04	25	20 / C	0.07	25
		Southbound	12/B	0.03	25	13.6 / B	0.04	25
5	US 30 and County Line Rd	Eastbound*	9.5/A	0.001	25	8.9 / A	0.003	25
		Westbound*	8.5/A	0.001	25	10.3 / B	0.01	25
		Northbound	15.6/C	0.04	25	17.7 / C	0.04	25
		Southbound	14.1 / B	0.02	25	18.5 / C	0.04	25
6	US 30 and N Main St	Westbound*	8.6 / A	0.02	25	10 / B	0.04	25
		Northbound	13 / B	0.11	25	15 / C	0.14	25
8	US 30 and S 600 W	Eastbound*	8.8 / A	0.05	25	9.2 / A	0.06	25
		Northbound	17.4 / C	0.12	25	19.5 / C	0.07	25
		Southbound	13.4 / B	0.15	25	15.9 / C	0.23	25
9	US 30 and N Thompson St	Eastbound*	8.6 / A	0.001	25	9.1 / A	0.01	25
		Westbound*	8.3 / A	0.002	25	9.4 / A	0.01	25
		Northbound	14.9 / B	0.08	25	14.8 / B	0.06	25
		Southbound	13.5 / B	0.02	25	16.3 / C	0.04	25
10	US 30 and US 30 Alternate Rte	Westbound*	8.3 / A	0.01	25	8.4 / A	0.01	25
		Northbound	9.7 / A	0.01	25	10.9 / B	0.01	25
11	US 30 and S 300 W	Eastbound*	9.9 / A	0.003	25	8.6 / A	0.002	25
		Northbound	14.5 / B	0.04	25	17.3 / C	0.01	25
		Southbound	10.8 / B	0.01	25	14.6 / B	0.02	25
14	US 30 and N 750 E	Eastbound*	8.5 / A	0.04	25	8.8 / A	0.003	25
		Westbound*	8.3 / A	0.01	25	8.9 / A	0.01	25
		Northbound	16.2 / C	0.1	25	16.3 / C	0.05	25
		Southbound	13.6 / B	0.13	25	14.6 / B	0.10	25
15	US 30 and N 1000 E	Eastbound*	8.6 / A	0.01	25	8.8 / A	0.02	25
		Westbound*	8.6 / A	0.01	25	8.4 / A	0.04	25
		Northbound	12.3 / B	0.11	25	15.9 / C	0.16	25
		Southbound	13.2 / B	0.09	25	18.7 / C	0.22	25

Table 37 – Stop-Controlled Intersections Existing (2022) Year Analysis, Continued

Stop-Controlled Intersections Existing			Existing (2022) AM Peak			Existing (2022) PM Peak		
ID	Intersection	Approach	Delay (s/veh) / LOS	V/C	95th %tile Queues (feet)	Delay (s/veh) / LOS	V/C	95th %tile Queues (feet)
19S	US 30 WB & Michigan Rd	Westbound	12.4 / B	0.108	25	13.3 / B	0.102	25
		Southbound	8.6 / A	0.019	25	8.8 / A	0.015	25
19N	US 30 EB & Michigan Rd	Westbound	12 / B	0.076	25	14.1 / B	0.11	25
		Southbound	9.1 / A	0.033	25	9.1 / A	0.033	25
20	US 30 and Plymouth	Northbound	9.7 / A	0.04	25	10.8 / B	0.07	25
		Southbound	10.1 / B	0.02	25	11.3 / B	0.05	25
23	US 30 and Fir Rd	Eastbound*	7.9/A	0.001	25	8.3 / A	0.01	25
		Westbound*	7.9/A	0.001	25	8.3 / A	0.001	25
		Northbound	12.9 / B	0.04	25	13.4 / B	0.02	25
		Southbound	12.4 / B	0.04	25	14 / B	0.09	25
25	US 31 and W 9a Rd	Eastbound	10.4 / B	0.10	25	12.1 / B	0.14	25
		Westbound	10.2 / B	0.01	25	10.6 / B	0.01	25
		Northbound*	10.4 / B	0.16	25	12.1 / B	0.10	25
26	US 31 and Michigan Rd	Eastbound	11.5 / B	0.17	25	13.5 / B	0.23	25
		Northbound*	9.4 / A	0.15	25	10.4 / B	0.18	25
27	US 31 and 13th Rd	Eastbound	21.9 / C	0.11	25	24.5 / C	0.04	25
		Westbound	12.9 / B	0.23	25	12.1 / B	0.15	25
		Northbound*	8.9 / A	0.004	25	12.3 / B	0.002	25
		Southbound*	9.3 / A	0.10	25	9.9 / A	0.12	25
28	US 31 and SR 10	Eastbound	22.6 / C	0.21	25	25.4 / D	0.25	25
		Westbound	21 / C	0.47	75	21.7 / C	0.39	50
		Northbound*	8.6 / A	0.01	25	9 / A	0.01	25
		Southbound*	9.1 / A	0.08	25	9.5 / A	0.08	25

**Free-Flow (Non-Stop Controlled) Approach*

Table 38 – Stop-Controlled Intersections Design (2045) Year Analysis

Stop-Controlled Intersections Existing			Design (2045) AM Peak			Design (2045) PM Peak		
ID	Intersection	Approach	Delay (s/veh) / LOS	V/C	95th %tile Queues (feet)	Delay (s/veh) / LOS	V/C	95th %tile Queues (feet)
3	US 30 and Montdale Dr	Eastbound*	8.6 / A	0.03	25	10.2 / B	0.02	25
		Westbound*	10.8 / B	0.08	25	10.3 / B	0.06	25
		Northbound	18.2 / C	0.19	25	17.8 / C	0.18	25
		Southbound	18.5 / C	0.11	25	23.7 / C	0.19	25
4	US 30 and N 400 E	Eastbound*	9.7/A	0.03	25	9.6 / A	0.01	25
		Westbound*	8.7/A	0.001	25	10.6 / B	0.02	25
		Northbound	14.1 / B	0.06	25	25.2 / D	0.12	25
		Southbound	12.7/B	0.03	25	14.9 / B	0.05	25
5	US 30 and County Line Rd	Eastbound*	9.24/A	0.001	25	9.1 / A	0.004	25
		Westbound*	8.6/A	0.001	25	11.3 / B	0.04	25
		Northbound	15.1 / C	0.07	25	23 / C	0.19	25
		Southbound	14.7 / B	0.03	25	30.1 / D	0.14	25
6	US 30 and N Main St	Westbound*	9 / A	0.02	25	11.5 / B	0.05	25
		Northbound	14.2 / B	0.13	25	19.6 / C	0.21	25
8	US 30 and S 600 W	Eastbound*	9 / A	0.06	25	9.5 / A	0.06	25
		Northbound	20.8 / C	0.23	25	24.7 / C	0.21	25
		Southbound	15.1 / C	0.20	25	18.9 / C	0.30	50
9	US 30 and N Thompson St	Eastbound*	8.7 / A	0.001	25	9.6 / A	0.01	25
		Westbound*	8.4 / A	0.002	25	9.9 / A	0.01	25
		Northbound	15.8 / C	0.09	25	16.9 / C	0.08	25
		Southbound	13.8 / B	0.03	25	18.7 / C	0.05	25
10	US 30 and US 30 Alternate Rte	Westbound*	8.4 / A	0.01	25	8.8 / A	0.01	25
		Northbound	9.8 / A	0.01	25	11.5 / B	0.01	25
11	US 30 and S 300 W	Eastbound*	10 / B	0.003	25	8.9 / A	0.002	25
		Northbound	15.3 / C	0.04	25	19.8 / C	0.01	25
		Southbound	10.8 / B	0.01	25	16.2 / C	0.02	25
14	US 30 and N 750 E	Eastbound*	8.6 / A	0.05	25	9.1 / A	0.004	25
		Westbound*	8.4 / A	0.01	25	9.2 / A	0.01	25
		Northbound	12.5 / B	0.03	25	16.5 / C	0.03	25
		Southbound	12.9 / B	0.11	25	14.4 / B	0.08	25
15	US 30 and N 1000 E	Eastbound*	8.8 / A	0.01	25	9.3 / A	0.03	25
		Westbound*	8.9 / A	0.01	25	8.8 / A	0.06	25
		Northbound	13.2 / B	0.13	25	19.1 / C	0.23	25
		Southbound	14.5 / B	0.12	25	23.9 / C	0.32	50

Table 39 – Stop-Controlled Intersections Design (2045) Year Analysis, Continued

Stop-Controlled Intersections Existing			Design (2045) AM Peak			Design (2045) PM Peak		
ID	Intersection	Approach	Delay (s/veh) / LOS	V/C	95th %tile Queues (feet)	Delay (s/veh) / LOS	V/C	95th %tile Queues (feet)
19S	US 30 WB & Michigan Rd	Westbound	11.8 / B	0.089	25	13.1 / B	0.098	25
		Southbound	8.4 / A	0.016	25	8.8 / A	0.015	25
19N	US 30 EB & Michigan Rd	Westbound	11.4 / B	0.062	25	13.8 / B	0.106	25
		Southbound	8.9 / A	0.028	25	9 / A	0.032	25
20	US 30 and Plymouth	Northbound	10.1 / B	0.05	25	11.6 / B	0.09	25
		Southbound	10.6 / B	0.03	25	12.3 / B	0.08	25
23	US 30 and Fir Rd	Eastbound*	8.2 / A	0.00	25	8.7 / A	0.01	25
		Westbound*	8.3/A	0.00	25	8.9 / A	0.001	25
		Northbound	14.3 / B	0.05	25	15.7 / C	0.03	25
		Southbound	13.4 / B	0.05	25	16.3 / C	0.13	25
25	US 31 and W 9a Rd	Eastbound	10.7 / B	0.12	25	13.3 / B	0.19	25
		Westbound	10.7 / B	0.01	25	11.5 / B	0.02	25
		Northbound*	10.7 / B	0.18	25	13.3 / B	0.13	25
26	US 31 and Michigan Rd	Eastbound	12.1 / B	0.19	25	15.2 / C	0.27	50
		Northbound*	9.9 / A	0.17	25	11.2 / B	0.22	25
27	US 31 and 13th Rd	Eastbound	25.5 / D	0.15	25	32.2 / D	0.06	25
		Westbound	14.8 / B	0.3	50	14.1 / B	0.22	25
		Northbound*	9 / A	0.01	25	13.4 / B	0.003	25
		Southbound*	9.9 / A	0.12	25	11.1 / B	0.16	25
28	US 31 and SR 10	Eastbound	25.9 / D	0.25	25	35.5 / E	0.37	50
		Westbound	25.7 / D	0.56	100	31.8 / D	0.56	100
		Northbound*	8.8 / A	0.01	25	9.5 / A	0.02	25
		Southbound*	9.4 / A	0.10	25	10.1 / B	0.10	25

**Free-Flow (Non-Stop Controlled) Approach*

7. TRANSPORTATION PROJECTS WITHIN STUDY LIMITS

The projects shown in **Table 40** through **Table 42** are currently planned projects based on review of INDOT's STIP or the local agency's TIP. These projects were cross-referenced with INDOT's LaPorte District planned projects and only confirmed projects that are moving forward are included in this list.

Table 40 – List of Potential Projects - MACOG

Project	SFY CN	Source	Agency	Des. No. / Contract No.
US 30 - SR 17 to SR 19 – HMA PM	SFY 2022	2022-2026 TIP	INDOT	1701528 R-42236
US 31 at SR 10 New Interchange. US 31 - SR 110 to SR 10 Access Control, US 31 at SR 110 New Interchange. US 31 at CR 700 N New Bridge Construction	SFY 2028	2022-2026 TIP	INDOT	1802052 2200482 2200483 2200484 T-41777
SR 10 – SR 117 to US 31 HMA PM	SFY 2024	2022-2026 TIP	INDOT	2000611 R-43043
US 30 4.74 mi to 9.5 mi E. of US 35 HMA Overlay Minor Structural	SFY 2026	2022-2026 TIP	INDOT	2100225 R-43901
US 421 over CF&E RR - 0.37 mi S. of US 30 Bridge Deck Overlay	SFY 2022	2022-2026 STIP	INDOT	1901468 42508
US 30 EB/WB over Western Ave – Thin Deck Overlay	SFY 2024	2022-2026 STIP	INDOT	2100696/2100697 43900

Table 41 – List of Potential Projects - NIRPC

Project	SFY CN	Source	Agency	Des. No. /Contract No.
US 30 Bridge Replacement over Crooked Creek 3.52 mi E of SR 49 (CIP Box Culvert)	SFY 2023	2022-2026 TIP	INDOT	1703005 B-41438
US 30 at UNT to Blad Ditch Small Structure & Drain Construction	SFY 2027		INDOT	2200508 R-42454
US 30 – US 421 to SR 38 HMA Minor Structural	SFY 2023	2022-2026 TIP	INDOT	1900057 R-42454
US 30 EB/WB over Baker Ditch – Bridge Thin Deck Overlay	SFY 2027		INDOT	2200948 2200949 R-445646

Table 42 – List of Potential Projects – Pipe Linings

Project	SFY CN	Source	Agency	Des. No. / Contract No.
US 30 0.47 mi E of SR 331 Small Structure Pipe Lining	SFY 2023	2022-2026 TIP	INDOT	1703019
US 30 under CR 12 B Road Small Structure Pipe Lining	SFY 2023	2022-2026 TIP	INDOT	1703022
US 30 2.87 mi E of SR 331 Small Structure Pipe Lining (East of US 30 West Study Limits)	SFY 2023	2022-2026 TIP	INDOT	1703028
US 30 4.07 mi E of SR 331 Small Structure Pipe Lining (East of US 30 West Study Limits)	SFY 2023	2022-2026 TIP	INDOT	1703029

- Bridge painting and Bridge Deck Overlay projects (FY 2022) are noted in the STIP document. These projects are assumed to be completed.

8. PUBLIC INVOLVEMENT SUMMARY

8.1. SUMMARY OF COMMENTS RECEIVED THROUGH DECEMBER 2022

A total of 431 comments were received during the formal comment period (August 2022 through December 2022). The event that garnered the most comments during this period was the PIM (Public Information Meeting) (288 comments received).

A thematic analysis approach was applied to discover patterns and common concerns across a wide-ranging set of comments and feedback. The analytical process was as follows:

1. Coding data - Every two or three lines of text within each comment was coded with handles that identified key words, concepts, images, and reflections. Codes, or topics, are clear and concise phrases that are easily definable and can be identified across all media used in the analysis. The codes became the foundation for the themes.

2. Theme identification – From the initial coding, patterns emerged that represented the collective concerns from all comments and developed into themes. Codes help define similar sentiments that are expressed differently across comments and grouping codes help define themes.

There were multiple ways to submit comments during the first formal public comment period, summarized in **Table 43**.

Table 43 – Public Comment Summary

Delivery Method	Comment Category/Event	# Comments Received
Online	• Study Launch • Public Comment Period #1 • Virtual Public Information Meeting	135
Collected at Meeting*	• Office Hours #1 • Office Hours #2 • Public Information Meeting	294
E-Mail*	Public Comment Period #1	1
Phone**	Public Comment Period #1	1

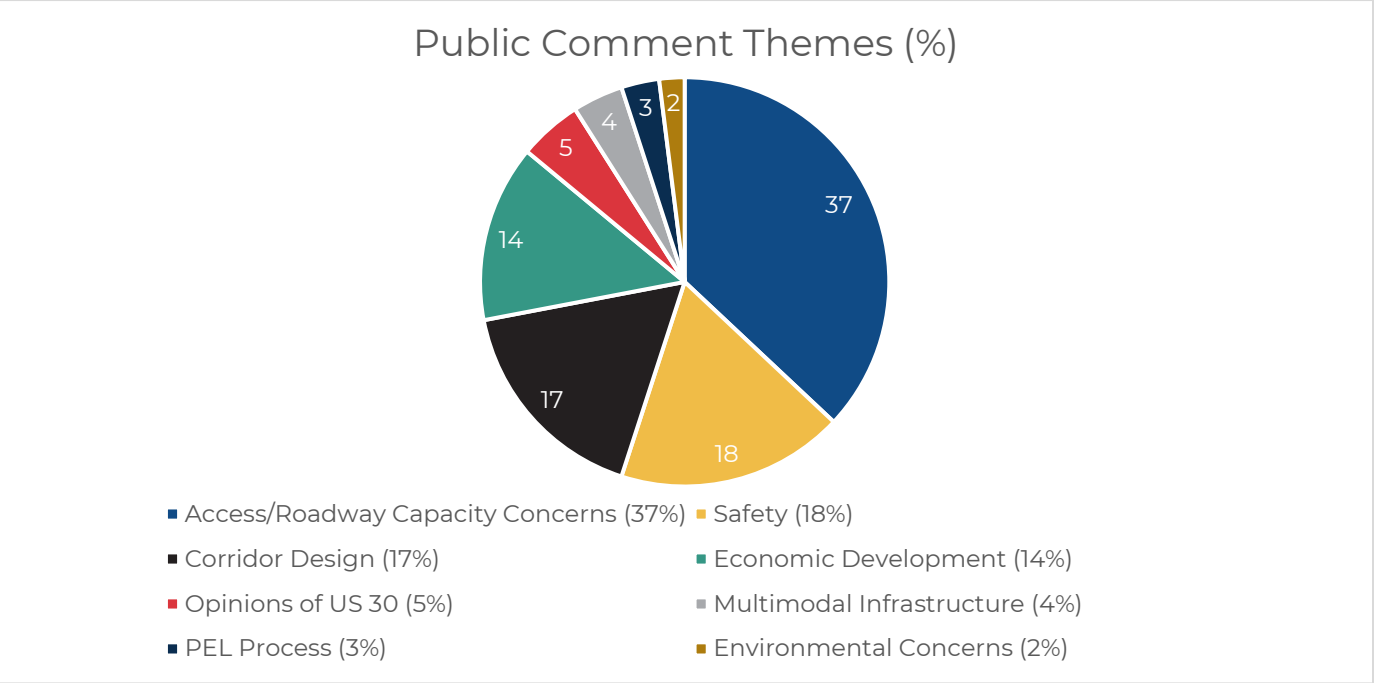
**Includes completed comment forms and transcribed verbal discussions*
***Transcribed comment from phone conversation*



"Keep the Rural Character/Aesthetics of the Corridor" was mentioned the most by community members throughout the public comment period, **70** times!

The eight themes for comments or concerns received during the public comment period were:

Figure 10 – *Public Comment Theme Chart*



8.2. KEY MESSAGES

During the first phase of public involvement, concerns about access were the most common theme. Communities along US 30 West are concerned with how any changes to US 30 West will impacaccess for communities, businesses, people, and emergency personnel. Specific access points along the corridor were cited in the public meeting and online comments. Safety was often mentioned along with access concerns. The way the major access and safety themes were described are below:

- Access to private properties along US 30 and US 31
- Access for emergency personnel
- How the agricultural industry will be able to access US 30
- Concern with towns being cut off from US 30, notably Hamlet
- Safety concerns at intersections and crossings along US 30
- Safety concerns at the intersection of US 31 and SR 110
- Safety concerns at and near the US 30 and US 31 interchange

8.3. TALLY OF ALL COMMENT TOPICS

All comments and feedback were compiled and the thematic analysis was conducted. The infographics below depict what emerged during the analysis. The first infographic is a Count of Comment Topics (or codes), which is the number of times that specific topic was mentioned across all comments, and the themes that emerged from the analysis. The second infographic is the mapped locations of issues along the corridor identified by the public.

Figure 11-1 – *Public Comment infographic*

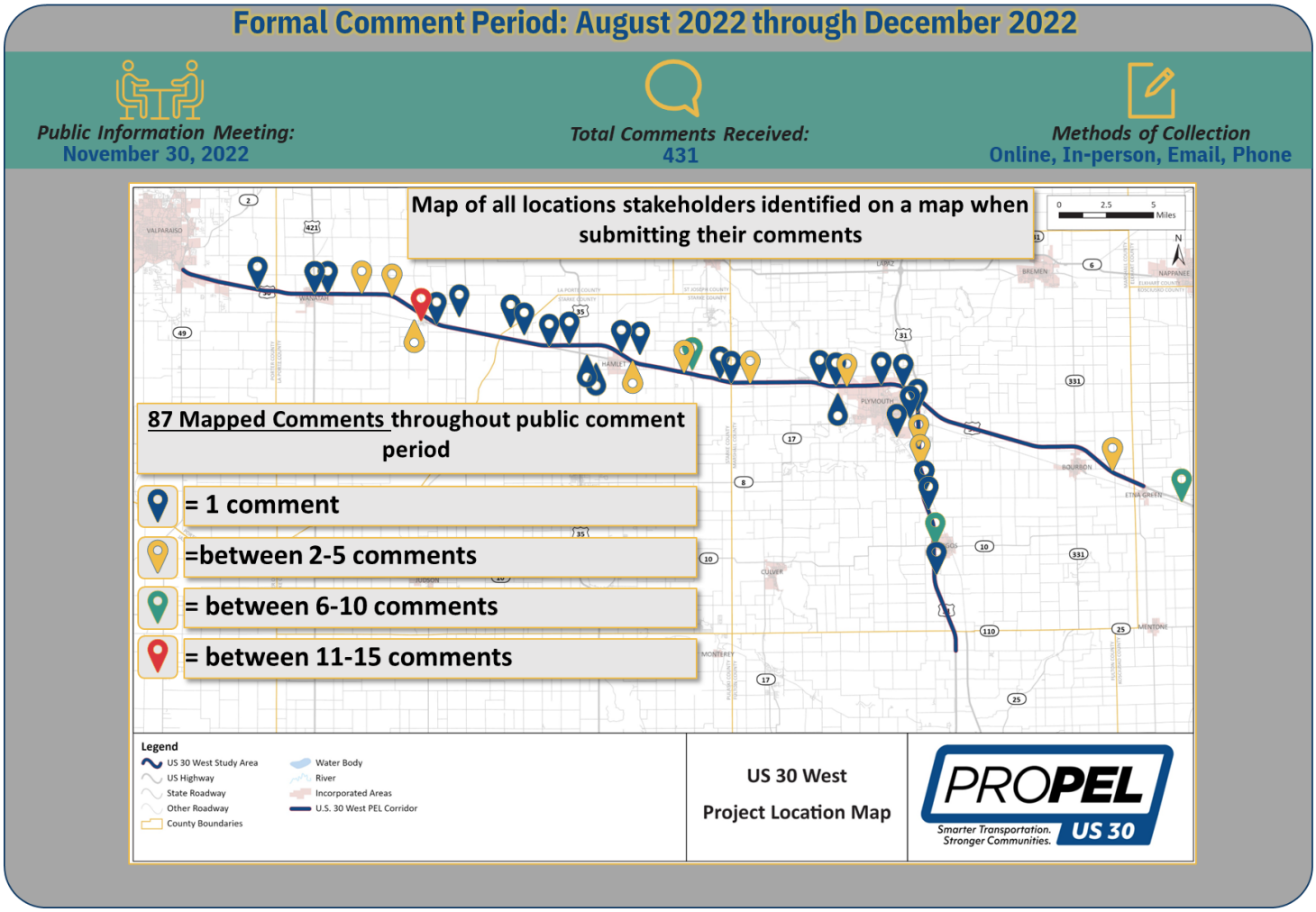
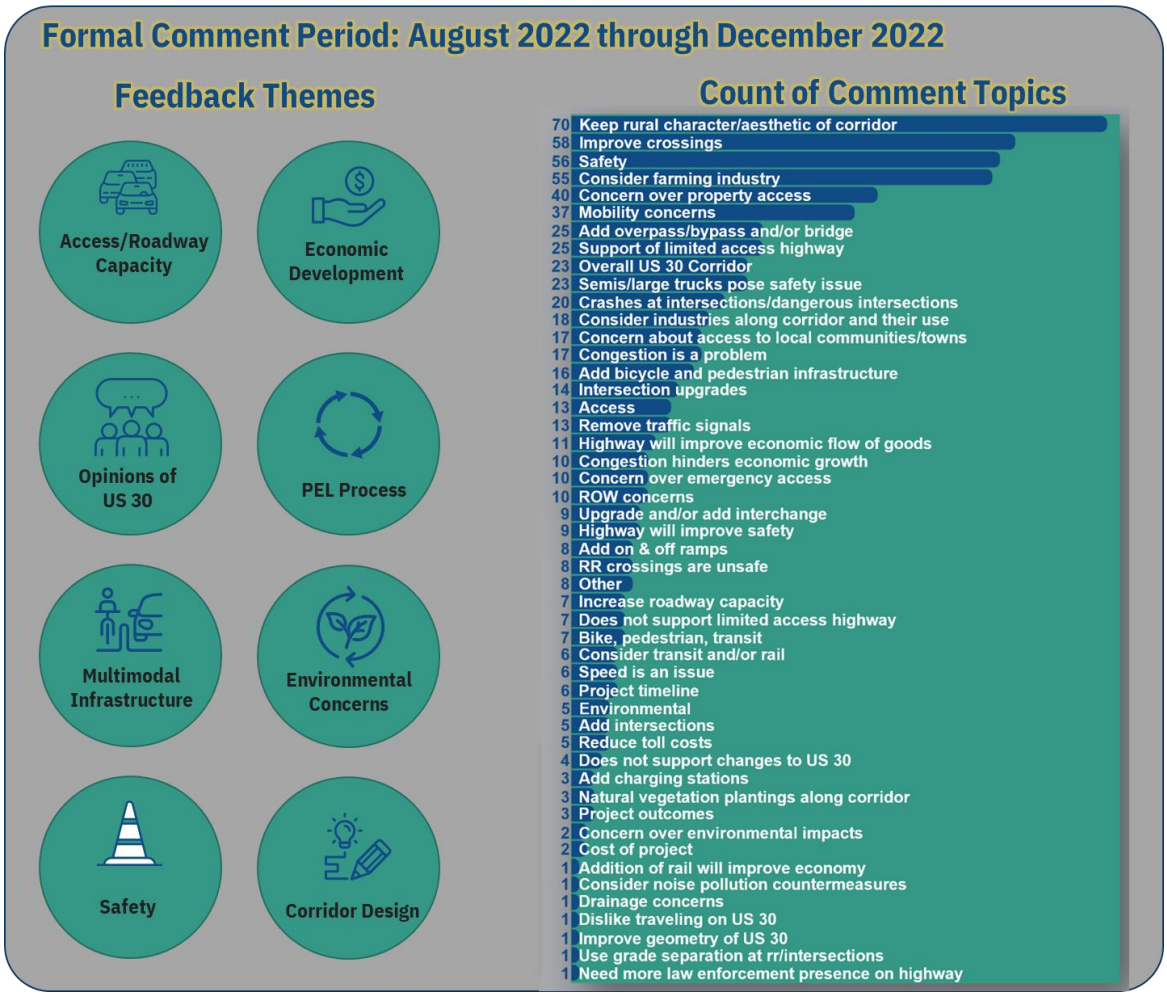
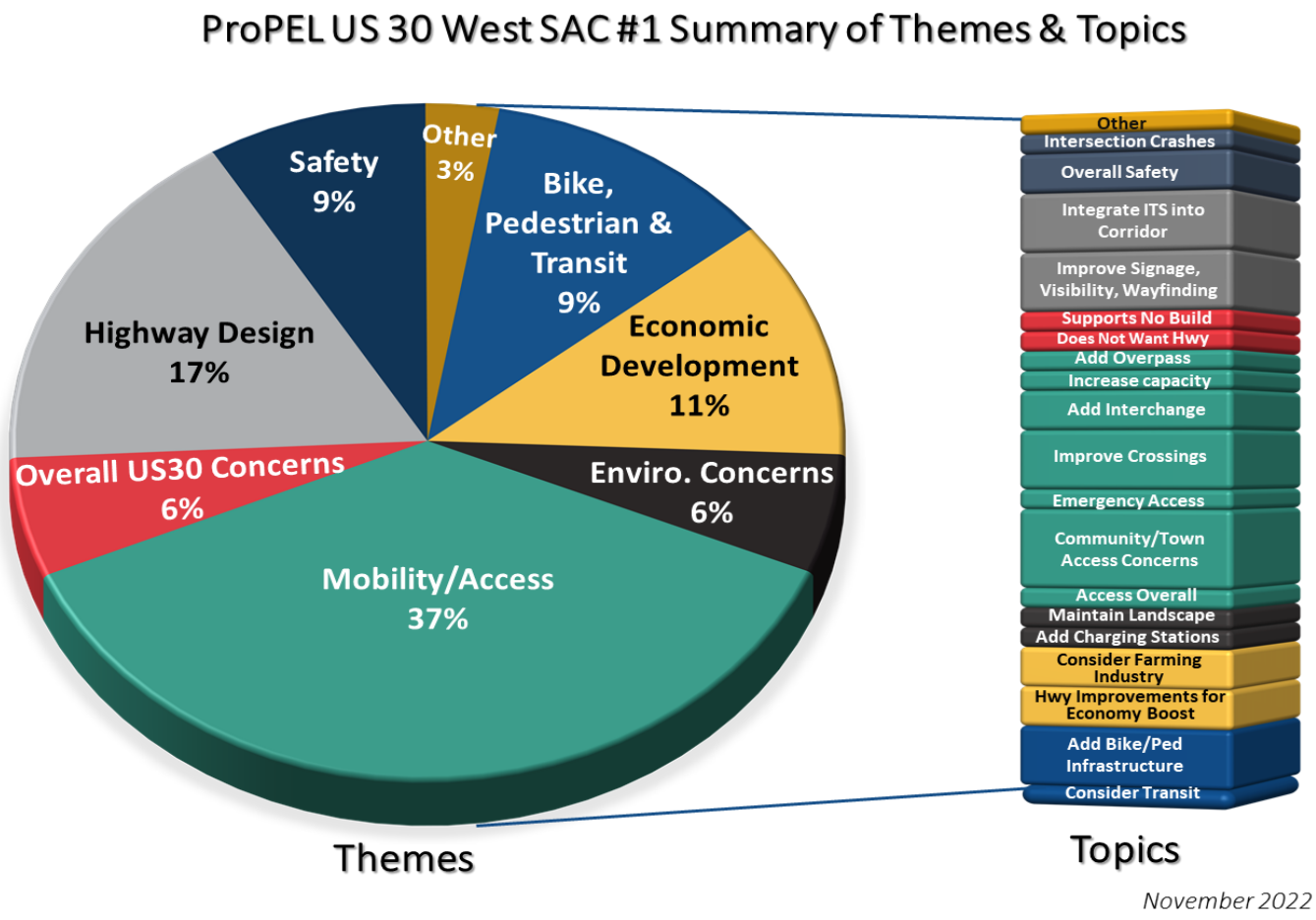


Figure 12-2 – *Public Comment infographic*



The first round of SAC (Stakeholder Advisory Committee) meetings was held on November 28 and November 29, 2022. The purpose of the SAC is to have a group of people that represent different stakeholder groups within the study area advise the project team. Their comments were analyzed separately because their feedback was based on the needs of the groups they represent and the SAC meeting was not open to the public. The following chart summarizes the major themes discussed by SAC members at both meetings and a breakdown of their concerns by theme. Comments received by the SAC members fell into eight themes depicted by the pie chart. The stacked bar adjacent to the pie chart is a breakdown of the most common topics discussed; the larger the stack, the more times that topic was discussed in the meetings. The colors of the stacked bar chart correspond with the theme colors depicted in the pie chart.

Figure 13 – *SAC#1 Summary of Themes and Topics*



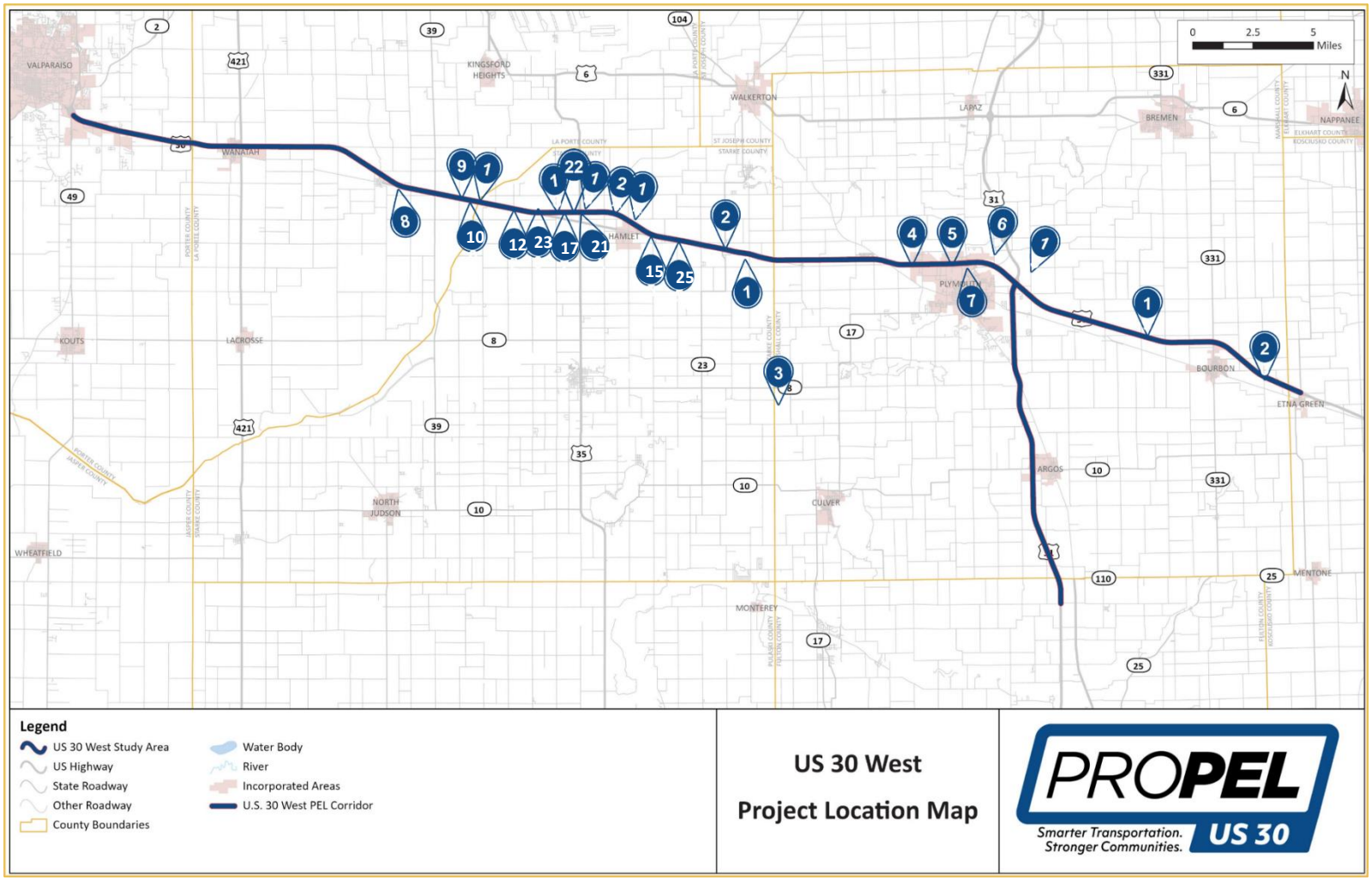
8.4. PUBLIC INFORMATION MEETING (PIM) CORRIDOR ISSUE IDENTIFICATION

At the first PIM, attendees could visit a variety of designated stations throughout the Oregon-Davis High School cafeteria. Each station focused on a specific theme with maps and display boards that prompted attendees to engage with study team members, write ideas on sticky notes, and/or vote on pre-written ideas with sticker dots.

Each dot that was used to indicate support for an idea and each sticky note that was placed on a board or map were individually counted toward the total number of PIM comments received and used in the overall thematic analysis. Many PIM attendees commented more than once on the boards that were offered throughout the stations.

The PIM included a corridor issue identification station, which had large maps of the US 30 West study area. Participants were given sticky notes and pens to make comments. The study team asked attendees to write down specific issues they have experienced on US 30 and US 31 and place them on the map in locations where they experienced the issue. The map below identifies the location of each comment received. The numbers on the map correspond with the numbered comments below the map.

Figure 14 – *Comment Location Map*



1. Overpass needed at 1100 E at US 30
2. Interchange needed at SR 23 and US 30
3. Need access for Ancilla College at Union Road
4. Interchange needed at Pioneer Dr. and US 30
5. Interchange needed at Oak Rd and US 30
6. Plymouth Goshen Trail at US 30 is a safety concern
7. Right-angle crashes and crossing fatalities have occurred here
8. Several issues noted at this location by campground owner at this location:
    - US 30 and Thompson Road intersection in Hanna has no 'left turn only' lane heading east bound that has resulted in many accidents. (Our customers turn here, and we get safety complaints).
    - There is no safe pedestrian crossing from north to south side of town in Hanna. Many students and teens cross the highway by foot and bike.
    - Increased noise on highway could affect business.
9. At grade rail crossing at this location is dangerous
10. Tanker trucks and school buses must make a complete stop in Hanna at US 30 and railroad tracks, while other traffic proceeds at 60 miles per hour.
11. Need for emergency access (fire, ambulance) and farm access on both sides of the highway
12. Poor line of sight
13. Improve a north/south roadway east of US 31, so people east of US 31 will have a more direct access.
14. Need an overpass at CR 50 E and US 30
15. Don't take my house! Turning lanes are needed. I fear being rear ended turning off highway.
16. Exit lane needed at Frontage Road and US 30
17. Would like to keep CR 300 E open
18. Steep ramp for trucks
19. Need an overpass for Fir Road and US 30 in Bourbon Township.
20. A truck stop is going in at this intersection, which has had several fatal accidents in the past due to gentle curve at the intersection (Beech Road and US 30)
21. Dangerous intersection between semis and school buses
22. Bucket factory (Norton Packaging) gets a lot of traffic regularly. Other option for them is to come in from E 500 North, but E 500 North would need a lot of work to make that feasible.
23. Co-op and businesses at this location need semi access
24. Old US 30 to merge to US 30 toward Plymouth
25. Semis cannot make the turn from US 30 to SR 23 and then directly onto E 500 North if going into Hamlet.

A few sticky note comments were placed on the maps that referenced the corridor in general:

- Add community ponds, parks, and wildlife areas on US 30 easements
- Put access roads along highway to allow crossing of country roads
- Get local impact
- Good access to Hanna

In addition to the above comments, a group representing Starke County Commissioners and businessessuggested improving intersections by adding acceleration/decelerations/turning lanes and adding lighting rather than converting US 30 to freeway conditions. This group also submitted a map illustrating recommended access improvements along US 30. The recommended improvements are intended to protect and maintain local access for businesses and emergency access in the event that US 30 would be converted to freeway conditions. These included new interchanges, overpasses, and frontage roads. The recommendations are summarized on the map below.

Figure 15 – *Starke County Comments*



8.5. FUTURE VISION OF THE CORRIDOR

In addition to providing location-specific feedback, PIM attendees were asked to envision the future of US 30 West and how they would like to see the corridor function and fit into their communities. Visitors to this station viewed five large poster boards that had pre-written prompts asking people's opinions related to the transportation function, aesthetic/community character, economic development, how they use the corridor, and what they want US 30 West to be like in 2035. Participants used sticky notes for written responses and sticker dots to select from a list of options provided on each board. The boards are described below with the comments received for each board. The graphs represent the tally of sticky dots placed next to the phrases.

8.6. BOARD 1: VISION FOR THE FUTURE – IMAGINE IT IS THE YEAR 2035

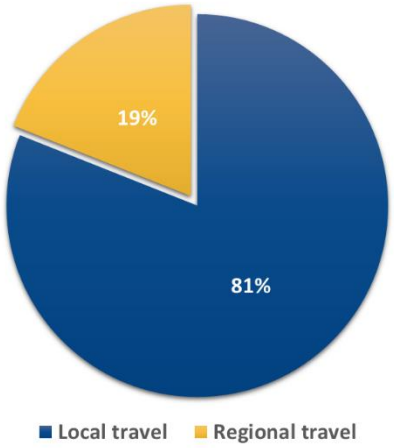
"What do you want US 30 West to look like in 2035?"

- Safe, well maintained, and no tolls
- Safer highway
- Limited access highway with fewer stoplights
- Quit putting band aids on the roads, use money for what we have
- A purpose and need statement that protects existing businesses and residents from any disruptions, and a design that provides opportunities and mobility along corridor
- Eliminate all stop lights
- Interchanges at east side of Plymouth

8.7. BOARD 2: VISION FOR THE FUTURE – HOW DO YOU USE THE CORRIDOR?

Q1: Where do you go? (59 responses to this question)

Figure 16 – *Board 2 Responses*



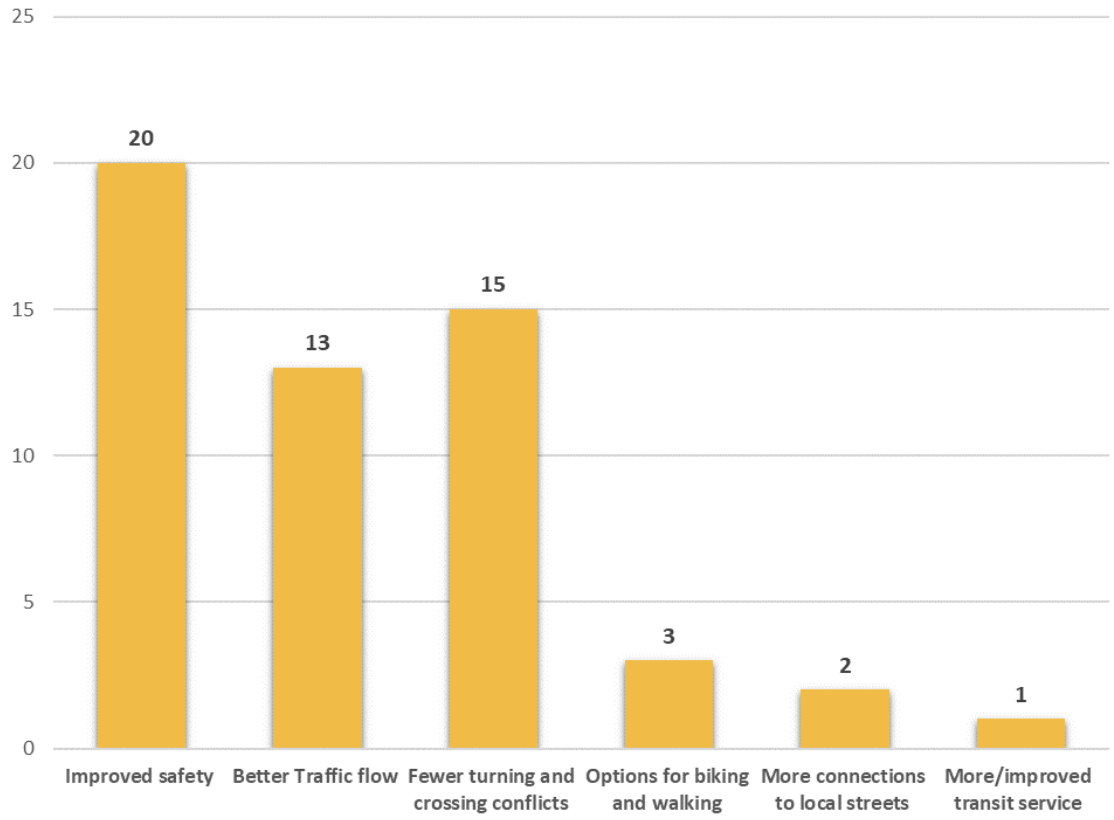
Q2: What is your favorite thing or biggest concern about driving on US 30 and US 31?

- Safety concerns at intersections
- The number of semi-trucks already on Highway 30 and school bus safety
- Crossing 30 with agricultural equipment, which requires all east/west traffic to be clear – hard to find anymore
- Stay to old road and rail areas so don't have to split up land and take land to new road, be concerned about agricultural travel and what roads need to be open
- I like being able to drive straight from anywhere north of US 30 to south of US 30 in a straight shot

8.8. BOARD 3: VISION FOR THE FUTURE – TRANSPORTATION FUNCTION

Q1: What would improve travel along US 30 West?

Figure 17 – *Board 3 Responses*



8.9. BOARD 4: VISION FOR THE FUTURE – ECONOMIC DEVELOPMENT

Q1: How should US 30 and US 31 support the local economy?

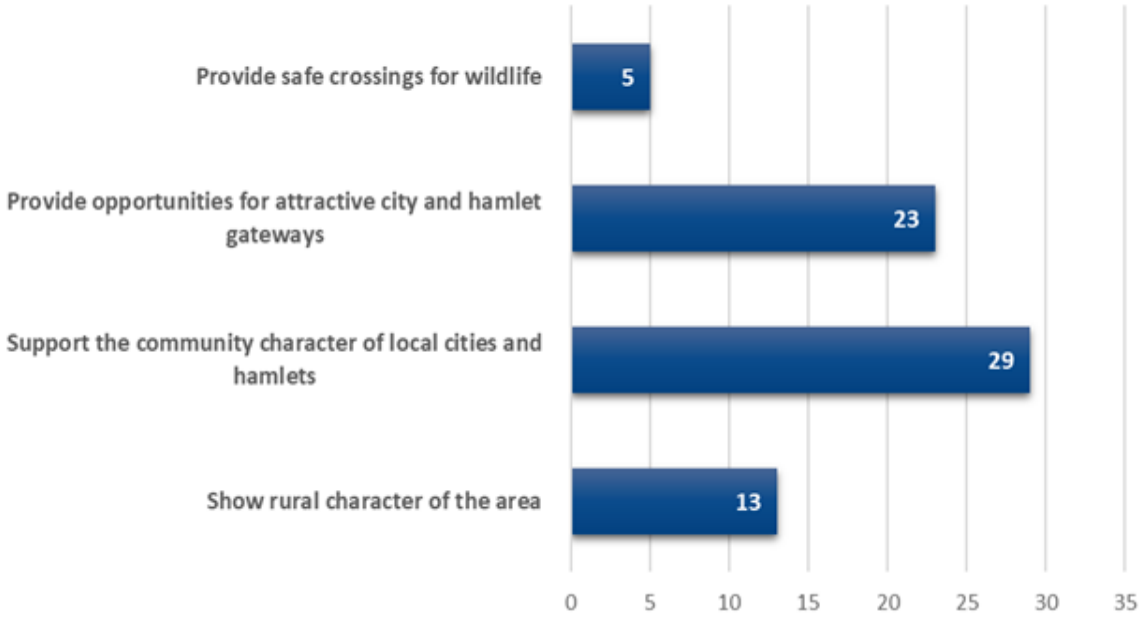
Figure 18 – *Board 4 Responses*



8.10. BOARD 5: VISION FOR THE FUTURE – AESTHETICS/COMMUNITY CHARACTER

Q1: How could US 30 and US 31 reflect the local area?

Figure 19 – *Board 5 Responses*



8.11. LOCATION-BASED COMMENTS RECEIVED VIA PIMA

The list below highlights location-based comments received through PIMA and at office hours. The list does not include concerns listed about individual residential properties.

- CR 600 West at US 30 is a school crossing and the entrance to Hanna In. 46340. What are the proposed crossing solutions for these roads to have exits and entrances from US 30?
- It is VERY hard to cross US 30 now if you wish to go to Hamlet, Indiana, since semis are allowed to use this road instead of paying the tolls to use the TOLL ROAD. We are a farming community so it you close our roads to cross for the farmers to go to the elevator to take their products it is going to be farther for the farmers to go to get to Hamlet, Indiana. Also, it would be detrimental for our FIRE DEPARTMENT if they have a FIRE CALL north of US 30. This could mean loss of life if they must take an alternate route to get to a fire. It seems like always; you worry more about the $$$ you would receive than the lives of the RURAL PEOPLE who live in the affected areas!!!!
- An overpass needs installed at the Plymouth-Laporte/ US 30 crossing in Marshall County. That light turns red every 15 minutes due to the high volume of traffic crossing US 30, causing many accidents.
- Interchanges at CR 600, US 35 and SR 23 in Starke County. CR 600 is a must for town of Hamlet and Oregon-Davis schools!

- Most significant concern is maintaining access from the north side of US 30 to the south side of US 30. We would like to see at least five access points north-south, at the following places: SR 23, CR 1100 E, CR 750 E, CR 600 E, and US 35.
- I'm concerned about access points on the corridor. Marian University at Ancilla will need access near Donaldson.
- I am concerned about the US 30/King Rd interchange in Marshall County. Since all traffic is funneled onto that intersection from 9th Road and King Road north of US 30 as well as traffic from the Pilot Truck Stop, 9th Road and King Road south of US 30, it is a heavily traveled intersection. We have many bicyclists (not just Amish) and horse/buggy travelers at that interchange as well. It is also a regular occurrence to see semi-trucks ignore the stoplight on US 30 and blow through the intersection. I would like to see an overpass or underpass so travelers can safely cross US 30 as well as on-and-off ramps so King Road traffic can access US 30 as the heavy volume of traffic is accustomed to do there. If this can't be accomplished, a bike/buggy bridge over or under US 30 would be nice. A "J turn" at that intersection will not help those of us on bicycles (I'm not Amish, I simply like to ride my bike for transportation) to cross US 30 safely.
- Access to US 31 needs to be a priority for the south side of US 30. I live just off 11th Road in Marshall County. 11th Road is the primary connector for the south side of Plymouth. There are many housing subdivisions that use 11th Road. If the road is closed, you need to drive through Plymouth to gain access. As we look farther south, an overpass needs to be installed at SR 10. That is a very dangerous intersection that needs attention very soon.
- We need an intersection at Old 30 for growth of Plymouth on the east side, 13th Road (for one of the largest dairies in the state), SR 10 and SR 110, and 11th Road. Also, an access road from 13th Road to the Old 31 intersection to Plymouth.
- From my subdivision at 11th and King Roads in Marshall County, we can access Plymouth town via Lincoln Highway or 11th Road. I am certain the 11th Road intersection with US 31 will be part of this plan. I do not care if it's a J-turn, an R-cut, a bridge, or a tunnel, just don't close this crossing down. Further, I can hear the highway from my house, about 0.7 miles away from US 31. It is certain to get louder once this highway is improved. I would request plantings, sound barriers, berms, and beautification to improve both the look of this residential and light industrial area and also to cut down on noise pollution from the highway.
- I was notified that discussions have begun regarding closing the US 31 crossing at 11th Road in Plymouth. I am the President of Kuert Concrete, Inc. that operates a ready-mix concrete facility off 11th Road bordering US 31. This crossing is essential for our operation, as our ready-mix trucks will primarily access US 31 to complete deliveries. In addition to our operation, we are also neighbors with Irving Materials, Inc. and Stockberger, who also rely heavily on the 11th Road crossing for heavy truck traffic into their sand and gravel operations off 11th Road. Diverting all this heavy truck traffic down King Road will not be favorable for the homeowners in the subdivision at the corner of King Road and 11th Road. Please notify me of any future public discussions regarding the closing of this intersection.

Appendix A

US 30 West Study Area Existing Conditions Maps



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit

- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

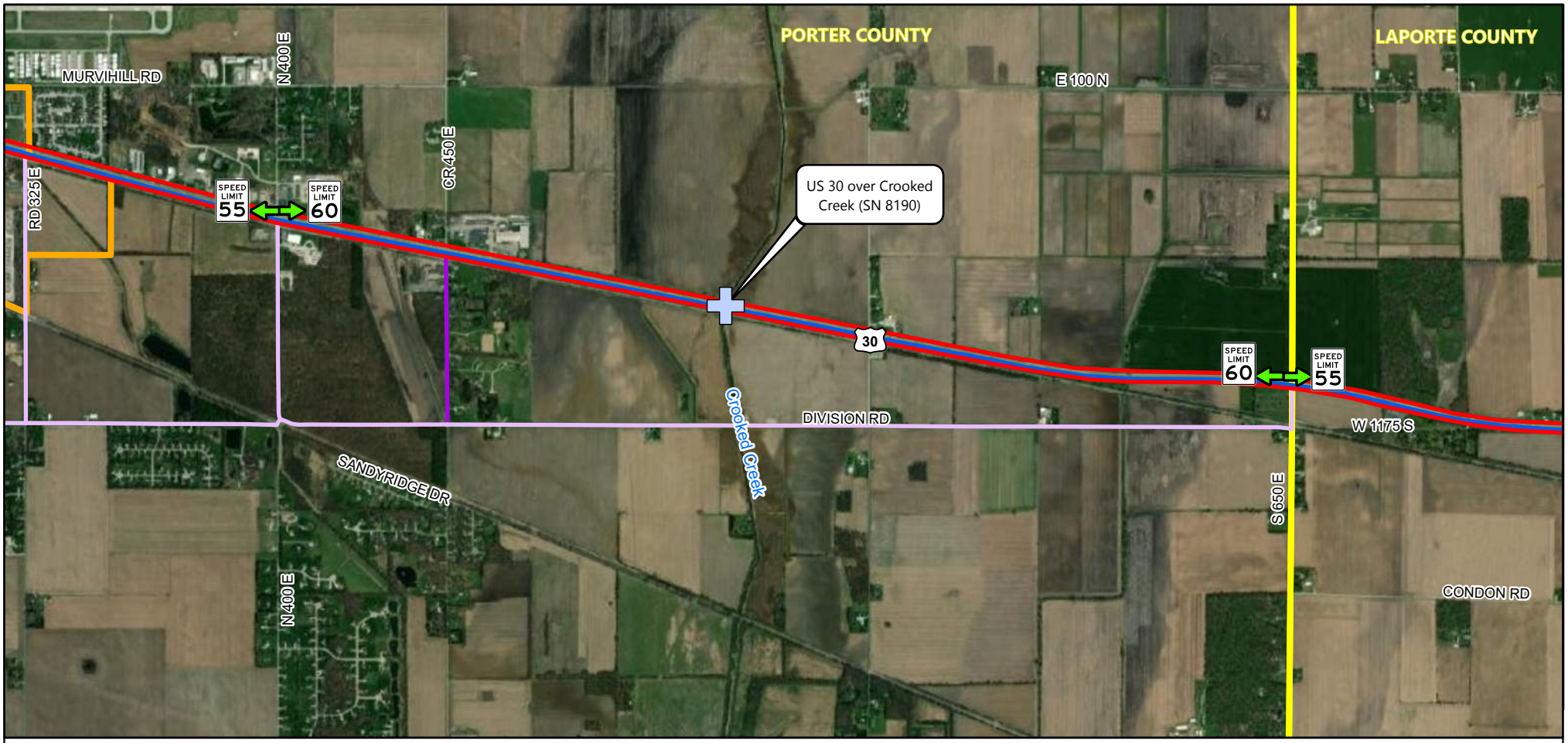
N

PROPEL US 30
Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions
Map 1 of 22

Maxar, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit
- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

N

PROPEL US 30

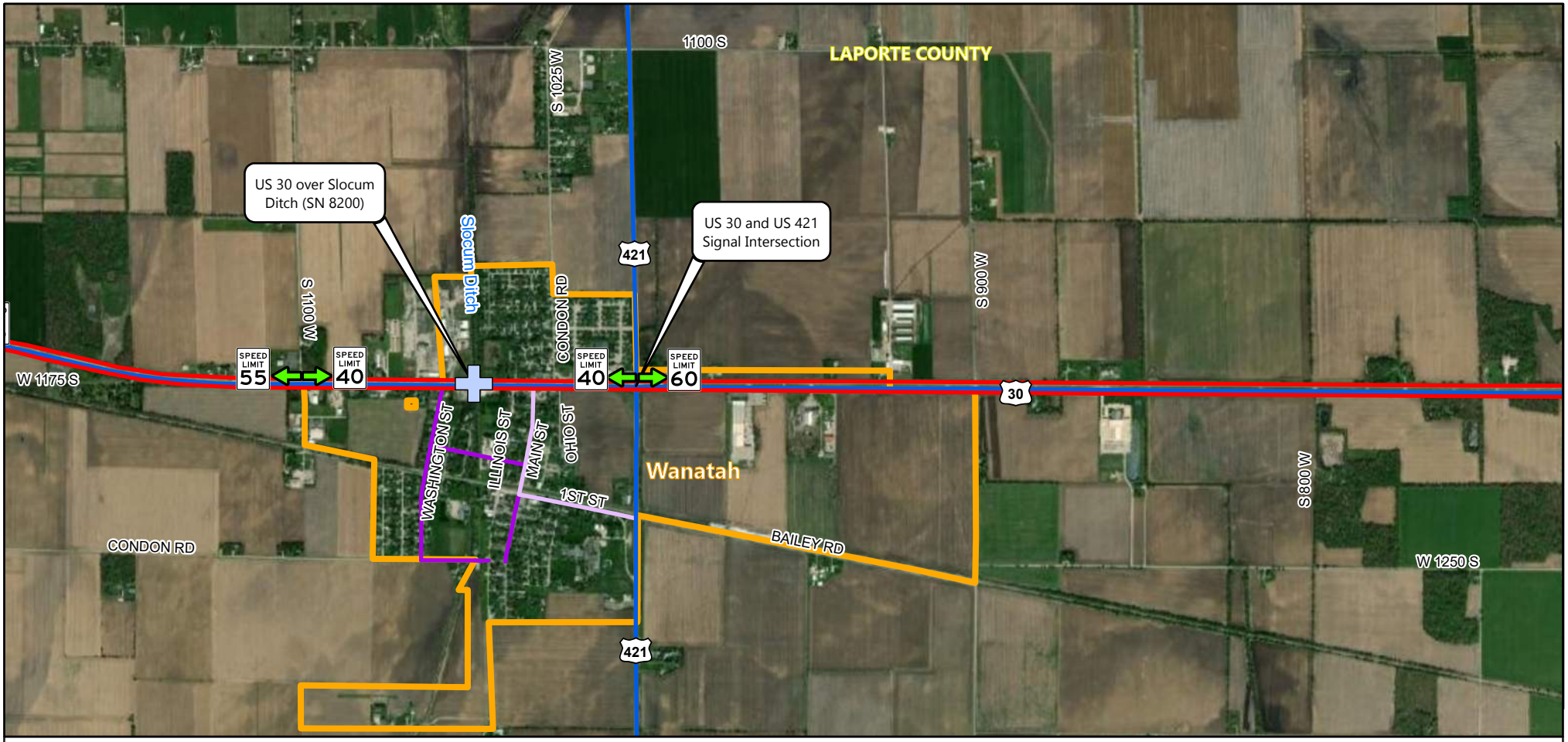
Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions

Map 2 of 22

Esri, HERE, Esri, HERE, Garmin, USGS, EPA, Maxar, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit
- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

N

PROPEL US 30
Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions
Map 3 of 22

Earthstar Geographics, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit
- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

N

PROPEL US 30

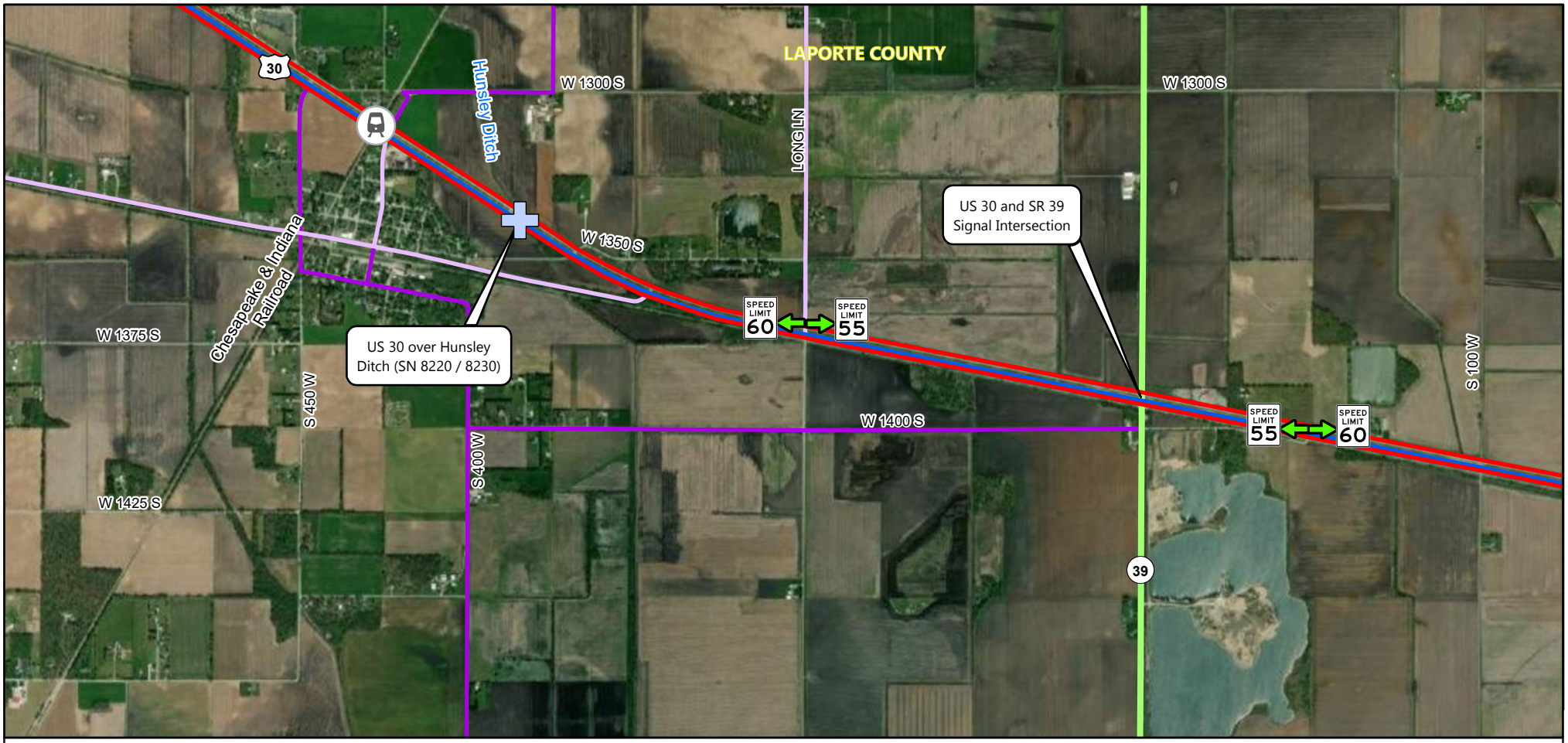
Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions

Map 4 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit
- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

N

PROPEL US 30

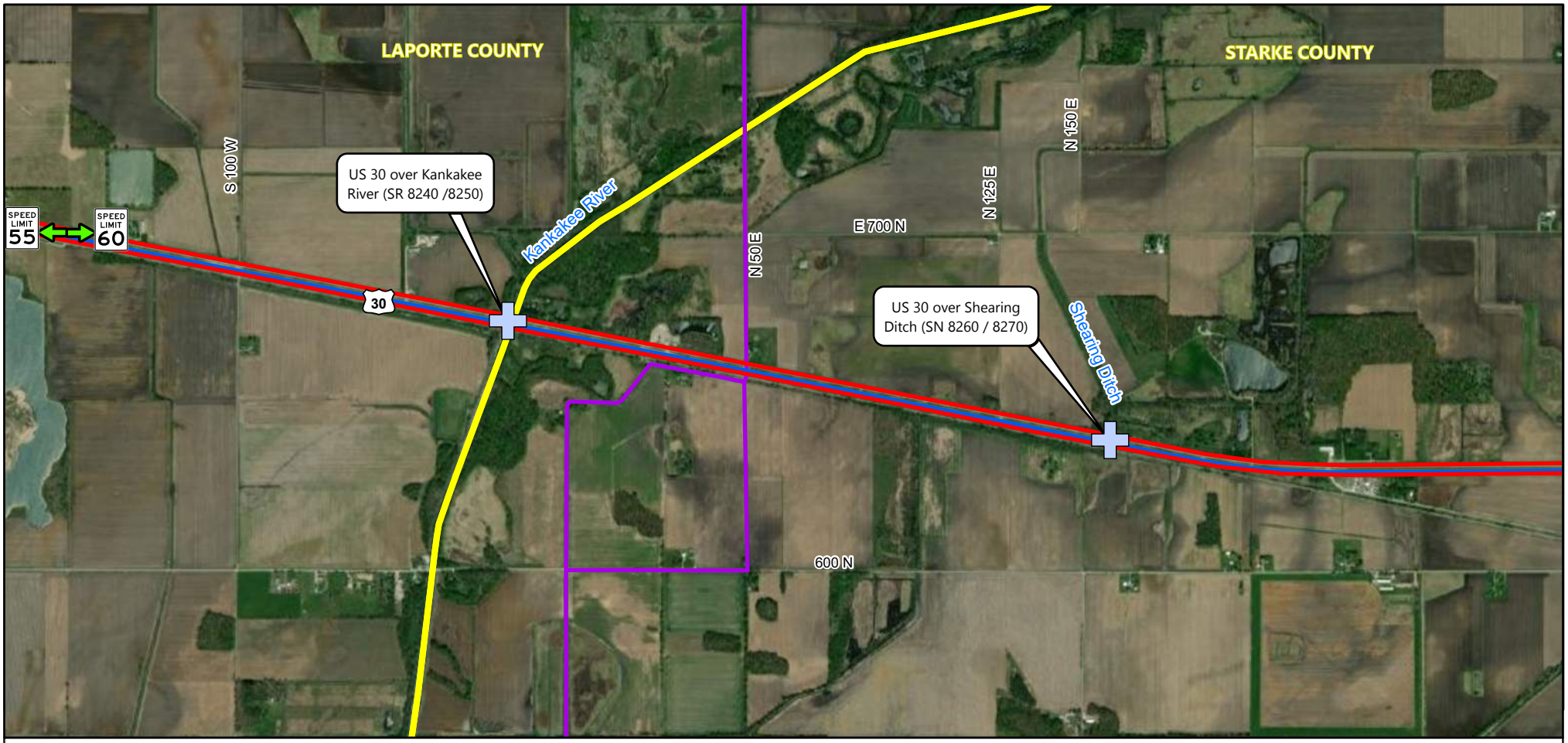
Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions

Map 5 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit
- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

N

PROPEL US 30

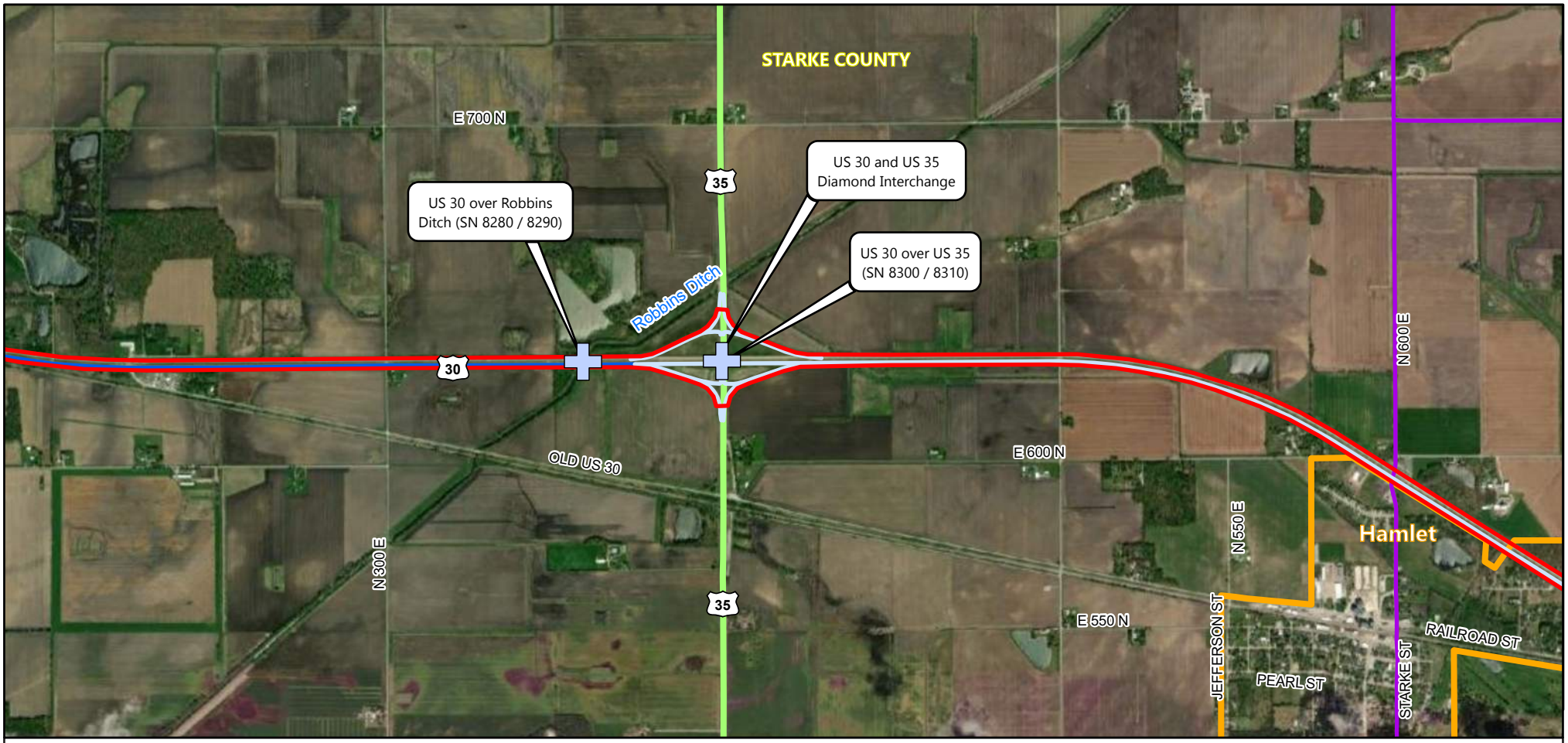
Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions

Map 6 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit
- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

N

PROPEL US 30

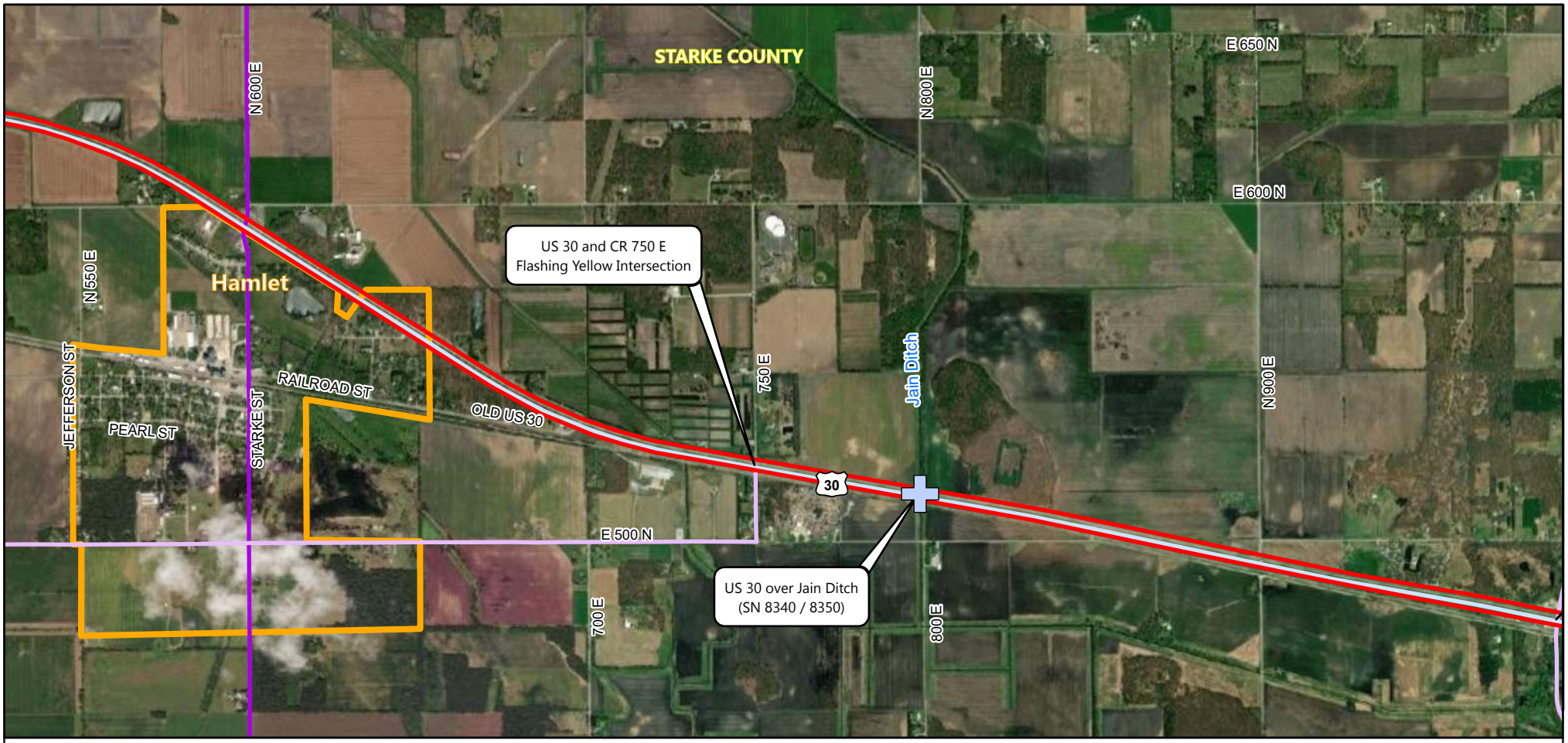
Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions

Map 7 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit
- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

N

PROPEL US 30
Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions
Map 8 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit
- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

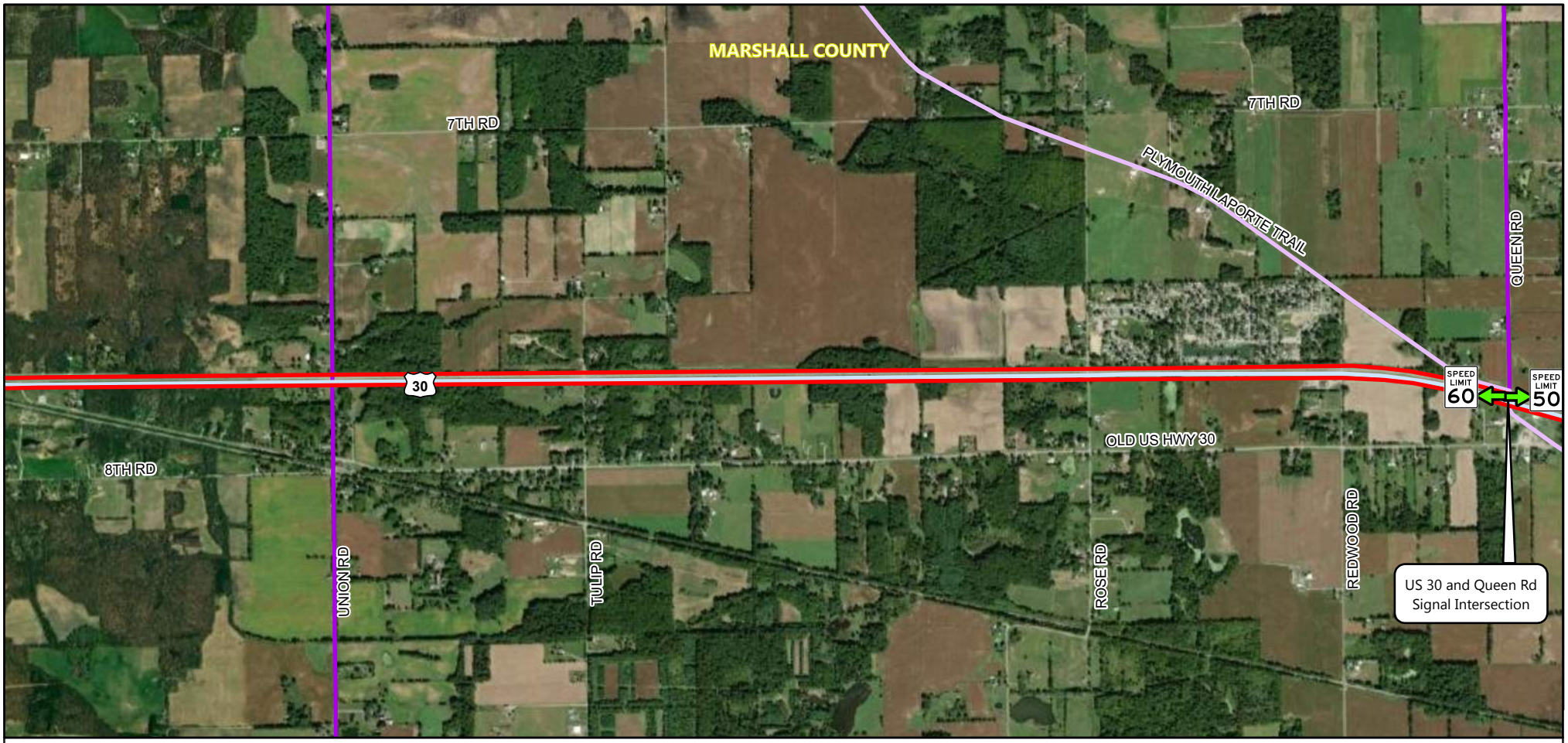
N

PROPEL US 30
Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions
Map 9 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit
- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

N

PROPEL US 30

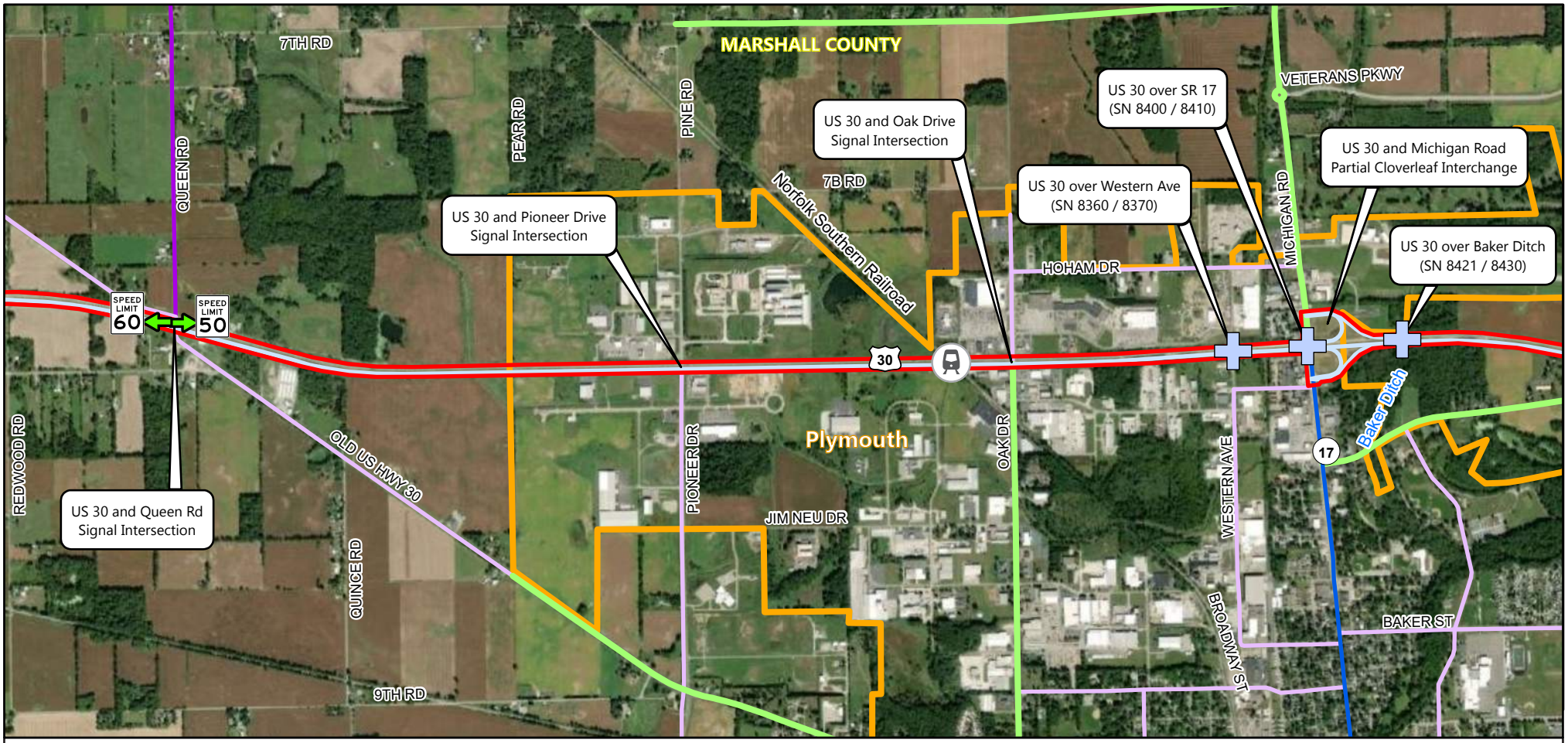
Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions

Map 10 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit
- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

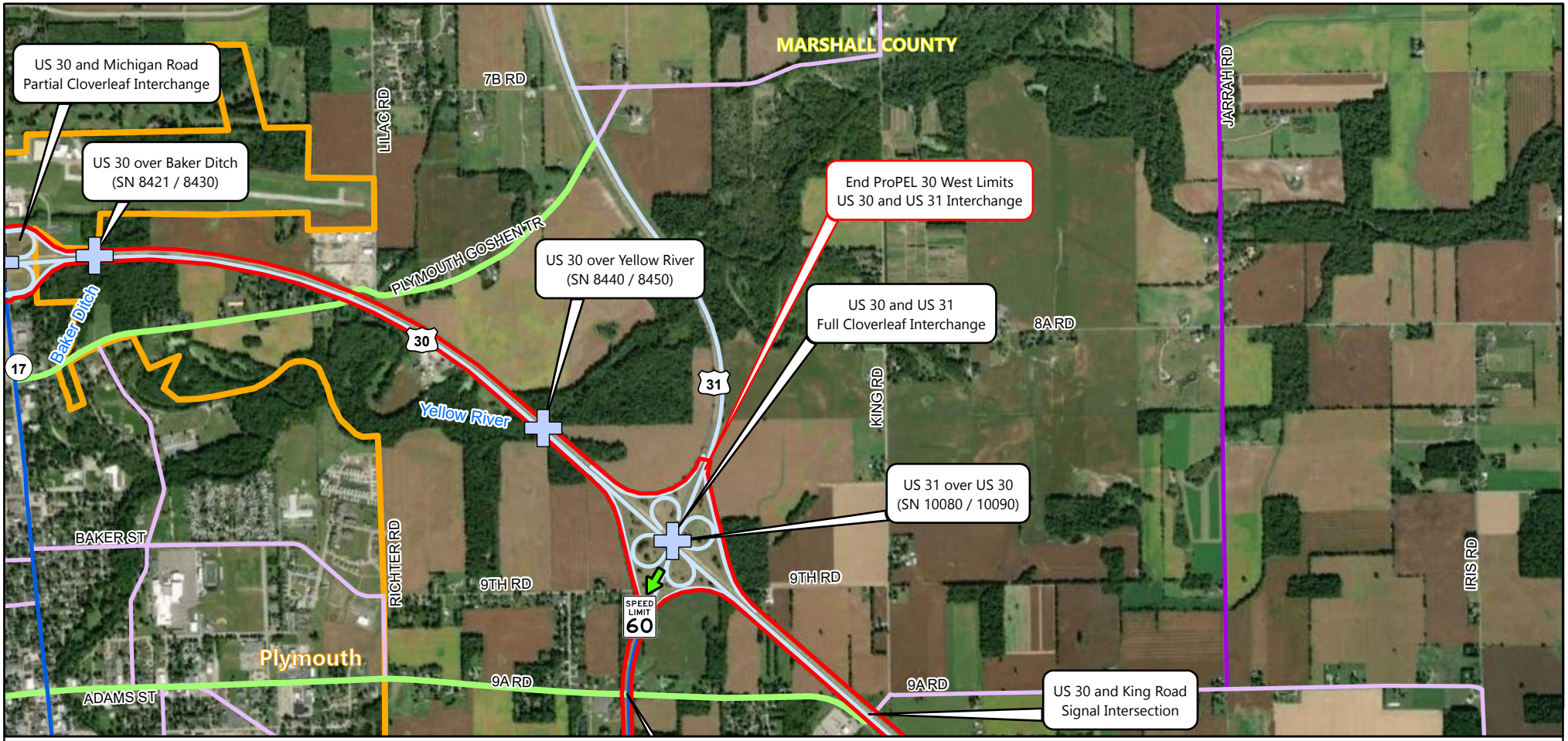
N

PROPEL US 30
Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions
Map 11 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit

- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

N

PROPEL US 30
Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions
Map 12 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit
- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

N

PROPEL US 30

Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions

Map 13 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit
- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

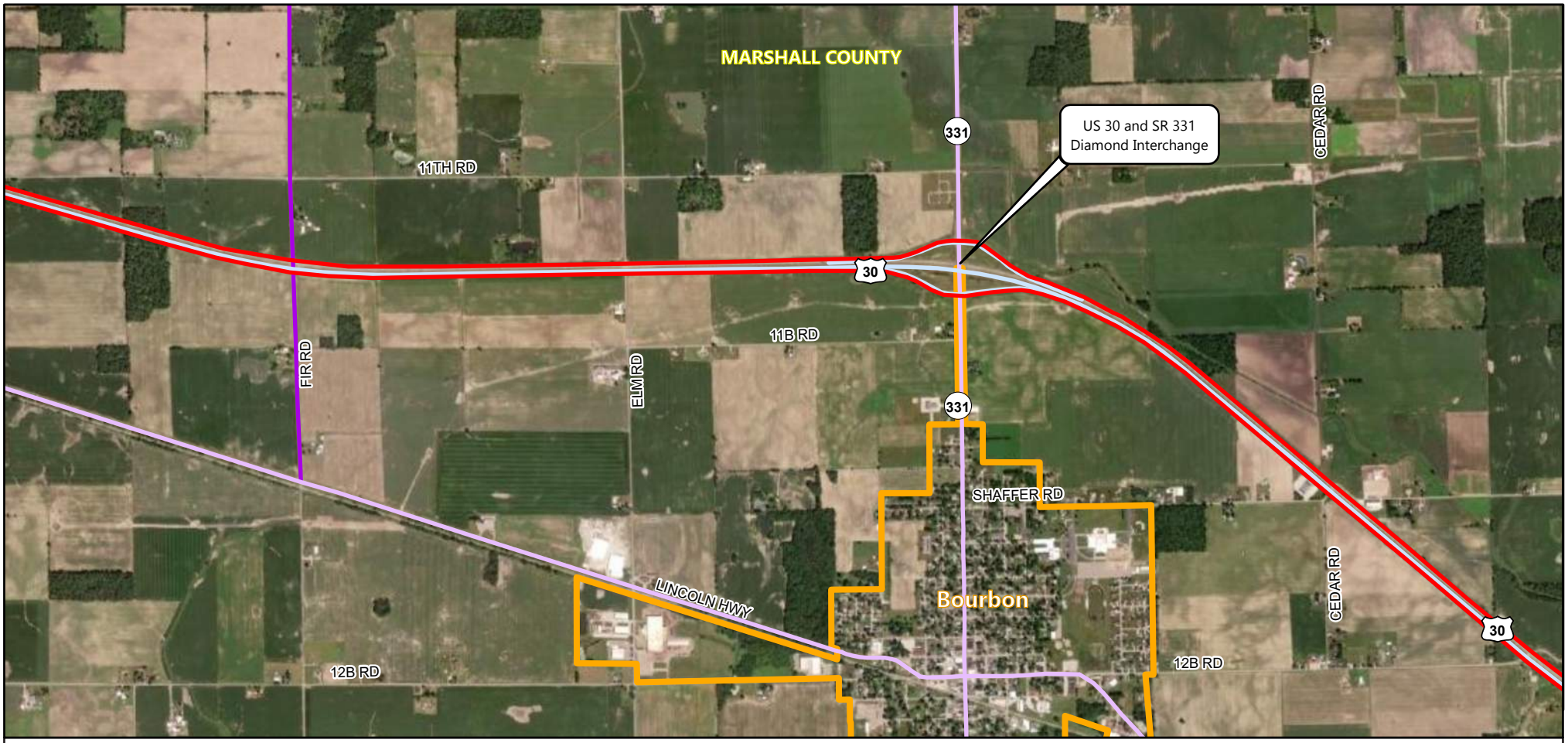
N

PROPEL US 30
Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions
Map 14 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit
- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

N

PROPEL US 30

Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions

Map 15 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit

- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

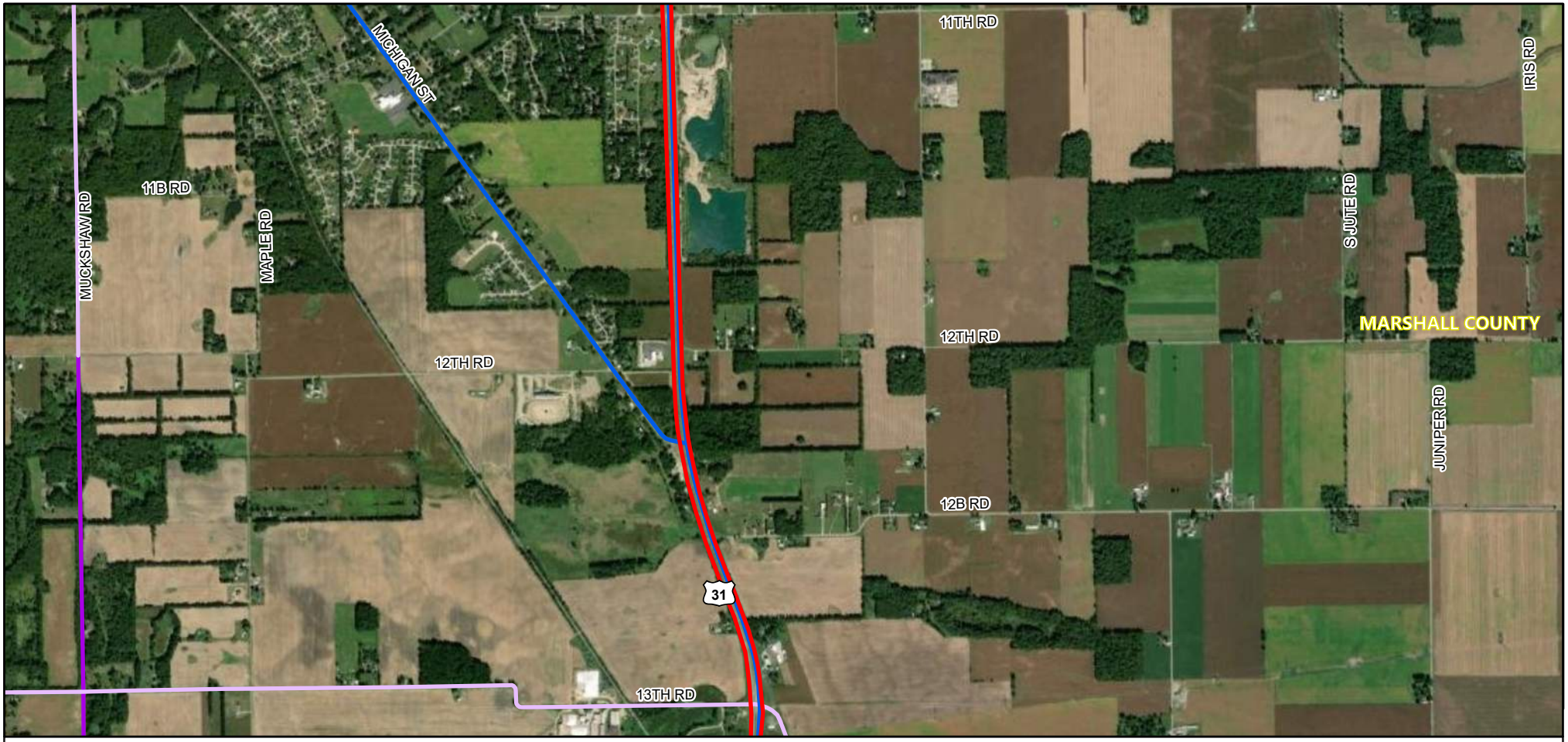
N

PROPEL US 30
Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions
Map 16 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit
- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

N

PROPEL US 30

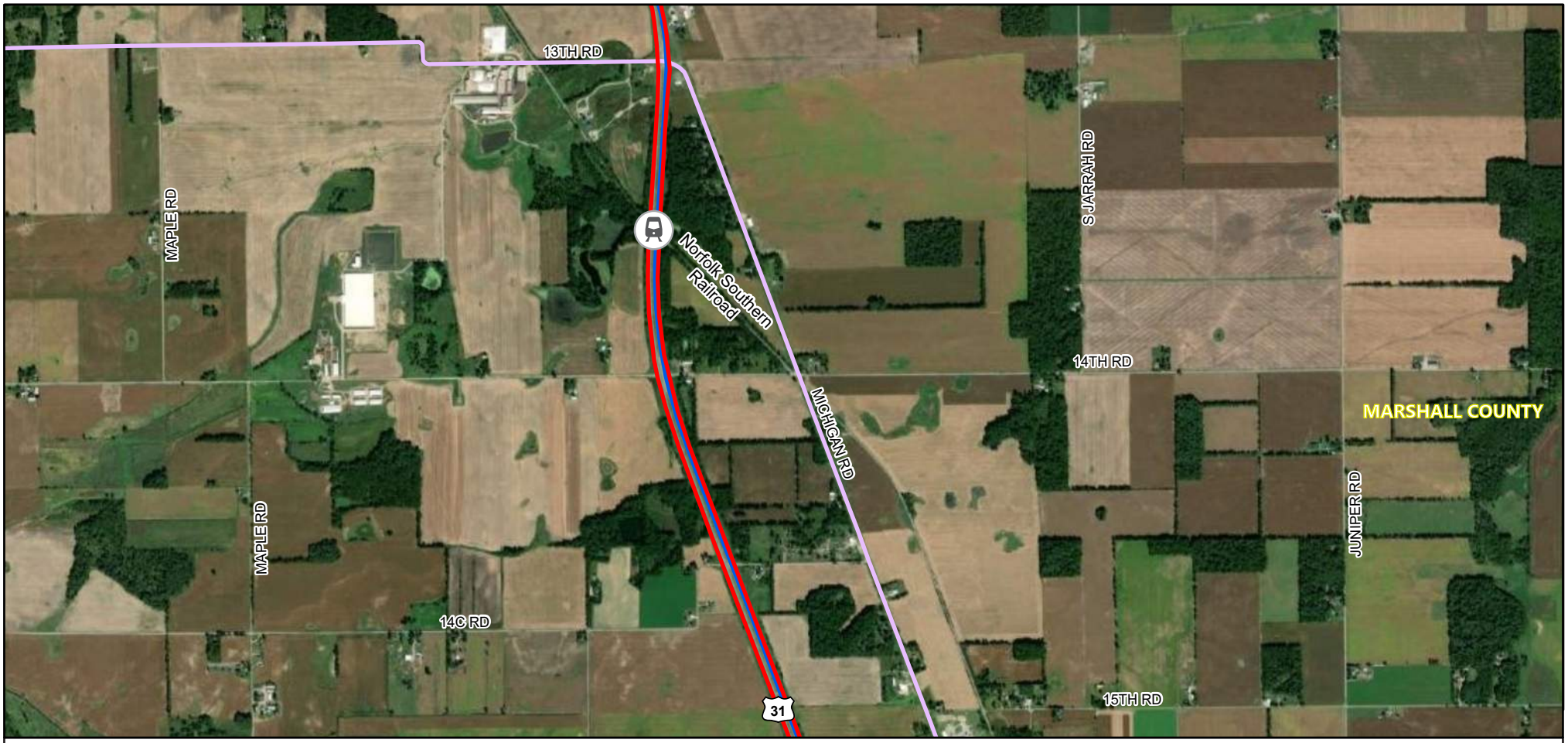
Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions

Map 17 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit
- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

N

PROPEL US 30

Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions

Map 18 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit

- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

N

PROPEL US 30
Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions
Map 19 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit
- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

N

PROPEL US 30

Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions

Map 20 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit
- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

N

PROPEL US 30

Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions

Map 21 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS



Legend

- US 30 Existing Alignment
- County Boundary
- Incorporated Areas
- Railroad Locations
- Bridge Locations
- Speed Limit
- Principal Arterial - Freeways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector

0 0.15 0.3 Miles

N

PROPEL US 30

Smarter Transportation. Stronger Communities.

