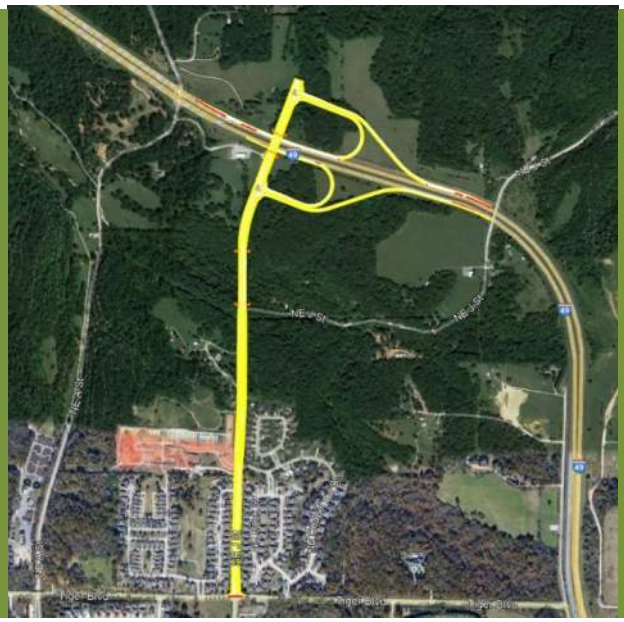
Interchange Justification Report

Interstate 49 at NE J Street

Bentonville, Arkansas



Prepared For:

The City of Bentonville, AR

May 2022

GarverUSA.com

INTERCHANGE JUSTIFICATION REPORT

Interstate 49 Interchange at NE J Street
Benton County

Prepared by:

2049 Joyce Boulevard #400

Fayetteville, AR 72703

May 2022

Garver Project No.: 21T21070

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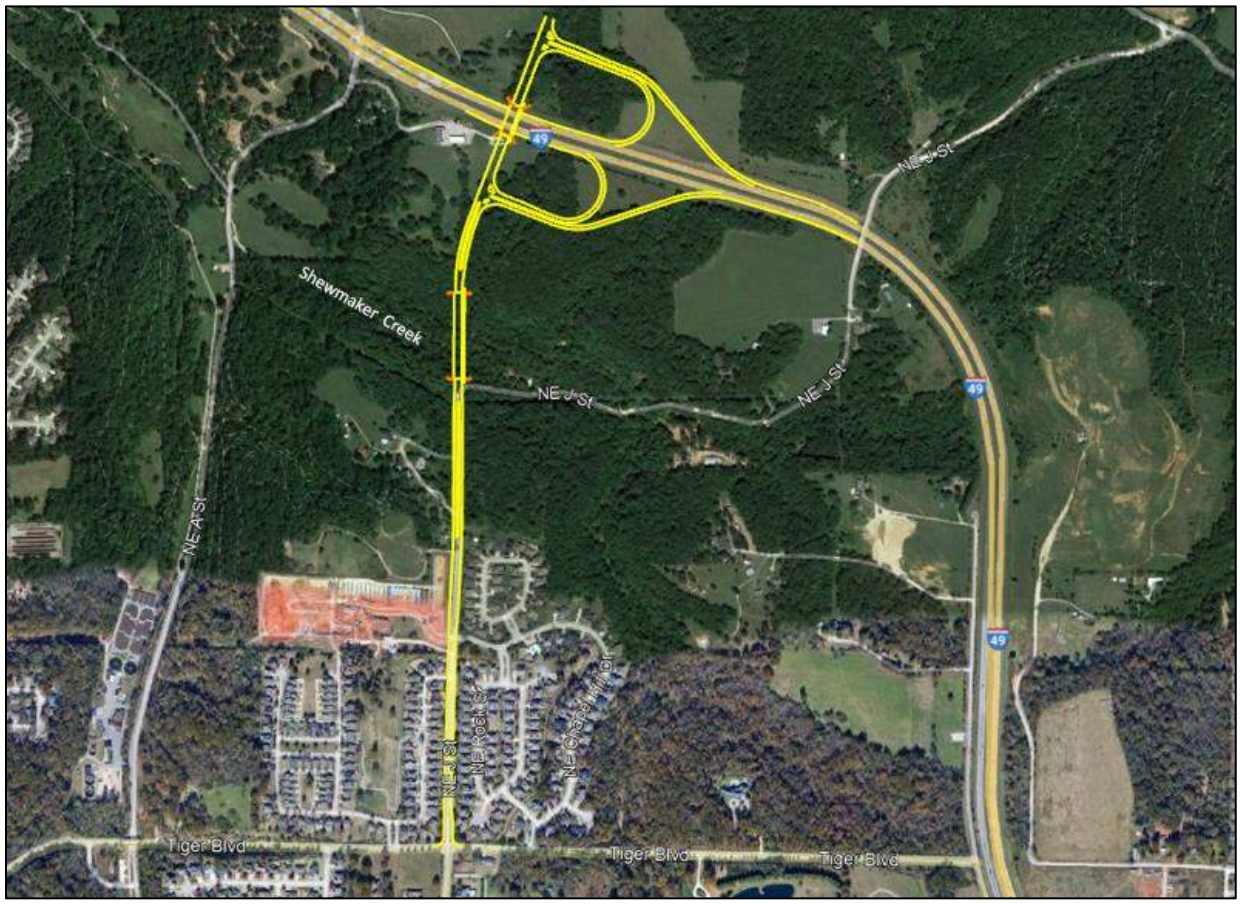
INTRODUCTION

The City of Bentonville, Arkansas is proposing improvements to NE J Street between Tiger Boulevard and Interstate 49 (I-49). The proposed improvements include widening NE J Street to three lanes from Tiger Boulevard to near Shewmaker Creek, and then constructing a four-lane section on new location from Shewmaker Creek to I-49. The improvements will require a new bridge over Shewmaker Creek and a new I-49 interchange between the existing interchanges at Highway 72 and Highway 71B. The proposed improvements are shown in **Figure 1**. A more detailed layout is included in **Appendix A – Conceptual Design**.

This document was prepared in accordance with *Procedures for New or Revised Freeway Access in Arkansas*, June 2011, to address the eight policy requirements of the Federal Highway Administration (FHWA) for new or revised access to the existing Interstate System. The analysis shows that the proposed improvements will not have a significant adverse impact on the traffic operations or safety of the interstate system or the connecting roadway network.

Figure 1: Proposed Improvements

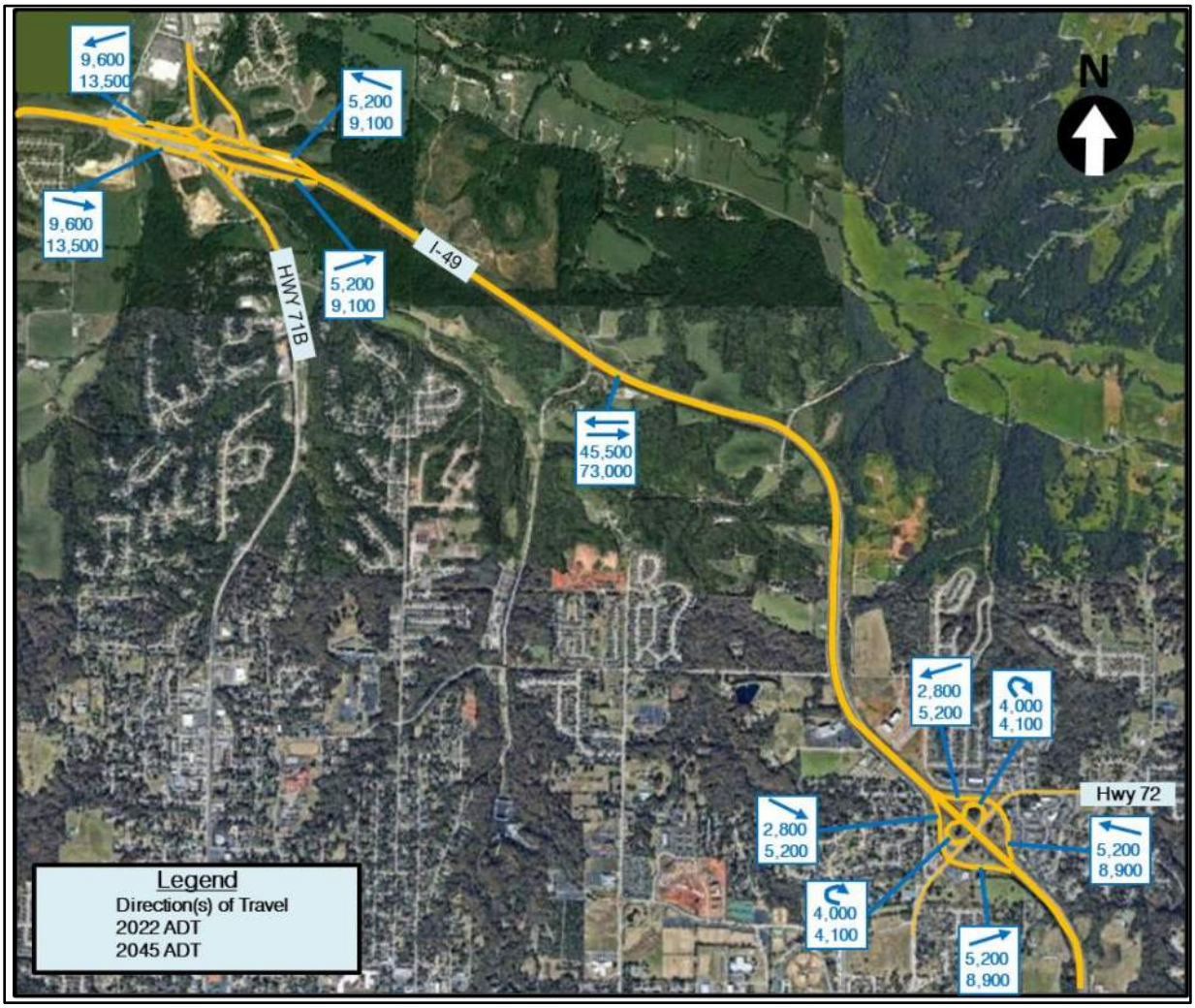


PURPOSE AND NEED

TRAFFIC FORECAST

Traffic data along I-49 was obtained from the Arkansas Department of Transportation (ARDOT) website. This data was projected to 2022 using growth rates which were determined for each freeway facility segment based on historical data as well as the Northwest Arkansas Travel Demand Model (NWA TDM). Peak Hour turning movement counts were collected at the intersection of NE J Street and Tiger Boulevard. The ADT volumes along I-49 for the No-Action scenarios are shown in **Figure 2**.

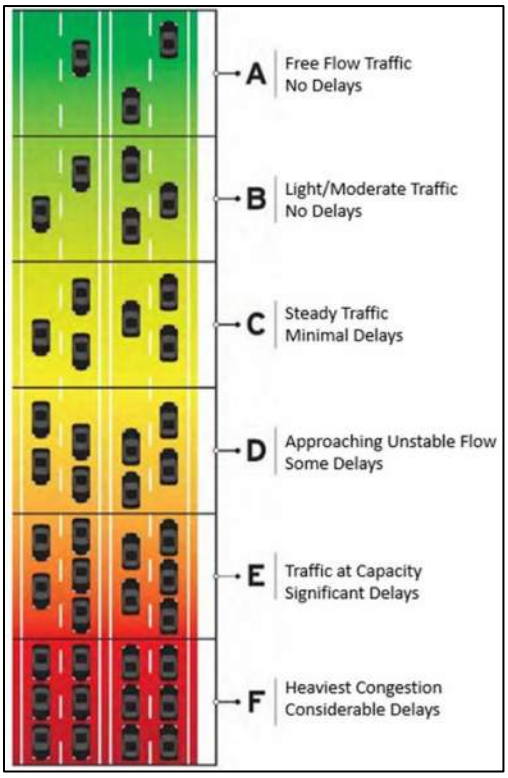
Figure 2: 2022 and 2045 No-Action Volumes



NO-ACTION TRAFFIC OPERATIONS ANALYSIS

The *Highway Capacity Manual 7th Edition (HCM)* qualitatively describes operating conditions within a traffic stream or at an intersection using a concept known as Level of Service (LOS). LOS is typically designated into six categories. These range from LOS A indicating free-flow, low density, or nearly negligible delay conditions to LOS F where demand exceeds capacity and large queues are experienced. A graphical representation of LOS is presented in **Figure 3**. The minimum acceptable LOS is generally set at LOS C for rural areas and LOS D for urban areas. For this study, LOS D is used as the threshold for acceptable LOS.

Figure 3: Level of Service (LOS) Categories



Freeway Analysis

HCM methodology was utilized via the freeway facilities module of the *Highway Capacity Software (HCS)* to identify any current or anticipated operational needs for the I-49 corridor during typical peak hours. The northbound and southbound segments of I-49 from north of Highway 71B through south of Highway 72 under 2022 and 2045 No-Action conditions were evaluated.

The LOS criteria for various freeway segments are defined in *HCM Exhibits 12-15, 13-6, and 14-3,* as shown in **Table 1**.

Table 1: LOS Criteria for Urban Freeway Facilities

Level of Service	Density (pc/mi/ln)		
	Basic Freeway Segment	Merge/Diverge Segment	Freeway Weaving Segment
A	≤ 11	≤ 10	0 - 10
B	> 11 - 18	> 10 - 20	> 10 - 20
C	> 18 - 26	> 20 - 28	> 20 - 28
D	> 26 - 35	> 28 - 35	> 28 - 35
E	> 35 - 45	> 35	> 35 - 43
F	> 45 or Demand > Capacity	Demand > Capacity	> 43 or Demand > Capacity

The LOS results under the 2022 and 2045 No-Action conditions are summarized in **Tables 2** - **5**. Under 2022 conditions, I-49 is a four-lane, divided freeway with one-lane ramps. By 2045, I-49 will be widened to three lanes in each direction for the No-Action scenario.

The I-49 freeway facility will operate acceptably in 2022 with LOS D or better at all locations in the study area. However, operational issues develop by 2045. The northbound entrance ramp and southbound exit ramp at Highway 71B experience LOS F conditions, and the northbound exit ramp to Highway 72 experiences LOS E conditions under the No-Action alternative.

Table 2: I-49 Northbound 2022 No-Action LOS Results

I-49 NB	2022 No-Action		
Location	ADT	AM Peak - LOS	PM Peak - LOS
SE 8th St (Exit 87) to Hwy 72 (Exit 88)	58,000	B	C
Exit 88 Exit Ramp Hwy 72	5,200	B	C
Exit 88 Loop Exit Ramp Hwy 72	4,000	A	B
Exit 88 Entrance Ramp Hwy 72	2,800	B	C
Hwy 72 (Exit 88) to J Street (Exit 91 or 92)	45,500	A	C
Exit 91 or 92 Exit Ramp J Street	Future	Future	Future
Exit 91 or 92 Entrance Ramp J Street	Future	Future	Future
J Street (Exit 91 or 92) to Hwy 71B (Exit 93)	45,500	A	C
Exit 93 Exit Ramp Hwy 71B	5,200	A	B
Exit 93 Entrance Ramp Hwy 71B	9,600	A	C

Table 3: I-49 Southbound 2022 No-Action LOS Results

I-49 SB	2022 No-Action		
Location	ADT	AM Peak - LOS	PM Peak - LOS
Exit 93 Exit Ramp Hwy 71B	9,600	D	C
Exit 93 Entrance Ramp Hwy 71B	5,200	B	B
Hwy 71B (Exit 93) to J Street (Exit 91 or 92)	45,500	C	B
Exit 91 or 92 Exit Ramp J Street	**Future**	**Future**	**Future**
Exit 91 or 92 Entrance Ramp J Street	**Future**	**Future**	**Future**
J Street (Exit 91 or 92) to Hwy 72 (Exit 88)	45,500	C	B
Exit 88 Exit Ramp Hwy 72	2,800	D	B
Exit 88 Loop Entrance Ramp Hwy 72	4,000	B	A
Exit 88 Entrance Ramp Hwy 72	5,200	B	B
Hwy 72 (Exit 88) to SE 8th St (Exit 87)	58,000	C	B

Table 4: I-49 Northbound 2045 No-Action LOS Results

I-49 NB	2045 No-Action		
Location	ADT	AM Peak - LOS	PM Peak - LOS
SE 8th St (Exit 87) to Hwy 72 (Exit 88)	88,500	B	D
Exit 88 Exit Ramp Hwy 72	8,900	C	E
Exit 88 Loop Exit Ramp Hwy 72	4,100	A	B
Exit 88 Entrance Ramp Hwy 72	5,200	B	C
Hwy 72 (Exit 88) to J Street (Exit 91 or 92)	73,000	A	C
Exit 91 or 92 Exit Ramp J Street	**Future**	**Future**	**Future**
Exit 91 or 92 Entrance Ramp J Street	**Future**	**Future**	**Future**
J Street (Exit 91 or 92) to Hwy 71B (Exit 93)	73,000	A	C
Exit 93 Exit Ramp Hwy 71B	9,100	A	B
Exit 93 Entrance Ramp Hwy 71B	13,500	B	F

Table 5: I-49 Southbound 2045 No-Action LOS Results

I-49 SB	2045 No-Action		
Location	ADT	AM Peak - LOS	PM Peak - LOS
Exit 93 Exit Ramp Hwy 71B	13,500	F	C
Exit 93 Entrance Ramp Hwy 71B	9,100	C	B
Hwy 71B (Exit 93) to J Street (Exit 91 or 92)	73,000	D	B
Exit 91 or 92 Exit Ramp J Street	Future	Future	Future
Exit 91 or 92 Entrance Ramp J Street	Future	Future	Future
J Street (Exit 91 or 92) to Hwy 72 (Exit 88)	73,000	D	B
Exit 88 Exit Ramp Hwy 72	5,200	D	C
Exit 88 Loop Entrance Ramp Hwy 72	4,100	C	B
Exit 88 Entrance Ramp Hwy 72	8,900	D	C
Hwy 72 (Exit 88) to SE 8th St (Exit 87)	88,500	D	C

Intersection Analysis

The NE J Street intersection with Tiger Boulevard was evaluated using *Synchro* software according to *HCM* methodology and *Synchro's* companion *SimTraffic* software according to *SimTraffic's* microsimulation methodology. This intersection has no influence on I-49 in the No-Action scenario but was included in the analysis to provide an understanding of how the proposed improvements will impact the local road network once the proposed interchange is operational.

Currently, this is a four-legged intersection with all-way stop control (AWSC). All four approaches consist of a shared left-through-right lane. The LOS Criteria for this type of intersection is identified in *HCM Exhibit 21-8.* The LOS Criteria for a signalized intersection is identified in *HCM Exhibit 19-8*. These criteria are summarized in **Table 6** below. As shown, the LOS for both types of intersections are based on delay.

Table 6: LOS Criteria for Intersections

Level of Service	Signalized Intersection	Stop Controlled Intersection
	Control Delay (sec/veh)	
A	0 to 10	0 to 10
B	> 10 to 20	> 10 to 15
C	> 20 to 35	> 15 to 25
D	> 35 to 55	> 25 to 35
E	> 55 to 80	> 35 to 50
F	> 80 or	> 50 or
	v/c > 1	v/c >1

Table 7 shows the delay and LOS results for the NE J Street/Tiger Boulevard intersection under 2022 Existing Conditions based on *HCM* and *SimTraffic* methodologies. Both methodologies demonstrate acceptable performance with LOS C or better for all movements during both peak periods.

Table 7: LOS Results for 2022 Existing Intersection Conditions

Intersection	Time Period	Control	MOE	EB Movement			WB Movement			NB Movement			SB Movement			Overall
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
HCM																
NE J St at Tiger Blvd	AM	All-Way Stop	LOS	C			B			B	A		A			B
			Delay	15.7			11.0			11.8	9.1		9.7			13.5
	PM		LOS	C			C			C	A		B			C
			Delay	19.5			15.6			18.2	9.6		10.5			17.4
SimTraffic																
NE J St at Tiger Blvd	AM	All-Way Stop	LOS	B	B	A	A	A	A	A	A	A	A	A	A	A
			Delay	10.4	12.7	8.8	7.2	9.6	5.1	6.2	7.7	2.6	6.3	8.1	3.6	9.3
	PM		LOS	B	B	A	B	B	A	A	A	A	A	A	A	B
			Delay	10.3	12.7	8.9	10.2	11.3	6.3	8.8	9.2	3.9	2.7	9.1	3.6	10.2

Table 8 shows the NE J Street/Tiger Boulevard intersection results under 2045 No-Action conditions. According to both methodologies, the intersection will operate with failing overall LOS F during one or more peak hours by 2045, with the eastbound and westbound approaches experiencing unacceptable (LOS E/F) conditions in the AM peak hour and PM peak hour.

Table 8: LOS Results for 2045 No-Action Intersection Conditions

Intersection	Time Period	Control	MOE	EB Movement			WB Movement			NB Movement			SB Movement			Overall
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
HCM																
NE J St at Tiger Blvd	AM	All-Way Stop	LOS	F			C			C	B		B			F
			Delay	132.2			20.4			17.3	11.1		12.7			79.2
	PM		LOS	F			F			F	B		C			F
			Delay	226.4			91.9			74.9	12.3		16.2			137.1
SimTraffic																
NE J St at Tiger Blvd	AM	All-Way Stop	LOS	E	E	E	B	B	A	A	A	A	A	A	A	D
			Delay	41.8	46.3	41.5	10.5	12.4	9.1	8.2	8.4	3.9	6.0	9.8	5.0	28.1
	PM		LOS	F	F	F	E	E	E	C	B	A	A	B	A	F
			Delay	106.8	108.5	101.9	36.2	39.0	39.2	23.3	11.2	6.5	9.2	11.2	5.8	59.5

SAFETY OPERATIONS

In addition to traffic operations, a historical safety analysis of I-49 from 2016 - 2020 was conducted. Crash rates were compared to statewide averages for similar facilities as shown in **Table 9**.

Table 9: Crash Rates (2016-2020)

Route	Section	Log Miles		Weighted ADT	Total Crashes			KA Crashes		
		Begin LM	End LM		Number of Crashes	Crash Rate (per MVM)[1]	Statewide Average (per MVM)[1]	Number of Crashes	Crash Rate (per 100 MVM)[1]	Statewide Average (per 100 MVM)[1]
I-49[2]	29	87.56	91.45	39,000	153	0.55	0.78	5	1.81	2.95

[1]MVM - Million Vehicle Miles
[2]Facility type: Urban 4-lane, divided, full control of access highway

The *Total* crash rates and the *Fatal and Serious Injury (KA)* crash rates for I-49 were below the statewide averages for similar facilities. As shown in **Figure 4**, single vehicle crash type collision was the leading crash type (36%) followed closely by rear end crashes (33%). Most crashes that occurred were No Apparent Injury (O) crashes. Within the five (5) years, 12 Possible Injury (C), 10 Suspected Minor Injury (B), 4 Suspected Serious Injury (A), and 1 Fatal (K) crashes occurred within the study area. **Figure 5** shows the locations of the five (5) KA crashes along I-49 along with crash ratios (all severity) of the study area.

Figure 4: I-49 Crash Manner (2016-2020)

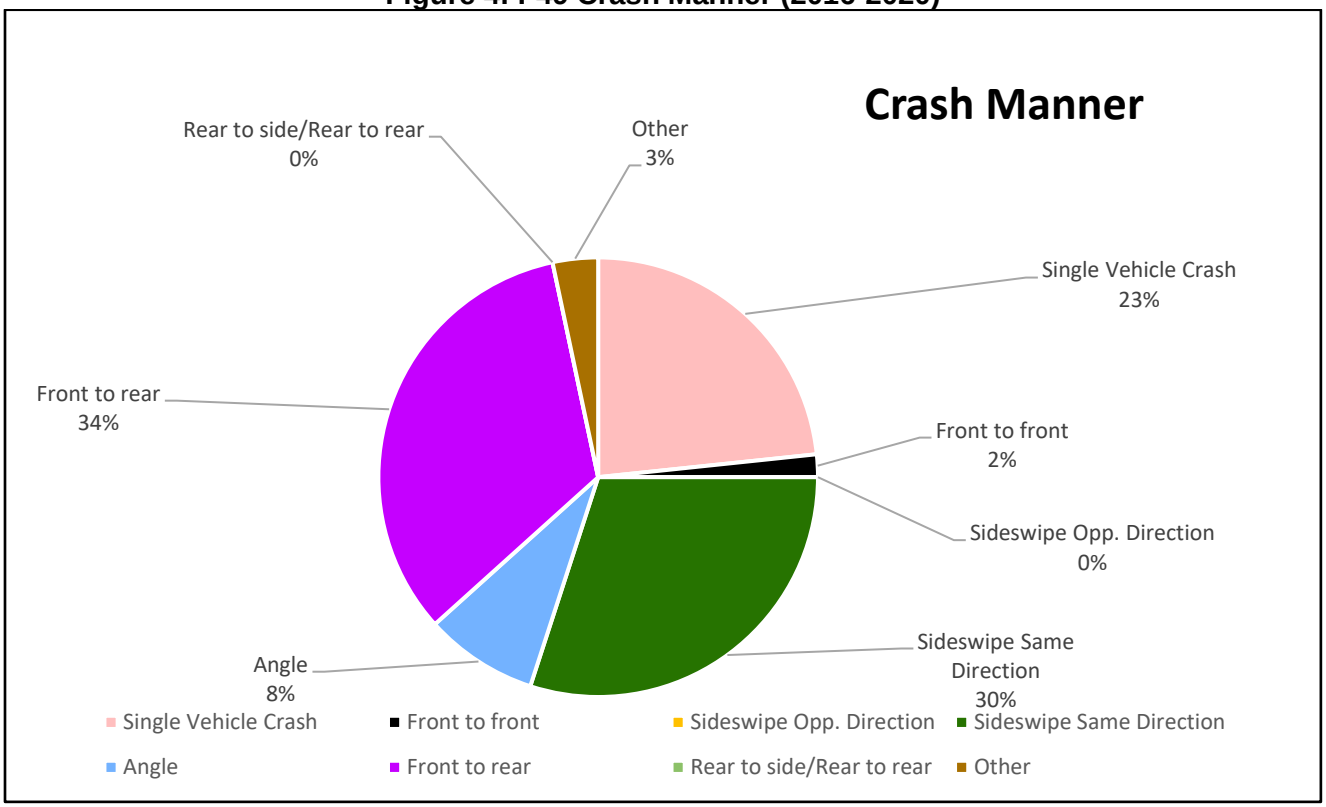
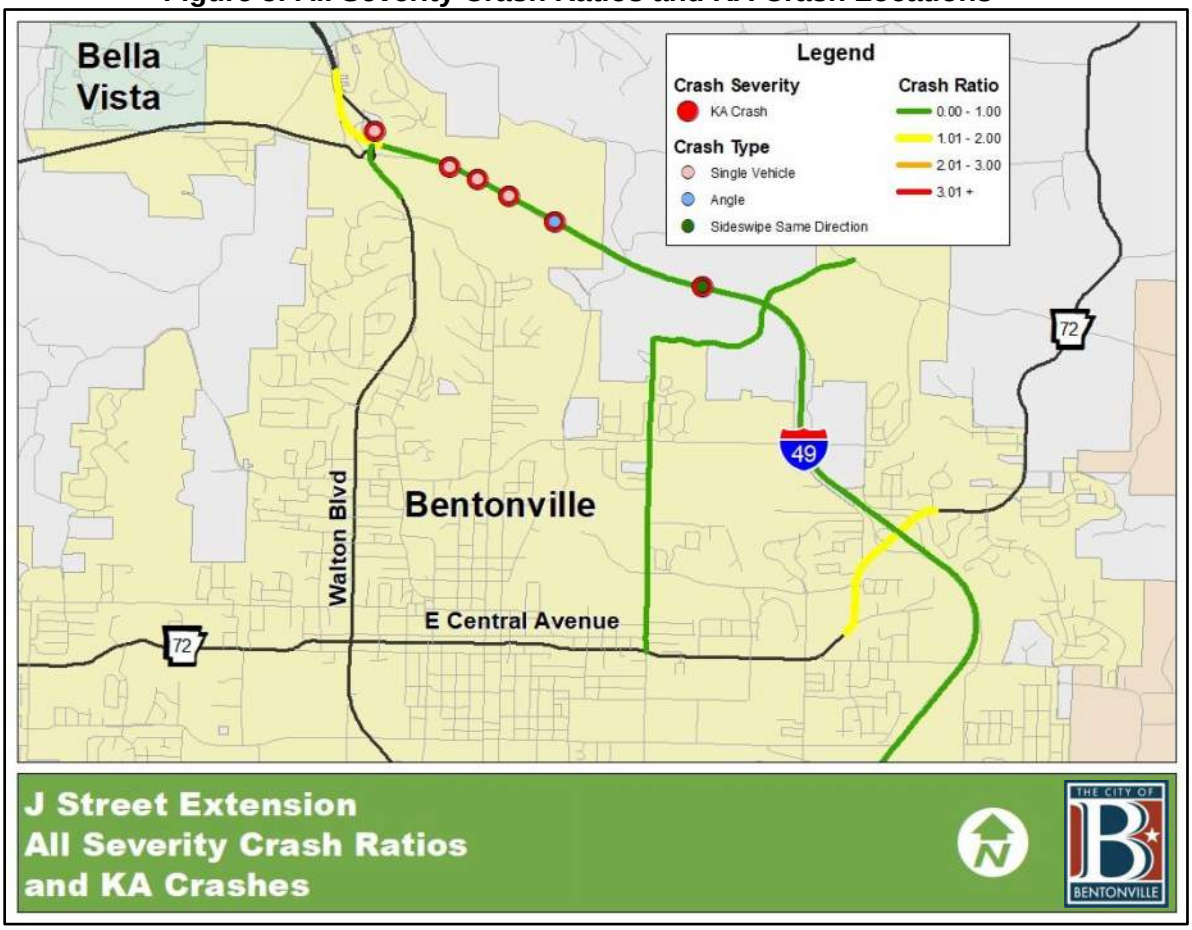


Figure 5: All Severity Crash Ratios and KA Crash Locations



CONNECTIVITY

Connectivity refers to the number of links in a transportation network and how directly travelers can reach their destinations. As connectivity increases, travel distances decrease and route options increase.

A generic extension of NE J Street was added to the NWA TDM to evaluate the connectivity of the roadway network under existing conditions and with the proposed connector in place. The resulting changes in Vehicle Miles of Travel (VMT) and Vehicle Hours of Travel (VHT) within a 3-mile radius of the project area were analyzed to determine the project's impact on connectivity in the design year, 2045.

The addition of the new connector resulted in an increase of 1612 miles traveled per day, while the total travel time (VHT) declined by 208 hours per day. The results are shown in **Table 10**.

Table 10: Regional VMT/VHT

Model	VMT	VHT
Without Connection	1,881,873	76,545
With Connection	1,883,485	76,337
Change	1612	-208

These results show that the NE J Street connection will reduce travel time while providing improved connectivity between I-49 and major Bentonville attractions such as the Crystal Bridges Museum of American Art, the Scott Family Amazeum, and the downtown district.

LOCAL TRANSPORTATION PLANS

The Northwest Arkansas Regional Planning Commission (NWARPC) included the NE J Street Extension and interchange in their Metropolitan Transportation Plan (MTP) to be funded through the Bentonville Bond Program. The improvements are not currently

listed in the 2021 – 2024 NWARPC Transportation Improvement Program (TIP) nor the current Statewide Transportation Improvement Program (STIP). The project will need to be added to the TIP/STIP before approval for the new interchange can be granted.

PURPOSE AND NEED SUMMARY

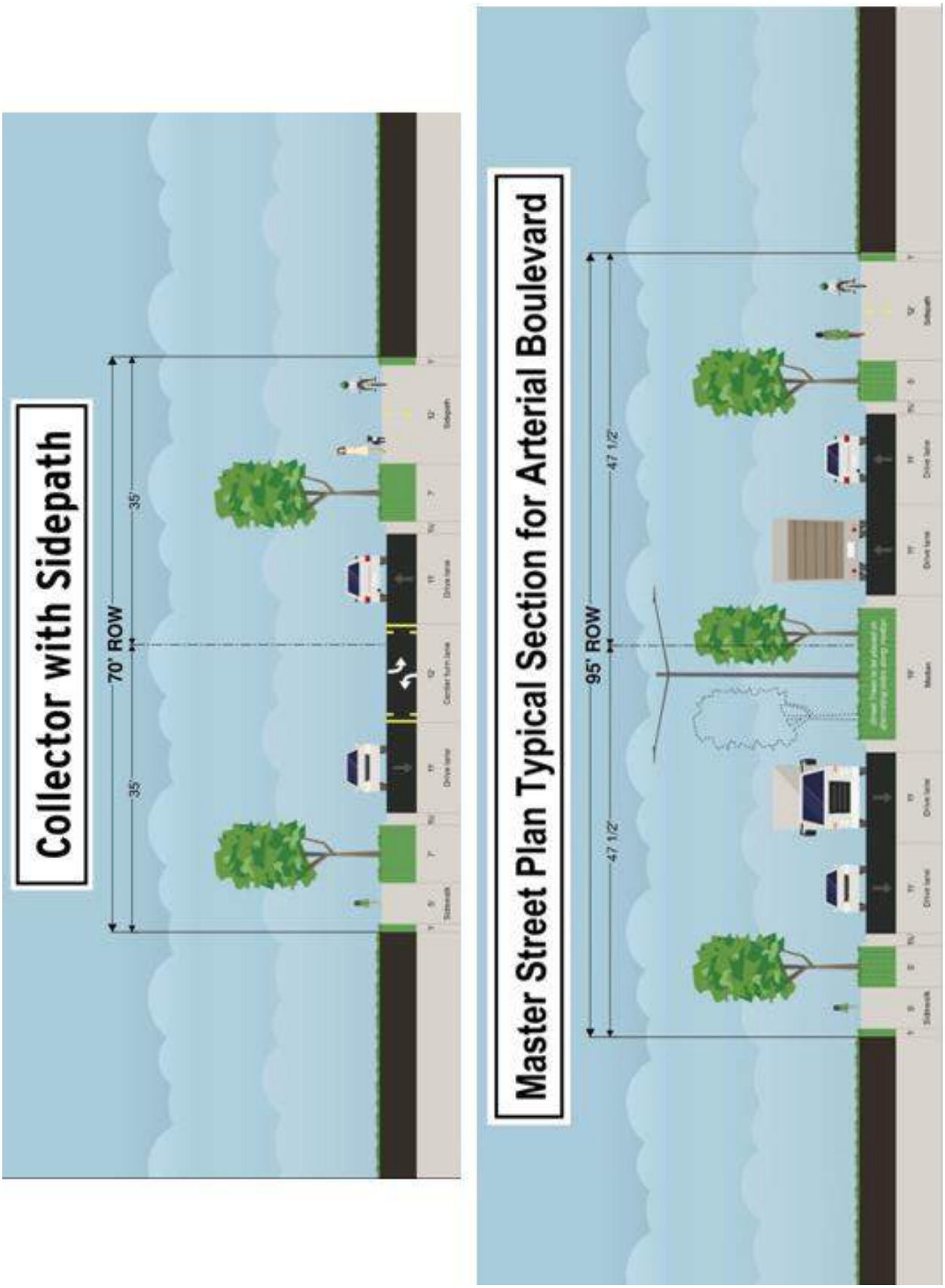
The proposed NE J Street project would improve connectivity between I-49 and downtown Bentonville. The project will also include improvements to the J-Street/Tiger Boulevard intersection, which will experience poor LOS prior to 2045 if no improvements are made. The inclusion of the project in the NWARPC MTP demonstrates that the project will complement the regional transportation network.