U.S. 30 West Study Area

Existing Conditions

Map 22 of 22

Esri, HERE, Earthstar Geographics, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS

Appendix B

Heavy Vehicle Percentages by Intersection

	Truck Percentages (AM Peak Hour)											
ID	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
2	US 30 and E Industrial Dr	12%	0%	36%	0%	0%	2%	1%	31%	13%	20%	21%	0%
3	US 30 and Montdale Dr	0%	0%	11%	0%	0%	10%	0%	22%	0%	5%	31%	0%
4	US 30 and N 400 E	0%	0%	0%	0%	0%	0%	0%	33%	0%	0%	22%	0%
5	US 30 and County Rd	0%	100%	0%	0%	0%	0%	0%	33%	0%	0%	22%	0%
6	US 30 and N Main St	0%	0%	13%	0%	0%	0%	0%	33%	0%	0%	24%	0%
7	US 30 and US Hwy 421	14%	17%	21%	23%	31%	24%	17%	39%	21%	73%	30%	19%
8	US 30 and S 600 W	0%	0%	0%	15%	11%	0%	7%	44%	0%	0%	29%	3%
9	US 30 and N Thompson St	10%	34%	0%	0%	34%	20%	0%	37%	11%	0%	31%	0%
10	US 30 and US 30 Alternate Rte	0%	0%	0%	0%	0%	0%	0%	37%	0%	0%	29%	0%
11	US 30 and S 300 W	0%	50%	0%	0%	0%	0%	50%	37%	34%	0%	33%	0%
12	US 30 and SR 39	9%	9%	22%	7%	13%	34%	14%	42%	11%	43%	39%	10%
14	US 30 and N 750 E	0%	13%	0%	13%	0%	7%	3%	41%	0%	0%	38%	3%
15	US 30 and N 1000 E	9%	9%	9%	0%	12%	7%	25%	44%	15%	18%	37%	0%
16	US 30 and Queen Rd	7%	0%	34%	0%	3%	0%	0%	39%	5%	0%	50%	0%
17	US 30 and Pioneer Dr	15%	4%	4%	54%	5%	54%	58%	43%	8%	4%	43%	39%
18	US 30 and N Oak Rd	9%	6%	32%	36%	6%	5%	6%	49%	12%	13%	42%	6%
19S	US 30 & Michigan Rd South Ramp	0%	4%	3%	38%	4%	0%	0%	0%	0%	11%	0%	17%
19N	US 30 & Michigan Rd North Ramp	0%	5%	7%	19%	7%	0%	0%	0%	0%	10%	0%	35%
20	US 30 and Plymouth Goshen Trl	0%	0%	3%	0%	0%	13%	0%	39%	0%	0%	34%	0%
22	US 30 and 9a Rd	38%	12%	44%	0%	0%	6%	0%	41%	44%	40%	38%	0%
23	US 30 and Fir Rd	0%	0%	0%	11%	0%	25%	0%	39%	0%	0%	32%	0%
25	US 31 and W 9a Rd	1%	30%	37%	0%	25%	5%	0%	0%	8%	0%	0%	0%
26	US 31 and Michigan Rd	3%	26%	0%	0%	23%	0%	0%	0%	3%	0%	0%	0%
27	US 31 and 13th Rd	0%	26%	0%	4%	22%	29%	0%	0%	34%	50%	0%	6%
28	US 31 and SR 10	0%	31%	7%	7%	26%	7%	0%	7%	0%	2%	10%	8%

		Truck % at Interchanges (AM Peak Hour)											
ID	Intersection	NB - WB	NBT	NB - EB	SB - EB	SB	SB - WB	EB - NB	EB	EB - SB	WB - SB	WB	WB - NB
1	US 30 and SR 49	13%	31%	44%	42%	18%	9%	42%	10%	33%	47%	18%	29%
13	US 30 and US 35	14%	19%	31%	30%	33%	53%	82%	44%	0%	13%	33%	24%
19	US 30 and N Michigan Rd	18%		26%	26%		18%	17%	48%	17%	27%	36%	27%
21	US 30 and US 31	22%	24%	33%	23%	18%	18%	17%	37%	38%	26%	32%	26%
24	US 30 & US 331 (Main St)	11%	10%	18%	18%	11%	11%	10%	51%	10%	16%	41%	16%

	Truck Percentages (PM Peak Hour)												
ID	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
2	US 30 and E Industrial Dr	7%	0%	18%	0%	0%	2%	0%	21%	50%	0%	25%	9%
3	US 30 and Montdale Dr	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	18%	0%
4	US 30 and N 400 E	0%	0%	0%	0%	0%	0%	0%	18%	20%	0%	25%	20%
5	US 30 and County Rd	0%	34%	0%	0%	40%	0%	0%	17%	0%	15%	22%	0%
6	US 30 and N Main St	0%	0%	3%	0%	0%	0%	0%	18%	0%	4%	23%	0%
7	US 30 and US Hwy 421	0%	10%	0%	15%	15%	17%	9%	24%	1%	16%	32%	10%
8	US 30 and S 600 W	10%	13%	0%	19%	6%	8%	2%	25%	4%	0%	39%	0%
9	US 30 and N Thompson St	0%	0%	0%	0%	38%	0%	20%	20%	0%	38%	35%	25%
10	US 30 and US 30 Alternate Rte	0%	0%	50%	0%	0%	0%	0%	20%	0%	0%	34%	0%
11	US 30 and S 300 W	0%	100%	0%	0%	0%	0%	0%	20%	15%	100%	35%	0%
12	US 30 and SR 39	4%	3%	0%	0%	6%	6%	5%	30%	2%	4%	35%	5%
14	US 30 and N 750 E	20%	0%	0%	9%	0%	0%	0%	33%	0%	17%	39%	0%
15	US 30 and N 1000 E	0%	4%	0%	0%	7%	5%	5%	36%	10%	0%	40%	4%
16	US 30 and Queen Rd	2%	0%	0%	0%	0%	0%	15%	41%	0%	0%	34%	2%
17	US 30 and Pioneer Dr	6%	4%	1%	38%	5%	43%	46%	27%	13%	3%	28%	41%
18	US 30 and N Oak Rd	9%	1%	4%	8%	2%	3%	2%	35%	7%	28%	41%	4%
19S	US 30 & Michigan Rd South Ramp	0%	2%	4%	11%	3%	0%	0%	0%	0%	3%	0%	15%
19N	US 30 & Michigan Rd North Ramp	0%	2%	2%	8%	3%	0%	0%	0%	0%	6%	0%	11%
20	US 30 and Plymouth Goshen Trl	0%	0%	5%	0%	0%	3%	0%	30%	34%	0%	36%	20%
22	US 30 and 9a Rd	43%	17%	52%	0%	5%	12%	8%	31%	44%	46%	45%	0%
23	US 30 and Fir Rd	25%	0%	0%	0%	6%	0%	0%	34%	0%	0%	35%	0%
25	US 31 and W 9a Rd	3%	19%	0%	0%	19%	2%	0%	0%	2%	0%	0%	0%
26	US 31 and Michigan Rd	6%	26%	0%	0%	20%	0%	0%	0%	5%	0%	0%	0%
27	US 31 and 13th Rd	0%	25%	0%	3%	19%	12%	0%	0%	0%	0%	0%	10%
28	US 31 and SR 10	0%	27%	10%	3%	21%	3%	6%	16%	34%	3%	3%	9%

		Truck % at Interchanges (PM Peak Hour)											
ID	Intersection	NB - WB	NBT	NB - EB	SB - EB	SB	SB - WB	EB - NB	EB	EB - SB	WB - SB	WB	WB - NB
1	US 30 and SR 49	6%	23%	55%	34%	8%	7%	39%	6%	22%	31%	16%	28%
13	US 30 and US 35	18%	16%	23%	26%	13%	25%	50%	30%	0%	14%	40%	15%
19	US 30 and N Michigan Rd	4%		5%	5%		4%	5%	27%	5%	7%	35%	7%
21	US 30 and US 31	34%	23%	38%	35%	18%	19%	16%	27%	18%	14%	37%	20%
24	US 30 & US 331 (Main St)	2%	4%	7%	7%	4%	2%	8%	38%	8%	11%	31%	11%

Appendix C

Growth Rate Percentages by Intersection

		Growth Rate (AM Peak Hour)											
ID	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	WB
2	US 30 and E Industrial Dr	-0.9%	4.4%	0.2%	1.6%	0.6%	4.3%	3.9%	1.0%	0.5%	0.1%	1.0%	0.5%	0.5%
3	US 30 and Montdale Dr	6.3%	0.9%	0.5%	0.2%	0.7%	0.5%	0.5%	0.9%	1.7%	0.5%	0.3%	0.2%	0.5%
4	US 30 and N 400 E	0.5%	0.5%	2.3%	0.5%	0.5%	0.5%	0.5%	0.9%	0.5%	2.4%	0.3%	0.5%	0.5%
5	US 30 and County Rd	0.5%	20.0%	14.6%	0.5%	10.0%	0.0%	0.7%	0.5%	0.5%	9.2%	0.0%	0.5%	0.5%
6	US 30 and N Main St	0.8%	0.5%	0.3%	0.5%	0.5%	0.5%	0.5%	1.2%	0.7%	0.2%	0.1%	0.5%	0.5%
7	US 30 and US Hwy 421	-0.2%	1.9%	0.6%	0.4%	1.8%	1.2%	5.8%	1.0%	0.2%	1.6%	0.1%	1.5%	0.5%
8	US 30 and S 600 W	10.0%	1.4%	0.5%	-0.4%	1.9%	0.7%	0.2%	0.6%	10.0%	0.5%	0.5%	-0.5%	0.5%
9	US 30 and N Thompson St	0.5%	0.0%	0.3%	0.5%	0.1%	0.5%	0.5%	0.7%	0.5%	0.2%	0.6%	0.5%	0.5%
10	US 30 and US 30 Alternate Rte	0.5%	0.5%	-0.2%	0.5%	0.5%	0.5%	0.5%	0.7%	0.5%	-0.2%	0.6%	0.5%	0.5%
11	US 30 and S 300 W	0.5%	0.0%	-3.8%	0.1%	0.0%	0.5%	0.5%	0.6%	0.5%	-3.7%	0.5%	0.1%	0.5%
12	US 30 and SR 39	0.0%	1.9%	2.0%	0.1%	2.0%	-3.7%	-3.8%	0.6%	0.1%	19.5%	0.5%	2.0%	0.5%
14	US 30 and N 750 E	0.5%	-3.8%	0.5%	0.5%	-3.8%	0.5%	0.5%	0.5%	0.5%	0.4%	0.5%	0.5%	0.5%
15	US 30 and N 1000 E	0.1%	0.5%	0.4%	0.7%	0.4%	0.3%	0.4%	0.6%	0.1%	0.4%	0.5%	0.6%	0.5%
16	US 30 and Queen Rd	0.3%	0.6%	0.9%	0.3%	0.5%	0.2%	0.3%	0.7%	0.3%	0.9%	0.6%	0.3%	0.5%
17	US 30 and Pioneer Dr	0.1%	-0.2%	0.6%	-0.1%	-0.1%	0.1%	0.2%	0.7%	0.2%	0.9%	0.6%	-0.1%	0.5%
18	US 30 and N Oak Rd	0.3%	0.1%	0.5%	0.9%	0.0%	0.3%	0.4%	0.8%	0.4%	0.5%	0.8%	0.9%	0.5%
19S	US 30 & Michigan Rd South Ramp	0.5%	0.3%	0.4%	0.3%	0.4%	0.5%	0.5%	0.5%	0.5%	0.3%	0.5%	0.5%	0.5%
19N	US 30 & Michigan Rd North Ramp	0.5%	0.3%	0.5%	0.6%	0.3%	0.5%	0.5%	0.5%	0.5%	0.7%	0.5%	0.4%	0.5%
20	US 30 and Plymouth Goshen Trl	0.5%	1.9%	0.7%	0.6%	1.3%	1.2%	1.7%	0.7%	0.5%	0.5%	0.7%	0.5%	0.5%
22	US 30 and 9a Rd	0.7%	0.4%	0.7%	0.8%	0.8%	0.7%	0.8%	1.4%	1.8%	0.6%	0.6%	1.0%	0.5%
23	US 30 and Fir Rd	0.5%	0.3%	0.3%	0.4%	0.3%	0.7%	0.6%	1.4%	0.4%	0.5%	0.7%	0.6%	0.5%
25	US 31 and W 9a Rd	0.5%	1.0%	0.5%	0.5%	0.4%	0.5%	0.5%	0.5%	0.7%	0.5%	0.5%	0.6%	0.5%
26	US 31 and Michigan Rd	0.4%	1.0%	0.5%	0.5%	0.4%	0.5%	0.5%	0.5%	0.2%	0.5%	0.5%	0.5%	0.5%
27	US 31 and 13th Rd	0.9%	0.9%	0.5%	0.3%	0.4%	0.5%	0.6%	1.0%	1.1%	0.5%	2.3%	0.6%	0.5%
28	US 31 and SR 10	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%

		Growth Rates at Interchanges (AM Peak Hour)			
ID	Intersection	NB	SB	EB	WB
1	US 30 and SR 49	1%	1%	2%	1%
13	US 30 and US 35	1%	1%	1%	1%
19	US 30 and N Michigan Rd	1%	1%	1%	1%
21	US 30 and US 31	1%	1%	1%	1%
24	US 30 & US 331 (Main St)	1%	1%	1%	1%

		Growth Rate												
ID	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	WB
2	US 30 and E Industrial Dr	-0.9%	4.4%	0.2%	1.6%	0.6%	4.3%	3.9%	1.0%	0.5%	0.1%	1.0%	0.5%	0.5%
3	US 30 and Montdale Dr	6.3%	0.9%	0.5%	0.2%	0.7%	0.5%	0.5%	0.9%	1.7%	0.5%	0.3%	0.2%	0.5%
4	US 30 and N 400 E	0.5%	0.5%	2.3%	0.5%	0.5%	0.5%	0.5%	0.9%	0.5%	2.4%	0.3%	0.5%	0.5%
5	US 30 and County Rd	0.5%	20.0%	14.6%	0.5%	10.0%	0.0%	0.7%	0.5%	0.5%	9.2%	0.0%	0.5%	0.5%
6	US 30 and N Main St	0.8%	0.5%	0.3%	0.5%	0.5%	0.5%	0.5%	1.2%	0.7%	0.2%	0.1%	0.5%	0.5%
7	US 30 and US Hwy 421	-0.2%	1.9%	0.6%	0.4%	1.8%	1.2%	5.8%	1.0%	0.2%	1.6%	0.1%	1.5%	0.5%
8	US 30 and S 600 W	10.0%	1.4%	0.5%	-0.4%	1.9%	0.7%	0.2%	0.6%	10.0%	0.5%	0.5%	-0.5%	0.5%
9	US 30 and N Thompson St	0.5%	0.0%	0.3%	0.5%	0.1%	0.5%	0.5%	0.7%	0.5%	0.2%	0.6%	0.5%	0.5%
10	US 30 and US 30 Alternate Rte	0.5%	0.5%	-0.2%	0.5%	0.5%	0.5%	0.5%	0.7%	0.5%	-0.2%	0.6%	0.5%	0.5%
11	US 30 and S 300 W	0.5%	0.0%	-3.8%	0.1%	0.0%	0.5%	0.5%	0.6%	0.5%	-3.7%	0.5%	0.1%	0.5%
12	US 30 and SR 39	0.0%	1.9%	2.0%	0.1%	2.0%	-3.7%	-3.8%	0.6%	0.1%	19.5%	0.5%	2.0%	0.5%
14	US 30 and N 750 E	0.5%	-3.8%	0.5%	0.5%	-3.8%	0.5%	0.5%	0.5%	0.5%	0.4%	0.5%	0.5%	0.5%
15	US 30 and N 1000 E	0.1%	0.5%	0.4%	0.7%	0.4%	0.3%	0.4%	0.6%	0.1%	0.4%	0.5%	0.6%	0.5%
16	US 30 and Queen Rd	0.3%	0.6%	0.9%	0.3%	0.5%	0.2%	0.3%	0.7%	0.3%	0.9%	0.6%	0.3%	0.5%
17	US 30 and Pioneer Dr	0.1%	-0.2%	0.6%	-0.1%	-0.1%	0.1%	0.2%	0.7%	0.2%	0.9%	0.6%	-0.1%	0.5%
18	US 30 and N Oak Rd	0.3%	0.1%	0.5%	0.9%	0.0%	0.3%	0.4%	0.8%	0.4%	0.5%	0.8%	0.9%	0.5%
19S	US 30 & Michigan Rd South Ramp	0.5%	0.3%	0.3%	0.4%	0.3%	0.7%	0.6%	1.4%	0.4%	0.5%	0.7%	0.6%	0.5%
19N	US 30 & Michigan Rd North Ramp	0.5%	1.0%	0.5%	0.5%	0.4%	0.5%	0.5%	0.5%	0.7%	0.5%	0.5%	0.6%	0.5%
20	US 30 and Plymouth Goshen Trl	0.5%	1.9%	0.7%	0.6%	1.3%	1.2%	1.7%	0.7%	0.5%	0.5%	0.7%	0.5%	0.5%
22	US 30 and 9a Rd	0.7%	0.4%	0.7%	0.8%	0.8%	0.7%	0.8%	1.4%	1.8%	0.6%	0.6%	1.0%	0.5%
23	US 30 and Fir Rd	0.5%	0.3%	0.3%	0.4%	0.3%	0.7%	0.6%	1.4%	0.4%	0.5%	0.7%	0.6%	0.5%
25	US 31 and W 9a Rd	0.5%	1.0%	0.5%	0.5%	0.4%	0.5%	0.5%	0.5%	0.7%	0.5%	0.5%	0.6%	0.5%
26	US 31 and Michigan Rd	0.4%	1.0%	0.5%	0.5%	0.4%	0.5%	0.5%	0.5%	0.2%	0.5%	0.5%	0.5%	0.5%
27	US 31 and 13th Rd	0.9%	0.9%	0.5%	0.3%	0.4%	0.5%	0.6%	1.0%	1.1%	0.5%	2.3%	0.6%	0.5%
28	US 31 and SR 10	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%

		Growth Rates at Interchanges (PM Peak Hour)			
ID	Intersection	NB	SB	EB	WB
1	US 30 and SR 49	1%	1%	2%	1%
13	US 30 and US 35	1%	1%	1%	1%
19	US 30 and N Michigan Rd	1%	1%	1%	1%
21	US 30 and US 31	1%	1%	1%	1%
24	US 30 & US 331 (Main St)	1%	1%	1%	1%

Appendix D

Existing Turning Movement Volumes

Turning Movement Counts - AM

INTERSECTION: US 30 & E Industrial Dr

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hr Counts

TIME BEGIN	Industrial Dr (NB)			Industrial Dr (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	8	0	1	0	0	0	0	29	3	0	9	0	50	185
12:15 AM	2	0	2	0	0	0	0	24	0	2	14	0	44	178
12:30 AM	1	0	0	0	0	2	0	27	2	0	20	0	52	179
12:45 AM	1	0	1	0	0	1	0	22	1	0	13	0	39	181
1:00 AM	1	0	2	0	0	0	1	26	0	0	13	0	43	186
1:15 AM	1	0	0	0	0	0	0	27	0	0	17	0	45	190
1:30 AM	0	0	0	0	0	1	0	25	0	0	28	0	54	190
1:45 AM	0	0	0	0	0	0	0	26	0	0	18	0	44	223
2:00 AM	0	0	0	0	0	3	0	19	1	0	24	0	47	247
2:15 AM	1	0	1	0	0	0	0	20	4	0	18	1	45	254
2:30 AM	6	0	2	0	0	1	0	39	7	2	29	1	87	280
2:45 AM	3	0	0	0	0	0	1	28	9	2	24	1	68	249
3:00 AM	1	0	0	0	0	0	0	27	2	0	23	1	54	264
3:15 AM	0	0	0	0	0	1	0	29	4	1	36	0	71	306
3:30 AM	1	0	0	0	0	1	1	25	1	1	26	0	56	356
3:45 AM	1	0	1	0	0	1	1	43	1	1	34	0	83	451
4:00 AM	5	0	1	0	0	0	0	41	4	1	44	0	96	532
4:15 AM	2	0	1	0	0	1	1	59	4	0	53	0	121	626
4:30 AM	3	0	0	1	0	1	1	46	5	1	93	0	151	702
4:45 AM	2	0	1	0	0	2	4	56	10	3	85	1	164	843
5:00 AM	5	0	2	1	0	3	1	63	7	1	105	2	190	994
5:15 AM	5	0	0	2	0	4	8	65	15	1	96	1	197	1,128
5:30 AM	3	0	2	0	0	4	30	89	25	2	135	2	292	1,287
5:45 AM	6	0	3	1	1	7	29	92	30	3	138	5	315	1,344
6:00 AM	18	0	3	1	2	5	6	90	25	2	171	1	324	1,437
6:15 AM	8	0	2	0	1	6	9	107	50	8	165	0	356	1,546
6:30 AM	5	0	2	0	1	3	15	102	49	3	166	3	349	1,612
6:45 AM	10	0	3	0	2	11	39	117	75	4	137	10	408	1,724

7:00 AM	60	5	10	0	1	25	18	128	36	1	142	7	433	1,802
7:15 AM	28	0	1	1	0	6	31	131	24	2	192	6	422	1,735
7:30 AM	11	0	0	1	4	14	37	144	52	3	184	11	461	1,673
7:45 AM	9	0	3	0	2	14	47	116	56	4	222	13	486	1,589
8:00 AM	10	1	1	1	1	22	40	106	17	2	162	3	366	1,468
8:15 AM	9	0	3	3	2	13	21	115	17	6	165	6	360	1,450
8:30 AM	8	1	3	2	0	16	19	110	9	3	199	7	377	1,437
8:45 AM	7	2	1	3	1	17	22	113	10	1	182	6	365	1,425
9:00 AM	7	1	0	7	1	16	19	109	14	2	167	5	348	1,372
9:15 AM	9	1	1	1	0	15	23	127	9	0	156	5	347	1,370
9:30 AM	7	1	4	2	2	15	15	111	9	3	188	8	365	1,380
9:45 AM	8	0	0	1	0	14	15	101	8	2	155	8	312	1,348
10:00 AM	9	0	3	3	0	20	15	121	14	2	150	9	346	1,395
10:15 AM	13	0	2	4	0	14	16	119	12	1	172	4	357	1,420
10:30 AM	22	0	4	4	1	19	22	84	12	5	155	5	333	1,433
10:45 AM	12	1	1	1	0	17	15	136	20	0	154	2	359	1,541
11:00 AM	22	0	1	4	2	19	10	136	8	4	161	4	371	1,585
11:15 AM	22	5	0	4	0	22	9	127	17	2	158	4	370	--
11:30 AM	34	0	2	2	1	34	21	147	23	0	173	4	441	--
11:45 AM	20	0	6	3	2	25	25	138	14	0	165	5	403	--
Grand Total	426	18	76	53	27	415	587	3,782	715	81	5,136	151	11,467	
% Approach	82%	3%	15%	11%	5%	84%	12%	74%	14%	2%	96%	3%		
% Total	4%	0%	1%	0%	0%	4%	5%	33%	6%	1%	45%	1%		
Lights	305	16	36	51	24	389	578	2,351	595	53	3,673	143		
% Lights	72%	89%	47%	96%	89%	94%	98%	62%	83%	65%	72%	95%		
Heavy Vehicles	121	2	40	2	3	26	9	1431	120	28	1463	8		
% Heavy Vehicles	28%	11%	53%	4%	11%	6%	2%	38%	17%	35%	28%	5%		

AM PEAK HOUR SUMMARY

Monday, 10/03/2022

7:00 AM - 8:00 AM

AM Peak Hour Summary	**Industrial Dr (NB)**			**Industrial Dr (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**108**	**5**	**14**	**2**	**7**	**59**	**133**	**519**	**168**	**10**	**740**	**37**	**1802**	**0.93**
% Heavy Vehicles	**12%**	**0%**	**36%**	**0%**	**0%**	**2%**	**1%**	**31%**	**13%**	**20%**	**21%**	**0%**		

Turning Movement Counts - PM

INTERSECTION: US 30 & E Industrial Dr

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hr Counts

TIME BEGIN	Industrial Dr (NB)			Industrial Dr (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	31	0	1	7	3	27	14	138	14	5	180	5	425	1,630
12:15 PM	20	0	2	5	2	25	22	134	24	2	157	6	399	1,626
12:30 PM	14	3	4	4	0	15	24	125	21	2	165	5	382	1,681
12:45 PM	16	0	2	2	0	16	26	149	32	3	177	1	424	1,708
1:00 PM	11	0	3	5	0	20	23	179	16	1	158	5	421	1,740
1:15 PM	10	0	2	9	0	19	21	194	19	4	175	1	454	1,769
1:30 PM	6	2	3	4	0	24	21	167	18	2	160	2	409	1,757
1:45 PM	25	0	2	4	1	15	29	191	15	0	168	6	456	1,810
2:00 PM	5	1	1	6	0	31	12	187	20	3	182	2	450	1,816
2:15 PM	11	1	1	0	3	16	20	190	27	3	166	4	442	1,889
2:30 PM	15	1	0	7	0	26	14	221	17	2	155	4	462	1,929
2:45 PM	18	1	3	6	2	18	17	195	22	1	178	1	462	1,997
3:00 PM	77	3	7	5	0	31	16	202	4	2	174	2	523	1,978
3:15 PM	35	2	2	0	0	24	11	209	9	1	188	1	482	2,022
3:30 PM	29	2	4	5	0	49	20	192	13	0	206	10	530	2,003
3:45 PM	16	1	4	6	1	33	15	186	12	0	160	9	443	2,000
4:00 PM	53	1	13	12	2	44	22	200	10	1	205	4	567	1,990
4:15 PM	23	1	3	12	0	28	14	210	6	1	163	2	463	1,945
4:30 PM	17	1	3	7	0	35	14	211	7	1	223	8	527	1,910
4:45 PM	19	0	1	7	0	28	19	187	5	1	157	9	433	1,762
5:00 PM	44	1	2	6	1	60	21	208	4	0	170	5	522	1,717
5:15 PM	27	0	1	7	1	31	22	187	5	0	147	0	428	1,582
5:30 PM	9	0	0	7	0	30	11	170	8	2	134	8	379	1,488
5:45 PM	14	1	1	8	2	15	20	167	5	3	150	2	388	1,472
6:00 PM	16	2	1	4	0	20	9	173	7	2	152	1	387	1,358
6:15 PM	6	0	1	3	1	28	4	160	9	0	118	4	334	1,213
6:30 PM	19	0	7	4	1	13	6	148	16	5	141	3	363	1,136
6:45 PM	10	0	3	6	2	9	9	114	11	1	106	3	274	1,010

7:00 PM	19	0	1	4	0	11	4	111	3	0	88	1	242	950
7:15 PM	10	0	0	3	0	23	5	133	2	1	78	2	257	919
7:30 PM	5	0	0	3	0	6	4	143	3	1	72	0	237	841
7:45 PM	7	0	2	4	0	11	3	102	2	1	82	0	214	765
8:00 PM	6	0	0	1	1	9	2	109	0	1	82	0	211	685
8:15 PM	1	0	0	0	0	8	0	104	1	0	65	0	179	615
8:30 PM	4	0	1	1	0	11	1	96	6	1	40	0	161	574
8:45 PM	0	0	1	3	0	3	0	72	0	0	54	1	134	534
9:00 PM	3	0	1	4	0	5	1	81	3	1	41	1	141	506
9:15 PM	1	0	0	0	0	2	4	68	5	0	58	0	138	486
9:30 PM	2	0	0	0	0	6	1	53	5	0	53	1	121	472
9:45 PM	0	0	0	1	1	5	4	42	9	0	43	1	106	441
10:00 PM	1	0	0	1	0	6	0	59	11	1	41	1	121	421
10:15 PM	1	0	0	4	1	4	0	55	22	1	36	0	124	427
10:30 PM	2	0	0	1	0	0	0	42	11	0	34	0	90	375
10:45 PM	0	0	0	0	2	0	1	41	12	1	29	0	86	352
11:00 PM	43	1	3	0	0	1	2	42	2	1	32	0	127	335
11:15 PM	10	1	1	0	0	1	1	34	1	0	23	0	72	--
11:30 PM	5	0	0	1	0	2	1	35	0	0	22	1	67	--
11:45 PM	0	0	0	0	0	0	1	41	2	0	25	0	69	--
Grand Total	716	26	87	189	27	844	511	6,457	476	58	5,613	122	15,126	
% Approach	86%	3%	10%	18%	3%	80%	7%	87%	6%	1%	97%	2%		
% Total	5%	0%	1%	1%	0%	6%	3%	43%	3%	0%	37%	1%		
Lights	657	24	63	184	25	835	497	4,918	388	36	4,065	118		
% Lights	92%	92%	72%	97%	93%	99%	97%	76%	82%	62%	72%	97%		
Heavy Vehicles	59	2	24	5	2	9	14	1539	88	22	1548	4		
% Heavy Vehicles	8%	8%	28%	3%	7%	1%	3%	24%	18%	38%	28%	3%		

PM PEAK HOUR SUMMARY

Monday, 10/03/2022

3:15 PM - 4:15 PM

PM Peak Hour Summary	**Industrial Dr (NB)**			**Industrial Dr (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**133**	**6**	**23**	**23**	**3**	**150**	**68**	**787**	**44**	**2**	**759**	**24**	**2022**	**0.89**
% Heavy Vehicles	**7%**	**0%**	**18%**	**0%**	**0%**	**2%**	**0%**	**21%**	**50%**	**0%**	**25%**	**9%**		

Turning Movement Counts - AM

INTERSECTION: US 30 & Montdale Dr

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hr Counts

TIME BEGIN	Montdale Dr (NB)			Montdale Dr (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	0	0	0	0	0	0	0	10	0	2	22	1	35	152
12:15 AM	0	0	0	0	0	0	0	13	0	0	25	0	38	152
12:30 AM	0	0	0	0	0	0	0	15	0	1	26	0	42	157
12:45 AM	0	0	0	1	0	0	0	12	0	1	23	0	37	166
1:00 AM	0	0	0	0	0	1	0	11	0	0	23	0	35	173
1:15 AM	0	0	1	0	0	0	0	16	0	3	23	0	43	182
1:30 AM	0	0	1	0	0	0	0	32	0	0	18	0	51	177
1:45 AM	0	0	1	0	0	0	1	14	0	1	27	0	44	189
2:00 AM	0	0	1	2	0	0	0	19	0	0	22	0	44	199
2:15 AM	0	1	0	0	1	0	0	18	0	0	18	0	38	201
2:30 AM	0	0	0	0	0	0	1	25	0	0	37	0	63	224
2:45 AM	0	0	0	0	0	0	1	27	0	1	25	0	54	213
3:00 AM	0	0	0	0	0	0	0	22	0	0	24	0	46	231
3:15 AM	0	0	2	1	0	0	0	32	0	1	25	0	61	279
3:30 AM	1	0	0	1	0	0	2	24	0	0	24	0	52	327
3:45 AM	0	0	0	0	0	0	0	34	1	0	37	0	72	418
4:00 AM	1	0	1	1	0	0	1	43	0	0	47	0	94	490
4:15 AM	0	0	3	0	0	0	0	50	0	1	55	0	109	566
4:30 AM	1	0	0	0	0	1	1	92	0	1	47	0	143	631
4:45 AM	1	1	2	1	0	1	0	89	1	0	48	0	144	715
5:00 AM	1	0	2	0	0	1	0	101	0	1	64	0	170	825
5:15 AM	1	1	3	2	0	0	5	97	0	3	62	0	174	944
5:30 AM	1	1	4	2	0	1	6	129	0	0	83	0	227	1,040
5:45 AM	0	0	2	0	1	0	10	140	2	3	95	1	254	1,122
6:00 AM	0	0	6	3	0	16	8	174	1	5	76	0	289	1,166
6:15 AM	2	0	7	0	1	3	5	147	0	7	98	0	270	1,172
6:30 AM	0	0	13	4	0	0	16	155	3	7	109	2	309	1,246
6:45 AM	0	0	5	4	2	2	13	148	2	6	112	4	298	1,301

7:00 AM	1	1	7	5	1	3	8	135	1	5	127	1	295	1,346
7:15 AM	1	3	10	4	1	1	4	180	1	11	126	2	344	1,365
7:30 AM	2	0	11	5	1	3	10	183	2	15	131	1	364	1,295
7:45 AM	1	0	7	3	0	4	8	209	0	4	106	1	343	1,271
8:00 AM	1	1	9	2	1	2	1	174	2	14	107	0	314	1,230
8:15 AM	0	0	6	3	0	2	4	148	1	7	101	2	274	1,215
8:30 AM	0	1	3	2	1	3	2	209	2	5	111	1	340	1,227
8:45 AM	1	1	5	2	0	0	4	168	0	5	113	3	302	1,193
9:00 AM	0	1	5	2	0	1	1	168	1	2	116	2	299	1,188
9:15 AM	1	1	5	1	0	3	1	150	2	4	117	1	286	1,163
9:30 AM	0	1	10	1	0	1	3	178	0	8	100	4	306	1,185
9:45 AM	0	0	11	2	1	2	3	165	0	3	107	3	297	1,130
10:00 AM	0	0	2	1	1	2	0	141	2	6	119	0	274	1,128
10:15 AM	0	0	5	1	0	2	1	168	0	4	125	2	308	1,149
10:30 AM	0	2	4	1	0	1	0	152	3	1	86	1	251	1,143
10:45 AM	0	1	1	2	0	1	1	167	1	5	111	5	295	1,256
11:00 AM	0	0	6	6	0	0	2	140	1	7	131	2	295	1,273
11:15 AM	1	1	10	2	1	3	0	152	0	7	120	5	302	--
11:30 AM	0	0	6	2	2	3	0	187	3	8	150	3	364	--
11:45 AM	2	1	8	1	0	2	0	147	0	12	135	4	312	--
Grand Total	20	19	185	70	15	65	123	5,010	32	177	3,634	51	9,401	
% Approach	9%	8%	83%	47%	10%	43%	2%	97%	1%	5%	94%	1%		
% Total	0%	0%	2%	1%	0%	1%	1%	53%	0%	2%	39%	1%		
Lights	20	16	172	67	15	62	120	3,565	29	166	2,240	47		
% Lights	100%	84%	93%	96%	100%	95%	98%	71%	91%	94%	62%	92%		
Heavy Vehicles	0	3	13	3	0	3	3	1445	3	11	1394	4		
% Heavy Vehicles	0%	16%	7%	4%	0%	5%	2%	29%	9%	6%	38%	8%		

AM PEAK HOUR SUMMARY

Monday, 10/03/2022

7:15 AM - 8:15 AM

AM Peak Hour Summary	**Montdale Dr (NB)**			**Montdale Dr (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**5**	**4**	**37**	**14**	**3**	**10**	**23**	**746**	**5**	**44**	**470**	**4**	**1365**	**0.94**
% Heavy Vehicles	**0%**	**0%**	**11%**	**0%**	**0%**	**10%**	**0%**	**22%**	**0%**	**5%**	**31%**	**0%**		

Turning Movement Counts - PM

INTERSECTION: US 30 & Montdale Dr

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hr Counts

TIME BEGIN	Montdale Dr (NB)			Montdale Dr (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	0	3	15	7	0	2	0	167	1	8	129	4	336	1,291
12:15 PM	0	1	10	4	1	2	1	148	1	8	132	2	310	1,316
12:30 PM	0	3	12	3	0	2	2	159	1	6	135	3	326	1,379
12:45 PM	0	2	7	1	3	1	1	158	1	5	139	1	319	1,390
1:00 PM	0	2	11	2	0	1	3	152	1	9	178	2	361	1,432
1:15 PM	0	2	8	0	2	0	1	156	2	3	199	0	373	1,476
1:30 PM	2	0	5	2	2	3	0	159	1	11	150	2	337	1,472
1:45 PM	0	2	10	0	1	2	0	154	1	9	180	2	361	1,524
2:00 PM	0	1	13	1	0	0	3	183	0	6	197	1	405	1,560
2:15 PM	1	1	8	3	1	0	0	158	1	11	182	3	369	1,559
2:30 PM	0	1	7	3	1	4	1	157	1	9	204	1	389	1,601
2:45 PM	0	1	9	4	2	1	1	160	2	11	203	3	397	1,653
3:00 PM	0	4	4	1	1	14	1	165	1	10	201	2	404	1,643
3:15 PM	1	2	6	4	1	5	4	165	2	4	214	3	411	1,690
3:30 PM	0	1	16	4	4	8	4	198	1	9	194	2	441	1,695
3:45 PM	0	2	7	4	0	5	4	171	1	7	182	4	387	1,682
4:00 PM	0	3	14	2	2	2	2	181	2	8	230	5	451	1,663
4:15 PM	0	2	3	1	3	3	4	171	4	9	213	3	416	1,615
4:30 PM	0	0	7	3	0	6	4	184	1	14	205	4	428	1,568
4:45 PM	2	1	8	1	1	3	3	152	5	13	175	4	368	1,496
5:00 PM	1	1	8	2	0	7	5	168	1	9	197	4	403	1,444
5:15 PM	1	3	8	3	3	0	7	133	1	11	197	2	369	1,401
5:30 PM	1	0	13	1	1	3	11	140	1	4	177	4	356	1,324
5:45 PM	2	1	11	2	0	1	0	146	0	10	142	1	316	1,267
6:00 PM	1	0	2	3	0	15	3	140	3	5	184	4	360	1,195
6:15 PM	0	1	5	2	1	4	1	114	0	15	147	2	292	1,033
6:30 PM	3	0	12	4	0	0	2	122	1	14	136	5	299	951
6:45 PM	0	0	10	2	0	0	0	101	0	9	120	2	244	872

7:00 PM	0	0	7	1	0	4	1	79	0	7	98	1	198	823
7:15 PM	0	0	3	4	0	0	0	71	1	11	112	8	210	809
7:30 PM	0	0	9	1	0	0	2	68	0	10	126	4	220	773
7:45 PM	0	1	2	2	0	1	0	73	0	8	106	2	195	689
8:00 PM	0	1	13	3	0	1	0	58	1	6	99	2	184	637
8:15 PM	0	0	5	1	0	0	0	59	0	2	104	3	174	571
8:30 PM	0	0	5	0	0	2	0	40	1	6	80	2	136	528
8:45 PM	0	0	3	1	0	0	0	48	0	1	87	3	143	495
9:00 PM	0	0	0	0	0	0	0	41	0	5	72	0	118	442
9:15 PM	0	0	3	3	0	0	1	53	0	3	67	1	131	434
9:30 PM	0	0	2	0	0	0	2	49	0	3	47	0	103	395
9:45 PM	0	0	3	0	0	0	0	41	0	4	42	0	90	370
10:00 PM	0	0	2	0	0	1	2	43	0	5	55	2	110	348
10:15 PM	2	0	0	0	0	0	0	38	0	1	50	1	92	313
10:30 PM	0	0	4	0	0	0	0	28	0	3	42	1	78	280
10:45 PM	0	0	0	0	0	0	0	30	0	4	34	0	68	259
11:00 PM	0	0	2	0	0	0	0	31	0	1	41	0	75	260
11:15 PM	0	0	0	0	1	1	0	18	0	1	37	1	59	--
11:30 PM	0	0	0	0	0	0	0	24	0	2	30	1	57	--
11:45 PM	0	0	1	0	0	0	0	24	1	1	42	0	69	--
Grand Total	17	42	313	85	31	104	76	5,278	41	331	6,313	107	12,738	
% Approach	5%	11%	84%	39%	14%	47%	1%	98%	1%	5%	94%	2%		
% Total	0%	0%	2%	1%	0%	1%	1%	41%	0%	3%	50%	1%		
Lights	17	36	309	83	27	101	75	3,752	36	322	4,835	104		
% Lights	100%	86%	99%	98%	87%	97%	99%	71%	88%	97%	77%	97%		
Heavy Vehicles	0	6	4	2	4	3	1	1526	5	9	1478	3		
% Heavy Vehicles	0%	14%	1%	2%	13%	3%	1%	29%	12%	3%	23%	3%		

PM PEAK HOUR SUMMARY

Monday, 10/03/2022

3:30 PM - 4:30 PM

PM Peak Hour Summary	Montdale Dr (NB)			Montdale Dr (SB)			US 30 (EB)			US 30 (WB)			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**0**	**8**	**40**	**11**	**9**	**18**	**14**	**721**	**8**	**33**	**819**	**14**	**1695**	**0.94**
% Heavy Vehicles	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**25%**	**0%**	**0%**	**18%**	**0%**		

Turning Movement Counts - AM

INTERSECTION: US 30 & 400 E

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hour Counts

TIME BEGIN	400 E (NB)			400 E (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	0	0	0	0	0	0	0	20	0	0	9	0	29	148
12:15 AM	0	0	0	0	0	0	1	24	0	0	13	0	38	155
12:30 AM	0	0	0	0	0	0	0	23	0	0	16	0	39	155
12:45 AM	0	0	0	0	0	0	0	28	0	0	13	1	42	166
1:00 AM	0	0	0	0	0	0	0	24	0	0	12	0	36	165
1:15 AM	0	0	0	0	0	0	0	22	0	0	16	0	38	171
1:30 AM	0	0	0	0	0	0	0	17	1	0	32	0	50	167
1:45 AM	0	0	0	0	0	0	0	26	0	0	15	0	41	180
2:00 AM	0	0	0	0	0	0	0	23	0	1	18	0	42	191
2:15 AM	0	0	0	0	0	0	0	16	0	0	18	0	34	199
2:30 AM	0	0	0	0	0	0	0	36	0	0	27	0	63	220
2:45 AM	0	1	0	0	1	0	0	24	0	0	26	0	52	210
3:00 AM	0	0	0	0	0	0	0	28	0	0	22	0	50	236
3:15 AM	0	0	0	0	0	0	0	25	0	0	30	0	55	272
3:30 AM	0	0	0	0	0	0	0	25	1	0	27	0	53	320
3:45 AM	1	0	0	0	0	0	0	41	0	0	36	0	78	415
4:00 AM	3	0	0	0	0	0	0	43	0	0	39	1	86	477
4:15 AM	0	0	0	0	0	0	0	51	0	0	52	0	103	561
4:30 AM	1	0	1	0	0	0	0	53	0	1	92	0	148	622
4:45 AM	1	0	1	0	0	1	0	46	1	2	88	0	140	696
5:00 AM	1	0	0	1	0	1	0	66	0	0	100	1	170	812
5:15 AM	2	0	0	0	0	1	0	64	1	0	96	0	164	908
5:30 AM	2	0	0	1	0	0	0	85	2	0	132	0	222	1,017
5:45 AM	2	0	1	0	1	2	0	96	1	1	151	1	256	1,070
6:00 AM	5	0	1	0	0	0	1	90	1	0	166	2	266	1,088
6:15 AM	2	0	3	0	0	4	3	108	1	0	152	0	273	1,091
6:30 AM	4	0	0	0	0	2	1	100	0	1	167	0	275	1,127
6:45 AM	4	1	2	0	0	2	2	103	6	2	150	2	274	1,185

7:00 AM	4	0	1	0	0	1	2	123	0	0	138	0	269	1,234
7:15 AM	2	0	3	0	0	3	3	122	0	0	174	2	309	1,264
7:30 AM	3	0	5	0	0	2	6	129	2	0	185	1	333	1,217
7:45 AM	3	1	0	0	0	6	4	101	3	0	204	1	323	1,207
8:00 AM	1	0	1	0	1	2	3	110	0	0	180	1	299	1,163
8:15 AM	3	1	0	0	0	2	1	98	3	1	153	0	262	1,134
8:30 AM	1	1	0	0	0	2	1	111	0	1	205	1	323	1,158
8:45 AM	0	1	1	1	0	2	0	109	1	0	164	0	279	1,114
9:00 AM	3	0	2	0	0	0	2	105	1	0	156	1	270	1,104
9:15 AM	0	1	0	1	0	2	4	123	2	0	153	0	286	1,106
9:30 AM	5	0	0	0	1	2	2	101	2	1	163	2	279	1,119
9:45 AM	1	0	0	1	1	1	2	98	1	0	162	2	269	1,080
10:00 AM	0	0	0	1	0	1	2	122	1	0	142	3	272	1,084
10:15 AM	3	0	0	0	1	4	2	123	3	0	161	2	299	1,091
10:30 AM	3	0	0	0	0	2	0	83	3	0	146	3	240	1,064
10:45 AM	0	0	0	0	0	4	0	107	0	0	161	1	273	1,149
11:00 AM	0	0	2	0	0	1	1	132	0	1	141	1	279	1,164
11:15 AM	0	0	0	0	0	1	1	125	2	0	141	2	272	--
11:30 AM	0	1	0	0	1	1	0	142	0	2	178	0	325	--
11:45 AM	0	1	1	0	0	0	1	135	2	1	145	2	288	--
Grand Total	60	9	25	6	7	52	45	3,606	41	15	4,967	33	8,866	
% Approach	64%	10%	27%	9%	11%	80%	1%	98%	1%	0%	99%	1%		
% Total	1%	0%	0%	0%	0%	1%	1%	41%	0%	0%	56%	0%		
Lights	49	9	21	5	6	46	41	2,215	38	15	3,561	26		
% Lights	82%	100%	84%	83%	86%	88%	91%	61%	93%	100%	72%	79%		
Heavy Vehicles	11	0	4	1	1	6	4	1391	3	0	1406	7		
% Heavy Vehicles	18%	0%	16%	17%	14%	12%	9%	39%	7%	0%	28%	21%		

AM PEAK HOUR SUMMARY

Monday, 10/03/2022

7:15 AM - 8:15 AM

AM Peak Hour Summary	**400 E (NB)**			**400 E (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**9**	**1**	**9**	**0**	**1**	**13**	**16**	**462**	**5**	**0**	**743**	**5**	**1264**	**0.95**
% Heavy Vehicles	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**33%**	**0%**	**0%**	**22%**	**0%**		

Turning Movement Counts - PM

INTERSECTION: US 30 & 400 E

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hour Counts

TIME BEGIN	400 E (NB)			400 E (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	3	0	1	0	0	1	3	125	1	0	159	2	295	1,170
12:15 PM	1	0	1	1	0	1	2	134	2	1	145	1	289	1,218
12:30 PM	0	0	0	0	0	1	2	128	3	0	152	0	286	1,289
12:45 PM	1	0	0	2	0	6	3	130	3	1	153	1	300	1,322
1:00 PM	2	0	1	0	0	2	0	181	5	1	150	1	343	1,362
1:15 PM	0	0	1	0	1	4	3	193	2	0	155	1	360	1,398
1:30 PM	0	0	0	1	2	0	4	152	1	1	156	2	319	1,377
1:45 PM	0	0	0	0	0	5	3	173	2	2	153	2	340	1,424
2:00 PM	1	0	0	0	1	2	4	187	2	0	180	2	379	1,452
2:15 PM	4	0	1	0	0	4	2	168	3	1	154	2	339	1,456
2:30 PM	0	0	0	2	0	2	3	192	1	1	163	2	366	1,505
2:45 PM	2	1	0	2	1	6	1	197	4	0	153	1	368	1,551
3:00 PM	3	0	0	0	0	3	0	213	6	0	158	0	383	1,546
3:15 PM	1	0	1	0	0	3	3	210	2	2	166	0	388	1,575
3:30 PM	2	0	0	4	0	6	1	200	1	1	194	3	412	1,603
3:45 PM	2	0	0	0	0	2	2	189	2	2	163	1	363	1,601
4:00 PM	5	0	2	0	1	1	4	209	7	2	181	0	412	1,597
4:15 PM	5	1	1	0	0	3	1	223	0	3	178	1	416	1,563
4:30 PM	1	1	1	2	0	2	3	206	3	0	191	0	410	1,481
4:45 PM	3	0	1	1	0	4	1	190	3	3	151	2	359	1,401
5:00 PM	0	0	1	0	0	2	0	199	4	1	170	1	378	1,328
5:15 PM	2	0	0	1	0	1	1	185	5	0	139	0	334	1,295
5:30 PM	1	1	0	0	0	1	2	178	2	2	142	1	330	1,217
5:45 PM	3	0	2	0	0	0	0	133	5	0	143	0	286	1,153
6:00 PM	0	0	0	0	0	1	1	197	6	1	139	0	345	1,086
6:15 PM	0	0	1	0	0	0	0	144	3	0	108	0	256	923
6:30 PM	3	0	2	0	0	3	2	140	0	0	116	0	266	849
6:45 PM	4	0	0	0	0	0	2	116	3	0	94	0	219	782

7:00 PM	0	0	1	0	0	0	2	95	3	1	80	0	182	746
7:15 PM	1	0	0	0	0	0	4	105	1	0	71	0	182	721
7:30 PM	0	0	0	0	0	0	2	125	2	0	70	0	199	699
7:45 PM	0	0	0	0	0	0	0	108	1	0	74	0	183	626
8:00 PM	1	0	0	0	0	0	0	96	1	0	59	0	157	579
8:15 PM	0	0	0	0	0	0	0	100	1	0	59	0	160	538
8:30 PM	0	0	0	0	0	1	1	84	0	0	40	0	126	502
8:45 PM	0	0	1	0	0	0	1	84	0	1	49	0	136	473
9:00 PM	0	0	0	0	0	0	3	75	1	0	37	0	116	417
9:15 PM	1	0	0	0	0	0	0	67	0	0	56	0	124	405
9:30 PM	0	0	0	0	0	0	0	52	0	0	45	0	97	371
9:45 PM	0	0	0	0	0	1	0	39	0	0	40	0	80	343
10:00 PM	0	0	0	0	0	1	1	58	0	0	44	0	104	328
10:15 PM	1	0	0	0	0	0	0	50	0	0	39	0	90	298
10:30 PM	0	0	1	0	0	0	2	40	1	0	25	0	69	266
10:45 PM	0	0	0	0	0	0	0	36	0	0	29	0	65	250
11:00 PM	0	0	0	0	0	0	0	41	0	0	33	0	74	257
11:15 PM	0	0	0	0	0	0	0	38	0	0	20	0	58	--
11:30 PM	0	0	0	0	0	0	0	30	0	0	23	0	53	--
11:45 PM	0	0	0	0	0	1	2	44	0	0	25	0	72	--
Grand Total	53	4	20	16	6	70	71	6,259	92	27	5,224	26	11,868	
% Approach	69%	5%	26%	17%	7%	76%	1%	97%	1%	1%	99%	0%		
% Total	0%	0%	0%	0%	0%	1%	1%	53%	1%	0%	44%	0%		
Lights	52	4	19	14	6	66	69	4,775	80	23	3,687	21		
% Lights	98%	100%	95%	88%	100%	94%	97%	76%	87%	85%	71%	81%		
Heavy Vehicles	1	0	1	2	0	4	2	1484	12	4	1537	5		
% Heavy Vehicles	2%	0%	5%	13%	0%	6%	3%	24%	13%	15%	29%	19%		

PM PEAK HOUR SUMMARY

Monday, 10/03/2022

3:30 PM - 4:30 PM

PM Peak Hour Summary	**400 E (NB)**			**400 E (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**14**	**1**	**3**	**4**	**1**	**12**	**8**	**821**	**10**	**8**	**716**	**5**	**1603**	**0.96**
% Heavy Vehicles	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**18%**	**20%**	**0%**	**25%**	**20%**		

Turning Movement Counts - AM

INTERSECTION: US 30 & County Line Rd

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hour Counts

TIME BEGIN	County Line Rd (NB)			County Line Rd (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	0	0	0	0	0	0	0	27	0	0	9	0	36	155
12:15 AM	0	0	0	0	0	0	0	27	0	0	14	0	41	158
12:30 AM	0	0	0	0	0	0	0	20	0	0	15	0	35	147
12:45 AM	0	0	0	0	0	0	0	28	0	0	15	0	43	153
1:00 AM	0	0	0	0	0	0	0	27	0	0	12	0	39	165
1:15 AM	0	0	0	0	0	0	0	18	0	0	12	0	30	161
1:30 AM	0		0	0	0	0	0	21	0	0	20	0	41	169
1:45 AM	0	0	0	0	0	0	0	36	0	0	19	0	55	186
2:00 AM	0	0	0	0	0	0	0	20	0	0	15	0	35	183
2:15 AM	0	0	0	0	0	0	0	17	0	0	21	0	38	193
2:30 AM	0	0	0	0	0	0	0	33	0	0	25	0	58	208
2:45 AM	0	0	0	0	0	1	0	29	0	0	22	0	52	200
3:00 AM	0	0	0	0	0	0	0	24	0	0	21	0	45	224
3:15 AM	0	0	0	0	0	0	0	24	0	0	29	0	53	274
3:30 AM	1	0	0	0	0	0	0	23	0	0	26	0	50	322
3:45 AM	0	0	0	0	0	0	0	39	0	0	37	0	76	417
4:00 AM	0	0	0	0	0	1	0	45	0	0	49	0	95	473
4:15 AM	0	0	0	0	0	0	0	51	0	0	50	0	101	536
4:30 AM	0	0	1	0	0	0	0	53	0	0	91	0	145	619
4:45 AM	0	0	0	0	0	0	0	50	0	0	82	0	132	703
5:00 AM	1	0	0	0	0	0	0	62	0	0	95	0	158	825
5:15 AM	0	0	0	0	0	0	0	63	0	0	121	0	184	950
5:30 AM	0	0	0	0	0	1	0	79	0	0	149	0	229	1,029
5:45 AM	0	0	1	0	0	0	0	92	0	1	160	0	254	1,087
6:00 AM	2	0	1	0	0	1	1	95	0	0	183	0	283	1,089
6:15 AM	0	0	2	0	0	1	1	99	3	2	155	0	263	1,078
6:30 AM	1	0	2	0	0	2	0	98	2	3	179	0	287	1,111
6:45 AM	0	0	0	0	1	0	2	98	0	0	155	0	256	1,175

7:00 AM	4	0	1	0	0	2	1	118	0	0	145	1	272	1,214
7:15 AM	1	0	1	1	0	1	0	116	1	0	175	0	296	1,214
7:30 AM	4	0	1	0	0	2	0	146	0	0	198	0	351	1,188
7:45 AM	2	0	0	0	1	0	0	104	1	0	186	1	295	1,149
8:00 AM	3	0	0	1	0	2	0	111	0	0	154	1	272	1,113
8:15 AM	0	0	0	0	0	1	0	90	2	0	177	0	270	1,114
8:30 AM	1	1	0	0	0	3	0	109	2	0	195	1	312	1,130
8:45 AM	4	0	0	0	1	2	2	103	0	0	144	3	259	1,090
9:00 AM	1	0	0	0	0	0	0	104	3	1	164	0	273	1,089
9:15 AM	3	1	1	0		0	1	127	1	0	152	0	286	1,078
9:30 AM	0	0	0	0	0	0	0	103	1	0	167	1	272	1,066
9:45 AM	1	0	0	0	0	1	1	96	0	0	159	0	258	1,050
10:00 AM	1	1	1	2	0	0	0	108	1	2	146	0	262	1,051
10:15 AM	0	0	0	0	0	0	0	114	1	0	159	0	274	1,051
10:30 AM	1	0	0	0	0	1	1	100	1	0	150	2	256	1,055
10:45 AM	1	0	3	0	0	0	0	103	1	1	150	0	259	1,097
11:00 AM	2	0	2	0	0	0	0	116	1	0	141	0	262	1,119
11:15 AM	1	0	0	0	0	1	1	126	2	0	147	0	278	--
11:30 AM	1	0	2	0	0	1	0	120	1	1	172	0	298	--
11:45 AM	1	0	0	0	0	1	0	125	1	2	151	0	281	--
Grand Total	37	3	19	4	3	25	11	3,537	25	13	5,013	10	8,700	
% Approach	63%	5%	32%	13%	9%	78%	0%	99%	1%	0%	100%	0%		
% Total	0%	0%	0%	0%	0%	0%	0%	41%	0%	0%	58%	0%		
Lights	37	3	17	3	3	25	11	2,115	25	13	3,608	8		
% Lights	100%	100%	89%	75%	100%	100%	100%	60%	100%	100%	72%	80%		
Heavy Vehicles	0	0	2	1	1	0	0	1422	0	0	1405	2		
% Heavy Vehicles	0%	0%	11%	25%	33%	0%	0%	40%	0%	0%	28%	20%		

AM PEAK HOUR SUMMARY

Monday, 10/03/2022

7:15 AM - 8:15 AM

AM Peak Hour Summary	**County Line Rd (NB)**			**County Line Rd (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**10**	**0**	**2**	**2**	**1**	**5**	**0**	**477**	**2**	**0**	**713**	**2**	**1214**	**0.86**
% Heavy Vehicles	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**33%**	**0%**	**0%**	**22%**	**0%**		

Turning Movement Counts - PM

INTERSECTION: US 30 & County Line Rd

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hour Counts

TIME BEGIN	County Line Rd (NB)			County Line Rd (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	0	1	0	0	0	0	1	82	2	0	154	1	241	954
12:15 PM	1	1	1	1	0	1	0	92	0	0	148	2	247	1,052
12:30 PM	3	0	1	0	0	1	1	71	2	1	142	0	222	1,136
12:45 PM	1	1	3	1	0	0	0	91	0	0	147	0	244	1,222
1:00 PM	1	0	0	0	0	0	2	172	3	1	160	0	339	1,313
1:15 PM	3	0	2	0	0	0	0	170	1	2	153	0	331	1,327
1:30 PM	1	0	2	0	0	1	2	154	1	0	147	0	308	1,330
1:45 PM	1	0	1	0	1	0	2	169	1	0	160	0	335	1,387
2:00 PM	4	2	1	0	0	0	0	175	0	0	171	0	353	1,411
2:15 PM	2	0	2	2	0	1	1	159	1	1	165	0	334	1,426
2:30 PM	0	0	1	0	1	0	1	192	0	1	169	0	365	1,448
2:45 PM	0	1	1	0	0	0	1	205	1	1	149	0	359	1,497
3:00 PM	3	1	5	0	0	1	1	211	1	5	140	0	368	1,481
3:15 PM	0	0	1	0	0	2	0	189	0	1	163	0	356	1,503
3:30 PM	2	2	2	0	0	0	2	213	3	2	188	0	414	1,544
3:45 PM	0	0	0	0	0	0	2	172	1	1	167	0	343	1,528
4:00 PM	1	1	0	0	2	4	1	226	0	2	153	0	390	1,544
4:15 PM	0	1	2	0	0	1	0	219	2	1	171	0	397	1,517
4:30 PM	2	1	2	0	2	0	1	203	2	3	182	0	398	1,439
4:45 PM	0	0	1	0	1	0	1	190	5	1	160	0	359	1,342
5:00 PM	1	0	0	0	0	1	1	195	2	1	162	0	363	1,293
5:15 PM	0	1	1	0	0	2	1	186	4	2	122	0	319	1,252
5:30 PM	1	0	2	0	0	1	1	164	1	1	129	1	301	1,197
5:45 PM	1	0	2	0	1	1	0	157	0	0	148	0	310	1,147
6:00 PM	2	0	0	0	3	1	1	178	1	1	135	0	322	1,046
6:15 PM	1	0	0	0	4	1	0	144	3	0	111	0	264	917
6:30 PM	1	0	3	0	0	0	1	132	0	0	114	0	251	860
6:45 PM	1	0	1	0	1	0	1	111	2	1	91	0	209	806

7:00 PM	0	2	0	0	2	0	0	100	2	2	85	0	193	790
7:15 PM	0	0	0	0	0	0	1	109	1	0	96	0	207	759
7:30 PM	1	0	0	0	0	0	0	108	0	0	88	0	197	707
7:45 PM	0	0	0	0	0	0	0	115	1	0	77	0	193	626
8:00 PM	0	0	0	1	0	0	0	100	1	0	60	0	162	578
8:15 PM	0	0	0	0	0	0	0	104	1	0	49	1	155	525
8:30 PM	1	1	0	0	0	0	0	76	1	1	36	0	116	503
8:45 PM	0	0	2	0	0	0	0	88	1	1	53	0	145	478
9:00 PM	1	0	0	0	0	0	0	68	0	0	40	0	109	407
9:15 PM	0	0	0	0	0	1	0	73	1	0	57	1	133	390
9:30 PM	0	0	0	0	0	0	0	55	0	0	36	0	91	345
9:45 PM	0	0	0	0	0	0	1	36	0	0	37	0	74	325
10:00 PM	0	0	0	0	0	0	0	48	1	0	43	0	92	310
10:15 PM	1	0	0	0	0	0	0	52	0	0	35	0	88	289
10:30 PM	0	0	0	0	0	0	0	43	1	0	27	0	71	267
10:45 PM	0	0	0	0	0	0	1	29	1	0	28	0	59	250
11:00 PM	1	0	0	0	0	0	0	42	0	0	27	1	71	251
11:15 PM	0	0	0	0	0	0	0	39	0	0	27	0	66	--
11:30 PM	0	0	0	0	0	0	0	34	0	0	20	0	54	--
11:45 PM	0	0	0	0	0	0	0	37	0	0	23	0	60	--
Grand Total	38	16	39	5	18	20	28	5,978	51	33	5,145	7	11,378	
% Approach	41%	17%	42%	12%	42%	47%	0%	99%	1%	1%	99%	0%		
% Total	0%	0%	0%	0%	0%	0%	0%	53%	0%	0%	45%	0%		
Lights	38	14	36	5	12	20	28	4,627	50	30	3,589	6		
% Lights	100%	88%	92%	100%	67%	100%	100%	77%	98%	91%	70%	86%		
Heavy Vehicles	0	2	3	0	6	0	0	1351	1	3	1556	1		
% Heavy Vehicles	0%	13%	8%	0%	33%	0%	0%	23%	2%	9%	30%	14%		

PM PEAK HOUR SUMMARY

Monday, 10/03/2022

4:00 PM - 5:00 PM

PM Peak Hour Summary	County Line Rd (NB)			County Line Rd (SB)			US 30 (EB)			US 30 (WB)			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**3**	**3**	**5**	**0**	**5**	**5**	**3**	**838**	**9**	**7**	**666**	**0**	**1544**	**0.97**
% Heavy Vehicles	**0%**	**34%**	**0%**	**0%**	**40%**	**0%**	**0%**	**17%**	**0%**	**15%**	**22%**	**0%**		

Turning Movement Counts - AM

INTERSECTION: US 30 & Main St

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hour Counts

TIME BEGIN	Main St (NB)			Main St (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	0	1	0	0	0	0	0	32	0	0	15	0	48	169
12:15 AM	0	0	0	0	0	0	0	22	1	0	14	0	37	158
12:30 AM	0	0	1	0	0	0	0	21	0	0	16	0	38	147
12:45 AM	0	0	0	0	0	0	0	33	0	0	13	0	46	152
1:00 AM	0	0	0	0	0	0	0	24	0	0	13	0	37	158
1:15 AM	0	0	0	0	0	0	0	13	0	0	13	0	26	157
1:30 AM	0	0	0	0	0	0	0	24	0	0	19	0	43	169
1:45 AM	0	0	0	0	0	0	0	31	0	0	21	0	52	179
2:00 AM	0	0	0	0	0	0	0	21	0	0	15	0	36	182
2:15 AM	0	0	0	0	0	0	0	18	0	0	20	0	38	194
2:30 AM	0	0	0	0	0	0	0	25	0	0	28	0	53	210
2:45 AM	0	0	0	0	0	0	0	30	0	0	25	0	55	220
3:00 AM	0	0	1	0	0	0	0	27	0	0	20	0	48	239
3:15 AM	0	0	0	0	0	0	0	25	0	0	29	0	54	286
3:30 AM	1	0	1	0	0	0	0	28	0	1	32	0	63	340
3:45 AM	1	0	1	0	0	0	0	39	1	0	32	0	74	427
4:00 AM	0	0	0	0	0	0	0	45	0	1	49	0	95	490
4:15 AM	0	0	2	0	0	0	0	52	0	0	54	0	108	550
4:30 AM	0	0	1	0	0	0	0	57	0	1	91	0	150	626
4:45 AM	1	0	0	0	0	0	0	52	0	1	83	0	137	694
5:00 AM	0	0	2	0	0	0	0	61	0	0	92	0	155	789
5:15 AM	2	0	2	0	0	0	0	73	0	0	107	0	184	906
5:30 AM	3	0	0	0	0	0	0	81	0	2	132	0	218	972
5:45 AM	1	0	1	0	0	0	0	77	1	2	150	0	232	1,026
6:00 AM	5	0	3	0	0	0	0	98	0	2	164	0	272	1,050
6:15 AM	2	0	3	0	0	0	0	95	2	3	145	0	250	1,024
6:30 AM	1	0	2	0	0	0	0	89	2	2	176	0	272	1,067
6:45 AM	4	0	4	0	0	0	0	105	3	1	139	0	256	1,146

7:00 AM	4	0	5	0	0	0	0	86	3	2	146	0	246	1,190
7:15 AM	5	0	6	0	0	0	0	123	9	1	149	0	293	1,224
7:30 AM	8	0	11	0	0	0	0	136	2	11	182	1	351	1,197
7:45 AM	4	0	10	0	0	0	0	104	6	2	174	0	300	1,179
8:00 AM	0	0	5	0	0	0	0	113	3	3	156	0	280	1,127
8:15 AM	5	0	3	0	0	0	0	96	1	3	158	0	266	1,106
8:30 AM	0	0	5	0	0	0	0	114	1	8	205	0	333	1,101
8:45 AM	4	0	1	0	0	0	0	94	4	6	139	0	248	1,060
9:00 AM	4	0	2	0	0	0	0	90	2	3	158	0	259	1,059
9:15 AM	4	0	7	0	0	0	0	104	2	5	139	0	261	1,056
9:30 AM	1	1	3	0	0	0	0	114	3	6	164	0	292	1,085
9:45 AM	2	0	3	0	0	0	0	93	4	2	143	0	247	1,052
10:00 AM	2	0	7	0	0	0	0	94	5	5	143	0	256	1,062
10:15 AM	6	0	4	0	0	0	0	109	4	5	162	0	290	1,063
10:30 AM	5	0	3	0	0	0	0	97	5	5	144	0	259	1,071
10:45 AM	4	0	3	0	0	0	0	93	4	9	144	0	257	1,131
11:00 AM	4	0	5	0	0	0	0	105	3	3	137	0	257	1,176
11:15 AM	2	0	6	0	0	0	0	130	10	10	140	0	298	--
11:30 AM	6	0	7	0	0	0	0	122	2	7	175	0	319	--
11:45 AM	5	0	7	0	0	0	0	133	5	8	144	0	302	--
Grand Total	96	2	127	0	0	0	0	3,448	88	120	4,809	1	8,691	
% Approach	43%	1%	56%	0%	0%	0%	0%	98%	2%	2%	98%	0%		
% Total	1%	0%	1%	0%	0%	0%	0%	40%	1%	1%	55%	0%		
Lights	95	1	120	0	0	0	0	2,002	85	114	3,352	1		
% Lights	99%	50%	94%	0%	0%	0%	0%	58%	97%	95%	70%	100%		
Heavy Vehicles	1	1	7	0	0	0	0	1446	3	6	1457	0		
% Heavy Vehicles	1%	50%	6%	0%	0%	0%	0%	42%	3%	5%	30%	0%		

AM PEAK HOUR SUMMARY

Monday, 10/03/2022

7:15 AM - 8:15 AM

AM Peak Hour Summary	**Main St (NB)**			**Main St (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**17**	**0**	**32**	**0**	**0**	**0**	**0**	**476**	**20**	**17**	**661**	**1**	**1224**	**0.87**
% Heavy Vehicles	**0%**	**0%**	**13%**	**0%**	**0%**	**0%**	**0%**	**33%**	**0%**	**0%**	**24%**	**0%**		

Turning Movement Counts - PM

INTERSECTION: US 30 & Main St

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hour Counts

TIME BEGIN	Main St (NB)			Main St (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	6	0	2	0	0	0	0	103	4	3	153	0	271	1,109
12:15 PM	2	0	5	0	0	0	0	123	5	5	140	0	280	1,174
12:30 PM	2	0	5	0	0	0	0	112	1	2	154	0	276	1,224
12:45 PM	2	0	5	0	0	0	0	120	1	2	152	0	282	1,278
1:00 PM	1	0	7	0	0	0	0	153	2	9	164	0	336	1,335
1:15 PM	4	0	7	0	0	0	0	170	5	4	140	0	330	1,354
1:30 PM	1	0	4	0	0	0	0	168	4	4	149	0	330	1,359
1:45 PM	1	0	8	0	0	0	0	150	3	3	174	0	339	1,412
2:00 PM	4	0	6	0	0	1	0	177	7	4	156	0	355	1,444
2:15 PM	6	0	5	0	0	0	0	156	7	9	152	0	335	1,456
2:30 PM	5	0	10	0	0	0	0	184	4	3	177	0	383	1,493
2:45 PM	5	0	9	0	0	0	0	198	3	5	151	0	371	1,501
3:00 PM	7	0	5	0	0	0	0	201	3	3	148	0	367	1,485
3:15 PM	1	0	10	0	0	0	0	203	6	4	148	0	372	1,494
3:30 PM	6	0	7	0	0	0	0	182	7	4	185	0	391	1,522
3:45 PM	1	0	6	0	0	0	0	177	8	4	159	0	355	1,540
4:00 PM	0	0	10	0	0	0	0	206	3	6	151	0	376	1,540
4:15 PM	5	0	11	0	0	0	0	198	9	10	167	0	400	1,513
4:30 PM	6	0	8	0	0	0	0	221	7	2	164	1	409	1,442
4:45 PM	3	0	11	0	0	0	0	191	5	7	138	0	355	1,355
5:00 PM	5	0	8	0	0	0	0	176	5	5	150	0	349	1,327
5:15 PM	4	0	8	0	0	0	0	176	4	4	133	0	329	1,295
5:30 PM	5	0	12	0	0	0	0	157	8	9	131	0	322	1,237
5:45 PM	8	0	8	0	0	1	0	158	5	3	143	1	327	1,159
6:00 PM	5	0	10	0	0	0	0	169	2	5	126	0	317	1,058
6:15 PM	2	0	5	0	0	0	0	145	2	5	112	0	271	925
6:30 PM	3	0	6	0	0	0	0	127	4	2	102	0	244	826
6:45 PM	4	0	4	0	0	0	0	116	5	3	94	0	226	772

7:00 PM	2	0	4	0	0	0	0	92	1	1	84	0	184	740
7:15 PM	0	0	8	0	0	0	0	90	4	1	69	0	172	733
7:30 PM	2	0	4	0	0	0	0	105	3	2	74	0	190	703
7:45 PM	0	0	5	0	0	0	0	120	1	0	68	0	194	642
8:00 PM	1	0	2	0	0	0	0	103	1	3	67	0	177	578
8:15 PM	1	0	2	0	0	0	0	89	2	1	47	0	142	529
8:30 PM	1	0	4	0	0	0	0	84	2	3	35	0	129	516
8:45 PM	0	0	1	0	0	0	0	74	1	1	53	0	130	491
9:00 PM	1	0	4	0	0	0	0	80	0	0	43	0	128	443
9:15 PM	0	0	0	0	0	0	0	70	0	0	59	0	129	407
9:30 PM	0	0	2	0	0	0	0	66	1	0	35	0	104	354
9:45 PM	0	0	1	0	0	0	0	42	1	0	38	0	82	323
10:00 PM	0	0	3	0	0	0	0	47	1	0	41	0	92	302
10:15 PM	1	0	1	0	0	0	0	42	0	0	32	0	76	287
10:30 PM	0	0	1	0	0	0	0	44	0	0	28	0	73	270
10:45 PM	1	0	0	0	0	0	0	32	0	0	28	0	61	258
11:00 PM	0	0	2	0	0	0	0	45	0	0	30	0	77	251
11:15 PM	0	0	1	0	0	0	0	35	0	0	23	0	59	--
11:30 PM	0	0	0	0	0	0	0	34	1	0	26	0	61	--
11:45 PM	0	0	2	0	0	0	0	33	0	0	19	0	54	--
Grand Total	114	0	249	0	0	2	0	5,944	148	141	5,012	2	11,612	
% Approach	31%	0%	69%	0%	0%	100%	0%	98%	2%	3%	97%	0%		
% Total	1%	0%	2%	0%	0%	0%	0%	51%	1%	1%	43%	0%		
Lights	111	0	245	0	0	2	0	4,479	145	136	3,501	2		
% Lights	97%	0%	98%	0%	0%	100%	0%	75%	98%	96%	70%	100%		
Heavy Vehicles	3	0	4	0	0	0	0	1465	3	5	1511	0		
% Heavy Vehicles	3%	0%	2%	0%	0%	0%	0%	25%	2%	4%	30%	0%		

PM PEAK HOUR SUMMARY

Monday, 10/03/2022

4:00 PM - 5:00 PM

PM Peak Hour Summary	Main St (NB)			Main St (SB)			US 30 (EB)			US 30 (WB)			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**14**	**0**	**40**	**0**	**0**	**0**	**0**	**816**	**24**	**25**	**620**	**1**	**1540**	**0.94**
% Heavy Vehicles	**0%**	**0%**	**3%**	**0%**	**0%**	**0%**	**0%**	**18%**	**0%**	**4%**	**23%**	**0%**		

Turning Movement Counts - AM

INTERSECTION: US 30 & Hwy 421

DATA DATE: Tuesday, 07/26/2022

DURATION: 24-Hour Counts

TIME BEGIN	Hwy 421 (NB)			Hwy 421 (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	0	2	2	3	0	1	3	25	3	0	15	0	54	178
12:15 AM	1	0	0	1	1	0	2	19	1	0	14	1	40	178
12:30 AM	2	2	0	0	2	2	2	16	0	0	12	2	40	180
12:45 AM	0	1	0	2	1	0	2	19	2	1	14	2	44	177
1:00 AM	0	1	1	3	1	1	1	22	3	0	19	2	54	175
1:15 AM	5	0	0	0	2	1	2	18	1	0	12	1	42	167
1:30 AM	0	1	0	3	2	4	0	16	3	0	8	0	37	177
1:45 AM	2	0	0	1	3	1	1	12	5	0	17	0	42	180
2:00 AM	4	1	0	2	2	0	0	16	0	0	21	0	46	195
2:15 AM	2	1	1	3	1	0	2	20	2	0	18	2	52	210
2:30 AM	2	2	0	1	0	1	1	18	1	0	12	2	40	221
2:45 AM	2	1	0	1	2	1	2	30	1	0	16	1	57	239
3:00 AM	3	1	1	3	0	4	3	20	2	0	23	1	61	259
3:15 AM	3	2	1	3	1	2	4	18	6	0	18	5	63	314
3:30 AM	5	2	0	2	0	3	1	13	4	2	23	3	58	374
3:45 AM	5	2	2	3	1	1	0	18	7	0	34	4	77	501
4:00 AM	5	1	0	4	1	2	1	49	7	0	41	5	116	576
4:15 AM	9	5	0	4	3	7	0	39	5	0	49	2	123	637
4:30 AM	13	11	5	2	3	1	5	61	6	1	59	18	185	704
4:45 AM	12	3	2	6	3	2	5	29	6	2	67	15	152	821
5:00 AM	12	16	1	3	7	3	9	28	2	0	79	17	177	962
5:15 AM	14	12	3	6	1	2	10	33	1	1	95	12	190	1,065
5:30 AM	32	27	0	12	7	8	11	77	6	0	103	19	302	1,160
5:45 AM	40	14	3	9	12	11	10	70	4	2	105	13	293	1,175
6:00 AM	32	19	3	7	15	9	7	74	9	2	83	20	280	1,174
6:15 AM	31	17	4	7	19	11	12	58	8	2	96	20	285	1,187
6:30 AM	35	19	4	4	13	8	8	75	4	4	127	16	317	1,211
6:45 AM	21	24	7	7	5	8	16	84	9	1	97	13	292	1,270

7:00 AM	26	12	5	9	12	5	14	81	8	3	99	19	293	1,340
7:15 AM	28	23	5	11	12	19	12	75	15	4	89	16	309	1,353
7:30 AM	42	14	4	9	17	11	16	104	9	1	137	12	376	1,322
7:45 AM	36	19	6	15	18	10	12	95	14	2	116	19	362	1,262
8:00 AM	21	11	4	9	14	7	18	96	14	4	95	13	306	1,230
8:15 AM	31	12	3	7	11	9	9	74	15	4	94	9	278	1,237
8:30 AM	19	16	8	11	13	13	5	92	15	5	105	14	316	1,266
8:45 AM	30	17	3	8	21	8	13	98	11	4	99	18	330	1,326
9:00 AM	32	19	3	12	14	11	18	91	5	1	91	16	313	1,345
9:15 AM	38	15	3	5	9	12	17	64	14	3	118	9	307	1,355
9:30 AM	38	21	5	9	19	15	15	95	19	2	124	14	376	1,373
9:45 AM	26	19	3	8	16	17	13	83	8	1	132	23	349	1,322
10:00 AM	30	18	3	10	10	13	16	85	8	1	116	13	323	1,316
10:15 AM	28	15	1	9	14	7	11	78	15	5	125	17	325	1,328
10:30 AM	22	16	6	15	22	12	16	77	18	3	102	16	325	1,359
10:45 AM	15	10	5	15	13	12	8	103	17	7	118	20	343	1,406
11:00 AM	26	18	2	7	16	15	14	89	19	4	110	15	335	1,439
11:15 AM	22	19	0	11	18	13	11	104	22	3	118	15	356	--
11:30 AM	30	18	3	17	18	6	12	96	14	2	132	24	372	--
11:45 AM	30	18	2	20	16	17	13	101	25	1	119	14	376	--
Grand Total	862	517	114	319	411	326	383	2,758	393	78	3,516	512	10,189	
% Approach	58%	35%	8%	30%	39%	31%	11%	78%	11%	2%	86%	12%		
% Total	8%	5%	1%	3%	4%	3%	4%	27%	4%	1%	35%	5%		
Lights	788	422	91	239	291	266	302	1,533	285	50	2,250	438		
% Lights	91%	82%	80%	75%	71%	82%	79%	56%	73%	64%	64%	86%		
Heavy Vehicles	74	95	23	80	120	60	81	1225	108	28	1266	74		
% Heavy Vehicles	9%	18%	20%	25%	29%	18%	21%	44%	27%	36%	36%	14%		

AM PEAK HOUR SUMMARY

Tuesday, 07/26/2022

7:15 AM - 8:15 AM

AM Peak Hour Summary	**Hwy 421 (NB)**			**Hwy 421 (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**127**	**67**	**19**	**44**	**61**	**47**	**58**	**370**	**52**	**11**	**437**	**60**	**1353**	**0.90**
% Heavy Vehicles	**14%**	**17%**	**21%**	**23%**	**31%**	**24%**	**17%**	**39%**	**21%**	**73%**	**30%**	**19%**		

Peak Hour manually updated to reflect the period between 6:00-9:00 AM

Turning Movement Counts - PM

INTERSECTION: US 30 & Hwy 421

DATA DATE: Tuesday, 07/26/2022

DURATION: 24-Hour Counts

TIME BEGIN	Hwy 421 (NB)			Hwy 421 (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	23	17	2	16	15	10	12	110	16	3	104	10	338	1,451
12:15 PM	23	20	4	7	15	16	16	117	20	4	100	18	360	1,467
12:30 PM	22	15	8	12	21	11	19	125	21	0	114	19	387	1,459
12:45 PM	16	12	4	19	18	14	14	110	20	8	119	12	366	1,439
1:00 PM	20	15	1	24	25	13	16	101	11	2	112	14	354	1,428
1:15 PM	24	12	3	14	20	8	18	98	21	3	114	17	352	1,426
1:30 PM	27	14	5	18	21	17	13	114	21	2	104	11	367	1,459
1:45 PM	25	16	8	10	16	19	18	115	16	3	105	4	355	1,500
2:00 PM	21	15	2	20	22	18	18	106	18	0	96	16	352	1,523
2:15 PM	31	14	0	14	25	12	22	116	31	3	107	10	385	1,603
2:30 PM	24	14	3	16	22	14	26	125	26	3	124	11	408	1,616
2:45 PM	24	16	2	16	27	13	18	122	25	5	102	8	378	1,649
3:00 PM	23	13	1	23	25	14	18	124	25	6	138	22	432	1,667
3:15 PM	19	15	5	11	24	10	26	141	38	4	92	13	398	1,691
3:30 PM	17	6	1	21	22	11	24	141	34	2	145	17	441	1,724
3:45 PM	14	19	1	18	23	20	27	122	20	5	116	11	396	1,691
4:00 PM	20	15	3	26	24	16	26	136	29	4	137	20	456	1,706
4:15 PM	19	21	0	21	29	19	18	134	46	2	108	14	431	1,621
4:30 PM	20	9	2	16	36	14	13	135	29	3	110	21	408	1,549
4:45 PM	27	13	3	22	29	13	17	138	33	2	96	18	411	1,523
5:00 PM	9	13	1	15	17	12	18	109	38	5	123	11	371	1,464
5:15 PM	24	8	1	18	21	22	7	115	33	4	88	18	359	1,419
5:30 PM	26	17	1	12	22	19	16	107	29	2	118	13	382	1,361
5:45 PM	12	26	1	15	14	13	16	120	23	6	94	12	352	1,267
6:00 PM	18	21	1	21	22	9	13	105	30	2	74	10	326	1,171
6:15 PM	12	13	2	15	8	8	13	108	21	2	89	10	301	1,072
6:30 PM	14	13	0	7	13	4	8	103	19	3	96	8	288	996
6:45 PM	8	10	2	14	10	12	9	77	20	4	83	7	256	943

7:00 PM	11	4	2	11	9	6	5	97	13	1	67	1	227	905
7:15 PM	6	11	1	8	16	3	12	73	25	2	61	7	225	879
7:30 PM	11	10	0	8	18	8	17	75	16	0	60	12	235	829
7:45 PM	9	7	3	5	10	10	8	78	10	3	64	11	218	731
8:00 PM	6	6	0	11	14	5	11	78	9	0	55	6	201	659
8:15 PM	9	5	1	8	14	9	10	50	17	0	49	3	175	611
8:30 PM	3	5	0	7	8	5	4	59	9	0	37	0	137	569
8:45 PM	6	5	0	6	6	1	6	50	14	1	50	1	146	550
9:00 PM	3	5	2	2	6	2	6	74	11	0	37	5	153	518
9:15 PM	8	4	1	5	2	3	7	48	7	0	45	3	133	482
9:30 PM	1	7	1	3	4	1	7	47	2	0	42	3	118	454
9:45 PM	5	0	0	9	9	1	9	36	5	0	38	2	114	448
10:00 PM	5	6	0	9	3	1	10	34	7	0	37	5	117	435
10:15 PM	2	2	0	4	5	1	2	44	6	1	37	1	105	406
10:30 PM	2	2	2	1	3	4	10	37	4	0	46	1	112	395
10:45 PM	3	3	0	5	4	0	3	40	8	2	30	3	101	358
11:00 PM	1	2	0	1	1	3	4	32	5	1	36	2	88	315
11:15 PM	0	3	1	4	5	2	6	48	1	0	22	2	94	--
11:30 PM	3	0	0	1	2	1	0	31	5	0	29	3	75	--
11:45 PM	0	2	1	3	1	0	0	31	6	0	13	1	58	--
Grand Total	656	501	82	572	726	447	616	4,336	893	103	3,863	447	13,242	
% Approach	53%	40%	7%	33%	42%	26%	11%	74%	15%	2%	88%	10%		
% Total	5%	4%	1%	4%	5%	3%	5%	33%	7%	1%	29%	3%		
Lights	605	409	65	487	644	381	557	3,080	857	78	2,390	391		
% Lights	92%	82%	79%	85%	89%	85%	90%	71%	96%	76%	62%	87%		
Heavy Vehicles	51	92	17	85	82	66	59	1256	36	25	1473	56		
% Heavy Vehicles	8%	18%	21%	15%	11%	15%	10%	29%	4%	24%	38%	13%		

PM PEAK HOUR SUMMARY

Tuesday, 07/26/2022

3:30 PM - 4:30 PM

PM Peak Hour Summary	Hwy 421 (NB)			Hwy 421 (SB)			US 30 (EB)			US 30 (WB)			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**70**	**61**	**5**	**86**	**98**	**66**	**95**	**533**	**129**	**13**	**506**	**62**	**1724**	**0.95**
% Heavy Vehicles	**0%**	**10%**	**0%**	**15%**	**15%**	**17%**	**9%**	**24%**	**1%**	**16%**	**32%**	**10%**		

Turning Movement Counts - AM

INTERSECTION: US 30 & 600 W

DATA DATE: Tuesday, 08/23/2022

DURATION: 24-Hour Counts

TIME BEGIN	600 W (NB)			600 W (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	0	0	0	0	0	0	2	19	1	0	12	0	34	149
12:15 AM	0	0	0	0	0	0	0	14	0	0	17	0	31	149
12:30 AM	0	0	0	0	1	0	0	20	1	0	11	0	33	150
12:45 AM	0	0	0	0	0	0	0	26	0	0	25	0	51	149
1:00 AM	0	0	0	0	0	0	0	21	0	0	13	0	34	132
1:15 AM	0	0	0	0	0	0	0	17	0	0	15	0	32	141
1:30 AM	0	0	0	0	0	0	0	17	0	0	15	0	32	142
1:45 AM	0	0	0	0	0	0	0	17	0	0	17	0	34	147
2:00 AM	0	0	0	0	0	0	0	30	0	0	13	0	43	160
2:15 AM	0	0	0	0	0	0	0	12	1	0	20	0	33	166
2:30 AM	0	0	0	0	0	0	0	21	0	0	16	0	37	197
2:45 AM	0	0	0	0	0	0	1	28	0	0	18	0	47	209
3:00 AM	0	0	0	0	0	0	0	22	0	0	27	0	49	233
3:15 AM	0	0	0	0	0	0	0	36	0	0	28	0	64	263
3:30 AM	0	0	0	0	0	3	0	18	0	0	28	0	49	303
3:45 AM	1	1	0	0	0	0	0	34	0	0	35	0	71	381
4:00 AM	0	1	0	0	0	2	0	40	0	0	36	0	79	436
4:15 AM	1	0	1	0	0	1	0	47	0	0	54	0	104	493
4:30 AM	0	0	1	0	0	2	0	47	1	0	76	0	127	559
4:45 AM	1	0	0	0	0	1	1	48	0	0	75	0	126	609
5:00 AM	4	1	0	0	0	2	1	59	0	0	69	0	136	664
5:15 AM	2	0	0	0	0	1	0	69	0	0	97	1	170	718
5:30 AM	2	1	0	3	0	7	2	55	0	1	106	0	177	770
5:45 AM	5	2	0	1	0	8	1	58	0	0	105	1	181	807
6:00 AM	5	2	0	0	0	5	0	68	0	0	110	0	190	835
6:15 AM	5	3	0	0	0	3	4	85	1	0	120	1	222	832
6:30 AM	5	0	0	1	0	6	3	99	0	0	100	0	214	887
6:45 AM	2	0	1	0	2	8	3	89	1	0	100	3	209	957

7:00 AM	2	3	0	0	0	6	7	64	1	0	102	2	187	1,034
7:15 AM	1	6	0	2	1	7	9	111	1	0	134	5	277	1,061
7:30 AM	3	15	1	5	5	11	23	100	1	0	109	11	284	977
7:45 AM	1	7	0	0	11	21	12	107	0	0	115	12	286	881
8:00 AM	1	2	0	0	2	5	2	95	1	0	103	3	214	802
8:15 AM	3	1	0	0	1	3	0	81	1	0	103	0	193	799
8:30 AM	6	0	0	0	1	5	2	69	2	0	101	2	188	837
8:45 AM	3	2	0	0	0	4	3	81	1	0	113	0	207	867
9:00 AM	0	0	0	1	0	5	3	93	1	0	108	0	211	890
9:15 AM	3	1	0	2	2	3	4	103	0	0	112	1	231	898
9:30 AM	2	2	0	1	4	2	2	82	5	0	116	2	218	891
9:45 AM	6	2	0	1	1	2	4	95	3	0	114	2	230	902
10:00 AM	4	0	0	0	2	6	6	92	0	0	107	2	219	948
10:15 AM	2	3	0	0	0	1	4	93	3	0	118	0	224	967
10:30 AM	2	4	0	0	0	6	4	86	0	1	126	0	229	977
10:45 AM	4	3	1	1	3	6	11	121	2	0	122	2	276	991
11:00 AM	3	1	1	0	3	5	1	111	1	0	112	0	238	944
11:15 AM	3	0	2	1	1	5	5	112	0	1	104	0	234	--
11:30 AM	2	0	0	1	3	3	4	120	1	0	109	0	243	--
11:45 AM	2	0	0	1	1	8	2	122	1	0	92	0	229	--
Grand Total	86	63	8	21	44	163	126	3,054	31	3	3,578	50	7,227	
% Approach	55%	40%	5%	9%	19%	71%	4%	95%	1%	0%	99%	1%		
% Total	1%	1%	0%	0%	1%	2%	2%	42%	0%	0%	50%	1%		
Lights	83	63	8	17	40	160	119	1,655	27	3	2,284	47		
% Lights	97%	100%	100%	81%	91%	98%	94%	54%	87%	100%	64%	94%		
Heavy Vehicles	3	0	0	4	4	3	7	1399	4	0	1294	3		
% Heavy Vehicles	3%	0%	0%	19%	9%	2%	6%	46%	13%	0%	36%	6%		

AM PEAK HOUR SUMMARY

Tuesday, 08/23/2022

7:15 AM - 8:15 AM

AM Peak Hour Summary	**600 W (NB)**			**600 W (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**6**	**30**	**1**	**7**	**19**	**44**	**46**	**413**	**3**	**0**	**461**	**31**	**1061**	**0.93**
% Heavy Vehicles	**0%**	**0%**	**0%**	**15%**	**11%**	**0%**	**7%**	**44%**	**0%**	**0%**	**29%**	**3%**		

Turning Movement Counts - PM

INTERSECTION: US 30 & 600 W

DATA DATE: Tuesday, 08/23/2022

DURATION: 24-Hour Counts

TIME BEGIN	600 W (NB)			600 W (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	1	2	0	2	1	5	5	133	3	0	110	1	263	1,022
12:15 PM	0	4	0	2	2	1	4	112	2	2	120	1	250	1,031
12:30 PM	0	4	0	0	2	3	4	142	0	0	105	1	261	1,040
12:45 PM	1	1	2	1	4	0	5	115	2	0	114	3	248	1,016
1:00 PM	2	1	0	1	1	3	6	137	2	0	118	1	272	1,019
1:15 PM	0	1	0	2	4	4	4	110	1	0	131	2	259	1,011
1:30 PM	2	1	0	3	5	1	3	121	1	0	100	0	237	1,042
1:45 PM	4	2	0	4	5	1	4	129	2	1	98	1	251	1,088
2:00 PM	2	1	0	0	2	6	2	124	4	0	121	2	264	1,134
2:15 PM	0	5	1	1	0	3	7	152	3	0	115	3	290	1,210
2:30 PM	3	3	0	2	2	10	10	128	5	0	114	6	283	1,196
2:45 PM	2	1	0	3	3	10	11	133	2	0	127	5	297	1,218
3:00 PM	3	3	0	8	10	24	10	137	8	1	136	0	340	1,218
3:15 PM	2	2	0	3	2	8	12	133	4	0	108	2	276	1,174
3:30 PM	0	0	0	2	3	17	14	142	5	0	122	0	305	1,203
3:45 PM	5	3	0	3	3	5	12	133	8	1	123	1	297	1,188
4:00 PM	3	6	0	2	3	16	17	124	2	0	119	4	296	1,183
4:15 PM	3	4	1	4	3	8	14	141	3	0	123	1	305	1,143
4:30 PM	4	5	0	1	4	5	9	121	7	0	131	3	290	1,098
4:45 PM	1	7	0	0	3	11	10	130	3	0	125	2	292	1,062
5:00 PM	3	6	0	0	5	11	9	118	2	0	101	1	256	1,011
5:15 PM	1	2	0	1	6	4	9	124	7	1	105	0	260	968
5:30 PM	2	1	0	0	3	5	8	111	3	0	120	1	254	890
5:45 PM	4	2	0	2	2	11	4	121	1	0	93	1	241	825
6:00 PM	1	0	0	1	3	8	7	94	4	1	91	3	213	769
6:15 PM	2	2	0	1	2	3	6	79	7	0	78	2	182	707
6:30 PM	0	0	0	3	4	6	3	82	5	0	84	2	189	717
6:45 PM	1	1	1	0	2	1	1	86	5	0	87	0	185	661

7:00 PM	0	3	0	0	4	4	4	74	0	0	60	2	151	628
7:15 PM	0	2	0	0	7	20	8	78	1	1	75	0	192	604
7:30 PM	0	0	0	2	5	3	3	71	2	0	47	0	133	549
7:45 PM	0	2	0	0	1	2	2	81	2	0	62	0	152	531
8:00 PM	2	2	0	0	1	3	1	63	3	0	50	2	127	472
8:15 PM	1	0	0	0	0	1	7	52	4	0	72	0	137	434
8:30 PM	0	1	0	4	2	5	1	55	0	0	46	1	115	399
8:45 PM	1	0	0	0	2	0	3	50	1	0	36	0	93	374
9:00 PM	2	0	0	0	0	1	1	45	2	0	38	0	89	355
9:15 PM	0	5	0	0	1	0	9	46	2	0	37	2	102	318
9:30 PM	0	1	0	1	0	0	4	44	2	0	38	0	90	310
9:45 PM	0	0	0	2	4	3	6	29	1	0	28	1	74	287
10:00 PM	0	0	0	0	0	0	0	33	0	0	19	0	52	274
10:15 PM	1	1	0	0	3	0	2	51	0	0	36	0	94	285
10:30 PM	0	0	0	0	0	0	1	29	1	0	36	0	67	246
10:45 PM	0	0	0	0	1	0	1	36	0	0	23	0	61	224
11:00 PM	0	0	0	0	0	0	1	33	0	0	29	0	63	200
11:15 PM	0	0	0	0	0	0	1	32	0	0	22	0	55	--
11:30 PM	0	0	0	0	0	0	1	29	0	0	15	0	45	--
11:45 PM	0	0	0	0	0	0	0	22	0	0	15	0	37	--
Grand Total	59	87	5	61	120	232	266	4,365	122	8	3,903	57	9,285	
% Approach	39%	58%	3%	15%	29%	56%	6%	92%	3%	0%	98%	1%		
% Total	1%	1%	0%	1%	1%	2%	3%	47%	1%	0%	42%	1%		
Lights	56	82	5	54	116	223	259	2,994	119	8	2,317	48		
% Lights	95%	94%	100%	89%	97%	96%	97%	69%	98%	100%	59%	84%		
Heavy Vehicles	3	5	0	7	4	9	7	1371	3	0	1586	9		
% Heavy Vehicles	5%	6%	0%	11%	3%	4%	3%	31%	2%	0%	41%	16%		

PM PEAK HOUR SUMMARY

Tuesday, 08/23/2022

3:00 PM - 4:00 PM

PM Peak Hour Summary	**600 W (NB)**			**600 W (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**10**	**8**	**0**	**16**	**18**	**54**	**48**	**545**	**25**	**2**	**489**	**3**	**1218**	**0.90**
% Heavy Vehicles	**10%**	**13%**	**0%**	**19%**	**6%**	**8%**	**2%**	**25%**	**4%**	**0%**	**39%**	**0%**		

Turning Movement Counts - AM

INTERSECTION: US 30 & N Thompson Rd

DATA DATE: Wednesday, 10/05/2022

DURATION: 24-Hour Counts

TIME BEGIN	N Thompson Rd (NB)			N Thompson Rd (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	1	0	0	0	0	0	0	31	0	0	13	0	45	155
12:15 AM	0	0	1	0	0	0	0	20	0	0	24	0	45	141
12:30 AM	0	0	0	0	0	0	1	20	0	0	13	0	34	147
12:45 AM	0	0	0	0	0	0	0	17	0	0	14	0	31	154
1:00 AM	0	0	0	0	0	0	0	19	0	0	12	0	31	156
1:15 AM	0	0	0	0	0	0	0	29	0	0	22	0	51	162
1:30 AM	0	0	0	0	0	0	0	25	0	0	16	0	41	150
1:45 AM	0	0	0	0	0	0	0	18	0	0	15	0	33	153
2:00 AM	0	0	0	0	0	0	0	20	0	0	17	0	37	180
2:15 AM	1	0	0	0	0	0	0	21	0	0	17	0	39	204
2:30 AM	0	0	0	0	0	0	0	31	0	0	13	0	44	218
2:45 AM	0	0	0	0	0	0	0	33	0	0	27	0	60	227
3:00 AM	0	0	0	0	0	0	0	36	0	0	25	0	61	242
3:15 AM	0	0	1	0	0	0	0	22	0	0	30	0	53	245
3:30 AM	0	0	0	0	0	0	0	26	1	0	26	0	53	279
3:45 AM	0	0	1	0	0	0	0	26	0	0	48	0	75	374
4:00 AM	1	0	1	0	0	0	1	16	0	0	45	0	64	431
4:15 AM	0	0	0	0	0	0	0	44	0	0	43	0	87	533
4:30 AM	3	0	2	0	0	0	0	75	0	0	68	0	148	621
4:45 AM	2	0	0	0	1	0	0	72	1	0	56	0	132	659
5:00 AM	3	0	2	0	0	0	0	72	1	0	88	0	166	726
5:15 AM	4	0	0	0	1	2	0	69	3	1	95	0	175	750
5:30 AM	6	0	0	2	1	1	0	72	3	0	101	0	186	786
5:45 AM	6	1	2	1	1	1	1	70	1	1	114	0	199	790
6:00 AM	2	1	0	1	0	0	0	64	0	0	122	0	190	803
6:15 AM	0	4	2	1	1	0	1	93	1	0	107	1	211	818
6:30 AM	4	3	0	0	0	2	1	78	0	0	102	0	190	861
6:45 AM	4	1	3	0	0	0	1	87	0	1	115	0	212	947

7:00 AM	5	1	1	0	1	0	0	91	3	0	103	0	205	954
7:15 AM	5	1	2	0	2	2	0	115	2	0	125	0	254	966
7:30 AM	9	0	0	0	0	2	1	114	1	1	147	1	276	935
7:45 AM	5	2	0	0	0	1	0	92	4	0	114	1	219	903
8:00 AM	2	0	1	1	1	0	0	91	2	1	118	0	217	895
8:15 AM	4	1	1	0	0	1	1	85	1	0	129	0	223	898
8:30 AM	6	1	1	1	2	2	1	94	0	0	136	0	244	895
8:45 AM	1	1	2	0	1	1	1	105	2	1	96	0	211	873
9:00 AM	3	1	0	0	0	0	0	107	0	0	109	0	220	888
9:15 AM	0	0	1	0	2	3	2	91	3	0	118	0	220	884
9:30 AM	2	1	1	0	0	1	2	99	2	1	113	0	222	856
9:45 AM	1	1	0	0	2	1	1	119	4	1	96	0	226	859
10:00 AM	1	0	0	1	0	0	1	96	1	1	115	0	216	832
10:15 AM	1	0	1	0	3	0	0	92	2	1	91	1	192	857
10:30 AM	3	1	0	1	2	1	0	99	3	1	114	0	225	881
10:45 AM	1	0	1	1	0	1	1	103	1	0	90	0	199	879
11:00 AM	1	0	0	0	3	0	1	125	0	0	111	0	241	912
11:15 AM	2	0	0	0	3	0	0	106	2	0	103	0	216	--
11:30 AM	2	0	2	1	1	2	0	100	3	0	112	0	223	--
11:45 AM	3	0	0	0	2	0	1	115	2	0	109	0	232	--
Grand Total	94	21	29	11	30	24	19	3,245	49	11	3,637	4	7,174	
% Approach	65%	15%	20%	17%	46%	37%	1%	98%	1%	0%	100%	0%		
% Total	1%	0%	0%	0%	0%	0%	0%	45%	1%	0%	51%	0%		
Lights	91	16	26	10	22	21	19	1,745	47	10	2,161	3		
% Lights	97%	76%	90%	91%	73%	88%	100%	54%	96%	91%	59%	75%		
Heavy Vehicles	3	5	3	1	8	3	0	1500	2	1	1476	1		
% Heavy Vehicles	3%	24%	10%	9%	27%	13%	0%	46%	4%	9%	41%	25%		

AM PEAK HOUR SUMMARY

Wednesday, 10/05/2022

7:15 AM - 8:15 AM

AM Peak Hour Summary	**N Thompson Rd (NB)**			**N Thompson Rd (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**21**	**3**	**3**	**1**	**3**	**5**	**1**	**412**	**9**	**2**	**504**	**2**	**966**	**0.88**
% Heavy Vehicles	**10%**	**34%**	**0%**	**0%**	**34%**	**20%**	**0%**	**37%**	**11%**	**0%**	**31%**	**0%**		

Turning Movement Counts - PM

INTERSECTION: US 30 & N Thompson Rd

DATA DATE: Wednesday, 10/05/2022

DURATION: 24-Hour Counts

TIME BEGIN	N Thompson Rd (NB)			N Thompson Rd (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	1	1	0	0	0	0	0	96	2	0	136	0	236	938
12:15 PM	1	1	0	0	3	1	2	113	2	0	125	0	248	912
12:30 PM	3	3	1	0	1	1	0	108	4	1	113	0	235	897
12:45 PM	1	1	1	0	2	1	3	94	2	2	112	0	219	955
1:00 PM	2	2	1	0	1	0	0	79	1	2	122	0	210	978
1:15 PM	3	1	0	0	0	3	0	116	2	1	106	1	233	1,026
1:30 PM	1	0	1	0	1	2	0	123	2	3	160	0	293	1,061
1:45 PM	6	0	0	0	0	1	3	128	2	0	102	0	242	1,042
2:00 PM	5	1	3	0	2	1	2	108	4	3	128	1	258	1,076
2:15 PM	6	1	3	0	3	1	2	122	0	3	127	0	268	1,103
2:30 PM	1	0	0	0	0	1	2	136	7	5	122	0	274	1,122
2:45 PM	5	2	1	2	2	0	1	142	7	1	113	0	276	1,126
3:00 PM	4	1	1	0	2	0	1	126	9	5	134	2	285	1,113
3:15 PM	0	4	3	0	3	0	2	119	6	2	148	0	287	1,105
3:30 PM	2	1	0	0	3	2	0	123	3	0	143	1	278	1,110
3:45 PM	3	3	0	0	0	2	2	114	4	1	133	1	263	1,073
4:00 PM	2	4	0	0	4	2	3	138	2	0	122	0	277	1,092
4:15 PM	5	3	3	0	0	3	1	129	4	2	142	0	292	1,074
4:30 PM	3	2	1	0	2	0	0	114	4	2	113	0	241	1,055
4:45 PM	2	1	1	0	1	0	0	123	6	2	146	0	282	1,082
5:00 PM	0	1	4	0	4	0	2	125	5	4	114	0	259	1,030
5:15 PM	4	0	0	2	3	1	3	131	4	2	121	2	273	993
5:30 PM	5	5	0	1	1	4	2	120	9	5	115	1	268	914
5:45 PM	5	4	1	0	0	1	1	105	5	3	105	0	230	822
6:00 PM	5	0	1	0	1	1	1	118	5	0	89	1	222	778
6:15 PM	5	2	0	0	1	0	0	108	7	0	71	0	194	714
6:30 PM	3	0	0	0	3	1	2	89	3	1	74	0	176	679
6:45 PM	1	2	0	0	2	0	0	108	4	2	67	0	186	639

7:00 PM	0	1	0	1	2	0	1	102	3	0	48	0	158	597
7:15 PM	0	2	0	0	1	0	0	83	3	0	70	0	159	582
7:30 PM	3	3	0	0	1	1	2	76	0	1	48	1	136	552
7:45 PM	0	0	0	0	1	0	0	83	6	1	53	0	144	541
8:00 PM	0	0	1	0	0	0	1	83	2	3	53	0	143	508
8:15 PM	2	1	1	0	1	0	1	76	4	1	41	1	129	481
8:30 PM	1	0	0	1	0	0	2	73	2	0	46	0	125	448
8:45 PM	0	1	0	0	0	0	1	69	4	0	35	1	111	437
9:00 PM	0	0	0	0	0	1	1	72	0	1	41	0	116	413
9:15 PM	2	0	0	0	0	0	0	62	0	1	31	0	96	370
9:30 PM	1	0	0	0	0	0	1	63	4	0	45	0	114	342
9:45 PM	0	0	0	0	0	0	0	54	0	1	32	0	87	304
10:00 PM	0	0	0	0	1	0	0	42	0	0	30	0	73	269
10:15 PM	0	0	0	0	1	0	0	32	2	1	32	0	68	248
10:30 PM	0	0	0	0	0	0	0	45	1	1	29	0	76	236
10:45 PM	0	0	0	0	0	0	0	27	1	1	23	0	52	219
11:00 PM	0	0	0	0	0	0	1	40	0	0	11	0	52	218
11:15 PM	0	0	0	0	0	0	0	35	2	0	19	0	56	--
11:30 PM	0	0	0	0	0	0	0	34	2	0	23	0	59	--
11:45 PM	0	0	0	0	0	0	0	27	0	0	24	0	51	--
Grand Total	93	54	28	7	53	31	46	4,433	151	64	4,037	13	9,010	
% Approach	53%	31%	16%	8%	58%	34%	1%	96%	3%	2%	98%	0%		
% Total	1%	1%	0%	0%	1%	0%	1%	49%	2%	1%	45%	0%		
Lights	90	50	27	7	49	26	41	3,022	149	56	2,429	11		
% Lights	97%	93%	96%	100%	92%	84%	89%	68%	99%	88%	60%	85%		
Heavy Vehicles	3	4	1	0	4	5	5	1411	2	8	1608	2		
% Heavy Vehicles	3%	7%	4%	0%	8%	16%	11%	32%	1%	13%	40%	15%		

PM PEAK HOUR SUMMARY

Wednesday, 10/05/2022

3:00 PM - 4:00 PM

PM Peak Hour Summary	N Thompson Rd (NB)			N Thompson Rd (SB)			US 30 (EB)			US 30 (WB)			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**9**	**9**	**4**	**0**	**8**	**4**	**5**	**482**	**22**	**8**	**558**	**4**	**1113**	**0.97**
% Heavy Vehicles	**0%**	**0%**	**0%**	**0%**	**38%**	**0%**	**20%**	**20%**	**0%**	**38%**	**35%**	**25%**		

Peak Hour manually updated to reflect the period between 3:00-6:00 PM

Turning Movement Counts - AM

INTERSECTION: US 30 & Old US 30

DATA DATE: Wednesday, 10/05/2022

DURATION: 24-Hour Counts

TIME BEGIN	Old US 30 (NB)			-			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	0	0	0	0	0	0	0	30	0	0	13	0	43	154
12:15 AM	0	0	0	0	0	0	0	25	0	0	24	0	49	143
12:30 AM	0	0	1	0	0	0	0	20	0	0	13	0	34	148
12:45 AM	0	0	0	0	0	0	0	14	0	0	14	0	28	152
1:00 AM	0	0	0	0	0	0	0	19	0	0	13	0	32	153
1:15 AM	0	0	0	0	0	0	0	33	0	0	21	0	54	160
1:30 AM	0	0	0	0	0	0	0	23	0	0	15	0	38	143
1:45 AM	0	0	0	0	0	0	0	14	0	0	15	0	29	149
2:00 AM	1	0	0	0	0	0	0	22	0	0	16	0	39	179
2:15 AM	0	0	0	0	0	0	0	20	0	0	17	0	37	201
2:30 AM	0	0	0	0	0	0	0	31	0	0	13	0	44	219
2:45 AM	0	0	0	0	0	0	0	31	0	0	28	0	59	225
3:00 AM	0	0	0	0	0	0	0	36	0	1	24	0	61	242
3:15 AM	0	0	0	0	0	0	0	26	0	0	29	0	55	242
3:30 AM	0	0	0	0	0	0	0	24	0	0	26	0	50	272
3:45 AM	0	0	2	0	0	0	0	27	0	0	47	0	76	370
4:00 AM	0	0	0	0	0	0	0	16	0	0	45	0	61	426
4:15 AM	0	0	0	0	0	0	0	42	0	0	43	0	85	508
4:30 AM	0	0	3	0	0	0	0	79	0	0	66	0	148	593
4:45 AM	0	0	0	0	0	0	0	75	0	0	57	0	132	611
5:00 AM	0	0	0	0	0	0	0	62	1	0	80	0	143	665
5:15 AM	0	0	2	0	0	0	0	80	0	0	88	0	170	702
5:30 AM	0	0	1	0	0	0	0	71	0	0	94	0	166	729
5:45 AM	0	0	1	0	0	0	0	80	0	1	104	0	186	752
6:00 AM	0	0	2	0	0	0	0	63	0	0	115	0	180	768
6:15 AM	0	0	1	0	0	0	0	91	0	0	105	0	197	783
6:30 AM	0	0	0	0	0	0	0	86	0	0	103	0	189	838
6:45 AM	0	0	0	0	0	0	0	87	0	0	115	0	202	915

7:00 AM	0	0	4	0	0	0	0	89	0	1	101	0	195	918
7:15 AM	0	0	1	0	0	0	0	123	0	2	126	0	252	922
7:30 AM	0	0	2	0	0	0	0	113	0	1	150	0	266	891
7:45 AM	0	0	2	0	0	0	0	91	0	0	112	0	205	859
8:00 AM	0	0	1	0	0	0	0	78	0	2	118	0	199	866
8:15 AM	0	0	1	0	0	0	0	86	0	2	132	0	221	878
8:30 AM	0	0	4	0	0	0	0	95	0	0	135	0	234	878
8:45 AM	0	0	0	0	0	0	0	114	0	0	98	0	212	854
9:00 AM	0	0	1	0	0	0	0	99	0	1	110	0	211	866
9:15 AM	0	0	3	0	0	0	0	100	0	0	118	0	221	871
9:30 AM	0	0	0	0	0	0	0	94	0	0	116	0	210	833
9:45 AM	0	0	0	0	0	0	0	127	0	0	97	0	224	845
10:00 AM	0	0	2	0	0	0	0	97	0	0	117	0	216	814
10:15 AM	0	0	1	0	0	0	0	87	0	2	93	0	183	839
10:30 AM	0	0	0	0	0	0	0	104	0	0	118	0	222	863
10:45 AM	0	0	0	0	0	0	0	99	0	1	93	0	193	858
11:00 AM	0	0	1	0	0	0	0	129	0	0	111	0	241	900
11:15 AM	0	0	1	0	0	0	0	103	0	0	103	0	207	--
11:30 AM	0	0	0	0	0	0	0	105	0	1	111	0	217	--
11:45 AM	0	0	0	0	0	0	0	122	0	1	112	0	235	--
Grand Total	1	0	37	0	0	0	0	3,282	1	16	3,614	0	6,951	
% Approach	3%	0%	97%	0%	0%	0%	0%	100%	0%	0%	100%	0%		
% Total	0%	0%	1%	0%	0%	0%	0%	47%	0%	0%	52%	0%		
Lights	1	0	35	0	0	0	0	1,760	1	14	2,194	0		
% Lights	100%	0%	95%	0%	0%	0%	0%	54%	100%	88%	61%	0%		
Heavy Vehicles	0	0	2	0	0	0	0	1522	0	2	1420	0		
% Heavy Vehicles	0%	0%	5%	0%	0%	0%	0%	46%	0%	13%	39%	0%		

AM PEAK HOUR SUMMARY

Wednesday, 10/05/2022

7:15 AM - 8:15 AM

AM Peak Hour Summary	**Old US 30 (NB)**			**-**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**405**	**0**	**5**	**506**	**0**	**922**	**0.87**
% Heavy Vehicles	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**37%**	**0%**	**0%**	**29%**	**0%**		

Turning Movement Counts - PM

INTERSECTION: US 30 & Old US 30

DATA DATE: Wednesday, 10/05/2022

DURATION: 24-Hour Counts

TIME BEGIN	Old US 30 (NB)			-			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	0	0	1	0	0	0	0	85	0	1	132	0	219	897
12:15 PM	0	0	1	0	0	0	0	115	0	1	125	0	242	884
12:30 PM	0	0	1	0	0	0	0	113	0	2	109	0	225	860
12:45 PM	0	0	0	0	0	0	0	102	0	0	109	0	211	938
1:00 PM	0	0	2	0	0	0	0	81	0	0	123	0	206	957
1:15 PM	0	0	0	0	0	0	0	106	0	3	109	0	218	1,009
1:30 PM	0	0	2	0	0	0	0	131	0	5	165	0	303	1,053
1:45 PM	0	0	1	0	0	0	0	122	0	1	106	0	230	1,012
2:00 PM	0	0	0	0	0	0	0	125	0	0	133	0	258	1,034
2:15 PM	1	0	0	0	0	0	0	131	0	2	128	0	262	1,055
2:30 PM	0	0	1	0	0	0	0	129	0	2	130	0	262	1,069
2:45 PM	0	0	2	0	0	0	0	134	0	1	115	0	252	1,070
3:00 PM	0	0	1	0	0	0	0	135	0	2	141	0	279	1,067
3:15 PM	0	0	2	0	0	0	0	122	0	1	151	0	276	1,050
3:30 PM	0	0	1	0	0	0	0	126	0	2	134	0	263	1,040
3:45 PM	0	0	0	0	0	0	0	115	0	1	133	0	249	1,033
4:00 PM	0	0	0	0	0	0	0	135	0	3	124	0	262	1,030
4:15 PM	0	0	1	0	0	0	0	124	0	2	139	0	266	1,023
4:30 PM	0	0	3	0	0	0	0	134	0	0	119	0	256	1,016
4:45 PM	0	0	1	0	0	0	0	116	0	0	129	0	246	995
5:00 PM	0	0	2	0	0	0	0	133	0	2	118	0	255	976
5:15 PM	0	0	2	0	0	0	0	131	0	2	124	0	259	927
5:30 PM	0	0	3	0	0	0	0	111	0	1	120	0	235	848
5:45 PM	0	0	0	0	0	0	0	118	0	0	109	0	227	786
6:00 PM	0	0	1	0	0	0	0	110	0	3	92	0	206	735
6:15 PM	0	0	0	0	0	0	0	110	0	0	70	0	180	677
6:30 PM	0	0	1	0	0	0	0	99	0	1	72	0	173	654
6:45 PM	0	0	0	0	0	0	0	107	0	0	69	0	176	601

7:00 PM	0	0	0	0	0	0	0	102	0	0	46	0	148	565
7:15 PM	0	0	0	0	0	0	0	87	0	0	70	0	157	563
7:30 PM	0	0	0	0	0	0	0	72	0	0	48	0	120	528
7:45 PM	0	0	2	0	0	0	0	86	0	0	52	0	140	528
8:00 PM	0	0	2	0	0	0	0	86	0	1	57	0	146	504
8:15 PM	0	0	0	0	0	0	0	79	0	1	42	0	122	472
8:30 PM	0	0	0	0	0	0	0	73	0	0	47	0	120	440
8:45 PM	0	0	1	0	0	0	0	77	0	0	38	0	116	440
9:00 PM	0	0	2	0	0	0	0	70	0	1	41	0	114	420
9:15 PM	0	0	0	0	0	0	0	58	0	1	31	0	90	378
9:30 PM	0	0	0	0	0	0	0	74	0	2	44	0	120	349
9:45 PM	0	0	0	0	0	0	0	59	0	1	36	0	96	305
10:00 PM	0	0	0	0	0	0	0	43	0	0	29	0	72	265
10:15 PM	0	0	0	0	0	0	0	28	0	0	33	0	61	241
10:30 PM	0	0	0	0	0	0	0	48	0	0	28	0	76	235
10:45 PM	0	0	0	0	0	0	0	31	0	0	25	0	56	217
11:00 PM	0	0	0	0	0	0	0	37	0	0	11	0	48	213
11:15 PM	0	0	0	0	0	0	0	35	0	0	20	0	55	--
11:30 PM	0	0	0	0	0	0	0	35	0	0	23	0	58	--
11:45 PM	0	0	0	0	0	0	0	28	0	0	24	0	52	--
Grand Total	1	0	36	0	0	0	0	4,508	0	45	4,073	0	8,663	
% Approach	3%	0%	97%	0%	0%	0%	0%	100%	0%	1%	99%	0%		
% Total	0%	0%	0%	0%	0%	0%	0%	52%	0%	1%	47%	0%		
Lights	1	0	32	0	0	0	0	3,073	0	43	2,534	0		
% Lights	100%	0%	89%	0%	0%	0%	0%	68%	0%	96%	62%	0%		
Heavy Vehicles	0	0	4	0	0	0	0	1435	0	2	1539	0		
% Heavy Vehicles	0%	0%	11%	0%	0%	0%	0%	32%	0%	4%	38%	0%		

PM PEAK HOUR SUMMARY

Wednesday, 10/05/2022

3:00 PM - 4:00 PM

PM Peak Hour Summary	Old US 30 (NB)			-			US 30 (EB)			US 30 (WB)			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**498**	**0**	**6**	**559**	**0**	**1067**	**0.96**
% Heavy Vehicles	**0%**	**0%**	**50%**	**0%**	**0%**	**0%**	**0%**	**20%**	**0%**	**0%**	**34%**	**0%**		

Peak Hour manually updated to reflect the period between 3:00-6:00 PM

Turning Movement Counts - AM

INTERSECTION: US 30 & 300 W

DATA DATE: Wednesday, 10/05/2022

DURATION: 24-Hr Counts

TIME BEGIN	300 W (NB)			300 W (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	0	0	0	0	0	0	0	29	0	0	13	0	42	151
12:15 AM	0	0	0	0	0	0	0	25	0	0	21	0	46	141
12:30 AM	0	0	0	0	0	0	0	20	0	0	14	0	34	145
12:45 AM	0	0	0	0	0	0	0	14	0	0	15	0	29	151
1:00 AM	0	0	0	0	0	0	0	21	0	0	11	0	32	152
1:15 AM	0	0	0	0	0	0	0	29	0	0	21	0	50	159
1:30 AM	0	0	0	0	0	0	0	23	0	0	17	0	40	144
1:45 AM	0	0	0	0	0	0	0	16	0	0	14	0	30	152
2:00 AM	0	0	0	0	0	0	0	21	0	0	18	0	39	178
2:15 AM	0	0	0	0	0	0	0	19	0	0	16	0	35	203
2:30 AM	1	0	0	0	0	1	0	31	0	0	14	1	48	227
2:45 AM	0	0	1	0	0	0	0	31	0	0	24	0	56	223
3:00 AM	0	0	0	0	0	0	0	36	0	0	28	0	64	245
3:15 AM	1	0	0	0	0	0	0	26	0	0	32	0	59	241
3:30 AM	0	0	0	0	0	0	0	24	0	0	20	0	44	275
3:45 AM	0	0	0	0	0	0	0	30	0	0	48	0	78	370
4:00 AM	0	0	0	0	0	0	0	15	0	0	45	0	60	423
4:15 AM	0	0	0	0	0	0	0	43	0	0	50	0	93	517
4:30 AM	0	0	0	0	0	0	0	78	0	0	61	0	139	589
4:45 AM	1	0	0	0	0	0	0	71	0	0	59	0	131	620
5:00 AM	0	0	0	1	0	1	0	66	0	0	86	0	154	677
5:15 AM	1	0	0	1	0	1	0	74	0	0	88	0	165	708
5:30 AM	5	0	0	2	0	1	0	73	0	0	89	0	170	734
5:45 AM	1	2	0	0	0	2	0	71	0	0	112	0	188	751
6:00 AM	4	0	0	0	0	3	0	64	0	0	114	0	185	766
6:15 AM	2	1	0	0	0	1	0	96	0	0	91	0	191	781
6:30 AM	2	2	0	0	0	0	0	81	1	0	101	0	187	827
6:45 AM	0	1	0	1	1	3	0	84	0	1	112	0	203	903

7:00 AM	0	0	0	0	0	0	0	92	0	0	108	0	200	898
7:15 AM	2	0	0	0	0	2	0	119	1	0	113	0	237	904
7:30 AM	6	1	1	1	0	2	0	113	0	0	139	0	263	873
7:45 AM	1	0	0	0	0	1	0	86	0	0	110	0	198	839
8:00 AM	1	1	0	0	0	0	2	81	2	0	119	0	206	853
8:15 AM	0	0	0	0	0	1	1	82	0	0	122	0	206	847
8:30 AM	0	1	0	0	1	1	0	93	0	0	133	0	229	852
8:45 AM	0	0	0	0	0	0	0	112	0	0	100	0	212	841
9:00 AM	0	1	0	0	1	0	0	99	0	0	98	1	200	841
9:15 AM	0	0	0	0	0	0	1	96	0	0	113	1	211	852
9:30 AM	0	0	0	1	3	2	1	96	0	1	114	0	218	822
9:45 AM	0	1	0	0	1	0	0	120	0	0	90	0	212	818
10:00 AM	0	0	0	1	1	1	0	94	0	0	114	0	211	799
10:15 AM	0	0	0	0	1	4	0	90	0	0	85	1	181	817
10:30 AM	0	1	0	1	0	1	1	98	0	0	112	0	214	847
10:45 AM	0	0	0	0	0	0	0	104	0	0	89	0	193	840
11:00 AM	0	1	0	0	0	0	0	119	0	0	109	0	229	881
11:15 AM	0	0	0	0	0	0	0	108	0	0	103	0	211	--
11:30 AM	1	0	0	0	1	0	0	101	0	0	104	0	207	--
11:45 AM	0	0	1	0	0	1	1	118	0	0	113	0	234	--
Grand Total	29	13	3	9	10	29	7	3,232	4	2	3,522	4	6,864	
% Approach	64%	29%	7%	19%	21%	60%	0%	100%	0%	0%	100%	0%		
% Total	0%	0%	0%	0%	0%	0%	0%	47%	0%	0%	51%	0%		
Lights	29	10	3	8	8	26	6	1,737	3	2	2,054	3		
% Lights	100%	77%	100%	89%	80%	90%	86%	54%	75%	100%	58%	75%		
Heavy Vehicles	0	3	0	1	2	3	1	1495	1	0	1468	1		
% Heavy Vehicles	0%	23%	0%	11%	20%	10%	14%	46%	25%	0%	42%	25%		

AM PEAK HOUR SUMMARY

Wednesday, 10/05/2022

7:15 AM - 8:15 AM

AM Peak Hour Summary	**300 W (NB)**			**300 W (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**10**	**2**	**1**	**1**	**0**	**5**	**2**	**399**	**3**	**0**	**481**	**0**	**904**	**0.86**
% Heavy Vehicles	**0%**	**50%**	**0%**	**0%**	**0%**	**0%**	**50%**	**37%**	**34%**	**0%**	**33%**	**0%**		

Turning Movement Counts - PM

INTERSECTION: US 30 & 300 W

DATA DATE: Wednesday, 10/05/2022

DURATION: 24-Hr Counts

TIME BEGIN	300 W (NB)			300 W (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	0	0	0	1	1	0	0	83	0	1	130	1	217	881
12:15 PM	0	0	0	1	0	0	0	118	0	0	121	0	240	858
12:30 PM	0	1	0	0	0	0	2	110	0	0	107	0	220	839
12:45 PM	2	0	0	1	2	0	0	94	1	0	104	0	204	909
1:00 PM	0	0	0	0	0	0	0	80	2	0	112	0	194	939
1:15 PM	0	0	0	2	0	0	0	109	0	1	109	0	221	982
1:30 PM	0	0	0	1	0	2	0	128	0	0	159	0	290	1,022
1:45 PM	1	0	0	0	0	0	1	121	1	0	110	0	234	988
2:00 PM	0	1	0	0	0	0	1	110	0	0	125	0	237	1,016
2:15 PM	1	1	0	0	0	1	2	123	0	0	133	0	261	1,046
2:30 PM	0	0	0	0	2	2	1	127	1	0	121	2	256	1,055
2:45 PM	0	0	0	0	1	0	1	137	0	0	121	2	262	1,072
3:00 PM	1	0	0	0	0	0	1	126	4	0	135	0	267	1,063
3:15 PM	0	1	0	0	2	0	0	121	2	0	144	0	270	1,050
3:30 PM	1	0	0	2	0	1	0	126	1	1	140	1	273	1,047
3:45 PM	0	0	0	0	1	0	1	115	0	0	135	1	253	1,007
4:00 PM	0	0	0	0	1	0	0	131	1	0	121	0	254	1,022
4:15 PM	2	2	0	0	1	1	1	120	2	0	137	1	267	1,015
4:30 PM	1	0	0	1	0	1	0	125	0	0	105	0	233	1,004
4:45 PM	1	1	1	0	0	3	0	122	1	0	138	1	268	1,006
5:00 PM	0	3	0	0	0	2	2	125	4	0	111	0	247	954
5:15 PM	0	1	0	0	1	2	0	135	0	0	117	0	256	902
5:30 PM	0	0	0	1	1	0	0	111	1	0	121	0	235	832
5:45 PM	0	1	0	0	0	0	0	113	1	0	101	0	216	774
6:00 PM	0	1	0	0	0	0	0	112	0	0	82	0	195	736
6:15 PM	1	1	0	1	0	1	2	104	1	0	75	0	186	686
6:30 PM	1	2	0	0	0	0	0	100	0	0	73	1	177	649
6:45 PM	0	0	0	1	1	0	1	104	0	1	70	0	178	590

7:00 PM	0	0	0	1	0	0	0	99	1	0	44	0	145	551
7:15 PM	0	0	0	0	0	0	0	79	0	0	69	1	149	545
7:30 PM	0	0	0	0	0	0	0	70	0	0	48	0	118	518
7:45 PM	1	0	0	0	3	0	0	81	2	0	52	0	139	513
8:00 PM	0	0	0	0	0	0	0	83	2	0	54	0	139	487
8:15 PM	0	0	0	0	0	0	0	75	1	0	46	0	122	467
8:30 PM	1	1	0	0	1	0	0	74	0	0	36	0	113	434
8:45 PM	0	1	0	0	0	0	0	70	1	0	41	0	113	439
9:00 PM	0	0	0	0	2	0	0	70	1	0	46	0	119	420
9:15 PM	0	0	0	0	0	0	1	57	0	0	31	0	89	372
9:30 PM	0	0	0	0	0	0	0	72	0	0	46	0	118	342
9:45 PM	0	0	0	0	0	0	0	60	0	0	34	0	94	300
10:00 PM	0	0	0	0	0	0	0	42	0	0	29	0	71	259
10:15 PM	0	0	0	0	1	0	0	26	1	0	31	0	59	236
10:30 PM	0	0	0	0	0	0	0	45	0	0	31	0	76	233
10:45 PM	0	0	0	0	0	0	0	31	0	0	22	0	53	214
11:00 PM	0	0	0	0	0	0	1	35	0	0	12	0	48	211
11:15 PM	0	0	0	0	0	0	0	34	0	0	21	1	56	--
11:30 PM	0	0	0	0	0	0	0	33	0	0	24	0	57	--
11:45 PM	0	0	0	0	0	0	0	25	1	0	24	0	50	--
Grand Total	14	18	1	13	21	16	18	4,391	33	4	3,998	12	8,539	
% Approach	42%	55%	3%	26%	42%	32%	0%	99%	1%	0%	100%	0%		
% Total	0%	0%	0%	0%	0%	0%	0%	51%	0%	0%	47%	0%		
Lights	14	14	1	13	20	12	17	2,981	32	3	2,422	11		
% Lights	100%	78%	100%	100%	95%	75%	94%	68%	97%	75%	61%	92%		
Heavy Vehicles	0	4	0	0	1	4	1	1410	1	1	1576	1		
% Heavy Vehicles	0%	22%	0%	0%	5%	25%	6%	32%	3%	25%	39%	8%		

PM PEAK HOUR SUMMARY

Wednesday, 10/05/2022

3:00 PM - 4:00 PM

PM Peak Hour Summary	300 W (NB)			300 W (SB)			US 30 (EB)			US 30 (WB)			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**2**	**1**	**0**	**2**	**3**	**1**	**2**	**488**	**7**	**1**	**554**	**2**	**1063**	**0.97**
% Heavy Vehicles	**0%**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**	**20%**	**15%**	**100%**	**35%**	**0%**		

Peak Hour manually updated to reflect the period between 3:00-6:00 PM

Turning Movement Counts - AM

INTERSECTION: US 30 & SR 39

DATA DATE: Tuesday, 07/26/2022

DURATION: 24-Hr Counts

TIME BEGIN	SR 39 (NB)			SR 39 (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	0	0	0	1	1	0	0	31	3	1	17	0	54	166
12:15 AM	0	1	0	0	0	0	1	19	0	0	14	0	35	148
12:30 AM	0	2	0	0	0	0	0	14	1	0	17	1	35	145
12:45 AM	1	0	0	0	1	0	1	17	2	0	19	1	42	144
1:00 AM	1	2	1	0	0	0	0	15	0	1	16	0	36	138
1:15 AM	1	0	0	0	0	0	2	21	0	0	8	0	32	137
1:30 AM	0	2	0	0	1	0	0	18	0	0	13	0	34	143
1:45 AM	0	1	1	0	1	0	0	14	2	0	17	0	36	148
2:00 AM	0	0	0	0	0	0	0	21	0	0	14	0	35	164
2:15 AM	1	5	0	0	0	0	0	16	2	0	14	0	38	173
2:30 AM	2	1	0	1	1	0	0	22	0	1	11	0	39	195
2:45 AM	3	0	0	0	1	0	1	24	1	0	22	0	52	216
3:00 AM	1	3	0	0	1	0	0	22	2	0	15	0	44	238
3:15 AM	2	3	0	0	0	3	0	25	0	2	25	0	60	273
3:30 AM	4	1	4	0	2	0	0	20	2	2	25	0	60	343
3:45 AM	3	5	2	1	2	0	1	19	0	3	38	0	74	411
4:00 AM	2	2	1	3	2	1	0	29	0	1	38	0	79	474
4:15 AM	6	6	3	2	3	1	0	60	3	1	45	0	130	545
4:30 AM	11	3	2	4	0	1	0	40	4	0	63	0	128	584
4:45 AM	11	3	3	1	2	1	2	60	1	1	51	1	137	624
5:00 AM	18	6	3	2	4	1	1	33	1	3	78	0	150	707
5:15 AM	30	8	5	4	5	3	2	35	6	3	67	1	169	759
5:30 AM	29	5	3	0	7	3	3	35	7	0	73	3	168	819
5:45 AM	17	12	1	3	10	3	6	77	11	5	73	2	220	866
6:00 AM	31	8	3	1	8	4	1	72	7	1	64	2	202	875
6:15 AM	21	29	6	4	9	4	2	70	8	4	71	1	229	882
6:30 AM	19	11	2	6	6	10	1	64	9	2	82	3	215	879
6:45 AM	15	15	5	4	12	2	2	72	8	4	86	4	229	924

7:00 AM	12	12	5	5	2	2	8	75	4	2	78	4	209	947
7:15 AM	19	17	0	2	11	2	2	77	9	2	81	4	226	951
7:30 AM	16	17	2	1	7	7	13	87	5	3	97	5	260	990
7:45 AM	15	18	1	7	8	2	6	100	8	4	80	3	252	925
8:00 AM	10	7	2	2	4	1	0	100	5	4	77	1	213	916
8:15 AM	15	18	4	4	12	5	3	93	9	3	98	1	265	959
8:30 AM	15	7	2	3	10	2	8	64	4	4	75	1	195	920
8:45 AM	5	11	3	4	8	2	0	97	5	7	96	5	243	967
9:00 AM	5	10	2	3	7	3	0	102	11	3	109	1	256	976
9:15 AM	13	8	4	2	8	7	0	67	7	6	102	2	226	970
9:30 AM	10	10	3	1	9	7	6	69	5	2	117	3	242	999
9:45 AM	9	8	1	0	6	5	4	98	5	2	111	3	252	985
10:00 AM	8	10	4	4	11	2	3	74	11	5	114	4	250	994
10:15 AM	13	14	3	11	15	3	1	76	12	6	100	1	255	996
10:30 AM	10	6	3	4	17	6	4	72	2	2	102	0	228	1,002
10:45 AM	13	7	3	6	13	3	2	90	4	2	117	1	261	1,042
11:00 AM	11	4	4	2	2	4	2	95	9	6	107	6	252	1,017
11:15 AM	18	8	2	3	10	6	5	98	8	2	101	0	261	--
11:30 AM	14	9	3	2	4	7	1	92	5	4	126	1	268	--
11:45 AM	15	5	3	2	7	1	1	94	10	1	94	3	236	--
Grand Total	475	340	99	105	250	114	95	2,685	218	105	3,058	68	7,612	
% Approach	52%	37%	11%	22%	53%	24%	3%	90%	7%	3%	95%	2%		
% Total	6%	4%	1%	1%	3%	1%	1%	35%	3%	1%	40%	1%		
Lights	446	305	81	89	225	97	72	1,423	186	70	1,764	58		
% Lights	94%	90%	82%	85%	90%	85%	76%	53%	85%	67%	58%	85%		
Heavy Vehicles	29	35	18	16	25	17	23	1262	32	35	1294	10		
% Heavy Vehicles	6%	10%	18%	15%	10%	15%	24%	47%	15%	33%	42%	15%		

AM PEAK HOUR SUMMARY

Tuesday, 07/26/2022

7:30 AM - 8:30 AM

AM Peak Hour Summary	SR 39 (NB)			SR 39 (SB)			US 30 (EB)			US 30 (WB)			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**56**	**60**	**9**	**14**	**31**	**15**	**22**	**380**	**27**	**14**	**352**	**10**	**990**	**0.93**
% Heavy Vehicles	**9%**	**9%**	**22%**	**7%**	**13%**	**34%**	**14%**	**42%**	**11%**	**43%**	**39%**	**10%**		

Peak Hour manually updated to reflect the period between 6:00-9:00 AM

Turning Movement Counts - PM

INTERSECTION: US 30 & SR 39

DATA DATE: Tuesday, 07/26/2022

DURATION: 24-Hr Counts

TIME BEGIN	SR 39 (NB)			SR 39 (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	7	7	3	3	11	3	4	104	14	1	84	5	246	1,065
12:15 PM	13	7	3	4	9	3	1	124	12	2	116	3	297	1,091
12:30 PM	7	11	1	1	10	10	6	99	9	4	99	1	258	1,059
12:45 PM	7	9	6	1	7	2	5	109	14	4	99	1	264	1,054
1:00 PM	12	7	2	3	9	2	3	112	15	3	104	0	272	1,031
1:15 PM	10	7	6	3	14	4	2	103	10	4	99	3	265	1,052
1:30 PM	8	6	2	3	2	8	3	100	18	2	99	2	253	1,062
1:45 PM	12	13	3	1	7	4	1	108	10	2	78	2	241	1,101
2:00 PM	9	9	3	5	10	2	3	121	7	3	119	2	293	1,159
2:15 PM	15	9	0	5	14	4	2	88	12	3	121	2	275	1,161
2:30 PM	9	13	3	4	9	3	3	111	18	5	105	9	292	1,214
2:45 PM	6	9	2	4	17	5	5	109	16	2	120	4	299	1,225
3:00 PM	11	15	1	4	17	4	3	104	17	5	109	5	295	1,231
3:15 PM	12	14	3	5	18	2	5	107	30	6	114	12	328	1,240
3:30 PM	15	6	4	5	23	7	3	105	17	4	110	4	303	1,226
3:45 PM	6	5	4	3	18	3	6	99	24	10	122	5	305	1,210
4:00 PM	16	11	4	2	17	5	6	110	24	4	104	1	304	1,139
4:15 PM	8	14	5	3	27	5	8	106	33	4	98	3	314	1,136
4:30 PM	11	2	2	2	12	2	6	123	23	5	96	3	287	1,090
4:45 PM	5	2	3	2	18	4	3	81	16	2	95	3	234	1,073
5:00 PM	14	13	5	4	14	4	2	103	23	2	115	2	301	1,077
5:15 PM	7	15	4	0	13	5	8	86	20	6	97	7	268	1,029
5:30 PM	15	16	1	6	17	7	6	84	18	3	93	4	270	969
5:45 PM	5	11	2	3	11	2	6	82	24	1	89	2	238	908
6:00 PM	11	12	1	2	12	4	4	102	19	1	84	1	253	853
6:15 PM	3	7	2	3	6	4	3	79	16	3	78	4	208	773
6:30 PM	5	7	4	2	3	2	1	83	15	3	83	1	209	731
6:45 PM	3	6	0	2	3	2	0	78	16	4	67	2	183	687

7:00 PM	6	4	1	4	11	5	3	71	15	0	51	2	173	646
7:15 PM	5	12	2	2	1	2	1	64	9	1	67	0	166	624
7:30 PM	0	4	0	1	7	1	3	66	14	3	63	3	165	574
7:45 PM	2	3	3	0	4	1	1	56	7	1	62	2	142	510
8:00 PM	2	3	0	1	2	2	2	79	8	1	48	3	151	482
8:15 PM	5	3	2	0	9	2	0	48	7	1	37	2	116	442
8:30 PM	1	5	0	1	2	1	3	46	4	3	35	0	101	449
8:45 PM	6	2	1	1	6	0	4	47	6	1	39	1	114	441
9:00 PM	2	5	3	1	1	0	1	49	4	1	43	1	111	404
9:15 PM	4	2	2	1	2	3	3	56	4	1	45	0	123	376
9:30 PM	0	2	0	0	3	0	0	42	5	1	38	2	93	345
9:45 PM	1	1	3	0	3	0	1	30	4	1	32	1	77	335
10:00 PM	5	5	0	0	1	3	1	23	4	0	40	1	83	328
10:15 PM	3	2	0	0	4	1	4	36	1	2	37	2	92	320
10:30 PM	1	5	2	0	0	0	2	24	7	0	41	1	83	314
10:45 PM	0	0	0	0	0	0	4	36	1	0	29	0	70	285
11:00 PM	1	1	2	0	1	0	1	30	3	1	35	0	75	270
11:15 PM	0	0	0	0	4	0	1	44	5	1	30	1	86	--
11:30 PM	0	0	0	1	1	1	2	21	3	3	22	0	54	--
11:45 PM	1	0	0	0	1	0	1	33	2	2	15	0	55	--
Grand Total	307	322	100	98	411	134	146	3,721	603	122	3,606	115	9,685	
% Approach	42%	44%	14%	15%	64%	21%	3%	83%	13%	3%	94%	3%		
% Total	3%	3%	1%	1%	4%	1%	2%	38%	6%	1%	37%	1%		
Lights	285	305	89	94	384	117	130	2,394	574	111	2,131	108		
% Lights	93%	95%	89%	96%	93%	87%	89%	64%	95%	91%	59%	94%		
Heavy Vehicles	22	17	11	4	27	17	16	1327	29	11	1475	7		
% Heavy Vehicles	7%	5%	11%	4%	7%	13%	11%	36%	5%	9%	41%	6%		

PM PEAK HOUR SUMMARY

Tuesday, 07/26/2022

3:15 PM - 4:15 PM

PM Peak Hour Summary	**SR 39 (NB)**			**SR 39 (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**49**	**36**	**15**	**15**	**76**	**17**	**20**	**421**	**95**	**24**	**450**	**22**	**1240**	**0.95**
% Heavy Vehicles	**4%**	**3%**	**0%**	**0%**	**6%**	**6%**	**5%**	**30%**	**2%**	**4%**	**35%**	**5%**		

Turning Movement Counts - AM

INTERSECTION: US 30 & N 750 E

DATA DATE: Wednesday, 11/02/2022

DURATION: 24-Hr Counts

TIME BEGIN	N 750 E (NB)			N 750 E (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	0	0	0	0	0	0	0	22	0	0	35	0	57	193
12:15 AM	0	0	0	0	0	0	0	27	0	0	28	0	55	180
12:30 AM	0	0	0	0	0	0	0	28	0	0	17	0	45	162
12:45 AM	0	1	0	0	0	0	0	22	0	0	13	0	36	159
1:00 AM	0	0	1	0	3	0	0	22	0	1	17	0	44	159
1:15 AM	0	0	0	0	0	0	0	11	0	0	26	0	37	156
1:30 AM	0	1	0	0	0	0	0	19	0	0	22	0	42	159
1:45 AM	0	0	0	0	0	0	0	24	0	0	12	0	36	164
2:00 AM	0	1	0	0	0	0	0	22	0	0	18	0	41	166
2:15 AM	0	0	0	0	0	0	0	19	0	1	20	0	40	170
2:30 AM	0	0	0	0	0	0	0	29	0	0	18	0	47	172
2:45 AM	0	0	0	0	0	0	0	25	0	0	13	0	38	176
3:00 AM	0	0	0	0	0	0	0	22	0	0	23	0	45	178
3:15 AM	0	0	0	0	0	0	0	24	0	0	18	0	42	196
3:30 AM	0	0	1	0	0	0	0	29	0	0	21	0	51	233
3:45 AM	0	0	0	0	0	0	1	24	0	0	15	0	40	236
4:00 AM	0	0	1	2	0	0	0	31	0	0	29	0	63	271
4:15 AM	0	0	0	0	0	0	0	44	0	0	35	0	79	291
4:30 AM	0	0	0	0	0	0	0	24	0	0	30	0	54	310
4:45 AM	0	0	2	0	0	0	0	46	0	0	27	0	75	375
5:00 AM	0	0	1	0	0	0	0	51	0	0	31	0	83	411
5:15 AM	0	0	2	0	0	0	0	61	0	0	35	0	98	451
5:30 AM	0	0	0	1	0	0	0	69	0	1	48	0	119	525
5:45 AM	0	1	0	0	0	0	0	60	0	0	50	0	111	572
6:00 AM	0	0	0	0	0	0	1	72	0	0	50	0	123	613
6:15 AM	0	0	2	0	0	0	0	96	0	0	74	0	172	651
6:30 AM	0	0	2	0	0	0	0	90	0	0	74	0	166	679
6:45 AM	1	1	2	1	0	0	1	78	0	0	68	0	152	709

7:00 AM	0	1	1	1	0	0	1	72	0	0	84	1	161	818
7:15 AM	0	3	3	1	0	0	4	91	0	0	97	1	200	927
7:30 AM	0	3	1	0	1	0	6	92	0	2	86	5	196	936
7:45 AM	0	9	0	1	0	6	23	122	0	3	84	13	261	975
8:00 AM	0	10	5	10	5	14	13	99	1	0	96	17	270	946
8:15 AM	0	4	2	5	6	5	3	80	0	1	95	8	209	873
8:30 AM	1	0	0	0	2	3	3	119	1	1	104	1	235	862
8:45 AM	0	3	0	2	3	2	5	108	0	1	107	1	232	846
9:00 AM	0	0	0	0	1	0	0	118	2	0	75	1	197	780
9:15 AM	0	1	0	2	0	1	1	90	2	0	100	1	198	791
9:30 AM	0	2	0	0	0	1	1	108	0	0	106	1	219	769
9:45 AM	0	1	0	2	1	1	3	62	2	1	93	0	166	743
10:00 AM	1	2	0	1	1	1	1	96	0	2	102	1	208	792
10:15 AM	0	0	1	0	0	0	1	83	0	0	91	0	176	821
10:30 AM	0	1	1	1	3	1	1	78	0	0	107	0	193	846
10:45 AM	1	1	2	2	1	1	0	90	1	0	114	2	215	874
11:00 AM	0	1	2	0	1	1	1	109	1	0	119	2	237	849
11:15 AM	0	1	0	1	1	0	2	93	0	1	101	1	201	--
11:30 AM	0	2	0	3	1	5	1	91	0	1	116	1	221	--
11:45 AM	0	0	2	0	2	0	0	94	1	0	89	2	190	--
Grand Total	4	50	34	36	32	42	73	2,986	11	16	2,833	59	6,176	
% Approach	5%	57%	39%	33%	29%	38%	2%	97%	0%	1%	97%	2%		
% Total	0%	1%	1%	1%	1%	1%	1%	48%	0%	0%	46%	1%		
Lights	4	44	31	33	32	38	70	1,636	9	15	1,490	57		
% Lights	100%	88%	91%	92%	100%	90%	96%	55%	82%	94%	53%	97%		
Heavy Vehicles	0	6	3	3	0	4	3	1350	2	1	1343	2		
% Heavy Vehicles	0%	12%	9%	8%	0%	10%	4%	45%	18%	6%	47%	3%		

AM PEAK HOUR SUMMARY

Wednesday, 11/02/2022

7:45 AM - 8:45 AM

AM Peak Hour Summary	**N 750 E (NB)**			**N 750 E (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**1**	**23**	**7**	**16**	**13**	**28**	**42**	**420**	**2**	**5**	**379**	**39**	**975**	**0.90**
% Heavy Vehicles	**0%**	**13%**	**0%**	**13%**	**0%**	**7%**	**3%**	**41%**	**0%**	**0%**	**38%**	**3%**		

Turning Movement Counts - PM

INTERSECTION: US 30 & N 750 E

DATA DATE: Wednesday, 11/02/2022

DURATION: 24-Hr Counts

TIME BEGIN	N 750 E (NB)			N 750 E (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	1	0	0	2	1	0	0	94	0	0	90	2	190	869
12:15 PM	0	0	0	4	1	2	0	100	0	2	118	1	228	885
12:30 PM	0	0	0	0	0	2	2	124	0	1	107	0	236	858
12:45 PM	0	1	0	0	2	2	0	105	0	0	104	1	215	849
1:00 PM	0	0	1	3	2	1	1	109	0	0	88	1	206	839
1:15 PM	0	1	0	0	1	0	0	89	0	1	108	1	201	854
1:30 PM	0	3	0	0	0	1	1	100	3	0	119	0	227	886
1:45 PM	0	0	0	1	2	1	1	99	1	1	99	0	205	925
2:00 PM	1	0	0	0	2	0	0	101	2	0	115	0	221	949
2:15 PM	0	1	2	0	1	0	0	122	1	2	103	1	233	986
2:30 PM	1	1	0	0	2	2	3	112	2	3	137	3	266	1,022
2:45 PM	0	5	0	0	0	1	3	97	0	2	117	4	229	1,005
3:00 PM	0	4	1	3	2	1	5	97	0	0	138	7	258	1,018
3:15 PM	0	3	1	6	4	1	9	103	1	0	140	1	269	1,073
3:30 PM	0	0	0	13	6	4	1	94	1	0	128	2	249	1,069
3:45 PM	0	0	0	3	1	3	0	111	0	3	121	0	242	1,129
4:00 PM	2	4	0	5	2	4	0	136	2	2	155	1	313	1,185
4:15 PM	1	3	0	2	3	8	1	109	1	1	136	0	265	1,117
4:30 PM	1	1	2	3	3	4	1	122	0	1	169	2	309	1,115
4:45 PM	1	1	0	1	2	1	1	140	4	2	142	3	298	1,072
5:00 PM	0	1	1	0	2	2	4	108	0	0	123	4	245	1,015
5:15 PM	2	2	0	4	3	2	1	120	1	1	125	2	263	990
5:30 PM	1	0	1	2	3	2	4	118	0	3	126	6	266	938
5:45 PM	0	4	2	0	2	5	5	113	0	1	107	2	241	915
6:00 PM	1	0	0	2	1	0	12	98	1	2	100	3	220	849
6:15 PM	1	1	0	0	0	0	19	106	1	0	79	4	211	809
6:30 PM	0	2	0	1	1	3	5	122	1	1	104	3	243	777
6:45 PM	0	1	0	0	0	2	3	74	0	0	90	5	175	683

7:00 PM	0	1	1	0	1	3	6	88	2	1	76	1	180	665
7:15 PM	1	2	1	1	2	1	2	79	1	2	85	2	179	651
7:30 PM	0	0	0	4	2	2	1	62	1	6	71	0	149	605
7:45 PM	1	0	1	0	1	1	0	84	1	2	66	0	157	586
8:00 PM	0	0	2	0	1	5	1	87	1	0	68	1	166	582
8:15 PM	0	1	0	1	3	0	3	55	0	3	66	1	133	569
8:30 PM	2	1	2	3	2	2	0	68	0	2	48	0	130	533
8:45 PM	4	1	1	12	2	28	0	60	1	2	41	1	153	502
9:00 PM	1	0	0	3	5	7	0	60	1	0	76	0	153	466
9:15 PM	0	0	0	1	1	2	1	45	0	0	47	0	97	413
9:30 PM	2	2	0	1	1	0	0	48	0	0	45	0	99	408
9:45 PM	0	0	0	0	1	0	0	59	0	0	57	0	117	386
10:00 PM	0	1	1	0	0	0	0	56	0	0	42	0	100	338
10:15 PM	0	1	0	0	0	0	0	45	0	0	46	0	92	317
10:30 PM	0	0	0	0	0	1	0	39	0	0	37	0	77	283
10:45 PM	0	0	0	0	0	0	0	24	0	0	45	0	69	262
11:00 PM	0	1	0	0	0	0	0	39	0	0	39	0	79	236
11:15 PM	0	0	0	0	0	0	0	25	0	0	33	0	58	--
11:30 PM	0	0	0	0	0	0	0	28	0	0	28	0	56	--
11:45 PM	0	0	0	0	0	0	0	25	0	0	18	0	43	--
Grand Total	24	50	20	81	71	106	96	4,099	30	47	4,322	65	9,011	
% Approach	26%	53%	21%	31%	28%	41%	2%	97%	1%	1%	97%	1%		
% Total	0%	1%	0%	1%	1%	1%	1%	45%	0%	1%	48%	1%		
Lights	20	49	17	78	70	101	90	2,502	26	41	2,509	63		
% Lights	83%	98%	85%	96%	99%	95%	94%	61%	87%	87%	58%	97%		
Heavy Vehicles	4	1	3	3	1	5	6	1597	4	6	1813	2		
% Heavy Vehicles	17%	2%	15%	4%	1%	5%	6%	39%	13%	13%	42%	3%		

PM PEAK HOUR SUMMARY

Wednesday, 11/02/2022

4:00 PM - 5:00 PM

PM Peak Hour Summary	**N 750 E (NB)**			**N 750 E (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**5**	**9**	**2**	**11**	**10**	**17**	**3**	**507**	**7**	**6**	**602**	**6**	**1185**	**0.95**
% Heavy Vehicles	**20%**	**0%**	**0%**	**9%**	**0%**	**0%**	**0%**	**33%**	**0%**	**17%**	**39%**	**0%**		

Turning Movement Counts - AM

INTERSECTION: US 30 & N 1000 E

DATA DATE: Wednesday, 11/02/2022

DURATION: 24-Hr Counts

TIME BEGIN	N 1000 E (NB)			N 1000 E (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	0	0	0	1	0	1	0	21	0	0	34	2	59	189
12:15 AM	0	0	0	0	1	0	1	19	1	1	23	0	46	178
12:30 AM	0	0	1	0	0	0	1	33	1	0	17	1	54	172
12:45 AM	0	0	1	0	0	0	0	16	1	0	12	0	30	155
1:00 AM	0	0	0	0	0	0	1	23	0	2	22	0	48	165
1:15 AM	0	0	0	1	0	1	0	15	0	0	23	0	40	154
1:30 AM	0	0	0	0	0	0	0	17	0	0	20	0	37	156
1:45 AM	0	0	1	0	1	0	0	23	0	0	13	2	40	165
2:00 AM	0	0	0	0	0	0	1	18	0	0	18	0	37	171
2:15 AM	0	0	0	0	0	0	0	23	0	0	19	0	42	179
2:30 AM	0	0	0	0	0	0	1	27	0	0	18	0	46	189
2:45 AM	0	2	3	0	0	0	0	22	1	0	18	0	46	194
3:00 AM	0	0	2	1	0	0	0	24	0	0	18	0	45	193
3:15 AM	0	1	4	1	0	0	1	22	0	0	22	1	52	227
3:30 AM	0	0	2	2	0	0	0	28	1	0	18	0	51	260
3:45 AM	0	1	6	0	1	0	0	24	0	0	13	0	45	272
4:00 AM	0	3	10	0	0	0	1	34	0	0	31	0	79	306
4:15 AM	0	2	13	0	1	1	0	37	0	0	31	0	85	313
4:30 AM	0	3	4	0	0	0	0	30	0	0	25	1	63	347
4:45 AM	1	0	4	0	1	0	1	48	0	0	24	0	79	417
5:00 AM	0	3	4	1	1	1	2	49	0	0	25	0	86	465
5:15 AM	0	2	5	3	2	2	1	59	0	2	43	0	119	516
5:30 AM	3	7	12	2	2	2	0	67	0	1	37	0	133	582
5:45 AM	1	2	5	7	0	1	1	59	1	1	49	0	127	641
6:00 AM	3	5	4	0	1	3	2	69	0	2	46	2	137	677
6:15 AM	1	10	6	5	1	2	4	94	0	1	61	0	185	720
6:30 AM	2	6	14	2	2	3	3	96	0	6	56	2	192	743
6:45 AM	2	6	8	2	2	0	2	75	0	1	64	1	163	777

7:00 AM	4	9	5	3	1	5	0	69	1	2	80	1	180	852
7:15 AM	1	9	4	6	6	1	4	89	0	1	81	6	208	905
7:30 AM	1	5	14	8	5	5	3	95	0	5	82	3	226	897
7:45 AM	5	4	7	2	5	4	3	115	0	7	85	1	238	908
8:00 AM	9	2	11	0	3	6	4	106	3	3	86	0	233	908
8:15 AM	1	3	9	5	8	2	1	77	1	1	91	1	200	897
8:30 AM	1	3	6	4	4	7	0	111	1	4	94	2	237	904
8:45 AM	0	4	7	1	2	1	3	114	2	3	100	1	238	920
9:00 AM	1	6	9	3	5	2	0	112	0	2	77	5	222	860
9:15 AM	1	4	8	6	2	8	2	82	0	6	87	1	207	851
9:30 AM	2	5	9	3	5	6	4	112	0	5	98	4	253	845
9:45 AM	1	0	5	6	3	0	0	63	1	6	90	3	178	810
10:00 AM	1	3	6	2	4	1	4	85	3	3	98	3	213	858
10:15 AM	1	7	3	2	3	3	1	80	1	7	88	5	201	912
10:30 AM	2	4	7	2	8	2	1	75	4	4	106	3	218	959
10:45 AM	2	12	5	1	3	2	4	84	0	3	108	2	226	990
11:00 AM	0	9	14	3	5	3	4	102	1	6	118	2	267	995
11:15 AM	3	9	10	3	5	2	2	105	1	4	101	3	248	--
11:30 AM	3	7	13	5	8	4	4	85	1	9	108	2	249	--
11:45 AM	0	8	9	1	6	4	4	96	3	9	86	5	231	--
Grand Total	52	166	270	94	107	85	71	2,929	29	107	2,664	65	6,639	
% Approach	11%	34%	55%	33%	37%	30%	2%	97%	1%	4%	94%	2%		
% Total	1%	3%	4%	1%	2%	1%	1%	44%	0%	2%	40%	1%		
Lights	48	154	258	87	97	74	62	1,591	25	101	1,355	58		
% Lights	92%	93%	96%	93%	91%	87%	87%	54%	86%	94%	51%	89%		
Heavy Vehicles	4	12	12	7	10	11	9	1338	4	6	1309	7		
% Heavy Vehicles	8%	7%	4%	7%	9%	13%	13%	46%	14%	6%	49%	11%		

AM PEAK HOUR SUMMARY

Wednesday, 11/02/2022

8:00 AM - 9:00 AM

AM Peak Hour Summary	**N 1000 E (NB)**			**N 1000 E (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**11**	**12**	**33**	**10**	**17**	**16**	**8**	**408**	**7**	**11**	**371**	**4**	**908**	**0.95**
% Heavy Vehicles	**9%**	**9%**	**9%**	**0%**	**12%**	**7%**	**25%**	**44%**	**15%**	**18%**	**37%**	**0%**		