PROPOSED ALTERNATIVE

The No-Action Alternative would not provide any improvements other than routine maintenance through the Design Year, 2045.

The Action Alternative includes widening NE J Street to three lanes from Tiger Boulevard to near Shewmaker Creek, and then constructing a four-lane section on new location from the end of the three-lane section to I-49. This alternative would require a new bridge over Shewmaker Creek, and a new I-49 interchange between the existing I-49 interchanges at Highway 72 and Highway 71B. Typical sections for the proposed roadway are shown in **Figure 6**.

Figure 6: Typical Sections

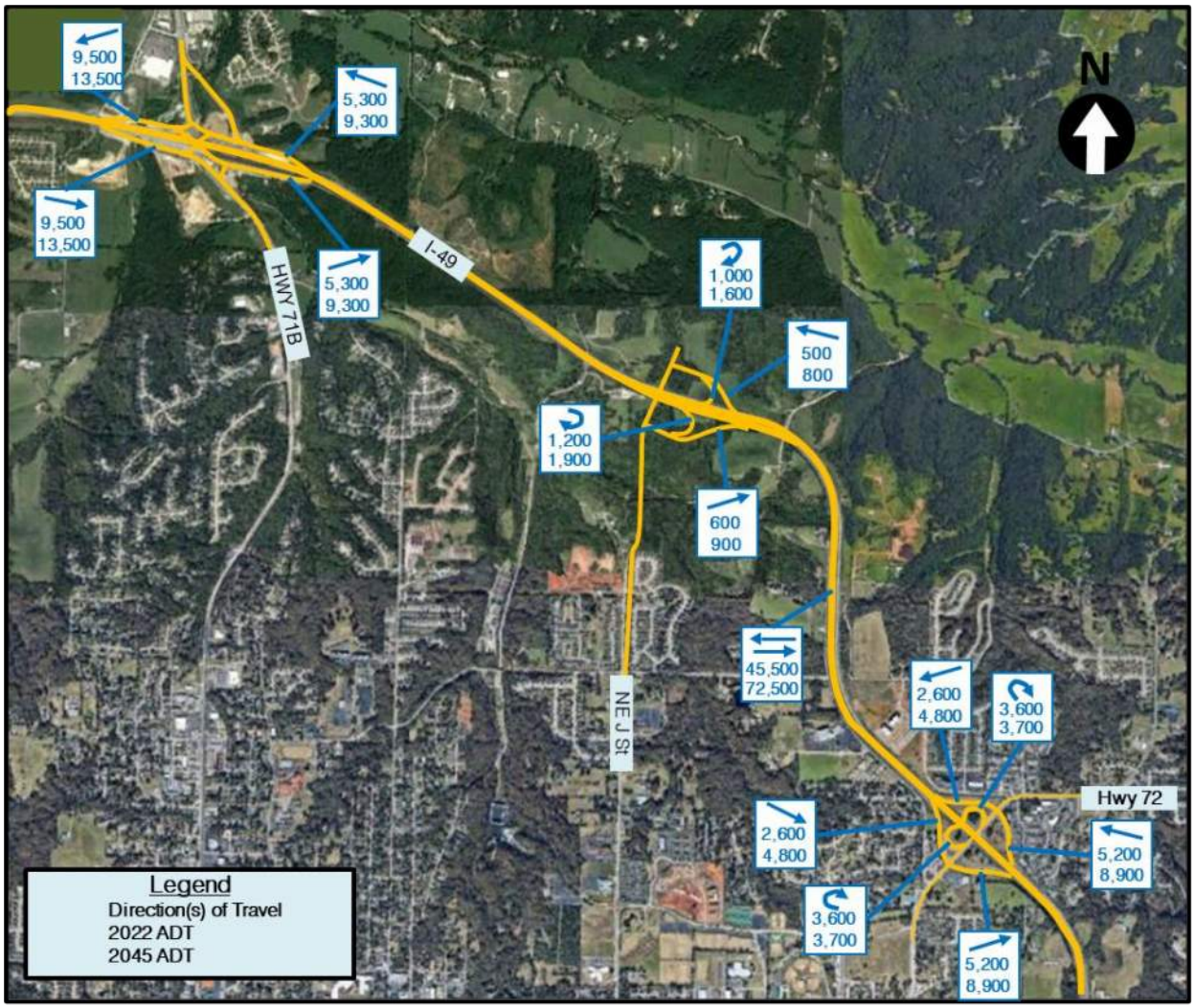


ALTERNATIVES ANALYSIS

ACTION VOLUME DEVELOPMENT

The NWA TDM was utilized to determine how traffic would shift once the new I-49 interchange at NE J Street was operational. The resulting 2022 and 2045 Action ADT Volumes are shown in **Figure 7.**

Figure 7: Action ADT Volumes



ACTION OPERATIONAL ANALYSIS

Freeway Analysis

Under 2022 conditions, I-49 is a four-lane, divided freeway with one-lane ramps. By 2045, I-49 will be widened to three lanes in each direction for both the No-Action and Action alternatives. The Action alternative adds an interchange with exit ramp and entrance ramp access to and from NE J Street for each direction of travel along I-49.

Table 11 and **Table 12** show the 2022 Action Alternative operational analysis results for northbound and southbound I-49, respectively. As shown, all I-49 locations operate at acceptable LOS in 2022 under the Action alternative.

Table 11: I-49 Northbound 2022 Action LOS Results

I-49 NB	2022 Action		
Location	ADT	AM Peak - LOS	PM Peak - LOS
SE 8th St (Exit 87) to Hwy 72 (Exit 88)	59,500	B	C
Exit 88 Exit Ramp Hwy 72	5,200	B	C
Exit 88 Loop Exit Ramp Hwy 72	3,600	A	B
Exit 88 Entrance Ramp Hwy 72	2,600	B	C
Hwy 72 (Exit 88) to J Street (Exit 91 or 92)	45,500	A	C
Exit 91 or 92 Exit Ramp J Street	500	A	C
Exit 91 or 92 Entrance Ramp J Street	1,000	A	C
J Street (Exit 91 or 92) to Hwy 71B (Exit 93)	46,500	A	C
Exit 93 Exit Ramp Hwy 71B	5,300	A	B
Exit 93 Entrance Ramp Hwy 71B	9,500	A	C

Table 12: I-49 Southbound 2022 Action LOS Results

I-49 SB	2022 Action		
Location	ADT	AM Peak - LOS	PM Peak - LOS
Exit 93 Exit Ramp Hwy 71B	9,500	D	C
Exit 93 Entrance Ramp Hwy 71B	5,300	C	B
Hwy 71B (Exit 93) to J Street (Exit 91 or 92)	46,500	C	B
Exit 91 or 92 Exit Ramp J Street	1,200	C	B
Exit 91 or 92 Entrance Ramp J Street	600	C	B
J Street (Exit 91 or 92) to Hwy 72 (Exit 88)	45,500	C	B
Exit 88 Exit Ramp Hwy 72	2,600	D	B
Exit 88 Loop Entrance Ramp Hwy 72	3,600	B	A
Exit 88 Entrance Ramp Hwy 72	5,200	B	B
Hwy 72 (Exit 88) to SE 8th St (Exit 87)	59,500	C	B

Table 13 and **Table 14** show the 2045 Action Alternative operational analysis results for northbound and southbound I-49, respectively. As shown, all locations operate at acceptable LOS in the northbound direction in 2045 except for the Highway 72 exit ramp and the Highway 71B entrance ramp in the PM peak, which operate at LOS E and LOS F, respectively. All locations operate at acceptable LOS in the southbound direction in 2045 except for the exit ramp to Highway 71B in the AM peak, which operates at LOS F.

Table 13: I-49 Northbound 2045 Action LOS Results

I-49 NB	2045 Action		
Location	ADT	AM Peak - LOS	PM Peak - LOS
SE 8th St (Exit 87) to Hwy 72 (Exit 88)	90,500	B	D
Exit 88 Exit Ramp Hwy 72	8,900	C	E
Exit 88 Loop Exit Ramp Hwy 72	3,700	A	B
Exit 88 Entrance Ramp Hwy 72	4,800	B	C
Hwy 72 (Exit 88) to J Street (Exit 91 or 92)	72,500	A	C
Exit 91 or 92 Exit Ramp J Street	800	A	C
Exit 91 or 92 Entrance Ramp J Street	1,600	A	B
J Street (Exit 91 or 92) to Hwy 71B (Exit 93)	74,500	A	C
Exit 93 Exit Ramp Hwy 71B	9,300	A	B
Exit 93 Entrance Ramp Hwy 71B	13,500	B	F

Table 14: I-49 Southbound 2045 Action LOS Results

I-49 SB	2045 Action		
Location	ADT	AM Peak - LOS	PM Peak - LOS
Exit 93 Exit Ramp Hwy 71B	13,500	F	C
Exit 93 Entrance Ramp Hwy 71B	9,300	C	B
Hwy 71B (Exit 93) to J Street (Exit 91 or 92)	74,500	D	B
Exit 91 or 92 Exit Ramp J Street	1,900	C	B
Exit 91 or 92 Entrance Ramp J Street	900	C	B
J Street (Exit 91 or 92) to Hwy 72 (Exit 88)	72,500	C	B
Exit 88 Exit Ramp Hwy 72	4,800	D	C
Exit 88 Loop Entrance Ramp Hwy 72	3,700	C	B
Exit 88 Entrance Ramp Hwy 72	8,900	D	C
Hwy 72 (Exit 88) to SE 8th St (Exit 87)	90,500	D	C

Table 15 (I-49 northbound) and **Table 16** (I-49 southbound) consolidate the LOS results for the No-Action and Action LOS.

Table 15: I-49 Northbound LOS

NB	2022				2045			
	AM		PM		AM		PM	
	No Action	Action	No Action	Action	No Action	Action	No Action	Action
SE 8th St (Exit 87) to Hwy 72 (Exit 88)	B	B	C	C	B	B	D	D
Exit 88 Exit Ramp Hwy 72	B	B	C	C	C	C	E	E
Exit 88 Loop Exit Ramp Hwy 72	A	A	B	B	A	A	B	B
Exit 88 Entrance Ramp Hwy 72	B	B	C	C	B	B	C	C
Hwy 72 (Exit 88) to J Street (Exit 91 or 92)	A	A	C	C	A	A	C	C
Exit 91 or 92 Exit Ramp J Street	Future	A	Future	C	Future	A	Future	C
Exit 91 or 92 Entrance Ramp J Street	Future	A	Future	C	Future	A	Future	B
J Street (Exit 91 or 92) to Hwy 71B (Exit 93)	A	A	C	C	A	A	C	C
Exit 93 Exit Ramp Hwy 71B	A	A	B	B	A	A	B	B
Exit 93 Entrance Ramp Hwy 71B	A	A	C	C	B	B	F	F

Table 16: I-49 Southbound LOS

SB	2022				2045			
	AM		PM		AM		PM	
	No Action	Action	No Action	Action	No Action	Action	No Action	Action
Exit 93 Exit Ramp Hwy 71B	D	D	C	C	F	F	C	C
Exit 93 Entrance Ramp Hwy 71B	B	C	B	B	C	C	B	B
Hwy 71B (Exit 93) to J Street (Exit 91 or 92)	C	C	B	B	D	D	B	B
Exit 91 or 92 Exit Ramp J Street	Future	C	Future	B	Future	C	Future	B
Exit 91 or 92 Entrance Ramp J Street	Future	C	Future	B	Future	C	Future	B
J Street (Exit 91 or 92) to Hwy 72 (Exit 88)	C	C	B	B	D	C	B	B
Exit 88 Exit Ramp Hwy 72	D	D	B	B	D	D	C	C
Exit 88 Loop Entrance Ramp Hwy 72	B	B	A	A	C	C	B	B
Exit 88 Entrance Ramp Hwy 72	B	B	B	B	D	D	C	C
Hwy 72 (Exit 88) to SE 8th St (Exit 87)	C	C	B	B	D	D	C	C

As shown, the addition of the new interchange has no impact on the northbound I-49 LOS when compared to the No-Action. In the southbound direction, the entrance ramp from Highway 71B drops from LOS B to LOS C, and the segment between the proposed NE J Street interchange and Highway 72 improves from LOS D to LOS C when compared to the No-Action. Both locations remain at acceptable levels of service.

These results demonstrate that the freeway facility will operate similarly under No-Action and Action scenarios even with the Action scenario serving higher volumes and providing direct access to NE J Street. By increasing access and volume served along I-49, the surrounding roadway network should experience improved operations.

Intersection Analysis

The two ramp terminal intersections at the proposed I-49 interchange were analyzed along with the NE J Street/Tiger Boulevard intersection in the 2022 and 2045 Action conditions.

J Street at I-49 Ramps

The new ramp terminals were analyzed having stop control at the ramp approaches with lane configurations as follows:

- Northbound: one through lane, one shared through-right lane
- Southbound: two through lanes, one left-turn lane
- Westbound: one left-turn lane, one right-turn lane

The results showed the ramp terminals of the proposed interchange to operate adequately through the 2045 design year with one-way stop control.

J Street at Tiger Boulevard

The existing NE J Street/Tiger Boulevard intersection was first analyzed with the current AWSC layout**.** The southbound approach was assumed to have one left-turn lane and one shared through/right-turn lane, while all other approaches remain the same as existing with a shared left-though-right lane. The results showed failing LOS F conditions by 2045 according to *HCM* and *SimTraffic* methodologies. This demonstrated that the intersection of NE J Street at Tiger Boulevard would not operate acceptably with all-way stop control. Therefore, another iteration of analysis was performed for the Action conditions assuming the following changes to the intersection of NE J Street and Tiger Boulevard:

- Signalized
- Eastbound approach has one left-turn lane, one through lane, and one right-turn lane
- Westbound approach has one left-turn lane and one shared through/right-turn lane
- Northbound approach has one left-turn lane and one shared through/right-turn lane
- Southbound approach has one left-turn lane, one shared through/right-turn lane

Intersection Analysis Results

The operational analysis results for the Action conditions are shown in **Tables 17** - **20** for the 2022 and 2045 design years. Complete results are provided in **Appendix B – Traffic Report**. These results show acceptable performance for all movements at all intersections through the 2045 design year according to both methodologies.

Table 17: Intersection LOS Results for 2022 Action - *HCM*

Intersection	Time Period	Control	MOE	EB Movement			WB Movement			NB Movement			SB Movement			Overall
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
NE J St at Tiger Blvd	AM	Signal	LOS	C			B			B	B		B	B		C
			Delay	19.3			11.6			11.8	10.5		10.3	12.6		15.2
	PM		LOS	D			C			C	B		B	B		C
			Delay	29.2			19.2			21.9	11.8		11.5	14.5		22.1
NE J St at I-49 SB Ramps	AM	One-Way Stop	LOS				A		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				9.9		0.0				0.0			3.6
	PM		LOS				B		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				10.1		0.0				0.0			3.7
NE J St at I-49 NB Ramps	AM	One-Way Stop	LOS				A		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				8.9		0.0				0.0			3.0
	PM		LOS				A		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				9.0		0.0				0.0			3.0

Table 18: Intersection LOS Results for 2022 Action - *SimTraffic*

Intersection	Time Period	Control	MOE	EB Movement			WB Movement			NB Movement			SB Movement			Overall
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
NE J St at Tiger Blvd	AM	Signal	LOS	B	B	A	A	A	A	A	A	A	A	A	A	A
			Delay	12.3	14.3	9.6	7.0	9.2	4.8	6.4	9.0	3.8	6.1	9.6	5.0	9.7
	PM		LOS	B	B	B	B	B	A	B	A	A	A	B	A	B
			Delay	14.4	14.6	11.2	10.2	13.4	8.5	11.2	9.8	5.8	5.4	10.7	6.6	11.8
NE J St at I-49 SB Ramps	AM	One-Way Stop	LOS				A		n/a[1]		A	A	n/a[1]	A		A
			Delay				4.7				2.6	4.2		0.7		3.4
	PM		LOS				A		n/a[1]		A	A	n/a[1]	A		A
			Delay				5.1				2.4	3.8		0.7		3.4
NE J St at I-49 NB Ramps	AM	One-Way Stop	LOS				A		n/a[1]		n/a[1]	A	n/a[1]	n/a[1]		A
			Delay				4.0					2.7				3.2
	PM		LOS				A		n/a[1]		n/a[1]	A	n/a[1]	n/a[1]		A
			Delay				3.9					2.9				3.2

Table 19: Intersection LOS Results for 2045 Action - *HCM*

Intersection	Time Period	Control	MOE	EB Movement			WB Movement			NB Movement			SB Movement			Overall
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
NE J St at Tiger Blvd	AM	Signal	LOS	B	B	C	B	B		B	B		B	C		B
			Delay	13.0	15.8	23.7	12.2	18.0		15.3	15.2		12.8	23.3		18.9
	PM		LOS	C	C	C	B	D		C	B		B	D		C
			Delay	21.6	22.9	25.9	17.7	45.9		29.8	15.6		13.6	43.5		31.9
NE J St at I-49 SB Ramps	AM	One-Way Stop	LOS				B		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				11.1		0.0				0.0			4.1
	PM		LOS				B		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				11.6		0.0				0.0			4.2
NE J St at I-49 NB Ramps	AM	One-Way Stop	LOS				A		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				9.2		0.0				0.0			3.1
	PM		LOS				A		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				9.3		0.0				0.0			3.1

Table 20: Intersection LOS Results for 2045 Action - *SimTraffic*

Intersection	Time Period	Control	MOE	EB Movement			WB Movement			NB Movement			SB Movement			Overall
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
NE J St at Tiger Blvd	AM	Signal	LOS	B	B	B	B	B	B	B	B	A	B	B	B	B
			Delay	17.1	17.3	10.7	16.5	18.7	11.2	15.3	12.0	6.6	13.3	19.0	11.2	15.1
	PM		LOS	C	C	B	C	C	C	C	B	A	B	C	C	C
			Delay	24.9	21.9	10.1	22.7	30.8	23.7	30.8	13.2	8.5	13.7	33.2	21.9	24.2
NE J St at I-49 SB Ramps	AM	One-Way Stop	LOS				A		n/a[1]		A	A	n/a[1]	A		A
			Delay				5.8				3.0	4.5		0.8		3.9
	PM		LOS				A		n/a[1]		A	A	n/a[1]	A		A
			Delay				6.0				2.8	4.0		0.8		3.9
NE J St at I-49 NB Ramps	AM	One-Way Stop	LOS				A		n/a[1]		n/a[1]	A	n/a[1]	n/a[1]		A
			Delay				4.0					3.1				3.4
	PM		LOS				A		n/a[1]		n/a[1]	A	n/a[1]	n/a[1]		A
			Delay				4.1					3.3				3.5

SAFETY

A slight increase in crashes is expected in the immediate area surrounding the proposed interchange due to the addition of new conflict points. The improvements will be designed to current standards which should keep the number of additional crashes to a minimum.

FUNDING PLAN

The current NWARPC MTP includes the *NE J Street Interchange - Tiger Blvd to Interstate 49* project in a group of 31 projects in the metropolitan area to be funded through the

$173,500,000 Local Transportation Bond Program (LTBP). The project will be added to the TIP when the MPO allocates funds from the LTBP specifically to the *NE J Street Interchange - Tiger Boulevard to Interstate 49* project.

FHWA POLICY POINTS

The eight FHWA policy requirements for new interchange access are discussed in ***Procedures for New or Revised Freeway Access in Arkansas***. The proposed interchanges were reviewed in light of these requirements, and the results show that all requirements are satisfied.

Policy Point #1

"The need being addressed by the request cannot be adequately satisfied by existing interchanges to the Interstate, and/or local roads and streets in the corridor can neither provide the desired access, nor can they be reasonably improved (such as access control along surface streets, improving traffic control, modifying ramp terminals and intersections, adding turn bays or lengthening storage) to satisfactorily accommodate the design-year traffic demands (23 CFR 625.2(a))."

The proposed design includes a new interchange that will provide direct access between I-49 and NE J Street. The existing Highway 71B and Highway 72 interchanges are 1.7 miles and 2.0 miles away, respectively, from the proposed NE J Street interchange location. Improvements to the existing interchanges or the local street network would not provide the desired access to the NE J Street area. Continuing to use the existing interchanges to access the NE J Street area would result in misdirection, longer travel times, and increased emissions.

Policy Point #2

"The need being addressed by the request cannot be adequately satisfied by reasonable transportation system management (such as ramp metering, mass transit, and high occupancy vehicle facilities),

geometric design, and alternative improvements to the Interstate without the proposed change(s) in access (23 CFR 625.2(a)).”

Transportation System Management (TSM) solutions would not provide the desired access. However, TSM could be employed as a complementary solution to further improve traffic operations once the proposed improvements are in place.

Policy Point #3

“An operational and safety analysis has concluded that the proposed change in access does not have a significant adverse impact on the safety and operation of the Interstate facility (which includes mainline lanes, existing, new, or modified ramps, ramp intersections with crossroad) or on the local street network based on both the current and the planned future traffic projections. The analysis shall, particularly in urbanized areas, include at least the first adjacent existing or proposed interchange on either side of the proposed change in access (23 CFR 625.2(a), 655.603(d) and 771.111(f)). The crossroads and the local street network, to at least the first major intersection on either side of the proposed change in access, shall be included in this analysis to the extent necessary to fully evaluate the safety and operational impacts that the proposed change in access and other transportation improvements may have on the local street network (23 CFR 625.2(a) and 655.603(d)). Requests for a proposed change in access must include a description and assessment of the impacts and ability of the proposed changes to safely and efficiently collect, distribute and accommodate traffic on the Interstate facility, ramps, intersection of ramps with crossroads, and local street network (23 CFR 625.2(a) and 655.603(d)). Each request must also include a conceptual plan of the type and location of the signs proposed to support each design alternative (23 U.S.C. 109(d) and 23 CFR 655.603(d)).”

As shown in this report, the proposed interchange will not have a significant adverse impact on traffic operations or safety of the interstate system, its ramps, or the local street network. The expected signing details are included in **Appendix C - Conceptual Signage Plan**

Policy Point #4

“The proposed access connects to a public road only and will provide for all traffic movements. Less than "full interchanges" may be considered on a case-by-case basis for applications requiring special access for managed lanes (e.g., transit, HOV, or high occupancy toll lanes) or park and ride lots. The proposed access will be designed to meet or exceed current standards (23 CFR 625.2(a), 625.4(a)(2), and 655.603(d)).”

The proposed interchange will only provide access to NE J Street, which is a public road, and will provide for all traffic movements. The proposed design will meet or exceed current design standards.

Policy Point #5

"The proposal considers and is consistent with local and regional land use and transportation plans. Prior to receiving final approval, all requests for new or revised access must be included in an adopted Metropolitan Transportation Plan, in the adopted Statewide or Metropolitan Transportation Improvement Program (STIP or TIP), and the Congestion Management Process within transportation management areas, as appropriate, and as specified in 23 CFR part 450, and the transportation conformity requirements of 40 CFR parts 51 and 93."

The proposed project will complement the regional transportation network, and is included in the NWARPC MTP. The project will be added to the TIP and STIP when funding from the Local Transportation Bond Program is specifically dedicated to this project.

Policy Point #6

"In corridors where the potential exists for future multiple interchange additions, a comprehensive corridor or network study must accompany all requests for new or revised access with recommendations that address all of the proposed and desired access changes within the context of a longer-range system or network plan (23 U.S.C. 109(d), 23 CFR 625.2(a), 655.603(d), and 771.111)."

No additional interchanges are included in the NWARPC MTP as the proposed design meets all anticipated transportation needs through the design year, 2045.

Policy Point #7

"When a new or revised access point is due to a new, expanded, or substantial change in current or planned future development or land use, requests must demonstrate appropriate coordination has occurred between the development and any proposed transportation system improvements (23 CFR 625.2(a) and 655.603(d)). The request must describe the commitments agreed upon to assure adequate collection and dispersion of the traffic resulting from the development with the adjoining local street network and Interstate access point (23 CFR 625.2(a) and 655.603(d))."

The City of Bentonville is requesting the proposed change in access to address a lack of connectivity in the existing transportation network. The project is not the result of a planned development or change in land use.

Policy Point #8

The proposal can be expected to be included as an alternative in the required environmental evaluation, review and processing. The proposal should include supporting information and current status of the environmental processing (23 CFR 771.111).

The National Environmental Policy Act (NEPA) process is being completed simultaneously with this report and the alternative presented in this document is the preferred alternative being reviewed in the environmental documentation.

CONCLUSION

The analysis in this document shows that the addition of the proposed interchange would improve connectivity, reduce travel time, and have no significant adverse impacts on the operational performance of I-49 or the surrounding roadway network. All components of the Action Alternative would be designed to current standards, thereby providing optimal safety conditions The City of Bentonville requests that the proposed I-49 access at NE J Street be approved.

Interstate 49 at NE J Street

Interchange Justification Report

Bentonville, AR

GarverUSA.com

NE A STREET

U.S. INTERSTATE 49

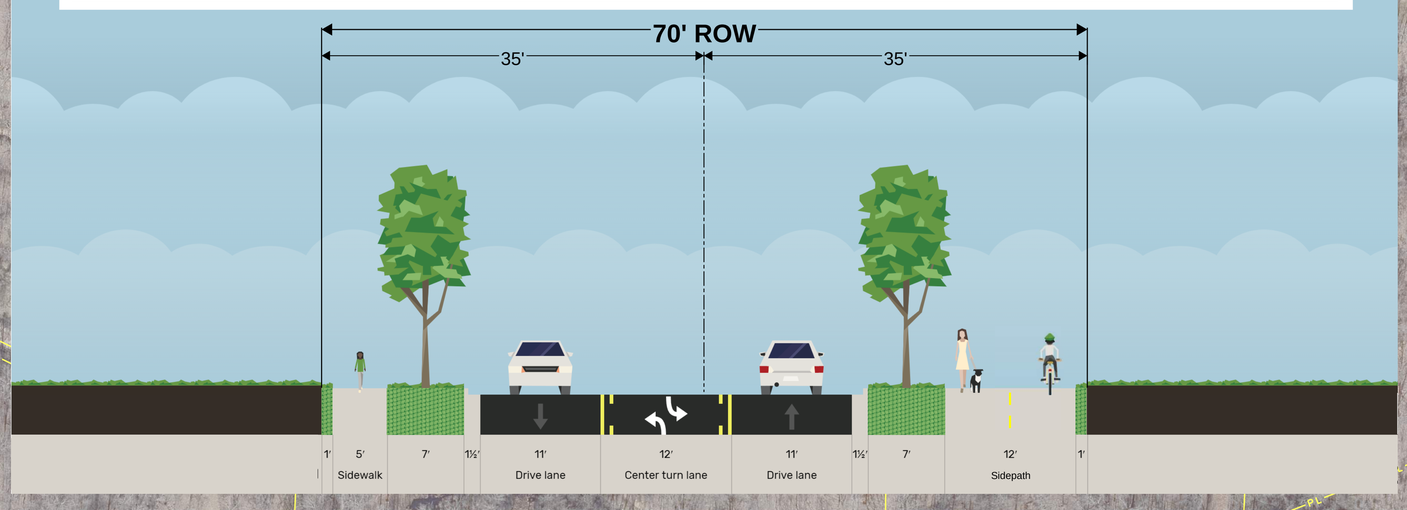
NE J STREET

NE J STREET

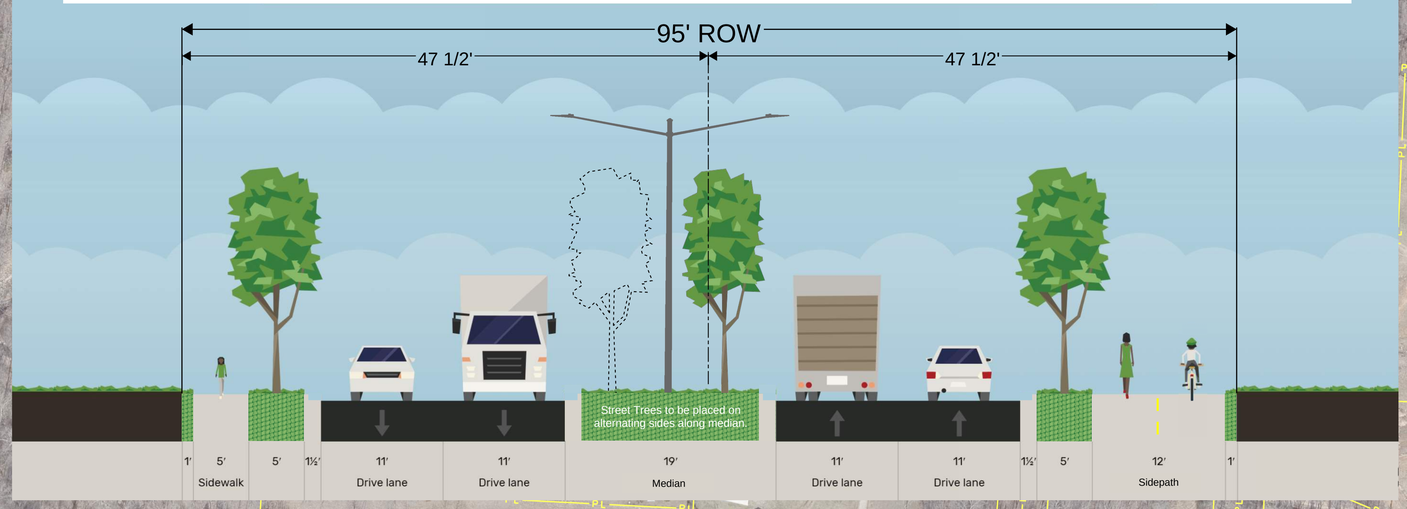
NE J STREET

TIGER BOULEVARD

Master Street Plan Typical Section for Collector Street



Master Street Plan Typical Section for Arterial Boulevard



NE J STREET INTERCHANGE PROPERTY OWNERS		
POINT#	PARCEL NO.	PROPERTY OWNER
1	18-07506-000	JACS CATTLE RANCH LLC
2	18-07498-000	FERGUSON FAMILY REVOCABLE TRUST-SHIRLEY S
3	18-07498-001	CALLIS REV TRUST, TOMMY L & CALLIS REV TRUST, VELENA
4	18-07479-000	RICHARDS JOINT REVOCABLE TRUST- JULIA
5	18-07479-001	WHITE, WILLIAM C & GAYLE L
6	18-07479-000	RICHARDS JOINT REVOCABLE TRUST- JULIA
7	18-07504-001	KEYSTONE PROPERTIES OF BENTONVILLE LLC
8	18-07503-000	SHEWMAKER FAMILY REVOCABLE TRUST-MELBA J
9	18-07510-000	JACS CATTLE RANCH LLC
10	18-07510-002	LANGHOVER, JO ANN
11	18-07519-001	BVC PROPERTIES LLC
12	01-18374-000	SABABA LLC
13	15-84766-002	CINDY SPRINGS LLC
14	18-07519-000	BVC PROPERTIES LLC
15	18-07519-009	STINE, BRET L & TERRI L
16	18-07523-000	HENRY, PAULA K
17	18-07523-001	LEMBKE, NATHAN LEE & SUSAN RENE
18	01-00248-025	BLUE LAKE J STREET LLC & MARS HILL HOLDINGS LLC
19	01-11774-000	HATCH, PAUL K & KORI L
20	01-11773-000	LAVERY, CASSIE
21	01-11772-000	HOFFMAN, MICHELLE S
22	01-11771-000	WEBSTER, CLINTON & KELSEY
23	01-11770-000	BLACK, STUART JOHN & SARAH J
24	01-11769-000	SMITH FAMILY TRUST- JEFFREY A & LISA B
25	01-11768-000	LACY, BEN J & AMENDA A
26	01-11767-000	MCCAULEY, SCOTT & STEPHANIE
27	01-11766-000	OSBORNE, MARCUS A & CARA B
28	01-11797-000	CHAPEL HILL ASSOCIATES LLC
29	01-00248-023	SHANTI GREENSPACE LLC
30	01-16410-001	CITY OF BENTONVILLE
31	01-10564-000	PIKE, TERRY JOE & SELF-PIKE, JILL ELIZABETH
32	01-10565-000	HOLLUMS, DYLAN
33	01-10566-000	FINLEY, PEYTON C
34	01-10567-000	GADDI, JAREN & SCHNEIDERMAN, LAURA
35	01-10568-000	FITZSIMMONS, PATRICK BRIAN
36	01-10569-000	MEYER, LAURA A
37	01-10570-000	WAYMIRE, SCOTT W & LISA A
38	01-10664-000	ALLENCROFT PROPERTY OWNERS ASSOCIATION
39	01-10571-000	KWOK, JOSEPHINE C
40	01-10572-000	MORRIS, SHANNA DIANE
41	01-10573-000	GRAZIANI, ALEXANDER J & GRAZIANI, JESSICA B
42	01-10574-000	JANZEN, ED & PAMELA
43	01-10575-000	MCAFEE, STEVEN
44	01-10576-000	WALTZ, ROBERT EUGENE II & AMBER
45	01-10577-000	SNOPKO, JUSTIN J & RUIZ, ALEJANDRA
46	01-10578-000	SMITH, JARED & JESSICA
47	01-10579-000	LUCZAK, TADEUSZ & ANNA
48	01-10579-001	SIDDIQUI, ABID & ABID, FARHEEN
49	01-15478-002	WOODS PARK LLC
50	01-09736-000	CLARK, LARRY & LADONA
51	01-11802-000	CHAPEL HILL POA
52	01-11742-000	WERST, KYLE & EMMY
53	01-11741-000	BERTANI, ELEANORA GINA & CARLO ADELE
54	01-11740-000	GREENE FAMILY TRUST-JAMES CRAIG & VANESSA BROOKE
55	01-11739-000	WAMSHER LIVING TRUST, JUDITH F
56	01-11738-000	DAIGLE, KATHRYN NICOLE
57	01-11737-000	MITCHELL, LACEY R
58	01-11736-000	PHILLIPS, WILLIAM & LYNN
59	01-11735-000	METCALF, CLAYTON & RACHAEL
60	01-11734-000	MO HOGS LLC
61	01-11733-000	OHOL, VIREN V
62	01-11732-000	POWELL 2008 TRUST- ANITA L
63	01-11731-000	CASTELLANOS, LETICIA
64	01-11730-000	LACEWELL, KIRK M & AMBER M
65	01-11729-000	SOUTHWICK, SCOTT & LINDSAY
66	01-11728-000	GRIFFITH, KIMBERLY & BARRY
67	01-11727-000	KOTOUC TRUST, KERRY L

GARVER

CONCEPTUAL EXHIBIT
NE J STREET INTERCHANGE
Tiger Boulevard to Interstate 49

THE CITY OF BENTONVILLE

N

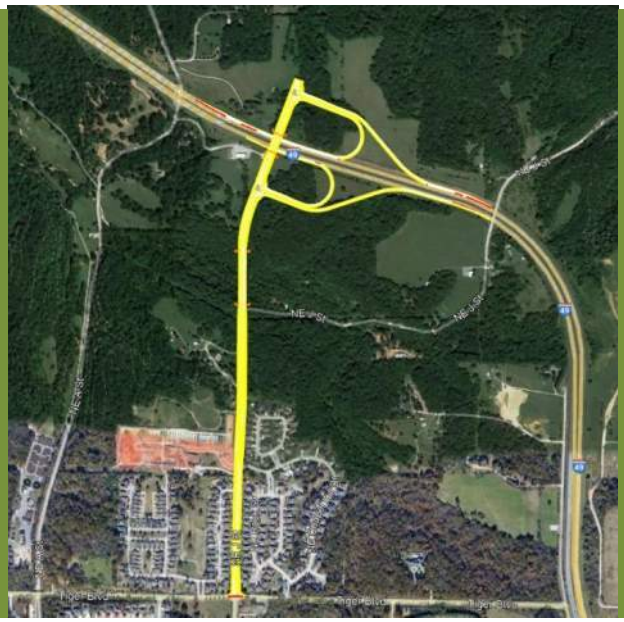
0' 50' 100' 200' 300'

(IN FEET)

Interchange Justification Report

Appendix B – Traffic Report

Interstate 49 at NE J Street



THE CITY OF BENTONVILLE

Prepared For:

The City of Bentonville, AR

May 2022

GARVER

GarverUSA.com

TRAFFIC REPORT

Interstate 49 Interchange at NE J Street
Benton County

Prepared by:

2049 Joyce Boulevard #400

Fayetteville, AR 72703

May 2022

Garver Project No.: 21T21070

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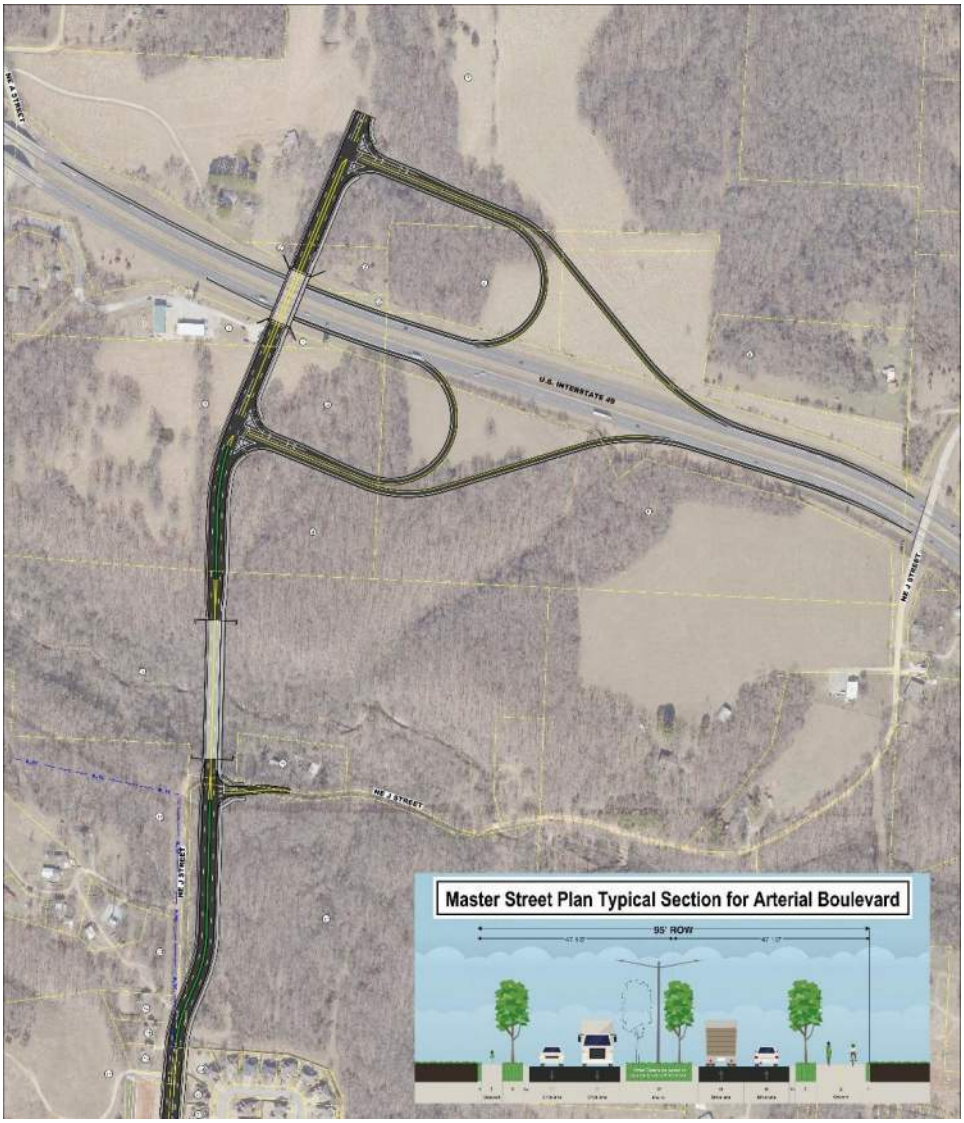
INTRODUCTION

The purpose of this study is to evaluate the need for a new interchange on I-49 to provide access to NE J Street and the extension of NE J Street northward from Tiger Boulevard across Interstate 49 for approximately 1.1 miles. The proposed NE J Street will be a three-lane section (two-lane with a two-way left-turn lane (TWLTL)) from Tiger Boulevard and transition to a four-lane boulevard around the bridge over Shewmaker Creek. The only changes to I-49 would be the addition of this new interchange. Plans to widen I-49 from two lanes per direction to three lanes per direction will be carried out separately from this project. Along I-49, the study area extends from north of Highway 71B on the north end to south of Highway 72 on the south end. The proposed new I-49 interchange at NE J Street is shown in **Figure 1**.

Figure 1: Proposed Interchange at NE J Street

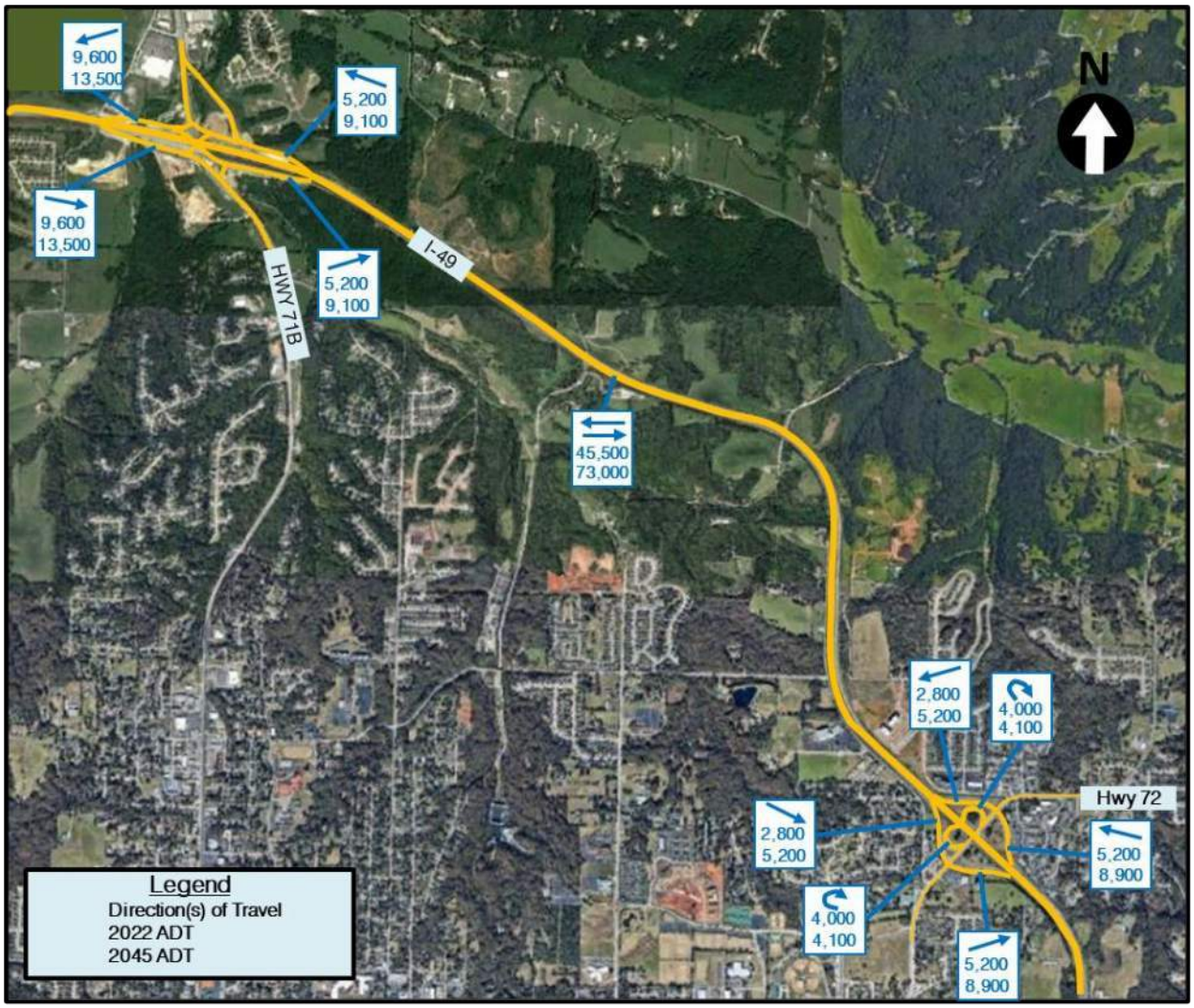


This Needs Assessment report was developed to identify needs for the new interchange along I-49 at NE J Street and the extension of NE J Street further north. To identify these needs, operational analyses were conducted for 2022 No Action and Action scenarios as well as 2045 No Action and Action scenarios. A safety analysis of existing conditions was also conducted. The results of this analysis are detailed within this report.

VOLUME DEVELOPMENT

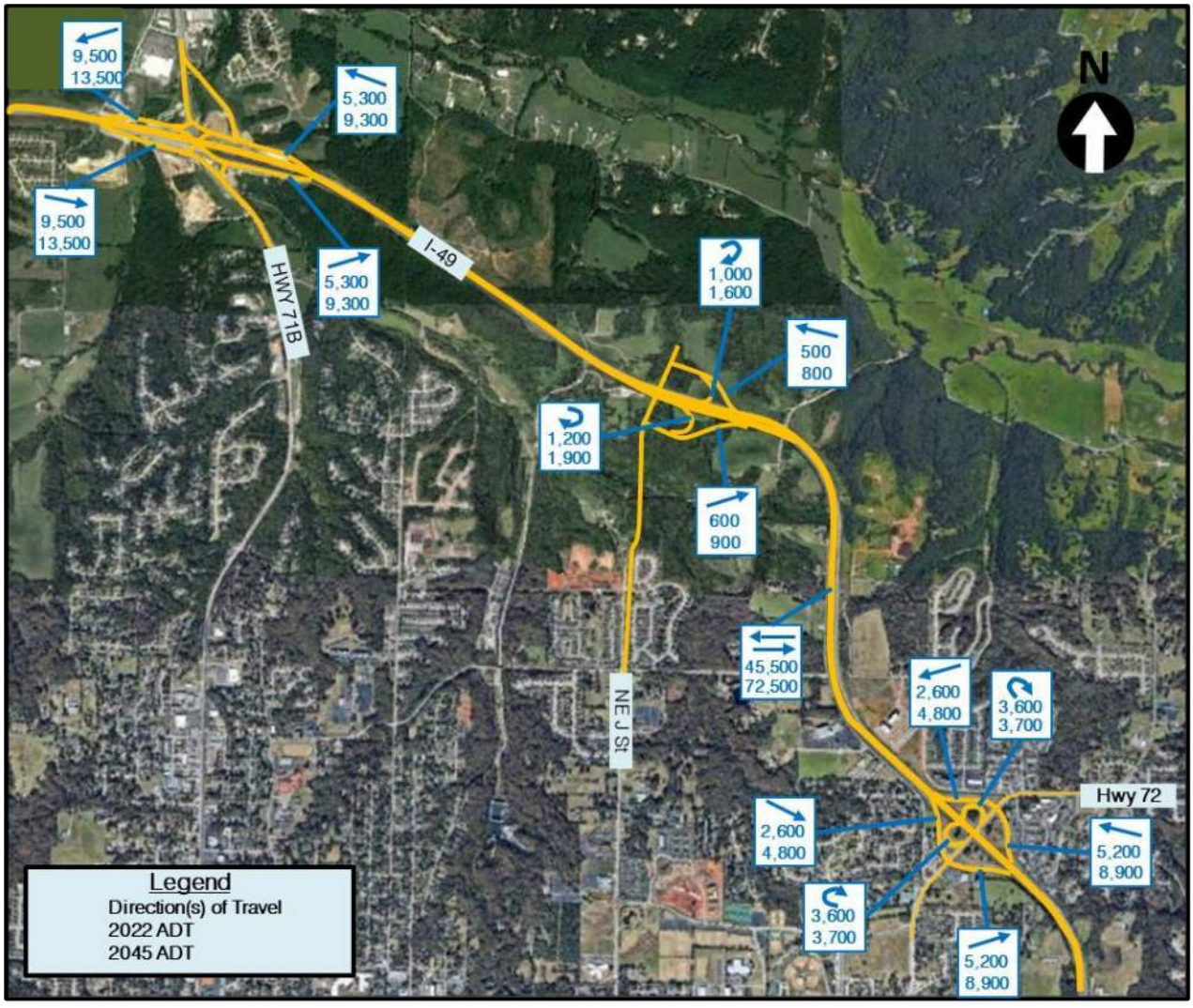
Traffic data along I-49 was obtained from a previous study, the Western North-South Connector Study (ARDOT Job 090573). This data was projected to 2022 using growth rates which were determined for each freeway facility segment based on historical data as well as travel demand models. Peak Hour turning movement counts were collected at the intersection of NE J Street and Tiger Boulevard. The ADT volumes along I-49 for the No Action scenarios are shown in **Figure 2**.

Figure 2: No Action ADT Volumes



Travel demand models were utilized to determine how traffic would shift once the new interchange was developed at NE J Street. The resulting 2022 and 2045 Action ADT Volumes are shown in **Figure 3**.

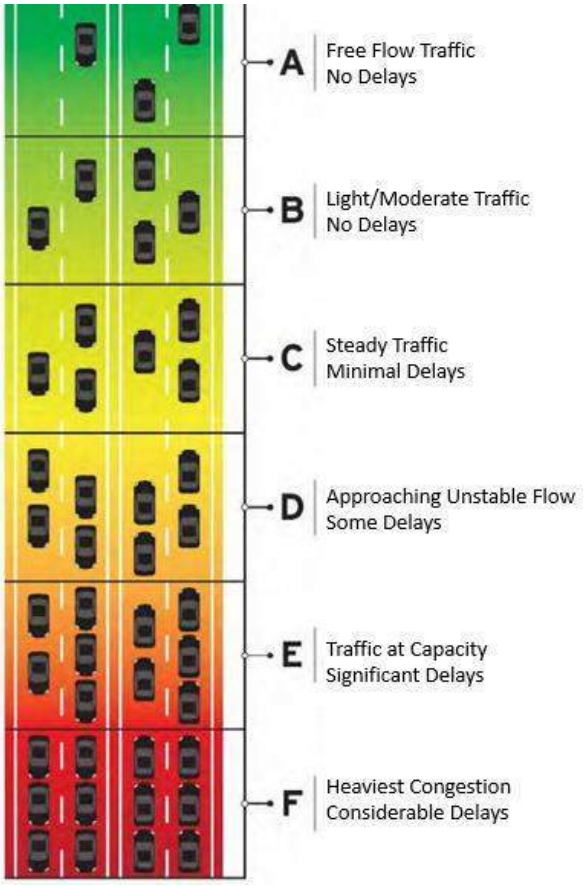
Figure 3: Action ADT Volumes



OPERATIONAL ANALYSIS

The I-49 freeway facility from north of Highway 71B through south of Highway 72 was evaluated under 2022 No Action, 2022 Action, 2045 No Action, and 2045 Action conditions to identify any current or anticipated operational needs for the I-49 corridor during typical peak hours.

Figure 4: Level -of-Service Categories



To quantify the operational needs for the study area, the *Highway Capacity Manual 7th Edition (HCM)* methodology was utilized via the freeway facilities module of the *Highway Capacity Software (HCS)*. The *HCM* qualitatively describes operating conditions within a traffic stream or at an intersection using a concept known as Level of Service (LOS). LOS is typically designated into six categories. These range from LOS A indicating free-flow, low density, or nearly negligible delay conditions to LOS F where demand exceeds capacity and large queues are experienced. A graphical representation of LOS is presented in **Figure 4**. The minimum acceptable LOS is generally set at LOS C for rural areas and LOS D for urban areas. For this study, LOS D is used as the threshold for acceptable LOS. The corridor analysis is discussed in **Section 3.1**.

The intersections of NE J Street at Tiger Boulevard and NE J Street with the new I-49 Ramps were evaluated using *Synchro* software according to *HCM*

methodology and *Synchro's* companion *SimTraffic* software according to *SimTraffic's* microsimulation methodology.

FREEWAY ANALYSIS

Under 2022 conditions, I-49 is a four-lane, divided freeway with one-lane ramps. In 2045, I-49 will be widened to three lanes in each direction for both No Action and Action scenarios. The Action scenario adds an interchange with off-ramp and on-ramp access to and from NE J Street for each direction of travel along I-49. The LOS criteria for various freeway segments are defined in *HCM Exhibits 12-15, 13-6, and 14-3,* as shown in **Table 1**.

Table 1: LOS Criteria for Urban Freeway Facilities

Level of Service	Density (pc/mi/ln)		
	Basic Freeway Segment	Merge/Diverge Segment	Freeway Weaving Segment
A	≤ 11	≤ 10	0 - 10
B	> 11 - 18	> 10 - 20	> 10 - 20
C	> 18 - 26	> 20 - 28	> 20 - 28
D	> 26 - 35	> 28 - 35	> 28 - 35
E	> 35 - 45	> 35	> 35 - 43
F	> 45 or Demand > Capacity	Demand > Capacity	> 43 or Demand > Capacity

The LOS results are provided in **Appendix A- Operational Analysis Results** and are summarized in **Tables 2-9**. These results demonstrate that the I-49 freeway facility will operate acceptably in 2022 with LOS D or better. However, operational issues develop by 2045. The northbound on-ramp and southbound off-ramp at Highway 71B experience LOS F conditions under both No-Action and Action alternatives. The northbound off-ramp to Highway 72 experiences LOS E

conditions under both No-Action and Action alternatives. These results demonstrate that the freeway facility will operate similarly under No-Action and Action scenarios even with the Action scenario serving higher volumes and providing direct access to NE J Street. By increasing access and volume served along I-49, the surrounding roadway network should experience some relief in demand and improved operations.

Table 2: LOS Results for 2022 No-Action along I-49 NB

I-49 NB	2022 No-Action		
Location	ADT	AM Peak - LOS	PM Peak - LOS
SE 8th St (Exit 87) to Hwy 72 (Exit 88)	58,000	B	C
Exit 88 Off-Ramp Hwy 72	5,200	B	C
Exit 88 Loop Off-Ramp Hwy 72	4,000	A	B
Exit 88 On-Ramp Hwy 72	2,800	B	C
Hwy 72 (Exit 88) to J Street (Exit 91 or 92)	45,500	A	C
Exit 91 or 92 Off-Ramp J Street	Future	Future	Future
Exit 91 or 92 On-Ramp J Street	Future	Future	Future
J Street (Exit 91 or 92) to Hwy 71B (Exit 93)	45,500	A	C
Exit 93 Off-Ramp Hwy 71B	5,200	A	B
Exit 93 On-Ramp Hwy 71B	9,600	A	C

Table 3: LOS Results for 2022 No-Action along I-49 SB

I-49 SB	2022 No-Action		
Location	ADT	AM Peak - LOS	PM Peak - LOS
Exit 93 Off-Ramp Hwy 71B	9,600	D	C
Exit 93 On-Ramp Hwy 71B	5,200	B	B
Hwy 71B (Exit 93) to J Street (Exit 91 or 92)	45,500	C	B
Exit 91 or 92 Off-Ramp J Street	Future	Future	Future
Exit 91 or 92 On-Ramp J Street	Future	Future	Future
J Street (Exit 91 or 92) to Hwy 72 (Exit 88)	45,500	C	B
Exit 88 Off-Ramp Hwy 72	2,800	D	B
Exit 88 Loop On-Ramp Hwy 72	4,000	B	A
Exit 88 On-Ramp Hwy 72	5,200	B	B
Hwy 72 (Exit 88) to SE 8th St (Exit 87)	58,000	C	B

Table 4: LOS Results for 2022 Action along I-49 NB

I-49 NB	2022 Action		
Location	ADT	AM Peak - LOS	PM Peak - LOS
SE 8th St (Exit 87) to Hwy 72 (Exit 88)	59,500	B	C
Exit 88 Off-Ramp Hwy 72	5,200	B	C
Exit 88 Loop Off-Ramp Hwy 72	3,600	A	B
Exit 88 On-Ramp Hwy 72	2,600	B	C
Hwy 72 (Exit 88) to J Street (Exit 91 or 92)	45,500	A	C
Exit 91 or 92 Off-Ramp J Street	500	A	C
Exit 91 or 92 On-Ramp J Street	1,000	A	C
J Street (Exit 91 or 92) to Hwy 71B (Exit 93)	46,500	A	C
Exit 93 Off-Ramp Hwy 71B	5,300	A	B
Exit 93 On-Ramp Hwy 71B	9,500	A	C

Table 5: LOS Results for 2022 Action along I-49 SB

I-49 SB	2022 Action		
Location	ADT	AM Peak - LOS	PM Peak - LOS
Exit 93 Off-Ramp Hwy 71B	9,500	D	C
Exit 93 On-Ramp Hwy 71B	5,300	C	B
Hwy 71B (Exit 93) to J Street (Exit 91 or 92)	46,500	C	B
Exit 91 or 92 Off-Ramp J Street	1,200	C	B
Exit 91 or 92 On-Ramp J Street	600	C	B
J Street (Exit 91 or 92) to Hwy 72 (Exit 88)	45,500	C	B
Exit 88 Off-Ramp Hwy 72	2,600	D	B
Exit 88 Loop On-Ramp Hwy 72	3,600	B	A
Exit 88 On-Ramp Hwy 72	5,200	B	B
Hwy 72 (Exit 88) to SE 8th St (Exit 87)	59,500	C	B

Table 6: LOS Results for 2045 No-Action along I-49 NB

I-49 NB	2045 No-Action		
Location	ADT	AM Peak - LOS	PM Peak - LOS
SE 8th St (Exit 87) to Hwy 72 (Exit 88)	88,500	B	D
Exit 88 Off-Ramp Hwy 72	8,900	C	E
Exit 88 Loop Off-Ramp Hwy 72	4,100	A	B
Exit 88 On-Ramp Hwy 72	5,200	B	C
Hwy 72 (Exit 88) to J Street (Exit 91 or 92)	73,000	A	C
Exit 91 or 92 Off-Ramp J Street	Future	Future	Future
Exit 91 or 92 On-Ramp J Street	Future	Future	Future
J Street (Exit 91 or 92) to Hwy 71B (Exit 93)	73,000	A	C
Exit 93 Off-Ramp Hwy 71B	9,100	A	B
Exit 93 On-Ramp Hwy 71B	13,500	B	F

Table 7: LOS Results for 2045 No-Action along I-49 SB

I-49 SB	2045 No-Action		
Location	ADT	AM Peak - LOS	PM Peak - LOS
Exit 93 Off-Ramp Hwy 71B	13,500	F	C
Exit 93 On-Ramp Hwy 71B	9,100	C	B
Hwy 71B (Exit 93) to J Street (Exit 91 or 92)	73,000	D	B
Exit 91 or 92 Off-Ramp J Street	Future	Future	Future
Exit 91 or 92 On-Ramp J Street	Future	Future	Future
J Street (Exit 91 or 92) to Hwy 72 (Exit 88)	73,000	D	B
Exit 88 Off-Ramp Hwy 72	5,200	D	C
Exit 88 Loop On-Ramp Hwy 72	4,100	C	B
Exit 88 On-Ramp Hwy 72	8,900	D	C
Hwy 72 (Exit 88) to SE 8th St (Exit 87)	88,500	D	C

Table 8: LOS Results for 2045 Action along I-49 NB

I-49 NB	2045 Action		
Location	ADT	AM Peak - LOS	PM Peak - LOS
SE 8th St (Exit 87) to Hwy 72 (Exit 88)	90,500	B	D
Exit 88 Off-Ramp Hwy 72	8,900	C	E
Exit 88 Loop Off-Ramp Hwy 72	3,700	A	B
Exit 88 On-Ramp Hwy 72	4,800	B	C
Hwy 72 (Exit 88) to J Street (Exit 91 or 92)	72,500	A	C
Exit 91 or 92 Off-Ramp J Street	800	A	C
Exit 91 or 92 On-Ramp J Street	1,600	A	B
J Street (Exit 91 or 92) to Hwy 71B (Exit 93)	74,500	A	C
Exit 93 Off-Ramp Hwy 71B	9,300	A	B
Exit 93 On-Ramp Hwy 71B	13,500	B	F

Table 9: LOS Results for 2045 Action along I-49 SB

I-49 SB	2045 Action		
Location	ADT	AM Peak - LOS	PM Peak - LOS
Exit 93 Off-Ramp Hwy 71B	13,500	F	C
Exit 93 On-Ramp Hwy 71B	9,300	C	B
Hwy 71B (Exit 93) to J Street (Exit 91 or 92)	74,500	D	B
Exit 91 or 92 Off-Ramp J Street	1,900	C	B
Exit 91 or 92 On-Ramp J Street	900	C	B
J Street (Exit 91 or 92) to Hwy 72 (Exit 88)	72,500	C	B
Exit 88 Off-Ramp Hwy 72	4,800	D	C
Exit 88 Loop On-Ramp Hwy 72	3,700	C	B
Exit 88 On-Ramp Hwy 72	8,900	D	C
Hwy 72 (Exit 88) to SE 8th St (Exit 87)	90,500	D	C

INTERSECTION ANALYSIS

The intersection of NE J Street at Tiger Boulevard is a four-legged intersection with all-way stop control (AWSC). All four approaches consist of a shared left-through-right lane. The LOS criteria for this type of intersection are identified in *HCM Exhibit 21-8.* The LOS Criteria for a signalized intersection is identified in *HCM Exhibit 19-8*. These criteria are summarized in **Table 10** below. As shown, LOS for both types of intersections are based on delay.

Table 10: LOS Criteria for Intersections

Level of Service	Signalized Intersection	Stop Controlled Intersection
	Control Delay (sec/veh)	
A	0 to 10	0 to 10
B	> 10 to 20	> 10 to 15
C	> 20 to 35	> 15 to 25
D	> 35 to 55	> 25 to 35
E	> 55 to 80	> 35 to 50
F	> 80 or	> 50 or
	v/c > 1	v/c >1

Table 11 shows the delay and LOS results for the NE J Street/Tiger Boulevard intersection under 2022 No-Action conditions based on *HCM* and *SimTraffic* methodologies. Both methodologies demonstrate acceptable performance with LOS C or better for all movements during both peak periods.

Table 11: LOS Results for 2022 No-Action

Intersection	Time Period	Control	MOE	EB Movement			WB Movement			NB Movement			SB Movement			Overall
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
HCM																
NE J St at Tiger Blvd	AM	All-Way Stop	LOS	C			B			B	A		A			B
			Delay	15.7			11.0			11.8	9.1		9.7			13.5
	PM		LOS	C			C			C	A		B			C
			Delay	19.5			15.6			18.2	9.6		10.5			17.4
SimTraffic																
NE J St at Tiger Blvd	AM	All-Way Stop	LOS	B	B	A	A	A	A	A	A	A	A	A	A	A
			Delay	10.4	12.7	8.8	7.2	9.6	5.1	6.2	7.7	2.6	6.3	8.1	3.6	9.3
	PM		LOS	B	B	A	B	B	A	A	A	A	A	A	A	B
			Delay	10.3	12.7	8.9	10.2	11.3	6.3	8.8	9.2	3.9	2.7	9.1	3.6	10.2

Table 12 shows the NE J Street/Tiger Boulevard intersection results under 2045 No-Action conditions. According to both methodologies, the intersection will operate with failing overall LOS F during one or more peak hours by 2045. As displayed in the table, the eastbound and westbound approaches will experience unacceptable delays LOS E/F conditions in the AM peak hour and/or PM peak hour.

Table 12: LOS Results for 2045 No-Action

Intersection	Time Period	Control	MOE	EB Movement			WB Movement			NB Movement			SB Movement			Overall
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
HCM																
NE J St at Tiger Blvd	AM	All-Way Stop	LOS	F			C			C	B		B			F
			Delay	132.2			20.4			17.3	11.1		12.7			79.2
	PM		LOS	F			F			F	B		C			F
			Delay	226.4			91.9			74.9	12.3		16.2			137.1
SimTraffic																
NE J St at Tiger Blvd	AM	All-Way Stop	LOS	E	E	E	B	B	A	A	A	A	A	A	A	D
			Delay	41.8	46.3	41.5	10.5	12.4	9.1	8.2	8.4	3.9	6.0	9.8	5.0	28.1
	PM		LOS	F	F	F	E	E	E	C	B	A	A	B	A	F
			Delay	106.8	108.5	101.9	36.2	39.0	39.2	23.3	11.2	6.5	9.2	11.2	5.8	59.5

With the proposed new interchange at I-49, two ramp terminals were analyzed along with the existing intersection at NE J Street at Tiger Boulevard in the 2022 and 2045 Action conditions. The new ramp terminals will be stop controlled at the ramp approaches with lane configurations as follows:

- Northbound: one through lane, one shared through-right lane
- Southbound: two through lanes, one left-turn lane
- Westbound: one left-turn lane, one right-turn lane

The existing NE J Street/Tiger Boulevard intersection was first analyzed with the current AWSC**.** The southbound approach was assumed to have one left-turn lane and one shared through/right-turn lane, while all other approaches remain the same as existing with a shared left-though-right lane. The operational analysis results for the Action conditions with stop control are shown in **Tables 13 to 16** for 2022 and 2045 design years, respectively. Complete results are provided in **Appendix A – Operational Analysis Results**.

The results show the ramp terminals of the proposed interchange to operate adequately through the 2045 design year with one-way stop control. However, the intersection of NE J Street at Tiger Boulevard shows failing LOS F conditions by 2045 according to both methodologies. This demonstrates that the intersection of NE J Street at Tiger Boulevard will not operate acceptably with all-way stop control.

Table 13: LOS Results for 2022 Action – *HCM* Results

Intersection	Time Period	Control	MOE	EB Movement			WB Movement			NB Movement			SB Movement			Overall
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
NE J St at Tiger Blvd	AM	All-Way Stop	LOS	C			B			B	B		B	B		C
			Delay	19.3			11.6			11.8	10.5		10.3	12.6		15.2
	PM		LOS	D			C			C	B		B	B		C
			Delay	29.2			19.2			21.9	11.8		11.5	14.5		22.1
NE J St at I-49 SB Ramps	AM	One-Way Stop	LOS				A		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				9.9		0.0				0.0			3.6
	PM		LOS				B		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				10.1		0.0				0.0			3.7
NE J St at I-49 NB Ramps	AM	One-Way Stop	LOS				A		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				8.9		0.0				0.0			3.0
	PM		LOS				A		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				9.0		0.0				0.0			3.0

n/a[1] – free movement, no delay reported

Table 14: LOS Results for 2022 Action – *SimTraffic* Results

Intersection	Time Period	Control	MOE	EB Movement			WB Movement			NB Movement			SB Movement			Overall
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
NE J St at Tiger Blvd	AM	All-Way Stop	LOS	B	B	A	A	A	A	A	A	A	A	A	A	A
			Delay	12.3	14.3	9.6	7.0	9.2	4.8	6.4	9.0	3.8	6.1	9.6	5.0	9.7
	PM		LOS	B	B	B	B	B	A	B	A	A	A	B	A	B
			Delay	14.4	14.6	11.2	10.2	13.4	8.5	11.2	9.8	5.8	5.4	10.7	6.6	11.8
NE J St at I-49 SB Ramps	AM	One-Way Stop	LOS				A		n/a[1]		A	A	n/a[1]	A		A
			Delay				4.7				2.6	4.2		0.7		3.4
	PM		LOS				A		n/a[1]		A	A	n/a[1]	A		A
			Delay				5.1				2.4	3.8		0.7		3.4
NE J St at I-49 NB Ramps	AM	One-Way Stop	LOS				A		n/a[1]		n/a[1]	A	n/a[1]	n/a[1]		A
			Delay				4.0					2.7				3.2
	PM		LOS				A		n/a[1]		n/a[1]	A	n/a[1]	n/a[1]		A
			Delay				3.9					2.9				3.2

n/a[1] - no volume modeled making this movement

Table 15: LOS Results for 2045 Action – *HCM* Results

Intersection	Time Period	Control	MOE	EB Movement			WB Movement			NB Movement			SB Movement			Overall
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
NE J St at Tiger Blvd	**AM**	**All-Way Stop**	**LOS**	F			C			C	C		B	D		F
			Delay	225.9			24.7			18.5	15.5		13.2	25.9		116.4
	PM		**LOS**	F			F			F	C		C	E		F
			Delay	340.0			141.7			121.3	19.2		15.8	35.3		183.3
NE J St at I-49 SB Ramps	**AM**	**One-Way Stop**	**LOS**				B		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				11.1		0.0				0.0			4.1
	PM		**LOS**				B		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				11.6		0.0				0.0			4.2
NE J St at I-49 NB Ramps	**AM**	**One-Way Stop**	**LOS**				A		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				9.2		0.0				0.0			3.1
	PM		**LOS**				A		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				9.3		0.0				0.0			3.1

n/a[1] – free movement, no delay reported

Table 16: LOS Results for 2045 Action – *SimTraffic* Results

Intersection	Time Period	Control	MOE	EB Movement			WB Movement			NB Movement			SB Movement			Overall
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
NE J St at Tiger Blvd	AM	All-Way Stop	LOS	F	F	F	B	B	A	A	B	A	A	B	A	F
			Delay	186.1	187.8	186.3	12.7	14.6	9.5	9.4	10.7	6.3	7.8	13.7	9.4	94.0
	PM		LOS	F	F	F	F	F	F	F	F	F	A	C	C	F
			Delay	641.7	630.0	641.1	227.4	216.4	223.8	145.0	78.2	69.0	9.4	24.5	19.3	262.7
NE J St at I-49 SB Ramps	AM	One-Way Stop	LOS				A		n/a[1]		A	A	n/a[1]	A		A
			Delay				5.8				3.0	4.4		0.8		3.9
	PM		LOS				A		n/a[1]		A	A	n/a[1]	A		A
			Delay				6.1				2.9	3.9		0.8		4.0
NE J St at I-49 NB Ramps	AM	One-Way Stop	LOS				A		n/a[1]		n/a[1]	A	n/a[1]	n/a[1]		A
			Delay				4.1					3.0				3.4
	PM		LOS				A		n/a[1]		n/a[1]	A	n/a[1]	n/a[1]		A
			Delay				4.1					3.2				3.5

n/a[1] - no volume modeled making this movement

Another iteration of analysis was performed for the Action conditions assuming the following changes to the intersection of NE J Street and Tiger Boulevard:

- Signalized
- Eastbound approach has one left-turn lane, one through lane, and one right-turn lane
- Westbound approach has one left-turn lane and one shared through/right-turn lane
- Northbound approach has one left-turn lane and one shared through/right-turn lane
- Southbound approach has one left-turn lane, one shared through/right-turn lane

No changes were made to the ramp intersections. The operational analysis results for the Action conditions with signal control at the intersection of NE J Street and Tiger Boulevard are shown in **Tables 17 to 20** for 2022 and 2045 design years, respectively. Complete results are provided in **Appendix A – Operational Analysis Results**. These results show acceptable performance for all movements at all intersections through the 2045 design year according to both methodologies.