Peak Hour manually updated to reflect the period between 6:00-9:00 AM

Turning Movement Counts - PM

INTERSECTION: US 30 & N 1000 E

DATA DATE: Wednesday, 11/02/2022

DURATION: 24-Hr Counts

TIME BEGIN	N 1000 E (NB)			N 1000 E (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	0	4	10	2	8	2	2	96	2	10	89	9	234	1,000
12:15 PM	0	3	16	1	4	1	4	94	2	11	113	0	249	995
12:30 PM	0	11	10	3	8	5	3	112	2	8	103	4	269	989
12:45 PM	2	5	12	6	5	2	3	91	1	15	102	4	248	971
1:00 PM	0	2	8	1	6	6	3	111	3	6	81	2	229	960
1:15 PM	0	10	3	1	10	4	2	90	2	10	108	3	243	975
1:30 PM	2	4	9	5	8	2	3	95	1	11	107	4	251	1,002
1:45 PM	1	6	5	4	7	4	0	91	5	9	97	8	237	1,040
2:00 PM	1	4	9	1	4	3	3	94	4	11	106	4	244	1,050
2:15 PM	1	7	6	1	6	1	5	113	1	9	116	4	270	1,084
2:30 PM	2	6	5	5	7	6	3	112	3	13	121	6	289	1,092
2:45 PM	1	6	10	3	6	7	1	92	1	8	110	2	247	1,090
3:00 PM	3	3	5	1	11	5	4	86	1	10	143	6	278	1,133
3:15 PM	2	6	5	2	8	6	7	98	2	12	124	6	278	1,154
3:30 PM	2	6	7	6	11	4	3	99	3	13	125	8	287	1,192
3:45 PM	3	7	7	4	5	8	4	101	3	13	128	7	290	1,226
4:00 PM	1	6	8	1	11	9	4	115	1	9	130	4	299	1,257
4:15 PM	2	7	5	0	13	4	6	104	3	16	150	6	316	1,224
4:30 PM	1	7	9	3	10	3	5	108	5	12	149	9	321	1,193
4:45 PM	5	7	5	2	13	5	5	132	1	10	129	7	321	1,158
5:00 PM	2	5	10	3	10	2	9	89	6	13	112	5	266	1,098
5:15 PM	1	2	8	2	7	4	5	110	7	8	127	4	285	1,073
5:30 PM	5	9	5	2	8	4	5	113	3	8	122	2	286	995
5:45 PM	1	9	10	3	12	2	2	90	3	16	107	6	261	953
6:00 PM	0	2	10	4	7	2	4	100	2	13	94	3	241	885
6:15 PM	1	5	12	1	1	3	3	101	1	5	67	7	207	841
6:30 PM	2	2	4	1	2	7	5	103	3	9	102	4	244	801
6:45 PM	2	5	4	4	6	5	6	71	2	7	80	1	193	710

7:00 PM	0	1	3	0	4	1	6	80	1	8	88	5	197	677
7:15 PM	2	3	2	0	2	0	5	72	1	5	74	1	167	661
7:30 PM	0	2	7	1	5	4	2	55	2	7	67	1	153	624
7:45 PM	0	0	2	1	6	0	4	76	3	3	63	2	160	588
8:00 PM	1	5	4	1	1	0	3	82	1	8	73	2	181	555
8:15 PM	0	0	0	2	5	2	4	50	2	5	60	0	130	510
8:30 PM	1	2	0	1	0	2	3	59	2	2	45	0	117	476
8:45 PM	0	3	0	1	1	3	0	67	2	3	46	1	127	466
9:00 PM	0	3	3	1	1	1	2	57	0	1	64	3	136	458
9:15 PM	0	1	0	0	0	0	1	42	1	3	46	2	96	425
9:30 PM	0	0	2	0	1	2	2	50	1	1	47	1	107	436
9:45 PM	0	1	1	0	4	0	2	50	1	2	58	0	119	412
10:00 PM	0	1	2	0	2	0	3	49	1	2	40	3	103	368
10:15 PM	1	2	2	0	2	1	0	43	0	7	48	1	107	341
10:30 PM	0	0	3	2	0	0	1	35	1	3	37	1	83	297
10:45 PM	1	1	2	0	1	0	1	29	0	0	39	1	75	271
11:00 PM	0	0	3	0	0	1	1	35	0	0	35	1	76	252
11:15 PM	0	0	1	1	0	1	1	24	1	2	31	1	63	--
11:30 PM	0	0	0	0	0	0	1	30	0	0	26	0	57	--
11:45 PM	0	1	0	1	3	0	0	23	0	2	25	1	56	--
Grand Total	49	182	254	84	252	134	151	3,819	93	359	4,154	162	9,693	
% Approach	10%	38%	52%	18%	54%	29%	4%	94%	2%	8%	89%	3%		
% Total	1%	2%	3%	1%	3%	1%	2%	39%	1%	4%	43%	2%		
Lights	49	172	250	79	240	123	140	2,229	92	353	2,355	148		
% Lights	100%	95%	98%	94%	95%	92%	93%	58%	99%	98%	57%	91%		
Heavy Vehicles	0	10	4	5	12	11	11	1590	1	6	1799	14		
% Heavy Vehicles	0%	5%	2%	6%	5%	8%	7%	42%	1%	2%	43%	9%		

PM PEAK HOUR SUMMARY

Wednesday, 11/02/2022

4:00 PM - 5:00 PM

PM Peak Hour Summary	N 1000 E (NB)			N 1000 E (SB)			US 30 (EB)			US 30 (WB)			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**9**	**27**	**27**	**6**	**47**	**21**	**20**	**459**	**10**	**47**	**558**	**26**	**1257**	**0.98**
% Heavy Vehicles	**0%**	**4%**	**0%**	**0%**	**7%**	**5%**	**5%**	**36%**	**10%**	**0%**	**40%**	**4%**		

Turning Movement Counts - AM

INTERSECTION: US 30 & Queen Rd

DATA DATE: Tuesday, 12/14/2021

DURATION: 24-Hr Counts

TIME BEGIN	Old US 30 (NB)			Queen Rd (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	1	2	0	0	0	0	0	16	1	0	29	0	49	184
12:15 AM	0	0	0	0	0	0	0	24	0	0	29	2	55	184
12:30 AM	0	0	0	0	0	1	0	22	0	0	13	0	36	170
12:45 AM	0	0	0	0	1	0	0	21	0	0	21	1	44	175
1:00 AM	2	1	0	0	0	0	0	28	0	0	16	2	49	171
1:15 AM	1	0	0	1	1	0	0	21	1	0	16	0	41	171
1:30 AM	0	0	0	0	0	0	0	18	0	0	23	0	41	164
1:45 AM	0	0	0	0	0	0	0	20	1	0	19	0	40	151
2:00 AM	0	1	0	1	0	0	0	21	1	0	23	2	49	144
2:15 AM	0	1	0	1	0	0	0	17	0	0	15	0	34	149
2:30 AM	0	1	0	0	0	0	0	15	0	0	12	0	28	175
2:45 AM	0	0	0	0	1	1	0	18	0	0	13	0	33	188
3:00 AM	1	0	0	1	2	0	0	31	0	0	19	0	54	230
3:15 AM	1	0	0	1	0	0	0	37	3	0	18	0	60	241
3:30 AM	0	0	0	0	0	0	1	28	0	0	12	0	41	264
3:45 AM	1	0	0	4	0	0	2	43	1	0	23	1	75	299
4:00 AM	0	2	0	2	0	0	0	40	2	0	19	0	65	314
4:15 AM	0	2	0	2	1	0	0	49	3	0	25	1	83	339
4:30 AM	1	5	1	3	0	0	0	40	5	0	21	0	76	362
4:45 AM	1	2	0	3	2	0	0	51	0	0	31	0	90	444
5:00 AM	1	2	1	5	4	2	0	46	2	1	25	1	90	487
5:15 AM	2	1	0	10	2	0	0	60	2	0	28	1	106	512
5:30 AM	2	3	0	8	3	1	0	87	4	0	49	1	158	545
5:45 AM	2	1	0	12	2	2	0	69	4	0	38	3	133	570
6:00 AM	2	1	0	2	0	0	0	57	6	0	45	2	115	622
6:15 AM	5	0	0	6	5	1	0	64	8	0	47	3	139	700
6:30 AM	3	3	0	5	8	1	1	96	12	0	51	3	183	772
6:45 AM	4	4	1	10	8	0	1	88	17	0	49	3	185	825

7:00 AM	4	6	1	9	10	0	0	81	17	0	63	2	193	886
7:15 AM	5	8	0	6	15	4	0	91	14	0	66	2	211	903
7:30 AM	7	5	0	9	20	2	0	85	21	0	81	6	236	932
7:45 AM	9	5	2	11	22	1	1	111	16	0	66	2	246	887
8:00 AM	12	5	0	9	12	1	2	72	17	0	75	5	210	850
8:15 AM	3	5	1	16	18	0	0	103	15	0	75	4	240	849
8:30 AM	7	5	0	6	7	0	0	81	10	0	71	4	191	867
8:45 AM	9	4	1	7	4	0	0	85	10	1	85	3	209	921
9:00 AM	9	6	0	8	7	0	1	82	10	0	83	3	209	952
9:15 AM	5	4	1	3	13	0	2	108	7	0	108	7	258	966
9:30 AM	9	2	0	5	5	0	0	118	10	1	92	3	245	941
9:45 AM	3	4	0	3	8	0	0	118	8	0	92	4	240	906
10:00 AM	5	11	1	6	6	0	1	84	7	0	98	4	223	923
10:15 AM	9	6	0	8	7	1	1	108	7	0	84	2	233	948
10:30 AM	4	9	0	8	4	0	0	94	5	0	75	11	210	936
10:45 AM	10	4	2	10	8	1	1	107	5	0	100	9	257	1,016
11:00 AM	4	5	0	8	8	1	1	102	8	0	105	6	248	975
11:15 AM	2	3	0	9	3	1	1	90	10	0	98	4	221	--
11:30 AM	11	3	2	6	7	3	1	133	16	0	97	11	290	--
11:45 AM	10	6	2	3	5	0	1	89	9	0	89	2	216	--
Grand Total	167	138	16	227	229	24	18	3,069	295	3	2,432	120	6,738	
% Approach	52%	43%	5%	47%	48%	5%	1%	91%	9%	0%	95%	5%		
% Total	2%	2%	0%	3%	3%	0%	0%	46%	4%	0%	36%	2%		
Lights	152	130	13	221	225	23	16	1,706	281	3	1,176	113		
% Lights	91%	94%	81%	97%	98%	96%	89%	56%	95%	100%	48%	94%		
Heavy Vehicles	15	8	3	6	4	1	2	1363	14	0	1256	7		
% Heavy Vehicles	9%	6%	19%	3%	2%	4%	11%	44%	5%	0%	52%	6%		

AM PEAK HOUR SUMMARY

Tuesday, 12/14/2021

7:30 AM - 8:30 AM

AM Peak Hour Summary	**Old US 30 (NB)**			**Queen Rd (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**31**	**20**	**3**	**45**	**72**	**4**	**3**	**371**	**69**	**0**	**297**	**17**	**932**	**0.95**
% Heavy Vehicles	**7%**	**0%**	**34%**	**0%**	**3%**	**0%**	**0%**	**39%**	**5%**	**0%**	**50%**	**0%**		

Peak Hour manually updated to reflect the period between 6:00-9:00 AM

Turning Movement Counts - PM

INTERSECTION: US 30 & Queen Rd

DATA DATE: Tuesday, 12/14/2021

DURATION: 24-Hr Counts

TIME BEGIN	Old US 30 (NB)			Queen Rd (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	5	3	1	6	3	2	0	105	10	0	89	12	236	1,035
12:15 PM	9	8	0	5	9	2	0	106	11	2	104	6	262	1,095
12:30 PM	3	4	2	6	10	1	0	113	11	0	110	7	267	1,071
12:45 PM	3	4	3	7	2	0	1	129	5	1	110	5	270	1,101
1:00 PM	17	4	0	12	9	2	0	117	9	0	116	10	296	1,077
1:15 PM	4	3	0	5	7	0	1	99	10	0	101	8	238	1,023
1:30 PM	13	13	0	7	4	1	1	123	9	1	115	10	297	1,113
1:45 PM	10	8	1	8	5	1	2	97	8	0	95	11	246	1,098
2:00 PM	3	6	0	8	4	2	0	103	11	2	98	5	242	1,094
2:15 PM	7	8	0	14	6	2	1	125	9	0	143	13	328	1,084
2:30 PM	5	10	0	8	8	1	1	118	5	1	120	5	282	1,055
2:45 PM	9	12	1	7	11	2	0	78	4	2	109	7	242	1,118
3:00 PM	11	11	0	7	12	1	0	42	8	0	123	17	232	1,184
3:15 PM	12	7	0	9	18	1	0	101	8	0	132	11	299	1,266
3:30 PM	11	10	1	5	10	2	3	135	8	1	145	14	345	1,266
3:45 PM	10	5	1	12	17	1	1	111	15	1	126	8	308	1,234
4:00 PM	12	11	0	10	7	1	1	106	10	0	138	18	314	1,264
4:15 PM	14	16	3	3	11	2	2	115	11	0	114	8	299	1,255
4:30 PM	12	21	2	11	3	1	2	106	6	4	132	13	313	1,248
4:45 PM	13	14	0	7	10	0	0	101	11	2	160	20	338	1,238
5:00 PM	19	21	0	4	9	1	0	93	13	1	121	23	305	1,172
5:15 PM	17	14	0	9	13	1	1	91	6	0	130	10	292	1,137
5:30 PM	10	12	1	9	7	2	2	106	8	1	126	19	303	1,082
5:45 PM	12	10	0	11	12	1	1	72	8	2	131	12	272	1,005
6:00 PM	7	15	0	4	11	1	0	85	13	0	123	11	270	913
6:15 PM	9	5	0	6	6	0	0	59	11	1	128	12	237	844
6:30 PM	12	11	0	6	5	0	0	74	10	0	101	7	226	775
6:45 PM	8	8	0	6	4	1	0	55	3	0	85	10	180	700

7:00 PM	5	7	0	6	3	0	0	56	14	0	102	8	201	660
7:15 PM	5	3	0	2	4	0	0	66	9	0	73	6	168	644
7:30 PM	6	3	0	1	5	1	1	55	4	0	70	5	151	620
7:45 PM	3	4	1	7	3	0	1	42	4	0	66	9	140	590
8:00 PM	2	5	0	4	2	0	1	86	4	0	71	10	185	566
8:15 PM	4	3	0	2	3	1	1	65	6	0	57	2	144	515
8:30 PM	8	4	0	1	2	0	1	47	4	0	53	1	121	489
8:45 PM	0	3	0	5	1	0	0	46	2	1	57	1	116	485
9:00 PM	2	2	0	2	3	1	0	56	5	0	57	6	134	467
9:15 PM	2	4	1	0	4	0	0	55	4	0	45	3	118	430
9:30 PM	3	2	0	2	1	0	0	50	4	2	47	6	117	397
9:45 PM	0	2	0	1	0	0	0	39	2	0	52	2	98	363
10:00 PM	3	6	0	1	0	1	0	37	2	0	47	0	97	342
10:15 PM	0	3	0	1	0	0	0	32	1	2	43	3	85	317
10:30 PM	2	4	0	1	3	0	0	23	6	0	43	1	83	294
10:45 PM	2	1	0	1	3	0	0	33	1	0	36	0	77	286
11:00 PM	0	3	0	3	4	0	0	18	2	0	38	4	72	248
11:15 PM	6	0	0	0	2	0	0	26	3	0	25	0	62	--
11:30 PM	5	0	1	1	0	1	0	27	1	0	38	1	75	--
11:45 PM	0	0	0	1	2	0	0	16	1	0	19	0	39	--
Grand Total	335	333	19	254	278	37	25	3,640	330	27	4,364	380	10,022	
% Approach	49%	48%	3%	45%	49%	7%	1%	91%	8%	1%	91%	8%		
% Total	3%	3%	0%	3%	3%	0%	0%	36%	3%	0%	44%	4%		
Lights	326	331	16	245	276	37	23	2,126	318	26	2,641	368		
% Lights	97%	99%	84%	96%	99%	100%	92%	58%	96%	96%	61%	97%		
Heavy Vehicles	9	2	3	9	2	0	2	1514	12	1	1723	12		
% Heavy Vehicles	3%	1%	16%	4%	1%	0%	8%	42%	4%	4%	39%	3%		

PM PEAK HOUR SUMMARY

Tuesday, 12/14/2021

3:30 PM - 4:30 PM

PM Peak Hour Summary	**Old US 30 (NB)**			**Queen Rd (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**47**	**42**	**5**	**30**	**45**	**6**	**7**	**467**	**44**	**2**	**523**	**48**	**1266**	**0.92**
% Heavy Vehicles	**2%**	**0%**	**0%**	**0%**	**0%**	**0%**	**15%**	**41%**	**0%**	**0%**	**34%**	**2%**		

Turning Movement Counts - AM

INTERSECTION: US 30 & Pioneer Dr

DATA DATE: Tuesday, 12/21/2021

DURATION: 24-Hr Counts

TIME BEGIN	Pioneer Dr (NB)			Pioneer Dr (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	2	3	0	4	1	5	0	21	0	0	17	1	54	213
12:15 AM	0	0	0	1	0	5	5	15	1	1	13	4	45	227
12:30 AM	1	0	1	4	1	3	4	27	0	0	16	5	62	219
12:45 AM	0	0	0	3	0	3	4	23	1	1	17	0	52	205
1:00 AM	2	5	0	7	4	7	1	17	0	0	22	3	68	192
1:15 AM	0	0	0	0	2	2	2	17	1	0	12	1	37	174
1:30 AM	0	0	0	5	1	1	5	18	0	0	17	1	48	174
1:45 AM	1	1	0	2	1	1	3	17	0	2	9	2	39	174
2:00 AM	2	2	1	4	1	3	2	14	1	0	16	4	50	182
2:15 AM	0	0	0	2	0	2	2	15	1	0	13	2	37	172
2:30 AM	0	0	0	3	0	4	1	19	1	0	20	0	48	181
2:45 AM	0	1	1	3	1	2	0	17	2	1	18	1	47	174
3:00 AM	1	1	0	1	0	1	1	22	0	0	12	1	40	186
3:15 AM	1	1	0	1	0	0	1	23	0	0	17	2	46	213
3:30 AM	1	0	2	4	0	2	0	16	0	0	16	0	41	255
3:45 AM	0	1	8	1	0	2	4	29	2	0	10	2	59	323
4:00 AM	2	1	5	0	1	2	3	31	0	0	18	4	67	365
4:15 AM	0	3	4	5	0	3	7	36	1	3	23	3	88	381
4:30 AM	0	4	0	8	1	4	7	54	2	0	25	4	109	389
4:45 AM	0	3	2	6	1	5	7	47	2	5	18	5	101	436
5:00 AM	0	3	7	3	2	4	2	24	3	1	29	5	83	522
5:15 AM	1	2	7	3	2	5	6	38	2	5	21	4	96	600
5:30 AM	0	11	6	8	2	3	13	49	15	2	33	14	156	666
5:45 AM	2	23	4	6	3	6	9	68	11	7	26	22	187	729
6:00 AM	3	7	12	4	6	6	5	64	3	4	38	9	161	770
6:15 AM	0	2	7	13	3	9	6	58	8	9	36	11	162	811
6:30 AM	4	11	15	23	9	11	13	68	5	4	41	15	219	866
6:45 AM	1	9	11	16	6	2	17	96	5	9	43	13	228	857

7:00 AM	6	5	8	18	5	9	9	63	8	10	48	13	202	891
7:15 AM	1	8	14	6	6	10	7	73	9	8	66	9	217	922
7:30 AM	2	10	12	10	4	10	4	71	10	12	59	6	210	936
7:45 AM	0	5	15	6	11	6	11	90	14	22	66	16	262	988
8:00 AM	3	6	9	14	6	8	11	68	10	23	62	13	233	997
8:15 AM	2	7	15	17	3	7	10	77	5	14	60	14	231	1,030
8:30 AM	1	8	14	10	8	11	7	85	8	17	77	16	262	1,073
8:45 AM	1	4	17	11	5	13	3	84	15	22	82	14	271	1,078
9:00 AM	2	7	19	14	4	10	9	83	2	18	81	17	266	1,073
9:15 AM	4	8	19	18	8	16	9	82	6	14	70	20	274	1,097
9:30 AM	7	9	35	10	4	12	8	78	1	19	70	14	267	1,114
9:45 AM	10	6	28	9	7	15	5	82	5	10	78	11	266	1,119
10:00 AM	6	3	21	10	5	8	7	96	11	23	88	12	290	1,182
10:15 AM	1	9	33	8	9	9	6	102	3	21	79	11	291	1,178
10:30 AM	4	8	31	11	4	11	11	76	7	11	92	6	272	1,196
10:45 AM	4	6	29	15	7	11	8	95	7	24	108	15	329	1,271
11:00 AM	8	7	24	13	6	15	7	82	14	15	76	19	286	1,305
11:15 AM	6	9	34	13	6	7	12	87	10	24	91	10	309	--
11:30 AM	0	12	27	10	4	9	12	101	11	27	120	14	347	--
11:45 AM	6	11	33	14	14	12	9	99	6	33	113	13	363	--
Grand Total	98	242	530	377	174	312	295	2,617	229	421	2,182	401	7,878	
% Approach	11%	28%	61%	44%	20%	36%	9%	83%	7%	14%	73%	13%		
% Total	1%	3%	7%	5%	2%	4%	4%	33%	3%	5%	28%	5%		
Lights	84	230	507	198	169	152	175	1,501	214	395	1,165	235		
% Lights	86%	95%	96%	53%	97%	49%	59%	57%	93%	94%	53%	59%		
Heavy Vehicles	14	12	23	179	5	160	120	1116	15	26	1017	166		
% Heavy Vehicles	14%	5%	4%	47%	3%	51%	41%	43%	7%	6%	47%	41%		

AM PEAK HOUR SUMMARY

Tuesday, 12/21/2021

8:00 AM - 9:00 AM

AM Peak Hour Summary	**Pioneer Dr (NB)**			**Pioneer Dr (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**7**	**25**	**55**	**52**	**22**	**39**	**31**	**314**	**38**	**76**	**281**	**57**	**997**	**0.92**
% Heavy Vehicles	**15%**	**4%**	**4%**	**54%**	**5%**	**54%**	**58%**	**43%**	**8%**	**4%**	**43%**	**39%**		

Peak Hour manually updated to reflect the period between 6:00-9:00 AM

Turning Movement Counts - PM

INTERSECTION: US 30 & Pioneer Dr

DATA DATE: Tuesday, 12/21/2021

DURATION: 24-Hr Counts

TIME BEGIN	Pioneer Dr (NB)			Pioneer Dr (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	10	13	41	9	13	12	11	105	10	20	105	17	366	1,428
12:15 PM	5	8	28	17	7	12	8	117	8	29	114	22	375	1,412
12:30 PM	3	10	28	10	11	11	14	118	6	25	116	12	364	1,414
12:45 PM	8	7	33	10	4	9	8	84	10	33	91	26	323	1,398
1:00 PM	6	6	33	12	4	12	13	100	9	27	112	16	350	1,452
1:15 PM	7	12	29	14	7	12	8	115	7	30	122	14	377	1,449
1:30 PM	5	9	29	13	9	13	8	100	4	25	106	27	348	1,429
1:45 PM	3	8	28	13	7	21	8	110	4	20	140	15	377	1,499
2:00 PM	8	10	28	9	5	16	8	95	5	29	111	23	347	1,475
2:15 PM	4	13	26	11	3	22	11	99	9	23	120	16	357	1,482
2:30 PM	7	15	29	14	16	17	12	133	16	22	119	18	418	1,483
2:45 PM	4	6	27	11	9	12	4	97	7	21	143	12	353	1,457
3:00 PM	10	15	21	15	14	14	11	101	4	21	121	7	354	1,472
3:15 PM	8	10	24	17	11	21	10	102	8	19	111	17	358	1,520
3:30 PM	9	7	30	12	12	10	9	106	3	36	140	18	392	1,535
3:45 PM	1	7	21	16	6	14	8	124	6	33	118	14	368	1,528
4:00 PM	13	5	30	12	13	20	9	109	7	19	148	17	402	1,545
4:15 PM	6	8	31	13	7	12	13	113	6	21	127	16	373	1,539
4:30 PM	7	6	31	14	9	13	10	113	5	31	128	18	385	1,516
4:45 PM	11	11	32	12	10	21	7	104	5	32	120	20	385	1,475
5:00 PM	13	14	30	13	11	10	10	105	0	26	151	13	396	1,379
5:15 PM	5	10	21	9	5	17	12	88	11	26	130	16	350	1,263
5:30 PM	9	7	21	13	9	11	13	112	7	23	101	18	344	1,210
5:45 PM	3	9	21	14	8	8	9	71	3	17	109	17	289	1,101
6:00 PM	5	9	15	3	6	17	8	78	4	21	100	14	280	1,038
6:15 PM	8	7	15	18	16	13	5	74	5	22	101	13	297	976
6:30 PM	3	2	18	11	3	10	4	77	1	9	89	8	235	885
6:45 PM	0	2	12	10	4	13	10	69	1	9	85	11	226	837

7:00 PM	5	6	11	3	4	7	5	70	3	16	77	11	218	813
7:15 PM	5	1	11	8	7	4	8	65	2	14	72	9	206	773
7:30 PM	1	10	10	2	2	9	5	63	2	11	58	14	187	722
7:45 PM	1	2	7	7	3	11	6	73	1	8	72	11	202	651
8:00 PM	5	2	6	7	2	13	6	70	0	6	55	6	178	575
8:15 PM	4	1	9	6	1	4	4	58	2	6	55	5	155	550
8:30 PM	0	0	4	5	0	7	4	45	1	5	43	2	116	518
8:45 PM	0	3	5	5	0	3	3	57	1	7	36	6	126	527
9:00 PM	2	5	7	2	4	9	3	47	1	5	60	8	153	507
9:15 PM	1	3	3	4	1	3	5	56	0	3	38	6	123	476
9:30 PM	0	2	4	6	1	4	5	47	0	7	37	12	125	454
9:45 PM	0	5	4	6	0	3	7	36	1	5	34	5	106	430
10:00 PM	4	4	5	6	1	7	0	52	0	3	36	4	122	416
10:15 PM	0	1	2	2	0	4	1	34	4	3	45	5	101	403
10:30 PM	1	1	0	7	6	4	1	31	3	3	40	4	101	385
10:45 PM	1	4	3	1	3	4	3	29	0	1	35	8	92	360
11:00 PM	9	2	2	5	3	11	1	35	1	3	33	4	109	335
11:15 PM	2	2	0	2	0	7	5	34	1	0	26	4	83	--
11:30 PM	0	1	0	6	2	2	2	27	3	1	28	4	76	--
11:45 PM	1	0	1	2	1	3	2	26	2	2	22	5	67	--
Grand Total	223	301	826	437	280	512	337	3,774	199	778	4,180	588	12,435	
% Approach	17%	22%	61%	36%	23%	42%	8%	88%	5%	14%	75%	11%		
% Total	2%	2%	7%	4%	2%	4%	3%	30%	2%	6%	34%	5%		
Lights	205	287	805	261	263	320	189	2,554	185	749	2,736	322		
% Lights	92%	95%	97%	60%	94%	63%	56%	68%	93%	96%	65%	55%		
Heavy Vehicles	18	14	21	176	17	192	148	1220	14	29	1444	266		
% Heavy Vehicles	8%	5%	3%	40%	6%	38%	44%	32%	7%	4%	35%	45%		

PM PEAK HOUR SUMMARY

Tuesday, 12/21/2021

4:00 PM - 5:00 PM

PM Peak Hour Summary	Pioneer Dr (NB)			Pioneer Dr (SB)			US 30 (EB)			US 30 (WB)			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**37**	**30**	**124**	**51**	**39**	**66**	**39**	**439**	**23**	**103**	**523**	**71**	**1545**	**0.96**
% Heavy Vehicles	**6%**	**4%**	**1%**	**38%**	**5%**	**43%**	**46%**	**27%**	**13%**	**3%**	**28%**	**41%**		

Turning Movement Counts - AM

INTERSECTION: US 30 & Oak Rd

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hr Counts

TIME BEGIN	Oak Rd (NB)			Oak Rd (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	1	6	11	0	1	0	1	31	0	3	25	1	80	241
12:15 AM	3	2	2	0	2	3	1	17	2	1	24	1	58	222
12:30 AM	0	1	0	1	3	0	2	33	3	1	15	1	60	204
12:45 AM	2	0	0	0	1	1	2	18	2	0	17	0	43	186
1:00 AM	1	4	10	0	1	0	0	27	0	1	17	0	61	173
1:15 AM	1	0	1	0	0	0	1	25	0	1	10	1	40	160
1:30 AM	2	0	0	1	0	1	0	23	1	0	14	0	42	179
1:45 AM	0	0	2	1	0	1	1	16	1	1	7	0	30	174
2:00 AM	3	1	0	0	2	1	2	19	0	1	19	0	48	185
2:15 AM	0	2	2	0	1	1	2	31	0	0	19	1	59	195
2:30 AM	0	0	1	0	1	1	0	22	1	0	11	0	37	189
2:45 AM	0	3	2	1	0	0	2	20	0	0	13	0	41	225
3:00 AM	1	2	0	0	1	0	3	25	0	1	25	0	58	255
3:15 AM	0	4	2	1	0	3	0	29	2	2	10	0	53	284
3:30 AM	0	7	2	0	1	0	6	32	1	4	18	2	73	322
3:45 AM	1	7	1	0	5	0	10	24	3	6	12	2	71	380
4:00 AM	3	9	2	0	1	1	6	43	2	1	17	2	87	453
4:15 AM	1	6	6	0	2	1	6	40	5	3	20	1	91	489
4:30 AM	7	8	2	0	2	2	16	47	12	10	25	0	131	558
4:45 AM	4	13	5	0	9	3	14	45	12	7	31	1	144	579
5:00 AM	6	9	0	0	4	4	5	46	6	5	36	2	123	634
5:15 AM	8	6	7	1	2	3	8	49	5	9	60	2	160	711
5:30 AM	2	2	3	1	14	2	5	55	10	12	44	2	152	779
5:45 AM	2	8	3	1	10	9	12	63	21	18	48	4	199	849
6:00 AM	9	13	8	4	7	8	12	87	8	2	40	2	200	933
6:15 AM	3	11	15	3	9	9	15	75	11	8	67	2	228	995
6:30 AM	5	15	8	2	15	6	22	65	14	9	55	6	222	1,045
6:45 AM	6	16	11	1	15	15	25	82	18	19	67	8	283	1,133

7:00 AM	6	24	14	4	17	22	17	71	13	16	55	3	262	1,212
7:15 AM	5	24	11	4	25	16	23	75	8	15	64	8	278	1,307
7:30 AM	6	23	8	4	24	16	16	90	12	22	82	7	310	1,396
7:45 AM	10	33	11	9	39	11	36	71	20	32	78	12	362	1,407
8:00 AM	5	51	14	1	37	24	23	82	20	15	72	13	357	1,404
8:15 AM	12	38	7	5	41	26	18	85	11	16	103	5	367	1,346
8:30 AM	6	27	9	10	33	17	26	79	10	15	85	4	321	1,314
8:45 AM	8	35	13	10	31	10	29	97	14	15	89	8	359	1,326
9:00 AM	1	29	15	6	23	19	20	71	11	11	86	7	299	1,352
9:15 AM	9	60	12	7	44	20	17	62	10	18	70	6	335	1,395
9:30 AM	9	62	17	11	41	20	21	52	6	7	85	2	333	1,452
9:45 AM	9	48	10	6	44	23	27	86	18	10	90	14	385	1,492
10:00 AM	10	42	9	7	28	30	26	73	19	8	82	8	342	1,520
10:15 AM	12	70	10	13	45	26	35	68	14	7	82	10	392	1,607
10:30 AM	9	54	8	4	32	24	44	64	18	14	86	16	373	1,635
10:45 AM	9	69	16	12	56	29	30	59	18	12	94	9	413	1,722
11:00 AM	8	54	10	11	60	31	37	82	19	15	89	13	429	1,777
11:15 AM	15	70	10	10	69	31	34	68	13	7	83	10	420	--
11:30 AM	7	69	18	11	53	36	45	71	21	13	99	17	460	--
11:45 AM	20	69	21	15	67	46	31	74	13	12	86	14	468	--
Grand Total	247	1,106	349	178	918	552	734	2,569	428	405	2,426	227	10,139	
% Approach	15%	65%	21%	11%	56%	33%	20%	69%	11%	13%	79%	7%		
% Total	2%	11%	3%	2%	9%	5%	7%	25%	4%	4%	24%	2%		
Lights	197	1,067	243	142	876	511	699	1,293	392	317	1,233	215		
% Lights	80%	96%	70%	80%	95%	93%	95%	50%	92%	78%	51%	95%		
Heavy Vehicles	50	39	106	36	42	41	35	1276	36	88	1193	12		
% Heavy Vehicles	20%	4%	30%	20%	5%	7%	5%	50%	8%	22%	49%	5%		

AM PEAK HOUR SUMMARY

Monday, 10/03/2022

7:45 AM - 8:45 AM

AM Peak Hour Summary	**Oak Rd (NB)**			**Oak Rd (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**33**	**149**	**41**	**25**	**150**	**78**	**103**	**317**	**61**	**78**	**338**	**34**	**1407**	**0.96**
% Heavy Vehicles	**9%**	**6%**	**32%**	**36%**	**6%**	**5%**	**6%**	**49%**	**12%**	**13%**	**42%**	**6%**		

Peak Hour manually updated to reflect the period between 6:00-9:00 AM

Turning Movement Counts - PM

INTERSECTION: US 30 & Oak Rd

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hr Counts

TIME BEGIN	Oak Rd (NB)			Oak Rd (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	12	77	12	17	75	37	53	73	18	10	93	17	494	1,893
12:15 PM	16	62	19	13	54	34	42	81	14	13	82	19	449	1,888
12:30 PM	9	76	11	8	79	46	35	77	19	13	86	17	476	1,915
12:45 PM	14	65	15	15	89	40	29	76	13	11	97	10	474	1,856
1:00 PM	7	59	12	12	77	38	41	112	19	15	82	15	489	1,832
1:15 PM	22	66	18	6	75	45	30	94	8	8	94	10	476	1,815
1:30 PM	10	40	8	14	49	44	33	95	19	12	83	10	417	1,864
1:45 PM	8	71	13	18	70	57	20	76	14	14	83	6	450	1,909
2:00 PM	16	75	13	17	69	37	32	93	10	17	78	15	472	1,938
2:15 PM	17	75	15	13	91	49	37	95	19	16	85	13	525	1,992
2:30 PM	12	60	17	15	49	35	21	104	19	19	101	10	462	1,931
2:45 PM	21	57	12	12	84	34	27	87	15	6	114	10	479	1,953
3:00 PM	22	83	40	16	52	54	29	88	13	9	106	14	526	1,980
3:15 PM	10	76	24	14	80	35	28	72	10	16	95	4	464	1,948
3:30 PM	22	63	22	17	66	39	39	87	12	8	99	10	484	1,993
3:45 PM	14	68	13	9	73	47	32	100	16	14	109	11	506	2,009
4:00 PM	21	79	18	18	71	46	32	81	19	9	86	14	494	2,006
4:15 PM	13	73	26	19	74	47	32	77	15	16	98	19	509	2,032
4:30 PM	27	60	23	20	56	49	33	88	17	6	103	18	500	2,012
4:45 PM	15	78	24	10	57	50	28	98	18	6	97	22	503	1,989
5:00 PM	17	71	25	17	72	56	42	96	11	11	84	18	520	1,890
5:15 PM	19	59	23	21	62	56	31	92	15	6	90	15	489	1,781
5:30 PM	13	45	19	26	67	43	33	102	10	14	90	15	477	1,672
5:45 PM	7	42	9	16	49	41	38	90	10	10	81	11	404	1,608
6:00 PM	11	55	12	18	65	43	30	87	7	7	65	11	411	1,537
6:15 PM	13	45	6	10	47	30	20	78	10	9	94	18	380	1,455
6:30 PM	7	39	9	26	64	39	33	82	13	7	84	10	413	1,377
6:45 PM	12	32	10	18	60	41	17	66	8	4	61	4	333	1,249

7:00 PM	13	33	11	11	39	29	18	80	6	4	79	6	329	1,162
7:15 PM	4	28	2	15	48	25	15	66	5	3	80	11	302	1,068
7:30 PM	5	44	6	11	35	27	15	75	6	1	56	4	285	979
7:45 PM	9	27	5	8	37	17	12	69	3	2	52	5	246	924
8:00 PM	3	12	5	9	27	23	12	65	6	3	62	8	235	893
8:15 PM	4	13	1	7	22	24	12	62	10	2	52	4	213	841
8:30 PM	9	22	4	14	34	24	19	42	8	5	43	6	230	816
8:45 PM	4	23	8	8	23	25	13	47	4	3	47	10	215	776
9:00 PM	8	12	2	5	24	18	11	55	8	0	38	2	183	689
9:15 PM	5	17	4	6	10	14	8	77	2	1	41	3	188	649
9:30 PM	4	14	1	3	23	14	15	56	9	5	42	4	190	593
9:45 PM	5	10	1	9	8	6	8	38	2	3	38	0	128	511
10:00 PM	5	13	5	2	8	12	5	57	2	1	29	4	143	495
10:15 PM	4	7	4	4	8	10	2	49	1	3	38	2	132	457
10:30 PM	2	5	2	5	11	3	4	36	1	4	30	5	108	402
10:45 PM	2	5	2	4	15	10	4	38	2	2	27	1	112	361
11:00 PM	1	6	5	2	5	8	3	42	2	1	28	2	105	315
11:15 PM	3	2	4	1	3	2	3	23	2	1	31	2	77	--
11:30 PM	1	3	0	0	1	1	2	29	5	0	25	0	67	--
11:45 PM	1	0	1	1	3	5	1	22	2	2	27	1	66	--
Grand Total	499	2,047	541	560	2,260	1,509	1,079	3,475	477	352	3,385	446	16,630	
% Approach	16%	66%	18%	13%	52%	35%	21%	69%	9%	8%	81%	11%		
% Total	3%	12%	3%	3%	14%	9%	6%	21%	3%	2%	20%	3%		
Lights	452	2,006	456	535	2,230	1,467	1,037	1,912	429	246	1,777	415		
% Lights	91%	98%	84%	96%	99%	97%	96%	55%	90%	70%	52%	93%		
Heavy Vehicles	47	41	85	25	30	42	42	1563	48	106	1608	31		
% Heavy Vehicles	9%	2%	16%	4%	1%	3%	4%	45%	10%	30%	48%	7%		

PM PEAK HOUR SUMMARY

Monday, 10/03/2022

4:15 PM - 5:15 PM

PM Peak Hour Summary	Oak Rd (NB)			Oak Rd (SB)			US 30 (EB)			US 30 (WB)			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**72**	**282**	**98**	**66**	**259**	**202**	**135**	**359**	**61**	**39**	**382**	**77**	**2032**	**0.98**
% Heavy Vehicles	**9%**	**1%**	**4%**	**8%**	**2%**	**3%**	**2%**	**35%**	**7%**	**28%**	**41%**	**4%**		

Turning Movement Counts - AM

INTERSECTION: US 30 & Michigan St South Ramp

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hr Counts

TIME BEGIN	Michigan St (NB)			Michigan St (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	0	16	2	1	9	0	0	0	0	0	0	1	29	70
12:15 AM	0	8	1	1	5	0	0	0	0	2	0	1	18	51
12:30 AM	0	5	4	0	3	0	0	0	0	0	0	0	12	41
12:45 AM	0	7	0	0	3	0	0	0	0	0	0	1	11	32
1:00 AM	0	4	0	1	5	0	0	0	0	0	0	0	10	25
1:15 AM	0	6	0	0	2	0	0	0	0	0	0	0	8	24
1:30 AM	0	2	0	1	0	0	0	0	0	0	0	0	3	26
1:45 AM	0	2	0	0	1	0	0	0	0	1	0	0	4	32
2:00 AM	0	4	0	1	4	0	0	0	0	0	0	0	9	41
2:15 AM	0	3	1	1	3	0	0	0	0	2	0	0	10	45
2:30 AM	0	3	1	0	3	0	0	0	0	2	0	0	9	64
2:45 AM	0	6	2	0	2	0	0	0	0	1	0	2	13	95
3:00 AM	0	7	0	0	3	0	0	0	0	1	0	2	13	122
3:15 AM	0	23	1	0	2	0	0	0	0	0	0	3	29	173
3:30 AM	0	19	0	1	12	0	0	0	0	1	0	7	40	221
3:45 AM	0	28	1	1	4	0	0	0	0	1	0	5	40	246
4:00 AM	0	49	1	1	3	0	0	0	0	1	0	9	64	261
4:15 AM	0	59	3	2	8	0	0	0	0	0	0	5	77	259
4:30 AM	0	40	1	2	16	0	0	0	0	2	0	4	65	248
4:45 AM	0	32	1	1	18	0	0	0	0	0	0	3	55	251
5:00 AM	0	39	3	1	9	0	0	0	0	2	0	8	62	259
5:15 AM	0	37	8	4	13	0	0	0	0	1	0	3	66	272
5:30 AM	0	42	5	1	16	0	0	0	0	1	0	3	68	315
5:45 AM	0	27	3	2	24	0	0	0	0	2	0	5	63	338
6:00 AM	0	37	5	3	23	0	0	0	0	0	0	7	75	386
6:15 AM	0	56	7	4	30	0	0	0	0	2	0	10	109	445
6:30 AM	0	42	2	5	32	0	0	0	0	4	0	6	91	515
6:45 AM	0	48	5	2	49	0	0	0	0	0	0	7	111	621

7:00 AM	0	67	8	4	45	0	0	0	0	6	0	4	134	747
7:15 AM	0	78	9	5	76	0	0	0	0	4	0	7	179	767
7:30 AM	0	73	9	7	93	0	0	0	0	5	0	10	197	759
7:45 AM	0	103	5	5	107	0	0	0	0	11	0	6	237	676
8:00 AM	0	69	10	7	59	0	0	0	0	8	0	1	154	603
8:15 AM	0	72	6	7	75	0	0	0	0	8	0	3	171	588
8:30 AM	0	51	6	6	40	0	0	0	0	5	0	6	114	560
8:45 AM	0	68	12	7	62	0	0	0	0	7	0	8	164	593
9:00 AM	0	72	5	3	50	0	0	0	0	5	0	4	139	588
9:15 AM	0	63	7	6	56	0	0	0	0	3	0	8	143	615
9:30 AM	0	61	7	6	62	0	0	0	0	7	0	4	147	621
9:45 AM	0	69	8	4	68	0	0	0	0	5	0	5	159	633
10:00 AM	0	82	7	6	65	0	0	0	0	3	0	3	166	652
10:15 AM	0	52	8	9	65	0	0	0	0	10	0	5	149	670
10:30 AM	0	63	9	8	71	0	0	0	0	5	0	3	159	700
10:45 AM	0	68	8	6	81	0	0	0	0	6	0	9	178	739
11:00 AM	0	88	9	2	77	0	0	0	0	7	0	1	184	786
11:15 AM	0	67	8	5	79	0	0	0	0	13	0	7	179	--
11:30 AM	0	89	8	6	81	0	0	0	0	5	0	9	198	--
11:45 AM	0	98	15	3	94	0	0	0	0	10	0	5	225	--
Grand Total	0	2,104	221	148	1,708	0	0	0	0	159	0	200	4,540	
% Approach	0%	90%	10%	8%	92%	0%	0%	0%	0%	44%	0%	56%		
% Total	0%	46%	5%	3%	38%	0%	0%	0%	0%	4%	0%	4%		
Lights	0	2,043	206	108	1,645	0	0	0	0	151	0	173		
% Lights	0%	97%	93%	73%	96%	0%	0%	0%	0%	95%	0%	87%		
Heavy Vehicles	0	61	15	40	63	0	0	0	0	8	0	27		
% Heavy Vehicles	0%	3%	7%	27%	4%	0%	0%	0%	0%	5%	0%	14%		

AM PEAK HOUR SUMMARY

Monday, 10/03/2022

7:15 AM - 8:15 AM

AM Peak Hour Summary	**Michigan St (NB)**			**Michigan St (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**0**	**323**	**33**	**24**	**335**	**0**	**0**	**0**	**0**	**28**	**0**	**24**	**767**	**0.81**
% Heavy Vehicles	**0%**	**4%**	**3%**	**38%**	**4%**	**0%**	**0%**	**0%**	**0%**	**11%**	**0%**	**17%**		

Peak Hour manually updated to reflect the period between 6:00-9:00 AM

Turning Movement Counts - PM

INTERSECTION: US 30 & Michigan St South Ramp

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hr Counts

TIME BEGIN	Michigan St (NB)			Michigan St (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	0	101	15	5	89	0	0	0	0	10	0	5	225	854
12:15 PM	0	113	15	3	93	0	0	0	0	6	0	7	237	814
12:30 PM	0	78	12	6	83	0	0	0	0	4	0	6	189	784
12:45 PM	0	96	8	4	81	0	0	0	0	8	0	6	203	805
1:00 PM	0	95	8	1	72	0	0	0	0	5	0	4	185	825
1:15 PM	0	78	11	5	94	0	0	0	0	13	0	6	207	869
1:30 PM	0	105	11	3	86	0	0	0	0	5	0	0	210	888
1:45 PM	0	91	13	10	96	0	0	0	0	9	0	4	223	916
2:00 PM	0	104	8	7	98	0	0	0	0	7	0	5	229	962
2:15 PM	0	83	9	4	114	0	0	0	0	8	0	8	226	988
2:30 PM	0	102	11	8	102	0	0	0	0	10	0	5	238	1,061
2:45 PM	0	113	20	5	119	0	0	0	0	6	0	6	269	1,094
3:00 PM	0	105	15	8	112	0	0	0	0	14	0	1	255	1,078
3:15 PM	0	148	18	6	113	0	0	0	0	10	0	4	299	1,078
3:30 PM	0	119	11	8	123	0	0	0	0	6	0	4	271	1,033
3:45 PM	0	111	15	5	108	0	0	0	0	9	0	5	253	1,011
4:00 PM	0	123	19	10	90	0	0	0	0	8	0	5	255	1,009
4:15 PM	0	125	11	5	101	0	0	0	0	9	0	3	254	1,020
4:30 PM	0	107	12	8	108	0	0	0	0	7	0	7	249	1,036
4:45 PM	0	103	13	7	110	0	0	0	0	7	0	11	251	1,020
5:00 PM	0	129	11	11	102	0	0	0	0	8	0	5	266	1,008
5:15 PM	0	115	17	6	122	0	0	0	0	4	0	6	270	951
5:30 PM	0	106	8	5	97	0	0	0	0	9	0	8	233	884
5:45 PM	0	96	6	8	118	0	0	0	0	6	0	5	239	814
6:00 PM	0	90	12	3	89	0	0	0	0	6	0	9	209	727
6:15 PM	0	100	13	4	74	0	0	0	0	8	0	4	203	702
6:30 PM	0	71	8	3	65	0	0	0	0	10	0	6	163	638
6:45 PM	0	54	12	2	71	0	0	0	0	8	0	5	152	605

7:00 PM	0	88	5	4	71	0	0	0	0	7	0	9	184	565
7:15 PM	0	63	7	3	61	0	0	0	0	4	0	1	139	520
7:30 PM	0	62	3	1	53	0	0	0	0	6	0	5	130	469
7:45 PM	0	53	6	3	38	0	0	0	0	5	0	7	112	412
8:00 PM	0	80	4	2	46	0	0	0	0	4	0	3	139	379
8:15 PM	0	33	9	0	44	0	0	0	0	1	0	1	88	323
8:30 PM	0	35	4	1	27	0	0	0	0	6	0	0	73	302
8:45 PM	0	30	2	0	43	0	0	0	0	4	0	0	79	293
9:00 PM	0	37	6	1	34	0	0	0	0	3	0	2	83	249
9:15 PM	0	30	5	4	26	0	0	0	0	2	0	0	67	206
9:30 PM	0	32	7	0	20	0	0	0	0	3	0	2	64	176
9:45 PM	0	19	3	1	9	0	0	0	0	2	0	1	35	134
10:00 PM	0	22	2	0	12	0	0	0	0	3	0	1	40	136
10:15 PM	0	16	3	1	16	0	0	0	0	0	0	1	37	117
10:30 PM	0	13	1	0	8	0	0	0	0	0	0	0	22	106
10:45 PM	0	17	0	2	14	0	0	0	0	2	0	2	37	105
11:00 PM	0	8	1	2	9	0	0	0	0	1	0	0	21	83
11:15 PM	0	9	0	1	14	0	0	0	0	1	0	1	26	-
11:30 PM	0	9	0	0	11	0	0	0	0	1	0	0	21	--
11:45 PM	0	5	0	1	8	0	0	0	0	1	0	0	15	--
Grand Total	0	3,522	410	187	3,294	0	0	0	0	276	0	186	7,875	
% Approach	0%	90%	10%	5%	95%	0%	0%	0%	0%	60%	0%	40%		
% Total	0%	45%	5%	2%	42%	0%	0%	0%	0%	4%	0%	2%		
Lights	0	3,455	391	161	3,227	0	0	0	0	267	0	168		
% Lights	0%	98%	95%	86%	98%	0%	0%	0%	0%	97%	0%	90%		
Heavy Vehicles	0	67	19	26	67	0	0	0	0	9	0	18		
% Heavy Vehicles	0%	2%	5%	14%	2%	0%	0%	0%	0%	3%	0%	10%		

PM PEAK HOUR SUMMARY

Monday, 10/03/2022

3:00 PM - 4:00 PM

PM Peak Hour Summary	**Michigan St (NB)**			**Michigan St (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**0**	**483**	**59**	**27**	**456**	**0**	**0**	**0**	**0**	**39**	**0**	**14**	**1078**	**0.90**
% Heavy Vehicles	**0%**	**2%**	**4%**	**11%**	**3%**	**0%**	**0%**	**0%**	**0%**	**3%**	**0%**	**15%**		

Peak Hour manually updated to reflect the period between 3:00-6:00 PM

Turning Movement Counts - AM

INTERSECTION: US 30 & Michigan St North Ramp

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hr Counts

TIME BEGIN	Michigan St (NB)			Michigan St (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	0	14	2	0	7	0	0	0	0	2	0	1	26	66
12:15 AM	0	8	2	0	6	0	0	0	0	1	0	1	18	49
12:30 AM	0	5	1	0	3	0	0	0	0	0	0	1	10	40
12:45 AM	0	7	2	0	2	0	0	0	0	1	0	0	12	35
1:00 AM	0	3	1	0	5	0	0	0	0	0	0	0	9	27
1:15 AM	0	7	0	0	2	0	0	0	0	0	0	0	9	28
1:30 AM	0	2	0	0	3	0	0	0	0	0	0	0	5	28
1:45 AM	0	3	0	0	1	0	0	0	0	0	0	0	4	29
2:00 AM	0	5	0	0	5	0	0	0	0	0	0	0	10	40
2:15 AM	0	3	0	0	3	0	0	0	0	2	0	1	9	49
2:30 AM	0	3	0	0	3	0	0	0	0	0	0	0	6	73
2:45 AM	0	9	0	1	3	0	0	0	0	0	0	2	15	109
3:00 AM	0	15	0	0	3	0	0	0	0	1	0	0	19	139
3:15 AM	0	31	1	0	1	0	0	0	0	0	0	0	33	195
3:30 AM	0	27	0	2	9	0	0	0	0	3	0	1	42	250
3:45 AM	0	37	1	0	6	0	0	0	0	0	0	1	45	289
4:00 AM	0	67	1	1	3	0	0	0	0	2	0	1	75	320
4:15 AM	0	77	0	0	7	0	0	0	0	4	0	0	88	299
4:30 AM	0	52	1	2	21	0	0	0	0	2	0	3	81	276
4:45 AM	0	49	1	1	19	0	0	0	0	2	0	4	76	263
5:00 AM	0	44	2	0	5	0	0	0	0	2	0	1	54	246
5:15 AM	0	44	1	1	17	0	0	0	0	1	0	1	65	271
5:30 AM	0	38	7	2	18	0	0	0	0	3	0	0	68	322
5:45 AM	0	27	2	4	21	0	0	0	0	4	0	1	59	356
6:00 AM	0	48	2	2	20	0	0	0	0	6	0	1	79	427
6:15 AM	0	63	7	3	35	0	0	0	0	6	0	2	116	474
6:30 AM	0	44	8	4	36	0	0	0	0	6	0	4	102	550
6:45 AM	0	51	8	10	45	0	0	0	0	10	0	6	130	631

7:00 AM	0	65	4	1	42	0	0	0	0	11	0	3	126	734
7:15 AM	0	89	5	3	76	0	0	0	0	12	0	7	192	760
7:30 AM	0	71	6	4	90	0	0	0	0	8	0	4	183	719
7:45 AM	0	97	9	6	103	0	0	0	0	14	0	4	233	652
8:00 AM	0	60	8	3	65	0	0	0	0	8	0	8	152	576
8:15 AM	0	61	10	1	67	0	0	0	0	10	0	2	151	555
8:30 AM	0	55	5	4	41	0	0	0	0	6	0	5	116	550
8:45 AM	0	68	6	3	64	0	0	0	0	9	0	7	157	575
9:00 AM	0	63	10	3	42	0	0	0	0	7	0	6	131	572
9:15 AM	0	65	7	3	57	0	0	0	0	10	0	4	146	603
9:30 AM	0	60	7	0	60	0	0	0	0	8	0	6	141	611
9:45 AM	0	62	9	4	60	0	0	0	0	12	0	7	154	624
10:00 AM	0	76	6	2	58	0	0	0	0	15	0	5	162	628
10:15 AM	0	58	2	9	60	0	0	0	0	14	0	11	154	633
10:30 AM	0	62	6	2	69	0	0	0	0	11	0	4	154	641
10:45 AM	0	68	4	1	74	0	0	0	0	8	0	3	158	687
11:00 AM	0	77	5	1	77	0	0	0	0	5	0	2	167	733
11:15 AM	0	66	7	5	71	0	0	0	0	11	0	2	162	--
11:30 AM	0	80	16	6	80	0	0	0	0	9	0	9	200	--
11:45 AM	0	85	13	1	89	0	0	0	0	10	0	6	204	--
Grand Total	0	2,171	195	95	1,654	0	0	0	0	256	0	137	4,508	
% Approach	0%	92%	8%	5%	95%	0%	0%	0%	0%	65%	0%	35%		
% Total	0%	48%	4%	2%	37%	0%	0%	0%	0%	6%	0%	3%		
Lights	0	2,094	185	74	1,571	0	0	0	0	228	0	98		
% Lights	0%	96%	95%	78%	95%	0%	0%	0%	0%	89%	0%	72%		
Heavy Vehicles	0	77	10	21	83	0	0	0	0	28	0	39		
% Heavy Vehicles	0%	4%	5%	22%	5%	0%	0%	0%	0%	11%	0%	28%		

AM PEAK HOUR SUMMARY

Monday, 10/03/2022

7:15 AM - 8:15 AM

AM Peak Hour Summary	**Michigan St (NB)**			**Michigan St (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**0**	**317**	**28**	**16**	**334**	**0**	**0**	**0**	**0**	**42**	**0**	**23**	**760**	**0.82**
% Heavy Vehicles	**0%**	**5%**	**7%**	**19%**	**7%**	**0%**	**0%**	**0%**	**0%**	**10%**	**0%**	**35%**		

Turning Movement Counts - PM

INTERSECTION: US 30 & Michigan St North Ramp

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hr Counts

TIME BEGIN	Michigan St (NB)			Michigan St (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	0	93	7	4	79	0	0	0	0	11	0	5	199	796
12:15 PM	0	102	12	5	83	0	0	0	0	12	0	8	222	775
12:30 PM	0	75	8	3	74	0	0	0	0	12	0	2	174	725
12:45 PM	0	83	19	8	73	0	0	0	0	11	0	7	201	752
1:00 PM	0	86	11	1	70	0	0	0	0	6	0	4	178	765
1:15 PM	0	63	10	0	87	0	0	0	0	10	0	2	172	804
1:30 PM	0	89	10	2	87	0	0	0	0	6	0	7	201	838
1:45 PM	0	90	4	9	100	0	0	0	0	10	0	1	214	875
2:00 PM	0	95	11	5	85	0	0	0	0	17	0	4	217	911
2:15 PM	0	80	8	3	99	0	0	0	0	12	0	4	206	927
2:30 PM	0	97	14	3	99	0	0	0	0	16	0	9	238	1,002
2:45 PM	0	96	16	6	116	0	0	0	0	11	0	5	250	1,014
3:00 PM	0	101	8	2	111	0	0	0	0	8	0	3	233	1,003
3:15 PM	0	141	12	3	110	0	0	0	0	8	0	7	281	1,015
3:30 PM	0	104	14	0	119	0	0	0	0	9	0	4	250	975
3:45 PM	0	105	11	6	101	0	0	0	0	13	0	3	239	967
4:00 PM	0	117	12	4	99	0	0	0	0	8	0	5	245	987
4:15 PM	0	121	12	0	92	0	0	0	0	10	0	6	241	995
4:30 PM	0	95	17	8	104	0	0	0	0	10	0	8	242	995
4:45 PM	0	103	14	7	113	0	0	0	0	11	0	11	259	972
5:00 PM	0	120	14	6	96	0	0	0	0	13	0	4	253	949
5:15 PM	0	107	10	1	101	0	0	0	0	18	0	4	241	889
5:30 PM	0	105	12	3	87	0	0	0	0	8	0	4	219	823
5:45 PM	0	99	8	3	106	0	0	0	0	13	0	7	236	758
6:00 PM	0	88	9	4	80	0	0	0	0	12	0	0	193	661
6:15 PM	0	86	10	3	65	0	0	0	0	10	0	1	175	639
6:30 PM	0	71	12	1	56	0	0	0	0	12	0	2	154	588
6:45 PM	0	48	6	5	71	0	0	0	0	7	0	2	139	565

7:00 PM	0	88	8	4	58	0	0	0	0	9	0	4	171	532
7:15 PM	0	51	8	1	57	0	0	0	0	5	0	2	124	486
7:30 PM	0	63	11	4	41	0	0	0	0	8	0	4	131	441
7:45 PM	0	51	12	2	36	0	0	0	0	4	0	1	106	384
8:00 PM	0	61	7	3	47	0	0	0	0	3	0	4	125	360
8:15 PM	0	34	1	2	34	0	0	0	0	6	0	2	79	310
8:30 PM	0	33	6	2	26	0	0	0	0	3	0	4	74	295
8:45 PM	0	26	5	2	37	0	0	0	0	11	0	1	82	279
9:00 PM	0	36	4	2	25	0	0	0	0	7	0	1	75	233
9:15 PM	0	25	5	2	30	0	0	0	0	1	0	1	64	192
9:30 PM	0	31	5	1	16	0	0	0	0	2	0	3	58	165
9:45 PM	0	19	3	1	9	0	0	0	0	4	0	0	36	128
10:00 PM	0	16	5	0	12	0	0	0	0	0	0	1	34	129
10:15 PM	0	16	3	1	15	0	0	0	0	2	0	0	37	115
10:30 PM	0	11	2	0	6	0	0	0	0	1	0	1	21	108
10:45 PM	0	14	5	0	14	0	0	0	0	3	0	1	37	111
11:00 PM	0	6	3	0	11	0	0	0	0	0	0	0	20	91
11:15 PM	0	12	0	0	16	0	0	0	0	1	0	1	30	--
11:30 PM	0	11	0	0	10	0	0	0	0	2	0	1	24	--
11:45 PM	0	4	1	0	10	0	0	0	0	0	0	2	17	--
Grand Total	0	3,268	405	132	3,073	0	0	0	0	376	0	163	7,417	
% Approach	0%	89%	11%	4%	96%	0%	0%	0%	0%	70%	0%	30%		
% Total	0%	44%	5%	2%	41%	0%	0%	0%	0%	5%	0%	2%		
Lights	0	3,192	392	114	3,009	0	0	0	0	351	0	144		
% Lights	0%	98%	97%	86%	98%	0%	0%	0%	0%	93%	0%	88%		
Heavy Vehicles	0	76	13	18	64	0	0	0	0	25	0	19		
% Heavy Vehicles	0%	2%	3%	14%	2%	0%	0%	0%	0%	7%	0%	12%		

PM PEAK HOUR SUMMARY

Monday, 10/03/2022

3:15 PM - 4:15 PM

PM Peak Hour Summary	Michigan St (NB)			Michigan St (SB)			US 30 (EB)			US 30 (WB)			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**0**	**467**	**49**	**13**	**429**	**0**	**0**	**0**	**0**	**38**	**0**	**19**	**1015**	**0.90**
% Heavy Vehicles	**0%**	**2%**	**2%**	**8%**	**3%**	**0%**	**0%**	**0%**	**0%**	**6%**	**0%**	**11%**		

Peak Hour manually updated to reflect the period between 3:00-6:00 PM

Turning Movement Counts - AM

INTERSECTION: US 30 & Plymouth Goshen Trail

DATA DATE: Thursday, 12/16/2021

DURATION: 24-Hr Counts

TIME BEGIN	Plymouth Goshen Trail (NB)			Plymouth Goshen Trail (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	0	1	0	0	0	0	0	32	0	0	17	0	50	157
12:15 AM	0	0	0	0	0	0	0	18	0	0	13	0	31	155
12:30 AM	0	0	1	0	0	3	0	21	0	0	19	0	44	162
12:45 AM	0	0	0	0	0	1	0	15	0	0	16	0	32	148
1:00 AM	0	0	0	0	0	0	0	36	0	0	12	0	48	148
1:15 AM	0	0	0	0	0	1	0	19	0	0	18	0	38	139
1:30 AM	0	1	0	0	0	1	0	16	0	0	12	0	30	138
1:45 AM	0	0	0	0	0	0	0	18	0	0	14	0	32	135
2:00 AM	0	0	0	0	0	0	0	20	0	0	19	0	39	143
2:15 AM	0	0	0	0	0	0	0	20	0	0	17	0	37	140
2:30 AM	0	0	0	0	0	0	0	12	0	0	15	0	27	139
2:45 AM	0	0	0	0	0	0	0	23	0	0	17	0	40	161
3:00 AM	0	0	2	0	0	0	0	20	0	0	13	1	36	180
3:15 AM	0	0	0	0	0	0	0	25	0	0	11	0	36	201
3:30 AM	0	0	1	0	0	0	0	33	0	0	15	0	49	249
3:45 AM	0	0	1	0	0	0	0	37	0	0	21	0	59	287
4:00 AM	0	0	4	0	0	1	0	31	0	0	20	1	57	312
4:15 AM	0	0	5	0	0	1	0	43	0	0	35	0	84	359
4:30 AM	0	0	0	0	0	1	0	42	0	0	44	0	87	380
4:45 AM	0	0	2	0	0	2	0	34	0	0	43	3	84	419
5:00 AM	0	0	5	0	0	4	0	60	0	0	34	1	104	491
5:15 AM	0	0	3	0	0	3	0	55	1	0	36	7	105	495
5:30 AM	0	0	2	0	0	3	0	58	0	0	61	2	126	542
5:45 AM	0	0	6	0	0	10	0	75	1	0	64	0	156	586
6:00 AM	0	0	1	0	0	2	0	64	0	0	40	1	108	633
6:15 AM	0	0	4	0	0	2	0	80	1	0	64	1	152	712
6:30 AM	0	0	3	0	0	4	0	88	0	0	75	0	170	771
6:45 AM	0	0	4	0	0	3	0	87	1	0	106	2	203	838

7:00 AM	0	0	3	0	0	3	0	93	2	0	86	0	187	863
7:15 AM	0	0	6	0	0	6	0	100	1	0	98	0	211	901
7:30 AM	0	0	7	0	0	5	0	105	2	0	117	1	237	913
7:45 AM	0	0	10	0	0	4	0	93	3	0	118	0	228	906
8:00 AM	0	0	7	0	0	1	0	94	2	0	118	3	225	892
8:15 AM	0	0	7	1	0	6	0	97	2	0	107	3	223	893
8:30 AM	0	0	6	0	0	1	0	114	2	0	106	1	230	901
8:45 AM	0	0	0	0	0	4	0	95	3	0	112	0	214	917
9:00 AM	0	0	7	0	0	2	0	107	0	0	107	3	226	943
9:15 AM	0	0	5	0	0	8	0	101	1	0	114	2	231	967
9:30 AM	0	0	3	0	0	3	0	107	1	0	126	6	246	968
9:45 AM	0	0	5	0	0	8	0	104	1	0	120	2	240	969
10:00 AM	0	0	1	0	0	7	0	112	2	0	127	1	250	957
10:15 AM	0	0	4	0	0	4	0	107	1	0	113	3	232	934
10:30 AM	0	0	4	0	0	4	0	114	2	0	120	3	247	941
10:45 AM	0	0	4	0	0	2	0	96	0	0	125	1	228	947
11:00 AM	0	0	4	0	0	3	0	107	1	0	111	1	227	966
11:15 AM	0	0	6	0	0	6	0	108	1	0	118	0	239	--
11:30 AM	0	0	8	0	0	10	0	122	1	0	112	0	253	--
11:45 AM	0	0	3	0	0	6	0	112	3	0	122	1	247	--
Grand Total	0	2	144	1	0	135	0	3,170	35	0	3,148	50	6,685	
% Approach	0%	1%	99%	1%	0%	99%	0%	99%	1%	0%	98%	2%		
% Total	0%	0%	2%	0%	0%	2%	0%	47%	1%	0%	47%	1%		
Lights	0	1	132	1	0	112	0	1,789	30	0	1,844	42		
% Lights	0%	50%	92%	100%	0%	83%	0%	56%	86%	0%	59%	84%		
Heavy Vehicles	0	1	12	0	0	23	0	1381	5	0	1304	8		
% Heavy Vehicles	0%	50%	8%	0%	0%	17%	0%	44%	14%	0%	41%	16%		

AM PEAK HOUR SUMMARY

Thursday, 12/16/2021

7:30 AM - 8:30 AM

AM Peak Hour Summary	Plymouth Goshen Trail (NB)			Plymouth Goshen Trail (SB)			US 30 (EB)			US 30 (WB)			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**0**	**0**	**31**	**1**	**0**	**16**	**0**	**389**	**9**	**0**	**460**	**7**	**913**	**0.96**
% Heavy Vehicles	**0%**	**0%**	**3%**	**0%**	**0%**	**13%**	**0%**	**39%**	**0%**	**0%**	**34%**	**0%**		

Peak Hour manually updated to reflect the period between 6:00-9:00 AM

Turning Movement Counts - PM

INTERSECTION: US 30 & Plymouth Goshen Trail

DATA DATE: Wednesday, 12/15/2021

DURATION: 24-Hr Counts

TIME BEGIN	Plymouth Goshen Trail (NB)			Plymouth Goshen Trail (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	0	0	6	0	0	8	0	112	2	0	136	0	264	1,066
12:15 PM	0	0	6	0	0	7	0	126	1	0	108	1	249	1,119
12:30 PM	0	0	3	0	0	7	0	116	0	0	133	2	261	1,164
12:45 PM	0	0	7	0	0	5	0	127	3	0	149	1	292	1,186
1:00 PM	0	0	6	0	0	4	0	148	1	0	153	5	317	1,188
1:15 PM	0	0	8	0	0	5	0	143	1	0	133	4	294	1,148
1:30 PM	0	0	6	0	0	5	0	143	0	0	129	0	283	1,157
1:45 PM	0	0	6	0	0	4	0	146	3	0	133	2	294	1,155
2:00 PM	0	0	11	0	0	4	0	127	1	0	129	5	277	1,171
2:15 PM	0	0	7	0	0	2	0	150	0	0	142	2	303	1,240
2:30 PM	0	0	8	0	0	7	0	119	1	0	145	1	281	1,254
2:45 PM	0	0	5	0	0	8	0	144	1	0	147	5	310	1,317
3:00 PM	0	0	6	0	0	6	0	182	3	0	147	2	346	1,347
3:15 PM	0	0	10	0	0	11	0	138	1	0	154	3	317	1,334
3:30 PM	0	0	13	0	0	5	0	156	5	0	162	3	344	1,319
3:45 PM	0	0	13	0	0	10	0	157	3	0	155	2	340	1,309
4:00 PM	0	0	12	0	0	9	0	167	1	0	143	1	333	1,303
4:15 PM	0	0	8	0	0	8	0	135	1	0	147	3	302	1,282
4:30 PM	0	0	15	0	0	5	0	165	1	0	146	2	334	1,301
4:45 PM	0	0	10	0	0	14	0	156	1	0	148	5	334	1,251
5:00 PM	0	0	11	0	0	7	0	160	0	0	134	0	312	1,153
5:15 PM	0	0	8	0	0	8	0	130	4	0	169	2	321	1,062
5:30 PM	0	0	6	0	0	4	0	130	4	0	140	0	284	972
5:45 PM	0	0	9	0	0	12	0	108	2	0	103	2	236	891
6:00 PM	0	0	6	0	0	5	0	101	3	0	104	2	221	854
6:15 PM	0	0	7	0	0	5	0	110	1	0	107	1	231	781
6:30 PM	0	0	2	0	0	3	0	88	2	0	104	4	203	735
6:45 PM	0	0	5	0	0	3	0	90	4	0	97	0	199	664

7:00 PM	0	0	3	0	0	2	0	75	1	0	67	0	148	593
7:15 PM	0	0	4	0	0	2	0	90	2	0	87	0	185	596
7:30 PM	0	0	3	0	0	1	0	76	0	0	51	1	132	545
7:45 PM	0	0	5	0	0	3	0	65	0	0	54	1	128	554
8:00 PM	0	0	4	0	0	1	0	86	3	0	57	0	151	542
8:15 PM	0	0	2	0	0	0	0	76	0	0	55	1	134	498
8:30 PM	0	0	3	0	0	0	0	78	0	0	59	1	141	482
8:45 PM	0	0	3	0	0	2	0	52	0	0	58	1	116	435
9:00 PM	0	1	2	0	0	3	0	51	0	0	50	0	107	415
9:15 PM	0	0	0	0	0	0	0	65	0	0	52	1	118	399
9:30 PM	0	0	1	0	0	2	0	42	1	0	48	0	94	364
9:45 PM	0	0	2	0	0	0	0	45	1	0	48	0	96	344
10:00 PM	0	0	1	0	0	0	0	45	0	0	45	0	91	306
10:15 PM	0	0	4	0	0	1	0	40	0	0	38	0	83	291
10:30 PM	0	0	0	0	0	2	0	37	0	0	34	1	74	263
10:45 PM	0	0	0	0	0	0	0	33	0	0	25	0	58	232
11:00 PM	0	0	1	0	0	0	0	37	0	0	38	0	76	210
11:15 PM	0	0	0	0	0	0	0	28	0	0	27	0	55	--
11:30 PM	0	0	0	0	0	1	0	21	1	0	20	0	43	--
11:45 PM	0	0	0	0	0	0	0	11	0	0	25	0	36	--
Grand Total	0	1	258	0	0	201	0	4,827	59	0	4,735	67	10,148	
% Approach	0%	0%	100%	0%	0%	100%	0%	99%	1%	0%	99%	1%		
% Total	0%	0%	3%	0%	0%	2%	0%	48%	1%	0%	47%	1%		
Lights	0	1	244	0	0	188	0	3,250	43	0	2,827	47		
% Lights	0%	100%	95%	0%	0%	94%	0%	67%	73%	0%	60%	70%		
Heavy Vehicles	0	0	14	0	0	13	0	1577	16	0	1908	20		
% Heavy Vehicles	0%	0%	5%	0%	0%	6%	0%	33%	27%	0%	40%	30%		

PM PEAK HOUR SUMMARY

Wednesday, 12/15/2021

3:00 PM - 4:00 PM

PM Peak Hour Summary	Plymouth Goshen Trail (NB)			Plymouth Goshen Trail (SB)			US 30 (EB)			US 30 (WB)			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**0**	**0**	**42**	**0**	**0**	**32**	**0**	**633**	**12**	**0**	**618**	**10**	**1347**	**0.97**
% Heavy Vehicles	**0%**	**0%**	**5%**	**0%**	**0%**	**3%**	**0%**	**30%**	**34%**	**0%**	**36%**	**20%**		

Turning Movement Counts - AM

INTERSECTION: US 30 & 9A Rd

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hr Counts

TIME BEGIN	9A Rd (NB)			9A Rd (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	6	0	3	0	1	0	1	24	6	4	20	0	65	196
12:15 AM	1	1	4	0	0	2	1	17	3	5	21	0	55	174
12:30 AM	4	0	2	0	0	0	0	19	6	2	10	0	43	165
12:45 AM	1	0	4	0	0	0	0	12	1	2	13	0	33	164
1:00 AM	4	0	1	0	0	0	1	23	3	2	9	0	43	168
1:15 AM	3	2	2	0	0	1	0	25	2	4	7	0	46	165
1:30 AM	4	0	1	0	0	0	0	19	7	2	9	0	42	164
1:45 AM	3	0	2	0	0	0	0	16	1	3	12	0	37	184
2:00 AM	1	0	2	0	0	0	0	13	1	3	20	0	40	182
2:15 AM	1	1	1	0	0	1	0	18	6	1	16	0	45	189
2:30 AM	4	1	4	0	0	0	0	25	3	5	20	0	62	187
2:45 AM	3	0	2	0	0	0	0	14	2	2	12	0	35	180
3:00 AM	3	0	2	0	0	0	0	25	3	0	14	0	47	182
3:15 AM	3	1	2	0	0	0	2	18	4	1	12	0	43	197
3:30 AM	5	1	3	0	1	0	1	18	1	2	23	0	55	212
3:45 AM	3	1	2	0	2	0	1	22	0	1	5	0	37	236
4:00 AM	2	4	4	0	0	0	0	28	4	1	19	0	62	280
4:15 AM	6	3	3	0	0	1	1	25	4	0	15	0	58	291
4:30 AM	3	6	3	0	0	0	0	33	3	3	28	0	79	316
4:45 AM	1	2	4	0	0	1	1	30	9	2	31	0	81	364
5:00 AM	4	0	6	0	0	0	1	29	1	0	32	0	73	400
5:15 AM	6	0	3	0	3	4	1	28	9	1	28	0	83	450
5:30 AM	5	2	8	0	1	4	2	63	8	2	32	0	127	507
5:45 AM	7	0	7	0	3	5	0	47	14	3	31	0	117	536
6:00 AM	6	0	5	0	0	6	1	55	12	1	37	0	123	586
6:15 AM	8	4	12	0	2	6	1	55	11	4	37	0	140	632
6:30 AM	10	3	8	0	2	7	5	60	11	3	47	0	156	687
6:45 AM	13	2	9	0	2	10	5	68	8	1	49	0	167	778

7:00 AM	15	1	7	0	4	10	5	66	7	5	49	0	169	823
7:15 AM	18	3	11	0	3	13	7	75	13	2	50	0	195	836
7:30 AM	18	6	15	0	7	12	2	80	20	11	75	1	247	858
7:45 AM	20	2	8	0	7	9	5	67	11	16	67	0	212	784
8:00 AM	22	4	8	0	4	7	4	66	8	5	54	0	182	793
8:15 AM	16	5	12	0	2	6	5	64	14	8	85	0	217	821
8:30 AM	13	6	6	0	4	7	4	58	12	6	57	0	173	810
8:45 AM	20	3	9	0	3	6	3	84	17	5	71	0	221	846
9:00 AM	8	5	6	0	4	7	9	82	11	5	72	1	210	811
9:15 AM	14	7	9	0	1	12	0	70	11	11	70	1	206	826
9:30 AM	15	4	9	0	3	15	4	49	16	6	88	0	209	835
9:45 AM	15	5	5	0	1	5	3	79	15	7	50	1	186	813
10:00 AM	15	2	15	0	1	9	3	55	17	6	102	0	225	822
10:15 AM	21	5	5	0	4	8	4	65	10	6	87	0	215	812
10:30 AM	16	3	5	0	5	7	2	52	13	9	75	0	187	802
10:45 AM	16	4	11	0	2	5	2	67	9	4	75	0	195	811
11:00 AM	15	4	2	0	3	7	6	67	13	11	87	0	215	847
11:15 AM	21	4	11	0	8	9	2	63	10	10	67	0	205	--
11:30 AM	14	9	5	1	5	3	6	60	10	10	72	1	196	--
11:45 AM	12	7	4	1	4	11	7	74	15	3	93	0	231	--
Grand Total	444	123	272	2	92	216	108	2,172	395	206	2,055	5	6,090	
% Approach	53%	15%	32%	1%	30%	70%	4%	81%	15%	9%	91%	0%		
% Total	7%	2%	4%	0%	2%	4%	2%	36%	6%	3%	34%	0%		
Lights	230	105	121	2	83	193	96	1,100	216	98	1,130	5		
% Lights	52%	85%	44%	100%	90%	89%	89%	51%	55%	48%	55%	100%		
Heavy Vehicles	214	18	151	0	9	23	12	1072	179	108	925	0		
% Heavy Vehicles	48%	15%	56%	0%	10%	11%	11%	49%	45%	52%	45%	0%		

AM PEAK HOUR SUMMARY

Monday, 10/03/2022

7:30 AM - 8:30 AM

AM Peak Hour Summary	**9A Rd (NB)**			**9A Rd (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**76**	**17**	**43**	**0**	**20**	**34**	**16**	**277**	**53**	**40**	**281**	**1**	**858**	**0.87**
% Heavy Vehicles	**38%**	**12%**	**44%**	**0%**	**0%**	**6%**	**0%**	**41%**	**44%**	**40%**	**38%**	**0%**		

Turning Movement Counts - PM

INTERSECTION: US 30 & 9A Rd

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hr Counts

TIME BEGIN	9A Rd (NB)			9A Rd (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	10	5	7	0	6	5	3	70	11	6	79	1	203	862
12:15 PM	8	8	9	0	7	8	5	75	21	9	74	1	225	884
12:30 PM	7	2	11	0	3	12	8	53	17	5	79	1	198	868
12:45 PM	19	6	8	0	4	6	3	91	13	11	75	0	236	904
1:00 PM	18	4	6	0	6	14	2	76	23	10	66	0	225	888
1:15 PM	16	3	5	0	4	8	4	83	16	8	62	0	209	887
1:30 PM	16	5	2	0	0	7	8	83	16	9	88	0	234	920
1:45 PM	14	3	9	0	7	11	7	73	21	6	68	1	220	928
2:00 PM	19	9	10	0	2	11	3	84	21	3	62	0	224	932
2:15 PM	10	1	7	0	8	10	9	90	13	10	84	0	242	950
2:30 PM	15	15	13	0	5	6	3	80	15	6	84	0	242	958
2:45 PM	8	6	8	0	7	8	8	79	14	6	79	1	224	971
3:00 PM	13	9	6	0	0	9	5	73	19	6	99	3	242	990
3:15 PM	10	8	11	0	4	8	6	95	15	5	88	0	250	1,005
3:30 PM	12	12	10	0	5	7	5	80	17	11	95	1	255	1,017
3:45 PM	19	4	6	0	4	10	5	97	20	11	67	0	243	988
4:00 PM	10	5	10	0	8	7	5	99	20	9	84	0	257	989
4:15 PM	22	9	13	0	4	9	10	77	18	8	91	1	262	965
4:30 PM	21	8	13	0	2	8	4	78	25	7	60	0	226	952
4:45 PM	20	15	10	0	4	11	7	76	23	6	71	1	244	964
5:00 PM	17	12	7	0	3	10	8	75	28	7	65	1	233	943
5:15 PM	14	10	5	0	5	7	8	86	14	9	91	0	249	927
5:30 PM	10	5	8	0	2	7	10	91	17	6	81	1	238	855
5:45 PM	10	5	9	0	0	10	12	80	21	10	66	0	223	821
6:00 PM	9	5	4	0	0	4	6	94	11	2	82	0	217	787
6:15 PM	16	2	7	0	5	5	2	61	16	2	61	0	177	720
6:30 PM	4	5	7	0	3	3	9	67	15	9	82	0	204	745
6:45 PM	12	4	6	0	2	4	4	72	16	10	59	0	189	667

7:00 PM	9	4	7	0	1	1	1	54	11	5	57	0	150	616
7:15 PM	9	3	8	1	2	3	5	80	18	1	72	0	202	618
7:30 PM	7	4	7	0	2	4	1	64	8	3	26	0	126	562
7:45 PM	7	5	11	0	0	1	4	52	10	3	45	0	138	564
8:00 PM	4	2	6	0	0	3	2	62	13	4	56	0	152	547
8:15 PM	9	0	9	0	4	1	3	60	13	3	44	0	146	513
8:30 PM	3	3	2	1	1	1	2	46	10	4	55	0	128	493
8:45 PM	5	4	6	0	1	4	4	41	6	2	48	0	121	495
9:00 PM	2	2	3	0	1	4	5	53	7	2	39	0	118	476
9:15 PM	2	4	2	0	2	1	2	62	13	2	36	0	126	458
9:30 PM	5	2	9	0	4	2	1	48	11	2	46	0	130	411
9:45 PM	1	3	6	0	0	2	3	53	4	0	30	0	102	369
10:00 PM	2	0	4	0	2	0	3	45	5	3	35	1	100	339
10:15 PM	2	1	3	0	0	2	2	37	7	2	23	0	79	324
10:30 PM	1	0	10	0	0	1	1	36	5	3	31	0	88	303
10:45 PM	3	2	3	0	0	1	2	29	7	6	19	0	72	281
11:00 PM	4	0	3	0	0	1	0	39	7	3	28	0	85	275
11:15 PM	1	0	3	0	0	0	0	27	5	1	21	0	58	--
11:30 PM	4	1	4	0	0	0	0	21	9	5	22	0	66	--
11:45 PM	3	0	3	0	0	0	0	19	6	5	30	0	66	--
Grand Total	462	225	336	2	130	257	210	3,166	671	266	2,905	14	8,644	
% Approach	45%	22%	33%	1%	33%	66%	5%	78%	17%	8%	91%	0%		
% Total	5%	3%	4%	0%	2%	3%	2%	37%	8%	3%	34%	0%		
Lights	268	195	161	2	118	239	194	1,924	392	112	1,558	13		
% Lights	58%	87%	48%	100%	91%	93%	92%	61%	58%	42%	54%	93%		
Heavy Vehicles	194	30	175	0	12	18	16	1242	279	154	1347	1		
% Heavy Vehicles	42%	13%	52%	0%	9%	7%	8%	39%	42%	58%	46%	7%		

PM PEAK HOUR SUMMARY

Monday, 10/03/2022

3:30 PM - 4:30 PM

PM Peak Hour Summary	**9A Rd (NB)**			**9A Rd (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**63**	**30**	**39**	**0**	**21**	**33**	**25**	**353**	**75**	**39**	**337**	**2**	**1017**	**0.97**
% Heavy Vehicles	**43%**	**17%**	**52%**	**0%**	**5%**	**12%**	**8%**	**31%**	**44%**	**46%**	**45%**	**0%**		