Table 17: LOS Results for 2022 Action – *HCM* Results

Intersection	Time Period	Control	MOE	EB Movement			WB Movement			NB Movement			SB Movement			Overall
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
NE J St at Tiger Blvd	AM	Signal	LOS	C			B			B	B		B	B		C
			Delay	19.3			11.6			11.8	10.5		10.3	12.6		15.2
	PM		LOS	D			C			C	B		B	B		C
			Delay	29.2			19.2			21.9	11.8		11.5	14.5		22.1
NE J St at I-49 SB Ramps	AM	One-Way Stop	LOS				A		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				9.9		0.0				0.0			3.6
	PM		LOS				B		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				10.1		0.0				0.0			3.7
NE J St at I-49 NB Ramps	AM	One-Way Stop	LOS				A		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				8.9		0.0				0.0			3.0
	PM		LOS				A		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				9.0		0.0				0.0			3.0

n/a[1] – free movement, no delay reported

Table 18: LOS Results for 2022 Action – *SimTraffic* Results

Intersection	Time Period	Control	MOE	EB Movement			WB Movement			NB Movement			SB Movement			Overall
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
NE J St at Tiger Blvd	AM	Signal	LOS	B	B	A	A	A	A	A	A	A	A	A	A	A
			Delay	12.3	14.3	9.6	7.0	9.2	4.8	6.4	9.0	3.8	6.1	9.6	5.0	9.7
	PM		LOS	B	B	B	B	B	A	B	A	A	A	B	A	B
			Delay	14.4	14.6	11.2	10.2	13.4	8.5	11.2	9.8	5.8	5.4	10.7	6.6	11.8
NE J St at I-49 SB Ramps	AM	One-Way Stop	LOS				A		n/a[1]		A	A	n/a[1]	A		A
			Delay				4.7				2.6	4.2		0.7		3.4
	PM		LOS				A		n/a[1]		A	A	n/a[1]	A		A
			Delay				5.1				2.4	3.8		0.7		3.4
NE J St at I-49 NB Ramps	AM	One-Way Stop	LOS				A		n/a[1]		n/a[1]	A	n/a[1]	n/a[1]		A
			Delay				4.0					2.7				3.2
	PM		LOS				A		n/a[1]		n/a[1]	A	n/a[1]	n/a[1]		A
			Delay				3.9					2.9				3.2

n/a[1] - no volume modeled making this movement

Table 19: LOS Results for 2045 Action – *HCM* Results

Intersection	Time Period	Control	MOE	EB Movement			WB Movement			NB Movement			SB Movement			Overall
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
NE J St at Tiger Blvd	AM	Signal	LOS	B	B	C	B	B		B	B		B	C		B
			Delay	13.0	15.8	23.7	12.2	18.0		15.3	15.2		12.8	23.3		18.9
	PM		LOS	C	C	C	B	D		C	B		B	D		C
			Delay	21.6	22.9	25.9	17.7	45.9		29.8	15.6		13.6	43.5		31.9
NE J St at I-49 SB Ramps	AM	One-Way Stop	LOS				B		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				11.1		0.0				0.0			4.1
	PM		LOS				B		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				11.6		0.0				0.0			4.2
NE J St at I-49 NB Ramps	AM	One-Way Stop	LOS				A		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				9.2		0.0				0.0			3.1
	PM		LOS				A		A		n/a[1]	n/a[1]	A	n/a[1]		A
			Delay				9.3		0.0				0.0			3.1

n/a[1] – free movement, no delay reported

Table 20: LOS Results for 2045 Action– *SimTraffic* Results

Intersection	Time Period	Control	MOE	EB Movement			WB Movement			NB Movement			SB Movement			Overall
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
NE J St at Tiger Blvd	AM	Signal	LOS	B	B	B	B	B	B	B	B	A	B	B	B	B
			Delay	17.1	17.3	10.7	16.5	18.7	11.2	15.3	12.0	6.6	13.3	19.0	11.2	15.1
	PM		LOS	C	C	B	C	C	C	C	B	A	B	C	C	C
			Delay	24.9	21.9	10.1	22.7	30.8	23.7	30.8	13.2	8.5	13.7	33.2	21.9	24.2
NE J St at I-49 SB Ramps	AM	One-Way Stop	LOS				A		n/a[1]		A	A	n/a[1]	A		A
			Delay				5.8				3.0	4.5		0.8		3.9
	PM		LOS				A		n/a[1]		A	A	n/a[1]	A		A
			Delay				6.0				2.8	4.0		0.8		3.9
NE J St at I-49 NB Ramps	AM	One-Way Stop	LOS				A		n/a[1]		n/a[1]	A	n/a[1]	n/a[1]		A
			Delay				4.0					3.1				3.4
	PM		LOS				A		n/a[1]		n/a[1]	A	n/a[1]	n/a[1]		A
			Delay				4.1					3.3				3.5

n/a[1] - no volume modeled making this movement

SIGNAL WARRANT ANALYSIS

Signal warrant analysis was conducted for the three study intersections, including: NE J Street at Tiger Boulevard, NE J Street at I-49 Southbound Ramps, and NE J Street at I-49 Northbound Ramps. Analyses were conducted based on 2022 Action design volumes. The *Manual on Uniform Traffic Control Devices* (MUTCD), 2009 Edition, lists the following as signal warrants.

- Warrant 1 – Eight-Hour Vehicular Volume
- Warrant 2 – Four-Hour Vehicular Volume
- Warrant 3 – Peak Hour
- Warrant 4 – Pedestrian Volume
- Warrant 5 – School Crossing
- Warrant 6 – Coordinated Signal System
- Warrant 7 – Crash Experience
- Warrant 8 – Roadway Network
- Warrant 9 – Intersection Near a Grade Crossing

To estimate the hourly turning movement volumes at each intersection from 7 AM to 7 PM, the hourly ratio of off-peak volume to peak hour volume for each movement was assumed to match the ratios observed at the existing NE J Street at Tiger Boulevard intersection. The *Highway Capacity Software (HCS7)* was used to compare the total intersection volumes against the criteria for signalization established in these warrants. Warrants 1 through 3 were determined to be applicable and are described in the following subsections.

Warrant 1 – Eight-Hour Vehicular Volume

Warrant 1 typically applies where the volume of intersecting traffic throughout the average day is significant or the intersecting traffic causes excessive delay to the minor street traffic. It is made up of two conditions. Condition A considers the volume of traffic crossing the intersection while Condition B considers the delay and number of conflicts for the minor street traffic. Conditions A and B are independent of one another in determining whether the warrant is satisfied. However, if neither condition is satisfied for 8 hours of an average day, a combination of the warrants may be considered at 80% of the required vehicles per hour (vph).

Warrant 2 – Four-Hour Vehicular Volume

Warrant 2 applies where the volume of intersecting traffic, usually during peak times, is the primary reason for considering a traffic signal. If it is found that, for any four hours of an average day, the side street traffic suffers undue delay which would be remedied by a traffic signal, then a signal may be justified.

Warrant 3 – Peak Hour

Warrant 3 typically applies only to facilities that attract or discharge large numbers of vehicles over a short time. It is made up of two conditions. For Condition A, three

criteria must occur for this warrant to be met. First, the total stopped time delay for one side street approach must equal or exceed four vehicle-hours (one-lane approach) or five vehicle-hours (two-lane approach) in a single hour of the day. Second, the volume for this side street approach must exceed 100 vph (one lane approach) or 150 vph (two-lane approach). Finally, the total volume entering the intersection must exceed 650 vph (one-lane approach) or 800 vph (two-lane approach) for the same hour as the first two criteria. For Condition B, the warrant is determined graphically.

Additional Considerations and Results

According to the *MUTCD*, at an intersection with a high volume of left-turn traffic from the major street, the signal warrant analysis may be performed where the higher of the major-street left-turn volume is considered as the "minor-street" volume and the corresponding single direction of opposing traffic on the major street as the "major-street" volume. Since the intersection of NE J Street at Tiger Boulevard has high left turning volumes, these left-turn volumes were checked against their opposing volumes, but no warrants were met by this method.

The signal warrants were tested against the warrant thresholds using the full 2022 intersection volumes. The signal warrant reports developed for this analysis are provided in **Appendix B – Signal Warrant Analysis Results**. These results, summarized in **Table 21,** show that none of the intersections warrant signalization with the anticipated 2022 Action volumes.

However, the operational analysis demonstrates a need for signalization at the intersection of NE J Street and Tiger Boulevard to achieve acceptable performance in the future.

Table 21: Signal Warrant Analysis Results for 2022 Action

Intersection	Warrant 1		Warrant 2		Warrant 3		Signalize ?
	Full Volumes	Reduced Volumes	Full Volumes	Reduced Volumes	Full Volumes	Reduced Volumes	
NE J St. at Tiger Blvd.	No	-	No	-	No	-	No
NE J St. at I-49 SB Ramps	No	-	No	-	No	-	No
NE J St. at I-49 NB Ramps	No	-	No	-	No	-	No

SAFETY ANALYSIS OF EXISTING CONDITIONS

In addition to traffic operations, a historical safety analysis of Interstate 49 from 2016 - 2020 was conducted. Crash rates were compared to statewide averages for similar facilities as shown in **Table 22**.

Table 22: Crash Rates (2016-2020)

Route	Section	Log Miles		Weighted ADT	Total Crashes			KA Crashes		
		Begin LM	End LM		Number of Crashes	Crash Rate (per MVM)[1]	Statewide Average (per MVM)[1]	Number of Crashes	Crash Rate (per 100 MVM)[1]	Statewide Average (per 100 MVM)[1]
I-49[2]	29	87.56	91.45	39,000	153	0.55	0.78	5	1.81	2.95

[1]MVM - Million Vehicle Miles
[2]Facility type: Urban 4-lane, divided, full control of access highway

The total and Fatal and Serious Injury (KA) crash rates for Interstate 49 are below the statewide averages for similar facilities. As shown in **Figure 5**, single vehicle crash type collision was the leading crash type (36%) followed closely by rear end crashes (33%). Most crashes that occurred were No Apparent Injury (O) type crashes. Within the five (5) years, 12 Possible Injury (C), 10 Suspected Minor Injury

(B), 4 Suspected Serious Injury (A), and 1 Fatal (K) crashes occurred within the study area. **Figure 6** shows the locations of the five (5) KA crashes along I-49 along with crash ratios (all severity) of the study corridors.

Figure 5: I-49 Crash Manner (2016-2020)

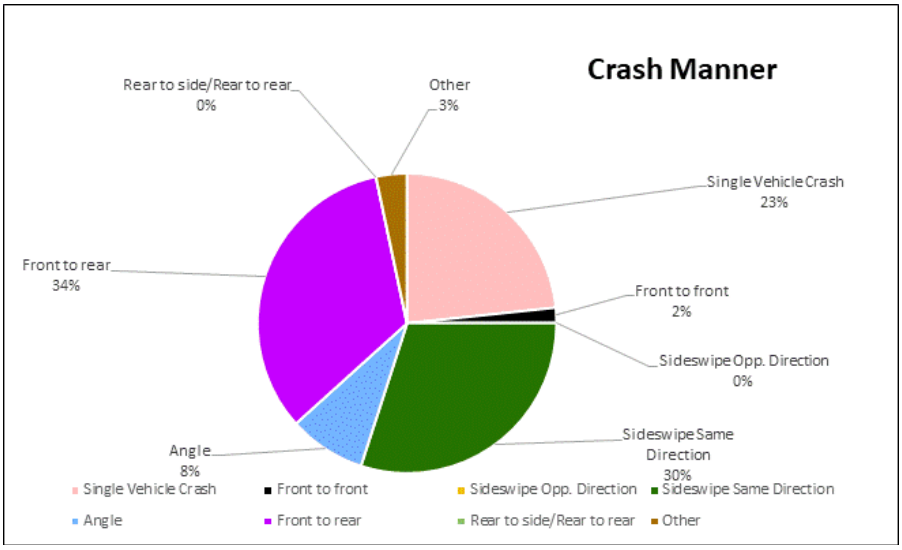


Figure 6: All Severity Crash Ratios and KA Crashes

SUMMARY

The study area included the I-49 freeway facility from north of Highway 71B on the north end to south of Highway 72 on the south end and at key intersections along NE J Street. This study area was evaluated to determine the need for a new interchange along I-49 at NE J Street and the extension of NE J Street. Operational conditions under 2022 No-Action, 2022 Action, 2045 No-Action, and 2045 Action scenarios were evaluated as well as safety and other considerations.

The operational analysis demonstrated some areas along I-49 that will not operate adequately by 2045, even with the addition of a third lane in each direction. The

added connectivity under the Action scenario would divert additional volume from the surrounding network onto I-49 without notably changing the level of service (LOS) along the freeway facility. Safety and other considerations did not establish any additional needs. The greatest need served by this project would be added connectivity within the study area.

APPENDIX A

OPERATIONAL ANALYSIS RESULTS

HCS7 Freeway Facilities Report

Project Information

Analyst	APS	Date	3/18/2022
Agency	Garver	Analysis Year	2022
Jurisdiction	ARDOT	Time Analyzed	AM Peak hour
Project Description	I-49 NB No Action with Bella Vista Bypass	Units	U.S. Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	11
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	5.16		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	between SE 8th St and Hwy 72	1316	3
2	Diverge	Diverge	off-ramp to Hwy 72	1500	3
3	Basic	Basic	between Hwy 72 off ramps	60	3
4	Diverge	Basic	loop off-ramp to Hwy 72	1500	3
5	Basic	Basic	between loop off-ramp and on-ramp Hwy 72	710	2
6	Merge	Merge	on-ramp from Hwy 72	1500	2
7	Basic	Basic	between Hwy 72 and Hwy 71B	15670	2
8	Diverge	Diverge	off-ramp to Hwy 71B	1500	2
9	Basic	Basic	between Hwy 71B ramps	1500	2
10	Merge	Merge	on-ramp from Hwy 71B	1500	2
11	Basic	Basic	north of Hwy 71B	500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	1855	6943	0.27	69.1	8.9	A
2	1.00	0.877	2349	6943	0.34	69.1	11.3	B
3	1.00	0.877	1855	6943	0.27	69.1	8.9	A
4	1.00	0.877	1855	6943	0.27	69.1	8.9	A

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.877	0.962	1855	411	6824	1936	0.27	0.21	61.3	57.9	10.1	14.6	B
2	1.00	1.00	0.877	0.962	2349	715	6824	1936	0.34	0.37	60.6	57.2	12.9	18.0	B

3	1.00	1.00	0.877	0.962	1855	411	6824	1936	0.27	0.21	61.3	57.9	10.1	14.6	B
4	1.00	1.00	0.877	0.962	1855	411	6824	1936	0.27	0.21	61.3	57.9	10.1	14.6	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.847	1455	6943	0.21	66.9	7.0	A
2	1.00	0.847	1620	6943	0.23	66.7	7.8	A
3	1.00	0.847	1455	6943	0.21	66.9	7.0	A
4	1.00	0.847	1455	6943	0.21	66.9	7.0	A

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.847	0.962	1455	364	6943	1839	0.21	0.20	68.5	69.1	7.0	7.0	A
2	1.00	1.00	0.847	0.962	1620	406	6943	1839	0.23	0.22	68.4	69.1	7.8	7.8	A
3	1.00	1.00	0.847	0.962	1455	364	6943	1839	0.21	0.20	68.5	69.1	7.0	7.0	A
4	1.00	1.00	0.847	0.962	1455	364	6943	1839	0.21	0.20	68.5	69.1	7.0	7.0	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.806	1094	4629	0.24	69.0	7.9	A
2	1.00	0.806	1217	4629	0.26	69.0	8.8	A
3	1.00	0.806	1094	4629	0.24	69.0	7.9	A
4	1.00	0.806	1094	4629	0.24	69.0	7.9	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.806	0.893	1214	120	4550	1936	0.27	0.06	62.0	62.0	9.8	9.2	A
2	1.00	1.00	0.806	0.893	1359	142	4550	1936	0.30	0.07	61.9	61.9	11.0	10.3	B
3	1.00	1.00	0.806	0.893	1214	120	4550	1936	0.27	0.06	62.0	62.0	9.8	9.2	A
4	1.00	1.00	0.806	0.893	1214	120	4550	1936	0.27	0.06	62.0	62.0	9.8	9.2	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.820	1206	4629	0.26	69.1	8.7	A
2	1.00	0.820	1351	4629	0.29	69.1	9.8	A
3	1.00	0.820	1206	4629	0.26	69.1	8.7	A
4	1.00	0.820	1206	4629	0.26	69.1	8.7	A

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	

1	1.00	1.00	0.820	0.610	1206	469	4550	3678	0.27	0.13	52.6	52.6	11.5	1.1	A
2	1.00	1.00	0.820	0.625	1351	624	4550	3678	0.30	0.17	52.2	52.2	12.9	2.4	A
3	1.00	1.00	0.820	0.610	1206	469	4550	3678	0.27	0.13	52.6	52.6	11.5	1.1	A
4	1.00	1.00	0.820	0.610	1206	469	4550	3678	0.27	0.13	52.6	52.6	11.5	1.1	A

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.962	731	4629	0.16	67.6	5.3	A
2	1.00	0.980	733	4629	0.16	67.6	5.3	A
3	1.00	0.962	731	4629	0.16	67.6	5.3	A
4	1.00	0.962	731	4629	0.16	67.6	5.3	A

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.685	1251	520	4550	1936	0.27	0.27	62.5	62.5	10.0	7.7	A
2	1.00	1.00	0.980	0.685	1416	683	4550	1936	0.31	0.35	62.4	62.4	11.3	8.9	A
3	1.00	1.00	0.962	0.685	1251	520	4550	1936	0.27	0.27	62.5	62.5	10.0	7.7	A
4	1.00	1.00	0.962	0.685	1251	520	4550	1936	0.27	0.27	62.5	62.5	10.0	7.7	A

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.847	1250	4629	0.27	67.8	9.0	A
2	1.00	0.847	1400	4629	0.30	67.8	10.1	A
3	1.00	0.847	1250	4629	0.27	67.8	9.0	A
4	1.00	0.847	1250	4629	0.27	67.8	9.0	A

Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.4	8.8	7.4	4.70	A
2	66.2	10.0	8.5	4.70	A
3	66.4	8.8	7.4	4.70	A
4	66.4	8.8	7.4	4.70	A

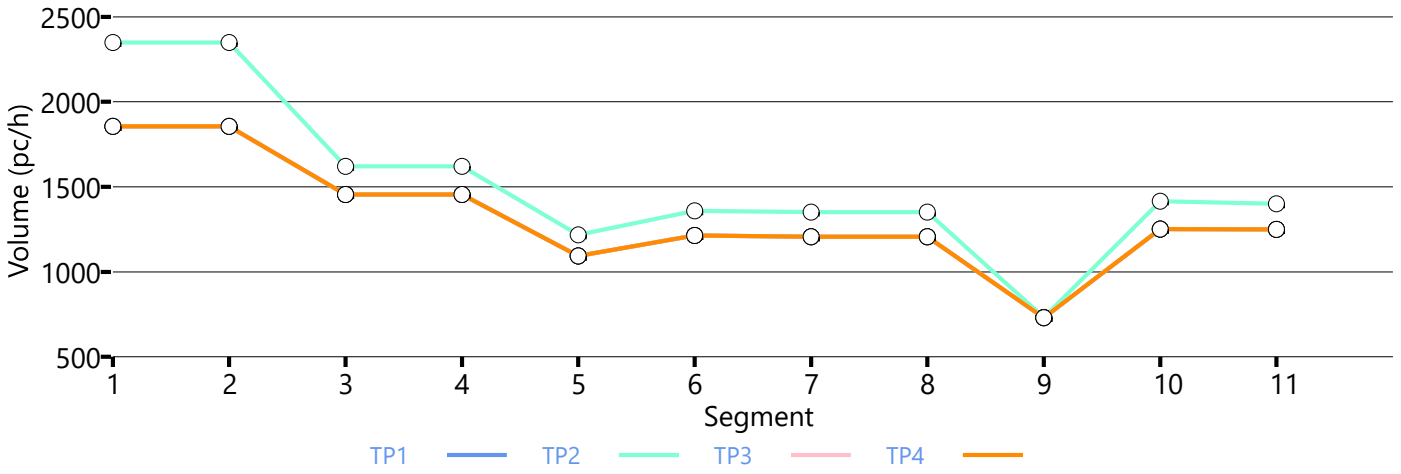
Facility Overall Results

Space Mean Speed, mi/h	66.3	Density, veh/mi/ln	7.6
Average Travel Time, min	4.70	Density, pc/mi/ln	9.1

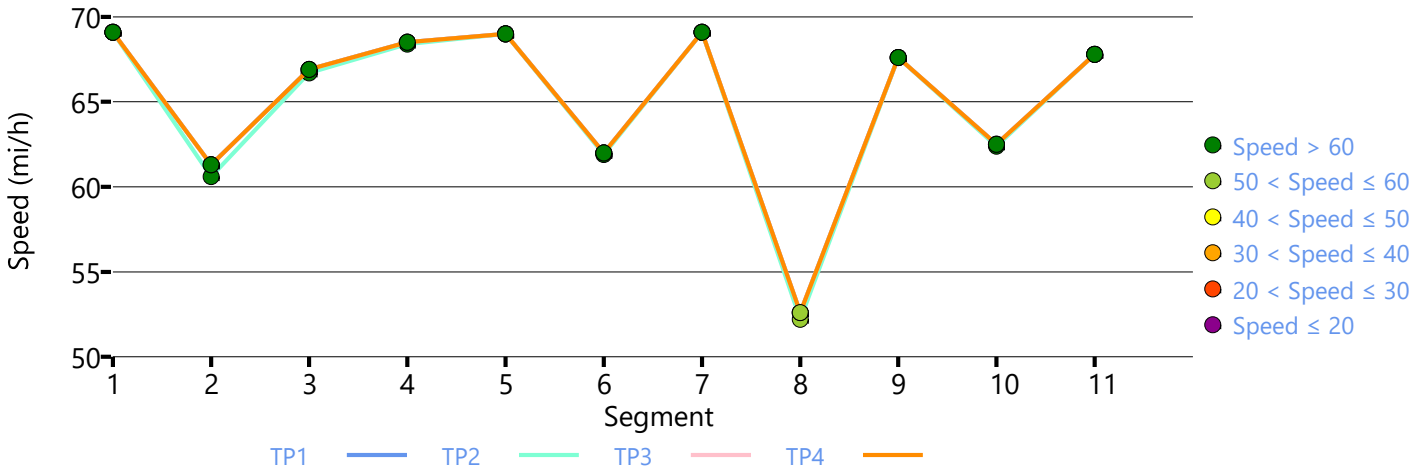
Messages

Comments

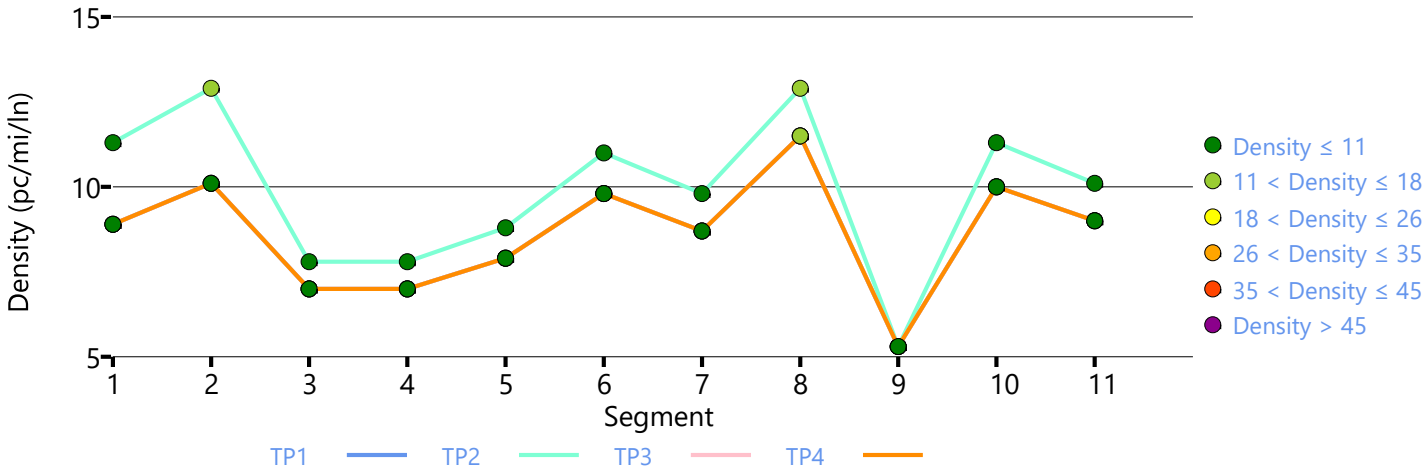
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	APS	Date	3/18/2022
Agency	Garver	Analysis Year	2022
Jurisdiction	ARDOT	Time Analyzed	PM Peak hour
Project Description	I-49 NB No Action with Bella Vista Bypass	Units	U.S. Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	11
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	5.16		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	between SE 8th St and Hwy 72	1316	3
2	Diverge	Diverge	off-ramp to Hwy 72	1500	3
3	Basic	Basic	between Hwy 72 off ramps	60	3
4	Diverge	Basic	loop off-ramp to Hwy 72	1500	3
5	Basic	Basic	between loop off-ramp and on-ramp Hwy 72	710	2
6	Merge	Merge	on-ramp from Hwy 72	1500	2
7	Basic	Basic	between Hwy 72 and Hwy 71B	15670	2
8	Diverge	Diverge	off-ramp to Hwy 71B	1500	2
9	Basic	Basic	between Hwy 71B ramps	1500	2
10	Merge	Merge	on-ramp from Hwy 71B	1500	2
11	Basic	Basic	north of Hwy 71B	500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.943	3281	6943	0.47	69.1	15.8	B
2	1.00	0.943	3827	6943	0.55	68.9	18.5	C
3	1.00	0.943	3281	6943	0.47	69.1	15.8	B
4	1.00	0.943	3281	6943	0.47	69.1	15.8	B

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.943	0.962	3281	610	6824	1936	0.48	0.32	61.7	57.4	17.7	22.6	C
2	1.00	1.00	0.943	0.962	3827	763	6824	1936	0.56	0.39	61.4	57.0	20.8	25.6	C

3	1.00	1.00	0.943	0.962	3281	610	6824	1936	0.48	0.32	61.7	57.4	17.7	22.6	C
4	1.00	1.00	0.943	0.962	3281	610	6824	1936	0.48	0.32	61.7	57.4	17.7	22.6	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	2707	6943	0.39	67.0	13.1	B
2	1.00	0.926	3105	6943	0.45	66.9	15.0	B
3	1.00	0.926	2707	6943	0.39	67.0	13.1	B
4	1.00	0.926	2707	6943	0.39	67.0	13.1	B

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	1.000	2707	442	6943	1839	0.39	0.24	68.5	69.1	13.1	13.1	B
2	1.00	1.00	0.926	1.000	3105	593	6943	1839	0.45	0.32	68.5	69.1	15.0	15.0	B
3	1.00	1.00	0.926	1.000	2707	442	6943	1839	0.39	0.24	68.5	69.1	13.1	13.1	B
4	1.00	1.00	0.926	1.000	2707	442	6943	1839	0.39	0.24	68.5	69.1	13.1	13.1	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.909	2272	4629	0.49	69.0	16.4	B
2	1.00	0.909	2510	4629	0.54	69.0	18.2	C
3	1.00	0.909	2272	4629	0.49	69.0	16.4	B
4	1.00	0.909	2272	4629	0.49	69.0	16.4	B

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.909	0.980	2681	409	4550	1936	0.59	0.21	60.8	60.8	22.0	20.5	C
2	1.00	1.00	0.909	0.980	2997	487	4550	1936	0.66	0.25	60.2	60.2	24.9	23.0	C
3	1.00	1.00	0.909	0.980	2681	409	4550	1936	0.59	0.21	60.8	60.8	22.0	20.5	C
4	1.00	1.00	0.909	0.980	2681	409	4550	1936	0.59	0.21	60.8	60.8	22.0	20.5	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	2663	4629	0.58	68.7	19.4	C
2	1.00	0.926	2979	4629	0.64	67.6	22.0	C
3	1.00	0.926	2663	4629	0.58	68.7	19.4	C
4	1.00	0.926	2663	4629	0.58	68.7	19.4	C

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	

1	1.00	1.00	0.926	0.781	2663	798	4550	3678	0.59	0.22	51.8	51.8	25.7	13.7	B
2	1.00	1.00	0.926	0.806	2979	1036	4550	3678	0.65	0.28	51.2	51.2	29.1	16.4	B
3	1.00	1.00	0.926	0.781	2663	798	4550	3678	0.59	0.22	51.8	51.8	25.7	13.7	B
4	1.00	1.00	0.926	0.781	2663	798	4550	3678	0.59	0.22	51.8	51.8	25.7	13.7	B

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.980	1881	4629	0.41	67.6	13.6	B
2	1.00	0.980	1963	4629	0.42	67.5	14.2	B
3	1.00	0.980	1881	4629	0.41	67.6	13.6	B
4	1.00	0.980	1881	4629	0.41	67.6	13.6	B

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.980	0.685	3242	1361	4550	1936	0.71	0.70	60.2	60.2	26.9	22.9	C
2	1.00	1.00	0.980	0.685	3486	1523	4550	1936	0.77	0.79	59.4	59.4	29.3	24.7	C
3	1.00	1.00	0.980	0.685	3242	1361	4550	1936	0.71	0.70	60.2	60.2	26.9	22.9	C
4	1.00	1.00	0.980	0.685	3242	1361	4550	1936	0.71	0.70	60.2	60.2	26.9	22.9	C

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.862	3219	4629	0.70	66.4	24.2	C
2	1.00	0.862	3442	4629	0.74	64.9	26.5	D
3	1.00	0.862	3219	4629	0.70	66.4	24.2	C
4	1.00	0.862	3219	4629	0.70	66.4	24.2	C

Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	65.9	19.1	17.8	4.70	C
2	65.1	21.6	20.1	4.80	C
3	65.9	19.1	17.8	4.70	C
4	65.9	19.1	17.8	4.70	C

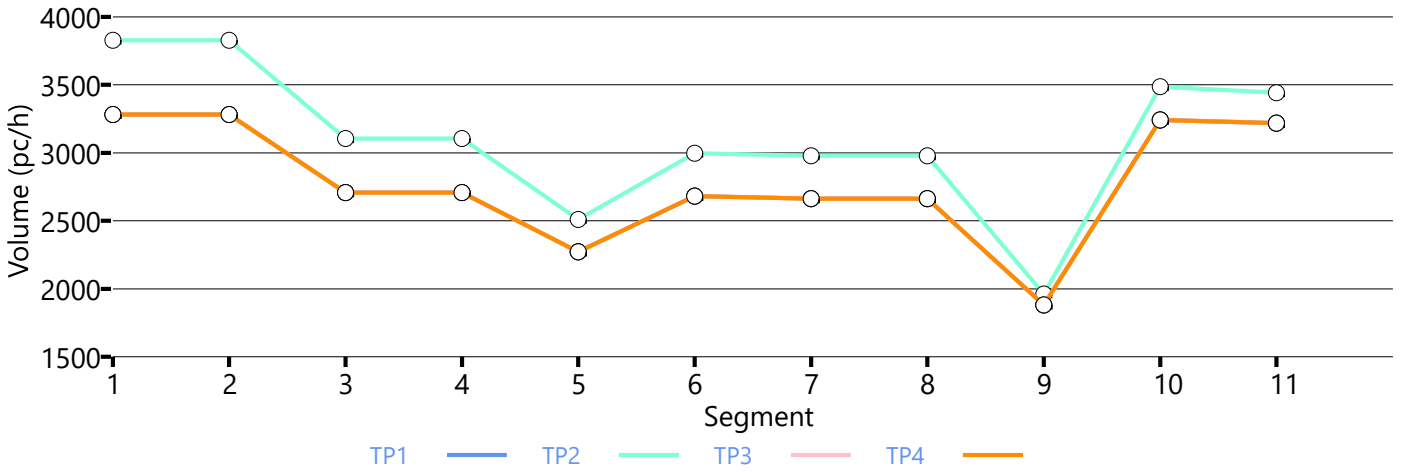
Facility Overall Results

Space Mean Speed, mi/h	65.7	Density, veh/mi/ln	18.4
Average Travel Time, min	4.70	Density, pc/mi/ln	19.7

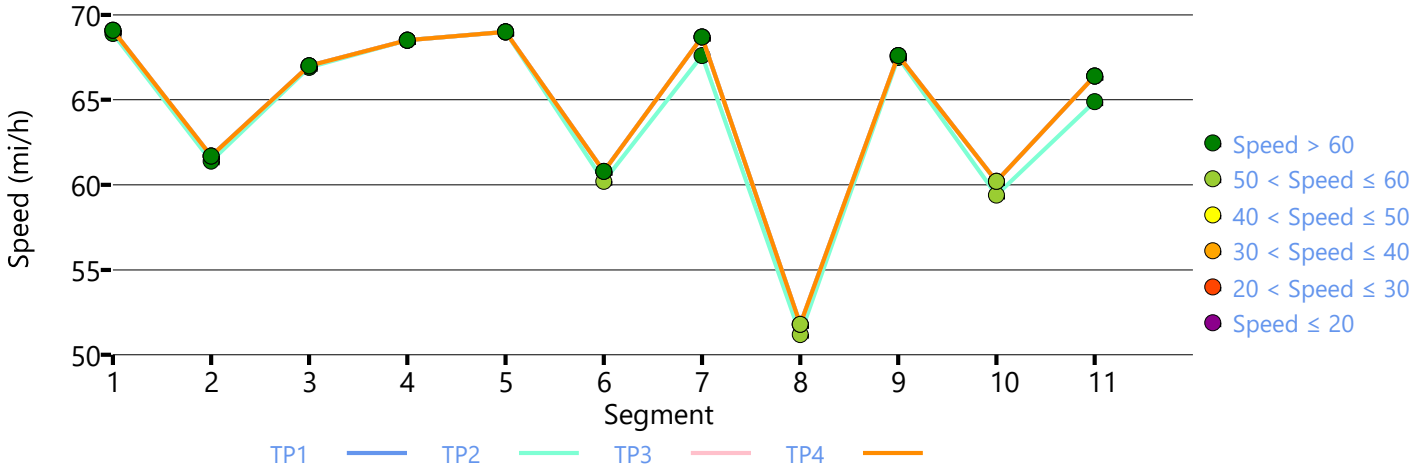
Messages

Comments

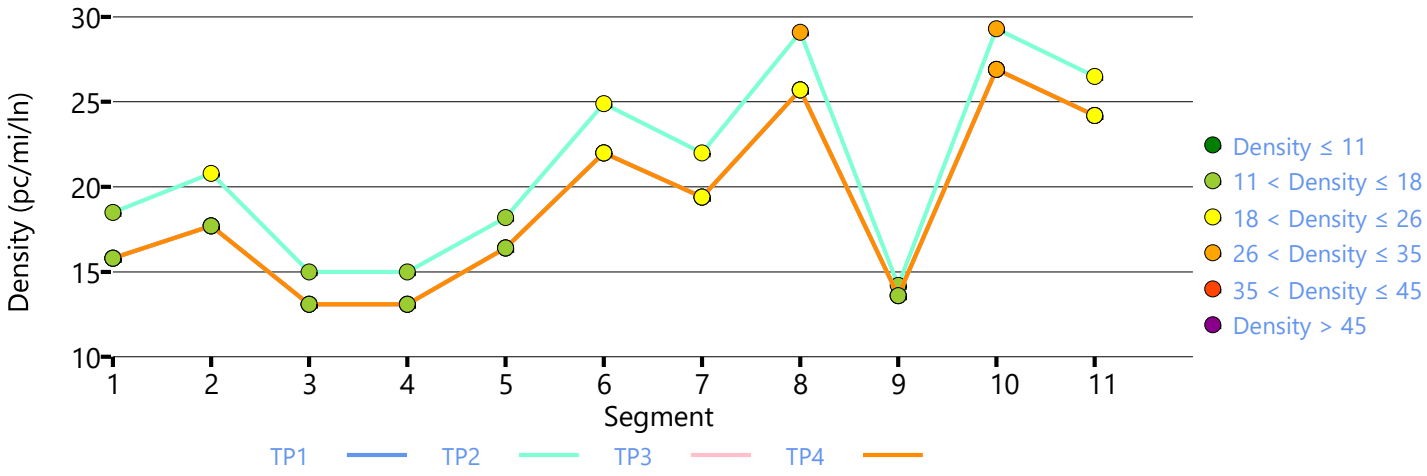
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	APS	Date	3/18/2022
Agency	Garver	Analysis Year	2045 No Action
Jurisdiction	ARDOT	Time Analyzed	AM Peak hour
Project Description	I-49 NB with Bella Vista Bypass-No Action	Units	U.S. Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	11
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	5.16		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	between SE 8th St and Hwy 72	1316	3
2	Diverge	Diverge	off-ramp to Hwy 72	1500	3
3	Basic	Basic	between Hwy 72 off ramps	60	3
4	Diverge	Diverge	loop off-ramp to Hwy 72	1500	3
5	Basic	Basic	between loop off-ramp and on-ramp Hwy 72	710	3
6	Merge	Merge	on-ramp from Hwy 72	1500	3
7	Basic	Basic	between Hwy 72 and Hwy 71B	15670	3
8	Diverge	Diverge	off-ramp to Hwy 71B	1500	3
9	Basic	Basic	between Hwy 71B ramps	1500	3
10	Merge	Merge	on-ramp from Hwy 71B	1500	3
11	Basic	Basic	north of Hwy 71B	500	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.862	2811	6943	0.40	69.1	13.6	B
2	1.00	0.877	3558	6943	0.51	69.1	17.2	B
3	1.00	0.862	2811	6943	0.40	69.1	13.6	B
4	1.00	0.862	2811	6943	0.40	69.1	13.6	B

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.862	0.962	2811	702	6824	1936	0.41	0.36	61.1	57.2	15.3	20.4	C
2	1.00	1.00	0.877	0.962	3558	1225	6824	1936	0.52	0.63	59.9	55.9	19.8	25.3	C

3	1.00	1.00	0.862	0.962	2811	702	6824	1936	0.41	0.36	61.1	57.2	15.3	20.4	C
4	1.00	1.00	0.862	0.962	2811	702	6824	1936	0.41	0.36	61.1	57.2	15.3	20.4	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.833	2098	6943	0.30	66.8	10.1	A
2	1.00	0.833	2331	6943	0.34	66.5	11.2	B
3	1.00	0.833	2098	6943	0.30	66.8	10.1	A
4	1.00	0.833	2098	6943	0.30	66.8	10.1	A

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.833	0.962	2098	372	6824	1839	0.31	0.20	57.3	52.9	12.2	4.2	A
2	1.00	1.00	0.833	0.962	2331	417	6824	1839	0.34	0.23	57.3	52.8	13.6	5.6	A
3	1.00	1.00	0.833	0.962	2098	372	6824	1839	0.31	0.20	57.3	52.9	12.2	4.2	A
4	1.00	1.00	0.833	0.962	2098	372	6824	1839	0.31	0.20	57.3	52.9	12.2	4.2	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.806	1725	6943	0.25	67.1	8.3	A
2	1.00	0.806	1912	6943	0.28	67.1	9.2	A
3	1.00	0.806	1725	6943	0.25	67.1	8.3	A
4	1.00	0.806	1725	6943	0.25	67.1	8.3	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.806	0.893	1948	223	6824	1936	0.29	0.12	64.1	62.0	10.1	9.6	A
2	1.00	1.00	0.806	0.893	2176	264	6824	1936	0.32	0.14	64.0	61.9	11.3	10.7	B
3	1.00	1.00	0.806	0.893	1948	223	6824	1936	0.29	0.12	64.1	62.0	10.1	9.6	A
4	1.00	1.00	0.806	0.893	1948	223	6824	1936	0.29	0.12	64.1	62.0	10.1	9.6	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.820	1938	6943	0.28	69.1	9.3	A
2	1.00	0.820	2167	6943	0.31	69.1	10.4	A
3	1.00	0.820	1938	6943	0.28	69.1	9.3	A
4	1.00	0.820	1938	6943	0.28	69.1	9.3	A

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	

1	1.00	1.00	0.820	0.610	1938	821	6824	3678	0.28	0.22	57.6	51.8	11.2	2.1	A
2	1.00	1.00	0.820	0.649	2167	1052	6824	3678	0.32	0.29	56.4	51.2	12.8	4.1	A
3	1.00	1.00	0.820	0.610	1938	821	6824	3678	0.28	0.22	57.6	51.8	11.2	2.1	A
4	1.00	1.00	0.820	0.610	1938	821	6824	3678	0.28	0.22	57.6	51.8	11.2	2.1	A

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.980	1110	6943	0.16	68.1	5.4	A
2	1.00	0.980	1116	6943	0.16	68.0	5.4	A
3	1.00	0.980	1110	6943	0.16	68.1	5.4	A
4	1.00	0.980	1110	6943	0.16	68.1	5.4	A

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.980	0.685	1840	730	6824	1936	0.27	0.38	63.9	62.4	9.6	8.9	A
2	1.00	1.00	0.980	0.685	2078	962	6824	1936	0.30	0.50	63.6	62.3	10.9	10.6	B
3	1.00	1.00	0.980	0.685	1840	730	6824	1936	0.27	0.38	63.9	62.4	9.6	8.9	A
4	1.00	1.00	0.980	0.685	1840	730	6824	1936	0.27	0.38	63.9	62.4	9.6	8.9	A

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.862	1842	6943	0.27	68.1	8.9	A
2	1.00	0.847	2070	6943	0.30	68.0	10.0	A
3	1.00	0.862	1842	6943	0.27	68.1	8.9	A
4	1.00	0.862	1842	6943	0.27	68.1	8.9	A

Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.2	9.9	8.3	4.70	A
2	65.9	11.3	9.5	4.70	B
3	66.2	9.9	8.3	4.70	A
4	66.2	9.9	8.3	4.70	A

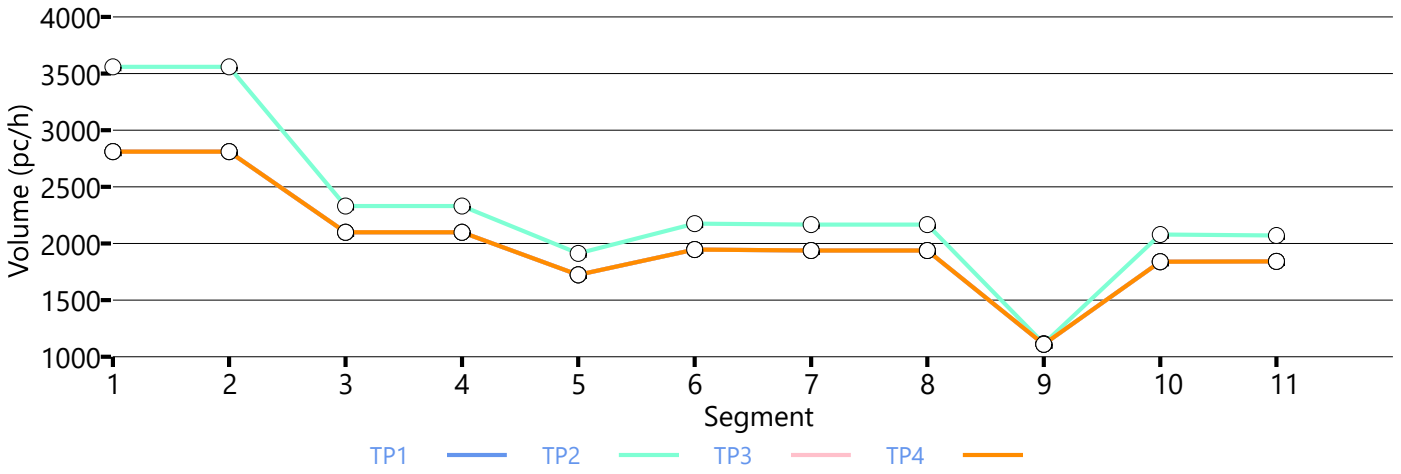
Facility Overall Results

Space Mean Speed, mi/h	66.2	Density, veh/mi/ln	8.6
Average Travel Time, min	4.70	Density, pc/mi/ln	10.3

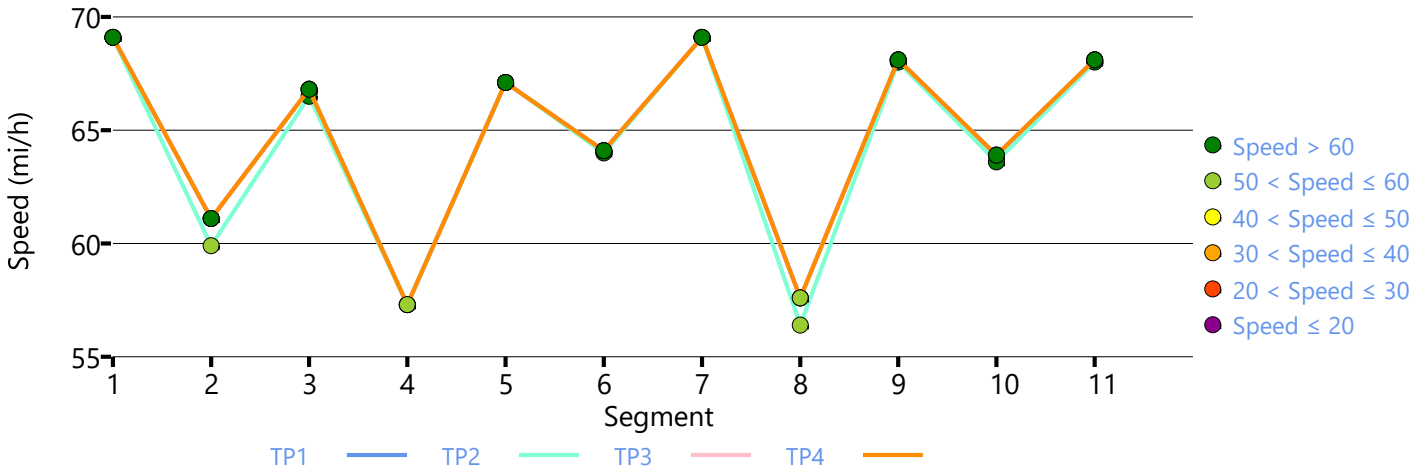
Messages

Comments

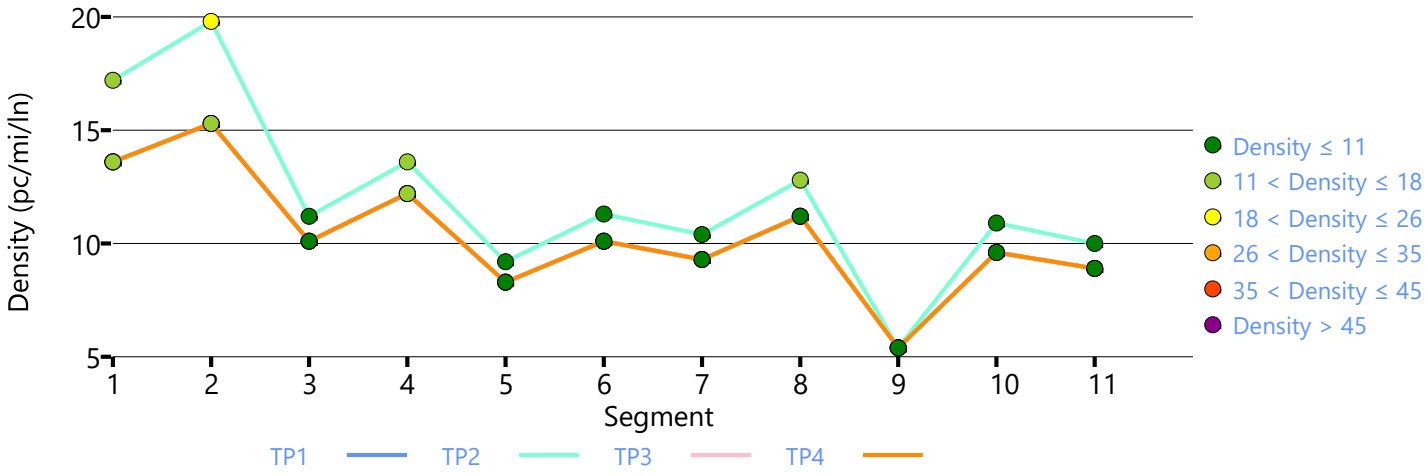
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	APS	Date	3/18/2022
Agency	Garver	Analysis Year	2045 No Action
Jurisdiction	ARDOT	Time Analyzed	PM Peak hour
Project Description	I-49 NB with Bella Vista Bypass-No Action	Units	U.S. Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	11
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	5.16		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	between SE 8th St and Hwy 72	1316	3
2	Diverge	Diverge	off-ramp to Hwy 72	1500	3
3	Basic	Basic	between Hwy 72 off ramps	60	3
4	Diverge	Diverge	loop off-ramp to Hwy 72	1500	3
5	Basic	Basic	between loop off-ramp and on-ramp Hwy 72	710	3
6	Merge	Merge	on-ramp from Hwy 72	1500	3
7	Basic	Basic	between Hwy 72 and Hwy 71B	15670	3
8	Diverge	Diverge	off-ramp to Hwy 71B	1500	3
9	Basic	Basic	between Hwy 71B ramps	1500	3
10	Merge	Merge	on-ramp from Hwy 71B	1500	3
11	Basic	Basic	north of Hwy 71B	500	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	5042	6943	0.73	65.5	25.7	C
2	1.00	0.926	5837	6943	0.84	60.9	32.0	D
3	1.00	0.926	5042	6943	0.73	65.5	25.7	C
4	1.00	0.926	5042	6943	0.73	65.5	25.7	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.962	5042	1045	6824	1936	0.74	0.54	61.0	56.4	27.6	31.6	D
2	1.00	1.00	0.926	0.962	5837	1306	6824	1936	0.86	0.67	60.4	55.7	32.2	35.3	E

3	1.00	1.00	0.926	0.962	5042	1045	6824	1936	0.74	0.54	61.0	56.4	27.6	31.6	D
4	1.00	1.00	0.926	0.962	5042	1045	6824	1936	0.74	0.54	61.0	56.4	27.6	31.6	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	3957	6943	0.57	66.8	19.2	C
2	1.00	0.926	4481	6943	0.65	66.6	22.1	C
3	1.00	0.926	3957	6943	0.57	66.8	19.2	C
4	1.00	0.926	3957	6943	0.57	66.8	19.2	C

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	1.000	3957	454	6824	1839	0.58	0.25	58.2	52.7	22.7	13.9	B
2	1.00	1.00	0.926	1.000	4481	607	6824	1839	0.66	0.33	57.9	52.3	25.8	16.6	B
3	1.00	1.00	0.926	1.000	3957	454	6824	1839	0.58	0.25	58.2	52.7	22.7	13.9	B
4	1.00	1.00	0.926	1.000	3957	454	6824	1839	0.58	0.25	58.2	52.7	22.7	13.9	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.909	3531	6943	0.51	67.3	17.0	B
2	1.00	0.909	3897	6943	0.56	67.2	18.9	C
3	1.00	0.909	3531	6943	0.51	67.3	17.0	B
4	1.00	0.909	3531	6943	0.51	67.3	17.0	B

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.909	0.980	4291	760	6824	1936	0.63	0.39	62.2	60.6	23.0	21.5	C
2	1.00	1.00	0.909	0.980	4801	904	6824	1936	0.70	0.47	61.6	59.9	26.0	24.0	C
3	1.00	1.00	0.909	0.980	4291	760	6824	1936	0.63	0.39	62.2	60.6	23.0	21.5	C
4	1.00	1.00	0.909	0.980	4291	760	6824	1936	0.63	0.39	62.2	60.6	23.0	21.5	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	4271	6943	0.62	68.2	20.9	C
2	1.00	0.926	4782	6943	0.69	66.6	23.9	C
3	1.00	0.926	4271	6943	0.62	68.2	20.9	C
4	1.00	0.926	4271	6943	0.62	68.2	20.9	C

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	

1	1.00	1.00	0.926	0.806	4271	1354	6824	3678	0.63	0.37	57.2	50.5	24.9	13.7	B
2	1.00	1.00	0.926	0.833	4782	1753	6824	3678	0.70	0.48	55.8	49.5	28.6	17.5	B
3	1.00	1.00	0.926	0.806	4271	1354	6824	3678	0.63	0.37	57.2	50.5	24.9	13.7	B
4	1.00	1.00	0.926	0.806	4271	1354	6824	3678	0.63	0.37	57.2	50.5	24.9	13.7	B

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.980	2922	6943	0.42	68.1	14.1	B
2	1.00	0.980	3029	6943	0.44	67.9	14.6	B
3	1.00	0.980	2922	6943	0.42	68.1	14.1	B
4	1.00	0.980	2922	6943	0.42	68.1	14.1	B

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.980	0.685	4836	1914	6824	1936	0.71	0.99	60.3	58.6	26.7	26.2	C
2	1.00	1.00	0.980	0.685	4965	1936	6824	1936	0.73	1.11	60.0	58.2	27.6	26.8	C
3	1.00	1.00	0.980	0.685	4836	1914	6824	1936	0.71	0.99	60.3	58.6	26.7	26.2	C
4	1.00	1.00	0.980	0.685	4836	1914	6824	1936	0.71	0.99	60.3	58.6	26.7	26.2	C

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.862	4843	6943	0.70	66.4	24.3	C
2	1.00	0.862	4981	6943	0.72	65.8	25.2	C
3	1.00	0.862	4843	6943	0.70	66.4	24.3	C
4	1.00	0.862	4843	6943	0.70	66.4	24.3	C

Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	65.3	21.8	20.3	4.70	C
2	64.0	24.8	23.0	4.80	C
3	65.3	21.8	20.3	4.70	C
4	65.3	21.8	20.3	4.70	C

Facility Overall Results

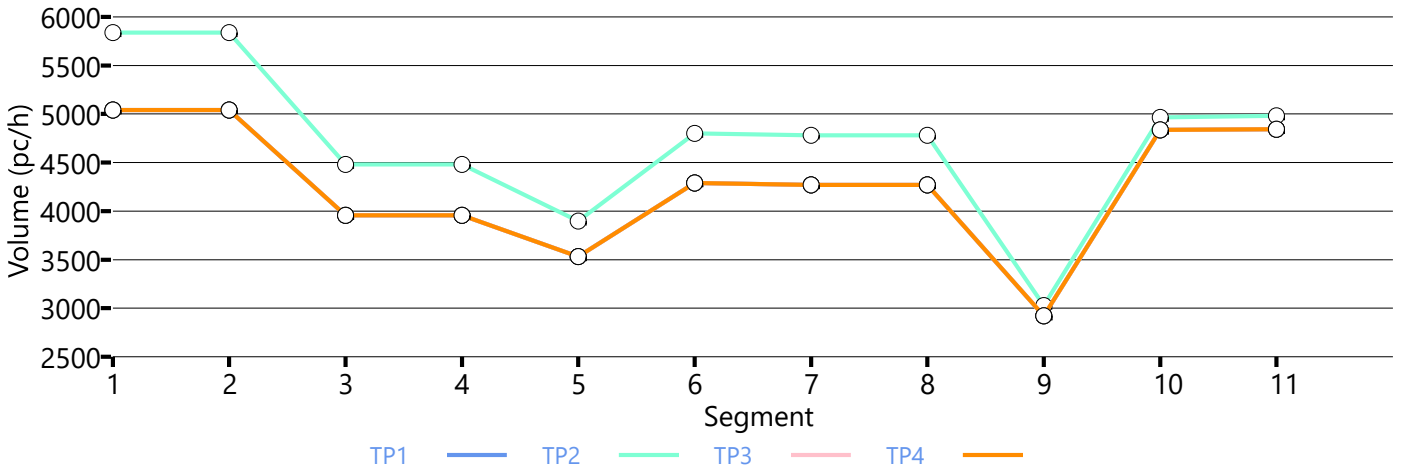
Space Mean Speed, mi/h	65.0	Density, veh/mi/ln	21.0
Average Travel Time, min	4.80	Density, pc/mi/ln	22.6

Messages

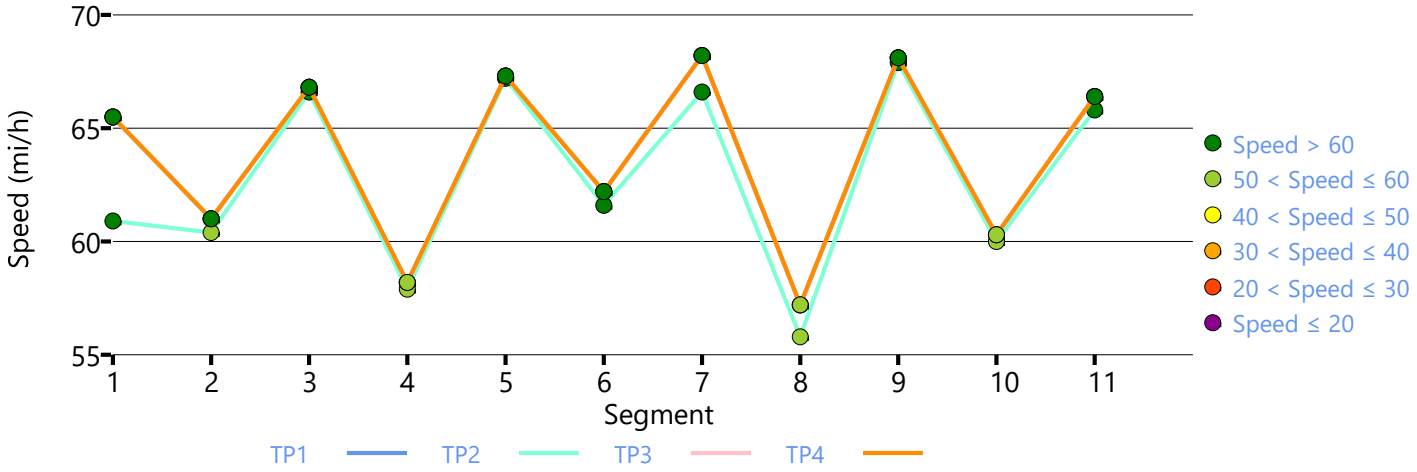
WARNING 1	Merge capacity is less than merge demand for analysis period 2 on segment 10.

Comments

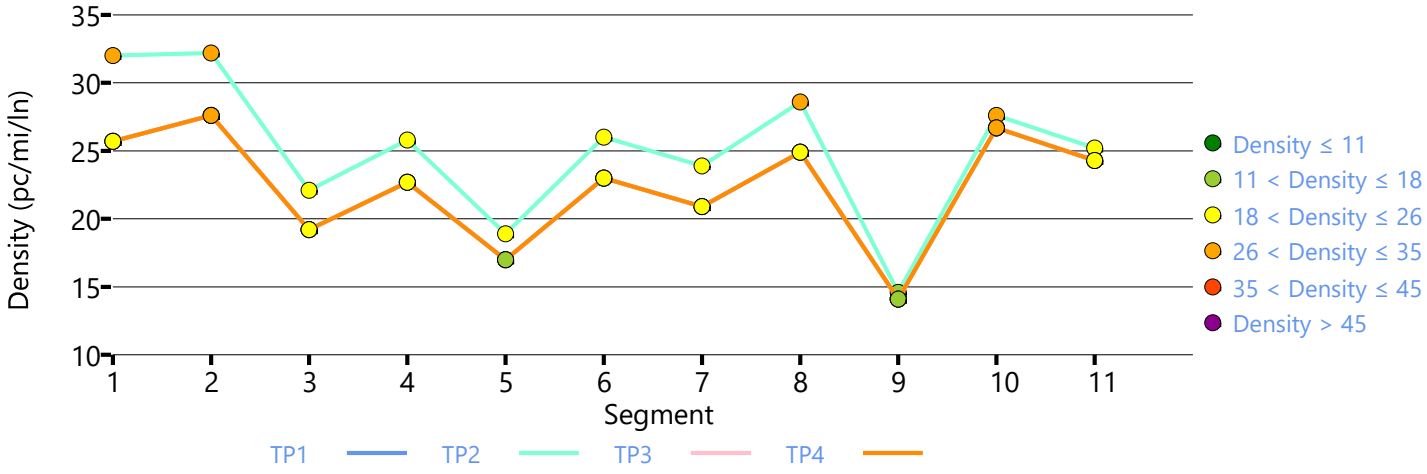
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	APS	Date	3/18/2022
Agency	Garver	Analysis Year	2022
Jurisdiction	ARDOT	Time Analyzed	AM Peak hour
Project Description	I-49 SB No Action with Bella Vista Bypass	Units	U.S. Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	11
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	4.96		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	north of Hwy 71B	50	2
2	Diverge	Diverge	off-ramp to Hwy 71B	1500	2
3	Basic	Basic	between Hwy 71B ramps	2080	2
4	Merge	Merge	on-ramp from Hwy 71B	1500	2
5	Basic	Basic	between Hwy 71B and Hwy 72	13665	2
6	Diverge	Diverge	off-ramp to Hwy 72	1500	2
7	Basic	Basic	between Hwy 72 off-ramp and loop on-ramp	1015	2
8	Merge	Basic	loop on-ramp from Hwy 72	1225	3
9	Overlap	Basic	between on-ramps from Hwy 72	275	3
10	Merge	Merge	on-ramp from Hwy 72	1225	3
11	Basic	Basic	between Hwy 72 and SE 8th St	2165	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.833	3238	4629	0.70	66.3	24.4	C
2	1.00	0.833	3697	4629	0.80	62.8	29.4	D
3	1.00	0.833	3238	4629	0.70	66.3	24.4	C
4	1.00	0.833	3238	4629	0.70	66.3	24.4	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.833	0.667	3238	1504	4550	1839	0.71	0.82	51.8	51.8	31.3	29.9	D
2	1.00	1.00	0.833	0.667	3697	1820	4550	1839	0.81	0.99	51.0	51.0	36.2	33.9	D

3	1.00	1.00	0.833	0.667	3238	1504	4550	1839	0.71	0.82	51.8	51.8	31.3	29.9	D
4	1.00	1.00	0.833	0.667	3238	1504	4550	1839	0.71	0.82	51.8	51.8	31.3	29.9	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.980	1729	4629	0.37	68.1	12.5	B
2	1.00	0.980	1904	4629	0.41	68.1	13.8	B
3	1.00	0.980	1729	4629	0.37	68.1	12.5	B
4	1.00	0.980	1729	4629	0.37	68.1	12.5	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.980	0.833	2751	1022	4550	3678	0.60	0.28	61.1	61.1	22.5	17.1	B
2	1.00	1.00	0.980	0.833	3083	1179	4550	3678	0.68	0.32	60.5	60.5	25.5	19.6	B
3	1.00	1.00	0.980	0.833	2751	1022	4550	3678	0.60	0.28	61.1	61.1	22.5	17.1	B
4	1.00	1.00	0.980	0.833	2751	1022	4550	3678	0.60	0.28	61.1	61.1	22.5	17.1	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	2748	4629	0.59	68.5	20.1	C
2	1.00	0.926	3076	4629	0.66	67.2	22.9	C
3	1.00	0.926	2748	4629	0.59	68.5	20.1	C
4	1.00	0.926	2748	4629	0.59	68.5	20.1	C

Segment 6: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.980	2748	395	4550	1936	0.60	0.20	57.9	57.9	23.7	26.1	C
2	1.00	1.00	0.926	0.980	3076	530	4550	1936	0.68	0.27	57.6	57.6	26.7	28.9	D
3	1.00	1.00	0.926	0.980	2748	395	4550	1936	0.60	0.20	57.9	57.9	23.7	26.1	C
4	1.00	1.00	0.926	0.980	2748	395	4550	1936	0.60	0.20	57.9	57.9	23.7	26.1	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.909	2374	4629	0.51	67.6	17.2	B
2	1.00	0.909	2562	4629	0.55	67.6	18.6	C
3	1.00	0.909	2374	4629	0.51	67.6	17.2	B
4	1.00	0.909	2374	4629	0.51	67.6	17.2	B

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	

1	1.00	1.00	0.909	0.962	2852	478	6943	1839	0.41	0.26	68.9	69.1	13.8	13.8	B
2	1.00	1.00	0.909	0.962	3122	560	6943	1839	0.45	0.30	68.9	69.1	15.1	15.1	B
3	1.00	1.00	0.909	0.962	2852	478	6943	1839	0.41	0.26	68.9	69.1	13.8	13.8	B
4	1.00	1.00	0.909	0.962	2852	478	6943	1839	0.41	0.26	68.9	69.1	13.8	13.8	B

Segment 9: Overlap

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	2827	6943	0.41	69.0	13.6	B
2	1.00	0.926	3097	6943	0.45	69.0	14.9	B
3	1.00	0.926	2827	6943	0.41	69.0	13.6	B
4	1.00	0.926	2827	6943	0.41	69.0	13.6	B

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.980	3316	489	6824	1936	0.49	0.25	63.1	61.3	17.5	16.9	B
2	1.00	1.00	0.926	0.980	3752	655	6824	1936	0.55	0.34	62.7	61.0	19.9	19.3	B
3	1.00	1.00	0.926	0.980	3316	489	6824	1936	0.49	0.25	63.1	61.3	17.5	16.9	B
4	1.00	1.00	0.926	0.980	3316	489	6824	1936	0.49	0.25	63.1	61.3	17.5	16.9	B

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	3344	6943	0.48	68.7	16.1	B
2	1.00	0.926	3790	6943	0.55	68.7	18.3	C
3	1.00	0.926	3344	6943	0.48	68.7	16.1	B
4	1.00	0.926	3344	6943	0.48	68.7	16.1	B

Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	65.7	19.2	17.7	4.50	C
2	64.9	21.8	20.1	4.60	C
3	65.7	19.2	17.7	4.50	C
4	65.7	19.2	17.7	4.50	C

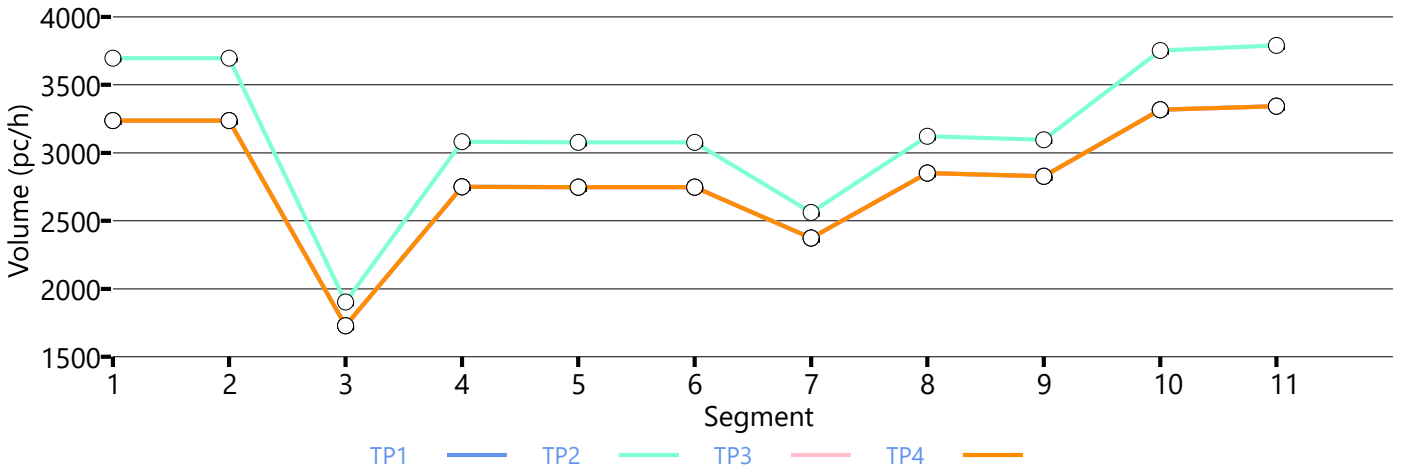
Facility Overall Results

Space Mean Speed, mi/h	65.5	Density, veh/mi/ln	18.3
Average Travel Time, min	4.50	Density, pc/mi/ln	19.9