Turning Movement Counts - AM

INTERSECTION: US 30 & Fir Rd

DATA DATE: Tuesday, 11/29/2022

DURATION: 24-Hr Counts

TIME BEGIN	Fir Rd (NB)			Fir Rd (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	0	0	0	0	0	0	0	27	0	0	25	0	52	168
12:15 AM	0	0	0	0	0	0	0	24	0	0	21	0	45	151
12:30 AM	0	0	0	0	0	0	0	25	0	0	17	0	42	135
12:45 AM	0	0	0	0	1	0	0	18	0	0	10	0	29	129
1:00 AM	0	0	0	0	0	0	0	19	0	0	16	0	35	146
1:15 AM	0	1	0	0	0	0	1	18	0	0	9	0	29	137
1:30 AM	0	0	0	0	0	0	1	13	0	0	22	0	36	134
1:45 AM	0	0	0	0	0	0	0	22	0	0	24	0	46	127
2:00 AM	0	0	0	0	0	0	0	16	0	0	10	0	26	106
2:15 AM	0	0	0	0	0	0	0	18	0	0	8	0	26	122
2:30 AM	0	0	0	0	0	0	0	16	0	0	13	0	29	151
2:45 AM	0	0	0	0	1	0	0	16	0	0	8	0	25	171
3:00 AM	0	0	0	0	0	0	0	24	0	0	18	0	42	198
3:15 AM	0	0	0	0	0	0	0	27	0	0	28	0	55	219
3:30 AM	0	0	0	0	0	0	0	28	0	0	21	0	49	234
3:45 AM	0	0	0	0	0	0	1	29	0	0	22	0	52	252
4:00 AM	0	2	0	1	0	0	1	33	0	0	23	3	63	260
4:15 AM	1	2	0	0	1	0	0	43	0	0	22	1	70	285
4:30 AM	0	3	0	0	2	1	0	35	1	0	25	0	67	289
4:45 AM	0	0	0	0	1	0	0	27	2	0	30	0	60	318
5:00 AM	0	2	0	1	1	0	0	38	1	0	44	1	88	382
5:15 AM	1	0	0	0	1	2	0	33	0	0	36	1	74	420
5:30 AM	0	1	0	2	1	2	1	50	0	0	38	1	96	491
5:45 AM	0	1	0	0	0	1	2	58	2	0	59	1	124	545
6:00 AM	0	3	0	0	0	1	1	69	0	0	51	1	126	546
6:15 AM	0	4	1	0	1	0	2	95	1	0	41	0	145	590
6:30 AM	1	0	2	7	3	0	3	68	0	0	62	4	150	609
6:45 AM	1	2	0	2	1	0	2	56	0	0	58	3	125	651

7:00 AM	0	4	0	1	1	0	1	100	0	0	63	0	170	696
7:15 AM	1	2	0	4	1	0	1	78	1	0	72	4	164	702
7:30 AM	2	5	0	1	3	1	0	95	0	0	83	2	192	716
7:45 AM	0	4	1	4	1	1	0	64	1	0	91	3	170	709
8:00 AM	1	1	0	2	1	1	1	87	0	0	79	3	176	707
8:15 AM	1	1	0	2	2	1	0	89	2	0	79	1	178	693
8:30 AM	0	1	1	2	2	2	0	90	0	1	84	2	185	691
8:45 AM	0	1	0	1	2	1	0	80	1	0	80	2	168	698
9:00 AM	0	3	0	1	3	1	2	73	2	0	76	1	162	719
9:15 AM	0	3	0	1	0	2	1	80	1	0	86	2	176	765
9:30 AM	1	1	0	1	0	1	0	92	0	0	91	5	192	771
9:45 AM	0	1	0	1	2	0	0	102	1	0	81	1	189	756
10:00 AM	1	3	0	1	0	1	1	99	0	0	101	1	208	745
10:15 AM	2	2	0	2	3	2	2	74	0	0	95	0	182	716
10:30 AM	1	3	0	1	1	1	0	90	2	1	76	1	177	706
10:45 AM	0	1	0	1	2	0	1	70	1	0	101	1	178	737
11:00 AM	0	3	0	3	2	0	1	81	2	0	87	0	179	738
11:15 AM	0	0	0	0	2	0	1	69	0	0	96	4	172	--
11:30 AM	1	0	0	3	2	0	2	83	1	0	114	2	208	--
11:45 AM	1	0	0	2	2	2	0	89	1	0	81	1	179	--
Grand Total	16	60	5	47	46	24	29	2,630	23	2	2,477	52	5,411	
% Approach	20%	74%	6%	40%	39%	21%	1%	98%	1%	0%	98%	2%		
% Total	0%	1%	0%	1%	1%	0%	1%	49%	0%	0%	46%	1%		
Lights	15	58	5	44	45	23	28	1,387	22	2	1,379	48		
% Lights	94%	97%	100%	94%	98%	96%	97%	53%	96%	100%	56%	92%		
Heavy Vehicles	1	2	0	3	1	1	1	1243	1	0	1098	4		
% Heavy Vehicles	6%	3%	0%	6%	2%	4%	3%	47%	4%	0%	44%	8%		

AM PEAK HOUR SUMMARY

Tuesday, 11/29/2022

7:30 AM - 8:30 AM

AM Peak Hour Summary	**Fir Rd (NB)**			**Fir Rd (SB)**			**US 30 (EB)**			**US 30 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**4**	**11**	**1**	**9**	**7**	**4**	**1**	**335**	**3**	**0**	**332**	**9**	**716**	**0.93**
% Heavy Vehicles	**0%**	**0%**	**0%**	**11%**	**0%**	**25%**	**0%**	**39%**	**0%**	**0%**	**32%**	**0%**		

Peak Hour manually updated to reflect the period between 6:00-9:00 AM

Turning Movement Counts - PM

INTERSECTION: US 30 & Fir Rd

DATA DATE: Monday, 11/28/2022

DURATION: 24-Hr Counts

TIME BEGIN	Fir Rd (NB)			Fir Rd (SB)			US 30 (EB)			US 30 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	0	0	0	1	3	2	1	77	4	0	90	0	178	769
12:15 PM	2	0	0	1	0	2	0	92	0	0	87	1	185	784
12:30 PM	0	2	1	0	3	2	1	89	0	0	106	4	208	812
12:45 PM	0	2	0	0	1	1	1	89	1	0	103	0	198	802
1:00 PM	0	1	0	5	2	0	2	87	1	3	88	4	193	797
1:15 PM	2	2	0	0	0	3	2	102	0	0	98	4	213	835
1:30 PM	0	2	0	0	3	1	0	94	0	0	97	1	198	846
1:45 PM	1	3	0	6	0	3	0	92	0	0	85	3	193	882
2:00 PM	0	0	0	4	3	0	0	117	0	0	104	3	231	903
2:15 PM	0	1	0	3	5	0	3	113	0	0	95	4	224	906
2:30 PM	0	0	0	3	4	2	2	104	0	0	118	1	234	931
2:45 PM	0	0	0	4	2	1	1	101	0	0	105	0	214	934
3:00 PM	2	0	0	4	5	3	2	118	0	0	98	2	234	968
3:15 PM	1	2	2	2	4	0	2	110	2	0	120	4	249	953
3:30 PM	0	0	0	6	5	4	1	105	2	0	111	3	237	948
3:45 PM	1	1	0	0	4	2	1	119	0	1	115	4	248	937
4:00 PM	1	1	0	5	5	2	1	102	1	1	97	3	219	904
4:15 PM	3	3	0	2	3	1	2	107	1	1	121	0	244	908
4:30 PM	0	2	0	0	2	2	3	101	0	0	113	3	226	911
4:45 PM	0	3	0	4	4	5	3	105	0	0	90	1	215	887
5:00 PM	1	1	0	3	4	0	2	96	0	0	113	3	223	894
5:15 PM	3	2	1	1	7	1	0	107	1	0	121	3	247	848
5:30 PM	0	1	0	3	2	1	0	87	0	1	106	1	202	767
5:45 PM	1	3	0	4	3	1	3	100	1	1	103	2	222	736
6:00 PM	1	1	0	3	1	0	2	83	1	0	83	2	177	661
6:15 PM	1	0	0	2	1	1	0	71	2	1	87	0	166	623
6:30 PM	1	0	0	0	0	3	0	76	0	0	88	3	171	590
6:45 PM	1	1	0	1	0	0	4	72	0	0	68	0	147	548

7:00 PM	0	0	0	2	0	1	1	69	0	0	66	0	139	516
7:15 PM	0	1	0	1	1	0	0	57	0	1	71	1	133	473
7:30 PM	0	0	0	1	1	0	2	74	0	0	51	0	129	448
7:45 PM	1	0	0	0	0	1	0	55	0	0	57	1	115	414
8:00 PM	0	0	0	1	2	1	1	39	0	0	52	0	96	389
8:15 PM	0	0	0	0	1	0	0	55	0	0	52	0	108	375
8:30 PM	0	0	0	0	2	0	0	47	0	0	46	0	95	379
8:45 PM	0	0	0	1	1	0	0	51	0	0	34	3	90	395
9:00 PM	0	0	0	1	0	0	0	47	0	0	34	0	82	383
9:15 PM	0	0	0	0	1	0	2	66	0	0	43	0	112	379
9:30 PM	0	1	0	0	0	1	0	56	2	0	51	0	111	373
9:45 PM	0	0	0	0	0	0	0	43	0	0	34	1	78	312
10:00 PM	0	0	0	0	0	0	1	38	1	0	38	0	78	317
10:15 PM	0	0	0	0	0	1	0	47	0	0	58	0	106	307
10:30 PM	0	0	1	1	0	0	1	27	0	0	19	1	50	271
10:45 PM	0	0	0	0	0	0	0	37	0	0	46	0	83	283
11:00 PM	0	0	0	0	1	0	0	36	0	0	31	0	68	246
11:15 PM	0	0	0	0	1	0	0	32	0	0	37	0	70	--
11:30 PM	0	0	0	0	0	0	0	29	0	0	32	1	62	--
11:45 PM	0	0	0	1	0	0	0	28	0	0	17	0	46	--
Grand Total	23	36	5	76	87	48	47	3,649	20	10	3,679	67	7,747	
% Approach	36%	56%	8%	36%	41%	23%	1%	98%	1%	0%	98%	2%		
% Total	0%	0%	0%	1%	1%	1%	1%	47%	0%	0%	47%	1%		
Lights	21	35	5	70	85	47	45	2,195	19	9	2,192	60		
% Lights	91%	97%	100%	92%	98%	98%	96%	60%	95%	90%	60%	90%		
Heavy Vehicles	2	1	0	6	2	1	2	1454	1	1	1487	7		
% Heavy Vehicles	9%	3%	0%	8%	2%	2%	4%	40%	5%	10%	40%	10%		

PM PEAK HOUR SUMMARY

Monday, 11/28/2022

3:00 PM - 4:00 PM

PM Peak Hour Summary	Fir Rd (NB)			Fir Rd (SB)			US 30 (EB)			US 30 (WB)			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**4**	**3**	**2**	**12**	**18**	**9**	**6**	**452**	**4**	**1**	**444**	**13**	**968**	**0.97**
% Heavy Vehicles	**25%**	**0%**	**0%**	**0%**	**6%**	**0%**	**0%**	**34%**	**0%**	**0%**	**35%**	**0%**		

Turning Movement Counts - AM

INTERSECTION: US 31 & 9A Rd

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hr Counts

TIME BEGIN	US 31 (NB)			US 31 (SB)			9A Rd (EB)			9A Rd (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	0	26	0	0	29	5	0	0	0	0	0	0	60	183
12:15 AM	0	21	0	0	21	1	0	0	2	0	0	0	45	160
12:30 AM	0	10	0	0	26	0	0	0	0	0	0	0	36	157
12:45 AM	0	16	1	0	23	1	0	0	1	0	0	0	42	155
1:00 AM	0	15	0	0	22	0	0	0	0	0	0	0	37	145
1:15 AM	0	21	0	0	19	1	0	0	1	0	0	0	42	132
1:30 AM	0	18	0	0	15	0	0	0	1	0	0	0	34	119
1:45 AM	0	15	1	0	15	0	0	0	0	0	0	1	32	117
2:00 AM	0	15	0	0	9	0	0	0	0	0	0	0	24	122
2:15 AM	0	17	0	0	10	1	0	0	1	0	0	0	29	134
2:30 AM	1	10	0	0	18	1	1	0	1	0	0	0	32	149
2:45 AM	0	21	1	0	13	2	0	0	0	0	0	0	37	164
3:00 AM	1	24	0	0	10	0	0	0	0	1	0	0	36	197
3:15 AM	0	21	1	0	20	0	0	0	1	0	0	1	44	236
3:30 AM	1	31	1	0	13	1	0	0	0	0	0	0	47	289
3:45 AM	1	44	1	0	21	0	1	0	1	0	0	1	70	342
4:00 AM	1	49	1	0	19	1	2	0	2	0	0	0	75	355
4:15 AM	3	65	1	0	25	1	1	0	1	0	0	0	97	382
4:30 AM	4	59	2	0	30	1	1	0	3	0	0	0	100	450
4:45 AM	1	35	1	0	44	1	0	0	1	0	0	0	83	494
5:00 AM	1	65	0	0	30	1	1	0	2	0	0	2	102	565
5:15 AM	3	87	1	0	63	4	0	0	5	0	0	2	165	655
5:30 AM	5	81	1	0	49	1	0	0	6	0	0	1	144	725
5:45 AM	5	78	0	0	62	5	0	0	3	0	0	1	154	824
6:00 AM	3	102	2	0	76	6	0	0	3	0	0	0	192	904
6:15 AM	6	135	1	0	83	5	0	0	4	0	0	1	235	993
6:30 AM	15	116	0	0	90	8	0	0	11	0	0	3	243	1,041
6:45 AM	9	110	1	0	94	12	0	0	4	0	1	3	234	1,164
7:00 AM	13	113	0	0	105	28	0	0	12	0	1	9	281	1,287
7:15 AM	29	128	0	0	85	31	0	0	5	0	0	5	283	1,314
7:30 AM	46	145	2	0	111	37	0	0	23	0	0	2	366	1,321
7:45 AM	47	140	4	0	111	35	0	0	18	0	0	2	357	1,238

8:00 AM	22	144	0	0	107	21	0	0	14	0	0	0	308	1,191
8:15 AM	21	118	5	0	115	15	0	0	12	1	1	2	290	1,200
8:30 AM	16	116	3	0	116	11	0	0	15	0	0	6	283	1,203
8:45 AM	17	116	2	0	147	20	0	0	8	0	0	0	310	1,194
9:00 AM	16	147	4	0	127	14	0	0	7	0	0	2	317	1,186
9:15 AM	4	128	3	0	134	11	0	0	11	0	0	2	293	1,201
9:30 AM	13	125	0	0	111	15	0	0	10	0	0	0	274	1,179
9:45 AM	14	120	3	0	141	12	0	0	9	0	0	3	302	1,206
10:00 AM	10	134	2	0	159	7	0	0	15	0	1	4	332	1,199
10:15 AM	5	125	0	0	113	16	0	0	10	0	0	2	271	1,141
10:30 AM	12	125	1	0	140	8	0	0	15	0	0	0	301	1,198
10:45 AM	14	132	3	0	117	19	1	0	8	0	0	1	295	1,241
11:00 AM	10	124	1	0	115	14	0	0	9	0	0	1	274	1,273
11:15 AM	12	141	2	0	141	18	0	0	12	0	0	2	328	--
11:30 AM	10	159	4	0	142	13	0	0	16	0	0	0	344	--
11:45 AM	12	145	0	0	138	21	0	0	8	0	0	3	327	--
Grand Total	403	3,932	56	0	3,424	425	8	0	291	2	4	62	8,607	
% Approach	9%	90%	1%	0%	89%	11%	3%	0%	97%	3%	6%	91%		
% Total	5%	46%	1%	0%	40%	5%	0%	0%	3%	0%	0%	1%		
Lights	385	2,785	36	0	2,269	400	8	0	269	2	4	59		
% Lights	96%	71%	64%	0%	66%	94%	100%	0%	92%	100%	100%	95%		
Heavy Vehicles	18	1147	20	0	1155	25	0	0	22	0	0	3		
% Heavy Vehicles	4%	29%	36%	0%	34%	6%	0%	0%	8%	0%	0%	5%		

AM PEAK HOUR SUMMARY

Monday, 10/03/2022

7:30 AM - 8:30 AM

AM Peak Hour Summary	**US 31 (NB)**			**US 31 (SB)**			**9A Rd (EB)**			**9A Rd (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**136**	**547**	**11**	**0**	**444**	**108**	**0**	**0**	**67**	**1**	**1**	**6**	**1321**	**0.90**
% Heavy Vehicles	**1%**	**30%**	**37%**	**0%**	**25%**	**5%**	**0%**	**0%**	**8%**	**0%**	**0%**	**0%**		

Turning Movement Counts - PM

INTERSECTION: US 31 & 9A Rd

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hr Counts

TIME BEGIN	US 31 (NB)			US 31 (SB)			9A Rd (EB)			9A Rd (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	10	124	2	0	104	11	0	0	18	0	0	1	270	1,182
12:15 PM	10	122	0	0	121	16	0	0	11	0	0	2	282	1,215
12:30 PM	7	131	0	0	143	13	0	0	15	0	0	6	315	1,241
12:45 PM	14	136	0	0	125	22	0	0	15	0	0	3	315	1,269
1:00 PM	7	127	2	0	141	13	0	0	12	0	0	1	303	1,307
1:15 PM	14	123	0	0	137	24	0	0	7	0	0	3	308	1,318
1:30 PM	7	136	1	0	160	22	0	0	16	1	0	0	343	1,349
1:45 PM	19	142	1	0	152	28	0	0	10	0	0	1	353	1,358
2:00 PM	12	132	1	0	132	22	0	0	14	0	0	1	314	1,372
2:15 PM	13	139	1	0	155	19	0	0	11	0	0	1	339	1,437
2:30 PM	12	129	1	0	164	30	0	0	15	0	0	1	352	1,488
2:45 PM	11	134	1	0	169	26	0	0	21	0	0	5	367	1,530
3:00 PM	12	133	0	0	180	28	0	0	24	0	0	2	379	1,525
3:15 PM	21	140	4	0	164	23	0	0	36	0	0	2	390	1,532
3:30 PM	22	140	1	0	182	21	0	0	22	0	0	6	394	1,559
3:45 PM	15	134	0	0	162	22	0	0	28	0	0	1	362	1,576
4:00 PM	10	129	0	0	187	30	0	0	29	0	0	1	386	1,651
4:15 PM	13	154	0	0	185	32	0	0	32	0	0	1	417	1,704
4:30 PM	15	147	1	0	202	26	0	0	16	0	0	4	411	1,712
4:45 PM	19	158	1	0	210	29	0	1	16	0	0	3	437	1,647
5:00 PM	17	190	1	0	180	26	0	0	25	0	0	0	439	1,542
5:15 PM	22	179	2	0	171	28	0	0	22	0	0	1	425	1,423
5:30 PM	9	122	3	0	160	33	1	0	16	0	0	2	346	1,302
5:45 PM	17	126	0	0	131	34	0	0	23	0	0	1	332	1,206
6:00 PM	7	126	2	0	146	14	1	0	22	0	0	2	320	1,097
6:15 PM	5	132	2	0	130	18	0	0	15	0	0	2	304	1,018
6:30 PM	9	95	0	0	110	16	0	0	16	0	0	4	250	929
6:45 PM	11	100	0	0	98	6	0	0	7	0	0	1	223	885

7:00 PM	2	99	2	0	111	10	0	0	17	0	0	0	241	835
7:15 PM	5	93	2	0	92	9	1	0	13	0	0	0	215	768
7:30 PM	4	87	0	0	101	8	0	0	5	0	0	1	206	721
7:45 PM	5	73	0	0	81	10	0	0	3	0	0	1	173	668
8:00 PM	6	64	0	0	91	8	0	0	4	0	1	0	174	653
8:15 PM	3	62	1	0	85	9	0	0	7	0	0	1	168	621
8:30 PM	0	61	2	0	72	12	0	0	5	0	0	1	153	581
8:45 PM	14	49	1	0	76	12	0	0	5	0	0	1	158	521
9:00 PM	2	64	1	0	63	8	0	0	4	0	0	0	142	464
9:15 PM	0	57	1	0	58	5	0	0	7	0	0	0	128	414
9:30 PM	5	39	0	0	39	3	0	0	6	0	1	0	93	367
9:45 PM	0	45	0	0	52	3	1	0	0	0	0	0	101	367
10:00 PM	2	45	0	0	42	3	0	0	0	0	0	0	92	336
10:15 PM	0	31	0	0	47	2	0	0	1	0	0	0	81	313
10:30 PM	4	54	1	0	30	1	0	0	3	0	0	0	93	290
10:45 PM	1	33	0	0	33	1	0	0	2	0	0	0	70	246
11:00 PM	0	31	1	0	31	3	0	0	3	0	0	0	69	234
11:15 PM	0	27	0	0	24	3	0	0	4	0	0	0	58	--
11:30 PM	2	20	1	0	22	1	0	1	0	0	0	2	49	--
11:45 PM	0	28	0	0	28	2	0	0	0	0	0	0	58	--
Grand Total	415	4,842	40	0	5,479	745	4	2	603	1	2	65	12,198	
% Approach	8%	91%	1%	0%	88%	12%	1%	0%	99%	1%	3%	96%		
% Total	3%	40%	0%	0%	45%	6%	0%	0%	5%	0%	0%	1%		
Lights	393	3,668	38	0	4,078	730	4	2	581	1	2	62		
% Lights	95%	76%	95%	0%	74%	98%	100%	100%	96%	100%	100%	95%		
Heavy Vehicles	22	1174	2	0	1401	15	0	0	22	0	0	3		
% Heavy Vehicles	5%	24%	5%	0%	26%	2%	0%	0%	4%	0%	0%	5%		

PM PEAK HOUR SUMMARY

Monday, 10/03/2022

4:30 PM - 5:30 PM

PM Peak Hour Summary	**US 31 (NB)**			**US 31 (SB)**			**9A Rd (EB)**			**9A Rd (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**73**	**674**	**5**	**0**	**763**	**109**	**0**	**1**	**79**	**0**	**0**	**8**	**1712**	**0.97**
% Heavy Vehicles	**3%**	**19%**	**0%**	**0%**	**19%**	**2%**	**0%**	**0%**	**2%**	**0%**	**0%**	**0%**		

Turning Movement Counts - AM

INTERSECTION: US 31 & Michigan Rd

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hr Counts

TIME BEGIN	US 31 (NB)			US 31 (SB)			Michigan Rd (EB)			-			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	4	21	0	0	25	0	0	0	1	0	0	0	51	163
12:15 AM	2	17	0	0	22	0	1	0	4	0	0	0	46	142
12:30 AM	1	20	0	0	6	0	0	0	3	0	0	0	30	124
12:45 AM	0	19	0	0	16	0	0	0	1	0	0	0	36	138
1:00 AM	0	16	0	0	13	0	1	0	0	0	0	0	30	129
1:15 AM	0	14	0	0	12	0	0	0	2	0	0	0	28	122
1:30 AM	0	18	0	0	24	0	0	0	2	0	0	0	44	124
1:45 AM	2	7	0	0	16	0	0	0	2	0	0	0	27	114
2:00 AM	0	14	0	0	9	0	0	0	0	0	0	0	23	134
2:15 AM	1	13	0	0	15	0	0	0	1	0	0	0	30	139
2:30 AM	4	14	0	0	14	0	0	0	2	0	0	0	34	147
2:45 AM	2	29	0	0	15	0	0	0	1	0	0	0	47	172
3:00 AM	2	11	0	0	12	0	0	0	3	0	0	0	28	183
3:15 AM	3	14	0	0	20	0	0	0	1	0	0	0	38	239
3:30 AM	2	32	0	0	24	0	0	0	1	0	0	0	59	289
3:45 AM	3	42	0	0	12	0	0	0	1	0	0	0	58	334
4:00 AM	3	44	0	0	34	0	0	0	3	0	0	0	84	363
4:15 AM	6	59	0	0	22	0	0	0	1	0	0	0	88	385
4:30 AM	8	46	0	0	38	1	0	0	11	0	0	0	104	446
4:45 AM	1	51	0	0	27	0	0	0	8	0	0	0	87	504
5:00 AM	6	50	0	0	37	0	4	0	9	0	0	0	106	577
5:15 AM	11	77	0	0	50	1	0	0	10	0	0	0	149	656
5:30 AM	15	83	0	0	55	0	0	0	9	0	0	0	162	720
5:45 AM	6	90	0	0	55	0	1	0	8	0	0	0	160	790
6:00 AM	7	100	0	0	69	0	0	0	9	0	0	0	185	877
6:15 AM	7	106	0	0	83	0	1	0	16	0	0	0	213	944
6:30 AM	19	115	0	0	88	0	0	0	10	0	0	0	232	1,056
6:45 AM	9	118	0	0	102	0	1	0	17	0	0	0	247	1,206

7:00 AM	22	113	0	0	95	1	2	0	19	0	0	0	252	1,336
7:15 AM	24	145	0	0	131	0	0	0	25	0	0	0	325	1,421
7:30 AM	39	164	0	0	143	0	2	0	34	0	0	0	382	1,433
7:45 AM	40	153	0	0	149	1	0	0	34	0	0	0	377	1,382
8:00 AM	29	136	0	0	146	1	0	0	25	0	0	0	337	1,363
8:15 AM	22	153	0	0	146	0	1	0	15	0	0	0	337	1,351
8:30 AM	25	135	0	0	147	0	0	0	24	0	0	0	331	1,289
8:45 AM	25	145	0	0	166	2	0	0	20	0	0	0	358	1,244
9:00 AM	19	131	0	0	158	0	1	0	16	0	0	0	325	1,204
9:15 AM	21	112	0	0	134	0	0	0	8	0	0	0	275	1,218
9:30 AM	24	125	0	0	124	0	0	0	13	0	0	0	286	1,257
9:45 AM	19	126	0	0	154	0	0	0	19	0	0	0	318	1,332
10:00 AM	20	150	0	0	160	3	0	0	6	0	0	0	339	1,346
10:15 AM	14	127	0	0	151	1	1	0	20	0	0	0	314	1,351
10:30 AM	30	140	0	0	181	1	0	0	9	0	0	0	361	1,400
10:45 AM	21	137	0	0	152	0	0	0	22	0	0	0	332	1,399
11:00 AM	24	138	0	0	166	0	0	0	16	0	0	0	344	1,452
11:15 AM	20	149	0	0	168	0	1	0	25	0	0	0	363	--
11:30 AM	17	157	0	0	170	1	2	0	13	0	0	0	360	--
11:45 AM	21	178	0	0	164	1	0	0	21	0	0	0	385	--
Grand Total	600	4,054	0	0	3,920	14	19	0	520	0	0	0	9,127	
% Approach	13%	87%	0%	0%	100%	0%	4%	0%	96%	0%	0%	0%		
% Total	7%	44%	0%	0%	43%	0%	0%	0%	6%	0%	0%	0%		
Lights	587	2,865	0	0	2,681	9	13	0	503	0	0	0		
% Lights	98%	71%	0%	0%	68%	64%	68%	0%	97%	0%	0%	0%		
Heavy Vehicles	13	1189	0	0	1239	5	6	0	17	0	0	0		
% Heavy Vehicles	2%	29%	0%	0%	32%	36%	32%	0%	3%	0%	0%	0%		

AM PEAK HOUR SUMMARY

Monday, 10/03/2022

7:30 AM - 8:30 AM

AM Peak Hour Summary	US 31 (NB)			US 31 (SB)			Michigan Rd (EB)			-			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**130**	**606**	**0**	**0**	**584**	**2**	**3**	**0**	**108**	**0**	**0**	**0**	**1433**	**0.94**
% Heavy Vehicles	**3%**	**26%**	**0%**	**0%**	**23%**	**0%**	**0%**	**0%**	**3%**	**0%**	**0%**	**0%**		

Peak Hour manually updated to reflect the period between 6:00-9:00 AM

Turning Movement Counts - PM

INTERSECTION: US 31 & Michigan Rd

DATA DATE: Monday, 10/03/2022

DURATION: 24-Hr Counts

TIME BEGIN	US 31 (NB)			US 31 (SB)			Michigan Rd (EB)			-			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	21	157	0	0	173	0	1	0	35	0	0	0	387	1,536
12:15 PM	21	163	0	0	195	2	3	0	23	0	0	0	407	1,514
12:30 PM	18	173	0	0	171	1	1	0	26	0	0	0	390	1,486
12:45 PM	12	160	0	0	145	1	0	0	34	0	0	0	352	1,412
1:00 PM	23	148	0	0	167	1	3	0	23	0	0	0	365	1,409
1:15 PM	25	159	0	0	168	0	3	0	24	0	0	0	379	1,387
1:30 PM	20	110	0	0	172	0	0	0	14	0	0	0	316	1,366
1:45 PM	29	154	0	0	148	1	0	0	17	0	0	0	349	1,418
2:00 PM	23	132	0	0	168	1	1	0	18	0	0	0	343	1,474
2:15 PM	27	143	0	0	153	0	0	0	35	0	0	0	358	1,529
2:30 PM	28	140	0	0	165	1	0	0	34	0	0	0	368	1,591
2:45 PM	28	170	0	0	186	1	0	0	20	0	0	0	405	1,638
3:00 PM	33	148	0	0	187	1	0	0	29	0	0	0	398	1,664
3:15 PM	31	159	0	0	191	2	0	0	37	0	0	0	420	1,711
3:30 PM	40	164	0	0	182	1	2	0	26	0	0	0	415	1,689
3:45 PM	40	174	0	0	168	1	2	0	46	0	0	0	431	1,698
4:00 PM	29	180	0	0	209	1	1	0	25	0	0	0	445	1,646
4:15 PM	19	158	0	0	189	0	1	0	31	0	0	0	398	1,630
4:30 PM	32	176	0	0	178	1	0	0	37	0	0	0	424	1,679
4:45 PM	32	154	0	0	159	0	0	0	34	0	0	0	379	1,611
5:00 PM	34	165	0	0	191	0	0	0	39	0	0	0	429	1,571
5:15 PM	33	173	0	0	195	2	2	0	42	0	0	0	447	1,448
5:30 PM	17	137	0	0	163	0	0	0	39	0	0	0	356	1,313
5:45 PM	27	151	0	0	137	0	0	0	24	0	0	0	339	1,238
6:00 PM	26	127	0	0	127	3	1	0	22	0	0	0	306	1,145
6:15 PM	27	139	0	0	124	0	0	0	22	0	0	0	312	1,060
6:30 PM	22	112	0	0	119	0	0	0	28	0	0	0	281	961
6:45 PM	12	96	0	0	125	0	0	0	13	0	0	0	246	876

7:00 PM	11	92	0	0	104	0	0	0	14	0	0	0	221	794
7:15 PM	10	92	0	0	89	0	0	0	22	0	0	0	213	729
7:30 PM	13	72	0	0	91	0	1	0	19	0	0	0	196	681
7:45 PM	14	55	0	0	80	1	1	0	13	0	0	0	164	635
8:00 PM	7	59	0	0	73	0	0	0	17	0	0	0	156	612
8:15 PM	9	47	0	0	92	1	0	0	16	0	0	0	165	621
8:30 PM	3	55	0	0	77	1	1	0	13	0	0	0	150	615
8:45 PM	4	65	0	0	65	0	1	0	6	0	0	0	141	589
9:00 PM	6	78	0	0	72	0	0	0	9	0	0	0	165	574
9:15 PM	14	75	0	0	61	0	0	0	9	0	0	0	159	501
9:30 PM	8	58	0	0	49	0	0	0	9	0	0	0	124	435
9:45 PM	6	58	0	0	56	0	0	0	6	0	0	0	126	399
10:00 PM	4	45	0	0	35	0	0	0	8	0	0	0	92	343
10:15 PM	2	44	0	0	40	0	0	0	7	0	0	0	93	316
10:30 PM	8	43	0	0	34	0	1	0	2	0	0	0	88	295
10:45 PM	2	29	0	0	34	1	0	0	4	0	0	0	70	261
11:00 PM	1	27	0	0	32	0	0	0	5	0	0	0	65	244
11:15 PM	0	34	0	0	30	0	0	0	8	0	0	0	72	--
11:30 PM	3	24	0	0	23	0	0	0	4	0	0	0	54	--
11:45 PM	4	19	0	0	25	2	0	0	3	0	0	0	53	--
Grand Total	858	5,293	0	0	5,817	27	26	0	991	0	0	0	13,012	
% Approach	14%	86%	0%	0%	100%	0%	3%	0%	97%	0%	0%	0%		
% Total	7%	41%	0%	0%	45%	0%	0%	0%	8%	0%	0%	0%		
Lights	822	4,004	0	0	4,428	26	22	0	954	0	0	0		
% Lights	96%	76%	0%	0%	76%	96%	85%	0%	96%	0%	0%	0%		
Heavy Vehicles	36	1289	0	0	1389	1	4	0	37	0	0	0		
% Heavy Vehicles	4%	24%	0%	0%	24%	4%	15%	0%	4%	0%	0%	0%		

PM PEAK HOUR SUMMARY

Monday, 10/03/2022

3:15 PM - 4:15 PM

PM Peak Hour Summary	US 31 (NB)			US 31 (SB)			Michigan Rd (EB)			-			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**140**	**677**	**0**	**0**	**750**	**5**	**5**	**0**	**134**	**0**	**0**	**0**	**1711**	**0.96**
% Heavy Vehicles	**6%**	**26%**	**0%**	**0%**	**20%**	**0%**	**0%**	**0%**	**5%**	**0%**	**0%**	**0%**		

Turning Movement Counts - AM

INTERSECTION: US 31 & 13th Rd

DATA DATE: Wednesday, 10/05/2022

DURATION: 24-Hr Counts

TIME BEGIN	US 31 (NB)			US 31 (SB)			13th Rd (EB)			13th Rd (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	1	24	0	2	23	2	0	0	1	0	0	0	53	160
12:15 AM	0	17	0	1	24	0	1	0	0	0	0	0	43	138
12:30 AM	0	21	0	0	8	0	0	0	0	0	0	0	29	124
12:45 AM	0	17	0	1	15	0	1	0	0	0	0	1	35	140
1:00 AM	0	16	0	1	14	0	0	0	0	0	0	0	31	132
1:15 AM	0	16	0	2	11	0	0	0	0	0	0	0	29	125
1:30 AM	0	18	0	3	23	0	0	0	0	0	0	1	45	125
1:45 AM	0	8	0	0	19	0	0	0	0	0	0	0	27	116
2:00 AM	0	15	0	1	8	0	0	0	0	0	0	0	24	140
2:15 AM	0	13	0	1	15	0	0	0	0	0	0	0	29	143
2:30 AM	0	17	0	0	17	0	0	0	0	0	1	1	36	151
2:45 AM	0	34	0	1	15	0	0	0	0	0	1	0	51	177
3:00 AM	0	11	0	0	12	1	0	0	0	0	0	3	27	184
3:15 AM	0	14	0	0	21	0	1	0	0	0	0	1	37	242
3:30 AM	0	32	0	1	27	0	0	0	0	0	0	2	62	295
3:45 AM	0	42	0	1	12	0	1	0	0	0	0	2	58	332
4:00 AM	0	44	0	0	34	1	1	1	0	0	1	3	85	369
4:15 AM	0	54	0	0	26	1	2	0	0	0	0	7	90	390
4:30 AM	0	41	0	2	42	0	0	0	0	0	1	13	99	451
4:45 AM	1	52	0	0	37	1	1	0	0	0	0	3	95	519
5:00 AM	0	56	0	1	43	1	1	0	1	0	1	2	106	578
5:15 AM	0	84	0	3	58	1	0	0	0	0	0	5	151	662
5:30 AM	0	87	1	3	61	0	0	0	1	0	0	14	167	735
5:45 AM	0	76	1	2	61	0	3	0	0	0	0	11	154	802
6:00 AM	0	97	0	3	76	0	5	0	0	0	1	8	190	897
6:15 AM	0	106	0	10	97	0	3	0	0	0	1	7	224	962
6:30 AM	1	108	0	10	88	0	2	0	1	1	3	20	234	1,064
6:45 AM	0	114	0	12	105	1	3	0	2	0	0	12	249	1,194

7:00 AM	1	125	0	12	102	1	4	0	1	0	0	9	255	1,333
7:15 AM	0	152	0	13	139	1	2	0	0	0	0	19	326	1,407
7:30 AM	0	148	0	27	137	3	11	1	1	1	0	35	364	1,419
7:45 AM	3	156	0	23	164	3	3	1	1	0	3	31	388	1,385
8:00 AM	0	126	1	20	145	1	2	0	0	0	2	32	329	1,349
8:15 AM	0	152	0	13	150	0	2	1	1	1	1	17	338	1,341
8:30 AM	2	127	0	11	153	1	3	0	0	0	9	24	330	1,282
8:45 AM	0	143	0	10	168	2	3	0	0	0	1	25	352	1,259
9:00 AM	1	122	0	6	168	3	2	2	0	0	0	17	321	1,236
9:15 AM	0	125	0	5	129	3	0	0	1	0	1	15	279	1,247
9:30 AM	0	126	0	9	132	9	4	2	1	0	1	23	307	1,280
9:45 AM	1	139	0	11	160	4	0	0	0	0	1	13	329	1,366
10:00 AM	1	144	0	10	156	1	2	0	1	0	0	17	332	1,371
10:15 AM	1	127	0	13	149	4	4	0	2	0	0	12	312	1,393
10:30 AM	1	155	0	13	187	3	3	0	1	0	4	26	393	1,472
10:45 AM	0	146	0	13	160	0	4	0	0	0	0	11	334	1,444
11:00 AM	1	138	1	14	166	4	5	4	1	0	2	18	354	1,500
11:15 AM	1	161	1	14	187	3	5	2	1	1	0	15	391	--
11:30 AM	1	161	1	7	177	0	1	3	1	0	1	12	365	--
11:45 AM	0	187	0	7	174	3	1	1	0	0	0	17	390	--
Grand Total	17	4,094	6	312	4,095	58	86	18	19	4	36	504	9,249	
% Approach	0%	99%	0%	7%	92%	1%	70%	15%	15%	1%	7%	93%		
% Total	0%	44%	0%	3%	44%	1%	1%	0%	0%	0%	0%	5%		
Lights	12	2,916	4	295	2,844	50	82	16	13	3	32	477		
% Lights	71%	71%	67%	95%	69%	86%	95%	89%	68%	75%	89%	95%		
Heavy Vehicles	5	1178	2	17	1251	8	4	2	6	1	4	27		
% Heavy Vehicles	29%	29%	33%	5%	31%	14%	5%	11%	32%	25%	11%	5%		

AM PEAK HOUR SUMMARY

Wednesday, 10/05/2022

7:30 AM - 8:30 AM

AM Peak Hour Summary	**US 31 (NB)**			**US 31 (SB)**			**13th Rd (EB)**			**13th Rd (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**3**	**582**	**1**	**83**	**596**	**7**	**18**	**3**	**3**	**2**	**6**	**115**	**1419**	**0.91**
% Heavy Vehicles	**0%**	**26%**	**0%**	**4%**	**22%**	**29%**	**0%**	**0%**	**34%**	**50%**	**0%**	**6%**		

Peak Hour manually updated to reflect the period between 6:00-9:00 AM

Turning Movement Counts - PM

INTERSECTION: US 31 & 13th Rd

DATA DATE: Wednesday, 10/05/2022

DURATION: 24-Hr Counts

TIME BEGIN	US 31 (NB)			US 31 (SB)			13th Rd (EB)			13th Rd (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	0	157	0	26	168	7	2	0	4	0	0	22	386	1,536
12:15 PM	0	164	1	12	198	2	4	0	1	0	0	17	399	1,494
12:30 PM	1	173	0	21	179	2	2	0	0	0	0	14	392	1,415
12:45 PM	0	162	1	19	166	3	1	0	0	0	0	7	359	1,339
1:00 PM	0	156	0	16	147	2	1	2	1	0	2	17	344	1,318
1:15 PM	1	129	0	14	155	4	2	1	1	1	2	10	320	1,330
1:30 PM	1	113	1	19	160	1	4	2	0	0	1	14	316	1,375
1:45 PM	1	150	0	15	142	1	4	0	1	0	0	24	338	1,428
2:00 PM	1	134	1	23	172	5	3	3	2	0	0	12	356	1,511
2:15 PM	0	147	0	21	170	2	2	0	1	1	1	20	365	1,557
2:30 PM	0	144	0	28	171	4	2	1	1	0	0	18	369	1,618
2:45 PM	0	189	0	26	179	4	2	2	3	0	3	13	421	1,673
3:00 PM	0	156	1	26	186	0	2	2	2	0	2	25	402	1,664
3:15 PM	0	164	0	21	210	5	1	1	0	0	0	24	426	1,703
3:30 PM	1	183	0	22	189	5	0	1	1	0	0	22	424	1,677
3:45 PM	0	187	0	28	177	0	2	0	0	0	1	17	412	1,692
4:00 PM	0	184	0	24	203	7	0	1	0	0	0	22	441	1,665
4:15 PM	1	146	0	42	185	3	2	0	1	0	0	20	400	1,640
4:30 PM	0	187	1	26	199	1	2	0	0	0	2	21	439	1,685
4:45 PM	0	167	0	22	168	3	2	1	0	0	2	20	385	1,603
5:00 PM	0	168	0	28	186	7	0	0	0	0	1	26	416	1,572
5:15 PM	1	178	0	39	200	1	2	2	0	0	0	22	445	1,456
5:30 PM	0	147	0	28	168	1	0	0	1	0	0	12	357	1,319
5:45 PM	1	158	0	24	148	5	3	0	0	0	1	14	354	1,245
6:00 PM	0	134	0	26	122	0	0	1	1	0	2	14	300	1,138
6:15 PM	0	137	1	14	131	4	1	0	1	0	1	18	308	1,062
6:30 PM	1	111	0	28	119	2	0	0	0	0	1	21	283	969
6:45 PM	1	97	0	16	115	5	0	0	1	0	2	10	247	882

7:00 PM	0	86	0	13	107	2	2	1	0	0	1	12	224	801
7:15 PM	0	90	0	21	90	4	1	0	0	0	0	9	215	733
7:30 PM	1	82	0	19	86	1	0	3	0	0	1	3	196	669
7:45 PM	0	61	0	11	86	2	1	1	0	0	0	4	166	637
8:00 PM	1	58	0	14	73	1	0	0	0	0	0	9	156	607
8:15 PM	0	50	0	17	79	1	1	0	1	0	0	2	151	611
8:30 PM	0	53	0	8	93	0	2	2	1	0	0	5	164	621
8:45 PM	0	60	0	6	63	0	1	0	0	0	0	6	136	583
9:00 PM	0	79	0	9	67	1	1	0	0	0	0	3	160	573
9:15 PM	1	82	0	10	57	2	0	1	1	0	0	7	161	504
9:30 PM	0	57	0	7	51	0	1	1	0	0	2	7	126	437
9:45 PM	0	59	1	7	53	0	0	1	1	0	0	4	126	401
10:00 PM	0	45	0	9	35	0	0	0	0	0	0	2	91	349
10:15 PM	0	47	0	5	39	1	0	0	0	0	0	2	94	322
10:30 PM	0	43	0	1	40	0	0	0	1	0	0	5	90	299
10:45 PM	0	35	0	2	37	0	0	0	0	0	0	0	74	265
11:00 PM	0	28	0	4	32	0	0	0	0	0	0	0	64	242
11:15 PM	0	34	0	5	32	0	0	0	0	0	0	0	71	--
11:30 PM	1	25	0	5	25	0	0	0	0	0	0	0	56	--
11:45 PM	0	22	0	1	25	2	0	0	0	0	0	1	51	--
Grand Total	15	5,418	8	828	5,883	103	56	30	28	2	28	577	12,976	
% Approach	0%	100%	0%	12%	86%	2%	49%	26%	25%	0%	5%	95%		
% Total	0%	42%	0%	6%	45%	1%	0%	0%	0%	0%	0%	4%		
Lights	12	4,114	5	799	4,490	95	49	27	24	1	25	555		
% Lights	80%	76%	63%	96%	76%	92%	88%	90%	86%	50%	89%	96%		
Heavy Vehicles	3	1304	3	29	1393	8	7	3	4	1	3	22		
% Heavy Vehicles	20%	24%	38%	4%	24%	8%	13%	10%	14%	50%	11%	4%		

PM PEAK HOUR SUMMARY

Wednesday, 10/05/2022

3:15 PM - 4:15 PM

PM Peak Hour Summary	US 31 (NB)			US 31 (SB)			13th Rd (EB)			13th Rd (WB)			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**1**	**718**	**0**	**95**	**779**	**17**	**3**	**3**	**1**	**0**	**1**	**85**	**1703**	**0.97**
% Heavy Vehicles	**0%**	**25%**	**0%**	**3%**	**19%**	**12%**	**0%**	**0%**	**0%**	**0%**	**0%**	**10%**		

Turning Movement Counts - AM

INTERSECTION: US 31 & SR 10

DATA DATE: Wednesday, 10/05/2022

DURATION: 24-Hr Counts

TIME BEGIN	US 31 (NB)			US 31 (SB)			SR 10 (EB)			SR 10 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 AM	0	20	0	1	22	0	2	1	1	0	0	1	48	145
12:15 AM	0	17	0	0	21	0	0	0	0	0	0	1	39	129
12:30 AM	0	16	0	1	9	1	0	1	0	0	0	0	28	114
12:45 AM	0	18	0	0	12	0	0	0	0	0	0	0	30	121
1:00 AM	0	20	0	0	12	0	0	0	0	0	0	0	32	118
1:15 AM	0	10	0	1	11	2	0	0	0	0	0	0	24	112
1:30 AM	0	13	0	1	19	0	1	0	0	0	1	0	35	117
1:45 AM	0	9	0	0	17	0	0	0	0	0	1	0	27	117
2:00 AM	0	16	0	0	10	0	0	0	0	0	0	0	26	127
2:15 AM	0	13	0	0	15	0	0	0	0	0	0	1	29	130
2:30 AM	1	18	0	1	14	0	1	0	0	0	0	0	35	144
2:45 AM	0	22	0	0	13	0	0	0	0	0	0	2	37	168
3:00 AM	0	12	3	0	13	0	0	0	0	0	0	1	29	186
3:15 AM	2	14	0	0	25	0	1	0	0	0	0	1	43	242
3:30 AM	0	31	0	0	25	0	1	0	0	1	0	1	59	283
3:45 AM	0	37	1	0	11	1	1	0	0	0	2	2	55	299
4:00 AM	1	35	7	2	26	1	3	2	1	0	3	4	85	355
4:15 AM	0	42	2	1	26	1	0	2	0	0	1	9	84	392
4:30 AM	1	29	3	2	28	1	1	2	1	3	0	4	75	469
4:45 AM	0	52	5	3	39	1	0	1	0	3	2	5	111	568
5:00 AM	0	46	6	4	39	1	3	3	0	5	1	14	122	621
5:15 AM	1	56	10	8	46	2	2	2	4	6	5	19	161	677
5:30 AM	2	56	7	6	57	3	10	6	1	7	9	10	174	745
5:45 AM	0	77	5	4	52	2	1	4	1	9	4	5	164	809
6:00 AM	0	72	11	2	59	3	8	2	1	2	3	15	178	874
6:15 AM	0	88	9	8	93	2	2	6	1	4	0	16	229	945
6:30 AM	1	90	16	7	81	3	5	6	0	7	4	18	238	1,041
6:45 AM	1	96	8	9	79	6	5	5	4	4	2	10	229	1,141

7:00 AM	0	108	4	9	94	6	3	2	2	5	5	11	249	1,288
7:15 AM	1	137	17	14	110	7	3	6	1	9	6	14	325	1,344
7:30 AM	3	106	29	30	104	10	2	8	1	12	1	32	338	1,361
7:45 AM	4	111	25	26	115	14	5	12	0	19	14	31	376	1,336
8:00 AM	2	108	6	10	129	4	3	5	1	10	10	17	305	1,318
8:15 AM	0	131	13	5	138	14	3	7	1	7	7	16	342	1,326
8:30 AM	0	106	12	14	138	4	3	3	1	10	4	18	313	1,269
8:45 AM	4	115	12	15	160	4	6	7	2	11	4	18	358	1,249
9:00 AM	0	103	7	13	142	6	3	4	2	13	6	14	313	1,220
9:15 AM	3	107	7	14	123	1	5	4	1	11	3	6	285	1,232
9:30 AM	2	118	5	9	116	3	0	7	0	17	6	10	293	1,260
9:45 AM	1	120	12	11	141	5	4	6	3	5	6	15	329	1,316
10:00 AM	4	124	10	10	141	4	1	6	3	5	6	11	325	1,313
10:15 AM	2	111	7	14	146	5	1	3	1	7	3	13	313	1,325
10:30 AM	1	128	10	12	155	3	6	4	2	8	2	18	349	1,394
10:45 AM	0	117	16	14	143	5	3	3	2	8	6	9	326	1,419
11:00 AM	2	120	14	13	136	8	0	2	3	15	7	17	337	1,480
11:15 AM	2	144	12	15	160	4	3	8	1	13	4	16	382	--
11:30 AM	2	132	13	20	151	5	6	8	3	7	8	19	374	--
11:45 AM	2	157	17	12	145	4	4	7	1	17	6	15	387	--
Grand Total	45	3,428	341	341	3,561	146	111	155	46	260	152	459	9,045	
% Approach	1%	90%	9%	8%	88%	4%	36%	50%	15%	30%	17%	53%		
% Total	0%	38%	4%	4%	39%	2%	1%	2%	1%	3%	2%	5%		
Lights	38	2,262	316	320	2,360	126	101	139	38	252	139	438		
% Lights	84%	66%	93%	94%	66%	86%	91%	90%	83%	97%	91%	95%		
Heavy Vehicles	7	1166	25	21	1201	20	10	16	8	8	13	21		
% Heavy Vehicles	16%	34%	7%	6%	34%	14%	9%	10%	17%	3%	9%	5%		

AM PEAK HOUR SUMMARY

Wednesday, 10/05/2022

7:30 AM - 8:30 AM

AM Peak Hour Summary	**US 31 (NB)**			**US 31 (SB)**			**SR 10 (EB)**			**SR 10 (WB)**			**TOTAL VEHICLES**	**PHF**
	L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**		
Total Volume	**9**	**456**	**73**	**71**	**486**	**42**	**13**	**32**	**3**	**48**	**32**	**96**	**1361**	**0.90**
% Heavy Vehicles	**0%**	**31%**	**7%**	**7%**	**26%**	**7%**	**0%**	**7%**	**0%**	**2%**	**10%**	**8%**		

Peak Hour manually updated to reflect the period between 6:00-9:00 AM

Turning Movement Counts - PM

INTERSECTION: US 31 & SR 10

DATA DATE: Wednesday, 10/05/2022

DURATION: 24-Hr Counts

TIME BEGIN	US 31 (NB)			US 31 (SB)			SR 10 (EB)			SR 10 (WB)			INTERVAL TOTAL	HOUR TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R		
12:00 PM	1	130	12	10	150	12	3	4	2	10	8	16	358	1,492
12:15 PM	1	145	13	17	179	5	1	5	2	9	3	14	394	1,450
12:30 PM	1	158	5	15	158	5	4	7	1	11	10	13	388	1,363
12:45 PM	2	155	12	11	135	5	4	4	0	10	3	11	352	1,280
1:00 PM	1	120	8	15	123	7	3	8	1	11	6	13	316	1,255
1:15 PM	1	106	8	12	137	7	2	5	1	12	7	9	307	1,272
1:30 PM	1	106	16	11	131	3	3	4	0	7	7	16	305	1,295
1:45 PM	4	115	8	7	140	3	1	7	3	13	6	20	327	1,360
2:00 PM	4	121	5	18	145	7	3	7	2	6	4	11	333	1,407
2:15 PM	1	114	11	15	144	9	3	9	1	9	2	12	330	1,457
2:30 PM	1	155	8	13	149	5	2	6	1	7	5	18	370	1,535
2:45 PM	2	157	16	17	133	6	6	7	4	6	4	16	374	1,551
3:00 PM	1	106	15	10	170	8	3	9	2	15	9	35	383	1,587
3:15 PM	1	147	11	10	195	6	2	7	6	6	4	13	408	1,592
3:30 PM	1	153	17	13	144	9	1	8	3	7	7	23	386	1,585
3:45 PM	2	165	17	18	144	10	4	5	2	10	11	22	410	1,616
4:00 PM	1	146	14	10	157	11	5	8	0	10	9	17	388	1,601
4:15 PM	1	131	13	23	183	5	4	10	3	7	6	15	401	1,600
4:30 PM	8	153	27	13	161	14	6	8	1	5	7	14	417	1,590
4:45 PM	2	145	23	15	148	10	6	9	5	8	7	17	395	1,526
5:00 PM	4	151	16	11	148	7	2	13	2	7	12	14	387	1,476
5:15 PM	2	149	14	20	157	6	5	6	2	7	10	13	391	1,372
5:30 PM	2	131	14	16	140	8	6	9	0	6	7	14	353	1,285
5:45 PM	1	129	8	9	134	8	7	8	5	10	8	18	345	1,198
6:00 PM	2	118	7	16	104	5	3	5	3	7	4	9	283	1,080
6:15 PM	1	116	19	9	108	6	7	11	0	5	10	12	304	1,027
6:30 PM	0	97	11	9	100	8	3	9	7	9	5	8	266	937
6:45 PM	1	78	16	15	86	3	1	11	1	5	5	5	227	864

7:00 PM	0	87	7	7	96	7	0	6	0	9	3	8	230	796
7:15 PM	0	73	7	11	81	1	0	3	1	29	2	6	214	704
7:30 PM	1	74	3	13	72	2	1	4	2	12	2	7	193	650
7:45 PM	0	51	2	5	75	5	2	1	2	6	8	2	159	611
8:00 PM	1	46	1	1	66	1	0	9	0	5	2	6	138	595
8:15 PM	0	48	8	5	73	3	4	3	0	7	5	4	160	612
8:30 PM	1	49	4	9	69	2	2	5	0	7	1	5	154	626
8:45 PM	0	51	3	5	59	5	2	3	0	7	3	5	143	592
9:00 PM	0	74	4	7	49	3	2	2	1	4	1	8	155	566
9:15 PM	0	66	5	4	50	3	3	3	0	17	8	15	174	497
9:30 PM	0	45	6	1	48	0	0	1	0	10	4	5	120	414
9:45 PM	0	54	3	6	45	3	0	1	0	0	0	5	117	377
10:00 PM	0	33	1	1	36	1	1	1	0	4	2	6	86	338
10:15 PM	1	44	0	3	38	0	2	1	0	0	1	1	91	317
10:30 PM	1	36	0	1	37	0	2	1	0	4	0	1	83	288
10:45 PM	1	34	5	5	29	0	0	1	0	0	1	2	78	256
11:00 PM	1	31	0	0	27	3	0	0	0	2	0	1	65	229
11:15 PM	0	27	1	3	26	1	1	0	0	0	0	3	62	--
11:30 PM	0	21	0	3	23	0	0	0	0	2	0	2	51	--
11:45 PM	0	28	0	1	18	2	0	0	0	0	0	2	51	--
Grand Total	57	4,669	424	469	5,020	240	122	254	66	360	229	512	12,422	
% Approach	1%	91%	8%	8%	88%	4%	28%	57%	15%	33%	21%	47%		
% Total	0%	38%	3%	4%	40%	2%	1%	2%	1%	3%	2%	4%		
Lights	47	3,392	402	452	3,659	224	114	235	52	344	221	487		
% Lights	82%	73%	95%	96%	73%	93%	93%	93%	79%	96%	97%	95%		
Heavy Vehicles	10	1277	22	17	1361	16	8	19	14	16	8	25		
% Heavy Vehicles	18%	27%	5%	4%	27%	7%	7%	7%	21%	4%	3%	5%		

PM PEAK HOUR SUMMARY

Wednesday, 10/05/2022

3:45 PM - 4:45 PM

PM Peak Hour Summary	US 31 (NB)			US 31 (SB)			SR 10 (EB)			SR 10 (WB)			TOTAL VEHICLES	PHF
	L	T	R	L	T	R	L	T	R	L	T	R		
Total Volume	**12**	**595**	**71**	**64**	**645**	**40**	**19**	**31**	**6**	**32**	**33**	**68**	**1616**	**0.97**
% Heavy Vehicles	**0%**	**27%**	**10%**	**3%**	**21%**	**3%**	**6%**	**16%**	**34%**	**3%**	**3%**	**9%**		

2022 Volumes (AM Peak Hour)

ID	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
2	US 30 and E Industrial Dr	108	5	14	2	7	59	133	519	168	10	740	37
3	US 30 and Montdale Dr	5	4	37	14	3	10	23	746	5	44	470	4
4	US 30 and N 400 E	9	1	9	0	1	13	16	462	5	0	743	5
5	US 30 and County Rd	10	1	2	2	1	5	0	477	2	0	713	2
6	US 30 and N Main St	17	0	32	0	0	0	0	476	20	17	661	1
7	US 30 and US Hwy 421	127	67	19	44	61	47	58	370	52	11	437	60
8	US 30 and S 600 W	6	30	1	7	19	44	46	413	3	0	461	31
9	US 30 and N Thompson St	21	3	3	1	3	5	1	412	9	2	504	2
10	US 30 and US 30 Alternate Rte	0	0	6	0	0	0	0	405	0	5	506	0
11	US 30 and S 300 W	10	2	1	1	0	5	2	399	3	0	481	0
12	US 30 and SR 39	56	60	9	14	31	15	22	380	27	14	352	10
14	US 30 and N 750 E	1	23	7	16	13	28	42	420	2	5	379	39
15	US 30 and N 1000 E	11	12	33	10	17	16	8	408	7	11	371	4
16	US 30 and Queen Rd	31	20	3	45	72	4	3	371	69	0	297	17
17	US 30 and Pioneer Dr	7	25	55	52	22	39	31	314	38	76	281	57
18	US 30 and N Oak Rd	33	149	41	25	150	78	103	317	61	78	338	34
19S	US 30 & Michigan Rd South Ramp	0	323	33	24	335	0	0	0	0	28	0	24
19N	US 30 & Michigan Rd North Ramp	0	317	28	16	334	0	0	0	0	42	0	23
20	US 30 and Plymouth Goshen Trl	0	0	31	1	0	16	0	389	9	0	460	7
22	US 30 and 9a Rd	76	17	43	0	20	34	16	277	53	40	281	1
23	US 30 and Fir Rd	4	11	1	9	7	4	1	335	3	0	332	9
25	US 31 and W 9a Rd	136	547	11	0	444	108	0	0	67	1	1	6
26	US 31 and Michigan Rd	130	606	0	0	584	2	3	0	108	0	0	0
27	US 31 and 13th Rd	3	582	1	83	596	7	18	3	3	2	6	115
28	US 31 and SR 10	9	456	73	71	486	42	13	32	3	48	32	96

2022 Volumes (PM Peak Hour)

ID	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
2	US 30 and E Industrial Dr	133	6	23	23	3	150	68	787	44	2	759	24
3	US 30 and Montdale Dr	0	8	40	11	9	18	14	721	8	33	819	14
4	US 30 and N 400 E	14	1	3	4	1	12	8	821	10	8	716	5
5	US 30 and County Rd	3	3	5	0	5	5	3	838	9	7	666	0
6	US 30 and N Main St	14	0	40	0	0	0	0	816	24	25	620	1
7	US 30 and US Hwy 421	70	61	5	86	98	66	95	533	129	13	506	62
8	US 30 and S 600 W	10	8	0	16	18	54	48	545	25	2	489	3
9	US 30 and N Thompson St	9	9	4	0	8	4	5	482	22	8	558	4
10	US 30 and US 30 Alternate Rte	0	0	4	0	0	0	0	498	0	6	559	0
11	US 30 and S 300 W	2	1	0	2	3	1	2	488	7	1	554	2
12	US 30 and SR 39	49	36	15	15	76	17	20	421	95	24	450	22
14	US 30 and N 750 E	5	9	2	11	10	17	3	507	7	6	602	6
15	US 30 and N 1000 E	9	27	27	6	47	21	20	459	10	47	558	26
16	US 30 and Queen Rd	47	42	5	30	45	6	7	467	44	2	523	48
17	US 30 and Pioneer Dr	37	30	124	51	39	66	39	439	23	103	523	71
18	US 30 and N Oak Rd	72	282	98	66	259	202	135	359	61	39	382	77
19S	US 30 & Michigan Rd South Ramp	0	483	59	27	456	0	0	0	0	39	0	14
19N	US 30 & Michigan Rd North Ramp	0	467	49	13	429	0	0	0	0	38	0	19
20	US 30 and Plymouth Goshen Trl	0	0	42	0	0	32	0	633	12	0	618	10
22	US 30 and 9a Rd	63	30	39	0	21	33	25	353	75	39	337	2
23	US 30 and Fir Rd	4	3	2	12	18	9	6	452	4	1	444	13
25	US 31 and W 9a Rd	73	674	5	0	763	109	0	1	79	0	0	8
26	US 31 and Michigan Rd	140	677	0	0	750	5	5	0	134	0	0	0
27	US 31 and 13th Rd	1	718	0	95	779	17	3	3	1	0	1	85
28	US 31 and SR 10	12	595	71	64	645	40	19	31	6	32	33	68

Appendix E

Future (2045) Turnng Movement Volumes

2045 No-Build Volumes (AM Peak Hour)

ID	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
2	US 30 and E Industrial Dr	86	10	15	3	8	118	253	636	187	10	907	41
3	US 30 and Montdale Dr	12	5	41	15	3	11	26	901	7	49	508	4
4	US 30 and N 400 E	10	1	14	0	1	14	18	556	6	0	802	6
5	US 30 and County Rd	11	6	9	2	3	5	0	533	2	0	711	2
6	US 30 and N Main St	20	0	34	0	0	0	0	608	23	18	683	1
7	US 30 and US Hwy 421	121	96	22	48	86	60	136	452	55	15	448	81
8	US 30 and S 600 W	20	40	1	6	27	51	48	471	10	0	517	27
9	US 30 and N Thompson St	23	3	3	1	3	6	1	477	10	2	572	2
10	US 30 and US 30 Alternate Rte	0	0	6	0	0	0	0	468	0	5	573	0
11	US 30 and S 300 W	11	2	0	1	0	6	2	457	3	0	541	0
12	US 30 and SR 39	56	87	13	14	45	2	3	432	27	77	393	15
14	US 30 and N 750 E	1	3	8	18	2	31	47	468	2	5	423	43
15	US 30 and N 1000 E	11	13	36	12	19	17	9	468	7	12	416	5
16	US 30 and Queen Rd	33	23	4	48	80	4	3	428	74	0	336	18
17	US 30 and Pioneer Dr	7	24	63	50	22	40	32	363	40	92	319	56
18	US 30 and N Oak Rd	35	152	46	30	151	83	113	373	66	86	399	41
19S	US 30 & Michigan Rd South Ramp	0	349	36	26	363	0	0	0	0	30	0	27
19N	US 30 & Michigan Rd North Ramp	0	342	31	18	361	0	0	0	0	49	0	25
20	US 30 and Plymouth Goshen Trl	0	0	36	1	0	20	0	456	10	0	536	8
22	US 30 and 9a Rd	88	19	50	0	24	39	19	363	75	46	321	1
23	US 30 and Fir Rd	4	12	1	10	7	5	1	443	3	0	384	10
25	US 31 and W 9a Rd	153	674	12	0	487	120	0	0	79	1	1	7
26	US 31 and Michigan Rd	141	740	0	0	636	2	3	0	113	0	0	0
27	US 31 and 13th Rd	4	697	1	89	648	8	20	4	4	2	9	132
28	US 31 and SR 10	10	508	81	79	542	47	14	36	3	54	36	107

2045 No-Build Volumes (PM Peak Hour)

ID	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
2	US 30 and E Industrial Dr	106	12	24	32	3	300	129	965	49	2	930	27
3	US 30 and Montdale Dr	0	10	45	12	10	20	16	871	11	37	885	15
4	US 30 and N 400 E	16	1	5	4	1	13	9	987	11	12	773	6
5	US 30 and County Rd	3	17	22	0	17	5	3	936	10	22	664	0
6	US 30 and N Main St	17	0	43	0	0	0	0	1,043	28	26	641	1
7	US 30 and US Hwy 421	66	87	6	93	139	85	222	651	136	18	519	83
8	US 30 and S 600 W	33	11	0	14	26	63	50	621	83	2	549	3
9	US 30 and N Thompson St	10	9	4	0	8	4	6	558	25	8	633	4
10	US 30 and US 30 Alternate Rte	0	0	4	0	0	0	0	575	0	6	633	0
11	US 30 and S 300 W	2	1	0	2	3	1	2	559	8	0	623	2
12	US 30 and SR 39	49	52	22	15	111	3	2	479	97	132	502	32
14	US 30 and N 750 E	6	1	2	12	1	19	3	565	8	7	671	7
15	US 30 and N 1000 E	9	30	30	7	52	22	22	526	10	51	625	29
16	US 30 and Queen Rd	50	48	6	32	50	6	7	538	47	2	592	51
17	US 30 and Pioneer Dr	38	29	142	49	38	68	41	507	24	124	594	70
18	US 30 and N Oak Rd	77	288	110	80	260	214	148	422	66	43	451	93
19S	US 30 & Michigan Rd South Ramp	0	517	63	30	488	0	0	0	0	43	0	16
19N	US 30 & Michigan Rd North Ramp	0	576	55	14	471	0	0	0	0	42	0	21
20	US 30 and Plymouth Goshen Trl	0	0	49	0	0	41	0	742	13	0	720	11
22	US 30 and 9a Rd	73	33	45	0	25	38	30	463	105	45	385	2
23	US 30 and Fir Rd	4	3	2	13	19	10	7	598	4	1	514	15
25	US 31 and W 9a Rd	82	831	6	0	837	121	0	1	93	0	0	9
26	US 31 and Michigan Rd	152	827	0	0	817	6	6	0	141	0	0	0
27	US 31 and 13th Rd	1	860	0	102	846	19	3	4	1	0	2	97
28	US 31 and SR 10	13	663	79	71	719	45	21	35	7	36	37	76

Appendix F

Freeway Analysis Outputs

HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	SR 49 Mainline NB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	1156	Heavy Vehicle Adjustment Factor (f_{HV})	0.862
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	714
Total Trucks, %	16.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.8
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	13.8	9.2	6.9	5.5
LOS	B	A	A	A

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HCS Basic Freeway Report

Project Information

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Project Description	SR 49 Mainline NB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	1633	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	947
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.3
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	18.3	12.2	9.2	7.3
LOS	C	B	A	A

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HCS Basic Freeway Report

Project Information

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Project Description	SR 49 Mainline NB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	1422	Heavy Vehicle Adjustment Factor (f_{HV})	0.862
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	878
Total Trucks, %	16.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.40
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.9
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	16.9	11.3	8.5	6.8
LOS	B	B	A	A

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HCS Basic Freeway Report

Project Information

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Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
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Project Description	SR 49 Mainline NB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	2009	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1166
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.5
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	22.5	15.0	11.3	9.0
LOS	C	B	B	A

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Project Description	SR 49 Mainline NB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	52.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	526	Heavy Vehicle Adjustment Factor (f_{HV})	0.763
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	366
Total Trucks, %	31.00	Capacity (c), pc/h/ln	2222
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2222
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.16
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.0
Total Ramp Density Adjustment	2.8	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	52.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.0	4.7	3.5	2.8
LOS	A	A	A	A

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Project Description	SR 49 Mainline NB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	52.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	927	Heavy Vehicle Adjustment Factor (f_{HV})	0.813
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	606
Total Trucks, %	23.00	Capacity (c), pc/h/ln	2222
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2222
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.6
Total Ramp Density Adjustment	2.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	52.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	11.6	7.7	5.8	4.7
LOS	B	A	A	A

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HCS Basic Freeway Report

Project Information

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Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	SR 49 Mainline NB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	52.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	647	Heavy Vehicle Adjustment Factor (f_{HV})	0.763
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	451
Total Trucks, %	31.00	Capacity (c), pc/h/ln	2222
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2222
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.20
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.6
Total Ramp Density Adjustment	2.8	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	52.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	8.6	5.8	4.3	3.4
LOS	A	A	A	A

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HCS Basic Freeway Report

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Project Description	SR 49 Mainline NB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	52.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	1140	Heavy Vehicle Adjustment Factor (f_{HV})	0.813
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	746
Total Trucks, %	23.00	Capacity (c), pc/h/ln	2222
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2222
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.3
Total Ramp Density Adjustment	2.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	52.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	14.3	9.5	7.1	5.7
LOS	B	A	A	A

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Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	SR 49 Mainline SB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	50.9
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	863	Heavy Vehicle Adjustment Factor (f_{HV})	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	542
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2209
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2209
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	50.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.6
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	50.9		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	10.6	7.1	5.3	4.3
LOS	A	A	A	A

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Project Description	SR 49 Mainline SB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	50.9
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	1415	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	813
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2209
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2209
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	50.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.0
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	50.9		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	16.0	10.6	8.0	6.4
LOS	B	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	SR 49 Mainline SB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	50.9
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	1061	Heavy Vehicle Adjustment Factor (f_{HV})	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	666
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2209
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2209
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.30
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	50.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.1
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	50.9		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	13.1	8.7	6.5	5.2
LOS	B	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	SR 49 Mainline SB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	50.9
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	1740	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1000
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2209
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2209
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	50.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	19.6
Total Ramp Density Adjustment	4.1	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	50.9		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	19.6	13.1	9.8	7.9
LOS	C	B	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	SR 49 Mainline SB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	881	Heavy Vehicle Adjustment Factor (f_{HV})	0.781
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	600
Total Trucks, %	28.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.6
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	11.6	7.7	5.8	4.6
LOS	B	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	SR 49 Mainline SB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	753	Heavy Vehicle Adjustment Factor (f_{HV})	0.826
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	485
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.22
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.4
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	9.4	6.2	4.7	3.7
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	SR 49 Mainline SB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	1084	Heavy Vehicle Adjustment Factor (f_{HV})	0.781
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	738
Total Trucks, %	28.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.2
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	14.2	9.5	7.1	5.7
LOS	B	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	SR 49 Mainline SB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	926	Heavy Vehicle Adjustment Factor (f_{HV})	0.826
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	596
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.5
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	11.5	7.7	5.8	4.6
LOS	B	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline EB, E of US 35	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	433	Heavy Vehicle Adjustment Factor (f_{HV})	0.685
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	336
Total Trucks, %	46.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.15
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.3
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.3	4.2	3.1	2.5
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline EB, E of US 35	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	528	Heavy Vehicle Adjustment Factor (f_{HV})	0.763
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	368
Total Trucks, %	31.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.16
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.9
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.9	4.6	3.4	2.7
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline EB, E of US 35	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	533	Heavy Vehicle Adjustment Factor (f_{HV})	0.685
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	414
Total Trucks, %	46.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.19
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.7
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.7	5.1	3.9	3.1
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline EB, E of US 35	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	649	Heavy Vehicle Adjustment Factor (f_{HV})	0.763
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	452
Total Trucks, %	31.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.20
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.4
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	8.4	5.6	4.2	3.4
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, E of US 35	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	391	Heavy Vehicle Adjustment Factor (f_{HV})	0.694
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	300
Total Trucks, %	44.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.13
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	5.6
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	5.6	3.7	2.8	2.2
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, W of US 35	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	515	Heavy Vehicle Adjustment Factor (f_{HV})	0.769
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	356
Total Trucks, %	30.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.16
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.6
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.6	4.4	3.3	2.6
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, E of US 35	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	481	Heavy Vehicle Adjustment Factor (f_{HV})	0.694
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	368
Total Trucks, %	44.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.16
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.9
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.9	4.6	3.4	2.7
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, W of US 35	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	633	Heavy Vehicle Adjustment Factor (f_{HV})	0.769
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	438
Total Trucks, %	30.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.20
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.2
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	8.2	5.4	4.1	3.3
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, E of US 35	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	435	Heavy Vehicle Adjustment Factor (f_{HV})	0.752
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	308
Total Trucks, %	33.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.14
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	5.7
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	5.7	3.8	2.9	2.3
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, E of US 35	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	593	Heavy Vehicle Adjustment Factor (f_{HV})	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	442
Total Trucks, %	40.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.20
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.2
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	8.2	5.5	4.1	3.3
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, E of US 35	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	535	Heavy Vehicle Adjustment Factor (f_{HV})	0.752
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	378
Total Trucks, %	33.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.17
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.0
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.0	4.7	3.5	2.8
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, E of US 35	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	729	Heavy Vehicle Adjustment Factor (f_{HV})	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	543
Total Trucks, %	40.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.24
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.1
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	10.1	6.7	5.1	4.0
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, W of US 35	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	413	Heavy Vehicle Adjustment Factor (f_{HV})	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	299
Total Trucks, %	36.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.13
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	5.6
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	5.6	3.7	2.8	2.2
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	M Peak Hour
Project Description	US 30 Mainline WB, W of US 35	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	535	Heavy Vehicle Adjustment Factor (f_{HV})	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	404
Total Trucks, %	42.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.18
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.5
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.5	5.0	3.8	3.0
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, W of US 35	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	508	Heavy Vehicle Adjustment Factor (f_{HV})	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	368
Total Trucks, %	36.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.16
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.9
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.9	4.6	3.4	2.7
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, W of US 35	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	658	Heavy Vehicle Adjustment Factor (f_{HV})	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	497
Total Trucks, %	42.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.22
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.3
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	9.3	6.2	4.6	3.7
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 35 Mainline NB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	135	Heavy Vehicle Adjustment Factor (f_{HV})	0.800
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	90
Total Trucks, %	25.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.04
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	1.7
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	1.7	1.1	0.8	0.7
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 35 Mainline NB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	159	Heavy Vehicle Adjustment Factor (f_{HV})	0.870
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	97
Total Trucks, %	15.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.04
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	1.8
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	1.8	1.2	0.9	0.7
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 35 Mainline NB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	166	Heavy Vehicle Adjustment Factor (f_{HV})	0.800
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	110
Total Trucks, %	25.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.05
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	2.0
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	2.0	1.4	1.0	0.8
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 35 Mainline NB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	196	Heavy Vehicle Adjustment Factor (f_{HV})	0.870
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	120
Total Trucks, %	15.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.05
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	2.2
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	2.2	1.5	1.1	0.9
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 35 Mainline NB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	232	Heavy Vehicle Adjustment Factor (f_{HV})	0.877
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	140
Total Trucks, %	14.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.06
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	2.6
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	2.6	1.8	1.3	1.0
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 35 Mainline NB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	229	Heavy Vehicle Adjustment Factor (f_{HV})	0.862
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	142
Total Trucks, %	16.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.06
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	2.6
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	2.6	1.8	1.3	1.1
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 35 Mainline NB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	285	Heavy Vehicle Adjustment Factor (f_{HV})	0.877
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	173
Total Trucks, %	14.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.08
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	3.2
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	3.2	2.1	1.6	1.3
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 35 Mainline NB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	282	Heavy Vehicle Adjustment Factor (f_{HV})	0.862
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	174
Total Trucks, %	16.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.08
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	3.2
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	3.2	2.2	1.6	1.3
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 35 Mainline SB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	129	Heavy Vehicle Adjustment Factor (f_{HV})	0.752
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	91
Total Trucks, %	33.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.04
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	1.7
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	1.7	1.1	0.9	0.7
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 35 Mainline SB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	161	Heavy Vehicle Adjustment Factor (f_{HV})	0.885
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	97
Total Trucks, %	13.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.04
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	1.8
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	1.8	1.2	0.9	0.7
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 35 Mainline SB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	159	Heavy Vehicle Adjustment Factor (f_{HV})	0.752
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	112
Total Trucks, %	33.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.05
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	2.1
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	2.1	1.4	1.0	0.8
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 35 Mainline SB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	198	Heavy Vehicle Adjustment Factor (f_{HV})	0.885
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	119
Total Trucks, %	13.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.05
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	2.2
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	2.2	1.5	1.1	0.9
LOS	A	A	A	A

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HCS Basic Freeway Report

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Project Description	US 35 Mainline SB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	196	Heavy Vehicle Adjustment Factor (f_{HV})	0.855
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	122
Total Trucks, %	17.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.05
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	2.3
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	2.3	1.5	1.1	0.9
LOS	A	A	A	A

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HCS Basic Freeway Report

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Project Description	US 35 Mainline SB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	291	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	167
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.07
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	3.1
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	3.1	2.1	1.6	1.2
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 35 Mainline SB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	241	Heavy Vehicle Adjustment Factor (f_{HV})	0.855
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	150
Total Trucks, %	17.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.07
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	2.8
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	2.8	1.9	1.4	1.1
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 35 Mainline SB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	358	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	206
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.09
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	3.8
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	3.8	2.6	1.9	1.5
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline EB, E of Michigan Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	421	Heavy Vehicle Adjustment Factor (f_{HV})	0.685
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	327
Total Trucks, %	46.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.15
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.3
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.3	4.2	3.2	2.5
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline EB, E of Michigan Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	577	Heavy Vehicle Adjustment Factor (f_{HV})	0.758
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	405
Total Trucks, %	32.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.18
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.8
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.8	5.2	3.9	3.1
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline EB, E of Michigan Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	518	Heavy Vehicle Adjustment Factor (f_{HV})	0.685
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	402
Total Trucks, %	46.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.18
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.8
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.8	5.2	3.9	3.1
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline EB, E of Michigan Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	710	Heavy Vehicle Adjustment Factor (f_{HV})	0.758
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	498
Total Trucks, %	32.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.22
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.6
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	9.6	6.4	4.8	3.8
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline EB, W of Michigan Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	412	Heavy Vehicle Adjustment Factor (f_{HV})	0.676
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	324
Total Trucks, %	48.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.15
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.3
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.3	4.2	3.1	2.5
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline EB, W of Michigan Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	536	Heavy Vehicle Adjustment Factor (f_{HV})	0.758
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	376
Total Trucks, %	32.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.17
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.3
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.3	4.8	3.6	2.9
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline EB, W of Michigan Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	507	Heavy Vehicle Adjustment Factor (f_{HV})	0.676
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	399
Total Trucks, %	48.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.18
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.7
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.7	5.1	3.9	3.1
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline EB, W of Michigan Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	659	Heavy Vehicle Adjustment Factor (f_{HV})	0.758
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	462
Total Trucks, %	32.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.21
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.9
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	8.9	5.9	4.5	3.6
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, E of Michigan Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	460	Heavy Vehicle Adjustment Factor (f_{HV})	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	333
Total Trucks, %	36.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.15
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.4
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.4	4.3	3.2	2.6
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, E of Michigan Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	527	Heavy Vehicle Adjustment Factor (f_{HV})	0.741
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	378
Total Trucks, %	35.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.17
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.3
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.3	4.9	3.6	2.9
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, E of Michigan Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	566	Heavy Vehicle Adjustment Factor (f_{HV})	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	410
Total Trucks, %	36.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.18
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.9
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.9	5.3	4.0	3.2
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Project Description	US 30 Mainline WB, E of Michigan Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	648	Heavy Vehicle Adjustment Factor (f_{HV})	0.741
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	465
Total Trucks, %	35.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.21
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.0
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	9.0	6.0	4.5	3.6
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Project Description	US 30 Mainline WB, W of Michigan Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	440	Heavy Vehicle Adjustment Factor (f_{HV})	0.649
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	360
Total Trucks, %	54.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.16
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.9
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.9	4.6	3.5	2.8
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, W of Michigan Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	496	Heavy Vehicle Adjustment Factor (f_{HV})	0.649
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	406
Total Trucks, %	54.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.18
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.8
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.8	5.2	3.9	3.1
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, W of Michigan Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	541	Heavy Vehicle Adjustment Factor (f_{HV})	0.649
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	444
Total Trucks, %	54.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.20
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.6
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	8.6	5.7	4.3	3.4
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, W of Michigan Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	610	Heavy Vehicle Adjustment Factor (f_{HV})	0.649
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	500
Total Trucks, %	54.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.23
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.7
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	9.7	6.4	4.8	3.9
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline EB, E of US 31	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	358	Heavy Vehicle Adjustment Factor (f_{HV})	0.709
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	268
Total Trucks, %	41.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.12
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	5.2
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	5.2	3.5	2.6	2.1
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
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Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline EB, E of US 31	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	450	Heavy Vehicle Adjustment Factor (f_{HV})	0.741
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	323
Total Trucks, %	35.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.15
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.2
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.2	4.2	3.1	2.5
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline EB, E of US 31	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	440	Heavy Vehicle Adjustment Factor (f_{HV})	0.709
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	330
Total Trucks, %	41.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.15
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.4
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.4	4.2	3.2	2.5
LOS	A	A	A	A

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HCS Basic Freeway Report

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Project Description	US 30 Mainline EB, E of US 31	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	554	Heavy Vehicle Adjustment Factor (f_{HV})	0.741
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	398
Total Trucks, %	35.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.18
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.7
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.7	5.1	3.8	3.1
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
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Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline EB, W of US 31	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	421	Heavy Vehicle Adjustment Factor (f_{HV})	0.699
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	320
Total Trucks, %	43.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.14
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.2
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.2	4.1	3.1	2.5
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline EB, W of US 31	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	675	Heavy Vehicle Adjustment Factor (f_{HV})	0.781
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	460
Total Trucks, %	28.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.21
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.9
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	8.9	5.9	4.4	3.6
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline EB, W of US 31	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	518	Heavy Vehicle Adjustment Factor (f_{HV})	0.699
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	394
Total Trucks, %	43.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.18
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.6
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.6	5.1	3.8	3.1
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline EB, W of US 31	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	830	Heavy Vehicle Adjustment Factor (f_{HV})	0.781
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	566
Total Trucks, %	28.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.9
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	10.9	7.3	5.5	4.4
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, E of US 31	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	364	Heavy Vehicle Adjustment Factor (f_{HV})	0.730
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	265
Total Trucks, %	37.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.12
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	5.1
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	5.1	3.4	2.5	2.0
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, E of US 31	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	437	Heavy Vehicle Adjustment Factor (f_{HV})	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	330
Total Trucks, %	42.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.15
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.4
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.4	4.2	3.2	2.5
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, E of US 31	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	448	Heavy Vehicle Adjustment Factor (f_{HV})	0.730
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	326
Total Trucks, %	37.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.15
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.3
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.3	4.2	3.1	2.5
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, E of US 31	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	538	Heavy Vehicle Adjustment Factor (f_{HV})	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	406
Total Trucks, %	42.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.18
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.8
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.8	5.2	3.9	3.1
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, W of US 31	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	552	Heavy Vehicle Adjustment Factor (f_{HV})	0.775
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	379
Total Trucks, %	29.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.17
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.3
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.3	4.9	3.7	2.9
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, W of US 31	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	901	Heavy Vehicle Adjustment Factor (f_{HV})	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	566
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.26
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.9
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

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HCS Basic Freeway Report

Project Information

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Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, W of US 31	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	679	Heavy Vehicle Adjustment Factor (f_{HV})	0.775
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	466
Total Trucks, %	29.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.21
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.0
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	9.0	6.0	4.5	3.6
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, W of US 31	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	1108	Heavy Vehicle Adjustment Factor (f_{HV})	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	696
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.31
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.4
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 31 Mainline NB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	613	Heavy Vehicle Adjustment Factor (f_{HV})	0.826
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	395
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.18
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.6
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.6	5.1	3.8	3.1
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 31 Mainline NB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	697	Heavy Vehicle Adjustment Factor (f_{HV})	0.870
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	426
Total Trucks, %	15.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.19
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.2
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	8.2	5.5	4.1	3.3
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 31 Mainline NB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	754	Heavy Vehicle Adjustment Factor (f_{HV})	0.826
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	486
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.22
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.4
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	9.4	6.3	4.7	3.7
LOS	A	A	A	A

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HCS Basic Freeway Report

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Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 31 Mainline NB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	857	Heavy Vehicle Adjustment Factor (f_{HV})	0.870
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	524
Total Trucks, %	15.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.24
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.1
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	10.1	6.7	5.1	4.1
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 31 Mainline NB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	544	Heavy Vehicle Adjustment Factor (f_{HV})	0.806
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	359
Total Trucks, %	24.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.16
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.9
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.9	4.6	3.5	2.8
LOS	A	A	A	A

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HCS Basic Freeway Report

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Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 31 Mainline NB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	622	Heavy Vehicle Adjustment Factor (f_{HV})	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	390
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.18
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.5
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.5	5.0	3.8	3.0
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
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Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 31 Mainline NB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	669	Heavy Vehicle Adjustment Factor (f_{HV})	0.806
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	442
Total Trucks, %	24.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.20
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.5
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	8.5	5.7	4.3	3.4
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 31 Mainline NB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	765	Heavy Vehicle Adjustment Factor (f_{HV})	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	480
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.22
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.3
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	9.3	6.2	4.6	3.7
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 31 Mainline SB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	589	Heavy Vehicle Adjustment Factor (f_{HV})	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	370
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.17
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.1
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.1	4.8	3.6	2.9
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 31 Mainline SB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	880	Heavy Vehicle Adjustment Factor (f_{HV})	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	552
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.7
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	10.7	7.1	5.3	4.3
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 31 Mainline SB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	724	Heavy Vehicle Adjustment Factor (f_{HV})	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	454
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.20
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.8
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	8.8	5.8	4.4	3.5
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 31 Mainline SB, N of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	1082	Heavy Vehicle Adjustment Factor (f_{HV})	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	680
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.31
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.1
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	13.1	8.7	6.6	5.3
LOS	B	A	A	A