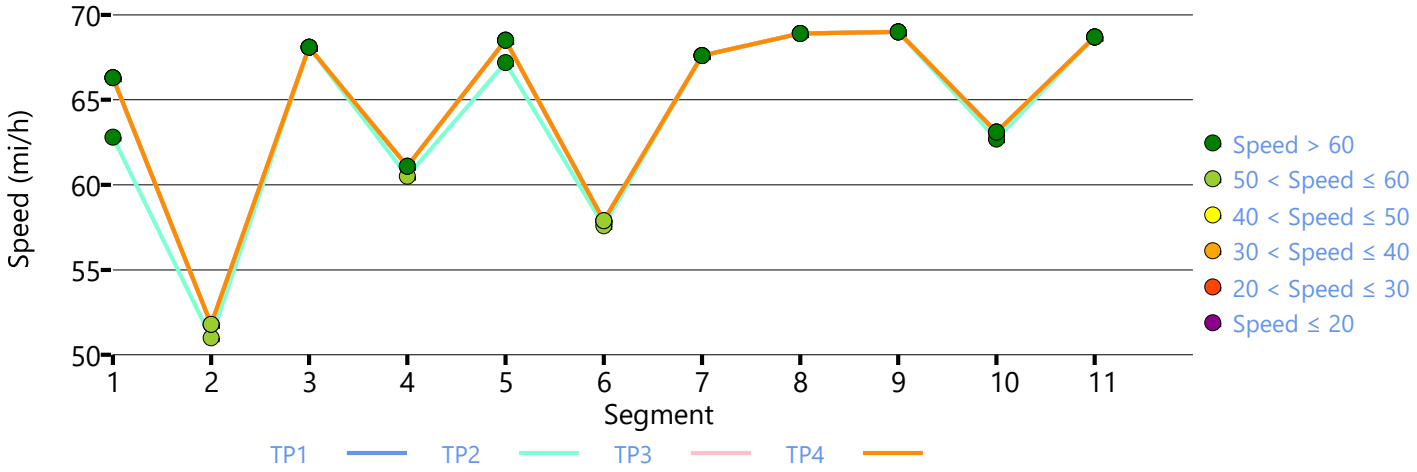
Messages

Comments

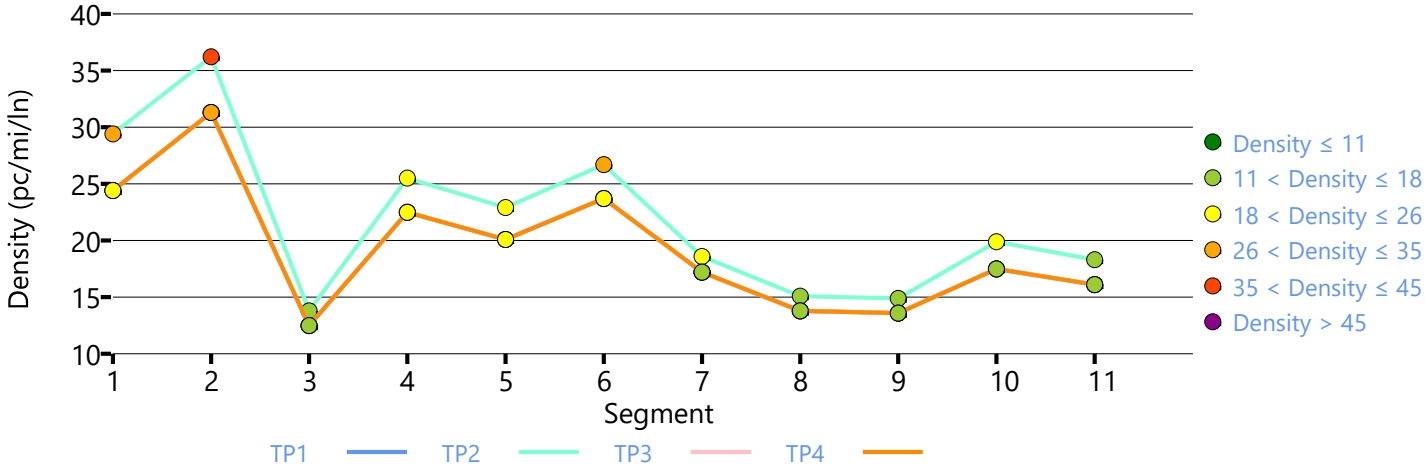
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	APS	Date	3/18/2022
Agency	Garver	Analysis Year	2022
Jurisdiction	ARDOT	Time Analyzed	PM Peak hour
Project Description	I-49 SB No Action with Bella Vista Bypass	Units	U.S. Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	11
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	4.96		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	north of Hwy 71B	50	2
2	Diverge	Diverge	off-ramp to Hwy 71B	1500	2
3	Basic	Basic	between Hwy 71B ramps	2080	2
4	Merge	Merge	on-ramp from Hwy 71B	1500	2
5	Basic	Basic	between Hwy 71B and Hwy 72	13665	2
6	Diverge	Diverge	off-ramp to Hwy 72	1500	2
7	Basic	Basic	between Hwy 72 off-ramp and loop on-ramp	1015	2
8	Merge	Basic	loop on-ramp from Hwy 72	1225	3
9	Overlap	Basic	between on-ramps from Hwy 72	275	3
10	Merge	Merge	on-ramp from Hwy 72	1225	3
11	Basic	Basic	between Hwy 72 and SE 8th St	2165	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.820	2037	4629	0.44	69.1	14.7	B
2	1.00	0.820	2261	4629	0.49	69.1	16.4	B
3	1.00	0.820	2037	4629	0.44	69.1	14.7	B
4	1.00	0.820	2037	4629	0.44	69.1	14.7	B

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.820	0.658	2037	828	4550	1839	0.45	0.45	53.4	53.4	19.1	19.6	B
2	1.00	1.00	0.820	0.658	2261	1018	4550	1839	0.50	0.55	53.0	53.0	21.3	21.5	C

3	1.00	1.00	0.820	0.658	2037	828	4550	1839	0.45	0.45	53.4	53.4	19.1	19.6	B
4	1.00	1.00	0.820	0.658	2037	828	4550	1839	0.45	0.45	53.4	53.4	19.1	19.6	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	1215	4629	0.26	68.2	8.8	A
2	1.00	0.943	1256	4629	0.27	68.2	9.1	A
3	1.00	0.926	1215	4629	0.26	68.2	8.8	A
4	1.00	0.926	1215	4629	0.26	68.2	8.8	A

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.685	1779	564	4550	3678	0.39	0.15	62.1	62.1	14.3	9.8	A
2	1.00	1.00	0.943	0.685	1996	740	4550	3678	0.44	0.20	62.0	62.0	16.1	11.4	B
3	1.00	1.00	0.926	0.685	1779	564	4550	3678	0.39	0.15	62.1	62.1	14.3	9.8	A
4	1.00	1.00	0.926	0.685	1779	564	4550	3678	0.39	0.15	62.1	62.1	14.3	9.8	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.847	1784	4629	0.39	69.1	12.9	B
2	1.00	0.847	1996	4629	0.43	69.1	14.4	B
3	1.00	0.847	1784	4629	0.39	69.1	12.9	B
4	1.00	0.847	1784	4629	0.39	69.1	12.9	B

Segment 6: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.847	0.980	1784	145	4550	1936	0.39	0.07	58.6	58.6	15.2	17.8	B
2	1.00	1.00	0.847	0.980	1996	252	4550	1936	0.44	0.13	58.3	58.3	17.1	19.6	B
3	1.00	1.00	0.847	0.980	1784	145	4550	1936	0.39	0.07	58.6	58.6	15.2	17.8	B
4	1.00	1.00	0.847	0.980	1784	145	4550	1936	0.39	0.07	58.6	58.6	15.2	17.8	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.833	1643	4629	0.35	67.7	11.9	B
2	1.00	0.833	1733	4629	0.37	67.7	12.5	B
3	1.00	0.833	1643	4629	0.35	67.7	11.9	B
4	1.00	0.833	1643	4629	0.35	67.7	11.9	B

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	

1	1.00	1.00	0.833	0.980	1946	303	6943	1839	0.28	0.16	68.9	69.1	9.4	9.4	A
2	1.00	1.00	0.833	0.980	2131	398	6943	1839	0.31	0.22	68.9	69.1	10.3	10.3	A
3	1.00	1.00	0.833	0.980	1946	303	6943	1839	0.28	0.16	68.9	69.1	9.4	9.4	A
4	1.00	1.00	0.833	0.980	1946	303	6943	1839	0.28	0.16	68.9	69.1	9.4	9.4	A

Segment 9: Overlap

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.862	1933	6943	0.28	69.0	9.3	A
2	1.00	0.862	2128	6943	0.31	69.0	10.3	A
3	1.00	0.862	1933	6943	0.28	69.0	9.3	A
4	1.00	0.862	1933	6943	0.28	69.0	9.3	A

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.862	0.980	2566	633	6824	1936	0.38	0.33	63.4	61.6	13.5	13.7	B
2	1.00	1.00	0.862	0.980	2990	862	6824	1936	0.44	0.45	63.1	61.4	15.8	16.3	B
3	1.00	1.00	0.862	0.980	2566	633	6824	1936	0.38	0.33	63.4	61.6	13.5	13.7	B
4	1.00	1.00	0.862	0.980	2566	633	6824	1936	0.38	0.33	63.4	61.6	13.5	13.7	B

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.893	2560	6943	0.37	68.7	12.3	B
2	1.00	0.893	3000	6943	0.43	68.7	14.5	B
3	1.00	0.893	2560	6943	0.37	68.7	12.3	B
4	1.00	0.893	2560	6943	0.37	68.7	12.3	B

Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.3	12.8	11.0	4.50	B
2	66.2	14.3	12.3	4.50	B
3	66.3	12.8	11.0	4.50	B
4	66.3	12.8	11.0	4.50	B

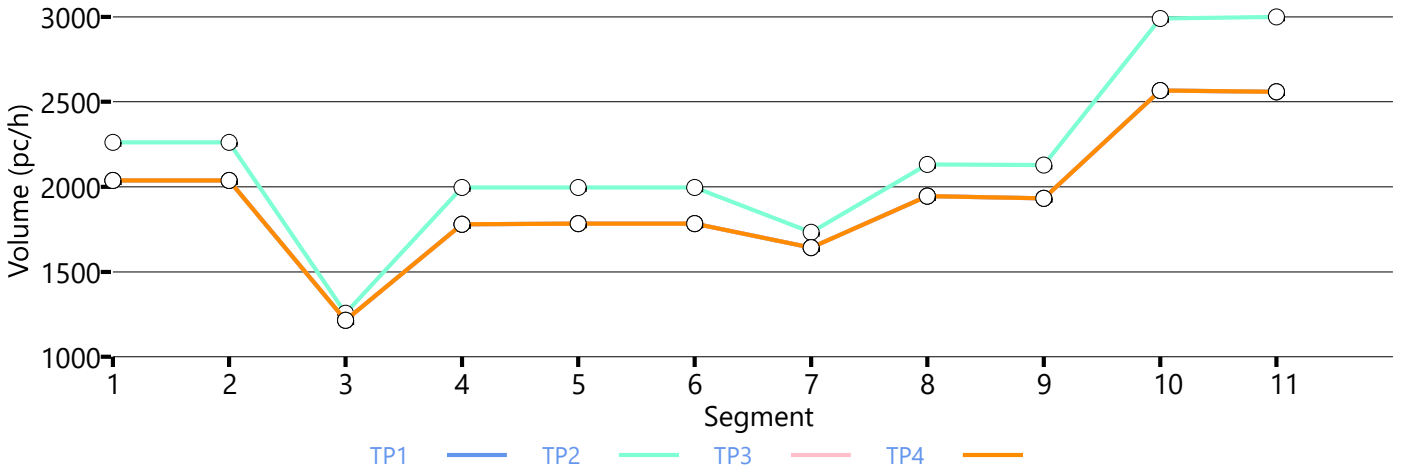
Facility Overall Results

Space Mean Speed, mi/h	66.3	Density, veh/mi/ln	11.3
Average Travel Time, min	4.50	Density, pc/mi/ln	13.2

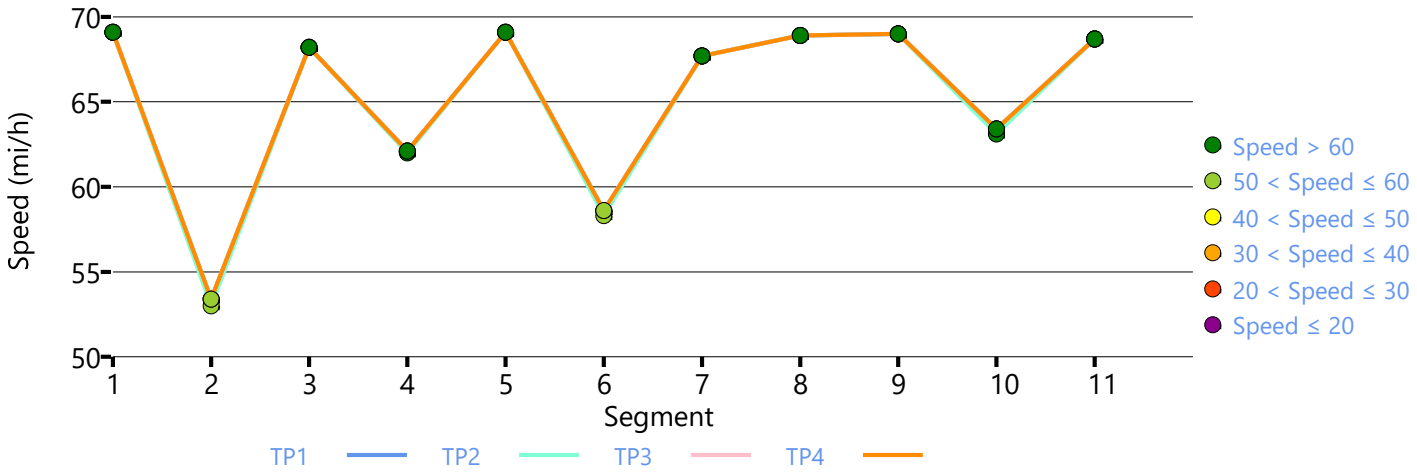
Messages

Comments

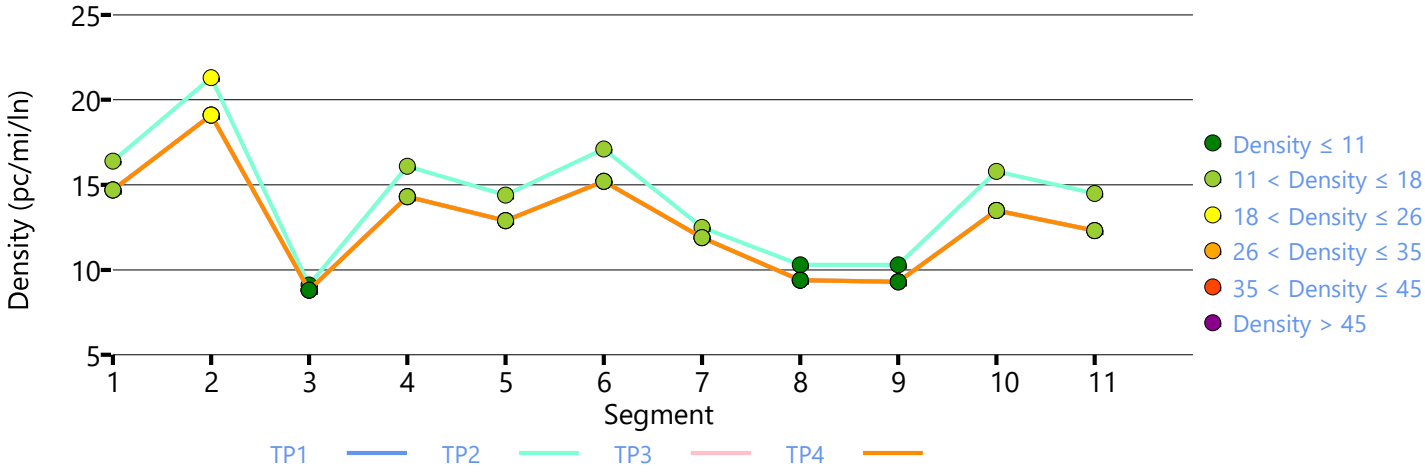
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	APS	Date	3/18/2022
Agency	Garver	Analysis Year	2045
Jurisdiction	ARDOT	Time Analyzed	AM Peak hour
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Facility Global Input

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Queue Discharge Capacity Drop, %	7	Total Segments	11
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	4.96		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	north of Hwy 71B	50	3
2	Diverge	Diverge	off-ramp to Hwy 71B	1500	3
3	Basic	Basic	between Hwy 71B ramps	2080	3
4	Merge	Merge	on-ramp from Hwy 71B	1500	3
5	Basic	Basic	between Hwy 71B and Hwy 72	13665	3
6	Diverge	Diverge	off-ramp to Hwy 72	1500	3
7	Basic	Basic	between Hwy 72 off-ramp and loop on-ramp	1015	3
8	Merge	Merge	loop on-ramp from Hwy 72	1225	3
9	Overlap	Basic	between on-ramps from Hwy 72	275	3
10	Merge	Merge	on-ramp from Hwy 72	1225	3
11	Basic	Basic	between Hwy 72 and SE 8th St	2165	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.833	4807	6943	0.69	66.5	24.1	C
2	1.00	0.833	5472	6943	0.79	63.2	28.9	D
3	1.00	0.833	4807	6943	0.69	66.5	24.1	C
4	1.00	0.833	4807	6943	0.69	66.5	24.1	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.833	0.667	4807	2115	6824	1839	0.70	1.15	50.6	50.3	45.0	32.9	F
2	1.00	1.00	0.833	0.667	5472	2559	6824	1839	0.80	1.39	50.6	49.2	45.0	36.8	F

3	1.00	1.00	0.833	0.667	4807	2115	6824	1839	0.70	1.15	50.6	50.3	45.0	32.9	F
4	1.00	1.00	0.833	0.667	4807	2115	6824	1839	0.70	1.15	50.6	50.3	45.0	32.9	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.980	2692	6943	0.38	68.1	13.0	B
2	1.00	0.980	3064	6943	0.42	68.1	14.8	B
3	1.00	0.980	2559	6943	0.38	68.1	12.3	B
4	1.00	0.980	2692	6943	0.38	68.1	13.0	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.980	0.847	4451	1759	6824	3678	0.65	0.48	61.5	59.9	24.1	21.0	C
2	1.00	1.00	0.980	0.847	5094	2030	6824	3678	0.75	0.55	60.1	58.2	28.3	24.7	C
3	1.00	1.00	0.980	0.847	4318	1759	6824	3678	0.63	0.48	61.7	60.1	23.3	20.5	C
4	1.00	1.00	0.980	0.847	4451	1759	6824	3678	0.65	0.48	61.5	59.9	24.1	21.0	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	4451	6943	0.64	67.7	21.9	C
2	1.00	0.926	5094	6943	0.71	65.2	26.0	D
3	1.00	0.926	4318	6943	0.64	68.1	21.1	C
4	1.00	0.926	4451	6943	0.64	67.7	21.9	C

Segment 6: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.980	4451	734	6824	1936	0.65	0.38	61.6	57.1	24.1	28.4	D
2	1.00	1.00	0.926	0.980	5094	983	6824	1936	0.75	0.51	61.1	56.5	27.8	31.7	D
3	1.00	1.00	0.926	0.980	4318	734	6824	1936	0.63	0.38	61.6	57.1	23.4	27.8	C
4	1.00	1.00	0.926	0.980	4451	734	6824	1936	0.65	0.38	61.6	57.1	24.1	28.4	D

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.909	3717	6943	0.53	68.1	18.0	B
2	1.00	0.909	4246	6943	0.57	68.1	20.8	C
3	1.00	0.909	3458	6943	0.53	68.1	16.7	B
4	1.00	0.909	3710	6943	0.53	68.1	17.9	B

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	

1	1.00	1.00	0.909	0.962	4208	491	6824	1839	0.62	0.27	62.0	60.3	22.6	19.2	B
2	1.00	1.00	0.909	0.962	4821	575	6824	1839	0.71	0.31	61.3	59.5	26.2	22.4	C
3	1.00	1.00	0.909	0.962	3949	491	6824	1839	0.58	0.27	62.4	60.6	21.1	18.0	B
4	1.00	1.00	0.909	0.962	4201	491	6824	1839	0.62	0.27	62.0	60.3	22.6	19.2	B

Segment 9: Overlap

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	4208	6943	0.60	67.0	20.2	C
2	1.00	0.926	4821	6943	0.65	66.8	22.1	C
3	1.00	0.926	3949	6943	0.60	67.1	20.2	C
4	1.00	0.926	4201	6943	0.60	67.0	20.2	C

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.980	5045	837	6824	1936	0.74	0.43	61.0	59.2	27.6	25.9	C
2	1.00	1.00	0.926	0.980	5942	1121	6824	1936	0.87	0.58	58.6	56.4	33.8	30.9	D
3	1.00	1.00	0.926	0.980	4786	837	6824	1936	0.70	0.43	61.3	59.6	26.0	24.7	C
4	1.00	1.00	0.926	0.980	5038	837	6824	1936	0.74	0.43	61.0	59.2	27.5	25.9	C

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	5045	6943	0.72	65.5	25.7	C
2	1.00	0.926	5942	6943	0.82	60.2	32.9	D
3	1.00	0.926	4786	6943	0.72	66.6	24.0	C
4	1.00	0.926	5038	6943	0.72	65.5	25.6	C

Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	64.8	23.2	21.4	4.60	F
2	62.8	27.2	25.0	4.70	F
3	65.2	22.3	20.5	4.60	F
4	64.8	23.2	21.4	4.60	F

Facility Overall Results

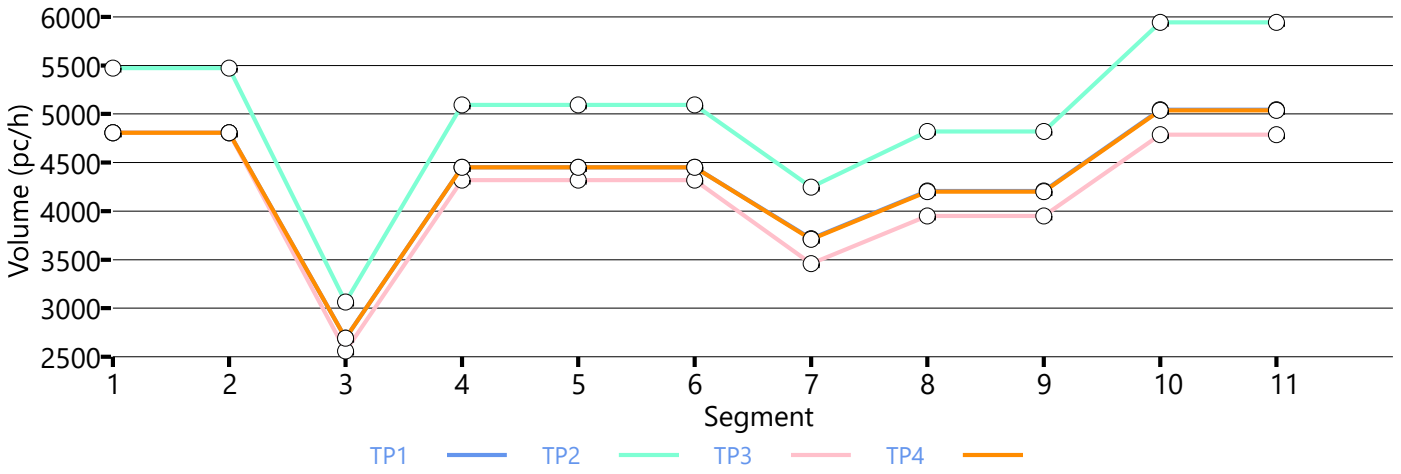
Space Mean Speed, mi/h	64.3	Density, veh/mi/ln	22.1
Average Travel Time, min	4.60	Density, pc/mi/ln	24.0

Messages

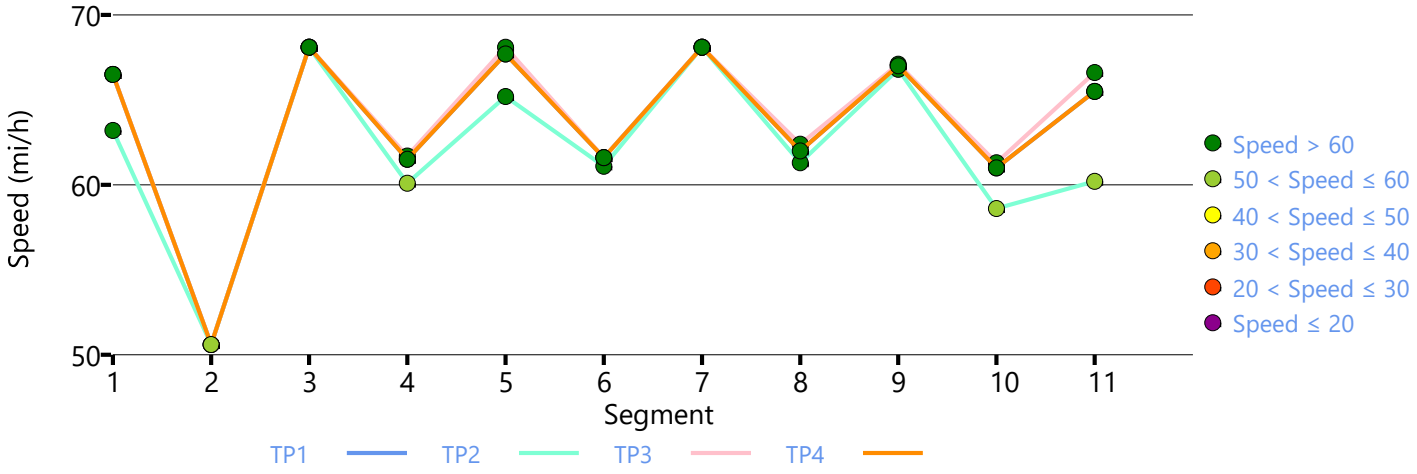
WARNING 1	Oversaturated conditions currently exist in boundary analysis period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary analysis period 4. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.

WARNING 3	Oversaturated conditions currently exist on segment 1, which is less than 300 feet. Due to time step size, these segments may produce unreliable results. Consider reviewing facility segmentation to resolve this warning.
WARNING 4	Oversaturated conditions currently exist on segment 9, which is less than 300 feet. Due to time step size, these segments may produce unreliable results. Consider reviewing facility segmentation to resolve this warning.
WARNING 5	Diverge capacity is less than diverge demand for analysis period 1 on segment 2. This may result in an off-ramp queue affecting the mainline flow. This is not currently modeled in HCM methodologies. Use caution when reviewing results.
WARNING 6	Diverge capacity is less than diverge demand for analysis period 2 on segment 2. This may result in an off-ramp queue affecting the mainline flow. This is not currently modeled in HCM methodologies. Use caution when reviewing results.
WARNING 7	Diverge capacity is less than diverge demand for analysis period 3 on segment 2. This may result in an off-ramp queue affecting the mainline flow. This is not currently modeled in HCM methodologies. Use caution when reviewing results.
WARNING 8	Diverge capacity is less than diverge demand for analysis period 4 on segment 2. This may result in an off-ramp queue affecting the mainline flow. This is not currently modeled in HCM methodologies. Use caution when reviewing results.
Comments	

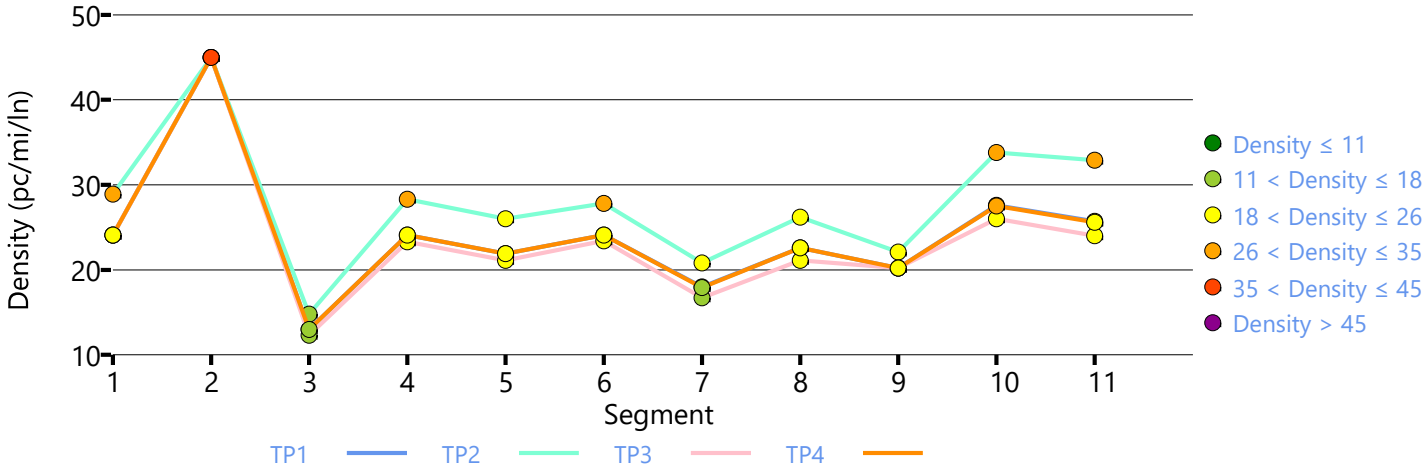
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	APS	Date	3/18/2022
Agency	Garver	Analysis Year	2045
Jurisdiction	ARDOT	Time Analyzed	PM Peak hour
Project Description	I-49 SB No Action with Bella Vista Bypass	Units	U.S. Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	11
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	4.96		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	north of Hwy 71B	50	3
2	Diverge	Diverge	off-ramp to Hwy 71B	1500	3
3	Basic	Basic	between Hwy 71B ramps	2080	3
4	Merge	Merge	on-ramp from Hwy 71B	1500	3
5	Basic	Basic	between Hwy 71B and Hwy 72	13665	3
6	Diverge	Diverge	off-ramp to Hwy 72	1500	3
7	Basic	Basic	between Hwy 72 off-ramp and loop on-ramp	1015	3
8	Merge	Merge	loop on-ramp from Hwy 72	1225	3
9	Overlap	Basic	between on-ramps from Hwy 72	275	3
10	Merge	Merge	on-ramp from Hwy 72	1225	3
11	Basic	Basic	between Hwy 72 and SE 8th St	2165	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.833	3020	6943	0.43	69.1	14.6	B
2	1.00	0.833	3323	6943	0.48	69.1	16.0	B
3	1.00	0.833	3020	6943	0.43	69.1	14.6	B
4	1.00	0.833	3020	6943	0.43	69.1	14.6	B

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.833	0.658	3020	1164	6824	1839	0.44	0.63	56.5	52.6	17.8	22.2	C
2	1.00	1.00	0.833	0.658	3323	1432	6824	1839	0.49	0.78	55.9	52.0	19.8	24.3	C

3	1.00	1.00	0.833	0.658	3020	1164	6824	1839	0.44	0.63	56.5	52.6	17.8	22.2	C
4	1.00	1.00	0.833	0.658	3020	1164	6824	1839	0.44	0.63	56.5	52.6	17.8	22.2	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	1890	6943	0.27	68.4	9.1	A
2	1.00	0.962	1898	6943	0.27	68.4	9.2	A
3	1.00	0.926	1890	6943	0.27	68.4	9.1	A
4	1.00	0.926	1890	6943	0.27	68.4	9.1	A

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.685	2875	985	6824	3678	0.42	0.27	63.5	61.9	15.1	11.8	B
2	1.00	1.00	0.962	0.685	3194	1296	6824	3678	0.47	0.35	63.1	61.6	16.9	14.1	B
3	1.00	1.00	0.926	0.685	2875	985	6824	3678	0.42	0.27	63.5	61.9	15.1	11.8	B
4	1.00	1.00	0.926	0.685	2875	985	6824	3678	0.42	0.27	63.5	61.9	15.1	11.8	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.847	2863	6943	0.41	69.1	13.8	B
2	1.00	0.847	3204	6943	0.46	69.1	15.5	B
3	1.00	0.847	2863	6943	0.41	69.1	13.8	B
4	1.00	0.847	2863	6943	0.41	69.1	13.8	B

Segment 6: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.847	0.980	2863	268	6824	1936	0.42	0.14	62.5	58.3	15.3	19.8	B
2	1.00	1.00	0.847	0.980	3204	468	6824	1936	0.47	0.24	62.1	57.8	17.2	22.0	C
3	1.00	1.00	0.847	0.980	2863	268	6824	1936	0.42	0.14	62.5	58.3	15.3	19.8	B
4	1.00	1.00	0.847	0.980	2863	268	6824	1936	0.42	0.14	62.5	58.3	15.3	19.8	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.833	2595	6943	0.37	68.2	12.5	B
2	1.00	0.820	2750	6943	0.40	68.2	13.3	B
3	1.00	0.833	2595	6943	0.37	68.2	12.5	B
4	1.00	0.833	2595	6943	0.37	68.2	12.5	B

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	

1	1.00	1.00	0.833	0.980	2905	310	6824	1839	0.43	0.17	63.3	61.3	15.3	12.5	B
2	1.00	1.00	0.820	0.980	3158	408	6824	1839	0.46	0.22	63.1	61.2	16.7	14.0	B
3	1.00	1.00	0.833	0.980	2905	310	6824	1839	0.43	0.17	63.3	61.3	15.3	12.5	B
4	1.00	1.00	0.833	0.980	2905	310	6824	1839	0.43	0.17	63.3	61.3	15.3	12.5	B

Segment 9: Overlap

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.847	2911	6943	0.42	67.4	14.0	B
2	1.00	0.847	3135	6943	0.45	67.3	15.1	B
3	1.00	0.847	2911	6943	0.42	67.4	14.0	B
4	1.00	0.847	2911	6943	0.42	67.4	14.0	B

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.847	0.980	3994	1083	6824	1936	0.59	0.56	62.2	60.5	21.4	21.6	C
2	1.00	1.00	0.847	0.980	4611	1476	6824	1936	0.68	0.76	61.0	59.2	25.2	25.6	C
3	1.00	1.00	0.847	0.980	3994	1083	6824	1936	0.59	0.56	62.2	60.5	21.4	21.6	C
4	1.00	1.00	0.847	0.980	3994	1083	6824	1936	0.59	0.56	62.2	60.5	21.4	21.6	C

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	4022	6943	0.58	68.7	19.5	C
2	1.00	0.893	4592	6943	0.66	67.3	22.7	C
3	1.00	0.877	4022	6943	0.58	68.7	19.5	C
4	1.00	0.877	4022	6943	0.58	68.7	19.5	C

Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.6	14.7	12.6	4.50	B
2	66.3	16.4	14.2	4.50	B
3	66.6	14.7	12.6	4.50	B
4	66.6	14.7	12.6	4.50	B

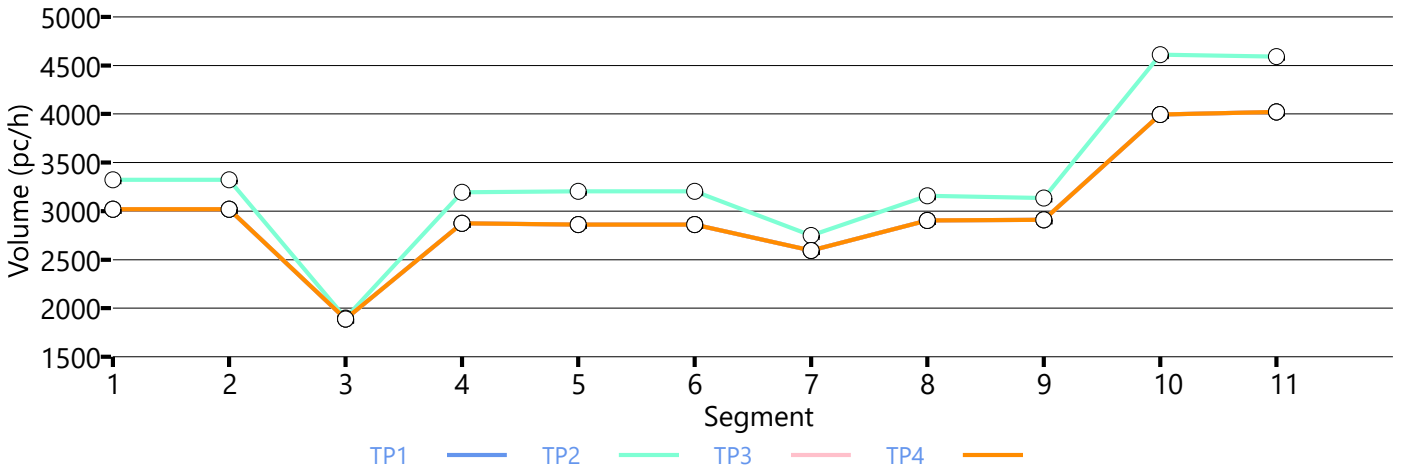
Facility Overall Results

Space Mean Speed, mi/h	66.5	Density, veh/mi/ln	13.0
Average Travel Time, min	4.50	Density, pc/mi/ln	15.1

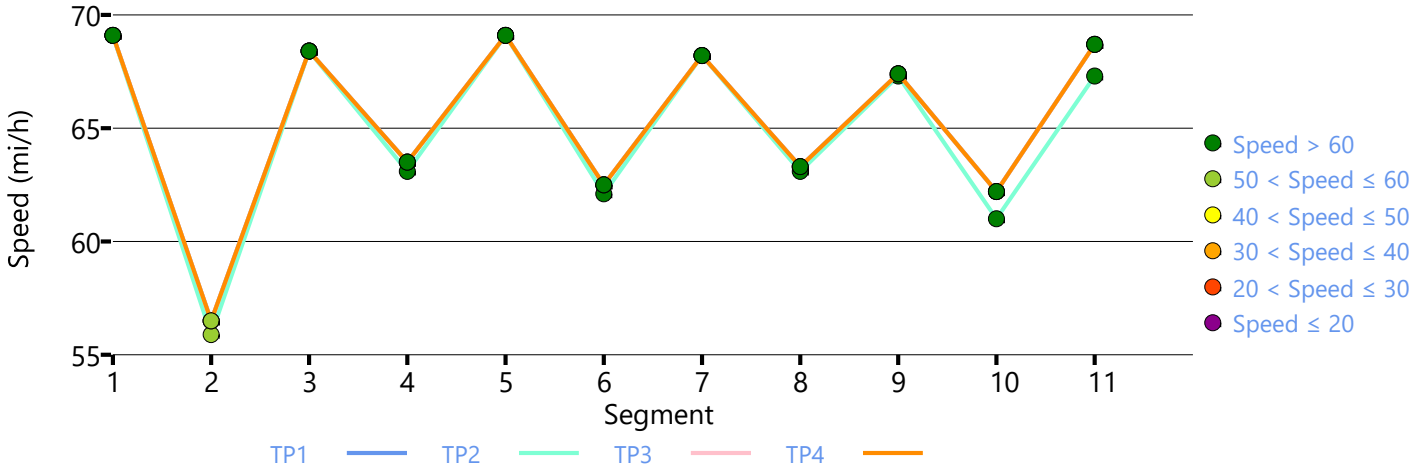
Messages

Comments

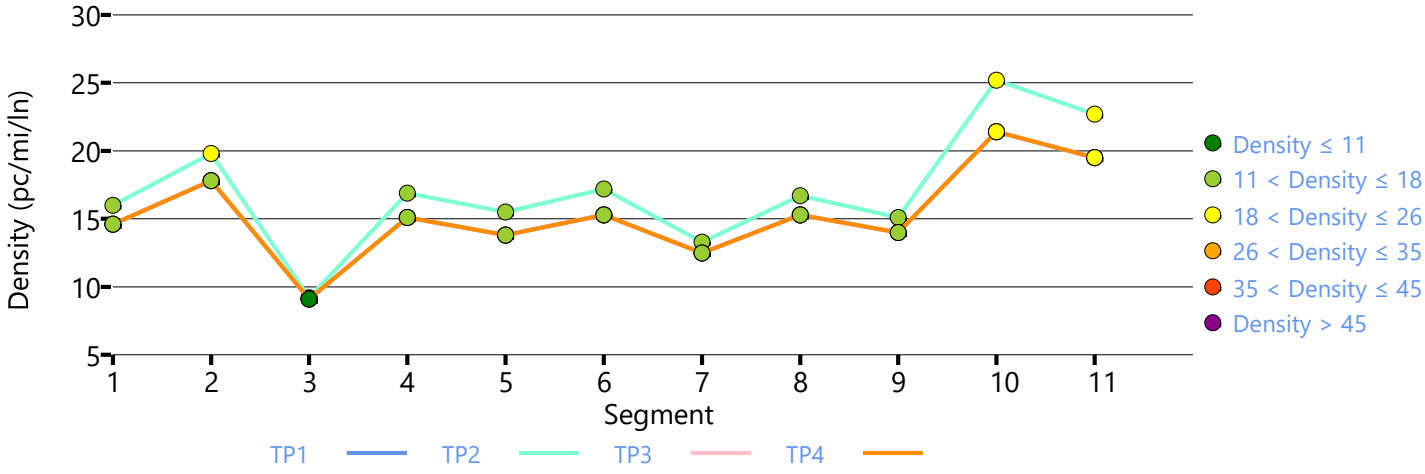
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	APS	Date	3/18/2022
Agency	Garver	Analysis Year	2022
Jurisdiction	ARDOT	Time Analyzed	AM Peak hour
Project Description	I-49 NB Action with Bella Vista Bypass	Units	U.S. Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	15
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	5.16		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	between SE 8th St and Hwy 72	1316	3
2	Diverge	Diverge	off-ramp to Hwy 72	1500	3
3	Basic	Basic	between Hwy 72 off ramps	60	3
4	Diverge	Basic	loop off-ramp to Hwy 72	1500	3
5	Basic	Basic	between loop off-ramp and on-ramp Hwy 72	710	2
6	Merge	Merge	on-ramp from Hwy 72	1500	2
7	Basic	Basic	between Hwy 72 and NE J St	5150	2
8	Diverge	Diverge	off-ramp to NE J St	1500	2
9	Basic	Basic	between NE J St ramps	1030	2
10	Merge	Merge	on-ramp from NE J St	1500	2
11	Basic	Basic	between NE J St and Hwy 71B	6490	2
12	Diverge	Diverge	off-ramp to Hwy 71B	1500	2
13	Basic	Basic	between Hwy 71B ramps	1500	2
14	Merge	Merge	on-ramp from Hwy 71B	1500	2
15	Basic	Basic	north of Hwy 71B	500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	1823	6929	0.26	68.6	8.9	A
2	1.00	0.877	2315	6929	0.33	68.6	11.3	B
3	1.00	0.877	1823	6929	0.26	68.6	8.9	A
4	1.00	0.877	1823	6929	0.26	68.6	8.9	A

Segment 2: Diverge

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.877	0.962	1823	411	6824	1936	0.27	0.21	61.0	57.6	10.0	14.4	B
2	1.00	1.00	0.877	0.962	2315	715	6824	1936	0.34	0.37	60.3	56.9	12.8	17.8	B
3	1.00	1.00	0.877	0.962	1823	411	6824	1936	0.27	0.21	61.0	57.6	10.0	14.4	B
4	1.00	1.00	0.877	0.962	1823	411	6824	1936	0.27	0.21	61.0	57.6	10.0	14.4	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.847	1421	6929	0.21	66.5	6.9	A
2	1.00	0.847	1584	6929	0.23	66.3	7.7	A
3	1.00	0.847	1421	6929	0.21	66.5	6.9	A
4	1.00	0.847	1421	6929	0.21	66.5	6.9	A

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.847	0.962	1421	327	6929	1839	0.21	0.18	68.0	68.6	6.9	6.9	A
2	1.00	1.00	0.847	0.962	1584	366	6929	1839	0.23	0.20	67.9	68.6	7.7	7.7	A
3	1.00	1.00	0.847	0.962	1421	327	6929	1839	0.21	0.18	68.0	68.6	6.9	6.9	A
4	1.00	1.00	0.847	0.962	1421	327	6929	1839	0.21	0.18	68.0	68.6	6.9	6.9	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.806	1103	4619	0.24	68.5	8.0	A
2	1.00	0.806	1228	4619	0.27	68.5	9.0	A
3	1.00	0.806	1103	4619	0.24	68.5	8.0	A
4	1.00	0.806	1103	4619	0.24	68.5	8.0	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.806	0.893	1214	111	4550	1936	0.27	0.06	61.6	61.6	9.9	9.2	A
2	1.00	1.00	0.806	0.893	1360	132	4550	1936	0.30	0.07	61.6	61.6	11.0	10.4	B
3	1.00	1.00	0.806	0.893	1214	111	4550	1936	0.27	0.06	61.6	61.6	9.9	9.2	A
4	1.00	1.00	0.806	0.893	1214	111	4550	1936	0.27	0.06	61.6	61.6	9.9	9.2	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.820	1205	4619	0.26	68.6	8.8	A
2	1.00	0.820	1351	4619	0.29	68.6	9.9	A
3	1.00	0.820	1205	4619	0.26	68.6	8.8	A
4	1.00	0.820	1205	4619	0.26	68.6	8.8	A

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.820	0.820	1205	48	4550	1936	0.26	0.02	58.5	58.5	10.3	5.6	A
2	1.00	1.00	0.820	0.820	1351	52	4550	1936	0.30	0.03	58.5	58.5	11.5	6.9	A
3	1.00	1.00	0.820	0.820	1205	48	4550	1936	0.26	0.02	58.5	58.5	10.3	5.6	A
4	1.00	1.00	0.820	0.820	1205	48	4550	1936	0.26	0.02	58.5	58.5	10.3	5.6	A

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.820	1157	4619	0.25	67.3	8.4	A
2	1.00	0.820	1299	4619	0.28	67.3	9.5	A
3	1.00	0.820	1157	4619	0.25	67.3	8.4	A
4	1.00	0.820	1157	4619	0.25	67.3	8.4	A

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.820	0.820	1252	95	4550	1936	0.28	0.05	62.6	62.6	10.0	6.6	A
2	1.00	1.00	0.820	0.820	1405	106	4550	1936	0.31	0.05	62.5	62.5	11.2	7.8	A
3	1.00	1.00	0.820	0.820	1252	95	4550	1936	0.28	0.05	62.6	62.6	10.0	6.6	A
4	1.00	1.00	0.820	0.820	1252	95	4550	1936	0.28	0.05	62.6	62.6	10.0	6.6	A

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.820	1252	4619	0.27	68.6	9.1	A
2	1.00	0.820	1405	4619	0.30	68.6	10.2	A
3	1.00	0.820	1252	4619	0.27	68.6	9.1	A
4	1.00	0.820	1252	4619	0.27	68.6	9.1	A

Segment 12: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.820	0.610	1252	479	4550	3678	0.28	0.13	52.4	52.4	11.9	1.5	A
2	1.00	1.00	0.820	0.633	1405	629	4550	3678	0.31	0.17	52.1	52.1	13.5	2.8	A
3	1.00	1.00	0.820	0.610	1252	479	4550	3678	0.28	0.13	52.4	52.4	11.9	1.5	A
4	1.00	1.00	0.820	0.610	1252	479	4550	3678	0.28	0.13	52.4	52.4	11.9	1.5	A

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.962	764	4619	0.17	67.2	5.6	A
2	1.00	0.980	769	4619	0.17	67.1	5.6	A

3	1.00	0.962	764	4619	0.17	67.2	5.6	A
4	1.00	0.962	764	4619	0.17	67.2	5.6	A

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.685	1278	514	4550	1936	0.28	0.27	62.1	62.1	10.3	7.9	A
2	1.00	1.00	0.980	0.685	1445	676	4550	1936	0.32	0.35	62.1	62.1	11.6	9.2	A
3	1.00	1.00	0.962	0.685	1278	514	4550	1936	0.28	0.27	62.1	62.1	10.3	7.9	A
4	1.00	1.00	0.962	0.685	1278	514	4550	1936	0.28	0.27	62.1	62.1	10.3	7.9	A

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.847	1283	4619	0.28	67.3	9.4	A
2	1.00	0.847	1437	4619	0.31	67.3	10.5	A
3	1.00	0.847	1283	4619	0.28	67.3	9.4	A
4	1.00	0.847	1283	4619	0.28	67.3	9.4	A

Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	65.0	9.1	7.6	4.80	A
2	64.9	10.3	8.7	4.80	A
3	65.0	9.1	7.6	4.80	A
4	65.0	9.1	7.6	4.80	A

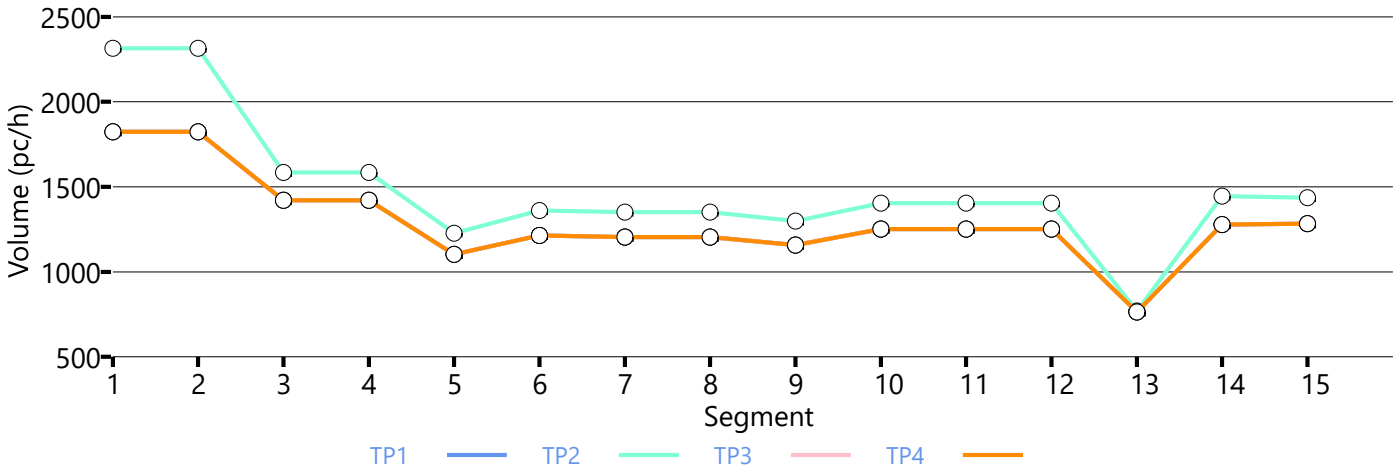
Facility Overall Results

Space Mean Speed, mi/h	65.0	Density, veh/mi/ln	7.9
Average Travel Time, min	4.80	Density, pc/mi/ln	9.4

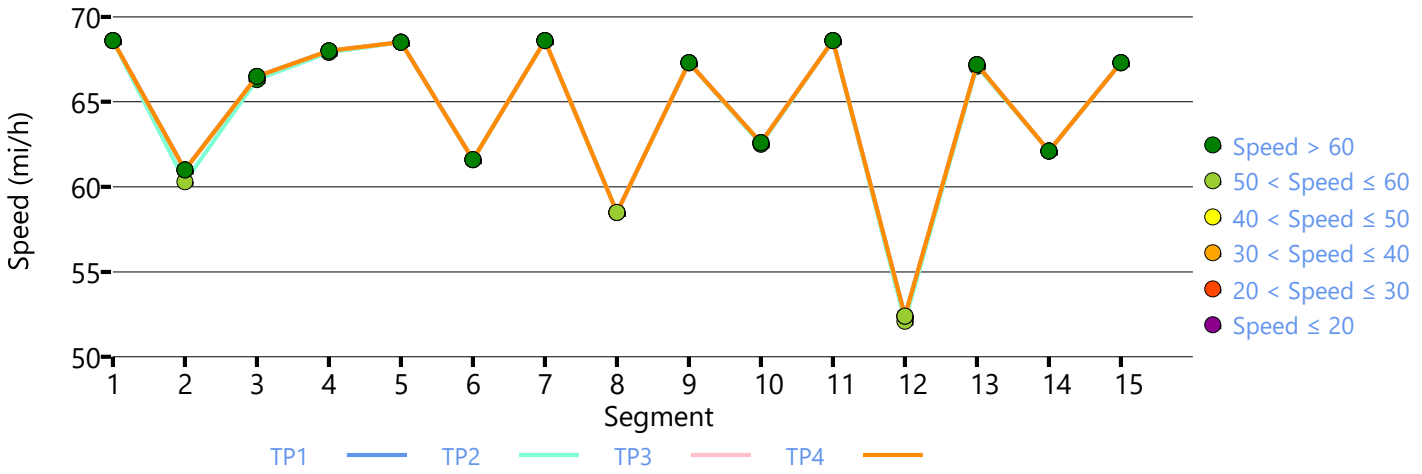
Messages

Comments

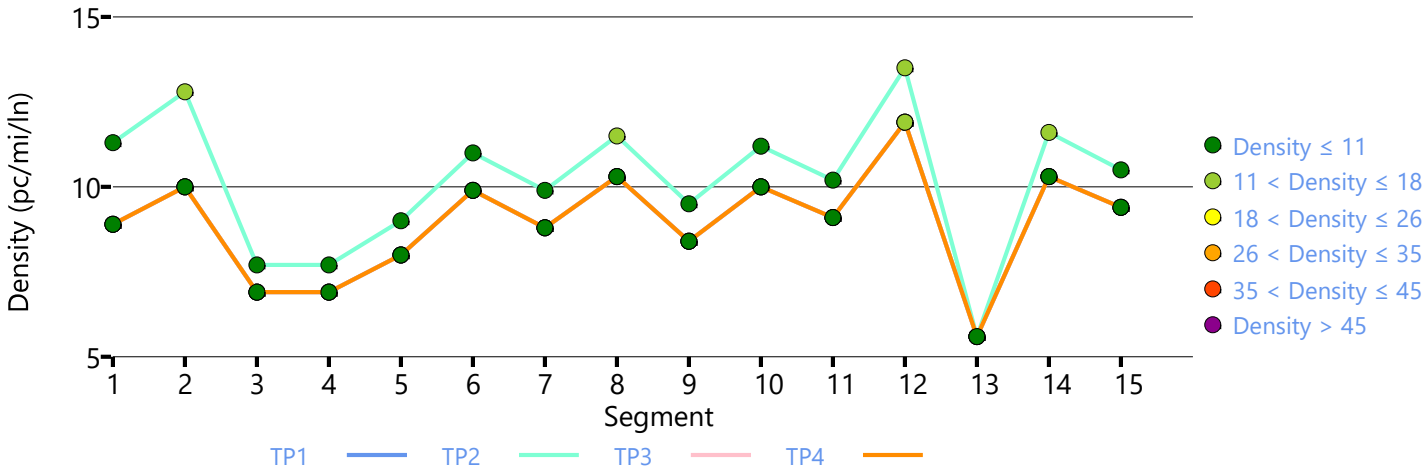
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	APS	Date	3/18/2022
Agency	Garver	Analysis Year	2022
Jurisdiction	ARDOT	Time Analyzed	PM Peak hour
Project Description	I-49 NB Action with Bella Vista Bypass	Units	U.S. Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	15
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	5.16		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	between SE 8th St and Hwy 72	1316	3
2	Diverge	Diverge	off-ramp to Hwy 72	1500	3
3	Basic	Basic	between Hwy 72 off ramps	60	3
4	Diverge	Basic	loop off-ramp to Hwy 72	1500	3
5	Basic	Basic	between loop off-ramp and on-ramp Hwy 72	710	2
6	Merge	Merge	on-ramp from Hwy 72	1500	2
7	Basic	Basic	between Hwy 72 and NE J St	5150	2
8	Diverge	Diverge	off-ramp to NE J St	1500	2
9	Basic	Basic	between NE J St ramps	1030	2
10	Merge	Merge	on-ramp from NE J St	1500	2
11	Basic	Basic	between NE J St and Hwy 71B	6490	2
12	Diverge	Diverge	off-ramp to Hwy 71B	1500	2
13	Basic	Basic	between Hwy 71B ramps	1500	2
14	Merge	Merge	on-ramp from Hwy 71B	1500	2
15	Basic	Basic	north of Hwy 71B	500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.943	3265	6929	0.47	68.6	15.9	B
2	1.00	0.943	3801	6929	0.55	68.5	18.5	C
3	1.00	0.943	3265	6929	0.47	68.6	15.9	B
4	1.00	0.943	3265	6929	0.47	68.6	15.9	B

Segment 2: Diverge

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.943	0.962	3265	610	6824	1936	0.48	0.32	61.3	57.1	17.8	22.5	C
2	1.00	1.00	0.943	0.962	3801	763	6824	1936	0.56	0.39	61.2	56.8	20.7	25.5	C
3	1.00	1.00	0.943	0.962	3265	610	6824	1936	0.48	0.32	61.3	57.1	17.8	22.5	C
4	1.00	1.00	0.943	0.962	3265	610	6824	1936	0.48	0.32	61.3	57.1	17.8	22.5	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	2691	6929	0.39	66.5	13.1	B
2	1.00	0.926	3078	6929	0.44	66.5	15.0	B
3	1.00	0.926	2691	6929	0.39	66.5	13.1	B
4	1.00	0.926	2691	6929	0.39	66.5	13.1	B

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	1.000	2691	398	6929	1839	0.39	0.22	68.0	68.6	13.1	13.1	B
2	1.00	1.00	0.926	1.000	3078	533	6929	1839	0.44	0.29	68.0	68.6	15.0	15.0	B
3	1.00	1.00	0.926	1.000	2691	398	6929	1839	0.39	0.22	68.0	68.6	13.1	13.1	B
4	1.00	1.00	0.926	1.000	2691	398	6929	1839	0.39	0.22	68.0	68.6	13.1	13.1	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.909	2304	4619	0.50	68.5	16.8	B
2	1.00	0.909	2549	4619	0.55	68.5	18.6	C
3	1.00	0.909	2304	4619	0.50	68.5	16.8	B
4	1.00	0.909	2304	4619	0.50	68.5	16.8	B

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.909	0.980	2684	380	4550	1936	0.59	0.20	60.4	60.4	22.2	20.6	C
2	1.00	1.00	0.909	0.980	3001	452	4550	1936	0.66	0.23	59.9	59.9	25.1	23.0	C
3	1.00	1.00	0.909	0.980	2684	380	4550	1936	0.59	0.20	60.4	60.4	22.2	20.6	C
4	1.00	1.00	0.909	0.980	2684	380	4550	1936	0.59	0.20	60.4	60.4	22.2	20.6	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	2663	4619	0.58	68.3	19.5	C
2	1.00	0.926	2981	4619	0.65	67.3	22.1	C
3	1.00	0.926	2663	4619	0.58	68.3	19.5	C
4	1.00	0.926	2663	4619	0.58	68.3	19.5	C

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.926	2663	48	4550	1936	0.59	0.02	58.5	58.5	22.8	18.2	B
2	1.00	1.00	0.926	0.926	2981	53	4550	1936	0.66	0.03	58.5	58.5	25.5	20.9	C
3	1.00	1.00	0.926	0.926	2663	48	4550	1936	0.59	0.02	58.5	58.5	22.8	18.2	B
4	1.00	1.00	0.926	0.926	2663	48	4550	1936	0.59	0.02	58.5	58.5	22.8	18.2	B

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	2616	4619	0.57	67.3	19.1	C
2	1.00	0.926	2928	4619	0.63	67.3	21.7	C
3	1.00	0.926	2616	4619	0.57	67.3	19.1	C
4	1.00	0.926	2616	4619	0.57	67.3	19.1	C

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.926	2710	94	4550	1936	0.60	0.05	61.4	61.4	22.1	18.0	B
2	1.00	1.00	0.926	0.926	3034	106	4550	1936	0.67	0.05	60.8	60.8	25.0	20.5	C
3	1.00	1.00	0.926	0.926	2710	94	4550	1936	0.60	0.05	61.4	61.4	22.1	18.0	B
4	1.00	1.00	0.926	0.926	2710	94	4550	1936	0.60	0.05	61.4	61.4	22.1	18.0	B

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	2710	4619	0.59	68.2	19.9	C
2	1.00	0.926	3033	4619	0.66	67.1	22.6	C
3	1.00	0.926	2710	4619	0.59	68.2	19.9	C
4	1.00	0.926	2710	4619	0.59	68.2	19.9	C

Segment 12: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.781	2710	813	4550	3678	0.60	0.22	51.6	51.6	26.3	14.1	B
2	1.00	1.00	0.926	0.820	3033	1038	4550	3678	0.67	0.28	51.1	51.1	29.7	16.8	B
3	1.00	1.00	0.926	0.781	2710	813	4550	3678	0.60	0.22	51.6	51.6	26.3	14.1	B
4	1.00	1.00	0.926	0.781	2710	813	4550	3678	0.60	0.22	51.6	51.6	26.3	14.1	B

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.980	1912	4619	0.41	67.1	13.9	B
2	1.00	0.980	1998	4619	0.43	67.1	14.6	B

3	1.00	0.980	1912	4619	0.41	67.1	13.9	B
4	1.00	0.980	1912	4619	0.41	67.1	13.9	B

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.980	0.685	3258	1346	4550	1936	0.72	0.70	59.8	59.8	27.2	23.0	C
2	1.00	1.00	0.980	0.685	3506	1508	4550	1936	0.77	0.78	59.0	59.0	29.7	24.9	C
3	1.00	1.00	0.980	0.685	3258	1346	4550	1936	0.72	0.70	59.8	59.8	27.2	23.0	C
4	1.00	1.00	0.980	0.685	3258	1346	4550	1936	0.72	0.70	59.8	59.8	27.2	23.0	C

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.862	3244	4619	0.70	65.9	24.6	C
2	1.00	0.847	3531	4619	0.76	63.9	27.6	D
3	1.00	0.862	3244	4619	0.70	65.9	24.6	C
4	1.00	0.862	3244	4619	0.70	65.9	24.6	C

Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	64.5	19.6	18.3	4.80	C
2	63.9	22.2	20.6	4.80	C
3	64.5	19.6	18.3	4.80	C
4	64.5	19.6	18.3	4.80	C

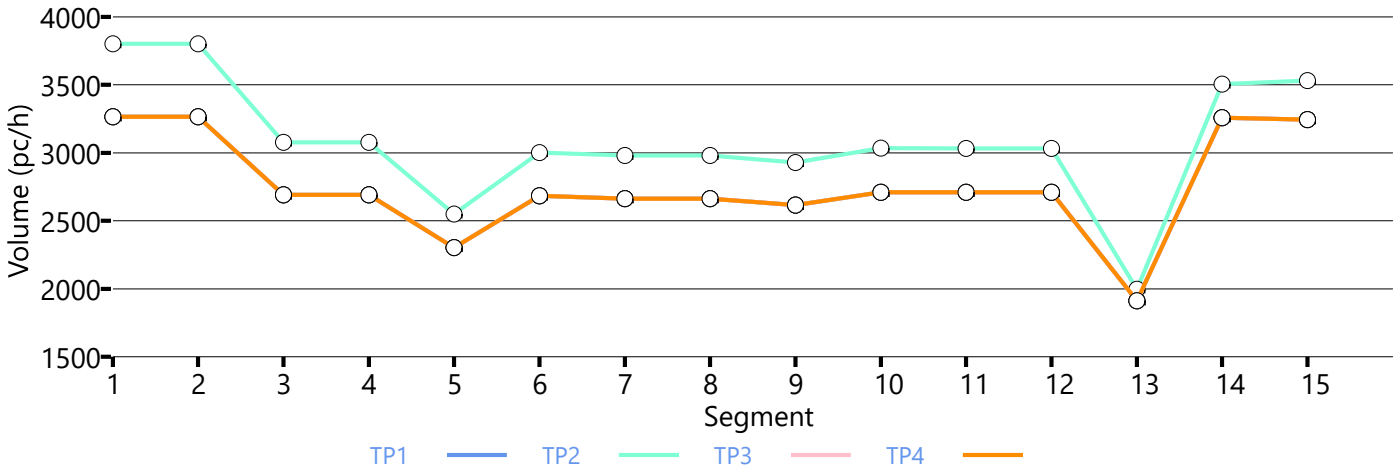
Facility Overall Results

Space Mean Speed, mi/h	64.3	Density, veh/mi/ln	18.9
Average Travel Time, min	4.80	Density, pc/mi/ln	20.3

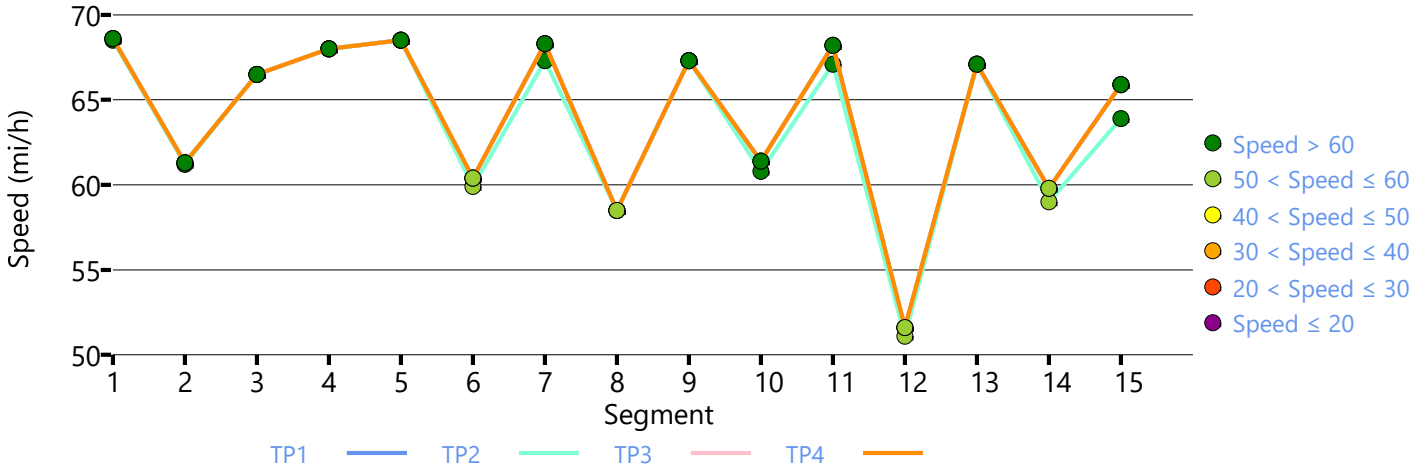
Messages

Comments

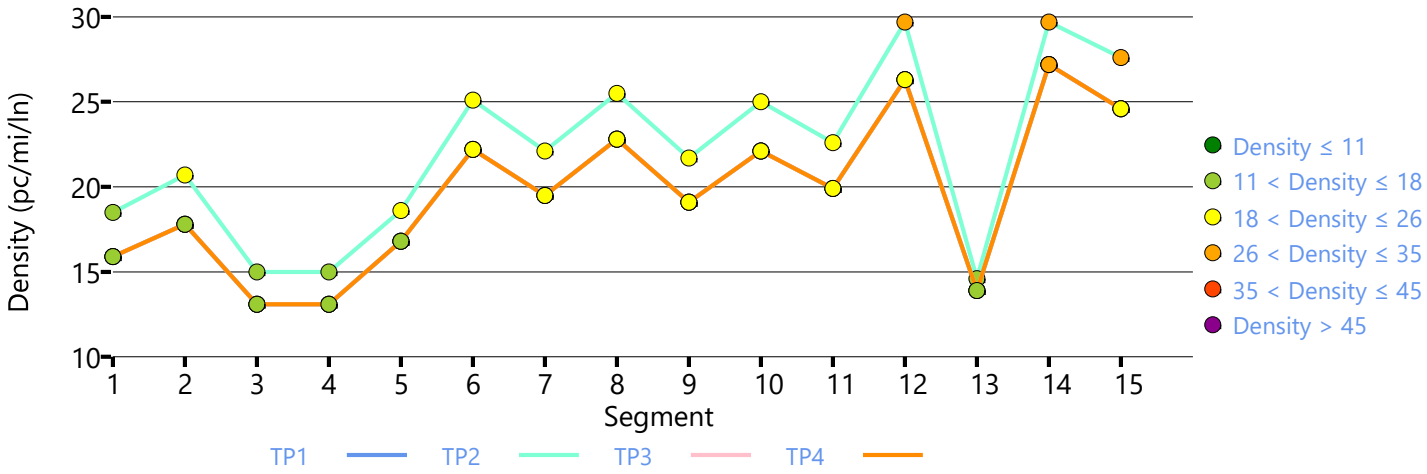
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	APS	Date	3/18/2022
Agency	Garver	Analysis Year	2045
Jurisdiction	ARDOT	Time Analyzed	AM Peak hour
Project Description	I-49 NB Action with Bella Vista Bypass	Units	U.S. Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	15
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	5.16		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	between SE 8th St and Hwy 72	1316	3
2	Diverge	Diverge	off-ramp to Hwy 72	1500	3
3	Basic	Basic	between Hwy 72 off ramps	60	3
4	Diverge	Diverge	loop off-ramp to Hwy 72	1500	3
5	Basic	Basic	between loop off-ramp and on-ramp Hwy 72	710	3
6	Merge	Merge	on-ramp from Hwy 72	1500	3
7	Basic	Basic	between Hwy 72 and NE J St	5150	3
8	Diverge	Diverge	off-ramp to NE J St	1500	3
9	Basic	Basic	between NE J St ramps	1030	3
10	Merge	Merge	on-ramp from NE J St	1500	3
11	Basic	Basic	between NE J St and Hwy 71B	6490	3
12	Diverge	Diverge	off-ramp to Hwy 71B	1500	3
13	Basic	Basic	between Hwy 71B ramps	1500	3
14	Merge	Merge	on-ramp from Hwy 71B	1500	3
15	Basic	Basic	north of Hwy 71B	500	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.862	2775	6929	0.40	68.6	13.5	B
2	1.00	0.877	3520	6929	0.51	68.6	17.1	B
3	1.00	0.862	2775	6929	0.40	68.6	13.5	B
4	1.00	0.862	2775	6929	0.40	68.6	13.5	B