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HCS Basic Freeway Report

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Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 31 Mainline SB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	450	Heavy Vehicle Adjustment Factor (f_{HV})	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	326
Total Trucks, %	36.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.15
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.3
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.3	4.2	3.1	2.5
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 31 Mainline SB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	628	Heavy Vehicle Adjustment Factor (f_{HV})	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	454
Total Trucks, %	36.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.20
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.8
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	8.8	5.8	4.4	3.5
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 31 Mainline SB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	554	Heavy Vehicle Adjustment Factor (f_{HV})	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	401
Total Trucks, %	36.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.18
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.7
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.7	5.2	3.9	3.1
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 31 Mainline SB, S of US 30	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	51.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	772	Heavy Vehicle Adjustment Factor (f_{HV})	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	558
Total Trucks, %	36.00	Capacity (c), pc/h/ln	2218
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2218
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.8
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	51.8		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	10.8	7.2	5.4	4.3
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline EB, E of Main St	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	371	Heavy Vehicle Adjustment Factor (f_{HV})	0.763
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	258
Total Trucks, %	31.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.12
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	4.8
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	4.8	3.2	2.4	1.9
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline EB, E of Main St	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	472	Heavy Vehicle Adjustment Factor (f_{HV})	0.752
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	334
Total Trucks, %	33.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.15
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.2
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.2	4.2	3.1	2.5
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline EB, E of Main St	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	456	Heavy Vehicle Adjustment Factor (f_{HV})	0.763
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	318
Total Trucks, %	31.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.14
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	5.9
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	5.9	3.9	3.0	2.4
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline EB, E of Main St	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	581	Heavy Vehicle Adjustment Factor (f_{HV})	0.752
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	411
Total Trucks, %	33.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.18
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.7
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.7	5.1	3.8	3.1
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline EB, W of Main St	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	310	Heavy Vehicle Adjustment Factor (f_{HV})	0.662
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	249
Total Trucks, %	51.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.11
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	4.6
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	4.6	3.1	2.3	1.9
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline EB, W of Main St	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	421	Heavy Vehicle Adjustment Factor (f_{HV})	0.725
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	309
Total Trucks, %	38.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.14
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	5.8
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	5.8	3.8	2.9	2.3
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline EB, W of Main St	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	381	Heavy Vehicle Adjustment Factor (f_{HV})	0.662
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	306
Total Trucks, %	51.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.14
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	5.7
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	5.7	3.8	2.8	2.3
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline EB, W of Main St	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	518	Heavy Vehicle Adjustment Factor (f_{HV})	0.725
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	380
Total Trucks, %	38.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.17
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.1
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.1	4.7	3.5	2.8
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, E of Main St	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	397	Heavy Vehicle Adjustment Factor (f_{HV})	0.709
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	298
Total Trucks, %	41.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.13
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	5.5
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	5.5	3.7	2.8	2.2
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, E of Main St	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	487	Heavy Vehicle Adjustment Factor (f_{HV})	0.763
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	340
Total Trucks, %	31.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.15
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.3
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.3	4.2	3.2	2.5
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, E of Main St	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	488	Heavy Vehicle Adjustment Factor (f_{HV})	0.709
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	366
Total Trucks, %	41.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.16
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.8
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.8	4.5	3.4	2.7
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, E of Main St	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	599	Heavy Vehicle Adjustment Factor (f_{HV})	0.763
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	418
Total Trucks, %	31.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.19
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.8
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.8	5.2	3.9	3.1
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, W of Main St	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	322	Heavy Vehicle Adjustment Factor (f_{HV})	0.676
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	254
Total Trucks, %	48.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.11
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	4.7
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	4.7	3.1	2.4	1.9
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, W of Main St	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	483	Heavy Vehicle Adjustment Factor (f_{HV})	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	350
Total Trucks, %	36.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.16
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.5
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.5	4.3	3.3	2.6
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, W of Main St	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	396	Heavy Vehicle Adjustment Factor (f_{HV})	0.676
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	312
Total Trucks, %	48.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.14
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	5.8
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	5.8	3.9	2.9	2.3
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, W of Main St	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	594	Heavy Vehicle Adjustment Factor (f_{HV})	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	430
Total Trucks, %	36.00	Capacity (c), pc/h/ln	2237
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2237
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.19
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.0
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.7		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	8.0	5.3	4.0	3.2
LOS	A	A	A	A

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Appendix G

Interchange Analysis Outputs

HCS Freeway Diverge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 EB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	780
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	764	92
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	10.00	33.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.909	0.752
Flow Rate (v_i), pc/h	894	130
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.20	0.06

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 (D_S)	0.310
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	894	Ramp Junction Speed (S), mi/h	51.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	8.8
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.9

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HCS Freeway Diverge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 EB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	780
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	895	192
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	6.00	22.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.820
Flow Rate (v_i), pc/h	1010	249
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.22	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 (D_S)	0.320
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1010	Ramp Junction Speed (S), mi/h	50.8

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	9.9
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	5.9

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 EB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	780
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	1115	92
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	10.00	33.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.909	0.752
Flow Rate (v_i), pc/h	1305	130
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.29	0.06

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 (D_S)	0.310
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1305	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	12.8
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	8.5

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 EB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	780
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	1307	192
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	6.00	22.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.820
Flow Rate (v_i), pc/h	1474	249
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.33	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 (D_S)	0.320
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1474	Ramp Junction Speed (S), mi/h	50.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	14.5
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	9.9

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HCS Freeway Merge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 EB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	780
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	789	92
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	28.00	33.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.781	0.752
Flow Rate (v_i), pc/h	1075	130
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.27	0.06

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)	0.264
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	51.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	1075	Ramp Junction Speed (S), mi/h	51.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1205	Average Density (D), pc/mi/ln	11.7
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	10.0

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HCS Freeway Merge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 EB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	780
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	573	180
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	22.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.826	0.820
Flow Rate (v_i), pc/h	738	234
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.22	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)	0.261
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	51.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	738	Ramp Junction Speed (S), mi/h	51.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	972	Average Density (D), pc/mi/ln	9.4
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	8.1

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 EB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	780
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	970	92
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	28.00	33.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.781	0.752
Flow Rate (v_i), pc/h	1321	130
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.32	0.06

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)	0.267
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	51.5
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	55.0
Flow in Lanes 1 and 2 (v12), pc/h	1321	Ramp Junction Speed (S), mi/h	51.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	1451	Average Density (D), pc/mi/ln	14.1
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	11.9

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 EB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	780
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	705	180
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	22.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.826	0.820
Flow Rate (v_i), pc/h	908	234
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.25	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)	0.263
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	51.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	908	Ramp Junction Speed (S), mi/h	51.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1142	Average Density (D), pc/mi/ln	11.1
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	9.5

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HCS Freeway Diverge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 NB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	490
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	526	70
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	31.00	44.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.763	0.694
Flow Rate (v_i), pc/h	733	107
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.16	0.05

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 (D_S)	0.308
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	733	Ramp Junction Speed (S), mi/h	51.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	7.2
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.1

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HCS Freeway Diverge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 NB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	490
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	927	47
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	23.00	55.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.813	0.645
Flow Rate (v_i), pc/h	1213	78
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.27	0.04

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 (D_S)	0.305
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1213	Ramp Junction Speed (S), mi/h	51.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	11.9
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	10.3

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 NB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	490
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	647	70
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	31.00	44.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.763	0.694
Flow Rate (v_i), pc/h	902	107
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.20	0.05

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 (DS)	0.308
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	902	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	8.8
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	7.6

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 NB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	490
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, CAFCAV	1.000	-

Demand and Capacity		
Demand Volume (Vi), veh/h	1140	47
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	23.00	55.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.813	0.645
Flow Rate (vi), pc/h	1492	78
Capacity (cmd), pc/h	4500	2100
Adjusted Capacity (cmd), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.33	0.04

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 (DS)	0.305
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.3
Flow in Lanes 1 and 2 (v12), pc/h	1492	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	14.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	12.7

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HCS Freeway Merge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	900
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	759	79
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	22.00	44.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.820	0.694
Flow Rate (v_i), pc/h	985	121
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.25	0.06

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)	0.252
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	51.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	985	Ramp Junction Speed (S), mi/h	51.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1106	Average Density (D), pc/mi/ln	10.7
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	8.5

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HCS Freeway Merge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	900
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	903	47
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	16.00	55.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.862	0.645
Flow Rate (v_i), pc/h	1114	78
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.26	0.04

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)	0.253
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	51.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	1114	Ramp Junction Speed (S), mi/h	51.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1192	Average Density (D), pc/mi/ln	11.5
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	9.2

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	900
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	1108	79
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	22.00	44.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.820	0.694
Flow Rate (v_i), pc/h	1437	121
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.35	0.06

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)	0.259
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	51.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	1437	Ramp Junction Speed (S), mi/h	51.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1558	Average Density (D), pc/mi/ln	15.1
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	12.0

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	900
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	1318	47
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	16.00	55.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.862	0.645
Flow Rate (v_i), pc/h	1627	78
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.38	0.04

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)	0.261
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	51.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	1627	Ramp Junction Speed (S), mi/h	51.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1705	Average Density (D), pc/mi/ln	16.5
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	13.2

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HCS Freeway Diverge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 NB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	815
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	412	134
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	31.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.763	0.885
Flow Rate (v_i), pc/h	574	161
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.13	0.08

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 (D_S)	0.312
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	574	Ramp Junction Speed (S), mi/h	50.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	5.6
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	1.9

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HCS Freeway Diverge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 NB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	815
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	880	147
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	23.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.813	0.943
Flow Rate (v_i), pc/h	1152	166
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.26	0.08

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 (D_S)	0.313
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1152	Ramp Junction Speed (S), mi/h	50.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	11.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.8

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 NB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	815
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	507	134
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	31.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.763	0.885
Flow Rate (v_i), pc/h	707	161
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.16	0.08

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 (D_S)	0.312
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	707	Ramp Junction Speed (S), mi/h	50.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.9
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	3.0

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 NB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	815
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	1082	147
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	23.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.813	0.943
Flow Rate (v_i), pc/h	1416	166
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.31	0.08

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 (D_S)	0.313
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1416	Ramp Junction Speed (S), mi/h	50.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	13.9
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	9.1

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HCS Freeway Merge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 NB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	785
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	305	134
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.847	0.885
Flow Rate (v_i), pc/h	383	161
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.12	0.08

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M_S)	0.281
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	51.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	383	Ramp Junction Speed (S), mi/h	51.3

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	544	Average Density (D), pc/mi/ln	5.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.8

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HCS Freeway Merge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 NB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	785
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	308	147
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	16.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.862	0.943
Flow Rate (v_i), pc/h	380	166
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.12	0.09

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)	0.281
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	51.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	380	Ramp Junction Speed (S), mi/h	51.3

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	546	Average Density (D), pc/mi/ln	5.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.8

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 NB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	785
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	375	134
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.847	0.885
Flow Rate (v_i), pc/h	471	161
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.14	0.08

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)	0.281
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	51.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	471	Ramp Junction Speed (S), mi/h	51.3
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	632	Average Density (D), pc/mi/ln	6.2
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	5.5

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 NB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	785
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	379	147
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	16.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.862	0.943
Flow Rate (v_i), pc/h	468	166
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.14	0.09

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)	0.281
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	51.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	468	Ramp Junction Speed (S), mi/h	51.3
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	634	Average Density (D), pc/mi/ln	6.2
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	5.5

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HCS Freeway Diverge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 SB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	740
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	989	299
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	16.00	42.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.862	0.704
Flow Rate (v_i), pc/h	1221	452
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.27	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 (D_S)	0.534
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1221	Ramp Junction Speed (S), mi/h	48.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	12.7
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	8.1

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HCS Freeway Diverge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 SB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	740
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	1415	385
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	9.00	34.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.917	0.746
Flow Rate (v_i), pc/h	1642	549
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.36	0.29

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 (D_S)	0.542
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1642	Ramp Junction Speed (S), mi/h	48.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	17.1
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	11.7

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 SB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	740
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	1216	437
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	16.00	42.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.862	0.704
Flow Rate (v_i), pc/h	1501	660
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.33	0.35

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 (D_S)	0.552
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	47.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1501	Ramp Junction Speed (S), mi/h	47.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	15.7
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	10.5

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 SB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	740
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	1740	562
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	9.00	34.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.917	0.746
Flow Rate (v_i), pc/h	2019	801
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.45	0.42

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 (D_S)	0.565
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	47.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	2019	Ramp Junction Speed (S), mi/h	47.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	21.2
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	15.0

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HCS Freeway Merge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 SB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	615
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	672	299
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	10.00	42.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.909	0.704
Flow Rate (v_i), pc/h	786	452
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.28	0.24

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)	0.298
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	786	Ramp Junction Speed (S), mi/h	51.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1238	Average Density (D), pc/mi/ln	12.1
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	11.1

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HCS Freeway Merge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 SB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	615
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	703	385
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	6.00	34.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.746
Flow Rate (v_i), pc/h	793	549
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.30	0.29

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)	0.299
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	793	Ramp Junction Speed (S), mi/h	51.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1342	Average Density (D), pc/mi/ln	13.1
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	11.9

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 SB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	615
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	981	437
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	10.00	42.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.909	0.704
Flow Rate (v_i), pc/h	1148	660
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.40	0.35

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)	0.308
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	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	1148	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1808	Average Density (D), pc/mi/ln	17.7
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	15.5

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 SB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	615
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	1026	562
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	6.00	34.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.746
Flow Rate (v_i), pc/h	1157	801
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.44	0.42

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)	0.312
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	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	1157	Ramp Junction Speed (S), mi/h	50.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1958	Average Density (D), pc/mi/ln	19.2
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	16.6

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HCS Freeway Diverge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 SB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
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	821	275
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	22.00	9.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.820	0.917
Flow Rate (v_i), pc/h	1065	319
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.24	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 (D_S)	0.327
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1065	Ramp Junction Speed (S), mi/h	50.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	10.5
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	0.0

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HCS Freeway Diverge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 SB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
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	1415	280
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	1626	319
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.36	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 (D_S)	0.327
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1626	Ramp Junction Speed (S), mi/h	50.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	16.0
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.7

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 SB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
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	1010	338
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	22.00	9.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.820	0.917
Flow Rate (v_i), pc/h	1310	392
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.29	0.19

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 (D_S)	0.333
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1310	Ramp Junction Speed (S), mi/h	50.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	12.9
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	2.0

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 SB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
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	1750	344
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	2010	391
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.45	0.19

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 (D_S)	0.333
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	2010	Ramp Junction Speed (S), mi/h	50.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	19.8
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	8.0

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HCS Freeway Merge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), 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 for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	256	275
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	11.00	9.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.901	0.917
Flow Rate (v_i), pc/h	302	319
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.14	0.15

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)	0.292
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	51.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	302	Ramp Junction Speed (S), mi/h	51.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	621	Average Density (D), pc/mi/ln	6.1
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	7.7

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HCS Freeway Merge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), 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 for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	370	280
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	425	319
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.17	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)	0.293
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	51.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	425	Ramp Junction Speed (S), mi/h	51.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	744	Average Density (D), pc/mi/ln	7.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	8.7

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), 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 for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	315	338
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	11.00	9.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.901	0.917
Flow Rate (v_i), pc/h	372	392
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.17	0.19

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)	0.293
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	51.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	372	Ramp Junction Speed (S), mi/h	51.2
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	764	Average Density (D), pc/mi/ln	7.5
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	8.8

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), 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 for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	455	344
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.935
Flow Rate (v_i), pc/h	523	391
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.20	0.19

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)	0.295
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	51.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	523	Ramp Junction Speed (S), mi/h	51.2
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	914	Average Density (D), pc/mi/ln	8.9
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	10.0

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HCS Freeway Diverge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	600
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	876	567
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	29.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.847	0.775
Flow Rate (v_i), pc/h	1100	778
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.24	0.41

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 (D_S)	0.563
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	47.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1100	Ramp Junction Speed (S), mi/h	47.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	11.5
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	8.3

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HCS Freeway Diverge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	600
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	960	719
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	16.00	28.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.862	0.781
Flow Rate (v_i), pc/h	1185	979
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.26	0.52

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 (D_S)	0.581
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	47.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1185	Ramp Junction Speed (S), mi/h	47.4

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	12.5
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	9.0

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	600
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	1077	828
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	29.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.847	0.775
Flow Rate (v_i), pc/h	1353	1137
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.30	0.60

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 (D_S)	0.595
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	47.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1353	Ramp Junction Speed (S), mi/h	47.3
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	14.3
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	10.5

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	600
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, CAFCAV	1.000	-

Demand and Capacity		
Demand Volume (Vi), veh/h	1181	1050
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	16.00	28.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.862	0.781
Flow Rate (vi), pc/h	1458	1430
Capacity (cmd), pc/h	4500	1900
Adjusted Capacity (cmd), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.32	0.75

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 (DS)	0.622
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	46.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.3
Flow in Lanes 1 and 2 (v12), pc/h	1458	Ramp Junction Speed (S), mi/h	46.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	15.5
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	11.4

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HCS Basic Freeway Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 WB-to-NB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	900
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	589	567
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	16.00	29.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.862	0.775
Flow Rate (v_i), pc/h	727	778
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.33	0.41

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.7
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	55.0		

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HCS Basic Freeway Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 WB-to-NB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	900
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	914	719
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	9.00	28.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.917	0.781
Flow Rate (v_i), pc/h	1060	979
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.45	0.52

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	55.0		

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HCS Basic Freeway Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 WB-to-NB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
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	724	828
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	16.00	29.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.862	0.775
Flow Rate (v_i), pc/h	894	1137
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.45	0.60

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	55.0		

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HCS Basic Freeway Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 WB-to-NB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
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	1124	1050
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	9.00	28.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.917	0.781
Flow Rate (v_i), pc/h	1304	1430
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.61	0.75

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	24.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	55.0		

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HCS Freeway Diverge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 WB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	785
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	348	43
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	47.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.847	0.680
Flow Rate (v_i), pc/h	437	67
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.10	0.04

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 (D_S)	0.499
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	437	Ramp Junction Speed (S), mi/h	48.5

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	0.9

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HCS Freeway Diverge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 WB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	785
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	385	53
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	16.00	31.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.862	0.763
Flow Rate (v_i), pc/h	475	74
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.11	0.04

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 (D_S)	0.500
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	475	Ramp Junction Speed (S), mi/h	48.5

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	4.9
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	1.3

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 WB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	785
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	428	43
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	47.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.847	0.680
Flow Rate (v_i), pc/h	538	67
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.12	0.04

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 (D_S)	0.499
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	538	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	5.5
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	1.8

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HCS Freeway Diverge Report

Project Information			
Analyst	GWk	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 WB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	785
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	474	53
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	16.00	31.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.862	0.763
Flow Rate (v_i), pc/h	585	74
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.13	0.04

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 (D_S)	0.500
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	585	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.0
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	2.2

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HCS Freeway Merge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 WB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	740
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	653	43
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	16.00	47.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.862	0.680
Flow Rate (v_i), pc/h	806	67
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.19	0.04

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)	0.286
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	51.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	806	Ramp Junction Speed (S), mi/h	51.3

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	873	Average Density (D), pc/mi/ln	8.5
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	7.7

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HCS Freeway Merge Report

Project Information			
Analyst	GMG	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 WB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	740
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	1135	62
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	9.00	31.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.917	0.763
Flow Rate (v_i), pc/h	1317	86
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.31	0.05

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)	0.292
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	51.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	1317	Ramp Junction Speed (S), mi/h	51.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1403	Average Density (D), pc/mi/ln	13.7
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	11.8

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 WB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	740
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	803	43
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	16.00	47.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.862	0.680
Flow Rate (v_i), pc/h	991	67
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.24	0.04

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)	0.288
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	51.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	991	Ramp Junction Speed (S), mi/h	51.3
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1058	Average Density (D), pc/mi/ln	10.3
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	9.1

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HCS Freeway Merge Report

Project Information			
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Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 WB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	740
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	1396	62
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	9.00	31.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.917	0.763
Flow Rate (v_i), pc/h	1620	86
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.38	0.05

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)	0.298
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	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	1620	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1706	Average Density (D), pc/mi/ln	16.7
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	14.2

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline EB, E of SR 49	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	52.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	838	Heavy Vehicle Adjustment Factor (f_{HV})	0.820
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	544
Total Trucks, %	22.00	Capacity (c), pc/h/ln	2222
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2222
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.24
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.4
Total Ramp Density Adjustment	2.8	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	52.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	10.4	6.9	5.2	4.2
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline EB, E of SR 49	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	52.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	950	Heavy Vehicle Adjustment Factor (f_{HV})	0.862
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	586
Total Trucks, %	16.00	Capacity (c), pc/h/ln	2222
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2222
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.26
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.2
Total Ramp Density Adjustment	2.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	52.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	11.2	7.5	5.6	4.5
LOS	B	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline EB, E of SR 49	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	52.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	1031	Heavy Vehicle Adjustment Factor (f_{HV})	0.820
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	669
Total Trucks, %	22.00	Capacity (c), pc/h/ln	2222
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2222
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.30
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.8
Total Ramp Density Adjustment	2.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	52.2		

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HCS Basic Freeway Report

Project Information

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Project Description	US 30 Mainline EB, E of SR 49	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	52.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	1169	Heavy Vehicle Adjustment Factor (f_{HV})	0.862
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	722
Total Trucks, %	16.00	Capacity (c), pc/h/ln	2222
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2222
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.8
Total Ramp Density Adjustment	2.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	52.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	13.8	9.2	6.9	5.5
LOS	B	A	A	A

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HCS Basic Freeway Report

Project Information

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Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline EB, W of SR 49	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	52.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	764	Heavy Vehicle Adjustment Factor (f_{HV})	0.909
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	447
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2222
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2222
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.20
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.6
Total Ramp Density Adjustment	2.8	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	52.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	8.6	5.7	4.3	3.4
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
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Project Description	US 30 Mainline EB, W of SR 49	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	52.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	895	Heavy Vehicle Adjustment Factor (f_{HV})	0.943
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	505
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2222
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2222
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.23
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.7
Total Ramp Density Adjustment	2.8	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	52.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	9.7	6.5	4.8	3.9
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

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Project Description	US 30 Mainline EB, W of SR 49	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	52.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	1115	Heavy Vehicle Adjustment Factor (f_{HV})	0.909
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	652
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2222
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2222
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.29
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.5
Total Ramp Density Adjustment	2.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	52.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	12.5	8.3	6.2	5.0
LOS	B	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline EB, W of SR 49	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	52.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	1307	Heavy Vehicle Adjustment Factor (f_{HV})	0.943
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	737
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2222
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2222
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.1
Total Ramp Density Adjustment	2.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	52.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	14.1	9.4	7.0	5.7
LOS	B	A	A	A

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HCS Basic Freeway Report

Project Information

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Project Description	US 30 Mainline WB, E of SR 49	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	876	Heavy Vehicle Adjustment Factor (f_{HV})	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	550
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2232
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.3
Total Ramp Density Adjustment	1.8	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	10.3	6.9	5.2	4.1
LOS	A	A	A	A

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HCS Basic Freeway Report

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Project Description	US 30 Mainline WB, E of SR 49	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	985	Heavy Vehicle Adjustment Factor (f_{HV})	0.862
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	608
Total Trucks, %	16.00	Capacity (c), pc/h/ln	2232
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.4
Total Ramp Density Adjustment	1.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	11.4	7.6	5.7	4.6
LOS	B	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, E of SR 49	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	1077	Heavy Vehicle Adjustment Factor (f_{HV})	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	676
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2232
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.30
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.7
Total Ramp Density Adjustment	1.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	12.7	8.5	6.4	5.1
LOS	B	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, E of SR 49	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	1212	Heavy Vehicle Adjustment Factor (f_{HV})	0.862
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	748
Total Trucks, %	16.00	Capacity (c), pc/h/ln	2232
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.1
Total Ramp Density Adjustment	1.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	14.1	9.4	7.0	5.6
LOS	B	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, W of SR 49	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	558	Heavy Vehicle Adjustment Factor (f_{HV})	0.901
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	330
Total Trucks, %	11.00	Capacity (c), pc/h/ln	2232
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.15
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.2
Total Ramp Density Adjustment	1.8	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	6.2	4.1	3.1	2.5
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, W of SR 49	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	706	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	406
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2232
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.18
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.6
Total Ramp Density Adjustment	1.8	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	7.6	5.1	3.8	3.0
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 Mainline WB, W of SR 49	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	815	Heavy Vehicle Adjustment Factor (f_{HV})	0.901
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	481
Total Trucks, %	11.00	Capacity (c), pc/h/ln	2232
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.22
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.0
Total Ramp Density Adjustment	1.8	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	9.0	6.0	4.5	3.6
LOS	A	A	A	A

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HCS Basic Freeway Report

Project Information

Analyst	GWK	Date	12/19/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 Mainline WB, W of SR 49	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Total Ramp Density (TRD), ramps/mi	0.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

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

Demand and Capacity

Demand Volume (V), veh/h	1031	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	592
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2232
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2232
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.1
Total Ramp Density Adjustment	1.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	53.2		

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	11.1	7.4	5.6	4.5
LOS	B	A	A	A

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 35 NB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	435
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, CAFCAV	1.000	-

Demand and Capacity		
Demand Volume (Vi), veh/h	232	74
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	14.00	14.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.877	0.877
Flow Rate (vi), pc/h	281	90
Capacity (cmd), pc/h	4500	2100
Adjusted Capacity (cmd), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.06	0.04

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 (DS)	0.306
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.3
Flow in Lanes 1 and 2 (v12), pc/h	281	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	2.8
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	2.8

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 35 NB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	435
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, CAFCAV	1.000	-

Demand and Capacity		
Demand Volume (Vi), veh/h	229	73
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	16.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.862	0.813
Flow Rate (vi), pc/h	283	96
Capacity (cmd), pc/h	4500	2100
Adjusted Capacity (cmd), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.06	0.05

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 (DS)	0.307
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.3
Flow in Lanes 1 and 2 (v12), pc/h	283	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	2.8
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	2.8

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 35 NB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	435
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	285	74
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	14.00	14.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.877	0.877
Flow Rate (v_i), pc/h	346	90
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.08	0.04

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 (D_S)	0.306
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	346	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	3.4
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	3.3

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 35 NB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	435
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	282	73
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	16.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.862	0.813
Flow Rate (v_i), pc/h	348	96
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.08	0.05

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 (D_S)	0.307
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	348	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	3.4
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	3.3

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	45.0
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	321	112
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	46.00	30.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.685	0.769
Flow Rate (v_i), pc/h	499	155
Capacity (c_{md}), pc/h	4600	2100
Adjusted Capacity (c_{md}), pc/h	4600	2100
Volume-to-Capacity Ratio (v/c)	0.14	0.07

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)	0.257
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	55.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	499	Ramp Junction Speed (S), mi/h	55.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	654	Average Density (D), pc/mi/ln	5.9
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	5.6

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	45.0
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	405	123
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	31.00	24.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.763	0.806
Flow Rate (v_i), pc/h	565	162
Capacity (c_{md}), pc/h	4600	2100
Adjusted Capacity (c_{md}), pc/h	4600	2100
Volume-to-Capacity Ratio (v/c)	0.16	0.08

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)	0.257
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	55.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	565	Ramp Junction Speed (S), mi/h	55.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	727	Average Density (D), pc/mi/ln	6.6
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	6.1

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	45.0
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	395	112
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	46.00	30.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.685	0.769
Flow Rate (v_i), pc/h	613	155
Capacity (c_{md}), pc/h	4600	2100
Adjusted Capacity (c_{md}), pc/h	4600	2100
Volume-to-Capacity Ratio (v/c)	0.17	0.07

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)	0.257
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	55.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	613	Ramp Junction Speed (S), mi/h	55.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	768	Average Density (D), pc/mi/ln	6.9
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	6.5

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	45.0
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	498	123
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	31.00	24.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.763	0.806
Flow Rate (v_i), pc/h	694	162
Capacity (c_{md}), pc/h	4600	2100
Adjusted Capacity (c_{md}), pc/h	4600	2100
Volume-to-Capacity Ratio (v/c)	0.19	0.08

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)	0.258
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	55.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	694	Ramp Junction Speed (S), mi/h	55.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	856	Average Density (D), pc/mi/ln	7.7
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	7.1

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 35 SB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	625
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	129	19
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	33.00	53.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.752	0.654
Flow Rate (v_i), pc/h	182	31
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.04	0.01

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 (DS)	0.301
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	182	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	1.8
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	0.2

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 35 SB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	625
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	161	12
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	13.00	29.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.885	0.775
Flow Rate (v_i), pc/h	194	16
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.04	0.01

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 (D_S)	0.299
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	194	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	1.9
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	0.3

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 35 SB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	625
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	159	19
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	33.00	53.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.752	0.654
Flow Rate (v_i), pc/h	225	31
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.05	0.01

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 (D_S)	0.301
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	225	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	2.2
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	0.6

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 35 SB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	625
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	198	12
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	13.00	29.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.885	0.775
Flow Rate (v_i), pc/h	238	16
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.05	0.01

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 (D_S)	0.299
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	238	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	2.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	0.7

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	925
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	329	84
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	36.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.735	0.813
Flow Rate (v_i), pc/h	476	110
Capacity (c_{md}), pc/h	4600	2100
Adjusted Capacity (c_{md}), pc/h	4600	2100
Volume-to-Capacity Ratio (v/c)	0.13	0.05

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)	0.245
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	55.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	476	Ramp Junction Speed (S), mi/h	55.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	586	Average Density (D), pc/mi/ln	5.3
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	4.3

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	925
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	461	74
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	42.00	19.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.704	0.840
Flow Rate (v_i), pc/h	697	94
Capacity (c_{md}), pc/h	4600	2100
Adjusted Capacity (c_{md}), pc/h	4600	2100
Volume-to-Capacity Ratio (v/c)	0.17	0.04

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)	0.246
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	55.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	697	Ramp Junction Speed (S), mi/h	55.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	791	Average Density (D), pc/mi/ln	7.1
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	5.9

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	20 Cond45 No-Builditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	925
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	405	84
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	36.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.735	0.813
Flow Rate (v_i), pc/h	586	110
Capacity (c_{md}), pc/h	4600	2100
Adjusted Capacity (c_{md}), pc/h	4600	2100
Volume-to-Capacity Ratio (v/c)	0.15	0.05

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)	0.246
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	55.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	586	Ramp Junction Speed (S), mi/h	55.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	696	Average Density (D), pc/mi/ln	6.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	5.1

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	925
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	567	74
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	42.00	19.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.704	0.840
Flow Rate (v_i), pc/h	857	94
Capacity (c_{md}), pc/h	4600	2100
Adjusted Capacity (c_{md}), pc/h	4600	2100
Volume-to-Capacity Ratio (v/c)	0.21	0.04

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)	0.248
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	55.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	857	Ramp Junction Speed (S), mi/h	55.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	951	Average Density (D), pc/mi/ln	8.6
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	7.1

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 35 WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	340
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	435	107
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	33.00	17.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.752	0.855
Flow Rate (v_i), pc/h	615	133
Capacity (c_{md}), pc/h	4600	2100
Adjusted Capacity (c_{md}), pc/h	4600	2100
Volume-to-Capacity Ratio (v/c)	0.13	0.06

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 (D_S)	0.310
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	615	Ramp Junction Speed (S), mi/h	54.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	5.7
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.5

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 35 WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	340
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	593	136
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	40.00	15.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.714	0.870
Flow Rate (v_i), pc/h	884	166
Capacity (c_{md}), pc/h	4600	2100
Adjusted Capacity (c_{md}), pc/h	4600	2100
Volume-to-Capacity Ratio (v/c)	0.19	0.08

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 (D_S)	0.313
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	884	Ramp Junction Speed (S), mi/h	54.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	8.1
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	8.8

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 35 WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	340
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	535	107
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	33.00	17.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.752	0.855
Flow Rate (v_i), pc/h	757	133
Capacity (c_{md}), pc/h	4600	2100
Adjusted Capacity (c_{md}), pc/h	4600	2100
Volume-to-Capacity Ratio (v/c)	0.16	0.06

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 (D_S)	0.310
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	757	Ramp Junction Speed (S), mi/h	54.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	7.0
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	7.7

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 35 WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	340
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	729	136
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	40.00	15.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.714	0.870
Flow Rate (v_i), pc/h	1086	166
Capacity (c_{md}), pc/h	4600	2100
Adjusted Capacity (c_{md}), pc/h	4600	2100
Volume-to-Capacity Ratio (v/c)	0.24	0.08

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 (D_S)	0.313
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	1086	Ramp Junction Speed (S), mi/h	54.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	10.0
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	10.5

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 WB-to-NB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	840
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	96	39
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	28.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.800	0.781
Flow Rate (v_i), pc/h	128	53
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.04	0.03

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)	0.250
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	51.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	128	Ramp Junction Speed (S), mi/h	51.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	181	Average Density (D), pc/mi/ln	1.7
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	1.7

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 WB-to-NB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	840
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	107	52
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	16.00	15.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.862	0.870
Flow Rate (v_i), pc/h	132	64
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.04	0.03

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)	0.250
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	51.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	132	Ramp Junction Speed (S), mi/h	51.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	196	Average Density (D), pc/mi/ln	1.9
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	1.8

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 WB-to-NB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	840
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	118	39
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	28.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.800	0.781
Flow Rate (v_i), pc/h	157	53
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.05	0.03

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)	0.250
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	51.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	157	Ramp Junction Speed (S), mi/h	51.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	210	Average Density (D), pc/mi/ln	2.0
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	1.9

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 WB-to-NB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	840
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	132	52
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	16.00	15.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.862	0.870
Flow Rate (v_i), pc/h	163	64
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.05	0.03

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)	0.250
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	51.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	163	Ramp Junction Speed (S), mi/h	51.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	227	Average Density (D), pc/mi/ln	2.2
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	2.0

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 35 WB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	850
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	391	67
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	44.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.694	0.847
Flow Rate (v_i), pc/h	599	84
Capacity (c_{md}), pc/h	4600	2100
Adjusted Capacity (c_{md}), pc/h	4600	2100
Volume-to-Capacity Ratio (v/c)	0.13	0.04

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 (D_S)	0.306
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	54.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	599	Ramp Junction Speed (S), mi/h	54.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	5.5
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	1.8

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 35 WB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	850
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	515	118
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	30.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.769	0.885
Flow Rate (v_i), pc/h	712	142
Capacity (c_{md}), pc/h	4600	2100
Adjusted Capacity (c_{md}), pc/h	4600	2100
Volume-to-Capacity Ratio (v/c)	0.15	0.07

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 (D_S)	0.311
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	712	Ramp Junction Speed (S), mi/h	54.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.5
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	2.7

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 35 WB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	850
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	481	67
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	44.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.694	0.847
Flow Rate (v_i), pc/h	737	84
Capacity (c_{md}), pc/h	4600	2100
Adjusted Capacity (c_{md}), pc/h	4600	2100
Volume-to-Capacity Ratio (v/c)	0.16	0.04

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 (D_S)	0.306
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	54.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	737	Ramp Junction Speed (S), mi/h	54.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.8
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	2.9

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 35 WB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	850
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	633	118
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	30.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.769	0.885
Flow Rate (v_i), pc/h	876	142
Capacity (c_{md}), pc/h	4600	2100
Adjusted Capacity (c_{md}), pc/h	4600	2100
Volume-to-Capacity Ratio (v/c)	0.19	0.07

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 (D_S)	0.311
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	876	Ramp Junction Speed (S), mi/h	54.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	8.1
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.1

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 WB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	325
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	140	56
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	17.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.855	0.952
Flow Rate (v_i), pc/h	174	63
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.05	0.03

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)	0.297
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	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	174	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	237	Average Density (D), pc/mi/ln	2.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	5.3

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 WB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	325
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	187	104
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	8.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.926
Flow Rate (v_i), pc/h	215	119
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.07	0.06

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)	0.297
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	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	215	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	334	Average Density (D), pc/mi/ln	3.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.1

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & SR 49 WB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	325
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	172	56
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	17.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.855	0.952
Flow Rate (v_i), pc/h	214	63
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.06	0.03

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)	0.297
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	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	214	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	277	Average Density (D), pc/mi/ln	2.7
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	5.6

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & SR 49 WB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	325
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	230	104
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	8.00	8.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.926
Flow Rate (v_i), pc/h	264	119
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.09	0.06

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)	0.297
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	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	264	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	383	Average Density (D), pc/mi/ln	3.7
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.4

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & Michigan St EB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1105
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	412	46
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	48.00	17.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.676	0.855
Flow Rate (v_i), pc/h	648	57
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.14	0.03

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 (D_S)	0.498
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	648	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.7
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	0.0

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & Michigan St EB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1105
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	494	57
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	52.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.658	0.952
Flow Rate (v_i), pc/h	799	64
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.18	0.03

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 (D_S)	0.499
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	799	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	8.2
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	1.2

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & Michigan St EB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1105
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	507	46
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	48.00	17.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.676	0.855
Flow Rate (v_i), pc/h	798	57
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.18	0.03

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 (D_S)	0.498
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	798	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	8.2
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	1.2

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & Michigan St EB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1105
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	608	57
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	52.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.658	0.952
Flow Rate (v_i), pc/h	983	64
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.22	0.03

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 (D_S)	0.499
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	983	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	10.1
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	2.8

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & Michigan St NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	375
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	360	61
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	46.00	26.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.685	0.794
Flow Rate (v_i), pc/h	559	82
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.14	0.04

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)	0.306
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	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	559	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	641	Average Density (D), pc/mi/ln	6.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	8.2

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & Michigan St NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	375
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	577	72
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	32.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.758	0.943
Flow Rate (v_i), pc/h	810	81
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.20	0.04

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)	0.308
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	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	810	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	891	Average Density (D), pc/mi/ln	8.7
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	10.1

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HCS Freeway Merge Report

Project Information			
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Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & Michigan St NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	375
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	443	61
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	46.00	26.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.685	0.794
Flow Rate (v_i), pc/h	688	82
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.17	0.04

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)	0.307
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	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	688	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	770	Average Density (D), pc/mi/ln	7.5
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	9.2

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & Michigan St NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	375
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	710	72
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	32.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.758	0.943
Flow Rate (v_i), pc/h	996	81
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.24	0.04

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)	0.310
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	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	996	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1077	Average Density (D), pc/mi/ln	10.6
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	11.6

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & Michigan St SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	515
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	400	40
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	54.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.649	0.847
Flow Rate (v_i), pc/h	656	50
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.16	0.03

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)	0.298
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	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	656	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	706	Average Density (D), pc/mi/ln	6.9
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	7.8

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & Michigan St SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	515
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	440	56
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	52.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.658	0.980
Flow Rate (v_i), pc/h	711	61
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.17	0.03

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)	0.299
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	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	711	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	772	Average Density (D), pc/mi/ln	7.6
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	8.3

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & Michigan St SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	515
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	492	49
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	54.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.649	0.847
Flow Rate (v_i), pc/h	806	62
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.19	0.03

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)	0.299
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	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	806	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	868	Average Density (D), pc/mi/ln	8.5
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	9.1

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & Michigan St SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Acceleration Length (LA), ft	1500	515
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	541	69
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	52.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.658	0.980
Flow Rate (v_i), pc/h	875	75
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.21	0.04

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)	0.300
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	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	875	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	950	Average Density (D), pc/mi/ln	9.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	9.7

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & Michigan St WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	285
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	460	55
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	36.00	27.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.735	0.787
Flow Rate (v_i), pc/h	666	74
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.15	0.04

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 (D_S)	0.500
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	666	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.9
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	7.4

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HCS Freeway Diverge Report

Project Information			
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Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & Michigan St WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	285
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	527	69
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	41.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.709	0.935
Flow Rate (v_i), pc/h	791	79
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.18	0.04

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 (D_S)	0.500
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	791	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	8.2
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	8.5

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & Michigan St WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	285
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	566	68
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	36.00	27.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.735	0.787
Flow Rate (v_i), pc/h	819	92
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.18	0.05

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 (D_S)	0.501
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	819	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	8.4
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	8.7

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & Michigan St WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	285
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	648	85
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	41.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.709	0.935
Flow Rate (v_i), pc/h	972	97
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.22	0.05

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 (D_S)	0.502
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	972	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	10.0
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	10.0

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 EB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	500
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	317	103
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	37.00	17.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.730	0.855
Flow Rate (v_i), pc/h	462	128
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.10	0.06

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 (D_S)	0.310
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	462	Ramp Junction Speed (S), mi/h	51.0
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	3.7

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 EB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	500
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, CAFCAV	1.000	-

Demand and Capacity		
Demand Volume (Vi), veh/h	508	96
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	27.00	16.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.787	0.862
Flow Rate (vi), pc/h	687	118
Capacity (cmd), pc/h	4500	2100
Adjusted Capacity (cmd), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.15	0.06

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 (DS)	0.309
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.3
Flow in Lanes 1 and 2 (v12), pc/h	687	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	6.7
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	5.7

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 EB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	500
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	390	103
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	37.00	17.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.730	0.855
Flow Rate (v_i), pc/h	568	128
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.13	0.06

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 (D_S)	0.310
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	568	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	5.6
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.6

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HCS Freeway Diverge Report

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Analyst	GWK	Date	12/16/2022
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Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 EB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	500
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, CAFCAV	1.000	-

Demand and Capacity		
Demand Volume (Vi), veh/h	625	96
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	27.00	16.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.787	0.862
Flow Rate (vi), pc/h	845	118
Capacity (cmd), pc/h	4500	2100
Adjusted Capacity (cmd), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.19	0.06

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 (DS)	0.309
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.3
Flow in Lanes 1 and 2 (v12), pc/h	845	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	8.3
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	7.0

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 EB-to-NB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	615
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	526	103
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	24.00	17.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.806	0.855
Flow Rate (v_i), pc/h	694	128
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.15	0.06

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 (D_S)	0.310
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	694	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.8
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.7

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HCS Freeway Diverge Report

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Analyst	GWK	Date	12/16/2022
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Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 EB-to-NB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	615
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	584	96
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	23.00	16.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.813	0.862
Flow Rate (v_i), pc/h	764	118
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.17	0.06

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 (D_S)	0.309
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	764	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	7.5
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	5.3

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	20445 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 EB-to-NB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	615
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	647	103
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	24.00	17.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.806	0.855
Flow Rate (v_i), pc/h	854	128
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.19	0.06

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 (D_S)	0.310
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	854	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	8.4
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.1

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 EB-to-NB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	615
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, CAFCAV	1.000	-

Demand and Capacity		
Demand Volume (Vi), veh/h	718	96
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	23.00	16.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.813	0.862
Flow Rate (vi), pc/h	940	118
Capacity (cmd), pc/h	4500	2100
Adjusted Capacity (cmd), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.21	0.06

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 (DS)	0.309
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.3
Flow in Lanes 1 and 2 (v12), pc/h	940	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	9.2
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	6.8

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 EB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	600
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	421	114
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	43.00	31.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.699	0.763
Flow Rate (v_i), pc/h	641	159
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.14	0.08

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 (D_S)	0.312
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	641	Ramp Junction Speed (S), mi/h	50.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.4

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 EB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	600
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	675	190
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	28.00	15.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.781	0.870
Flow Rate (v_i), pc/h	919	232
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.20	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 (D_S)	0.319
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	919	Ramp Junction Speed (S), mi/h	50.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	9.0
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.8

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 EB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	600
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	518	114
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	43.00	31.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.699	0.763
Flow Rate (v_i), pc/h	788	159
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.18	0.08

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 (D_S)	0.312
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	788	Ramp Junction Speed (S), mi/h	50.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	7.7
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	5.6

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 EB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	600
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	830	190
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	28.00	15.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.781	0.870
Flow Rate (v_i), pc/h	1131	232
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.25	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 (D_S)	0.319
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1131	Ramp Junction Speed (S), mi/h	50.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	11.1
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	8.6

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 EB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	860
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	336	114
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	36.00	37.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.735	0.730
Flow Rate (v_i), pc/h	486	166
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.11	0.08

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 (D_S)	0.313
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	486	Ramp Junction Speed (S), mi/h	50.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	4.8
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	0.7

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 EB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	860
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	438	190
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	36.00	15.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.735	0.870
Flow Rate (v_i), pc/h	634	232
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.14	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 (D_S)	0.319
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	634	Ramp Junction Speed (S), mi/h	50.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.2
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	2.0

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 EB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	860
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	413	114
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	36.00	37.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.735	0.730
Flow Rate (v_i), pc/h	598	166
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.13	0.08

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 (D_S)	0.313
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	598	Ramp Junction Speed (S), mi/h	50.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	5.9
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	1.7

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 EB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	860
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	539	190
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	36.00	15.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.735	0.870
Flow Rate (v_i), pc/h	780	232
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.17	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 (D_S)	0.319
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	780	Ramp Junction Speed (S), mi/h	50.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	7.7
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	3.2

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 NB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	675
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	544	18
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	24.00	33.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.806	0.752
Flow Rate (v_i), pc/h	718	25
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.16	0.01

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 (D_S)	0.300
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	718	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	7.0
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.4

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HCS Freeway Diverge Report

Project Information			
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Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 NB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	675
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, CAFCAV	1.000	-

Demand and Capacity		
Demand Volume (Vi), veh/h	622	10
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	40.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.714
Flow Rate (vi), pc/h	781	15
Capacity (cmd), pc/h	4500	2100
Adjusted Capacity (cmd), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.17	0.01

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 (DS)	0.299
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.3
Flow in Lanes 1 and 2 (v12), pc/h	781	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	7.6
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	4.9

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 NB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	675
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	669	18
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	24.00	33.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.806	0.752
Flow Rate (v_i), pc/h	883	25
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.20	0.01

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 (DS)	0.300
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	883	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	8.6
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	5.8

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HCS Freeway Diverge Report

Project Information			
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Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 NB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	675
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	765	10
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	40.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.847	0.714
Flow Rate (v_i), pc/h	961	15
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.21	0.01

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 (D_S)	0.299
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	961	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	9.4
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.4

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	665
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	340	18
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	41.00	33.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.709	0.752
Flow Rate (v_i), pc/h	510	25
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.11	0.01

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 (D_S)	0.300
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	510	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	5.0
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	2.7

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	665
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	440	10
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	35.00	40.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.741	0.714
Flow Rate (v_i), pc/h	632	15
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.14	0.01

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 (D_S)	0.299
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	632	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.2
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	3.7

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	665
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	340	18
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	41.00	33.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.709	0.752
Flow Rate (v_i), pc/h	510	25
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.11	0.01

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 (D_S)	0.300
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	510	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	5.0
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	2.7

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 N-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	665
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	541	10
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	35.00	40.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.741	0.714
Flow Rate (v_i), pc/h	777	15
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.17	0.01

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 (D_S)	0.299
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	777	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	7.6
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.9

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 NB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	615
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	629	126
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	24.00	22.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.806	0.820
Flow Rate (v_i), pc/h	830	163
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.18	0.09

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 (D_S)	0.508
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	830	Ramp Junction Speed (S), mi/h	48.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	8.6
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	5.9

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HCS Freeway Diverge Report

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Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 NB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	615
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	697	146
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	34.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.847	0.746
Flow Rate (v_i), pc/h	875	208
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.19	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 (D_S)	0.512
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	875	Ramp Junction Speed (S), mi/h	48.3
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	9.1
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.2

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 NB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	615
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	774	126
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	24.00	22.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.806	0.820
Flow Rate (v_i), pc/h	1022	163
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.23	0.09

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 (D_S)	0.508
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1022	Ramp Junction Speed (S), mi/h	48.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	10.6
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	7.5

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 NB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	615
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	857	146
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	34.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.847	0.746
Flow Rate (v_i), pc/h	1076	208
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.24	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 (D_S)	0.512
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1076	Ramp Junction Speed (S), mi/h	48.3
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	11.1
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	8.0

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 NB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	570
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	277	126
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	22.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.826	0.820
Flow Rate (v_i), pc/h	357	163
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.08	0.09

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 (D_S)	0.508
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	357	Ramp Junction Speed (S), mi/h	48.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	3.7
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	2.2

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 NB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	570
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	341	125
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	15.00	31.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.870	0.763
Flow Rate (v_i), pc/h	417	174
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.09	0.09

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 (D_S)	0.509
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	417	Ramp Junction Speed (S), mi/h	48.4
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	2.7

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 NB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	570
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	341	126
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	22.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.826	0.820
Flow Rate (v_i), pc/h	439	163
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.10	0.09

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 (D_S)	0.508
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	439	Ramp Junction Speed (S), mi/h	48.4
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	2.9

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 NB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	570
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	419	125
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	15.00	31.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.870	0.763
Flow Rate (v_i), pc/h	512	174
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.11	0.09

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 (D_S)	0.509
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	512	Ramp Junction Speed (S), mi/h	48.4
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	3.5

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 SB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	635
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	414	78
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	36.00	26.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.735	0.794
Flow Rate (v_i), pc/h	599	105
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.13	0.06

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 (D_S)	0.502
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	599	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.2
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	3.7

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 SB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	635
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	523	85
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	36.00	27.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.735	0.787
Flow Rate (v_i), pc/h	757	115
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.17	0.06

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 (D_S)	0.503
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	757	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	7.8
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	5.0

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 SB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	635
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	509	78
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	36.00	26.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.735	0.794
Flow Rate (v_i), pc/h	737	105
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.16	0.06

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 (D_S)	0.502
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	737	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	7.6
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.9

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 SB-to-EB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	635
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	643	85
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	36.00	27.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.735	0.787
Flow Rate (v_i), pc/h	931	115
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.21	0.06

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 (D_S)	0.503
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	931	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	9.6
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.5

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 SB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	500
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	317	99
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	43.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.699	0.813
Flow Rate (v_i), pc/h	482	130
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.11	0.07

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 (DS)	0.505
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	48.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	482	Ramp Junction Speed (S), mi/h	48.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	5.0
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	3.9

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 SB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	500
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	508	91
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	38.00	35.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.725	0.741
Flow Rate (v_i), pc/h	745	131
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.17	0.07

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 (D_S)	0.505
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	745	Ramp Junction Speed (S), mi/h	48.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	7.7
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.2

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 SB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	500
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	390	99
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	43.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.699	0.813
Flow Rate (v_i), pc/h	594	130
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.13	0.07

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 (D_S)	0.505
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	594	Ramp Junction Speed (S), mi/h	48.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.1
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.9

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 SB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	500
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	91
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	38.00	35.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.725	0.741
Flow Rate (v_i), pc/h	917	131
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.20	0.07

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 (D_S)	0.505
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	917	Ramp Junction Speed (S), mi/h	48.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	9.5
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	7.6

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 SB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	685
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	589	66
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.847	0.847
Flow Rate (v_i), pc/h	740	83
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.16	0.04

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 (D_S)	0.305
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	740	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	7.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.5

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 SB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	685
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	880	84
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	19.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.847	0.840
Flow Rate (v_i), pc/h	1105	106
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.25	0.05

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 (D_S)	0.308
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1105	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	10.8
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	7.6

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 SB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	685
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	724	66
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.847	0.847
Flow Rate (v_i), pc/h	909	83
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.20	0.04

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 (D_S)	0.305
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	909	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	8.9
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	5.9

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 SB-to-WB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	685
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	1082	84
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	19.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.847	0.840
Flow Rate (v_i), pc/h	1359	106
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.30	0.05

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 (D_S)	0.308
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1359	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	13.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	9.8

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	765
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	483	69
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	29.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.775	0.847
Flow Rate (v_i), pc/h	663	87
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.15	0.04

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 (DS)	0.306
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	663	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.5
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	3.1

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	765
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	817	84
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	19.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.847	0.840
Flow Rate (v_i), pc/h	1026	106
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.23	0.05

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 (D_S)	0.308
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1026	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	10.1
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.2

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	765
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	594	69
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	29.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.775	0.847
Flow Rate (v_i), pc/h	815	87
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.18	0.04

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 (D_S)	0.306
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	815	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	8.0
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.4

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	765
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	1005	84
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	19.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.847	0.840
Flow Rate (v_i), pc/h	1262	106
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.28	0.05

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 (D_S)	0.308
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1262	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	12.4
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	8.2

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	565
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	364	87
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	37.00	30.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.730	0.769
Flow Rate (v_i), pc/h	530	120
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.12	0.06

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 (D_S)	0.309
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	530	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	5.2
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	3.7

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	565
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	437	96
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	42.00	40.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.704	0.714
Flow Rate (v_i), pc/h	660	143
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.15	0.07

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 (D_S)	0.311
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	660	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.5
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.8

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	565
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	448	107
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	37.00	30.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.730	0.769
Flow Rate (v_i), pc/h	653	148
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.15	0.07

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 (D_S)	0.311
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	653	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.4
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.8

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	565
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	538	118
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	42.00	40.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.704	0.714
Flow Rate (v_i), pc/h	813	176
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.18	0.08

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 (D_S)	0.314
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	813	Ramp Junction Speed (S), mi/h	50.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	8.0
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.2

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 WB-to-NB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1200
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	528	85
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	26.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.826	0.794
Flow Rate (v_i), pc/h	680	114
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.15	0.05

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 (DS)	0.308
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	680	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.7
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	0.0

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 WB-to-NB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1200
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	579	118
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	15.00	20.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.870	0.833
Flow Rate (v_i), pc/h	708	151
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.16	0.07

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 (D_S)	0.312
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	708	Ramp Junction Speed (S), mi/h	50.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	7.0
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	0.0

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 WB-to-NB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1200
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	649	105
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	26.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.826	0.794
Flow Rate (v_i), pc/h	836	141
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.19	0.07

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 (D_S)	0.311
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	836	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	8.2
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	0.6

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 WB-to-NB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1200
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	712	145
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	15.00	20.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.870	0.833
Flow Rate (v_i), pc/h	871	185
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.19	0.09

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 (D_S)	0.315
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	871	Ramp Junction Speed (S), mi/h	50.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	8.6
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	0.9

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 WB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	570
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	483	25
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	29.00	36.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.775	0.735
Flow Rate (v_i), pc/h	663	36
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.15	0.02

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 (D_S)	0.496
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	663	Ramp Junction Speed (S), mi/h	48.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.8
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.8

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 WB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	570
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, CAFCAV	1.000	-

Demand and Capacity		
Demand Volume (Vi), veh/h	817	29
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	14.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.877
Flow Rate (vi), pc/h	1026	35
Capacity (cmd), pc/h	4500	1900
Adjusted Capacity (cmd), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.23	0.02

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 (DS)	0.496
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	48.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.3
Flow in Lanes 1 and 2 (v12), pc/h	1026	Ramp Junction Speed (S), mi/h	48.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	10.6
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	7.9

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 WB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	570
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	594	25
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	29.00	36.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.775	0.735
Flow Rate (v_i), pc/h	815	36
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.18	0.02

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 (D_S)	0.496
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	815	Ramp Junction Speed (S), mi/h	48.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	8.4
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.1

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HCS Freeway Diverge Report

Project Information			
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Agency	American Structurepoint, Inc.	Analysis Year	2045 Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 WB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	570
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	1005	29
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	14.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.847	0.877
Flow Rate (v_i), pc/h	1262	35
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.28	0.02

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 (D_S)	0.496
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1262	Ramp Junction Speed (S), mi/h	48.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	13.0
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	10.0

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 WB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	635
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	523	27
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	29.00	26.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.775	0.794
Flow Rate (v_i), pc/h	718	36
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.16	0.02

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 (D_S)	0.496
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	718	Ramp Junction Speed (S), mi/h	48.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	7.4
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.7

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 WB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	635
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	796	29
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	14.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.847	0.877
Flow Rate (v_i), pc/h	1000	35
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.22	0.02

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 (D_S)	0.496
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1000	Ramp Junction Speed (S), mi/h	48.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	10.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	7.1

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & US 31 WB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	635
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	643	27
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	29.00	26.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.775	0.794
Flow Rate (v_i), pc/h	883	36
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.20	0.02

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 (D_S)	0.496
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	883	Ramp Junction Speed (S), mi/h	48.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	9.1
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.1

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & US 31 WB-to-SB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	30.0
Segment Length (L) / Deceleration Length (LD), ft	1500	635
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	979	29
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	14.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.847	0.877
Flow Rate (v_i), pc/h	1230	35
Capacity (c_{md}), pc/h	4500	1900
Adjusted Capacity (c_{md}), pc/h	4500	1900
Volume-to-Capacity Ratio (v/c)	0.27	0.02

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 (D_S)	0.496
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	48.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1230	Ramp Junction Speed (S), mi/h	48.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	12.7
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	9.1

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & Main St EB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	535
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	310	20
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	51.00	10.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.662	0.909
Flow Rate (v_i), pc/h	498	23
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.11	0.01

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 (D_S)	0.300
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	498	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	4.9
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	3.7

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HCS Freeway Diverge Report

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Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & Main St EB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	535
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	421	51
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	38.00	8.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.725	0.926
Flow Rate (v_i), pc/h	618	59
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.14	0.03

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 (D_S)	0.303
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	618	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.0
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.8

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & Main St EB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	535
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	381	25
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	51.00	10.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.662	0.909
Flow Rate (v_i), pc/h	612	29
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.14	0.01

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 (D_S)	0.301
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	612	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.0
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.7

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & Main St EB-to-SB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	535
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	518	63
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	38.00	8.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.725	0.926
Flow Rate (v_i), pc/h	760	72
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.17	0.03

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 (D_S)	0.304
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	760	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	7.5
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.0

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & Main St NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	900
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	303	68
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	31.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.763	0.847
Flow Rate (v_i), pc/h	422	85
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.11	0.04

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)	0.246
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	51.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	422	Ramp Junction Speed (S), mi/h	51.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	507	Average Density (D), pc/mi/ln	4.9
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	3.8

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HCS Freeway Merge Report

Project Information			
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Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & Main St NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	900
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	418	69
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	31.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.763	0.935
Flow Rate (v_i), pc/h	583	79
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.15	0.04

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)	0.248
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	51.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	583	Ramp Junction Speed (S), mi/h	51.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	662	Average Density (D), pc/mi/ln	6.4
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	5.0

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & Main St NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	900
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	373	84
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	31.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.763	0.847
Flow Rate (v_i), pc/h	520	106
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.14	0.05

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)	0.247
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	51.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	520	Ramp Junction Speed (S), mi/h	51.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	626	Average Density (D), pc/mi/ln	6.0
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	4.7

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & Main St NB-to-EB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	900
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	514	85
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	31.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.763	0.935
Flow Rate (v_i), pc/h	717	97
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.18	0.05

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)	0.249
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	51.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	717	Ramp Junction Speed (S), mi/h	51.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	814	Average Density (D), pc/mi/ln	7.9
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	6.2

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & Main St SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	925
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	294	28
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	48.00	11.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.676	0.901
Flow Rate (v_i), pc/h	463	33
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.11	0.02

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)	0.244
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	51.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	463	Ramp Junction Speed (S), mi/h	51.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	496	Average Density (D), pc/mi/ln	4.8
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	3.6

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & Main St SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	925
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	371	50
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	38.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.725	0.980
Flow Rate (v_i), pc/h	544	54
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.13	0.03

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)	0.245
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	51.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	544	Ramp Junction Speed (S), mi/h	51.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	598	Average Density (D), pc/mi/ln	5.8
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.4

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & Main St SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	925
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	362	28
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	48.00	11.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.676	0.901
Flow Rate (v_i), pc/h	570	33
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.13	0.02

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)	0.245
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	51.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	570	Ramp Junction Speed (S), mi/h	51.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	603	Average Density (D), pc/mi/ln	5.8
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.4

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HCS Freeway Merge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & Main St SB-to-WB Merge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	925
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	456	50
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	38.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.725	0.980
Flow Rate (v_i), pc/h	669	54
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.16	0.03

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)	0.246
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	51.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	55.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	669	Ramp Junction Speed (S), mi/h	51.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	723	Average Density (D), pc/mi/ln	7.0
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	5.4

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & Main St WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	620
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	371	58
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	31.00	16.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.763	0.862
Flow Rate (v_i), pc/h	517	72
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.11	0.03

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 (D_S)	0.304
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	517	Ramp Junction Speed (S), mi/h	51.0
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	3.1

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2022 Ex. Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & Main St WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	620
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	487	56
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	31.00	11.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.763	0.901
Flow Rate (v_i), pc/h	679	66
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.15	0.03

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 (D_S)	0.304
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	679	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.7
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.5

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	AM Peak Hour
Project Description	US 30 & Main St WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	620
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, CAFCAV	1.000	-

Demand and Capacity		
Demand Volume (Vi), veh/h	456	71
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	31.00	16.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.763	0.862
Flow Rate (vi), pc/h	636	88
Capacity (cmd), pc/h	4500	2100
Adjusted Capacity (cmd), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.14	0.04

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 (DS)	0.306
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	60.3
Flow in Lanes 1 and 2 (v12), pc/h	636	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	6.2
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	4.1

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HCS Freeway Diverge Report

Project Information			
Analyst	GWK	Date	12/16/2022
Agency	American Structurepoint, Inc.	Analysis Year	2045 No-Build Conditions
Jurisdiction	INDOT	Time Analyzed	PM Peak Hour
Project Description	US 30 & Main St WB-to-NB Diverge	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	55.0	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	620
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	-

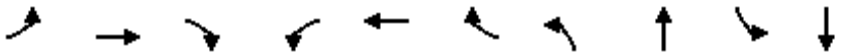
Demand and Capacity		
Demand Volume (V_i), veh/h	599	69
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	31.00	11.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.763	0.901
Flow Rate (v_i), pc/h	835	81
Capacity (c_{md}), pc/h	4500	2100
Adjusted Capacity (c_{md}), pc/h	4500	2100
Volume-to-Capacity Ratio (v/c)	0.19	0.04

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 (D_S)	0.305
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	835	Ramp Junction Speed (S), mi/h	51.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	8.2
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	5.9

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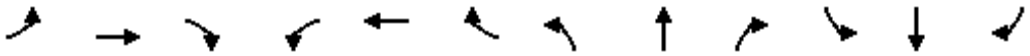
Appendix H

Intersection Analysis Outputs



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	143	558	181	11	796	40	116	20	2	71
v/c Ratio	0.54	0.28	0.17	0.08	0.46	0.04	0.59	0.09	0.01	0.23
Control Delay	40.9	7.0	1.9	38.4	15.6	0.1	45.0	17.5	28.5	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.9	7.0	1.9	38.4	15.6	0.1	45.0	17.5	28.5	11.9
Queue Length 50th (ft)	68	45	0	5	139	0	55	2	1	3
Queue Length 95th (ft)	132	131	30	22	237	0	112	21	7	38
Internal Link Dist (ft)		2438			3988			319		538
Turn Bay Length (ft)	450		450	415		500	100		100	
Base Capacity (vph)	372	2004	1088	151	1735	1008	299	340	351	449
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.28	0.17	0.07	0.46	0.04	0.39	0.06	0.01	0.16

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	519	168	10	740	37	108	5	14	2	7	59
Future Volume (veh/h)	133	519	168	10	740	37	108	5	14	2	7	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1441	1707	1604	1589	1900	1722	1900	1366	1900	1900	1870
Adj Flow Rate, veh/h	143	558	181	11	796	40	116	5	15	2	8	63
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	31	13	20	21	0	12	0	36	0	0	2
Cap, veh/h	186	1555	822	128	1655	883	224	63	189	285	28	219
Arrive On Green	0.10	0.57	0.57	0.08	0.55	0.55	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1795	2737	1447	1527	3019	1610	1224	419	1256	1414	185	1454
Grp Volume(v), veh/h	143	558	181	11	796	40	116	0	20	2	0	71
Grp Sat Flow(s),veh/h/ln	1795	1369	1447	1527	1509	1610	1224	0	1674	1414	0	1638
Q Serve(g_s), s	6.5	9.2	5.2	0.6	13.5	1.0	7.8	0.0	0.9	0.1	0.0	3.2
Cycle Q Clear(g_c), s	6.5	9.2	5.2	0.6	13.5	1.0	11.0	0.0	0.9	1.0	0.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.75	1.00		0.89
Lane Grp Cap(c), veh/h	186	1555	822	128	1655	883	224	0	252	285	0	247
V/C Ratio(X)	0.77	0.36	0.22	0.09	0.48	0.05	0.52	0.00	0.08	0.01	0.00	0.29
Avail Cap(c_a), veh/h	333	1555	822	137	1655	883	310	0	370	385	0	362
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	36.5	9.8	8.9	35.4	11.6	8.7	36.4	0.0	30.5	30.9	0.0	31.5
Incr Delay (d2), s/veh	6.6	0.6	0.6	0.3	1.0	0.1	1.9	0.0	0.1	0.0	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	2.9	2.2	1.4	0.2	3.7	0.3	2.4	0.0	0.3	0.0	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	10.4	9.5	35.6	12.6	8.8	38.2	0.0	30.6	30.9	0.0	32.1
LnGrp LOS	D	B	A	D	B	A	D	A	C	C	A	C
Approach Vol, veh/h		882			847			136			73	
Approach Delay, s/veh		15.5			12.7			37.1			32.1	
Approach LOS		B			B			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.5	53.0		18.1	14.2	51.3		18.1				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	7.5	47.5		18.5	15.5	39.5		18.5				
Max Q Clear Time (g_c+I1), s	2.6	11.2		5.2	8.5	15.5		13.0				
Green Ext Time (p_c), s	0.0	4.2		0.2	0.2	5.2		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		16.4	
HCM 6th LOS		B	

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	746	5	44	470	4	5	4	37	14	4	10
Future Vol, veh/h	23	746	5	44	470	4	5	4	37	14	4	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	-	475	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	22	0	5	31	0	0	0	11	0	0	10
Mvmt Flow	24	794	5	47	500	4	5	4	39	15	4	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	504	0	0	799	0	0	1191	1443	400	1043	1443	252
Stage 1	-	-	-	-	-	-	845	845	-	596	596	-
Stage 2	-	-	-	-	-	-	346	598	-	447	847	-
Critical Hdwy	4.1	-	-	4.2	-	-	7.5	6.5	7.12	7.5	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.25	-	-	3.5	4	3.41	3.5	4	3.4
Pot Cap-1 Maneuver	1071	-	-	800	-	-	145	133	575	186	133	724
Stage 1	-	-	-	-	-	-	328	382	-	462	495	-
Stage 2	-	-	-	-	-	-	649	494	-	566	381	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1071	-	-	800	-	-	132	122	575	161	122	724
Mov Cap-2 Maneuver	-	-	-	-	-	-	241	240	-	282	228	-
Stage 1	-	-	-	-	-	-	321	374	-	452	466	-
Stage 2	-	-	-	-	-	-	596	465	-	510	373	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.8	13.9	16.4
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	452	1071	-	-	800	-	-	346
HCM Lane V/C Ratio	0.108	0.023	-	-	0.059	-	-	0.086
HCM Control Delay (s)	13.9	8.4	-	-	9.8	-	-	16.4
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.2	-	-	0.3

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	462	5	1	743	5	9	1	9	1	1	13
Future Vol, veh/h	16	462	5	1	743	5	9	1	9	1	1	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	410	-	-	450	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	33	0	0	22	0	0	0	0	0	0	0
Mvmt Flow	17	486	5	1	782	5	9	1	9	1	1	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	787	0	0	491	0	0	917	1312	246	1065	1312	394
Stage 1	-	-	-	-	-	-	523	523	-	787	787	-
Stage 2	-	-	-	-	-	-	394	789	-	278	525	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	841	-	-	1083	-	-	230	160	760	180	160	611
Stage 1	-	-	-	-	-	-	510	534	-	355	406	-
Stage 2	-	-	-	-	-	-	608	405	-	711	533	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	841	-	-	1083	-	-	221	157	760	174	157	611
Mov Cap-2 Maneuver	-	-	-	-	-	-	344	273	-	277	278	-
Stage 1	-	-	-	-	-	-	500	523	-	348	406	-
Stage 2	-	-	-	-	-	-	592	405	-	687	522	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	13.3	12
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	456	841	-	-	1083	-	-	527
HCM Lane V/C Ratio	0.044	0.02	-	-	0.001	-	-	0.03
HCM Control Delay (s)	13.3	9.4	-	-	8.3	-	-	12
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	477	2	1	713	2	10	1	2	2	1	5
Future Vol, veh/h	1	477	2	1	713	2	10	1	2	2	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	400	-	-	400	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	33	0	0	22	0	0	0	0	0	0	0
Mvmt Flow	1	555	2	1	829	2	12	1	2	2	1	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	831	0	0	557	0	0	975	1391	279	1112	1391	416
Stage 1	-	-	-	-	-	-	558	558	-	832	832	-
Stage 2	-	-	-	-	-	-	417	833	-	280	559	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	810	-	-	1024	-	-	209	143	724	166	143	591
Stage 1	-	-	-	-	-	-	487	515	-	334	387	-
Stage 2	-	-	-	-	-	-	589	386	-	709	514	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	810	-	-	1024	-	-	206	143	724	165	143	591
Mov Cap-2 Maneuver	-	-	-	-	-	-	334	264	-	268	265	-
Stage 1	-	-	-	-	-	-	487	514	-	334	387	-
Stage 2	-	-	-	-	-	-	581	386	-	704	513	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	15.6	14.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	356	810	-	-	1024	-	-	406
HCM Lane V/C Ratio	0.042	0.001	-	-	0.001	-	-	0.023
HCM Control Delay (s)	15.6	9.5	-	-	8.5	-	-	14.1
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

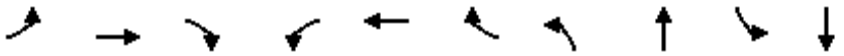
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	476	20	17	661	1	17	0	32	0	0	0
Future Vol, veh/h	0	476	20	17	661	1	17	0	32	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	275	275	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	33	0	0	24	0	0	0	13	0	0	0
Mvmt Flow	0	547	23	20	760	1	20	0	37	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	761	0	0	570	0	0	967	1348	274	1075	1371	381
Stage 1	-	-	-	-	-	-	547	547	-	801	801	-
Stage 2	-	-	-	-	-	-	420	801	-	274	570	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	7.16	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.43	3.5	4	3.3
Pot Cap-1 Maneuver	860	-	-	1013	-	-	212	152	692	177	147	623
Stage 1	-	-	-	-	-	-	494	521	-	349	400	-
Stage 2	-	-	-	-	-	-	587	400	-	714	509	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	860	-	-	1013	-	-	209	149	692	165	144	623
Mov Cap-2 Maneuver	-	-	-	-	-	-	337	270	-	273	263	-
Stage 1	-	-	-	-	-	-	494	521	-	349	392	-
Stage 2	-	-	-	-	-	-	575	392	-	676	509	-

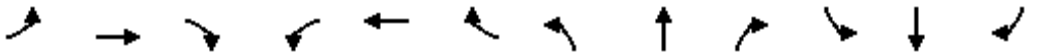
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.2	13	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	507	860	-	-	1013	-	-	-
HCM Lane V/C Ratio	0.111	-	-	-	0.019	-	-	-
HCM Control Delay (s)	13	0	-	-	8.6	-	-	0
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	411	58	12	486	67	141	95	49	120
v/c Ratio	0.33	0.27	0.07	0.11	0.38	0.09	0.54	0.27	0.31	0.53
Control Delay	40.4	15.2	0.2	39.9	22.8	0.2	41.7	25.8	42.4	34.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.4	15.2	0.2	39.9	22.8	0.2	41.7	25.8	42.4	34.3
Queue Length 50th (ft)	31	59	0	6	102	0	67	35	24	40
Queue Length 95th (ft)	74	140	0	24	173	0	134	78	62	97
Internal Link Dist (ft)		1534			3417			2504		2525
Turn Bay Length (ft)	325		275	200		350	525		475	
Base Capacity (vph)	246	1497	867	118	1289	753	373	530	189	337
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.27	0.07	0.10	0.38	0.09	0.38	0.18	0.26	0.36

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	370	52	11	437	60	127	67	19	44	61	47
Future Volume (vph)	58	370	52	11	437	60	127	67	19	44	61	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1543	2597	1335	1043	2777	1357	1583	1558		1467	1388	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1543	2597	1335	1043	2777	1357	1583	1558		1467	1388	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	64	411	58	12	486	67	141	74	21	49	68	52
RTOR Reduction (vph)	0	0	29	0	0	38	0	12	0	0	33	0
Lane Group Flow (vph)	64	411	29	12	486	29	141	83	0	49	87	0
Heavy Vehicles (%)	17%	39%	21%	73%	30%	19%	14%	17%	21%	23%	31%	24%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Actuated Green, G (s)	6.5	40.3	40.3	1.2	35.0	35.0	9.3	14.2		4.3	9.2	
Effective Green, g (s)	6.5	40.3	40.3	1.2	35.0	35.0	9.3	14.2		4.3	9.2	
Actuated g/C Ratio	0.08	0.49	0.49	0.01	0.43	0.43	0.11	0.17		0.05	0.11	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	122	1276	656	15	1185	579	179	269		76	155	
v/s Ratio Prot	c0.04	c0.16		0.01	c0.18		c0.09	c0.05		0.03	c0.06	
v/s Ratio Perm			0.02			0.02						
v/c Ratio	0.52	0.32	0.04	0.80	0.41	0.05	0.79	0.31		0.64	0.56	
Uniform Delay, d1	36.3	12.6	10.8	40.3	16.3	13.8	35.4	29.6		38.1	34.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.0	0.7	0.1	132.2	1.1	0.2	20.1	0.7		17.2	4.6	
Delay (s)	40.3	13.3	11.0	172.5	17.4	13.9	55.5	30.3		55.3	39.1	
Level of Service	D	B	B	F	B	B	E	C		E	D	
Approach Delay (s)		16.3			20.3			45.3			43.8	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	413	3	0	461	31	6	30	1	7	19	44
Future Vol, veh/h	46	413	3	0	461	31	6	30	1	7	19	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	375	-	-	-	-	250	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	7	44	0	0	29	3	0	0	0	15	11	0
Mvmt Flow	49	444	3	0	496	33	6	32	1	8	20	47

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	529	0	0	447	0	0	802	1073	224	832	1041	248
Stage 1	-	-	-	-	-	-	544	544	-	496	496	-
Stage 2	-	-	-	-	-	-	258	529	-	336	545	-
Critical Hdwy	4.24	-	-	4.1	-	-	7.5	6.5	6.9	7.8	6.72	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.8	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.8	5.72	-
Follow-up Hdwy	2.27	-	-	2.2	-	-	3.5	4	3.3	3.65	4.11	3.3
Pot Cap-1 Maneuver	1000	-	-	1124	-	-	279	222	786	241	214	758
Stage 1	-	-	-	-	-	-	496	522	-	492	522	-
Stage 2	-	-	-	-	-	-	730	530	-	617	495	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1000	-	-	1124	-	-	240	211	786	214	204	758
Mov Cap-2 Maneuver	-	-	-	-	-	-	349	319	-	327	319	-
Stage 1	-	-	-	-	-	-	472	496	-	468	522	-
Stage 2	-	-	-	-	-	-	658	530	-	548	471	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0	17.4	13.4
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	329	1000	-	-	1124	-	-	504
HCM Lane V/C Ratio	0.121	0.049	-	-	-	-	-	0.149
HCM Control Delay (s)	17.4	8.8	-	-	0	-	-	13.4
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0.2	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	412	9	2	504	2	21	3	3	1	3	5
Future Vol, veh/h	1	412	9	2	504	2	21	3	3	1	3	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	125	325	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	37	11	0	31	0	10	34	0	0	34	20
Mvmt Flow	1	468	10	2	573	2	24	3	3	1	3	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	575	0	0	478	0	0	762	1049	234	816	1058	288
Stage 1	-	-	-	-	-	-	470	470	-	578	578	-
Stage 2	-	-	-	-	-	-	292	579	-	238	480	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.7	7.18	6.9	7.5	7.18	7.3
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	6.18	-	6.5	6.18	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	6.18	-	6.5	6.18	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.6	4.34	3.3	3.5	4.34	3.5
Pot Cap-1 Maneuver	1008	-	-	1095	-	-	280	180	774	272	178	658
Stage 1	-	-	-	-	-	-	523	485	-	474	427	-
Stage 2	-	-	-	-	-	-	670	427	-	750	479	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1008	-	-	1095	-	-	274	179	774	268	177	658
Mov Cap-2 Maneuver	-	-	-	-	-	-	388	288	-	375	286	-
Stage 1	-	-	-	-	-	-	522	485	-	474	426	-
Stage 2	-	-	-	-	-	-	658	426	-	741	479	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	14.9	13.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	395	1008	-	-	1095	-	-	434
HCM Lane V/C Ratio	0.078	0.001	-	-	0.002	-	-	0.024
HCM Control Delay (s)	14.9	8.6	0	-	8.3	-	-	13.5
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	405	0	5	506	0	6
Future Vol, veh/h	405	0	5	506	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	37	0	0	29	0	0
Mvmt Flow	466	0	6	582	0	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	466	0	769	233
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	303	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1106	-	342	775
Stage 1	-	-	-	-	604	-
Stage 2	-	-	-	-	729	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1106	-	339	775
Mov Cap-2 Maneuver	-	-	-	-	453	-
Stage 1	-	-	-	-	604	-
Stage 2	-	-	-	-	723	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	775	-	-	1106	-
HCM Lane V/C Ratio	0.009	-	-	0.005	-
HCM Control Delay (s)	9.7	-	-	8.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

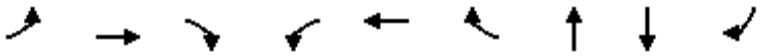
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	399	3	0	481	0	10	2	1	1	0	5
Future Vol, veh/h	2	399	3	0	481	0	10	2	1	1	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	50	37	34	0	33	0	0	50	0	0	0	0
Mvmt Flow	2	464	3	0	559	0	12	2	1	1	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	559	0	0	467	0	0	750	1029	234	796	1030	280
Stage 1	-	-	-	-	-	-	470	470	-	559	559	-
Stage 2	-	-	-	-	-	-	280	559	-	237	471	-
Critical Hdwy	5.1	-	-	4.1	-	-	7.5	7.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	6.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	6.5	-	6.5	5.5	-
Follow-up Hdwy	2.7	-	-	2.2	-	-	3.5	4.5	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	739	-	-	1105	-	-	304	167	774	281	235	723
Stage 1	-	-	-	-	-	-	548	453	-	486	514	-
Stage 2	-	-	-	-	-	-	709	405	-	751	563	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	739	-	-	1105	-	-	301	166	774	278	234	723
Mov Cap-2 Maneuver	-	-	-	-	-	-	413	270	-	384	351	-
Stage 1	-	-	-	-	-	-	546	451	-	484	514	-
Stage 2	-	-	-	-	-	-	703	405	-	743	561	-

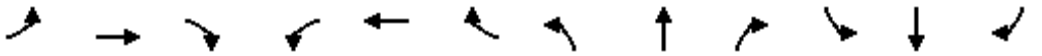
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	14.5	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	395	739	-	-	1105	-	-	630
HCM Lane V/C Ratio	0.038	0.003	-	-	-	-	-	0.011
HCM Control Delay (s)	14.5	9.9	0	-	0	-	-	10.8
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	24	409	29	15	378	11	135	48	16
v/c Ratio	0.14	0.25	0.03	0.11	0.24	0.01	0.56	0.19	0.06
Control Delay	32.7	7.6	0.1	33.1	9.0	0.0	35.2	26.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.7	7.6	0.1	33.1	9.0	0.0	35.2	26.6	0.4
Queue Length 50th (ft)	8	27	0	5	25	0	44	15	0
Queue Length 95th (ft)	34	97	0	25	90	0	110	48	0
Internal Link Dist (ft)		5311			3266		1726	1060	
Turn Bay Length (ft)	325		300	250		350			325
Base Capacity (vph)	267	1620	962	194	1565	923	515	554	495
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.25	0.03	0.08	0.24	0.01	0.26	0.09	0.03

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	380	27	14	352	10	56	60	9	14	31	15
Future Volume (veh/h)	22	380	27	14	352	10	56	60	9	14	31	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1693	1278	1737	1263	1322	1752	1767	1767	1574	1796	1707	1396
Adj Flow Rate, veh/h	24	409	29	15	378	11	60	65	10	15	33	16
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	14	42	11	43	39	10	9	9	22	7	13	34
Cap, veh/h	61	1443	875	31	1462	864	147	104	14	109	170	148
Arrive On Green	0.04	0.59	0.59	0.03	0.58	0.58	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1612	2427	1472	1203	2512	1485	530	831	109	288	1356	1183
Grp Volume(v), veh/h	24	409	29	15	378	11	135	0	0	48	0	16
Grp Sat Flow(s),veh/h/ln	1612	1214	1472	1203	1256	1485	1470	0	0	1644	0	1183
Q Serve(g_s), s	0.9	5.3	0.5	0.8	4.8	0.2	4.1	0.0	0.0	0.0	0.0	0.8
Cycle Q Clear(g_c), s	0.9	5.3	0.5	0.8	4.8	0.2	5.8	0.0	0.0	1.6	0.0	0.8
Prop In Lane	1.00		1.00	1.00		1.00	0.44		0.07	0.31		1.00
Lane Grp Cap(c), veh/h	61	1443	875	31	1462	864	264	0	0	279	0	148
V/C Ratio(X)	0.39	0.28	0.03	0.49	0.26	0.01	0.51	0.00	0.00	0.17	0.00	0.11
Avail Cap(c_a), veh/h	286	1443	875	195	1462	864	643	0	0	662	0	448
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	1.00
Uniform Delay (d), s/veh	30.4	6.4	5.4	31.1	6.7	5.7	27.3	0.0	0.0	25.5	0.0	25.1
Incr Delay (d2), s/veh	4.1	0.5	0.1	11.5	0.4	0.0	1.5	0.0	0.0	0.3	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	0.4	0.9	0.1	0.3	0.9	0.0	2.0	0.0	0.0	0.6	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	6.9	5.5	42.6	7.1	5.7	28.8	0.0	0.0	25.8	0.0	25.4
LnGrp LOS	C	A	A	D	A	A	C	A	A	C	A	C
Approach Vol, veh/h		462			404			135			64	
Approach Delay, s/veh		8.2			8.4			28.8			25.7	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	44.0		13.6	8.0	43.2		13.6				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	10.5	38.5		24.5	11.5	37.5		24.5				
Max Q Clear Time (g_c+I1), s	2.8	7.3		3.6	2.9	6.8		7.8				
Green Ext Time (p_c), s	0.0	2.6		0.2	0.0	2.3		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		11.9	
HCM 6th LOS		B	

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	420	2	5	379	39	1	23	7	16	13	28
Future Vol, veh/h	42	420	2	5	379	39	1	23	7	16	13	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	425	425	-	375	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	41	0	0	38	3	0	13	0	13	0	7
Mvmt Flow	47	467	2	6	421	43	1	26	8	18	14	31

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	464	0	0	469	0	0	791	1037	234	774	996	211
Stage 1	-	-	-	-	-	-	561	561	-	433	433	-
Stage 2	-	-	-	-	-	-	230	476	-	341	563	-
Critical Hdwy	4.16	-	-	4.1	-	-	7.5	6.76	6.9	7.76	6.5	7.04
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.76	-	6.76	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.76	-	6.76	5.5	-
Follow-up Hdwy	2.23	-	-	2.2	-	-	3.5	4.13	3.3	3.63	4	3.37
Pot Cap-1 Maneuver	1087	-	-	1103	-	-	284	213	774	269	246	779
Stage 1	-	-	-	-	-	-	485	482	-	543	585	-
Stage 2	-	-	-	-	-	-	758	528	-	618	512	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1087	-	-	1103	-	-	254	203	774	240	234	779
Mov Cap-2 Maneuver	-	-	-	-	-	-	358	307	-	353	346	-
Stage 1	-	-	-	-	-	-	464	461	-	520	582	-
Stage 2	-	-	-	-	-	-	706	525	-	553	490	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.1	16.2	13.6
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	357	1087	-	-	1103	-	-	480
HCM Lane V/C Ratio	0.096	0.043	-	-	0.005	-	-	0.132
HCM Control Delay (s)	16.2	8.5	-	-	8.3	-	-	13.6
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.5

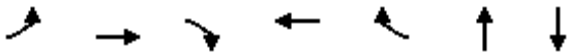
Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	408	7	11	371	4	11	12	33	10	17	16
Future Vol, veh/h	8	408	7	11	371	4	11	12	33	10	17	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	315	225	-	275	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	25	44	15	18	37	0	9	9	9	0	12	7
Mvmt Flow	8	429	7	12	391	4	12	13	35	11	18	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	395	0	0	436	0	0	674	864	215	652	867	196
Stage 1	-	-	-	-	-	-	445	445	-	415	415	-
Stage 2	-	-	-	-	-	-	229	419	-	237	452	-
Critical Hdwy	4.6	-	-	4.46	-	-	7.68	6.68	7.08	7.5	6.74	7.04
Critical Hdwy Stg 1	-	-	-	-	-	-	6.68	5.68	-	6.5	5.74	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.68	5.68	-	6.5	5.74	-
Follow-up Hdwy	2.45	-	-	2.38	-	-	3.59	4.09	3.39	3.5	4.12	3.37
Pot Cap-1 Maneuver	1012	-	-	1014	-	-	327	278	769	357	272	797
Stage 1	-	-	-	-	-	-	544	556	-	591	566	-
Stage 2	-	-	-	-	-	-	733	571	-	751	544	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1012	-	-	1014	-	-	304	272	769	327	267	797
Mov Cap-2 Maneuver	-	-	-	-	-	-	410	377	-	435	370	-
Stage 1	-	-	-	-	-	-	540	552	-	586	559	-
Stage 2	-	-	-	-	-	-	686	564	-	695	540	-

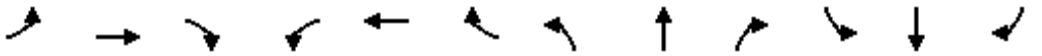
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	12.3	13.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	551	1012	-	-	1014	-	-	483
HCM Lane V/C Ratio	0.107	0.008	-	-	0.011	-	-	0.094
HCM Control Delay (s)	12.3	8.6	-	-	8.6	-	-	13.2
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.3



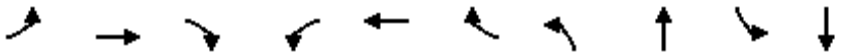
Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	3	391	73	313	18	57	127
v/c Ratio	0.02	0.21	0.06	0.19	0.02	0.27	0.51
Control Delay	29.7	4.5	0.9	6.4	0.0	26.9	32.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.7	4.5	0.9	6.4	0.0	26.9	32.6
Queue Length 50th (ft)	1	25	0	20	0	18	44
Queue Length 95th (ft)	9	52	8	68	0	54	103
Internal Link Dist (ft)		844		1114		201	746
Turn Bay Length (ft)	375		400		250		
Base Capacity (vph)	290	1899	1150	1681	1104	518	597
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.21	0.06	0.19	0.02	0.11	0.21

Intersection Summary



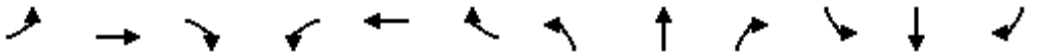
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	371	69	0	297	17	31	20	3	45	72	4
Future Volume (vph)	3	371	69	0	297	17	31	20	3	45	72	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5		5.5	5.5		5.5			5.5	
Lane Util. Factor	1.00	0.95	1.00		0.95	1.00		1.00			1.00	
Frt	1.00	1.00	0.85		1.00	0.85		0.99			1.00	
Flt Protected	0.95	1.00	1.00		1.00	1.00		0.97			0.98	
Satd. Flow (prot)	1805	2597	1538		2407	1538		1732			1825	
Flt Permitted	0.95	1.00	1.00		1.00	1.00		0.77			0.85	
Satd. Flow (perm)	1805	2597	1538		2407	1538		1376			1587	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	3	391	73	0	313	18	33	21	3	47	76	4
RTOR Reduction (vph)	0	0	20	0	0	7	0	3	0	0	2	0
Lane Group Flow (vph)	3	391	53	0	313	11	0	54	0	0	125	0
Heavy Vehicles (%)	0%	39%	5%	0%	50%	5%	7%	0%	34%	0%	3%	0%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2			6	8			4		
Actuated Green, G (s)	1.2	51.5	51.5		44.8	44.8		8.9			8.9	
Effective Green, g (s)	1.2	51.5	51.5		44.8	44.8		8.9			8.9	
Actuated g/C Ratio	0.02	0.72	0.72		0.63	0.63		0.12			0.12	
Clearance Time (s)	5.5	5.5	5.5		5.5	5.5		5.5			5.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	30	1873	1109		1510	965		171			197	
v/s Ratio Prot	0.00	c0.15			0.13							
v/s Ratio Perm			0.03			0.01		0.04			c0.08	
v/c Ratio	0.10	0.21	0.05		0.21	0.01		0.32			0.64	
Uniform Delay, d1	34.6	3.3	2.9		5.7	5.0		28.5			29.7	
Progression Factor	1.00	1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2	1.5	0.3	0.1		0.3	0.0		1.1			6.6	
Delay (s)	36.0	3.5	3.0		6.0	5.0		29.6			36.3	
Level of Service	D	A	A		A	A		C			D	
Approach Delay (s)		3.6			6.0			29.6			36.3	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	71.4	Sum of lost time (s)	16.5
Intersection Capacity Utilization	27.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	34	341	41	83	305	62	8	87	57	66
v/c Ratio	0.25	0.23	0.04	0.37	0.18	0.08	0.05	0.30	0.46	0.30
Control Delay	35.0	11.5	0.1	34.2	8.6	1.5	26.7	15.1	40.3	17.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.0	11.5	0.1	34.2	8.6	1.5	26.7	15.1	40.3	17.6
Queue Length 50th (ft)	14	42	0	33	18	0	3	10	23	9
Queue Length 95th (ft)	42	86	1	78	74	10	15	48	59	43
Internal Link Dist (ft)		1315			5108			1028		869
Turn Bay Length (ft)	750		700	700		750	250		325	
Base Capacity (vph)	258	1479	916	443	1698	813	370	555	271	425
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.23	0.04	0.19	0.18	0.08	0.02	0.16	0.21	0.16

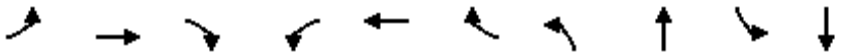
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	314	38	76	281	57	7	25	55	52	22	39
Future Volume (veh/h)	31	314	38	76	281	57	7	25	55	52	22	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1040	1263	1781	1841	1263	1322	1678	1841	1841	1100	1826	1100
Adj Flow Rate, veh/h	34	341	41	83	305	62	8	27	60	57	24	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	58	43	8	4	43	39	15	4	4	54	5	54
Cap, veh/h	49	1241	781	144	1321	617	249	78	173	189	91	159
Arrive On Green	0.05	0.52	0.52	0.08	0.55	0.55	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	991	2399	1510	1753	2399	1120	1198	508	1129	770	596	1043
Grp Volume(v), veh/h	34	341	41	83	305	62	8	0	87	57	0	66
Grp Sat Flow(s),veh/h/ln	991	1200	1510	1753	1200	1120	1198	0	1637	770	0	1638
Q Serve(g_s), s	2.3	5.3	0.9	3.0	4.4	1.8	0.4	0.0	3.2	4.8	0.0	2.4
Cycle Q Clear(g_c), s	2.3	5.3	0.9	3.0	4.4	1.8	2.8	0.0	3.2	7.9	0.0	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.69	1.00		0.64
Lane Grp Cap(c), veh/h	49	1241	781	144	1321	617	249	0	250	189	0	251
V/C Ratio(X)	0.70	0.27	0.05	0.57	0.23	0.10	0.03	0.00	0.35	0.30	0.00	0.26
Avail Cap(c_a), veh/h	230	1241	781	460	1321	617	451	0	528	320	0	528
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	31.2	9.1	8.0	29.5	7.7	7.1	26.2	0.0	25.3	28.8	0.0	24.9
Incr Delay (d2), s/veh	16.6	0.5	0.1	3.6	0.4	0.3	0.1	0.0	0.8	0.9	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	0.7	1.1	0.2	1.3	0.9	0.4	0.1	0.0	1.2	0.9	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	9.6	8.1	33.0	8.1	7.5	26.2	0.0	26.1	29.7	0.0	25.5
LnGrp LOS	D	A	A	C	A	A	C	A	C	C	A	C
Approach Vol, veh/h		416			450			95			123	
Approach Delay, s/veh		12.6			12.6			26.1			27.4	
Approach LOS		B			B			C			C	

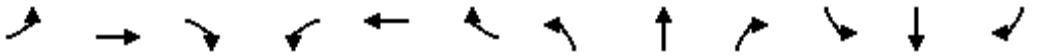
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	40.0		15.7	8.8	42.2		15.7				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	17.5	34.5		21.5	15.5	36.5		21.5				
Max Q Clear Time (g_c+I1), s	5.0	7.3		9.9	4.3	6.4		5.2				
Green Ext Time (p_c), s	0.1	2.2		0.4	0.0	2.1		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			15.5									
HCM 6th LOS			B									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	107	330	64	81	352	35	34	198	26	237
v/c Ratio	0.42	0.29	0.08	0.37	0.30	0.04	0.20	0.45	0.19	0.47
Control Delay	36.2	16.4	0.2	36.5	17.0	0.1	37.4	29.4	37.6	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.2	16.4	0.2	36.5	17.0	0.1	37.4	29.4	37.6	23.7
Queue Length 50th (ft)	40	40	0	30	44	0	13	32	10	30
Queue Length 95th (ft)	104	110	0	85	118	0	47	78	38	77
Internal Link Dist (ft)		5108			2163			1310		1016
Turn Bay Length (ft)	475		450	500		525			325	
Base Capacity (vph)	418	1137	763	345	1166	787	209	609	187	717
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.29	0.08	0.23	0.30	0.04	0.16	0.33	0.14	0.33

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	317	61	78	338	34	33	149	41	25	150	78
Future Volume (veh/h)	103	317	61	78	338	34	33	149	41	25	150	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1174	1722	1707	1278	1811	1767	1811	1426	1366	1811	1826
Adj Flow Rate, veh/h	107	330	64	81	352	35	34	155	43	26	156	81
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	6	49	12	13	42	6	9	6	32	36	6	5
Cap, veh/h	153	1020	667	130	1089	689	58	308	83	37	243	120
Arrive On Green	0.09	0.46	0.46	0.08	0.45	0.45	0.03	0.12	0.12	0.03	0.11	0.11
Sat Flow, veh/h	1725	2230	1459	1626	2427	1535	1682	2680	722	1301	2231	1102
Grp Volume(v), veh/h	107	330	64	81	352	35	34	98	100	26	119	118
Grp Sat Flow(s),veh/h/ln	1725	1115	1459	1626	1214	1535	1682	1721	1681	1301	1721	1613
Q Serve(g_s), s	4.2	6.5	1.7	3.3	6.4	0.9	1.4	3.7	3.9	1.4	4.5	4.9
Cycle Q Clear(g_c), s	4.2	6.5	1.7	3.3	6.4	0.9	1.4	3.7	3.9	1.4	4.5	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.43	1.00		0.68
Lane Grp Cap(c), veh/h	153	1020	667	130	1089	689	58	198	193	37	187	175
V/C Ratio(X)	0.70	0.32	0.10	0.62	0.32	0.05	0.58	0.49	0.52	0.70	0.63	0.68
Avail Cap(c_a), veh/h	413	1020	667	342	1089	689	208	312	305	179	337	316
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	30.5	11.9	10.6	30.7	12.2	10.7	32.8	28.6	28.7	33.2	29.4	29.5
Incr Delay (d2), s/veh	5.7	0.8	0.3	4.8	0.8	0.1	8.9	1.9	2.1	21.4	3.5	4.5
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	1.8	1.4	0.5	1.3	1.5	0.3	0.7	1.5	1.6	0.6	1.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.2	12.8	10.9	35.5	13.0	10.9	41.6	30.5	30.8	54.5	32.9	34.0
LnGrp LOS	D	B	B	D	B	B	D	C	C	D	C	C
Approach Vol, veh/h		501			468			232			263	
Approach Delay, s/veh		17.5			16.8			32.3			35.5	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	37.0	7.9	13.0	11.6	36.4	7.5	13.4
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	14.5	31.5	8.5	13.5	16.5	29.5	9.5	12.5
Max Q Clear Time (g_c+I1), s	5.3	8.5	3.4	6.9	6.2	8.4	3.4	5.9
Green Ext Time (p_c), s	0.1	2.1	0.0	0.6	0.2	2.1	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	22.9
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	42	23	317	28	16	334
Future Vol, veh/h	42	23	317	28	16	334
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	10	35	5	7	19	7
Mvmt Flow	51	28	387	34	20	407

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	648	211	0	0	421	0
Stage 1	404	-	-	-	-	-
Stage 2	244	-	-	-	-	-
Critical Hdwy	7	7.6	-	-	4.48	-
Critical Hdwy Stg 1	6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.6	3.65	-	-	2.39	-
Pot Cap-1 Maneuver	385	702	-	-	1022	-
Stage 1	620	-	-	-	-	-
Stage 2	750	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	377	702	-	-	1022	-
Mov Cap-2 Maneuver	476	-	-	-	-	-
Stage 1	620	-	-	-	-	-
Stage 2	735	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	476	702	1022	-
HCM Lane V/C Ratio	-	-	0.108	0.04	0.019	-
HCM Control Delay (s)	-	-	13.5	10.3	8.6	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	0.1	-

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	24	323	33	24	335
Future Vol, veh/h	28	24	323	33	24	335
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	11	17	4	3	38	4
Mvmt Flow	35	30	399	41	30	414

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	687	220	0	0	440	0
Stage 1	420	-	-	-	-	-
Stage 2	267	-	-	-	-	-
Critical Hdwy	7.02	7.24	-	-	4.86	-
Critical Hdwy Stg 1	6.02	-	-	-	-	-
Critical Hdwy Stg 2	6.02	-	-	-	-	-
Follow-up Hdwy	3.61	3.47	-	-	2.58	-
Pot Cap-1 Maneuver	361	740	-	-	898	-
Stage 1	605	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	349	740	-	-	898	-
Mov Cap-2 Maneuver	454	-	-	-	-	-
Stage 1	605	-	-	-	-	-
Stage 2	703	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	454	740	898	-
HCM Lane V/C Ratio	-	-	0.076	0.04	0.033	-
HCM Control Delay (s)	-	-	13.6	10.1	9.1	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	0.1	-

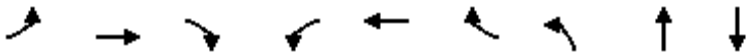
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	389	9	0	460	7	0	0	31	0	0	17
Future Vol, veh/h	0	389	9	0	460	7	0	0	31	0	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	39	0	0	34	0	0	0	3	0	0	13
Mvmt Flow	0	405	9	0	479	7	0	0	32	0	0	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	207	-	-	243
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	6.96	-	-	7.16
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.33	-	-	3.43
Pot Cap-1 Maneuver	0	-	-	0	-	-	0	0	796	0	0	725
Stage 1	0	-	-	0	-	-	0	0	-	0	0	-
Stage 2	0	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	796	-	-	725
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

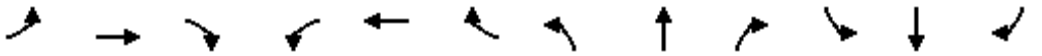
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	9.7	10.1
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	796	-	-	-	-	725
HCM Lane V/C Ratio	0.041	-	-	-	-	0.024
HCM Control Delay (s)	9.7	-	-	-	-	10.1
HCM Lane LOS	A	-	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	18	318	61	46	323	1	87	69	63
v/c Ratio	0.09	0.21	0.09	0.28	0.18	0.00	0.52	0.27	0.20
Control Delay	31.8	11.3	1.7	33.1	7.1	0.0	37.4	14.3	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.8	11.3	1.7	33.1	7.1	0.0	37.4	14.3	14.5
Queue Length 50th (ft)	7	38	0	18	21	0	33	7	8
Queue Length 95th (ft)	27	79	9	49	72	0	76	37	37
Internal Link Dist (ft)		2833			1282			431	373
Turn Bay Length (ft)	625		550	550		625	100		
Base Capacity (vph)	292	1526	708	308	1797	1140	403	543	705
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.21	0.09	0.15	0.18	0.00	0.22	0.13	0.09

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	277	53	40	281	1	76	17	43	1	20	34
Future Volume (veh/h)	16	277	53	40	281	1	76	17	43	1	20	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1292	1248	1307	1337	1900	1337	1722	1248	1900	1900	1811
Adj Flow Rate, veh/h	18	318	61	46	323	1	87	20	49	1	23	39
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	41	44	40	38	0	38	12	44	0	0	6
Cap, veh/h	54	1364	587	77	1491	945	239	52	127	60	75	124
Arrive On Green	0.03	0.56	0.56	0.06	0.59	0.59	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1810	2456	1058	1245	2540	1610	958	443	1084	9	641	1056
Grp Volume(v), veh/h	18	318	61	46	323	1	87	0	69	63	0	0
Grp Sat Flow(s),veh/h/ln	1810	1228	1058	1245	1270	1610	958	0	1527	1706	0	0
Q Serve(g_s), s	0.6	4.1	1.7	2.2	3.7	0.0	2.6	0.0	2.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	4.1	1.7	2.2	3.7	0.0	4.7	0.0	2.6	2.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	0.02		0.62
Lane Grp Cap(c), veh/h	54	1364	587	77	1491	945	239	0	179	259	0	0
V/C Ratio(X)	0.33	0.23	0.10	0.60	0.22	0.00	0.36	0.00	0.38	0.24	0.00	0.00
Avail Cap(c_a), veh/h	306	1364	587	310	1491	945	535	0	651	784	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	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.5	7.1	6.5	28.4	6.1	5.3	26.1	0.0	25.4	25.1	0.0	0.0
Incr Delay (d2), s/veh	3.5	0.4	0.4	7.3	0.3	0.0	0.9	0.0	1.4	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	0.3	0.8	0.3	0.7	0.7	0.0	1.2	0.0	1.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	7.5	6.9	35.7	6.4	5.3	27.1	0.0	26.7	25.6	0.0	0.0
LnGrp LOS	C	A	A	D	A	A	C	A	C	C	A	A
Approach Vol, veh/h		397			370			156			63	
Approach Delay, s/veh		8.5			10.0			26.9			25.6	
Approach LOS		A			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	40.0		12.8	7.4	42.0		12.8				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	15.5	31.5		26.5	10.5	36.5		26.5				
Max Q Clear Time (g_c+I1), s	4.2	6.1		4.1	2.6	5.7		6.7				
Green Ext Time (p_c), s	0.0	2.1		0.2	0.0	2.0		0.7				

Intersection Summary		
HCM 6th Ctrl Delay		13.1
HCM 6th LOS		B

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	335	3	1	332	9	4	11	1	9	7	4
Future Vol, veh/h	1	335	3	1	332	9	4	11	1	9	7	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	350	-	350	325	-	350	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	39	0	0	32	0	0	0	0	11	0	25
Mvmt Flow	1	360	3	1	357	10	4	12	1	10	8	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	367	0	0	363	0	0	547	731	180	547	724	179
Stage 1	-	-	-	-	-	-	362	362	-	359	359	-
Stage 2	-	-	-	-	-	-	185	369	-	188	365	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.72	6.5	7.4
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.72	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.72	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.61	4	3.55
Pot Cap-1 Maneuver	1203	-	-	1207	-	-	424	351	838	401	354	766
Stage 1	-	-	-	-	-	-	635	629	-	608	631	-
Stage 2	-	-	-	-	-	-	805	624	-	770	627	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1203	-	-	1207	-	-	416	350	838	392	353	766
Mov Cap-2 Maneuver	-	-	-	-	-	-	505	445	-	481	447	-
Stage 1	-	-	-	-	-	-	634	628	-	607	630	-
Stage 2	-	-	-	-	-	-	790	623	-	754	626	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	12.9	12.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	473	1203	-	-	1207	-	-	505
HCM Lane V/C Ratio	0.036	0.001	-	-	0.001	-	-	0.043
HCM Control Delay (s)	12.9	8	-	-	8	-	-	12.4
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	67	0	0	6	136	547	11	0	444	108
Future Vol, veh/h	0	0	67	0	0	6	136	547	11	0	444	108
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	375	-	375	-	-	0
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	8	0	0	0	1	30	37	0	25	5
Mvmt Flow	0	0	74	0	0	7	151	608	12	0	493	120

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	247	-	-	304	613	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.06	-	-	6.9	4.12	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.38	-	-	3.3	2.21	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	735	0	0	698	969	-	-	0	-	-
Stage 1	0	0	-	0	0	-	-	-	-	0	-	-
Stage 2	0	0	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	735	-	-	698	969	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	10.2	1.8	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	969	-	-	735	698	-	-
HCM Lane V/C Ratio	0.156	-	-	0.101	0.01	-	-
HCM Control Delay (s)	9.4	-	-	10.4	10.2	-	-
HCM Lane LOS	A	-	-	B	B	-	-
HCM 95th %tile Q(veh)	0.6	-	-	0.3	0	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	108	130	606	584	2
Future Vol, veh/h	3	108	130	606	584	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	400	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	3	3	26	23	0
Mvmt Flow	3	115	138	645	621	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1220	311	623	0	-	0
Stage 1	621	-	-	-	-	-
Stage 2	599	-	-	-	-	-
Critical Hdwy	6.8	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	175	682	947	-	-	-
Stage 1	504	-	-	-	-	-
Stage 2	517	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	149	682	947	-	-	-
Mov Cap-2 Maneuver	281	-	-	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	517	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	1.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	947	-	281	682	-	-
HCM Lane V/C Ratio	0.146	-	0.011	0.168	-	-
HCM Control Delay (s)	9.4	-	18	11.3	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.5	-	0	0.6	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	3	3	2	6	115	3	582	1	83	596	7
Future Vol, veh/h	18	3	3	2	6	115	3	582	1	83	596	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	300	-	375	325	-	500
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	34	50	0	6	0	23	0	4	22	29
Mvmt Flow	20	3	3	2	7	126	3	640	1	91	655	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1167	1484	328	1157	1491	320	663	0	0	641	0	0
Stage 1	837	837	-	646	646	-	-	-	-	-	-	-
Stage 2	330	647	-	511	845	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	7.58	8.5	6.5	7.02	4.1	-	-	4.18	-	-
Critical Hdwy Stg 1	6.5	5.5	-	7.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	7.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.64	4	4	3.36	2.2	-	-	2.24	-	-
Pot Cap-1 Maneuver	151	126	582	104	125	664	935	-	-	926	-	-
Stage 1	332	385	-	328	470	-	-	-	-	-	-	-
Stage 2	663	470	-	407	382	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	110	113	582	94	112	664	935	-	-	926	-	-
Mov Cap-2 Maneuver	221	217	-	199	230	-	-	-	-	-	-	-
Stage 1	331	347	-	327	469	-	-	-	-	-	-	-
Stage 2	528	469	-	361	345	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.9	12.9	0	1.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	935	-	-	239	588	926	-	-
HCM Lane V/C Ratio	0.004	-	-	0.11	0.23	0.098	-	-
HCM Control Delay (s)	8.9	-	-	21.9	12.9	9.3	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.9	0.3	-	-

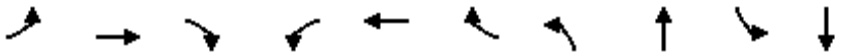
Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	32	3	48	32	96	9	456	73	71	486	42
Future Vol, veh/h	13	32	3	48	32	96	9	456	73	71	486	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	350	-	350	350	-	350
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	7	0	2	10	8	0	31	7	7	26	7
Mvmt Flow	14	36	3	53	36	107	10	507	81	79	540	47

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	990	1306	270	973	1272	254	587	0	0	588	0	0
Stage 1	698	698	-	527	527	-	-	-	-	-	-	-
Stage 2	292	608	-	446	745	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.64	6.9	7.54	6.7	7.06	4.1	-	-	4.24	-	-
Critical Hdwy Stg 1	6.5	5.64	-	6.54	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.64	-	6.54	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.07	3.3	3.52	4.1	3.38	2.2	-	-	2.27	-	-
Pot Cap-1 Maneuver	204	152	734	207	156	727	998	-	-	950	-	-
Stage 1	402	428	-	502	507	-	-	-	-	-	-	-
Stage 2	697	472	-	561	400	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	144	138	734	170	142	727	998	-	-	950	-	-
Mov Cap-2 Maneuver	261	241	-	294	252	-	-	-	-	-	-	-
Stage 1	398	392	-	497	502	-	-	-	-	-	-	-
Stage 2	547	467	-	466	367	-	-	-	-	-	-	-

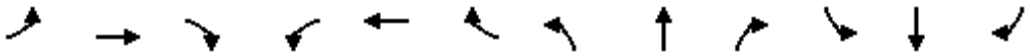
Approach	EB	WB	NB	SB
HCM Control Delay, s	22.6	21	0.1	1.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	998	-	-	257	417	950	-	-
HCM Lane V/C Ratio	0.01	-	-	0.208	0.469	0.083	-	-
HCM Control Delay (s)	8.6	-	-	22.6	21	9.1	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.8	2.4	0.3	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	76	884	49	2	853	27	149	33	26	172
v/c Ratio	0.39	0.47	0.07	0.01	0.57	0.03	0.72	0.10	0.09	0.38
Control Delay	42.1	10.7	0.6	37.5	17.3	0.1	49.4	13.1	26.3	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.1	10.7	0.6	37.5	17.3	0.1	49.4	13.1	26.3	7.3
Queue Length 50th (ft)	36	97	0	1	156	0	71	3	11	1
Queue Length 95th (ft)	84	253	4	8	260	0	134	24	31	47
Internal Link Dist (ft)		2438			3988			319		538
Turn Bay Length (ft)	450		450	415		500	100		100	
Base Capacity (vph)	221	1875	713	166	1498	815	327	483	443	619
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.47	0.07	0.01	0.57	0.03	0.46	0.07	0.06	0.28

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	787	44	2	759	24	133	6	23	23	3	150
Future Volume (veh/h)	68	787	44	2	759	24	133	6	23	23	3	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1589	1159	1900	1530	1767	1796	1900	1633	1900	1900	1870
Adj Flow Rate, veh/h	76	884	49	2	853	27	149	7	26	26	3	169
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	21	50	0	25	9	7	0	18	0	0	2
Cap, veh/h	147	1473	479	147	1418	730	256	84	313	396	7	378
Arrive On Green	0.08	0.49	0.49	0.08	0.49	0.49	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1810	3019	982	1810	2906	1497	1165	353	1311	1398	28	1586
Grp Volume(v), veh/h	76	884	49	2	853	27	149	0	33	26	0	172
Grp Sat Flow(s),veh/h/ln	1810	1509	982	1810	1453	1497	1165	0	1664	1398	0	1614
Q Serve(g_s), s	3.5	18.2	2.3	0.1	18.3	0.8	10.7	0.0	1.3	1.3	0.0	7.8
Cycle Q Clear(g_c), s	3.5	18.2	2.3	0.1	18.3	0.8	18.5	0.0	1.3	2.6	0.0	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.79	1.00		0.98
Lane Grp Cap(c), veh/h	147	1473	479	147	1418	730	256	0	397	396	0	385
V/C Ratio(X)	0.52	0.60	0.10	0.01	0.60	0.04	0.58	0.00	0.08	0.07	0.00	0.45
Avail Cap(c_a), veh/h	200	1473	479	150	1418	730	310	0	475	461	0	461
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	37.8	15.9	11.9	36.3	15.9	11.5	35.8	0.0	25.4	26.4	0.0	27.9
Incr Delay (d2), s/veh	2.8	1.8	0.4	0.0	1.9	0.1	2.1	0.0	0.1	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	1.5	5.5	0.5	0.0	5.3	0.2	3.1	0.0	0.5	0.4	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.6	17.7	12.3	36.3	17.8	11.6	37.9	0.0	25.5	26.5	0.0	28.7
LnGrp LOS	D	B	B	D	B	B	D	A	C	C	A	C
Approach Vol, veh/h		1009			882			182			198	
Approach Delay, s/veh		19.2			17.7			35.6			28.4	
Approach LOS		B			B			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.5	47.4		26.0	12.5	47.4		26.0				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	7.1	41.9		24.5	9.5	39.5		24.5				
Max Q Clear Time (g_c+I1), s	2.1	20.2		9.8	5.5	20.3		20.5				
Green Ext Time (p_c), s	0.0	5.7		0.9	0.0	5.2		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	721	8	33	819	14	0	8	40	11	9	18
Future Vol, veh/h	14	721	8	33	819	14	0	8	40	11	9	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	-	475	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	25	0	0	18	0	0	25	0	0	0	0
Mvmt Flow	15	767	9	35	871	15	0	9	43	12	10	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	886	0	0	776	0	0	1313	1758	388	1367	1755	443
Stage 1	-	-	-	-	-	-	802	802	-	949	949	-
Stage 2	-	-	-	-	-	-	511	956	-	418	806	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	7	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	6	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	6	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.25	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	773	-	-	849	-	-	118	66	616	108	86	568
Stage 1	-	-	-	-	-	-	348	344	-	284	342	-
Stage 2	-	-	-	-	-	-	519	287	-	588	398	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	773	-	-	849	-	-	105	62	616	92	81	568
Mov Cap-2 Maneuver	-	-	-	-	-	-	224	162	-	200	193	-
Stage 1	-	-	-	-	-	-	341	337	-	279	328	-
Stage 2	-	-	-	-	-	-	467	275	-	523	390	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.4	14.8	19.7
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	420	773	-	-	849	-	-	285
HCM Lane V/C Ratio	0.122	0.019	-	-	0.041	-	-	0.142
HCM Control Delay (s)	14.8	9.7	-	-	9.4	-	-	19.7
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.1	-	-	0.5

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	821	10	8	716	5	14	1	3	4	1	12
Future Vol, veh/h	8	821	10	8	716	5	14	1	3	4	1	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	410	-	-	450	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	18	20	0	25	20	0	0	0	0	0	0
Mvmt Flow	8	855	10	8	746	5	15	1	3	4	1	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	751	0	0	865	0	0	1266	1643	433	1209	1646	376
Stage 1	-	-	-	-	-	-	876	876	-	765	765	-
Stage 2	-	-	-	-	-	-	390	767	-	444	881	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	868	-	-	787	-	-	128	101	576	141	100	627
Stage 1	-	-	-	-	-	-	314	369	-	366	415	-
Stage 2	-	-	-	-	-	-	611	414	-	568	367	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	868	-	-	787	-	-	123	99	576	138	98	627
Mov Cap-2 Maneuver	-	-	-	-	-	-	234	220	-	259	219	-
Stage 1	-	-	-	-	-	-	311	366	-	363	411	-
Stage 2	-	-	-	-	-	-	591	410	-	558	364	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	20	13.6
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	259	868	-	-	787	-	-	434
HCM Lane V/C Ratio	0.072	0.01	-	-	0.011	-	-	0.041
HCM Control Delay (s)	20	9.2	-	-	9.6	-	-	13.6
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	838	9	7	666	0	3	3	5	0	5	5
Future Vol, veh/h	3	838	9	7	666	0	3	3	5	0	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	400	-	-	400	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	17	0	15	22	0	0	34	0	0	40	0
Mvmt Flow	3	864	9	7	687	0	3	3	5	0	5	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	687	0	0	873	0	0	1235	1576	437	1141	1580	344
Stage 1	-	-	-	-	-	-	875	875	-	701	701	-
Stage 2	-	-	-	-	-	-	360	701	-	440	879	-
Critical Hdwy	4.1	-	-	4.4	-	-	7.5	7.18	6.9	7.5	7.3	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	6.18	-	6.5	6.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	6.18	-	6.5	6.3	-
Follow-up Hdwy	2.2	-	-	2.35	-	-	3.5	4.34	3.3	3.5	4.4	3.3
Pot Cap-1 Maneuver	916	-	-	691	-	-	135	80	573	158	75	658
Stage 1	-	-	-	-	-	-	315	299	-	400	357	-
Stage 2	-	-	-	-	-	-	636	369	-	571	287	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	916	-	-	691	-	-	130	79	573	153	74	658
Mov Cap-2 Maneuver	-	-	-	-	-	-	240	185	-	278	175	-
Stage 1	-	-	-	-	-	-	314	298	-	399	353	-
Stage 2	-	-	-	-	-	-	616	365	-	558	286	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	17.7	18.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	294	916	-	-	691	-	-	276
HCM Lane V/C Ratio	0.039	0.003	-	-	0.01	-	-	0.037
HCM Control Delay (s)	17.7	8.9	-	-	10.3	-	-	18.5
HCM Lane LOS	C	A	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

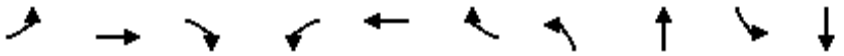
Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	816	24	25	620	1	14	0	40	0	0	0
Future Vol, veh/h	0	816	24	25	620	1	14	0	40	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	275	275	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	18	0	4	23	0	0	0	3	0	0	0
Mvmt Flow	0	868	26	27	660	1	15	0	43	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	661	0	0	894	0	0	1252	1583	434	1149	1609	331
Stage 1	-	-	-	-	-	-	868	868	-	715	715	-
Stage 2	-	-	-	-	-	-	384	715	-	434	894	-
Critical Hdwy	4.1	-	-	4.18	-	-	7.5	6.5	6.96	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.24	-	-	3.5	4	3.33	3.5	4	3.3
Pot Cap-1 Maneuver	937	-	-	742	-	-	131	110	567	156	106	671
Stage 1	-	-	-	-	-	-	318	372	-	392	438	-
Stage 2	-	-	-	-	-	-	616	438	-	576	362	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	937	-	-	742	-	-	127	106	567	140	102	671
Mov Cap-2 Maneuver	-	-	-	-	-	-	240	229	-	264	216	-
Stage 1	-	-	-	-	-	-	318	372	-	392	422	-
Stage 2	-	-	-	-	-	-	594	422	-	533	362	-

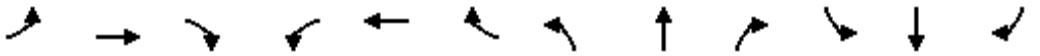
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	15	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	419	937	-	-	742	-	-	-
HCM Lane V/C Ratio	0.137	-	-	-	0.036	-	-	-
HCM Control Delay (s)	15	0	-	-	10	-	-	0
HCM Lane LOS	C	A	-	-	B	-	-	A
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	100	561	136	14	533	65	74	69	91	172
v/c Ratio	0.47	0.36	0.15	0.10	0.48	0.09	0.39	0.28	0.48	0.64
Control Delay	42.3	14.3	2.4	39.3	23.4	0.3	42.8	33.8	44.4	37.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.3	14.3	2.4	39.3	23.4	0.3	42.8	33.8	44.4	37.7
Queue Length 50th (ft)	49	81	0	7	115	0	36	30	44	68
Queue Length 95th (ft)	103	177	24	26	189	0	83	70	97	136
Internal Link Dist (ft)		1534			3417			2504		2525
Turn Bay Length (ft)	325		275	200		350	525		475	
Base Capacity (vph)	278	1545	926	148	1104	690	230	361	242	387
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.36	0.15	0.09	0.48	0.09	0.32	0.19	0.38	0.44

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	533	129	13	506	62	70	61	5	86	98	66
Future Volume (vph)	95	533	129	13	506	62	70	61	5	86	98	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1656	2911	1599	1556	2735	1468	1805	1720		1570	1542	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1656	2911	1599	1556	2735	1468	1805	1720		1570	1542	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	100	561	136	14	533	65	74	64	5	91	103	69
RTOR Reduction (vph)	0	0	69	0	0	38	0	3	0	0	28	0
Lane Group Flow (vph)	100	561	67	14	533	27	74	66	0	91	144	0
Heavy Vehicles (%)	9%	24%	1%	16%	32%	10%	0%	10%	0%	15%	15%	17%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Actuated Green, G (s)	8.0	41.2	41.2	1.2	34.4	34.4	6.4	11.1		7.6	12.3	
Effective Green, g (s)	8.0	41.2	41.2	1.2	34.4	34.4	6.4	11.1		7.6	12.3	
Actuated g/C Ratio	0.10	0.50	0.50	0.01	0.41	0.41	0.08	0.13		0.09	0.15	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	159	1443	792	22	1132	607	139	229		143	228	
v/s Ratio Prot	c0.06	0.19		0.01	c0.19		0.04	0.04		c0.06	c0.09	
v/s Ratio Perm			0.04			0.02						
v/c Ratio	0.63	0.39	0.09	0.64	0.47	0.04	0.53	0.29		0.64	0.63	
Uniform Delay, d1	36.1	13.1	11.0	40.7	17.7	14.5	36.9	32.4		36.4	33.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.6	0.8	0.2	47.5	1.4	0.1	3.9	0.7		8.9	5.6	
Delay (s)	43.7	13.9	11.2	88.2	19.1	14.7	40.8	33.1		45.4	38.9	
Level of Service	D	B	B	F	B	B	D	C		D	D	
Approach Delay (s)		17.2			20.2			37.1			41.1	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	83.1	Sum of lost time (s)	22.0
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	545	25	2	489	3	10	8	0	16	18	54
Future Vol, veh/h	48	545	25	2	489	3	10	8	0	16	18	54
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	375	-	-	-	-	250	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	20	20	0	38	35	25	0	0	0	0	38	0
Mvmt Flow	53	606	28	2	543	3	11	9	0	18	20	60

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	546	0	0	634	0	0	1012	1276	317	961	1287	272
Stage 1	-	-	-	-	-	-	726	726	-	547	547	-
Stage 2	-	-	-	-	-	-	286	550	-	414	740	-
Critical Hdwy	4.5	-	-	4.86	-	-	7.5	6.5	6.9	7.5	7.26	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	6.26	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	6.26	-
Follow-up Hdwy	2.4	-	-	2.58	-	-	3.5	4	3.3	3.5	4.38	3.3
Pot Cap-1 Maneuver	904	-	-	738	-	-	196	168	685	214	121	732
Stage 1	-	-	-	-	-	-	387	433	-	494	435	-
Stage 2	-	-	-	-	-	-	703	519	-	592	344	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	904	-	-	738	-	-	160	157	685	199	113	732
Mov Cap-2 Maneuver	-	-	-	-	-	-	269	269	-	319	219	-
Stage 1	-	-	-	-	-	-	364	407	-	465	433	-
Stage 2	-	-	-	-	-	-	613	517	-	545	324	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	19.5	15.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	269	904	-	-	738	-	-	427
HCM Lane V/C Ratio	0.074	0.059	-	-	0.003	-	-	0.229
HCM Control Delay (s)	19.5	9.2	-	-	9.9	0	-	15.9
HCM Lane LOS	C	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0	-	-	0.9

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	482	22	8	558	4	9	9	4	0	8	4
Future Vol, veh/h	5	482	22	8	558	4	9	9	4	0	8	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	125	325	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	20	20	0	38	35	25	0	0	0	0	38	0
Mvmt Flow	5	497	23	8	575	4	9	9	4	0	8	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	579	0	0	520	0	0	815	1102	249	856	1123	290
Stage 1	-	-	-	-	-	-	507	507	-	593	593	-
Stage 2	-	-	-	-	-	-	308	595	-	263	530	-
Critical Hdwy	4.5	-	-	4.86	-	-	7.5	6.5	6.9	7.5	7.26	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	6.26	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	6.26	-
Follow-up Hdwy	2.4	-	-	2.58	-	-	3.5	4	3.3	3.5	4.38	3.3
Pot Cap-1 Maneuver	877	-	-	828	-	-	273	213	757	255	157	713
Stage 1	-	-	-	-	-	-	522	543	-	464	411	-
Stage 2	-	-	-	-	-	-	683	496	-	725	444	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	877	-	-	828	-	-	261	209	757	245	154	713
Mov Cap-2 Maneuver	-	-	-	-	-	-	380	328	-	356	261	-
Stage 1	-	-	-	-	-	-	518	539	-	460	407	-
Stage 2	-	-	-	-	-	-	659	491	-	703	440	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	14.8	16.3
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	390	877	-	-	828	-	-	331
HCM Lane V/C Ratio	0.058	0.006	-	-	0.01	-	-	0.037
HCM Control Delay (s)	14.8	9.1	0	-	9.4	-	-	16.3
HCM Lane LOS	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	498	0	6	559	0	4
Future Vol, veh/h	498	0	6	559	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	20	0	0	34	0	50
Mvmt Flow	519	0	6	582	0	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	519	0	822	260
Stage 1	-	-	-	-	519	-
Stage 2	-	-	-	-	303	-
Critical Hdwy	-	-	4.1	-	6.8	7.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.8
Pot Cap-1 Maneuver	-	-	1057	-	316	612
Stage 1	-	-	-	-	568	-
Stage 2	-	-	-	-	729	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1057	-	313	612
Mov Cap-2 Maneuver	-	-	-	-	429	-
Stage 1	-	-	-	-	568	-
Stage 2	-	-	-	-	723	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	612	-	-	1057	-
HCM Lane V/C Ratio	0.007	-	-	0.006	-
HCM Control Delay (s)	10.9	-	-	8.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

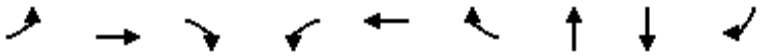
Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	488	7	1	554	2	2	1	0	2	3	1
Future Vol, veh/h	2	488	7	1	554	2	2	1	0	2	3	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	20	15	100	35	0	0	100	0	0	0	0
Mvmt Flow	2	503	7	1	571	2	2	1	0	2	3	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	573	0	0	510	0	0	800	1086	255	830	1088	287
Stage 1	-	-	-	-	-	-	511	511	-	574	574	-
Stage 2	-	-	-	-	-	-	289	575	-	256	514	-
Critical Hdwy	4.1	-	-	6.1	-	-	7.5	8.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	7.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	7.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	3.2	-	-	3.5	5	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1010	-	-	590	-	-	280	107	750	266	218	716
Stage 1	-	-	-	-	-	-	519	347	-	476	506	-
Stage 2	-	-	-	-	-	-	700	316	-	732	539	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1010	-	-	590	-	-	277	106	750	264	217	716
Mov Cap-2 Maneuver	-	-	-	-	-	-	392	198	-	373	336	-
Stage 1	-	-	-	-	-	-	517	346	-	475	505	-
Stage 2	-	-	-	-	-	-	693	315	-	728	537	-

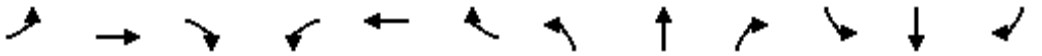
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	17.3	14.6
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	295	1010	-	-	590	-	-	382
HCM Lane V/C Ratio	0.01	0.002	-	-	0.002	-	-	0.016
HCM Control Delay (s)	17.3	8.6	0	-	11.1	0	-	14.6
HCM Lane LOS	C	A	A	-	B	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	21	443	100	25	474	23	106	96	18
v/c Ratio	0.11	0.24	0.09	0.13	0.26	0.02	0.49	0.39	0.06
Control Delay	32.6	7.8	2.7	32.5	7.9	0.0	33.5	32.0	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.6	7.8	2.7	32.5	7.9	0.0	33.5	32.0	0.4
Queue Length 50th (ft)	7	27	0	8	30	0	33	32	0
Queue Length 95th (ft)	31	96	22	34	104	0	90	85	0
Internal Link Dist (ft)		5311			3266		1726	1060	
Turn Bay Length (ft)	325		300	250		350			325
Base Capacity (vph)	297	1878	1103	300	1812	1073	471	548	558
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.24	0.09	0.08	0.26	0.02	0.23	0.18	0.03

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	421	95	24	450	22	49	36	15	15	76	17
Future Volume (veh/h)	20	421	95	24	450	22	49	36	15	15	76	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1455	1870	1841	1381	1826	1841	1856	1900	1900	1811	1811
Adj Flow Rate, veh/h	21	443	100	25	474	23	52	38	16	16	80	18
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	5	30	2	4	35	5	4	3	0	0	6	6
Cap, veh/h	59	1647	944	68	1577	930	133	75	23	82	199	188
Arrive On Green	0.03	0.60	0.60	0.04	0.60	0.60	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1739	2765	1585	1753	2624	1547	439	609	186	161	1617	1535
Grp Volume(v), veh/h	21	443	100	25	474	23	106	0	0	96	0	18
Grp Sat Flow(s),veh/h/ln	1739	1383	1585	1753	1312	1547	1234	0	0	1778	0	1535
Q Serve(g_s), s	0.8	5.2	1.9	0.9	6.0	0.4	2.8	0.0	0.0	0.0	0.0	0.7
Cycle Q Clear(g_c), s	0.8	5.2	1.9	0.9	6.0	0.4	6.1	0.0	0.0	3.3	0.0	0.7
Prop In Lane	1.00		1.00	1.00		1.00	0.49		0.15	0.17		1.00
Lane Grp Cap(c), veh/h	59	1647	944	68	1577	930	230	0	0	280	0	188
V/C Ratio(X)	0.36	0.27	0.11	0.37	0.30	0.02	0.46	0.00	0.00	0.34	0.00	0.10
Avail Cap(c_a), veh/h	294	1647	944	297	1577	930	519	0	0	609	0	485
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	1.00
Uniform Delay (d), s/veh	32.1	6.6	5.9	31.9	6.6	5.5	28.9	0.0	0.0	27.6	0.0	26.5
Incr Delay (d2), s/veh	3.7	0.4	0.2	3.3	0.1	0.0	1.4	0.0	0.0	0.7	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	0.4	1.0	0.4	0.4	1.0	0.1	1.7	0.0	0.0	1.4	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.8	7.0	6.2	35.2	6.7	5.5	30.3	0.0	0.0	28.3	0.0	26.7
LnGrp LOS	D	A	A	D	A	A	C	A	A	C	A	C
Approach Vol, veh/h		564			522			106			114	
Approach Delay, s/veh		7.9			8.0			30.3			28.1	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	46.0		13.8	7.8	46.3		13.8				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	11.5	40.5		21.5	11.5	40.5		21.5				
Max Q Clear Time (g_c+I1), s	2.9	7.2		5.3	2.8	8.0		8.1				
Green Ext Time (p_c), s	0.0	3.0		0.4	0.0	3.0		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		11.5	
HCM 6th LOS		B	

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	507	7	6	602	6	5	9	2	11	10	17
Future Vol, veh/h	3	507	7	6	602	6	5	9	2	11	10	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	425	425	-	375	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	33	0	17	39	0	20	0	0	9	0	0
Mvmt Flow	3	534	7	6	634	6	5	9	2	12	11	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	640	0	0	541	0	0	875	1192	267	924	1193	317
Stage 1	-	-	-	-	-	-	540	540	-	646	646	-
Stage 2	-	-	-	-	-	-	335	652	-	278	547	-
Critical Hdwy	4.1	-	-	4.44	-	-	7.9	6.5	6.9	7.68	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.9	5.5	-	6.68	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.9	5.5	-	6.68	5.5	-
Follow-up Hdwy	2.2	-	-	2.37	-	-	3.7	4	3.3	3.59	4	3.3
Pot Cap-1 Maneuver	954	-	-	926	-	-	216	189	737	214	188	685
Stage 1	-	-	-	-	-	-	450	524	-	410	470	-
Stage 2	-	-	-	-	-	-	605	467	-	685	521	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	954	-	-	926	-	-	203	187	737	207	186	685
Mov Cap-2 Maneuver	-	-	-	-	-	-	320	308	-	317	308	-
Stage 1	-	-	-	-	-	-	449	522	-	409	467	-
Stage 2	-	-	-	-	-	-	572	464	-	669	519	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	16.3	14.6
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	336	954	-	-	926	-	-	413
HCM Lane V/C Ratio	0.05	0.003	-	-	0.007	-	-	0.097
HCM Control Delay (s)	16.3	8.8	-	-	8.9	-	-	14.6
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	459	10	47	558	26	9	27	27	6	47	21
Future Vol, veh/h	20	459	10	47	558	26	9	27	27	6	47	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	315	225	-	275	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	5	36	10	0	40	4	0	4	0	0	7	5
Mvmt Flow	20	468	10	48	569	27	9	28	28	6	48	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	596	0	0	478	0	0	913	1200	234	953	1183	285
Stage 1	-	-	-	-	-	-	508	508	-	665	665	-
Stage 2	-	-	-	-	-	-	405	692	-	288	518	-
Critical Hdwy	4.2	-	-	4.1	-	-	7.5	6.58	6.9	7.5	6.64	7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.58	-	6.5	5.64	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.58	-	6.5	5.64	-
Follow-up Hdwy	2.25	-	-	2.2	-	-	3.5	4.04	3.3	3.5	4.07	3.35
Pot Cap-1 Maneuver	956	-	-	1095	-	-	232	181	774	217	181	703
Stage 1	-	-	-	-	-	-	521	532	-	420	444	-
Stage 2	-	-	-	-	-	-	599	438	-	701	519	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	956	-	-	1095	-	-	186	169	774	184	169	703
Mov Cap-2 Maneuver	-	-	-	-	-	-	308	281	-	300	278	-
Stage 1	-	-	-	-	-	-	510	521	-	411	424	-
Stage 2	-	-	-	-	-	-	492	419	-	627	508	-

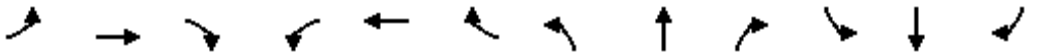
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.6	15.9	18.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	393	956	-	-	1095	-	-	338
HCM Lane V/C Ratio	0.164	0.021	-	-	0.044	-	-	0.223
HCM Control Delay (s)	15.9	8.8	-	-	8.4	-	-	18.7
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.1	-	-	0.8



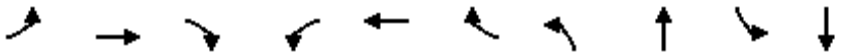
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	8	508	48	2	568	52	102	89
v/c Ratio	0.05	0.27	0.04	0.01	0.32	0.05	0.46	0.41
Control Delay	32.7	6.2	0.4	32.5	6.6	0.6	33.9	32.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.7	6.2	0.4	32.5	6.6	0.6	33.9	32.5
Queue Length 50th (ft)	3	33	0	1	39	0	37	32
Queue Length 95th (ft)	17	109	3	8	127	4	93	82
Internal Link Dist (ft)		844			1114		201	746
Turn Bay Length (ft)	375		400	225		250		
Base Capacity (vph)	198	1859	1191	248	1794	1114	419	413
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.27	0.04	0.01	0.32	0.05	0.24	0.22

Intersection Summary



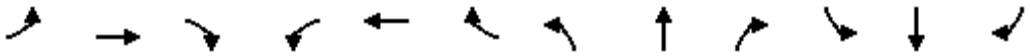
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	467	44	2	523	48	47	42	5	30	45	6
Future Volume (vph)	7	467	44	2	523	48	47	42	5	30	45	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5		5.5			5.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.99			0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.98			0.98	
Satd. Flow (prot)	1444	2579	1615	1805	2490	1509		1784			1731	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.85			0.87	
Satd. Flow (perm)	1444	2579	1615	1805	2490	1509		1558			1534	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	508	48	2	568	52	51	46	5	33	49	7
RTOR Reduction (vph)	0	0	17	0	0	18	0	3	0	0	4	0
Lane Group Flow (vph)	8	508	31	2	568	34	0	99	0	0	85	0
Heavy Vehicles (%)	25%	40%	0%	0%	45%	7%	4%	0%	25%	12%	4%	0%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2			6	8			4		
Actuated Green, G (s)	1.2	49.2	49.2	1.2	49.2	49.2		8.6			8.6	
Effective Green, g (s)	1.2	49.2	49.2	1.2	49.2	49.2		8.6			8.6	
Actuated g/C Ratio	0.02	0.65	0.65	0.02	0.65	0.65		0.11			0.11	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5		5.5			5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	22	1680	1052	28	1622	983		177			174	
v/s Ratio Prot	c0.01	0.20		0.00	c0.23							
v/s Ratio Perm			0.02			0.02		c0.06			0.06	
v/c Ratio	0.36	0.30	0.03	0.07	0.35	0.03		0.56			0.49	
Uniform Delay, d1	36.8	5.7	4.7	36.6	5.9	4.7		31.7			31.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	9.9	0.5	0.1	1.1	0.6	0.1		4.0			2.2	
Delay (s)	46.7	6.2	4.7	37.7	6.5	4.8		35.7			33.6	
Level of Service	D	A	A	D	A	A		D			C	
Approach Delay (s)		6.6			6.5			35.7			33.6	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	75.5	Sum of lost time (s)	16.5
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	41	457	24	107	545	74	39	160	53	110
v/c Ratio	0.28	0.33	0.03	0.44	0.37	0.09	0.21	0.47	0.45	0.43
Control Delay	36.1	13.1	0.0	35.7	11.3	2.1	30.5	13.7	41.7	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.1	13.1	0.0	35.7	11.3	2.1	30.5	13.7	41.7	18.8
Queue Length 50th (ft)	17	61	0	44	71	0	16	12	22	16
Queue Length 95th (ft)	49	123	0	97	140	15	44	64	59	62
Internal Link Dist (ft)		1315			5108			1028		869
Turn Bay Length (ft)	750		700	700		750	250		325	
Base Capacity (vph)	227	1385	853	455	1621	848	370	550	231	438
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.33	0.03	0.24	0.34	0.09	0.11	0.29	0.23	0.25

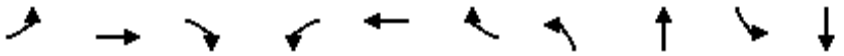
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	439	23	103	523	71	37	30	124	51	39	66
Future Volume (veh/h)	39	439	23	103	523	71	37	30	124	51	39	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1233	1381	1781	1796	1307	1530	1900	1856	1841	1248	1693	1411
Adj Flow Rate, veh/h	41	457	24	107	545	74	39	31	129	53	41	69
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	45	35	8	7	40	25	0	3	4	44	14	33
Cap, veh/h	64	1305	751	148	1314	686	260	58	242	180	105	177
Arrive On Green	0.05	0.50	0.50	0.09	0.53	0.53	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1174	2624	1510	1711	2484	1296	1304	314	1306	818	567	954
Grp Volume(v), veh/h	41	457	24	107	545	74	39	0	160	53	0	110
Grp Sat Flow(s),veh/h/ln	1174	1312	1510	1711	1242	1296	1304	0	1620	818	0	1521
Q Serve(g_s), s	2.4	7.6	0.6	4.4	9.5	2.0	1.9	0.0	6.4	4.5	0.0	4.5
Cycle Q Clear(g_c), s	2.4	7.6	0.6	4.4	9.5	2.0	6.5	0.0	6.4	10.8	0.0	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.81	1.00		0.63
Lane Grp Cap(c), veh/h	64	1305	751	148	1314	686	260	0	301	180	0	282
V/C Ratio(X)	0.64	0.35	0.03	0.72	0.41	0.11	0.15	0.00	0.53	0.30	0.00	0.39
Avail Cap(c_a), veh/h	206	1305	751	443	1443	753	374	0	442	251	0	415
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	33.1	10.9	9.2	31.8	10.2	8.4	28.4	0.0	26.3	31.2	0.0	25.5
Incr Delay (d2), s/veh	10.1	0.7	0.1	6.6	0.2	0.1	0.3	0.0	1.5	0.9	0.0	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	0.8	1.8	0.2	1.9	2.0	0.4	0.6	0.0	2.4	0.9	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	11.7	9.3	38.4	10.4	8.5	28.6	0.0	27.7	32.1	0.0	26.4
LnGrp LOS	D	B	A	D	B	A	C	A	C	C	A	C
Approach Vol, veh/h		522			726			199			163	
Approach Delay, s/veh		14.0			14.3			27.9			28.3	
Approach LOS		B			B			C			C	

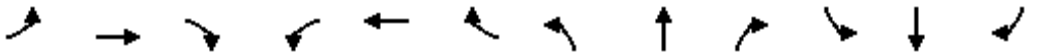
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.7	41.0		18.7	9.4	43.3		18.7				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	18.5	35.5		19.5	12.5	41.5		19.5				
Max Q Clear Time (g_c+I1), s	6.4	9.6		12.8	4.4	11.5		8.5				
Green Ext Time (p_c), s	0.2	2.9		0.4	0.0	3.8		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			17.3									
HCM 6th LOS			B									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	138	366	62	40	390	79	73	388	67	470
v/c Ratio	0.54	0.30	0.08	0.28	0.40	0.11	0.40	0.63	0.38	0.66
Control Delay	42.6	18.3	0.2	42.7	24.0	0.3	43.3	33.3	42.7	23.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.6	18.3	0.2	42.7	24.0	0.3	43.3	33.3	42.7	23.9
Queue Length 50th (ft)	70	71	0	20	84	0	37	90	34	72
Queue Length 95th (ft)	130	118	0	53	142	0	82	141	76	126
Internal Link Dist (ft)		5108			2163			1310		1016
Turn Bay Length (ft)	475		450	500		525			325	
Base Capacity (vph)	340	1215	775	158	972	732	230	782	232	871
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.30	0.08	0.25	0.40	0.11	0.32	0.50	0.29	0.54

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	359	61	39	382	77	72	282	98	66	259	202
Future Volume (veh/h)	135	359	61	39	382	77	72	282	98	66	259	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1381	1796	1485	1292	1841	1767	1885	1841	1781	1870	1856
Adj Flow Rate, veh/h	138	366	62	40	390	79	73	288	100	67	264	206
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	35	7	28	41	4	9	1	4	8	2	3
Cap, veh/h	175	1122	651	74	937	595	92	474	161	85	340	256
Arrive On Green	0.10	0.43	0.43	0.05	0.38	0.38	0.05	0.18	0.18	0.05	0.18	0.18
Sat Flow, veh/h	1781	2624	1522	1414	2456	1560	1682	2624	892	1697	1931	1455
Grp Volume(v), veh/h	138	366	62	40	390	79	73	195	193	67	242	228
Grp Sat Flow(s),veh/h/ln	1781	1312	1522	1414	1228	1560	1682	1791	1725	1697	1777	1609
Q Serve(g_s), s	5.8	7.1	1.8	2.1	8.9	2.5	3.3	7.6	7.9	3.0	9.9	10.3
Cycle Q Clear(g_c), s	5.8	7.1	1.8	2.1	8.9	2.5	3.3	7.6	7.9	3.0	9.9	10.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		0.90
Lane Grp Cap(c), veh/h	175	1122	651	74	937	595	92	324	312	85	312	283
V/C Ratio(X)	0.79	0.33	0.10	0.54	0.42	0.13	0.79	0.60	0.62	0.79	0.78	0.81
Avail Cap(c_a), veh/h	340	1122	651	158	937	595	232	389	374	234	386	349
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	33.5	14.5	13.0	35.1	17.3	15.3	35.5	28.6	28.7	35.7	29.9	30.1
Incr Delay (d2), s/veh	7.6	0.8	0.3	5.9	1.4	0.5	13.8	1.8	2.3	14.9	7.7	10.7
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	2.6	1.9	0.6	0.8	2.3	0.9	1.6	3.2	3.2	1.5	4.6	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.1	15.3	13.3	41.1	18.7	15.8	49.3	30.4	31.0	50.7	37.6	40.8
LnGrp LOS	D	B	B	D	B	B	D	C	C	D	D	D
Approach Vol, veh/h		566			509			461			537	
Approach Delay, s/veh		21.3			20.0			33.7			40.6	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	38.0	9.7	18.9	13.0	34.5	9.3	19.2
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	8.5	32.5	10.5	16.5	14.5	26.5	10.5	16.5
Max Q Clear Time (g_c+I1), s	4.1	9.1	5.3	12.3	7.8	10.9	5.0	9.9
Green Ext Time (p_c), s	0.0	2.3	0.1	1.0	0.2	2.3	0.0	1.1

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

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	19	467	49	13	429
Future Vol, veh/h	38	19	467	49	13	429
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	6	11	2	2	8	3
Mvmt Flow	42	21	519	54	14	477

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	813	287	0	0	573	0
Stage 1	546	-	-	-	-	-
Stage 2	267	-	-	-	-	-
Critical Hdwy	6.92	7.12	-	-	4.26	-
Critical Hdwy Stg 1	5.92	-	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-	-	-
Follow-up Hdwy	3.56	3.41	-	-	2.28	-
Pot Cap-1 Maneuver	308	683	-	-	956	-
Stage 1	533	-	-	-	-	-
Stage 2	742	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	303	683	-	-	956	-
Mov Cap-2 Maneuver	413	-	-	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	731	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.3	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	413	683	956	-
HCM Lane V/C Ratio	-	-	0.102	0.031	0.015	-
HCM Control Delay (s)	-	-	14.7	10.4	8.8	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	39	14	483	59	27	456
Future Vol, veh/h	39	14	483	59	27	456
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	15	2	4	11	3
Mvmt Flow	43	16	537	66	30	507

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	884	302	0	0	603	0
Stage 1	570	-	-	-	-	-
Stage 2	314	-	-	-	-	-
Critical Hdwy	6.86	7.2	-	-	4.32	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.45	-	-	2.31	-
Pot Cap-1 Maneuver	283	657	-	-	911	-
Stage 1	526	-	-	-	-	-
Stage 2	711	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	274	657	-	-	911	-
Mov Cap-2 Maneuver	393	-	-	-	-	-
Stage 1	526	-	-	-	-	-
Stage 2	688	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.1	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	393	657	911	-
HCM Lane V/C Ratio	-	-	0.11	0.024	0.033	-
HCM Control Delay (s)	-	-	15.3	10.6	9.1	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	0.1	-

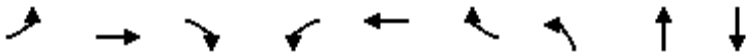
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	633	12	0	618	10	0	0	42	0	0	32
Future Vol, veh/h	0	633	12	0	618	10	0	0	42	0	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	43	0	0	43	34	0	0	0	0	0	26
Mvmt Flow	0	653	12	0	637	10	0	0	43	0	0	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	333	-	-	324
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	6.9	-	-	7.42
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.3	-	-	3.56
Pot Cap-1 Maneuver	0	-	-	0	-	-	0	0	669	0	0	606
Stage 1	0	-	-	0	-	-	0	0	-	0	0	-
Stage 2	0	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	669	-	-	606
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

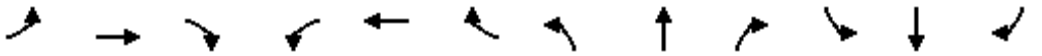
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	10.8	11.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	669	-	-	-	-	606
HCM Lane V/C Ratio	0.065	-	-	-	-	0.054
HCM Control Delay (s)	10.8	-	-	-	-	11.3
HCM Lane LOS	B	-	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	-	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	26	364	77	40	347	2	65	71	56
v/c Ratio	0.13	0.22	0.10	0.20	0.20	0.00	0.45	0.31	0.20
Control Delay	32.1	9.5	2.3	32.4	7.9	0.0	37.6	18.6	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.1	9.5	2.3	32.4	7.9	0.0	37.6	18.6	16.3
Queue Length 50th (ft)	10	42	0	16	21	0	26	12	8
Queue Length 95th (ft)	35	84	16	46	76	0	64	47	38
Internal Link Dist (ft)		2833			1282			431	373
Turn Bay Length (ft)	625		550	550		625	100		
Base Capacity (vph)	315	1619	745	329	1762	1119	368	522	647
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.22	0.10	0.12	0.20	0.00	0.18	0.14	0.09

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	353	75	39	337	2	63	30	39	0	21	33
Future Volume (veh/h)	25	353	75	39	337	2	63	30	39	0	21	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1292	1248	1841	1337	1900	1337	1722	1248	1900	1900	1811
Adj Flow Rate, veh/h	26	364	77	40	347	2	65	31	40	0	22	34
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	41	44	4	38	0	38	12	44	0	0	6
Cap, veh/h	73	1378	594	97	1464	928	207	89	114	0	87	135
Arrive On Green	0.04	0.56	0.56	0.06	0.58	0.58	0.13	0.13	0.13	0.00	0.13	0.13
Sat Flow, veh/h	1810	2456	1058	1753	2540	1610	963	683	881	0	673	1040
Grp Volume(v), veh/h	26	364	77	40	347	2	65	0	71	0	0	56
Grp Sat Flow(s),veh/h/ln	1810	1228	1058	1753	1270	1610	963	0	1564	0	0	1713
Q Serve(g_s), s	0.9	5.0	2.2	1.4	4.4	0.0	4.2	0.0	2.7	0.0	0.0	1.9
Cycle Q Clear(g_c), s	0.9	5.0	2.2	1.4	4.4	0.0	6.2	0.0	2.7	0.0	0.0	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.56	0.00		0.61
Lane Grp Cap(c), veh/h	73	1378	594	97	1464	928	207	0	203	0	0	222
V/C Ratio(X)	0.36	0.26	0.13	0.41	0.24	0.00	0.31	0.00	0.35	0.00	0.00	0.25
Avail Cap(c_a), veh/h	320	1378	594	337	1464	928	445	0	589	0	0	645
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	0.00	0.00	1.00
Uniform Delay (d), s/veh	30.4	7.4	6.8	29.7	6.8	5.8	28.2	0.0	25.8	0.0	0.0	25.5
Incr Delay (d2), s/veh	2.9	0.5	0.5	2.8	0.4	0.0	0.9	0.0	1.0	0.0	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	0.4	1.0	0.4	0.6	0.9	0.0	1.0	0.0	1.0	0.0	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.3	7.8	7.2	32.5	7.1	5.9	29.1	0.0	26.8	0.0	0.0	26.1
LnGrp LOS	C	A	A	C	A	A	C	A	C	A	A	C
Approach Vol, veh/h		467			389			136			56	
Approach Delay, s/veh		9.1			9.7			27.9			26.1	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	42.0		14.0	8.1	43.0		14.0				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	12.5	36.5		24.5	11.5	37.5		24.5				
Max Q Clear Time (g_c+I1), s	3.4	7.0		3.9	2.9	6.4		8.2				
Green Ext Time (p_c), s	0.0	2.5		0.2	0.0	2.1		0.6				

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

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	452	4	1	444	13	4	3	2	12	18	9
Future Vol, veh/h	6	452	4	1	444	13	4	3	2	12	18	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	350	-	350	325	-	350	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	466	4	1	458	13	4	3	2	12	19	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	471	0	0	470	0	0	719	951	233	707	942	229
Stage 1	-	-	-	-	-	-	478	478	-	460	460	-
Stage 2	-	-	-	-	-	-	241	473	-	247	482	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1087	-	-	1088	-	-	316	258	769	322	261	774
Stage 1	-	-	-	-	-	-	537	554	-	551	564	-
Stage 2	-	-	-	-	-	-	741	557	-	735	552	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1087	-	-	1088	-	-	299	256	769	317	259	774
Mov Cap-2 Maneuver	-	-	-	-	-	-	408	368	-	424	372	-
Stage 1	-	-	-	-	-	-	534	551	-	548	563	-
Stage 2	-	-	-	-	-	-	707	556	-	725	549	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	13.4	14
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	438	1087	-	-	1088	-	-	442
HCM Lane V/C Ratio	0.021	0.006	-	-	0.001	-	-	0.091
HCM Control Delay (s)	13.4	8.3	-	-	8.3	-	-	14
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	79	0	0	8	73	674	5	0	763	109
Future Vol, veh/h	0	1	79	0	0	8	73	674	5	0	763	109
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	375	-	375	-	-	0
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	8	0	0	0	1	30	37	0	25	5
Mvmt Flow	0	1	81	0	0	8	75	695	5	0	787	112

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	1637	394	-	-	348	899	0	0	-	-	0
Stage 1	-	787	-	-	-	-	-	-	-	-	-	-
Stage 2	-	850	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	6.5	7.06	-	-	6.9	4.12	-	-	-	-	-
Critical Hdwy Stg 1	-	5.5	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.5	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	4	3.38	-	-	3.3	2.21	-	-	-	-	-
Pot Cap-1 Maneuver	0	102	588	0	0	654	758	-	-	0	-	-
Stage 1	0	406	-	0	0	-	-	-	-	0	-	-
Stage 2	0	380	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	92	588	-	-	654	758	-	-	-	-	-
Mov Cap-2 Maneuver	-	211	-	-	-	-	-	-	-	-	-	-
Stage 1	-	406	-	-	-	-	-	-	-	-	-	-
Stage 2	-	342	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.1	10.6	1	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	758	-	-	588	654	-	-
HCM Lane V/C Ratio	0.099	-	-	0.139	0.013	-	-
HCM Control Delay (s)	10.3	-	-	12.1	10.6	-	-
HCM Lane LOS	B	-	-	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.5	0	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	134	140	677	750	5
Future Vol, veh/h	5	134	140	677	750	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	400	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	100	3	4	27	26	100
Mvmt Flow	5	140	146	705	781	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1426	391	786	0	-	0
Stage 1	781	-	-	-	-	-
Stage 2	645	-	-	-	-	-
Critical Hdwy	8.8	6.96	4.18	-	-	-
Critical Hdwy Stg 1	7.8	-	-	-	-	-
Critical Hdwy Stg 2	7.8	-	-	-	-	-
Follow-up Hdwy	4.5	3.33	2.24	-	-	-
Pot Cap-1 Maneuver	53	605	816	-	-	-
Stage 1	231	-	-	-	-	-
Stage 2	288	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	44	605	816	-	-	-
Mov Cap-2 Maneuver	124	-	-	-	-	-
Stage 1	190	-	-	-	-	-
Stage 2	288	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.5	1.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	816	-	124	605	-	-
HCM Lane V/C Ratio	0.179	-	0.042	0.231	-	-
HCM Control Delay (s)	10.4	-	35.3	12.7	-	-
HCM Lane LOS	B	-	E	B	-	-
HCM 95th %tile Q(veh)	0.6	-	0.1	0.9	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	3	1	0	1	85	1	718	0	95	779	17
Future Vol, veh/h	3	3	1	0	1	85	1	718	0	95	779	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	300	-	375	325	-	500
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	9	0	34	0	0	7	67	26	67	7	26	0
Mvmt Flow	3	3	1	0	1	88	1	740	0	98	803	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1372	1741	402	1341	1759	370	821	0	0	740	0	0
Stage 1	999	999	-	742	742	-	-	-	-	-	-	-
Stage 2	373	742	-	599	1017	-	-	-	-	-	-	-
Critical Hdwy	7.68	6.5	7.58	7.5	6.5	7.04	5.44	-	-	4.24	-	-
Critical Hdwy Stg 1	6.68	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.68	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4	3.64	3.5	4	3.37	2.87	-	-	2.27	-	-
Pot Cap-1 Maneuver	99	88	516	113	86	613	494	-	-	830	-	-
Stage 1	248	324	-	378	425	-	-	-	-	-	-	-
Stage 2	601	425	-	460	318	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	77	77	516	101	76	613	494	-	-	830	-	-
Mov Cap-2 Maneuver	174	174	-	223	186	-	-	-	-	-	-	-
Stage 1	248	286	-	377	424	-	-	-	-	-	-	-
Stage 2	513	424	-	400	280	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.5	12.1	0	1.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	494	-	-	192	597	830	-	-
HCM Lane V/C Ratio	0.002	-	-	0.038	0.149	0.118	-	-
HCM Control Delay (s)	12.3	-	-	24.5	12.1	9.9	-	-
HCM Lane LOS	B	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.5	0.4	-	-

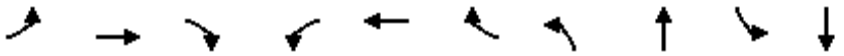
Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	31	6	32	33	68	12	595	71	64	645	40
Future Vol, veh/h	19	31	6	32	33	68	12	595	71	64	645	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	350	-	350	350	-	350
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	7	0	2	10	8	0	31	7	7	26	7
Mvmt Flow	20	32	6	33	34	70	12	613	73	66	665	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1145	1507	333	1118	1475	307	706	0	0	686	0	0
Stage 1	797	797	-	637	637	-	-	-	-	-	-	-
Stage 2	348	710	-	481	838	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.64	6.9	7.54	6.7	7.06	4.1	-	-	4.24	-	-
Critical Hdwy Stg 1	6.5	5.64	-	6.54	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.64	-	6.54	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.07	3.3	3.52	4.1	3.38	2.2	-	-	2.27	-	-
Pot Cap-1 Maneuver	157	114	669	162	116	671	902	-	-	871	-	-
Stage 1	351	385	-	432	450	-	-	-	-	-	-	-
Stage 2	647	423	-	535	362	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	116	104	669	132	106	671	902	-	-	871	-	-
Mov Cap-2 Maneuver	232	209	-	256	217	-	-	-	-	-	-	-
Stage 1	346	356	-	426	444	-	-	-	-	-	-	-
Stage 2	528	418	-	446	334	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.4	21.7	0.2	0.8
HCM LOS	D	C		

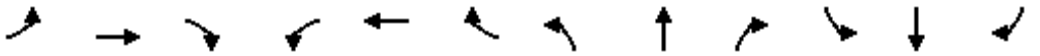
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	902	-	-	234	351	871	-	-
HCM Lane V/C Ratio	0.014	-	-	0.247	0.391	0.076	-	-
HCM Control Delay (s)	9	-	-	25.4	21.7	9.5	-	-
HCM Lane LOS	A	-	-	D	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.9	1.8	0.2	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	275	691	203	11	986	45	93	27	3	137
v/c Ratio	0.77	0.35	0.19	0.09	0.70	0.05	0.67	0.13	0.02	0.43
Control Delay	47.0	6.3	1.5	40.2	22.2	0.1	60.0	21.9	33.0	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.0	6.3	1.5	40.2	22.2	0.1	60.0	21.9	33.0	12.4
Queue Length 50th (ft)	142	61	0	6	226	0	49	5	1	4
Queue Length 95th (ft)	230	143	26	23	318	0	#115	29	9	55
Internal Link Dist (ft)		2438			3988			319		538
Turn Bay Length (ft)	450		450	415		500	100		100	
Base Capacity (vph)	437	1958	1074	125	1407	848	168	243	226	365
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.35	0.19	0.09	0.70	0.05	0.55	0.11	0.01	0.38

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	253	636	187	10	907	41	86	10	15	3	8	118
Future Volume (veh/h)	253	636	187	10	907	41	86	10	15	3	8	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1441	1707	1604	1589	1900	1722	1900	1366	1900	1900	1870
Adj Flow Rate, veh/h	275	691	203	11	986	45	93	11	16	3	9	128
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	31	13	20	21	0	12	0	36	0	0	2
Cap, veh/h	315	1612	852	119	1484	791	163	105	153	272	16	228
Arrive On Green	0.18	0.59	0.59	0.08	0.49	0.49	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1795	2737	1447	1527	3019	1610	1153	699	1017	1405	107	1520
Grp Volume(v), veh/h	275	691	203	11	986	45	93	0	27	3	0	137
Grp Sat Flow(s),veh/h/ln	1795	1369	1447	1527	1509	1610	1153	0	1717	1405	0	1626
Q Serve(g_s), s	13.4	12.5	6.0	0.6	22.2	1.3	6.5	0.0	1.2	0.2	0.0	7.0
Cycle Q Clear(g_c), s	13.4	12.5	6.0	0.6	22.2	1.3	13.5	0.0	1.2	1.4	0.0	7.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.59	1.00		0.93
Lane Grp Cap(c), veh/h	315	1612	852	119	1484	791	163	0	258	272	0	244
V/C Ratio(X)	0.87	0.43	0.24	0.09	0.66	0.06	0.57	0.00	0.10	0.01	0.00	0.56
Avail Cap(c_a), veh/h	409	1612	852	119	1484	791	163	0	258	272	0	244
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	36.1	10.2	8.8	38.5	17.3	12.0	42.1	0.0	33.0	33.6	0.0	35.5
Incr Delay (d2), s/veh	15.2	0.8	0.7	0.3	2.4	0.1	4.7	0.0	0.2	0.0	0.0	2.9
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	6.7	3.1	1.6	0.2	6.9	0.4	2.2	0.0	0.5	0.1	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.4	11.0	9.5	38.9	19.7	12.1	46.8	0.0	33.2	33.6	0.0	38.4
LnGrp LOS	D	B	A	D	B	B	D	A	C	C	A	D
Approach Vol, veh/h		1169			1042			120			140	
Approach Delay, s/veh		20.2			19.5			43.8			38.3	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.5	58.5		19.0	21.3	49.7		19.0				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	7.0	53.0		13.5	20.5	39.5		13.5				
Max Q Clear Time (g_c+I1), s	2.6	14.5		9.0	15.4	24.2		15.5				
Green Ext Time (p_c), s	0.0	5.4		0.2	0.3	5.6		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		22.1	
HCM 6th LOS		C	

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	901	7	49	508	4	12	5	41	15	3	11
Future Vol, veh/h	26	901	7	49	508	4	12	5	41	15	3	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	-	475	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	22	0	5	31	0	0	0	11	0	0	10
Mvmt Flow	28	979	8	53	552	4	13	5	45	16	3	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	556	0	0	987	0	0	1423	1701	494	1208	1703	278
Stage 1	-	-	-	-	-	-	1039	1039	-	660	660	-
Stage 2	-	-	-	-	-	-	384	662	-	548	1043	-
Critical Hdwy	4.1	-	-	4.2	-	-	7.5	6.5	7.12	7.5	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.25	-	-	3.5	4	3.41	3.5	4	3.4
Pot Cap-1 Maneuver	1025	-	-	678	-	-	98	93	498	141	93	696
Stage 1	-	-	-	-	-	-	250	310	-	423	463	-
Stage 2	-	-	-	-	-	-	616	462	-	493	309	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1025	-	-	678	-	-	88	83	498	116	83	696
Mov Cap-2 Maneuver	-	-	-	-	-	-	185	194	-	232	178	-
Stage 1	-	-	-	-	-	-	243	302	-	412	427	-
Stage 2	-	-	-	-	-	-	554	426	-	429	301	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.9	18.2	18.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	335	1025	-	-	678	-	-	298
HCM Lane V/C Ratio	0.188	0.028	-	-	0.079	-	-	0.106
HCM Control Delay (s)	18.2	8.6	-	-	10.8	-	-	18.5
HCM Lane LOS	C	A	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.3	-	-	0.4

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	556	6	1	802	6	10	1	14	1	1	14
Future Vol, veh/h	18	556	6	1	802	6	10	1	14	1	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	410	-	-	450	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	33	0	0	22	0	0	0	0	0	0	0
Mvmt Flow	20	604	7	1	872	7	11	1	15	1	1	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	879	0	0	611	0	0	1087	1529	306	1221	1529	440
Stage 1	-	-	-	-	-	-	648	648	-	878	878	-
Stage 2	-	-	-	-	-	-	439	881	-	343	651	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	777	-	-	978	-	-	173	118	696	138	118	570
Stage 1	-	-	-	-	-	-	430	469	-	313	368	-
Stage 2	-	-	-	-	-	-	572	367	-	651	468	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	777	-	-	978	-	-	164	115	696	132	115	570
Mov Cap-2 Maneuver	-	-	-	-	-	-	288	231	-	237	237	-
Stage 1	-	-	-	-	-	-	419	457	-	305	368	-
Stage 2	-	-	-	-	-	-	555	367	-	619	456	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	14.1	12.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	423	777	-	-	978	-	-	485
HCM Lane V/C Ratio	0.064	0.025	-	-	0.001	-	-	0.036
HCM Control Delay (s)	14.1	9.8	-	-	8.7	-	-	12.7
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	533	2	1	711	2	11	6	9	2	3	5
Future Vol, veh/h	1	533	2	1	711	2	11	6	9	2	3	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	400	-	-	400	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	33	0	0	22	0	0	0	0	0	0	0
Mvmt Flow	1	579	2	1	773	2	12	7	10	2	3	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	775	0	0	581	0	0	972	1359	291	1071	1359	388
Stage 1	-	-	-	-	-	-	582	582	-	776	776	-
Stage 2	-	-	-	-	-	-	390	777	-	295	583	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	850	-	-	1003	-	-	210	150	712	178	150	616
Stage 1	-	-	-	-	-	-	471	502	-	361	410	-
Stage 2	-	-	-	-	-	-	611	410	-	695	502	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	850	-	-	1003	-	-	206	150	712	172	150	616
Mov Cap-2 Maneuver	-	-	-	-	-	-	333	273	-	282	273	-
Stage 1	-	-	-	-	-	-	471	501	-	361	410	-
Stage 2	-	-	-	-	-	-	600	410	-	676	501	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	15.1	14.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	384	850	-	-	1003	-	-	382
HCM Lane V/C Ratio	0.074	0.001	-	-	0.001	-	-	0.028
HCM Control Delay (s)	15.1	9.2	-	-	8.6	-	-	14.7
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

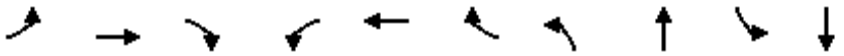
Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	608	23	18	683	1	20	0	34	0	0	0
Future Vol, veh/h	0	608	23	18	683	1	20	0	34	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	275	275	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	33	0	0	24	0	0	0	13	0	0	0
Mvmt Flow	0	661	25	20	742	1	22	0	37	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	743	0	0	686	0	0	1072	1444	331	1114	1469	372
Stage 1	-	-	-	-	-	-	661	661	-	783	783	-
Stage 2	-	-	-	-	-	-	411	783	-	331	686	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	7.16	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.43	3.5	4	3.3
Pot Cap-1 Maneuver	873	-	-	917	-	-	177	133	634	165	129	631
Stage 1	-	-	-	-	-	-	423	463	-	357	407	-
Stage 2	-	-	-	-	-	-	594	407	-	662	451	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	873	-	-	917	-	-	174	130	634	153	126	631
Mov Cap-2 Maneuver	-	-	-	-	-	-	300	254	-	268	246	-
Stage 1	-	-	-	-	-	-	423	463	-	357	398	-
Stage 2	-	-	-	-	-	-	581	398	-	623	451	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.2	14.2	0
HCM LOS			B	A

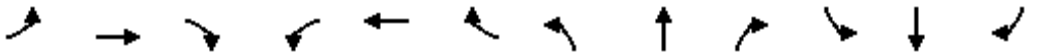
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	449	873	-	-	917	-	-	-
HCM Lane V/C Ratio	0.131	-	-	-	0.021	-	-	-
HCM Control Delay (s)	14.2	0	-	-	9	-	-	0
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	148	491	60	16	487	88	132	128	52	158
v/c Ratio	0.66	0.38	0.08	0.18	0.56	0.15	0.64	0.32	0.40	0.69
Control Delay	49.5	16.0	0.2	43.6	28.4	0.6	50.4	28.2	47.7	43.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.5	16.0	0.2	43.6	28.4	0.6	50.4	28.2	47.7	43.2
Queue Length 50th (ft)	76	80	0	8	118	0	68	55	27	64
Queue Length 95th (ft)	143	161	0	29	180	0	#140	108	65	130
Internal Link Dist (ft)		1534			3417			2504		2525
Turn Bay Length (ft)	325		275	200		350	525		475	
Base Capacity (vph)	273	1287	744	89	864	580	241	413	145	290
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.38	0.08	0.18	0.56	0.15	0.55	0.31	0.36	0.54

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	452	55	15	448	81	121	96	22	48	86	60
Future Volume (vph)	136	452	55	15	448	81	121	96	22	48	86	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1543	2597	1335	1043	2777	1357	1583	1568		1467	1391	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1543	2597	1335	1043	2777	1357	1583	1568		1467	1391	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	148	491	60	16	487	88	132	104	24	52	93	65
RTOR Reduction (vph)	0	0	32	0	0	58	0	9	0	0	29	0
Lane Group Flow (vph)	148	491	28	16	487	30	132	119	0	52	129	0
Heavy Vehicles (%)	17%	39%	21%	73%	30%	19%	14%	17%	21%	23%	31%	24%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Actuated Green, G (s)	12.0	41.1	41.1	1.3	30.4	30.4	10.9	20.7		4.5	14.3	
Effective Green, g (s)	12.0	41.1	41.1	1.3	30.4	30.4	10.9	20.7		4.5	14.3	
Actuated g/C Ratio	0.13	0.46	0.46	0.01	0.34	0.34	0.12	0.23		0.05	0.16	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	206	1191	612	15	942	460	192	362		73	222	
v/s Ratio Prot	c0.10	0.19		0.02	c0.18		c0.08	0.08		0.04	c0.09	
v/s Ratio Perm			0.02			0.02						
v/c Ratio	0.72	0.41	0.04	1.07	0.52	0.06	0.69	0.33		0.71	0.58	
Uniform Delay, d1	37.2	16.2	13.4	44.1	23.7	20.0	37.7	28.7		41.9	34.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.3	1.1	0.1	255.5	2.0	0.3	9.8	0.5		27.8	3.9	
Delay (s)	48.5	17.2	13.5	299.6	25.7	20.3	47.5	29.2		69.8	38.8	
Level of Service	D	B	B	F	C	C	D	C		E	D	
Approach Delay (s)		23.5			32.3			38.5			46.4	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	89.6	Sum of lost time (s)	22.0
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	471	10	0	517	27	20	40	1	6	27	51
Future Vol, veh/h	48	471	10	0	517	27	20	40	1	6	27	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	375	-	-	-	-	250	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	7	44	0	0	29	3	0	0	0	15	11	0
Mvmt Flow	52	512	11	0	562	29	22	43	1	7	29	55

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	591	0	0	523	0	0	918	1213	262	944	1189	281
Stage 1	-	-	-	-	-	-	622	622	-	562	562	-
Stage 2	-	-	-	-	-	-	296	591	-	382	627	-
Critical Hdwy	4.24	-	-	4.1	-	-	7.5	6.5	6.9	7.8	6.72	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.8	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.8	5.72	-
Follow-up Hdwy	2.27	-	-	2.2	-	-	3.5	4	3.3	3.65	4.11	3.3
Pot Cap-1 Maneuver	947	-	-	1054	-	-	230	183	743	198	174	722
Stage 1	-	-	-	-	-	-	446	482	-	448	486	-
Stage 2	-	-	-	-	-	-	694	498	-	578	453	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	947	-	-	1054	-	-	187	173	743	168	164	722
Mov Cap-2 Maneuver	-	-	-	-	-	-	301	285	-	284	282	-
Stage 1	-	-	-	-	-	-	421	455	-	423	486	-
Stage 2	-	-	-	-	-	-	602	498	-	493	428	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0	20.8	15.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	293	947	-	-	1054	-	-	448
HCM Lane V/C Ratio	0.226	0.055	-	-	-	-	-	0.204
HCM Control Delay (s)	20.8	9	-	-	0	-	-	15.1
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.9	0.2	-	-	0	-	-	0.8

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	477	10	2	572	2	23	3	3	1	3	6
Future Vol, veh/h	1	477	10	2	572	2	23	3	3	1	3	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	125	325	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	37	11	0	31	0	10	34	0	0	34	20
Mvmt Flow	1	518	11	2	622	2	25	3	3	1	3	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	624	0	0	529	0	0	837	1148	259	890	1158	312
Stage 1	-	-	-	-	-	-	520	520	-	627	627	-
Stage 2	-	-	-	-	-	-	317	628	-	263	531	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.7	7.18	6.9	7.5	7.18	7.3
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	6.18	-	6.5	6.18	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	6.18	-	6.5	6.18	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.6	4.34	3.3	3.5	4.34	3.5
Pot Cap-1 Maneuver	967	-	-	1048	-	-	246	155	746	241	153	633
Stage 1	-	-	-	-	-	-	487	457	-	443	403	-
Stage 2	-	-	-	-	-	-	647	402	-	725	451	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	967	-	-	1048	-	-	241	155	746	237	153	633
Mov Cap-2 Maneuver	-	-	-	-	-	-	358	265	-	348	263	-
Stage 1	-	-	-	-	-	-	487	457	-	443	402	-
Stage 2	-	-	-	-	-	-	634	401	-	716	451	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	15.8	13.8
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	364	967	-	-	1048	-	-	421
HCM Lane V/C Ratio	0.087	0.001	-	-	0.002	-	-	0.026
HCM Control Delay (s)	15.8	8.7	0	-	8.4	-	-	13.8
HCM Lane LOS	C	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	468	0	5	573	0	6
Future Vol, veh/h	468	0	5	573	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	37	0	0	29	0	0
Mvmt Flow	509	0	5	623	0	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	509	0	831	255
Stage 1	-	-	-	-	509	-
Stage 2	-	-	-	-	322	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1066	-	312	750
Stage 1	-	-	-	-	574	-
Stage 2	-	-	-	-	713	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1066	-	310	750
Mov Cap-2 Maneuver	-	-	-	-	428	-
Stage 1	-	-	-	-	574	-
Stage 2	-	-	-	-	708	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	750	-	-	1066	-
HCM Lane V/C Ratio	0.009	-	-	0.005	-
HCM Control Delay (s)	9.8	-	-	8.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

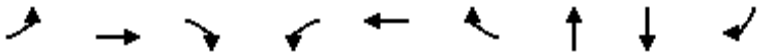
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	457	3	0	541	0	11	2	0	1	0	6
Future Vol, veh/h	2	457	3	0	541	0	11	2	0	1	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	50	37	34	0	33	0	0	50	0	0	0	0
Mvmt Flow	2	497	3	0	588	0	12	2	0	1	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	588	0	0	500	0	0	797	1091	250	842	1092	294
Stage 1	-	-	-	-	-	-	503	503	-	588	588	-
Stage 2	-	-	-	-	-	-	294	588	-	254	504	-
Critical Hdwy	5.1	-	-	4.1	-	-	7.5	7.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	6.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	6.5	-	6.5	5.5	-
Follow-up Hdwy	2.7	-	-	2.2	-	-	3.5	4.5	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	717	-	-	1075	-	-	281	151	756	261	216	708
Stage 1	-	-	-	-	-	-	524	435	-	467	499	-
Stage 2	-	-	-	-	-	-	695	391	-	734	544	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	717	-	-	1075	-	-	278	150	756	258	215	708
Mov Cap-2 Maneuver	-	-	-	-	-	-	393	255	-	367	335	-
Stage 1	-	-	-	-	-	-	522	433	-	465	499	-
Stage 2	-	-	-	-	-	-	689	391	-	727	542	-

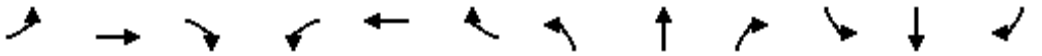
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	15.3	10.8
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	363	717	-	-	1075	-	-	625
HCM Lane V/C Ratio	0.039	0.003	-	-	-	-	-	0.012
HCM Control Delay (s)	15.3	10	0	-	0	-	-	10.8
HCM Lane LOS	C	B	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	3	470	29	84	427	16	170	64	2
v/c Ratio	0.02	0.37	0.04	0.47	0.26	0.02	0.63	0.23	0.01
Control Delay	36.0	15.8	0.1	40.3	7.9	0.0	39.1	28.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	15.8	0.1	40.3	7.9	0.0	39.1	28.7	0.0
Queue Length 50th (ft)	1	72	0	37	34	0	72	26	0
Queue Length 95th (ft)	10	145	0	86	105	0	142	62	0
Internal Link Dist (ft)		5311			3266		1726	1060	
Turn Bay Length (ft)	325		300	250		350			325
Base Capacity (vph)	160	1256	802	280	1665	976	446	475	479
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.37	0.04	0.30	0.26	0.02	0.38	0.13	0.00

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	432	27	77	393	15	56	87	13	14	45	2
Future Volume (veh/h)	3	432	27	77	393	15	56	87	13	14	45	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1693	1278	1737	1263	1322	1752	1767	1767	1574	1796	1707	1396
Adj Flow Rate, veh/h	3	470	29	84	427	16	61	95	14	15	49	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	14	42	11	43	39	10	9	9	22	7	13	34
Cap, veh/h	9	1314	797	96	1546	914	131	140	18	92	213	172
Arrive On Green	0.01	0.54	0.54	0.08	0.62	0.62	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1612	2427	1472	1203	2512	1485	424	960	124	199	1461	1183
Grp Volume(v), veh/h	3	470	29	84	427	16	170	0	0	64	0	2
Grp Sat Flow(s),veh/h/ln	1612	1214	1472	1203	1256	1485	1508	0	0	1661	0	1183
Q Serve(g_s), s	0.1	7.8	0.7	4.9	5.6	0.3	5.4	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.1	7.8	0.7	4.9	5.6	0.3	7.7	0.0	0.0	2.4	0.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	0.36		0.08	0.23		1.00
Lane Grp Cap(c), veh/h	9	1314	797	96	1546	914	289	0	0	304	0	172
V/C Ratio(X)	0.33	0.36	0.04	0.87	0.28	0.02	0.59	0.00	0.00	0.21	0.00	0.01
Avail Cap(c_a), veh/h	171	1314	797	281	1546	914	554	0	0	571	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.0	9.2	7.6	32.2	6.3	5.3	29.1	0.0	0.0	26.8	0.0	25.9
Incr Delay (d2), s/veh	19.6	0.8	0.1	20.5	0.4	0.0	1.9	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	1.6	0.2	1.8	1.0	0.1	2.8	0.0	0.0	0.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.6	10.0	7.7	52.6	6.7	5.3	31.0	0.0	0.0	27.2	0.0	25.9
LnGrp LOS	D	A	A	D	A	A	C	A	A	C	A	C
Approach Vol, veh/h		502			527			170			66	
Approach Delay, s/veh		10.1			14.0			31.0			27.1	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.2	43.7		15.8	5.9	49.0		15.8				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	16.5	34.5		22.5	7.5	43.5		22.5				
Max Q Clear Time (g_c+I1), s	6.9	9.8		4.4	2.1	7.6		9.7				
Green Ext Time (p_c), s	0.1	2.9		0.2	0.0	2.7		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			15.4									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	468	2	5	423	43	1	3	8	18	2	31
Future Vol, veh/h	47	468	2	5	423	43	1	3	8	18	2	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	425	425	-	375	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	41	0	0	38	3	0	13	0	13	0	7
Mvmt Flow	51	509	2	5	460	47	1	3	9	20	2	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	507	0	0	511	0	0	852	1128	255	828	1083	230
Stage 1	-	-	-	-	-	-	611	611	-	470	470	-
Stage 2	-	-	-	-	-	-	241	517	-	358	613	-
Critical Hdwy	4.16	-	-	4.1	-	-	7.5	6.76	6.9	7.76	6.5	7.04
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.76	-	6.76	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.76	-	6.76	5.5	-
Follow-up Hdwy	2.23	-	-	2.2	-	-	3.5	4.13	3.3	3.63	4	3.37
Pot Cap-1 Maneuver	1047	-	-	1065	-	-	256	187	750	245	219	757
Stage 1	-	-	-	-	-	-	453	456	-	515	563	-
Stage 2	-	-	-	-	-	-	747	505	-	603	486	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1047	-	-	1065	-	-	233	177	750	230	207	757
Mov Cap-2 Maneuver	-	-	-	-	-	-	336	283	-	342	323	-
Stage 1	-	-	-	-	-	-	431	434	-	490	560	-
Stage 2	-	-	-	-	-	-	708	502	-	563	462	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.1	12.5	12.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	495	1047	-	-	1065	-	-	511
HCM Lane V/C Ratio	0.026	0.049	-	-	0.005	-	-	0.108
HCM Control Delay (s)	12.5	8.6	-	-	8.4	-	-	12.9
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0	-	-	0.4

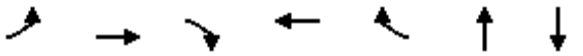
Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	468	7	12	416	5	11	13	36	12	19	17
Future Vol, veh/h	9	468	7	12	416	5	11	13	36	12	19	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	315	225	-	275	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	25	44	15	18	37	0	9	9	9	0	12	7
Mvmt Flow	10	509	8	13	452	5	12	14	39	13	21	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	457	0	0	517	0	0	792	1012	255	760	1015	226
Stage 1	-	-	-	-	-	-	529	529	-	478	478	-
Stage 2	-	-	-	-	-	-	263	483	-	282	537	-
Critical Hdwy	4.6	-	-	4.46	-	-	7.68	6.68	7.08	7.5	6.74	7.04
Critical Hdwy Stg 1	-	-	-	-	-	-	6.68	5.68	-	6.5	5.74	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.68	5.68	-	6.5	5.74	-
Follow-up Hdwy	2.45	-	-	2.38	-	-	3.59	4.09	3.39	3.5	4.12	3.37
Pot Cap-1 Maneuver	953	-	-	941	-	-	268	226	723	299	221	762
Stage 1	-	-	-	-	-	-	484	508	-	543	529	-
Stage 2	-	-	-	-	-	-	700	534	-	707	497	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	953	-	-	941	-	-	244	221	723	269	216	762
Mov Cap-2 Maneuver	-	-	-	-	-	-	357	334	-	386	326	-
Stage 1	-	-	-	-	-	-	479	503	-	538	522	-
Stage 2	-	-	-	-	-	-	647	527	-	643	492	-

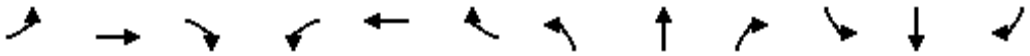
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	13.2	14.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	502	953	-	-	941	-	-	430
HCM Lane V/C Ratio	0.13	0.01	-	-	0.014	-	-	0.121
HCM Control Delay (s)	13.2	8.8	-	-	8.9	-	-	14.5
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.4



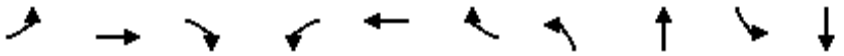
Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	3	465	80	365	20	65	143
v/c Ratio	0.02	0.27	0.08	0.24	0.02	0.29	0.55
Control Delay	30.7	5.3	1.1	7.2	0.1	26.9	33.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.7	5.3	1.1	7.2	0.1	26.9	33.7
Queue Length 50th (ft)	1	32	0	24	0	21	50
Queue Length 95th (ft)	9	66	10	82	0	59	115
Internal Link Dist (ft)		844		1114		201	746
Turn Bay Length (ft)	375		400		250		
Base Capacity (vph)	257	1740	1062	1537	1017	497	584
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.27	0.08	0.24	0.02	0.13	0.24

Intersection Summary



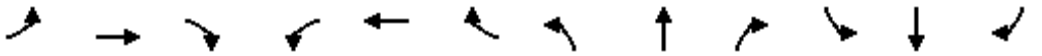
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	428	74	0	336	18	33	23	4	48	80	4
Future Volume (vph)	3	428	74	0	336	18	33	23	4	48	80	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5		5.5	5.5		5.5			5.5	
Lane Util. Factor	1.00	0.95	1.00		0.95	1.00		1.00			1.00	
Frt	1.00	1.00	0.85		1.00	0.85		0.99			1.00	
Flt Protected	0.95	1.00	1.00		1.00	1.00		0.97			0.98	
Satd. Flow (prot)	1805	2597	1538		2407	1538		1730			1826	
Flt Permitted	0.95	1.00	1.00		1.00	1.00		0.76			0.85	
Satd. Flow (perm)	1805	2597	1538		2407	1538		1345			1586	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	465	80	0	365	20	36	25	4	52	87	4
RTOR Reduction (vph)	0	0	25	0	0	8	0	3	0	0	2	0
Lane Group Flow (vph)	3	465	55	0	365	12	0	62	0	0	141	0
Heavy Vehicles (%)	0%	39%	5%	0%	50%	5%	7%	0%	34%	0%	3%	0%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2			6	8			4		
Actuated Green, G (s)	1.2	49.6	49.6		42.9	42.9		11.1			11.1	
Effective Green, g (s)	1.2	49.6	49.6		42.9	42.9		11.1			11.1	
Actuated g/C Ratio	0.02	0.69	0.69		0.60	0.60		0.15			0.15	
Clearance Time (s)	5.5	5.5	5.5		5.5	5.5		5.5			5.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	30	1796	1063		1440	920		208			245	
v/s Ratio Prot	0.00	c0.18			0.15							
v/s Ratio Perm			0.04			0.01		0.05			c0.09	
v/c Ratio	0.10	0.26	0.05		0.25	0.01		0.30			0.58	
Uniform Delay, d1	34.7	4.1	3.5		6.8	5.8		26.8			28.1	
Progression Factor	1.00	1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2	1.5	0.3	0.1		0.4	0.0		0.8			3.3	
Delay (s)	36.2	4.5	3.6		7.2	5.9		27.6			31.4	
Level of Service	D	A	A		A	A		C			C	
Approach Delay (s)		4.5			7.2			27.6			31.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	71.7	Sum of lost time (s)	16.5
Intersection Capacity Utilization	28.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	395	43	100	347	61	8	94	54	67
v/c Ratio	0.27	0.27	0.05	0.43	0.20	0.07	0.05	0.33	0.45	0.32
Control Delay	36.8	11.9	0.1	36.0	8.4	1.3	28.3	15.3	42.0	18.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.8	11.9	0.1	36.0	8.4	1.3	28.3	15.3	42.0	18.5
Queue Length 50th (ft)	15	51	0	41	22	0	3	10	22	9
Queue Length 95th (ft)	44	104	2	93	85	9	15	51	59	45
Internal Link Dist (ft)		1315			5108			1028		869
Turn Bay Length (ft)	750		700	700		750	250		325	
Base Capacity (vph)	232	1487	921	451	1723	824	323	496	235	376
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.27	0.05	0.22	0.20	0.07	0.02	0.19	0.23	0.18

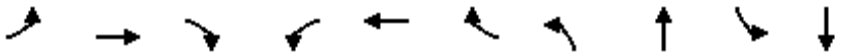
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	363	40	92	319	56	7	24	63	50	22	40
Future Volume (veh/h)	32	363	40	92	319	56	7	24	63	50	22	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1040	1263	1781	1841	1263	1322	1678	1841	1841	1100	1826	1100
Adj Flow Rate, veh/h	35	395	43	100	347	61	8	26	68	54	24	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	58	43	8	4	43	39	15	4	4	54	5	54
Cap, veh/h	49	1265	796	150	1352	631	241	68	179	179	89	160
Arrive On Green	0.05	0.53	0.53	0.09	0.56	0.56	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	991	2399	1510	1753	2399	1120	1197	450	1178	766	586	1050
Grp Volume(v), veh/h	35	395	43	100	347	61	8	0	94	54	0	67
Grp Sat Flow(s),veh/h/ln	991	1200	1510	1753	1200	1120	1197	0	1629	766	0	1637
Q Serve(g_s), s	2.4	6.5	1.0	3.9	5.2	1.8	0.4	0.0	3.6	4.8	0.0	2.5
Cycle Q Clear(g_c), s	2.4	6.5	1.0	3.9	5.2	1.8	3.0	0.0	3.6	8.4	0.0	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.72	1.00		0.64
Lane Grp Cap(c), veh/h	49	1265	796	150	1352	631	241	0	248	179	0	249
V/C Ratio(X)	0.72	0.31	0.05	0.67	0.26	0.10	0.03	0.00	0.38	0.30	0.00	0.27
Avail Cap(c_a), veh/h	205	1265	796	463	1352	631	392	0	453	276	0	455
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	32.8	9.4	8.1	31.1	7.8	7.1	27.6	0.0	26.8	30.5	0.0	26.3
Incr Delay (d2), s/veh	17.6	0.6	0.1	5.0	0.5	0.3	0.1	0.0	1.0	0.9	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	0.8	1.4	0.3	1.7	1.0	0.4	0.1	0.0	1.4	0.9	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.5	10.0	8.2	36.1	8.3	7.4	27.6	0.0	27.7	31.5	0.0	26.9
LnGrp LOS	D	B	A	D	A	A	C	A	C	C	A	C
Approach Vol, veh/h		473			508			102			121	
Approach Delay, s/veh		12.9			13.6			27.7			28.9	
Approach LOS		B			B			C			C	

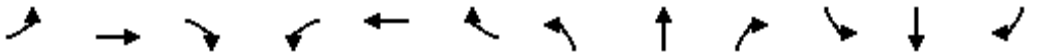
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.5	42.5		16.2	9.0	45.0		16.2				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	18.5	35.5		19.5	14.5	39.5		19.5				
Max Q Clear Time (g_c+I1), s	5.9	8.5		10.4	4.4	7.2		5.6				
Green Ext Time (p_c), s	0.2	2.6		0.4	0.0	2.4		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			16.1									
HCM 6th LOS			B									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	123	405	72	93	434	45	38	215	33	254
v/c Ratio	0.50	0.36	0.10	0.44	0.38	0.06	0.25	0.51	0.25	0.50
Control Delay	40.3	18.2	0.2	40.8	19.2	0.1	41.6	32.8	41.2	25.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.3	18.2	0.2	40.8	19.2	0.1	41.6	32.8	41.2	25.0
Queue Length 50th (ft)	61	77	0	46	85	0	19	46	16	42
Queue Length 95th (ft)	116	132	0	96	146	0	52	86	46	82
Internal Link Dist (ft)		5108			2163			1310		1016
Turn Bay Length (ft)	475		450	500		525			325	
Base Capacity (vph)	365	1124	757	298	1148	778	172	525	174	678
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.36	0.10	0.31	0.38	0.06	0.22	0.41	0.19	0.37

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	373	66	86	399	41	35	152	46	30	151	83
Future Volume (veh/h)	113	373	66	86	399	41	35	152	46	30	151	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1174	1722	1707	1278	1811	1767	1811	1426	1366	1811	1826
Adj Flow Rate, veh/h	123	405	72	93	434	45	38	165	50	33	164	90
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	49	12	13	42	6	9	6	32	36	6	5
Cap, veh/h	157	1035	677	133	1103	698	62	304	89	44	246	128
Arrive On Green	0.09	0.46	0.46	0.08	0.45	0.45	0.04	0.12	0.12	0.03	0.11	0.11
Sat Flow, veh/h	1725	2230	1459	1626	2427	1535	1682	2622	770	1301	2185	1141
Grp Volume(v), veh/h	123	405	72	93	434	45	38	106	109	33	127	127
Grp Sat Flow(s),veh/h/ln	1725	1115	1459	1626	1214	1535	1682	1721	1672	1301	1721	1606
Q Serve(g_s), s	5.0	8.6	2.0	4.0	8.6	1.2	1.6	4.2	4.4	1.8	5.1	5.5
Cycle Q Clear(g_c), s	5.0	8.6	2.0	4.0	8.6	1.2	1.6	4.2	4.4	1.8	5.1	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.46	1.00		0.71
Lane Grp Cap(c), veh/h	157	1035	677	133	1103	698	62	199	194	44	194	181
V/C Ratio(X)	0.78	0.39	0.11	0.70	0.39	0.06	0.61	0.53	0.56	0.76	0.66	0.70
Avail Cap(c_a), veh/h	370	1035	677	304	1103	698	175	274	266	171	322	300
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	32.1	12.7	10.9	32.3	13.1	11.1	34.3	30.1	30.2	34.6	30.7	30.9
Incr Delay (d2), s/veh	8.2	1.1	0.3	6.4	1.1	0.2	9.4	2.2	2.5	22.9	3.8	4.9
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	2.3	1.9	0.6	1.7	2.0	0.4	0.8	1.8	1.8	0.8	2.2	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.3	13.8	11.2	38.7	14.1	11.2	43.6	32.3	32.7	57.5	34.5	35.7
LnGrp LOS	D	B	B	D	B	B	D	C	C	E	C	D
Approach Vol, veh/h		600			572			253			287	
Approach Delay, s/veh		18.9			17.9			34.2			37.7	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	39.0	8.2	13.6	12.1	38.3	7.9	13.9
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	13.5	33.5	7.5	13.5	15.5	31.5	9.5	11.5
Max Q Clear Time (g_c+I1), s	6.0	10.6	3.6	7.5	7.0	10.6	3.8	6.4
Green Ext Time (p_c), s	0.1	2.6	0.0	0.6	0.2	2.7	0.0	0.4

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

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	42	23	317	28	16	334
Future Vol, veh/h	42	23	317	28	16	334
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	35	5	7	19	7
Mvmt Flow	46	25	345	30	17	363

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	576	188	0	0	375	0
Stage 1	360	-	-	-	-	-
Stage 2	216	-	-	-	-	-
Critical Hdwy	7	7.6	-	-	4.48	-
Critical Hdwy Stg 1	6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.6	3.65	-	-	2.39	-
Pot Cap-1 Maneuver	429	728	-	-	1067	-
Stage 1	654	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	422	728	-	-	1067	-
Mov Cap-2 Maneuver	511	-	-	-	-	-
Stage 1	654	-	-	-	-	-
Stage 2	764	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	511	728	1067	-
HCM Lane V/C Ratio	-	-	0.089	0.034	0.016	-
HCM Control Delay (s)	-	-	12.7	10.1	8.4	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	0.1	-

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	24	323	33	24	335
Future Vol, veh/h	28	24	323	33	24	335
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	11	17	4	3	38	4
Mvmt Flow	30	26	351	36	26	364

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	603	194	0	0	387	0
Stage 1	369	-	-	-	-	-
Stage 2	234	-	-	-	-	-
Critical Hdwy	7.02	7.24	-	-	4.86	-
Critical Hdwy Stg 1	6.02	-	-	-	-	-
Critical Hdwy Stg 2	6.02	-	-	-	-	-
Follow-up Hdwy	3.61	3.47	-	-	2.58	-
Pot Cap-1 Maneuver	410	770	-	-	948	-
Stage 1	644	-	-	-	-	-
Stage 2	757	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	399	770	-	-	948	-
Mov Cap-2 Maneuver	494	-	-	-	-	-
Stage 1	644	-	-	-	-	-
Stage 2	737	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	494	770	948	-
HCM Lane V/C Ratio	-	-	0.062	0.034	0.028	-
HCM Control Delay (s)	-	-	12.8	9.8	8.9	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	0.1	-

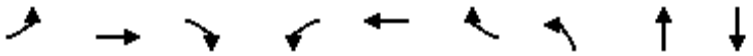
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	456	10	0	536	8	0	0	36	0	0	20
Future Vol, veh/h	0	456	10	0	536	8	0	0	36	0	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	39	0	0	34	0	0	0	3	0	0	13
Mvmt Flow	0	496	11	0	583	9	0	0	39	0	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	254	-	-	296
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	6.96	-	-	7.16
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.33	-	-	3.43
Pot Cap-1 Maneuver	0	-	-	0	-	-	0	0	742	0	0	669
Stage 1	0	-	-	0	-	-	0	0	-	0	0	-
Stage 2	0	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	742	-	-	669
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

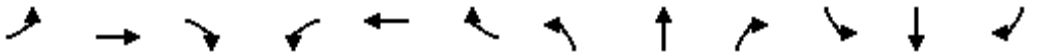
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	10.1	10.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	742	-	-	-	-	669
HCM Lane V/C Ratio	0.053	-	-	-	-	0.032
HCM Control Delay (s)	10.1	-	-	-	-	10.6
HCM Lane LOS	B	-	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	-	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	21	395	82	50	349	1	96	75	68
v/c Ratio	0.11	0.26	0.11	0.31	0.20	0.00	0.56	0.29	0.21
Control Delay	34.0	11.9	3.2	35.7	9.0	0.0	40.2	14.4	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	11.9	3.2	35.7	9.0	0.0	40.2	14.4	14.8
Queue Length 50th (ft)	9	52	0	21	25	0	39	8	10
Queue Length 95th (ft)	32	108	20	56	85	0	89	42	42
Internal Link Dist (ft)		2833			1282			431	373
Turn Bay Length (ft)	625		550	550		625	100		
Base Capacity (vph)	280	1542	714	257	1719	1094	370	506	659
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.26	0.11	0.19	0.20	0.00	0.26	0.15	0.10

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	363	75	46	321	1	88	19	50	0	24	39
Future Volume (veh/h)	19	363	75	46	321	1	88	19	50	0	24	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1292	1248	1307	1337	1900	1337	1722	1248	1900	1900	1811
Adj Flow Rate, veh/h	21	395	82	50	349	1	96	21	54	0	26	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	41	44	40	38	0	38	12	44	0	0	6
Cap, veh/h	61	1287	554	78	1405	891	235	72	186	0	111	179
Arrive On Green	0.03	0.52	0.52	0.06	0.55	0.55	0.17	0.17	0.17	0.00	0.17	0.17
Sat Flow, veh/h	1810	2456	1058	1245	2540	1610	953	427	1098	0	654	1056
Grp Volume(v), veh/h	21	395	82	50	349	1	96	0	75	0	0	68
Grp Sat Flow(s),veh/h/ln	1810	1228	1058	1245	1270	1610	953	0	1525	0	0	1710
Q Serve(g_s), s	0.8	6.2	2.7	2.7	4.8	0.0	6.6	0.0	2.9	0.0	0.0	2.3
Cycle Q Clear(g_c), s	0.8	6.2	2.7	2.7	4.8	0.0	8.9	0.0	2.9	0.0	0.0	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.72	0.00		0.62
Lane Grp Cap(c), veh/h	61	1287	554	78	1405	891	235	0	259	0	0	290
V/C Ratio(X)	0.34	0.31	0.15	0.64	0.25	0.00	0.41	0.00	0.29	0.00	0.00	0.23
Avail Cap(c_a), veh/h	280	1287	554	248	1405	891	432	0	574	0	0	643
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	0.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	9.2	8.3	31.0	7.8	6.8	28.2	0.0	24.6	0.0	0.0	24.3
Incr Delay (d2), s/veh	3.3	0.6	0.6	8.3	0.4	0.0	1.1	0.0	0.6	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	0.4	1.3	0.5	0.9	1.0	0.0	1.5	0.0	1.0	0.0	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	9.8	8.9	39.3	8.3	6.8	29.3	0.0	25.2	0.0	0.0	24.7
LnGrp LOS	D	A	A	D	A	A	C	A	C	A	A	C
Approach Vol, veh/h		498			400			171			68	
Approach Delay, s/veh		10.7			12.1			27.5			24.7	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	41.0		17.0	7.8	43.0		17.0				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	13.5	34.5		25.5	10.5	37.5		25.5				
Max Q Clear Time (g_c+I1), s	4.7	8.2		4.3	2.8	6.8		10.9				
Green Ext Time (p_c), s	0.0	2.7		0.3	0.0	2.1		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			14.6									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	443	3	1	384	10	4	12	1	10	7	5
Future Vol, veh/h	1	443	3	1	384	10	4	12	1	10	7	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	350	-	350	325	-	350	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	39	0	0	32	0	0	0	0	11	0	25
Mvmt Flow	1	482	3	1	417	11	4	13	1	11	8	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	428	0	0	485	0	0	699	914	241	669	906	209
Stage 1	-	-	-	-	-	-	484	484	-	419	419	-
Stage 2	-	-	-	-	-	-	215	430	-	250	487	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.72	6.5	7.4
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.72	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.72	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.61	4	3.55
Pot Cap-1 Maneuver	1142	-	-	1088	-	-	330	275	766	326	278	730
Stage 1	-	-	-	-	-	-	538	555	-	559	593	-
Stage 2	-	-	-	-	-	-	773	587	-	707	554	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1142	-	-	1088	-	-	322	274	766	317	277	730
Mov Cap-2 Maneuver	-	-	-	-	-	-	425	385	-	423	387	-
Stage 1	-	-	-	-	-	-	537	554	-	558	592	-
Stage 2	-	-	-	-	-	-	757	586	-	689	553	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	14.3	13.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	406	1142	-	-	1088	-	-	453
HCM Lane V/C Ratio	0.046	0.001	-	-	0.001	-	-	0.053
HCM Control Delay (s)	14.3	8.2	-	-	8.3	-	-	13.4
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	79	0	0	7	153	674	12	0	487	120
Future Vol, veh/h	0	0	79	0	0	7	153	674	12	0	487	120
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	375	-	375	-	-	0
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	8	0	0	0	1	30	37	0	25	5
Mvmt Flow	0	0	86	0	0	8	166	733	13	0	529	130

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	265	-	-	367	659	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.06	-	-	6.9	4.12	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.38	-	-	3.3	2.21	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	715	0	0	636	932	-	-	0	-	-
Stage 1	0	0	-	0	0	-	-	-	-	0	-	-
Stage 2	0	0	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	715	-	-	636	932	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.7	10.7	1.8	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	932	-	-	715	636	-	-
HCM Lane V/C Ratio	0.178	-	-	0.12	0.012	-	-
HCM Control Delay (s)	9.7	-	-	10.7	10.7	-	-
HCM Lane LOS	A	-	-	B	B	-	-
HCM 95th %tile Q(veh)	0.6	-	-	0.4	0	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	113	141	740	636	2
Future Vol, veh/h	3	113	141	740	636	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	400	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	3	3	26	23	0
Mvmt Flow	3	123	153	804	691	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1399	346	693	0	-	0
Stage 1	691	-	-	-	-	-
Stage 2	708	-	-	-	-	-
Critical Hdwy	6.8	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	134	647	891	-	-	-
Stage 1	464	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	111	647	891	-	-	-
Mov Cap-2 Maneuver	240	-	-	-	-	-
Stage 1	384	-	-	-	-	-
Stage 2	455	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.1	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	891	-	240	647	-	-
HCM Lane V/C Ratio	0.172	-	0.014	0.19	-	-
HCM Control Delay (s)	9.9	-	20.2	11.9	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.6	-	0	0.7	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	4	4	2	9	132	4	697	1	89	648	8
Future Vol, veh/h	20	4	4	2	9	132	4	697	1	89	648	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	300	-	375	325	-	500
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	34	50	0	6	0	23	0	4	22	29
Mvmt Flow	22	4	4	2	10	143	4	758	1	97	704	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1290	1665	352	1314	1673	379	713	0	0	759	0	0
Stage 1	898	898	-	766	766	-	-	-	-	-	-	-
Stage 2	392	767	-	548	907	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	7.58	8.5	6.5	7.02	4.1	-	-	4.18	-	-
Critical Hdwy Stg 1	6.5	5.5	-	7.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	7.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.64	4	4	3.36	2.2	-	-	2.24	-	-
Pot Cap-1 Maneuver	123	98	560	77	97	608	896	-	-	835	-	-
Stage 1	305	361	-	271	415	-	-	-	-	-	-	-
Stage 2	610	414	-	384	357	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	82	86	560	68	85	608	896	-	-	835	-	-
Mov Cap-2 Maneuver	187	184	-	166	200	-	-	-	-	-	-	-
Stage 1	304	319	-	270	413	-	-	-	-	-	-	-
Stage 2	453	412	-	332	316	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.5	14.8	0.1	1.2
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	896	-	-	206	522	835	-	-
HCM Lane V/C Ratio	0.005	-	-	0.148	0.298	0.116	-	-
HCM Control Delay (s)	9	-	-	25.5	14.8	9.9	-	-
HCM Lane LOS	A	-	-	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	1.2	0.4	-	-

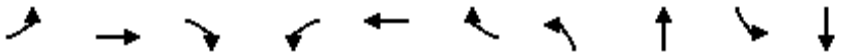
Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	36	3	54	36	107	10	508	81	79	542	47
Future Vol, veh/h	14	36	3	54	36	107	10	508	81	79	542	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	350	-	350	350	-	350
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	7	0	2	10	8	0	31	7	7	26	7
Mvmt Flow	15	39	3	59	39	116	11	552	88	86	589	51

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1079	1423	295	1060	1386	276	640	0	0	640	0	0
Stage 1	761	761	-	574	574	-	-	-	-	-	-	-
Stage 2	318	662	-	486	812	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.64	6.9	7.54	6.7	7.06	4.1	-	-	4.24	-	-
Critical Hdwy Stg 1	6.5	5.64	-	6.54	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.64	-	6.54	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.07	3.3	3.52	4.1	3.38	2.2	-	-	2.27	-	-
Pot Cap-1 Maneuver	175	129	707	178	132	704	954	-	-	907	-	-
Stage 1	368	400	-	471	482	-	-	-	-	-	-	-
Stage 2	673	445	-	531	372	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	117	115	707	141	118	704	954	-	-	907	-	-
Mov Cap-2 Maneuver	232	216	-	264	228	-	-	-	-	-	-	-
Stage 1	364	362	-	465	476	-	-	-	-	-	-	-
Stage 2	510	440	-	427	337	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.9	25.7	0.1	1.1
HCM LOS	D	D		

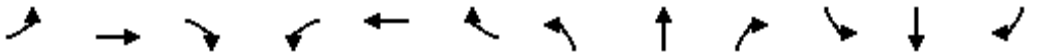
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	954	-	-	229	383	907	-	-
HCM Lane V/C Ratio	0.011	-	-	0.252	0.559	0.095	-	-
HCM Control Delay (s)	8.8	-	-	25.9	25.7	9.4	-	-
HCM Lane LOS	A	-	-	D	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1	3.3	0.3	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	140	1049	53	2	1011	29	115	39	35	329
v/c Ratio	0.67	0.57	0.08	0.01	0.76	0.04	1.07	0.11	0.11	0.63
Control Delay	53.9	13.3	0.9	38.5	25.0	0.1	144.2	13.9	25.9	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	13.3	0.9	38.5	25.0	0.1	144.2	13.9	25.9	16.9
Queue Length 50th (ft)	75	161	0	1	245	0	63	5	15	55
Queue Length 95th (ft)	#157	328	6	8	345	0	#167	29	38	140
Internal Link Dist (ft)		2438			3988			319		538
Turn Bay Length (ft)	450		450	415		500	100		100	
Base Capacity (vph)	226	1831	698	151	1327	733	138	465	406	609
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.57	0.08	0.01	0.76	0.04	0.83	0.08	0.09	0.54

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	965	49	2	930	27	106	12	24	32	3	300
Future Volume (veh/h)	129	965	49	2	930	27	106	12	24	32	3	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1589	1159	1900	1530	1767	1796	1900	1633	1900	1900	1870
Adj Flow Rate, veh/h	140	1049	53	2	1011	29	115	13	26	35	3	326
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	21	50	0	25	9	7	0	18	0	0	2
Cap, veh/h	178	1409	458	141	1296	668	166	154	308	435	4	435
Arrive On Green	0.10	0.47	0.47	0.08	0.45	0.45	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1810	3019	982	1810	2906	1497	1009	565	1131	1390	15	1598
Grp Volume(v), veh/h	140	1049	53	2	1011	29	115	0	39	35	0	329
Grp Sat Flow(s),veh/h/ln	1810	1509	982	1810	1453	1497	1009	0	1696	1390	0	1612
Q Serve(g_s), s	6.8	25.6	2.7	0.1	26.6	1.0	7.7	0.0	1.5	1.7	0.0	16.8
Cycle Q Clear(g_c), s	6.8	25.6	2.7	0.1	26.6	1.0	24.5	0.0	1.5	3.3	0.0	16.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.67	1.00		0.99
Lane Grp Cap(c), veh/h	178	1409	458	141	1296	668	166	0	462	435	0	439
V/C Ratio(X)	0.79	0.74	0.12	0.01	0.78	0.04	0.69	0.00	0.08	0.08	0.00	0.75
Avail Cap(c_a), veh/h	211	1409	458	141	1296	668	166	0	462	435	0	439
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	39.6	19.6	13.5	38.3	21.2	14.1	42.1	0.0	24.4	25.6	0.0	29.9
Incr Delay (d2), s/veh	15.2	3.6	0.5	0.0	4.7	0.1	11.5	0.0	0.1	0.1	0.0	7.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	8.2	0.6	0.0	8.5	0.3	3.0	0.0	0.6	0.6	0.0	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	23.2	14.0	38.4	25.9	14.2	53.6	0.0	24.5	25.7	0.0	37.0
LnGrp LOS	D	C	B	D	C	B	D	A	C	C	A	D
Approach Vol, veh/h		1242			1042			154			364	
Approach Delay, s/veh		26.4			25.6			46.2			35.9	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.5	47.5		30.0	14.4	45.6		30.0				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	7.0	42.0		24.5	10.5	38.5		24.5				
Max Q Clear Time (g_c+I1), s	2.1	27.6		18.8	8.8	28.6		26.5				
Green Ext Time (p_c), s	0.0	5.8		1.0	0.0	4.4		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			28.4									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	871	11	37	885	15	0	10	45	12	10	20
Future Vol, veh/h	16	871	11	37	885	15	0	10	45	12	10	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	-	475	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	25	0	0	18	0	0	25	0	0	0	0
Mvmt Flow	17	947	12	40	962	16	0	11	49	13	11	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	978	0	0	959	0	0	1554	2045	480	1563	2043	489
Stage 1	-	-	-	-	-	-	987	987	-	1050	1050	-
Stage 2	-	-	-	-	-	-	567	1058	-	513	993	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	7	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	6	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	6	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.25	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	714	-	-	725	-	-	78	42	537	77	57	530
Stage 1	-	-	-	-	-	-	269	277	-	247	307	-
Stage 2	-	-	-	-	-	-	481	254	-	517	326	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	714	-	-	725	-	-	67	39	537	62	53	530
Mov Cap-2 Maneuver	-	-	-	-	-	-	174	129	-	163	154	-
Stage 1	-	-	-	-	-	-	263	270	-	241	290	-
Stage 2	-	-	-	-	-	-	419	240	-	440	318	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.4	17.8	23.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	341	714	-	-	725	-	-	238
HCM Lane V/C Ratio	0.175	0.024	-	-	0.055	-	-	0.192
HCM Control Delay (s)	17.8	10.2	-	-	10.3	-	-	23.7
HCM Lane LOS	C	B	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.2	-	-	0.7

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	987	11	12	773	6	16	1	5	4	1	13
Future Vol, veh/h	9	987	11	12	773	6	16	1	5	4	1	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	410	-	-	450	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	18	20	0	25	20	0	0	0	0	0	0
Mvmt Flow	10	1073	12	13	840	7	17	1	5	4	1	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	847	0	0	1085	0	0	1546	1972	543	1427	1975	424
Stage 1	-	-	-	-	-	-	1099	1099	-	870	870	-
Stage 2	-	-	-	-	-	-	447	873	-	557	1105	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	799	-	-	651	-	-	79	63	489	97	63	584
Stage 1	-	-	-	-	-	-	230	291	-	317	372	-
Stage 2	-	-	-	-	-	-	566	370	-	487	289	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	799	-	-	651	-	-	75	61	489	93	61	584
Mov Cap-2 Maneuver	-	-	-	-	-	-	172	172	-	211	169	-
Stage 1	-	-	-	-	-	-	227	287	-	313	365	-
Stage 2	-	-	-	-	-	-	540	363	-	474	285	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	25.2	14.9
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	202	799	-	-	651	-	-	382
HCM Lane V/C Ratio	0.118	0.012	-	-	0.02	-	-	0.051
HCM Control Delay (s)	25.2	9.6	-	-	10.6	-	-	14.9
HCM Lane LOS	D	A	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	936	10	22	664	0	3	17	22	0	17	5
Future Vol, veh/h	3	936	10	22	664	0	3	17	22	0	17	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	400	-	-	400	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	17	0	15	22	0	0	34	0	0	40	0
Mvmt Flow	3	1017	11	24	722	0	3	18	24	0	18	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	722	0	0	1028	0	0	1447	1799	514	1294	1804	361
Stage 1	-	-	-	-	-	-	1029	1029	-	770	770	-
Stage 2	-	-	-	-	-	-	418	770	-	524	1034	-
Critical Hdwy	4.1	-	-	4.4	-	-	7.5	7.18	6.9	7.5	7.3	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	6.18	-	6.5	6.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	6.18	-	6.5	6.3	-
Follow-up Hdwy	2.2	-	-	2.35	-	-	3.5	4.34	3.3	3.5	4.4	3.3
Pot Cap-1 Maneuver	889	-	-	599	-	-	94	56	511	122	52	641
Stage 1	-	-	-	-	-	-	254	247	-	364	328	-
Stage 2	-	-	-	-	-	-	588	339	-	510	236	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	889	-	-	599	-	-	81	54	511	102	50	641
Mov Cap-2 Maneuver	-	-	-	-	-	-	187	151	-	225	137	-
Stage 1	-	-	-	-	-	-	253	246	-	363	315	-
Stage 2	-	-	-	-	-	-	527	325	-	448	235	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	23	30.1
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	245	889	-	-	599	-	-	167
HCM Lane V/C Ratio	0.186	0.004	-	-	0.04	-	-	0.143
HCM Control Delay (s)	23	9.1	-	-	11.3	-	-	30.1
HCM Lane LOS	C	A	-	-	B	-	-	D
HCM 95th %tile Q(veh)	0.7	0	-	-	0.1	-	-	0.5

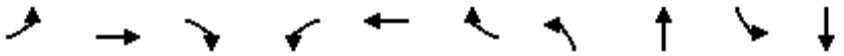
Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1043	28	26	641	1	17	0	43	0	0	0
Future Vol, veh/h	0	1043	28	26	641	1	17	0	43	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	275	275	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	18	0	4	23	0	0	0	3	0	0	0
Mvmt Flow	0	1134	30	28	697	1	18	0	47	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	698	0	0	1164	0	0	1539	1888	567	1321	1918	349
Stage 1	-	-	-	-	-	-	1134	1134	-	754	754	-
Stage 2	-	-	-	-	-	-	405	754	-	567	1164	-
Critical Hdwy	4.1	-	-	4.18	-	-	7.5	6.5	6.96	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.24	-	-	3.5	4	3.33	3.5	4	3.3
Pot Cap-1 Maneuver	908	-	-	585	-	-	80	71	464	117	68	653
Stage 1	-	-	-	-	-	-	219	280	-	372	420	-
Stage 2	-	-	-	-	-	-	599	420	-	481	271	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	908	-	-	585	-	-	77	68	464	101	65	653
Mov Cap-2 Maneuver	-	-	-	-	-	-	171	180	-	223	165	-
Stage 1	-	-	-	-	-	-	219	280	-	372	400	-
Stage 2	-	-	-	-	-	-	570	400	-	433	271	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	19.6	0
HCM LOS			C	A

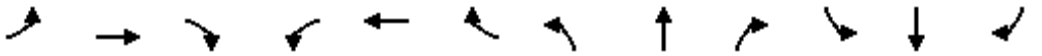
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	312	908	-	-	585	-	-	-
HCM Lane V/C Ratio	0.209	-	-	-	0.048	-	-	-
HCM Control Delay (s)	19.6	0	-	-	11.5	-	-	0
HCM Lane LOS	C	A	-	-	B	-	-	A
HCM 95th %tile Q(veh)	0.8	0	-	-	0.2	-	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	241	708	148	20	564	90	72	102	101	243
v/c Ratio	0.76	0.47	0.16	0.15	0.66	0.15	0.52	0.39	0.58	0.79
Control Delay	49.5	16.9	2.8	41.5	31.2	0.5	54.2	38.3	51.3	49.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.5	16.9	2.8	41.5	31.2	0.5	54.2	38.3	51.3	49.2
Queue Length 50th (ft)	128	117	0	11	152	0	40	51	55	115
Queue Length 95th (ft)	#230	219	29	33	212	0	#94	100	#108	#228
Internal Link Dist (ft)		1534			3417			2504		2525
Turn Bay Length (ft)	325		275	200		350	525		475	
Base Capacity (vph)	377	1507	906	134	858	618	144	288	203	357
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.47	0.16	0.15	0.66	0.15	0.50	0.35	0.50	0.68

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	651	136	18	519	83	66	87	6	93	139	85
Future Volume (vph)	222	651	136	18	519	83	66	87	6	93	139	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1656	2911	1599	1556	2735	1468	1805	1720		1570	1548	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1656	2911	1599	1556	2735	1468	1805	1720		1570	1548	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	241	708	148	20	564	90	72	95	7	101	151	92
RTOR Reduction (vph)	0	0	75	0	0	60	0	3	0	0	25	0
Lane Group Flow (vph)	241	708	73	20	564	30	72	99	0	101	218	0
Heavy Vehicles (%)	9%	24%	1%	16%	32%	10%	0%	10%	0%	15%	15%	17%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Actuated Green, G (s)	15.9	43.0	43.0	2.6	29.7	29.7	4.9	12.5		7.6	15.2	
Effective Green, g (s)	15.9	43.0	43.0	2.6	29.7	29.7	4.9	12.5		7.6	15.2	
Actuated g/C Ratio	0.18	0.49	0.49	0.03	0.34	0.34	0.06	0.14		0.09	0.17	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	300	1427	784	46	926	497	100	245		136	268	
v/s Ratio Prot	c0.15	0.24		0.01	c0.21		0.04	0.06		c0.06	c0.14	
v/s Ratio Perm			0.05			0.02						
v/c Ratio	0.80	0.50	0.09	0.43	0.61	0.06	0.72	0.41		0.74	0.81	
Uniform Delay, d1	34.4	15.1	11.9	41.8	24.2	19.6	40.7	34.2		39.1	34.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	14.3	1.2	0.2	6.5	3.0	0.2	21.9	1.1		19.5	17.0	
Delay (s)	48.7	16.3	12.2	48.3	27.1	19.8	62.6	35.3		58.6	51.9	
Level of Service	D	B	B	D	C	B	E	D		E	D	
Approach Delay (s)		22.9			26.8			46.6			53.9	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	87.7	Sum of lost time (s)	22.0
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	621	83	2	549	3	33	11	0	14	26	63
Future Vol, veh/h	50	621	83	2	549	3	33	11	0	14	26	63
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	375	-	-	-	-	250	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	20	20	0	38	35	25	0	0	0	0	38	0
Mvmt Flow	54	675	90	2	597	3	36	12	0	15	28	68

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	600	0	0	765	0	0	1145	1432	383	1053	1474	299
Stage 1	-	-	-	-	-	-	828	828	-	601	601	-
Stage 2	-	-	-	-	-	-	317	604	-	452	873	-
Critical Hdwy	4.5	-	-	4.86	-	-	7.5	6.5	6.9	7.5	7.26	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	6.26	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	6.26	-
Follow-up Hdwy	2.4	-	-	2.58	-	-	3.5	4	3.3	3.5	4.38	3.3
Pot Cap-1 Maneuver	860	-	-	645	-	-	157	136	621	183	90	703
Stage 1	-	-	-	-	-	-	336	389	-	459	407	-
Stage 2	-	-	-	-	-	-	674	491	-	562	292	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	860	-	-	645	-	-	119	127	621	167	84	703
Mov Cap-2 Maneuver	-	-	-	-	-	-	228	238	-	288	185	-
Stage 1	-	-	-	-	-	-	315	364	-	430	405	-
Stage 2	-	-	-	-	-	-	563	489	-	509	274	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	24.7	18.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	230	860	-	-	645	-	-	369
HCM Lane V/C Ratio	0.208	0.063	-	-	0.003	-	-	0.303
HCM Control Delay (s)	24.7	9.5	-	-	10.6	0	-	18.9
HCM Lane LOS	C	A	-	-	B	A	-	C
HCM 95th %tile Q(veh)	0.8	0.2	-	-	0	-	-	1.3

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	558	25	8	633	4	10	9	4	0	8	4
Future Vol, veh/h	6	558	25	8	633	4	10	9	4	0	8	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	125	325	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	20	20	0	38	35	25	0	0	0	0	38	0
Mvmt Flow	7	607	27	9	688	4	11	10	4	0	9	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	692	0	0	634	0	0	988	1331	304	1031	1356	346
Stage 1	-	-	-	-	-	-	621	621	-	708	708	-
Stage 2	-	-	-	-	-	-	367	710	-	323	648	-
Critical Hdwy	4.5	-	-	4.86	-	-	7.5	6.5	6.9	7.5	7.26	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	6.26	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	6.26	-
Follow-up Hdwy	2.4	-	-	2.58	-	-	3.5	4	3.3	3.5	4.38	3.3
Pot Cap-1 Maneuver	788	-	-	738	-	-	204	156	698	190	109	656
Stage 1	-	-	-	-	-	-	446	482	-	396	358	-
Stage 2	-	-	-	-	-	-	630	440	-	669	385	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	788	-	-	738	-	-	193	152	698	180	106	656
Mov Cap-2 Maneuver	-	-	-	-	-	-	316	275	-	295	214	-
Stage 1	-	-	-	-	-	-	440	475	-	390	354	-
Stage 2	-	-	-	-	-	-	603	435	-	642	380	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	16.9	18.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	328	788	-	-	738	-	-	276
HCM Lane V/C Ratio	0.076	0.008	-	-	0.012	-	-	0.047
HCM Control Delay (s)	16.9	9.6	0.1	-	9.9	-	-	18.7
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	575	0	6	633	0	4
Future Vol, veh/h	575	0	6	633	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	20	0	0	34	0	50
Mvmt Flow	625	0	7	688	0	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	625	0	983	313
Stage 1	-	-	-	-	625	-
Stage 2	-	-	-	-	358	-
Critical Hdwy	-	-	4.1	-	6.8	7.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.8
Pot Cap-1 Maneuver	-	-	966	-	249	560
Stage 1	-	-	-	-	501	-
Stage 2	-	-	-	-	684	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	966	-	246	560
Mov Cap-2 Maneuver	-	-	-	-	371	-
Stage 1	-	-	-	-	501	-
Stage 2	-	-	-	-	676	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	560	-	-	966	-
HCM Lane V/C Ratio	0.008	-	-	0.007	-
HCM Control Delay (s)	11.5	-	-	8.8	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

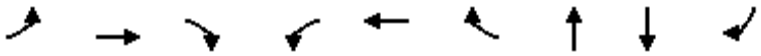
Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	559	8	0	623	2	2	1	0	2	3	1
Future Vol, veh/h	2	559	8	0	623	2	2	1	0	2	3	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	20	15	100	35	0	0	100	0	0	0	0
Mvmt Flow	2	608	9	0	677	2	2	1	0	2	3	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	679	0	0	617	0	0	957	1296	309	987	1299	340
Stage 1	-	-	-	-	-	-	617	617	-	678	678	-
Stage 2	-	-	-	-	-	-	340	679	-	309	621	-
Critical Hdwy	4.1	-	-	6.1	-	-	7.5	8.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	7.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	7.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	3.2	-	-	3.5	5	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	923	-	-	514	-	-	215	73	693	205	163	662
Stage 1	-	-	-	-	-	-	449	296	-	413	455	-
Stage 2	-	-	-	-	-	-	654	270	-	682	482	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	923	-	-	514	-	-	212	73	693	204	163	662
Mov Cap-2 Maneuver	-	-	-	-	-	-	333	161	-	318	288	-
Stage 1	-	-	-	-	-	-	448	295	-	412	455	-
Stage 2	-	-	-	-	-	-	648	270	-	677	481	-

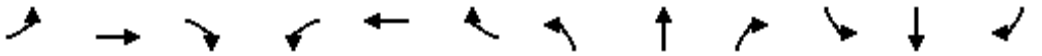
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	19.8	16.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	246	923	-	-	514	-	-	329
HCM Lane V/C Ratio	0.013	0.002	-	-	-	-	-	0.02
HCM Control Delay (s)	19.8	8.9	0	-	0	-	-	16.2
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	2	521	105	143	546	35	134	137	3
v/c Ratio	0.01	0.40	0.13	0.54	0.31	0.03	0.57	0.51	0.01
Control Delay	34.5	15.5	1.1	37.5	7.2	0.1	37.1	36.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.5	15.5	1.1	37.5	7.2	0.1	37.1	36.4	0.0
Queue Length 50th (ft)	1	77	0	61	41	0	53	58	0
Queue Length 95th (ft)	8	150	9	123	125	0	113	118	0
Internal Link Dist (ft)		5311			3266		1726	1060	
Turn Bay Length (ft)	325		300	250		350			325
Base Capacity (vph)	197	1298	827	458	1788	1060	393	456	523
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.40	0.13	0.31	0.31	0.03	0.34	0.30	0.01

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	479	97	132	502	32	49	52	22	15	111	3
Future Volume (veh/h)	2	479	97	132	502	32	49	52	22	15	111	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1455	1870	1841	1381	1826	1841	1856	1900	1900	1811	1811
Adj Flow Rate, veh/h	2	521	105	143	546	35	53	57	24	16	121	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	30	2	4	35	5	4	3	0	0	6	6
Cap, veh/h	7	1395	800	184	1589	937	121	101	33	74	251	229
Arrive On Green	0.00	0.50	0.50	0.10	0.61	0.61	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1739	2765	1585	1753	2624	1547	321	678	218	105	1684	1535
Grp Volume(v), veh/h	2	521	105	143	546	35	134	0	0	137	0	3
Grp Sat Flow(s),veh/h/ln	1739	1383	1585	1753	1312	1547	1217	0	0	1789	0	1535
Q Serve(g_s), s	0.1	7.9	2.4	5.4	7.1	0.6	3.1	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.1	7.9	2.4	5.4	7.1	0.6	7.9	0.0	0.0	4.8	0.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	0.40		0.18	0.12		1.00
Lane Grp Cap(c), veh/h	7	1395	800	184	1589	937	255	0	0	326	0	229
V/C Ratio(X)	0.30	0.37	0.13	0.78	0.34	0.04	0.53	0.00	0.00	0.42	0.00	0.01
Avail Cap(c_a), veh/h	216	1395	800	500	1746	1030	462	0	0	560	0	438
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	1.00
Uniform Delay (d), s/veh	34.0	10.3	9.0	29.8	6.7	5.4	28.1	0.0	0.0	26.8	0.0	24.8
Incr Delay (d2), s/veh	23.5	0.8	0.3	6.9	0.1	0.0	1.7	0.0	0.0	0.9	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	1.9	0.7	2.4	1.2	0.1	2.1	0.0	0.0	2.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.5	11.1	9.3	36.7	6.8	5.5	29.7	0.0	0.0	27.6	0.0	24.8
LnGrp LOS	E	B	A	D	A	A	C	A	A	C	A	C
Approach Vol, veh/h		628			724			134			140	
Approach Delay, s/veh		11.0			12.7			29.7			27.6	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.7	40.0		15.7	5.8	46.9		15.7				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	19.5	34.5		19.5	8.5	45.5		19.5				
Max Q Clear Time (g_c+I1), s	7.4	9.9		6.8	2.1	9.1		9.9				
Green Ext Time (p_c), s	0.2	3.4		0.5	0.0	3.6		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		14.7	
HCM 6th LOS		B	

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	565	8	7	671	7	6	1	2	12	1	19
Future Vol, veh/h	3	565	8	7	671	7	6	1	2	12	1	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	425	425	-	375	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	33	0	17	39	0	20	0	0	9	0	0
Mvmt Flow	3	614	9	8	729	8	7	1	2	13	1	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	737	0	0	623	0	0	1001	1373	307	1059	1374	365
Stage 1	-	-	-	-	-	-	620	620	-	745	745	-
Stage 2	-	-	-	-	-	-	381	753	-	314	629	-
Critical Hdwy	4.1	-	-	4.44	-	-	7.9	6.5	6.9	7.68	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.9	5.5	-	6.68	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.9	5.5	-	6.68	5.5	-
Follow-up Hdwy	2.2	-	-	2.37	-	-	3.7	4	3.3	3.59	4	3.3
Pot Cap-1 Maneuver	878	-	-	859	-	-	173	147	695	170	147	638
Stage 1	-	-	-	-	-	-	401	483	-	357	424	-
Stage 2	-	-	-	-	-	-	567	420	-	652	478	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	878	-	-	859	-	-	165	145	695	167	145	638
Mov Cap-2 Maneuver	-	-	-	-	-	-	282	269	-	276	268	-
Stage 1	-	-	-	-	-	-	400	482	-	356	420	-
Stage 2	-	-	-	-	-	-	542	416	-	646	477	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	16.5	14.4
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	323	878	-	-	859	-	-	416
HCM Lane V/C Ratio	0.03	0.004	-	-	0.009	-	-	0.084
HCM Control Delay (s)	16.5	9.1	-	-	9.2	-	-	14.4
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	526	10	51	625	29	9	30	30	7	52	22
Future Vol, veh/h	22	526	10	51	625	29	9	30	30	7	52	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	315	225	-	275	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	5	36	10	0	40	4	0	4	0	0	7	5
Mvmt Flow	24	572	11	55	679	32	10	33	33	8	57	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	711	0	0	583	0	0	1098	1441	286	1140	1420	340
Stage 1	-	-	-	-	-	-	620	620	-	789	789	-
Stage 2	-	-	-	-	-	-	478	821	-	351	631	-
Critical Hdwy	4.2	-	-	4.1	-	-	7.5	6.58	6.9	7.5	6.64	7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.58	-	6.5	5.64	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.58	-	6.5	5.64	-
Follow-up Hdwy	2.25	-	-	2.2	-	-	3.5	4.04	3.3	3.5	4.07	3.35
Pot Cap-1 Maneuver	865	-	-	1001	-	-	170	129	717	158	129	647
Stage 1	-	-	-	-	-	-	447	473	-	354	388	-
Stage 2	-	-	-	-	-	-	543	382	-	644	460	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	865	-	-	1001	-	-	124	119	717	126	119	647
Mov Cap-2 Maneuver	-	-	-	-	-	-	245	230	-	241	227	-
Stage 1	-	-	-	-	-	-	434	460	-	344	367	-
Stage 2	-	-	-	-	-	-	418	361	-	555	447	-

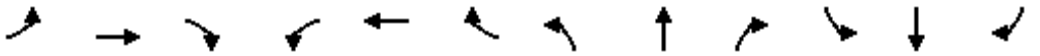
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.6	19.1	23.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	330	865	-	-	1001	-	-	277
HCM Lane V/C Ratio	0.227	0.028	-	-	0.055	-	-	0.318
HCM Control Delay (s)	19.1	9.3	-	-	8.8	-	-	23.9
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0.2	-	-	1.3



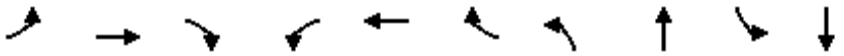
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	8	585	51	2	643	55	113	96
v/c Ratio	0.05	0.31	0.04	0.01	0.36	0.05	0.49	0.42
Control Delay	33.6	6.7	0.5	33.5	7.1	0.7	35.1	33.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.6	6.7	0.5	33.5	7.1	0.7	35.1	33.2
Queue Length 50th (ft)	3	41	0	1	47	0	42	35
Queue Length 95th (ft)	18	132	4	8	152	6	103	89
Internal Link Dist (ft)		844			1114		201	746
Turn Bay Length (ft)	375		400	225		250		
Base Capacity (vph)	178	1858	1190	222	1793	1113	416	409
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.31	0.04	0.01	0.36	0.05	0.27	0.23

Intersection Summary



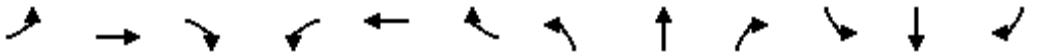
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	538	47	2	592	51	50	48	6	32	50	6
Future Volume (vph)	7	538	47	2	592	51	50	48	6	32	50	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5		5.5			5.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.99			0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.98			0.98	
Satd. Flow (prot)	1444	2579	1615	1805	2490	1509		1779			1733	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.85			0.86	
Satd. Flow (perm)	1444	2579	1615	1805	2490	1509		1542			1514	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	585	51	2	643	55	54	52	7	35	54	7
RTOR Reduction (vph)	0	0	18	0	0	19	0	3	0	0	4	0
Lane Group Flow (vph)	8	585	33	2	643	36	0	110	0	0	92	0
Heavy Vehicles (%)	25%	40%	0%	0%	45%	7%	4%	0%	25%	12%	4%	0%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2			6	8			4		
Actuated Green, G (s)	1.2	49.2	49.2	1.1	49.1	49.1		8.9			8.9	
Effective Green, g (s)	1.2	49.2	49.2	1.1	49.1	49.1		8.9			8.9	
Actuated g/C Ratio	0.02	0.65	0.65	0.01	0.65	0.65		0.12			0.12	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5		5.5			5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	22	1676	1049	26	1615	978		181			178	
v/s Ratio Prot	c0.01	0.23		0.00	c0.26							
v/s Ratio Perm			0.02			0.02		c0.07			0.06	
v/c Ratio	0.36	0.35	0.03	0.08	0.40	0.04		0.61			0.52	
Uniform Delay, d1	36.9	6.0	4.7	36.8	6.3	4.8		31.7			31.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	9.9	0.6	0.1	1.3	0.7	0.1		5.7			2.6	
Delay (s)	46.8	6.6	4.8	38.1	7.0	4.9		37.5			33.9	
Level of Service	D	A	A	D	A	A		D			C	
Approach Delay (s)		6.9			7.0			37.5			33.9	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	75.7	Sum of lost time (s)	16.5
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	45	551	26	135	646	76	41	186	53	115
v/c Ratio	0.31	0.40	0.03	0.52	0.42	0.09	0.21	0.51	0.53	0.44
Control Delay	39.8	14.8	0.1	38.8	12.1	2.2	32.2	13.6	50.6	19.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.8	14.8	0.1	38.8	12.1	2.2	32.2	13.6	50.6	19.0
Queue Length 50th (ft)	20	83	0	60	93	0	17	13	24	17
Queue Length 95th (ft)	57	165	0	123	178	16	47	70	63	66
Internal Link Dist (ft)		1315			5108			1028		869
Turn Bay Length (ft)	750		700	700		750	250		325	
Base Capacity (vph)	197	1384	853	407	1612	844	331	523	174	402
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.40	0.03	0.33	0.40	0.09	0.12	0.36	0.30	0.29

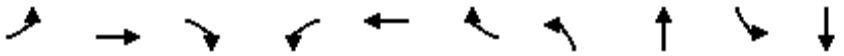
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	507	24	124	594	70	38	29	142	49	38	68
Future Volume (veh/h)	41	507	24	124	594	70	38	29	142	49	38	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1233	1381	1781	1796	1307	1530	1900	1856	1841	1248	1693	1411
Adj Flow Rate, veh/h	45	551	26	135	646	76	41	32	154	53	41	74
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	45	35	8	7	40	25	0	3	4	44	14	33
Cap, veh/h	66	1280	736	171	1319	689	265	55	265	168	107	193
Arrive On Green	0.06	0.49	0.49	0.10	0.53	0.53	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1174	2624	1510	1711	2484	1296	1298	278	1337	799	541	976
Grp Volume(v), veh/h	45	551	26	135	646	76	41	0	186	53	0	115
Grp Sat Flow(s),veh/h/ln	1174	1312	1510	1711	1242	1296	1298	0	1615	799	0	1517
Q Serve(g_s), s	2.9	10.5	0.7	5.9	12.7	2.2	2.2	0.0	8.0	5.0	0.0	5.1
Cycle Q Clear(g_c), s	2.9	10.5	0.7	5.9	12.7	2.2	7.2	0.0	8.0	13.0	0.0	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.83	1.00		0.64
Lane Grp Cap(c), veh/h	66	1280	736	171	1319	689	265	0	320	168	0	300
V/C Ratio(X)	0.68	0.43	0.04	0.79	0.49	0.11	0.15	0.00	0.58	0.31	0.00	0.38
Avail Cap(c_a), veh/h	176	1280	736	389	1405	733	320	0	388	202	0	365
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	35.6	12.8	10.3	33.8	11.4	9.0	29.9	0.0	28.0	33.8	0.0	26.8
Incr Delay (d2), s/veh	11.7	1.1	0.1	7.9	0.3	0.1	0.3	0.0	1.7	1.1	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	1.0	2.7	0.2	2.6	2.8	0.5	0.7	0.0	3.0	1.0	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.3	13.8	10.4	41.8	11.7	9.0	30.2	0.0	29.6	34.9	0.0	27.6
LnGrp LOS	D	B	B	D	B	A	C	A	C	C	A	C
Approach Vol, veh/h		622			857			227			168	
Approach Delay, s/veh		16.1			16.2			29.7			29.9	
Approach LOS		B			B			C			C	

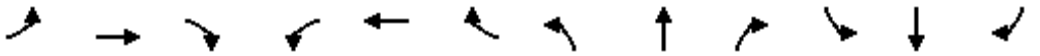
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.2	43.0		20.7	9.8	46.4		20.7				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	17.5	37.5		18.5	11.5	43.5		18.5				
Max Q Clear Time (g_c+I1), s	7.9	12.5		15.0	4.9	14.7		10.0				
Green Ext Time (p_c), s	0.2	3.5		0.3	0.0	4.6		0.7				

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	161	459	72	47	490	101	84	433	87	516
v/c Ratio	0.63	0.36	0.09	0.36	0.54	0.14	0.50	0.72	0.51	0.73
Control Delay	46.5	18.2	0.2	46.5	26.3	0.4	48.6	37.0	49.1	27.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.5	18.2	0.2	46.5	26.3	0.4	48.6	37.0	49.1	27.2
Queue Length 50th (ft)	87	98	0	26	120	0	46	107	47	88
Queue Length 95th (ft)	150	143	0	60	176	0	92	158	95	144
Internal Link Dist (ft)		5108			2163			1310		1016
Turn Bay Length (ft)	475		450	500		525			325	
Base Capacity (vph)	316	1273	804	140	907	698	194	693	195	790
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.36	0.09	0.34	0.54	0.14	0.43	0.62	0.45	0.65

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	422	66	43	451	93	77	288	110	80	260	214
Future Volume (veh/h)	148	422	66	43	451	93	77	288	110	80	260	214
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1381	1796	1485	1292	1841	1767	1885	1841	1781	1870	1856
Adj Flow Rate, veh/h	161	459	72	47	490	101	84	313	120	87	283	233
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	35	7	28	41	4	9	1	4	8	2	3
Cap, veh/h	199	1127	654	80	918	583	106	454	171	110	339	270
Arrive On Green	0.11	0.43	0.43	0.06	0.37	0.37	0.06	0.18	0.18	0.07	0.18	0.18
Sat Flow, veh/h	1781	2624	1522	1414	2456	1560	1682	2547	957	1697	1878	1499
Grp Volume(v), veh/h	161	459	72	47	490	101	84	218	215	87	267	249
Grp Sat Flow(s),veh/h/ln	1781	1312	1522	1414	1228	1560	1682	1791	1713	1697	1777	1600
Q Serve(g_s), s	7.2	9.8	2.3	2.6	12.7	3.5	4.0	9.3	9.6	4.1	11.8	12.3
Cycle Q Clear(g_c), s	7.2	9.8	2.3	2.6	12.7	3.5	4.0	9.3	9.6	4.1	11.8	12.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.56	1.00		0.94
Lane Grp Cap(c), veh/h	199	1127	654	80	918	583	106	320	306	110	320	289
V/C Ratio(X)	0.81	0.41	0.11	0.59	0.53	0.17	0.79	0.68	0.70	0.79	0.83	0.86
Avail Cap(c_a), veh/h	318	1127	654	141	918	583	197	342	327	198	339	305
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	35.2	16.0	13.9	37.4	19.9	17.0	37.5	31.2	31.4	37.4	32.1	32.3
Incr Delay (d2), s/veh	7.9	1.1	0.3	6.8	2.2	0.6	12.2	5.1	6.2	11.6	15.7	20.7
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	3.3	2.7	0.8	1.0	3.4	1.3	1.9	4.2	4.3	2.0	6.2	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	17.1	14.2	44.2	22.1	17.7	49.7	36.3	37.5	49.1	47.8	53.0
LnGrp LOS	D	B	B	D	C	B	D	D	D	D	D	D
Approach Vol, veh/h		692			638			517			603	
Approach Delay, s/veh		22.9			23.0			39.0			50.1	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	40.4	10.6	20.2	14.6	35.9	10.8	20.0
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	8.1	34.9	9.5	15.5	14.5	28.5	9.5	15.5
Max Q Clear Time (g_c+I1), s	4.6	11.8	6.0	14.3	9.2	14.7	6.1	11.6
Green Ext Time (p_c), s	0.0	3.0	0.0	0.4	0.2	2.8	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	33.0
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	19	467	49	13	429
Future Vol, veh/h	38	19	467	49	13	429
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	6	11	2	2	8	3
Mvmt Flow	41	21	508	53	14	466

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	796	281	0	0	561	0
Stage 1	535	-	-	-	-	-
Stage 2	261	-	-	-	-	-
Critical Hdwy	6.92	7.12	-	-	4.26	-
Critical Hdwy Stg 1	5.92	-	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-	-	-
Follow-up Hdwy	3.56	3.41	-	-	2.28	-
Pot Cap-1 Maneuver	316	690	-	-	966	-
Stage 1	540	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	312	690	-	-	966	-
Mov Cap-2 Maneuver	420	-	-	-	-	-
Stage 1	540	-	-	-	-	-
Stage 2	737	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	420	690	966	-
HCM Lane V/C Ratio	-	-	0.098	0.03	0.015	-
HCM Control Delay (s)	-	-	14.5	10.4	8.8	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	39	14	483	59	27	456
Future Vol, veh/h	39	14	483	59	27	456
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	15	2	4	11	3
Mvmt Flow	42	15	525	64	29	496

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	863	295	0	0	589	0
Stage 1	557	-	-	-	-	-
Stage 2	306	-	-	-	-	-
Critical Hdwy	6.86	7.2	-	-	4.32	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.45	-	-	2.31	-
Pot Cap-1 Maneuver	292	664	-	-	923	-
Stage 1	535	-	-	-	-	-
Stage 2	717	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	283	664	-	-	923	-
Mov Cap-2 Maneuver	401	-	-	-	-	-
Stage 1	535	-	-	-	-	-
Stage 2	695	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.8	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	401	664	923	-
HCM Lane V/C Ratio	-	-	0.106	0.023	0.032	-
HCM Control Delay (s)	-	-	15	10.5	9	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	0.1	-

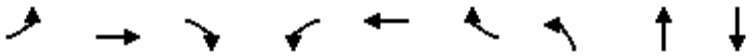
Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	742	13	0	720	11	0	0	49	0	0	41
Future Vol, veh/h	0	742	13	0	720	11	0	0	49	0	0	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	43	0	0	43	34	0	0	0	0	0	26
Mvmt Flow	0	807	14	0	783	12	0	0	53	0	0	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	411	-	-	398
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	6.9	-	-	7.42
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.3	-	-	3.56
Pot Cap-1 Maneuver	0	-	-	0	-	-	0	0	596	0	0	539
Stage 1	0	-	-	0	-	-	0	0	-	0	0	-
Stage 2	0	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	596	-	-	539
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

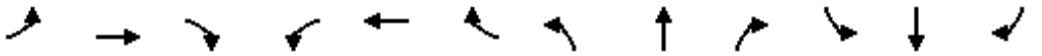
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	11.6	12.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	596	-	-	-	-	539
HCM Lane V/C Ratio	0.089	-	-	-	-	0.083
HCM Control Delay (s)	11.6	-	-	-	-	12.3
HCM Lane LOS	B	-	-	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	-	0.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	33	503	114	49	418	2	79	85	68
v/c Ratio	0.17	0.31	0.15	0.25	0.24	0.00	0.52	0.34	0.23
Control Delay	35.6	10.7	3.2	36.0	8.5	0.0	42.2	19.0	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	10.7	3.2	36.0	8.5	0.0	42.2	19.0	16.8
Queue Length 50th (ft)	15	67	0	22	29	0	35	15	11
Queue Length 95th (ft)	44	129	27	58	101	0	80	54	45
Internal Link Dist (ft)		2833			1282			431	373
Turn Bay Length (ft)	625		550	550		625	100		
Base Capacity (vph)	267	1634	757	256	1774	1127	311	455	562
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.31	0.15	0.19	0.24	0.00	0.25	0.19	0.12

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	463	105	45	385	2	73	33	45	0	25	38
Future Volume (veh/h)	30	463	105	45	385	2	73	33	45	0	25	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1292	1248	1841	1337	1900	1337	1722	1248	1900	1900	1811
Adj Flow Rate, veh/h	33	503	114	49	418	2	79	36	49	0	27	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	41	44	4	38	0	38	12	44	0	0	6
Cap, veh/h	85	1377	593	106	1459	925	209	99	135	0	102	155
Arrive On Green	0.05	0.56	0.56	0.06	0.57	0.57	0.15	0.15	0.15	0.00	0.15	0.15
Sat Flow, veh/h	1810	2456	1058	1753	2540	1610	953	661	899	0	681	1033
Grp Volume(v), veh/h	33	503	114	49	418	2	79	0	85	0	0	68
Grp Sat Flow(s),veh/h/ln	1810	1228	1058	1753	1270	1610	953	0	1560	0	0	1714
Q Serve(g_s), s	1.3	8.2	3.8	2.0	6.1	0.0	5.8	0.0	3.5	0.0	0.0	2.5
Cycle Q Clear(g_c), s	1.3	8.2	3.8	2.0	6.1	0.0	8.3	0.0	3.5	0.0	0.0	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.58	0.00		0.60
Lane Grp Cap(c), veh/h	85	1377	593	106	1459	925	209	0	234	0	0	257
V/C Ratio(X)	0.39	0.37	0.19	0.46	0.29	0.00	0.38	0.00	0.36	0.00	0.00	0.26
Avail Cap(c_a), veh/h	263	1377	593	255	1459	925	363	0	486	0	0	534
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	0.00	0.00	1.00
Uniform Delay (d), s/veh	33.4	8.8	7.8	32.8	7.8	6.5	30.8	0.0	27.6	0.0	0.0	27.2
Incr Delay (d2), s/veh	2.9	0.8	0.7	3.1	0.5	0.0	1.1	0.0	0.9	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	0.6	1.7	0.8	0.8	1.3	0.0	1.3	0.0	1.3	0.0	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	9.5	8.5	35.9	8.3	6.5	32.0	0.0	28.5	0.0	0.0	27.7
LnGrp LOS	D	A	A	D	A	A	C	A	C	A	A	C
Approach Vol, veh/h		650			469			164			68	
Approach Delay, s/veh		10.7			11.2			30.2			27.7	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.9	46.0		16.3	8.9	47.0		16.3				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	10.5	40.5		22.5	10.5	40.5		22.5				
Max Q Clear Time (g_c+I1), s	4.0	10.2		4.5	3.3	8.1		10.3				
Green Ext Time (p_c), s	0.0	3.7		0.2	0.0	2.7		0.6				

Intersection Summary		
HCM 6th Ctrl Delay		14.1
HCM 6th LOS		B

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	598	4	1	514	15	4	3	2	13	19	10
Future Vol, veh/h	7	598	4	1	514	15	4	3	2	13	19	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	350	-	350	325	-	350	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	650	4	1	559	16	4	3	2	14	21	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	575	0	0	654	0	0	958	1243	325	904	1231	280
Stage 1	-	-	-	-	-	-	666	666	-	561	561	-
Stage 2	-	-	-	-	-	-	292	577	-	343	670	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	994	-	-	929	-	-	212	173	671	232	176	717
Stage 1	-	-	-	-	-	-	415	456	-	480	508	-
Stage 2	-	-	-	-	-	-	692	500	-	646	454	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	994	-	-	929	-	-	196	171	671	228	174	717
Mov Cap-2 Maneuver	-	-	-	-	-	-	312	293	-	349	296	-
Stage 1	-	-	-	-	-	-	412	452	-	476	507	-
Stage 2	-	-	-	-	-	-	653	500	-	634	450	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	15.7	16.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	346	994	-	-	929	-	-	364
HCM Lane V/C Ratio	0.028	0.008	-	-	0.001	-	-	0.125
HCM Control Delay (s)	15.7	8.7	-	-	8.9	-	-	16.3
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	93	0	0	9	82	831	6	0	837	121
Future Vol, veh/h	0	0	93	0	0	9	82	831	6	0	837	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	375	-	375	-	-	0
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	8	0	0	0	1	30	37	0	25	5
Mvmt Flow	0	0	101	0	0	10	89	903	7	0	910	132

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	455	-	-	452	1042	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.06	-	-	6.9	4.12	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.38	-	-	3.3	2.21	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	536	0	0	560	669	-	-	0	-	-
Stage 1	0	0	-	0	0	-	-	-	-	0	-	-
Stage 2	0	0	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	536	-	-	560	669	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.3	11.5	1	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	669	-	-	536	560	-	-
HCM Lane V/C Ratio	0.133	-	-	0.189	0.017	-	-
HCM Control Delay (s)	11.2	-	-	13.3	11.5	-	-
HCM Lane LOS	B	-	-	B	B	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0.7	0.1	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	141	152	827	817	6
Future Vol, veh/h	6	141	152	827	817	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	400	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	100	3	4	27	26	100
Mvmt Flow	7	153	165	899	888	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1668	444	895	0	-	0
Stage 1	888	-	-	-	-	-
Stage 2	780	-	-	-	-	-
Critical Hdwy	8.8	6.96	4.18	-	-	-
Critical Hdwy Stg 1	7.8	-	-	-	-	-
Critical Hdwy Stg 2	7.8	-	-	-	-	-
Follow-up Hdwy	4.5	3.33	2.24	-	-	-
Pot Cap-1 Maneuver	32	559	741	-	-	-
Stage 1	193	-	-	-	-	-
Stage 2	231	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	25	559	741	-	-	-
Mov Cap-2 Maneuver	94	-	-	-	-	-
Stage 1	150	-	-	-	-	-
Stage 2	231	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.2	1.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	741	-	94	559	-	-
HCM Lane V/C Ratio	0.223	-	0.069	0.274	-	-
HCM Control Delay (s)	11.2	-	46.1	13.9	-	-
HCM Lane LOS	B	-	E	B	-	-
HCM 95th %tile Q(veh)	0.9	-	0.2	1.1	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	4	1	0	2	97	1	860	0	102	846	19
Future Vol, veh/h	3	4	1	0	2	97	1	860	0	102	846	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	300	-	375	325	-	500
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	9	0	34	0	0	7	67	26	67	7	26	0
Mvmt Flow	3	4	1	0	2	105	1	935	0	111	920	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1613	2079	460	1621	2100	468	941	0	0	935	0	0
Stage 1	1142	1142	-	937	937	-	-	-	-	-	-	-
Stage 2	471	937	-	684	1163	-	-	-	-	-	-	-
Critical Hdwy	7.68	6.5	7.58	7.5	6.5	7.04	5.44	-	-	4.24	-	-
Critical Hdwy Stg 1	6.68	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.68	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4	3.64	3.5	4	3.37	2.87	-	-	2.27	-	-
Pot Cap-1 Maneuver	65	54	470	70	52	528	430	-	-	698	-	-
Stage 1	202	278	-	289	346	-	-	-	-	-	-	-
Stage 2	524	346	-	410	271	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	45	45	470	60	44	528	430	-	-	698	-	-
Mov Cap-2 Maneuver	130	127	-	169	144	-	-	-	-	-	-	-
Stage 1	202	234	-	288	345	-	-	-	-	-	-	-
Stage 2	416	345	-	338	228	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	32.2	14.1	0	1.2
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	430	-	-	141	501	698	-	-
HCM Lane V/C Ratio	0.003	-	-	0.062	0.215	0.159	-	-
HCM Control Delay (s)	13.4	-	-	32.2	14.1	11.1	-	-
HCM Lane LOS	B	-	-	D	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.8	0.6	-	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	35	7	36	37	76	13	663	79	71	719	45
Future Vol, veh/h	21	35	7	36	37	76	13	663	79	71	719	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	350	-	350	350	-	350
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	7	0	2	10	8	0	31	7	7	26	7
Mvmt Flow	23	38	8	39	40	83	14	721	86	77	782	49

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1345	1771	391	1313	1734	361	831	0	0	807	0	0
Stage 1	936	936	-	749	749	-	-	-	-	-	-	-
Stage 2	409	835	-	564	985	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.64	6.9	7.54	6.7	7.06	4.1	-	-	4.24	-	-
Critical Hdwy Stg 1	6.5	5.64	-	6.54	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.64	-	6.54	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.07	3.3	3.52	4.1	3.38	2.2	-	-	2.27	-	-
Pot Cap-1 Maneuver	112	78	614	116	80	619	810	-	-	782	-	-
Stage 1	289	331	-	370	399	-	-	-	-	-	-	-
Stage 2	596	369	-	478	307	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	73	69	614	86	71	619	810	-	-	782	-	-
Mov Cap-2 Maneuver	180	165	-	204	174	-	-	-	-	-	-	-
Stage 1	284	299	-	364	392	-	-	-	-	-	-	-
Stage 2	455	363	-	371	277	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	35.5	31.8	0.2	0.9
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	810	-	-	185	291	782	-	-
HCM Lane V/C Ratio	0.017	-	-	0.37	0.557	0.099	-	-
HCM Control Delay (s)	9.5	-	-	35.5	31.8	10.1	-	-
HCM Lane LOS	A	-	-	E	D	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.6	3.1	0.3	-	-