Segment 2: Diverge

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.862	0.962	2775	702	6824	1936	0.41	0.36	60.7	56.9	15.2	20.2	C
2	1.00	1.00	0.877	0.962	3520	1225	6824	1936	0.52	0.63	59.6	55.7	19.7	25.1	C
3	1.00	1.00	0.862	0.962	2775	702	6824	1936	0.41	0.36	60.7	56.9	15.2	20.2	C
4	1.00	1.00	0.862	0.962	2775	702	6824	1936	0.41	0.36	60.7	56.9	15.2	20.2	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.833	2061	6929	0.30	66.4	10.0	A
2	1.00	0.833	2292	6929	0.33	66.1	11.1	B
3	1.00	0.833	2061	6929	0.30	66.4	10.0	A
4	1.00	0.833	2061	6929	0.30	66.4	10.0	A

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.833	0.962	2061	336	6824	1839	0.30	0.18	57.1	52.7	12.0	3.9	A
2	1.00	1.00	0.833	0.962	2292	376	6824	1839	0.34	0.20	57.1	52.6	13.4	5.3	A
3	1.00	1.00	0.833	0.962	2061	336	6824	1839	0.30	0.18	57.1	52.7	12.0	3.9	A
4	1.00	1.00	0.833	0.962	2061	336	6824	1839	0.30	0.18	57.1	52.7	12.0	3.9	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.806	1730	6929	0.25	66.7	8.4	A
2	1.00	0.806	1919	6929	0.28	66.7	9.3	A
3	1.00	0.806	1730	6929	0.25	66.7	8.4	A
4	1.00	0.806	1730	6929	0.25	66.7	8.4	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.806	0.893	1935	205	6824	1936	0.28	0.11	63.7	61.6	10.1	9.5	A
2	1.00	1.00	0.806	0.893	2163	244	6824	1936	0.32	0.13	63.6	61.6	11.3	10.6	B
3	1.00	1.00	0.806	0.893	1935	205	6824	1936	0.28	0.11	63.7	61.6	10.1	9.5	A
4	1.00	1.00	0.806	0.893	1935	205	6824	1936	0.28	0.11	63.7	61.6	10.1	9.5	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.820	1923	6929	0.28	68.6	9.3	A
2	1.00	0.820	2152	6929	0.31	68.6	10.5	A
3	1.00	0.820	1923	6929	0.28	68.6	9.3	A
4	1.00	0.820	1923	6929	0.28	68.6	9.3	A

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.820	0.820	1923	76	6824	1936	0.28	0.04	62.3	58.4	10.3	7.2	A
2	1.00	1.00	0.820	0.820	2152	85	6824	1936	0.32	0.04	62.4	58.4	11.5	8.5	A
3	1.00	1.00	0.820	0.820	1923	76	6824	1936	0.28	0.04	62.3	58.4	10.3	7.2	A
4	1.00	1.00	0.820	0.820	1923	76	6824	1936	0.28	0.04	62.3	58.4	10.3	7.2	A

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.820	1848	6929	0.27	67.8	9.0	A
2	1.00	0.820	2067	6929	0.30	67.8	10.0	A
3	1.00	0.820	1848	6929	0.27	67.8	9.0	A
4	1.00	0.820	1848	6929	0.27	67.8	9.0	A

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.820	0.820	1999	151	6824	1936	0.29	0.08	64.3	62.5	10.4	6.9	A
2	1.00	1.00	0.820	0.820	2237	170	6824	1936	0.33	0.09	64.2	62.5	11.6	8.1	A
3	1.00	1.00	0.820	0.820	1999	151	6824	1936	0.29	0.08	64.3	62.5	10.4	6.9	A
4	1.00	1.00	0.820	0.820	1999	151	6824	1936	0.29	0.08	64.3	62.5	10.4	6.9	A

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.820	1999	6929	0.29	68.6	9.7	A
2	1.00	0.820	2237	6929	0.32	68.6	10.9	A
3	1.00	0.820	1999	6929	0.29	68.6	9.7	A
4	1.00	0.820	1999	6929	0.29	68.6	9.7	A

Segment 12: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.820	0.610	1999	839	6824	3678	0.29	0.23	57.3	51.5	11.6	2.5	A
2	1.00	1.00	0.820	0.649	2237	1076	6824	3678	0.33	0.29	56.2	51.0	13.3	4.5	A
3	1.00	1.00	0.820	0.610	1999	839	6824	3678	0.29	0.23	57.3	51.5	11.6	2.5	A
4	1.00	1.00	0.820	0.610	1999	839	6824	3678	0.29	0.23	57.3	51.5	11.6	2.5	A

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.980	1150	6929	0.17	67.6	5.6	A
2	1.00	0.980	1159	6929	0.17	67.5	5.6	A

3	1.00	0.980	1150	6929	0.17	67.6	5.6	A
4	1.00	0.980	1150	6929	0.17	67.6	5.6	A

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.980	0.685	1880	730	6824	1936	0.28	0.38	63.5	62.1	9.9	9.0	A
2	1.00	1.00	0.980	0.685	2121	962	6824	1936	0.31	0.50	63.3	62.0	11.2	10.8	B
3	1.00	1.00	0.980	0.685	1880	730	6824	1936	0.28	0.38	63.5	62.1	9.9	9.0	A
4	1.00	1.00	0.980	0.685	1880	730	6824	1936	0.28	0.38	63.5	62.1	9.9	9.0	A

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.862	1887	6929	0.27	67.6	9.2	A
2	1.00	0.847	2119	6929	0.31	67.6	10.3	A
3	1.00	0.862	1887	6929	0.27	67.6	9.2	A
4	1.00	0.862	1887	6929	0.27	67.6	9.2	A

Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	65.2	10.2	8.5	4.70	A
2	65.0	11.6	9.8	4.80	B
3	65.2	10.2	8.5	4.70	A
4	65.2	10.2	8.5	4.70	A

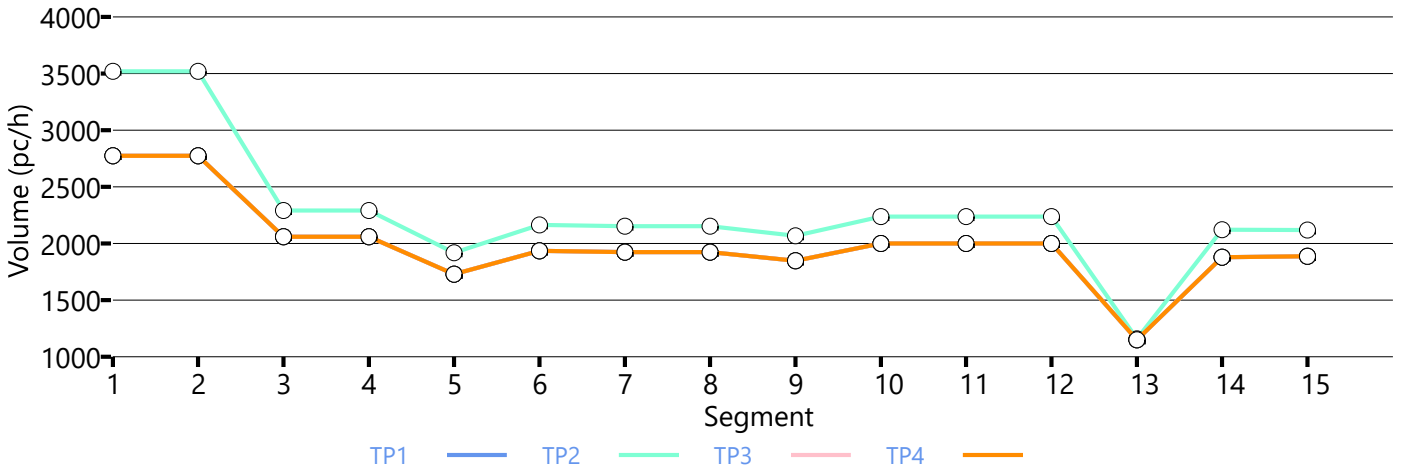
Facility Overall Results

Space Mean Speed, mi/h	65.2	Density, veh/mi/ln	8.8
Average Travel Time, min	4.80	Density, pc/mi/ln	10.5

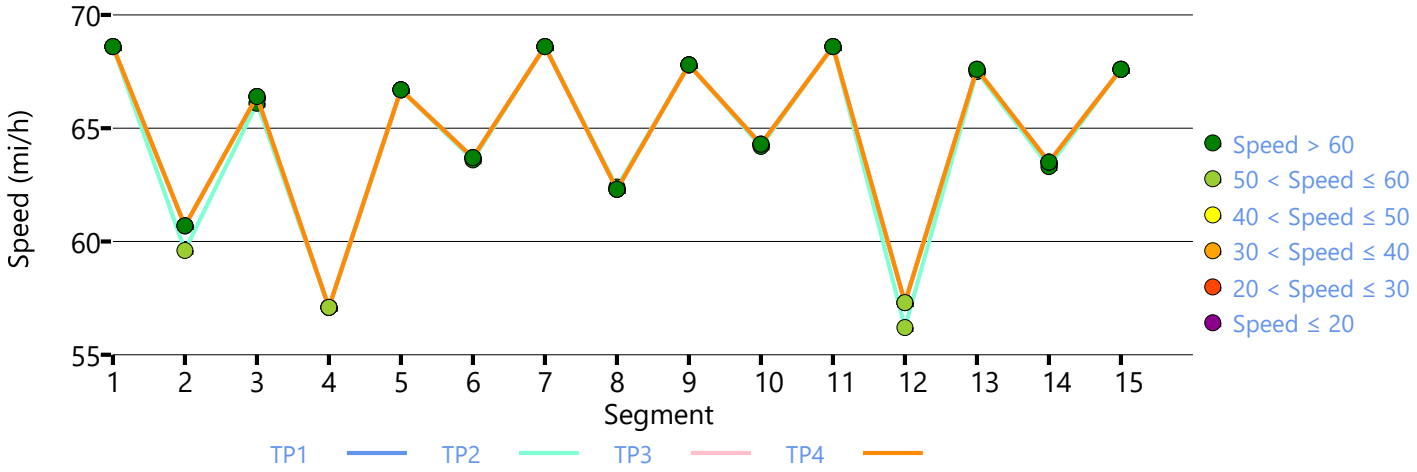
Messages

Comments

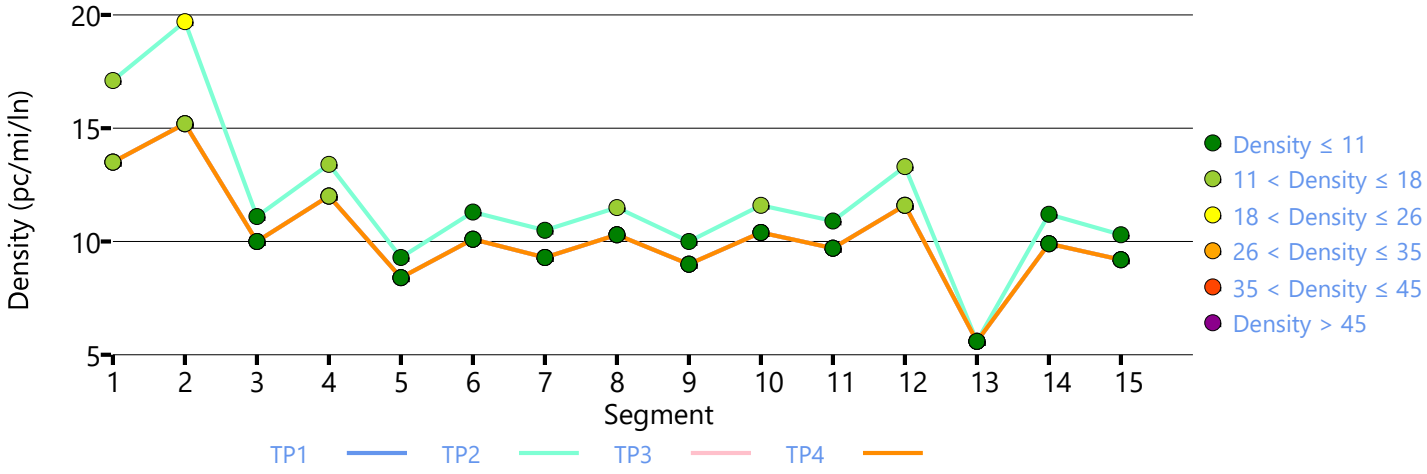
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	APS	Date	3/18/2022
Agency	Garver	Analysis Year	2045
Jurisdiction	ARDOT	Time Analyzed	PM Peak hour
Project Description	I-49 NB Action with Bella Vista Bypass	Units	U.S. Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	15
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	5.16		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	between SE 8th St and Hwy 72	1316	3
2	Diverge	Diverge	off-ramp to Hwy 72	1500	3
3	Basic	Basic	between Hwy 72 off ramps	60	3
4	Diverge	Diverge	loop off-ramp to Hwy 72	1500	3
5	Basic	Basic	between loop off-ramp and on-ramp Hwy 72	710	3
6	Merge	Merge	on-ramp from Hwy 72	1500	3
7	Basic	Basic	between Hwy 72 and NE J St	5150	3
8	Diverge	Diverge	off-ramp to NE J St	1500	3
9	Basic	Basic	between NE J St ramps	1030	3
10	Merge	Merge	on-ramp from NE J St	1500	3
11	Basic	Basic	between NE J St and Hwy 71B	6490	3
12	Diverge	Diverge	off-ramp to Hwy 71B	1500	3
13	Basic	Basic	between Hwy 71B ramps	1500	3
14	Merge	Merge	on-ramp from Hwy 71B	1500	3
15	Basic	Basic	north of Hwy 71B	500	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	5028	6929	0.73	65.2	25.7	C
2	1.00	0.926	5814	6929	0.84	60.8	31.9	D
3	1.00	0.926	5028	6929	0.73	65.2	25.7	C
4	1.00	0.926	5028	6929	0.73	65.2	25.7	C

Segment 2: Diverge

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.962	5028	1045	6824	1936	0.74	0.54	60.6	56.1	27.7	31.5	D
2	1.00	1.00	0.926	0.962	5814	1306	6824	1936	0.85	0.67	60.1	55.5	32.2	35.2	E
3	1.00	1.00	0.926	0.962	5028	1045	6824	1936	0.74	0.54	60.6	56.1	27.7	31.5	D
4	1.00	1.00	0.926	0.962	5028	1045	6824	1936	0.74	0.54	60.6	56.1	27.7	31.5	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	3943	6929	0.57	66.3	19.2	C
2	1.00	0.926	4458	6929	0.64	66.2	22.1	C
3	1.00	0.926	3943	6929	0.57	66.3	19.2	C
4	1.00	0.926	3943	6929	0.57	66.3	19.2	C

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	1.000	3943	409	6824	1839	0.58	0.22	58.0	52.6	22.7	13.8	B
2	1.00	1.00	0.926	1.000	4458	548	6824	1839	0.65	0.30	57.7	52.2	25.8	16.4	B
3	1.00	1.00	0.926	1.000	3943	409	6824	1839	0.58	0.22	58.0	52.6	22.7	13.8	B
4	1.00	1.00	0.926	1.000	3943	409	6824	1839	0.58	0.22	58.0	52.6	22.7	13.8	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.909	3567	6929	0.51	66.8	17.3	B
2	1.00	0.909	3938	6929	0.57	66.8	19.2	C
3	1.00	0.909	3567	6929	0.51	66.8	17.3	B
4	1.00	0.909	3567	6929	0.51	66.8	17.3	B

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.909	0.980	4268	701	6824	1936	0.63	0.36	61.8	60.2	23.0	21.7	C
2	1.00	1.00	0.909	0.980	4773	835	6824	1936	0.70	0.43	61.1	59.4	26.0	24.5	C
3	1.00	1.00	0.909	0.980	4268	701	6824	1936	0.63	0.36	61.8	60.2	23.0	21.7	C
4	1.00	1.00	0.909	0.980	4268	701	6824	1936	0.63	0.36	61.8	60.2	23.0	21.7	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	4243	6929	0.61	67.8	20.9	C
2	1.00	0.926	4749	6929	0.69	66.4	23.8	C
3	1.00	0.926	4243	6929	0.61	67.8	20.9	C
4	1.00	0.926	4243	6929	0.61	67.8	20.9	C

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.926	4243	76	6824	1936	0.62	0.04	62.8	58.4	22.5	19.2	B
2	1.00	1.00	0.926	0.926	4749	84	6824	1936	0.70	0.04	62.8	58.4	25.2	21.5	C
3	1.00	1.00	0.926	0.926	4243	76	6824	1936	0.62	0.04	62.8	58.4	22.5	19.2	B
4	1.00	1.00	0.926	0.926	4243	76	6824	1936	0.62	0.04	62.8	58.4	22.5	19.2	B

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	4167	6929	0.60	67.9	20.4	C
2	1.00	0.926	4665	6929	0.67	66.7	23.3	C
3	1.00	0.926	4167	6929	0.60	67.9	20.4	C
4	1.00	0.926	4167	6929	0.60	67.9	20.4	C

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.926	4318	151	6824	1936	0.63	0.08	62.5	61.4	23.0	17.7	B
2	1.00	1.00	0.926	0.926	4835	170	6824	1936	0.71	0.09	61.9	60.9	26.0	19.9	B
3	1.00	1.00	0.926	0.926	4318	151	6824	1936	0.63	0.08	62.5	61.4	23.0	17.7	B
4	1.00	1.00	0.926	0.926	4318	151	6824	1936	0.63	0.08	62.5	61.4	23.0	17.7	B

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	4319	6929	0.62	67.7	21.3	C
2	1.00	0.926	4835	6929	0.70	66.1	24.4	C
3	1.00	0.926	4319	6929	0.62	67.7	21.3	C
4	1.00	0.926	4319	6929	0.62	67.7	21.3	C

Segment 12: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.806	4319	1382	6824	3678	0.63	0.38	56.8	50.2	25.3	14.0	B
2	1.00	1.00	0.926	0.833	4835	1792	6824	3678	0.71	0.49	55.5	49.3	29.0	17.9	B
3	1.00	1.00	0.926	0.806	4319	1382	6824	3678	0.63	0.38	56.8	50.2	25.3	14.0	B
4	1.00	1.00	0.926	0.806	4319	1382	6824	3678	0.63	0.38	56.8	50.2	25.3	14.0	B

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.980	2944	6929	0.42	67.6	14.3	B
2	1.00	0.980	3045	6929	0.44	67.4	14.8	B

3	1.00	0.980	2944	6929	0.42	67.6	14.3	B
4	1.00	0.980	2944	6929	0.42	67.6	14.3	B

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.980	0.685	4858	1914	6824	1936	0.71	0.99	60.0	58.3	27.0	26.3	C
2	1.00	1.00	0.980	0.685	4981	1936	6824	1936	0.73	1.11	59.7	57.9	27.8	26.9	C
3	1.00	1.00	0.980	0.685	4858	1914	6824	1936	0.71	0.99	60.0	58.3	27.0	26.3	C
4	1.00	1.00	0.980	0.685	4858	1914	6824	1936	0.71	0.99	60.0	58.3	27.0	26.3	C

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.862	4868	6929	0.70	65.9	24.6	C
2	1.00	0.862	5000	6929	0.72	65.4	25.5	C
3	1.00	0.862	4868	6929	0.70	65.9	24.6	C
4	1.00	0.862	4868	6929	0.70	65.9	24.6	C

Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	64.4	22.2	20.6	4.80	C
2	63.2	25.1	23.3	4.90	C
3	64.4	22.2	20.6	4.80	C
4	64.4	22.2	20.6	4.80	C

Facility Overall Results

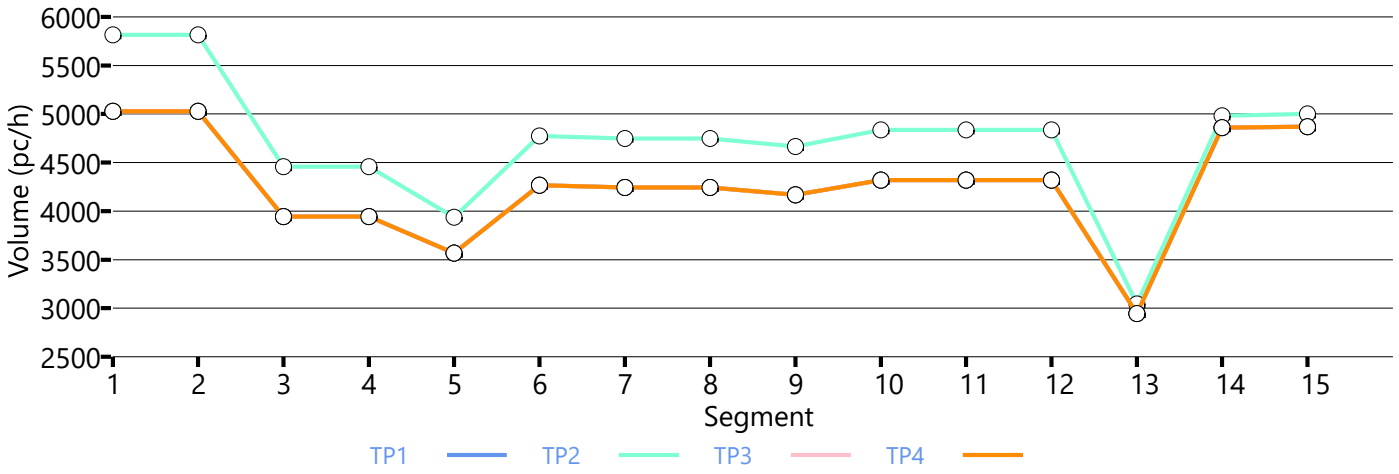
Space Mean Speed, mi/h	64.1	Density, veh/mi/ln	21.3
Average Travel Time, min	4.80	Density, pc/mi/ln	22.9

Messages

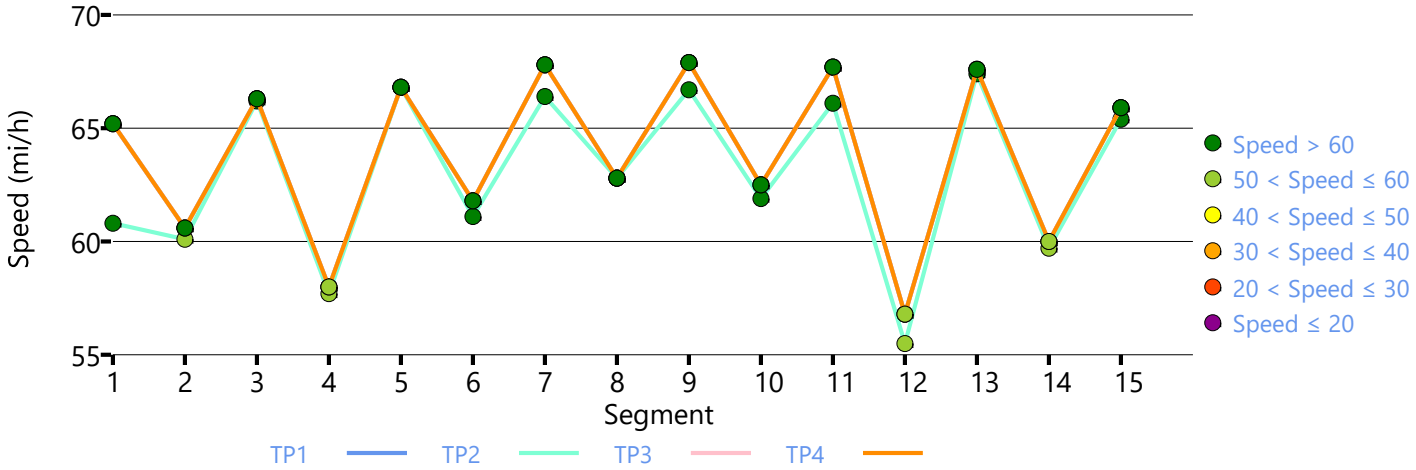
WARNING 1	Merge capacity is less than merge demand for analysis period 2 on segment 14.

Comments

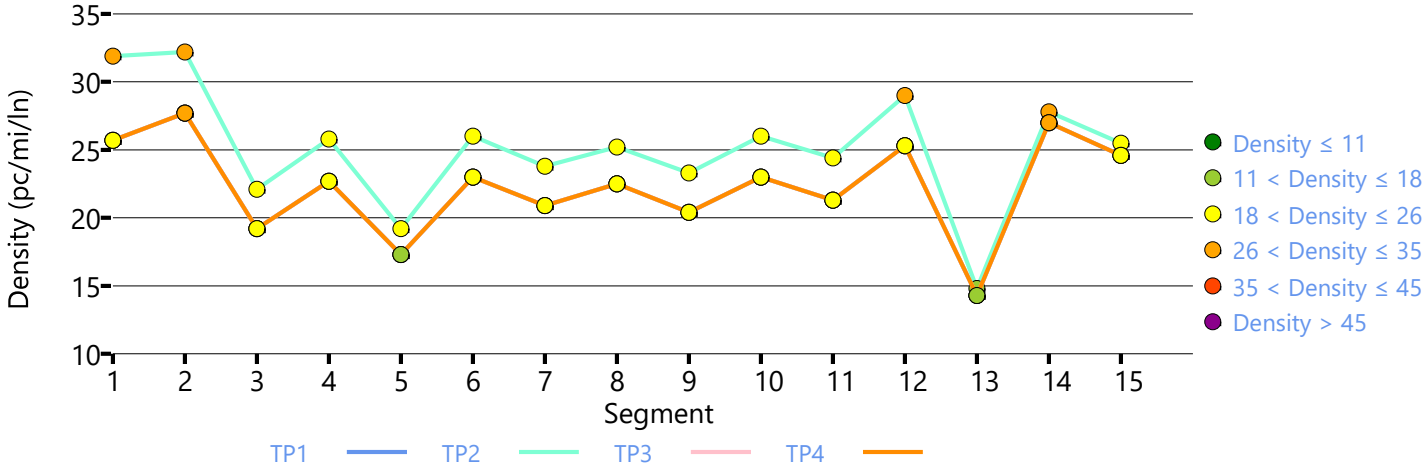
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	APS	Date	3/18/2022
Agency	Garver	Analysis Year	2022
Jurisdiction	ARDOT	Time Analyzed	AM Peak hour
Project Description	I-49 SB Action with Bella Vista Bypass	Units	U.S. Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	15
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	4.96		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	north of Hwy 71B	50	2
2	Diverge	Diverge	off-ramp to Hwy 71B	1500	2
3	Basic	Basic	between Hwy 71B ramps	2080	2
4	Merge	Merge	on-ramp from Hwy 71B	1500	2
5	Basic	Basic	between Hwy 71B and NE J St	4650	2
6	Diverge	Diverge	off-ramp to NE J St	1500	2
7	Basic	Basic	between NE J St ramps	850	2
8	Merge	Merge	on-ramp from NE J St	1500	2
9	Basic	Basic	between NE J St and Hwy 72	5165	2
10	Diverge	Diverge	off-ramp to Hwy 72	1500	2
11	Basic	Basic	between Hwy 72 off-ramp and loop on-ramp	1015	2
12	Merge	Basic	loop on-ramp from Hwy 72	1225	3
13	Overlap	Basic	between on-ramps from Hwy 72	275	3
14	Merge	Merge	on-ramp from Hwy 72	1225	3
15	Basic	Basic	between Hwy 72 and SE 8th St	2165	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.833	3262	4619	0.71	65.8	24.8	C
2	1.00	0.833	3723	4619	0.81	62.3	29.9	D
3	1.00	0.833	3262	4619	0.71	65.8	24.8	C
4	1.00	0.833	3262	4619	0.71	65.8	24.8	C

Segment 2: Diverge

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.833	0.667	3262	1489	4550	1839	0.72	0.81	51.7	51.7	31.5	30.1	D
2	1.00	1.00	0.833	0.667	3723	1801	4550	1839	0.82	0.98	50.9	50.9	36.6	34.1	D
3	1.00	1.00	0.833	0.667	3262	1489	4550	1839	0.72	0.81	51.7	51.7	31.5	30.1	D
4	1.00	1.00	0.833	0.667	3262	1489	4550	1839	0.72	0.81	51.7	51.7	31.5	30.1	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.980	1759	4619	0.38	67.7	12.8	B
2	1.00	0.980	1939	4619	0.42	67.6	14.1	B
3	1.00	0.980	1759	4619	0.38	67.7	12.8	B
4	1.00	0.980	1759	4619	0.38	67.7	12.8	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.980	0.833	2801	1042	4550	3678	0.62	0.28	60.7	60.7	23.1	17.5	B
2	1.00	1.00	0.980	0.833	3141	1202	4550	3678	0.69	0.33	60.0	60.0	26.2	20.1	C
3	1.00	1.00	0.980	0.833	2801	1042	4550	3678	0.62	0.28	60.7	60.7	23.1	17.5	B
4	1.00	1.00	0.980	0.833	2801	1042	4550	3678	0.62	0.28	60.7	60.7	23.1	17.5	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	2799	4619	0.61	67.9	20.6	C
2	1.00	0.926	3133	4619	0.68	66.6	23.5	C
3	1.00	0.926	2799	4619	0.61	67.9	20.6	C
4	1.00	0.926	2799	4619	0.61	67.9	20.6	C

Segment 6: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.926	2799	100	4550	1936	0.62	0.05	58.4	58.4	24.0	19.7	B
2	1.00	1.00	0.926	0.926	3133	112	4550	1936	0.69	0.06	58.3	58.3	26.9	22.6	C
3	1.00	1.00	0.926	0.926	2799	100	4550	1936	0.62	0.05	58.4	58.4	24.0	19.7	B
4	1.00	1.00	0.926	0.926	2799	100	4550	1936	0.62	0.05	58.4	58.4	24.0	19.7	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	2699	4619	0.58	67.1	19.8	C
2	1.00	0.926	3021	4619	0.65	67.1	22.5	C
3	1.00	0.926	2699	4619	0.58	67.1	19.8	C
4	1.00	0.926	2699	4619	0.58	67.1	19.8	C

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.926	2750	51	4550	1936	0.60	0.03	60.8	60.8	22.6	19.9	B
2	1.00	1.00	0.926	0.926	3077	56	4550	1936	0.68	0.03	60.1	60.1	25.6	22.5	C
3	1.00	1.00	0.926	0.926	2750	51	4550	1936	0.60	0.03	60.8	60.8	22.6	19.9	B
4	1.00	1.00	0.926	0.926	2750	51	4550	1936	0.60	0.03	60.8	60.8	22.6	19.9	B

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	2749	4619	0.60	68.1	20.2	C
2	1.00	0.926	3077	4619	0.67	66.8	23.0	C
3	1.00	0.926	2749	4619	0.60	68.1	20.2	C
4	1.00	0.926	2749	4619	0.60	68.1	20.2	C

Segment 10: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.980	2749	367	4550	1936	0.60	0.19	57.7	57.7	23.8	26.1	C
2	1.00	1.00	0.926	0.980	3077	491	4550	1936	0.68	0.25	57.4	57.4	26.8	28.9	D
3	1.00	1.00	0.926	0.980	2749	367	4550	1936	0.60	0.19	57.7	57.7	23.8	26.1	C
4	1.00	1.00	0.926	0.980	2749	367	4550	1936	0.60	0.19	57.7	57.7	23.8	26.1	C

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	2361	4619	0.51	67.2	17.2	B
2	1.00	0.909	2605	4619	0.56	67.1	19.0	C
3	1.00	0.926	2361	4619	0.51	67.2	17.2	B
4	1.00	0.926	2361	4619	0.51	67.2	17.2	B

Segment 12: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.962	2791	430	6929	1839	0.40	0.23	68.4	68.6	13.6	13.6	B
2	1.00	1.00	0.909	0.962	3109	504	6929	1839	0.45	0.27	68.4	68.6	15.1	15.1	B
3	1.00	1.00	0.926	0.962	2791	430	6929	1839	0.40	0.23	68.4	68.6	13.6	13.6	B
4	1.00	1.00	0.926	0.962	2791	430	6929	1839	0.40	0.23	68.4	68.6	13.6	13.6	B

Segment 13: Overlap

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	2808	6929	0.41	68.5	13.6	B
2	1.00	0.926	3081	6929	0.44	68.5	15.0	B

3	1.00	0.926	2808	6929	0.41	68.5	13.6	B
4	1.00	0.926	2808	6929	0.41	68.5	13.6	B

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.980	3297	489	6824	1936	0.48	0.25	62.7	61.0	17.5	16.8	B
2	1.00	1.00	0.926	0.980	3736	655	6824	1936	0.55	0.34	62.3	60.6	20.0	19.3	B
3	1.00	1.00	0.926	0.980	3297	489	6824	1936	0.48	0.25	62.7	61.0	17.5	16.8	B
4	1.00	1.00	0.926	0.980	3297	489	6824	1936	0.48	0.25	62.7	61.0	17.5	16.8	B

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	3325	6929	0.48	68.2	16.2	B
2	1.00	0.926	3774	6929	0.54	68.2	18.4	C
3	1.00	0.926	3325	6929	0.48	68.2	16.2	B
4	1.00	0.926	3325	6929	0.48	68.2	16.2	B

Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	64.3	19.7	18.2	4.60	C
2	63.6	22.4	20.6	4.70	C
3	64.3	19.7	18.2	4.60	C
4	64.3	19.7	18.2	4.60	C

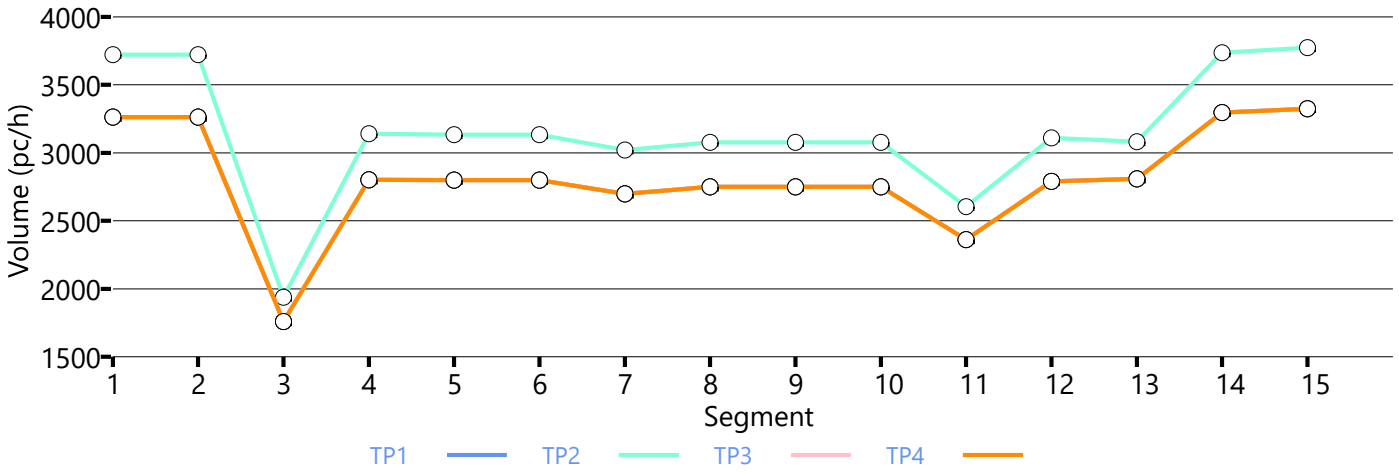
Facility Overall Results

Space Mean Speed, mi/h	64.1	Density, veh/mi/ln	18.8
Average Travel Time, min	4.60	Density, pc/mi/ln	20.4

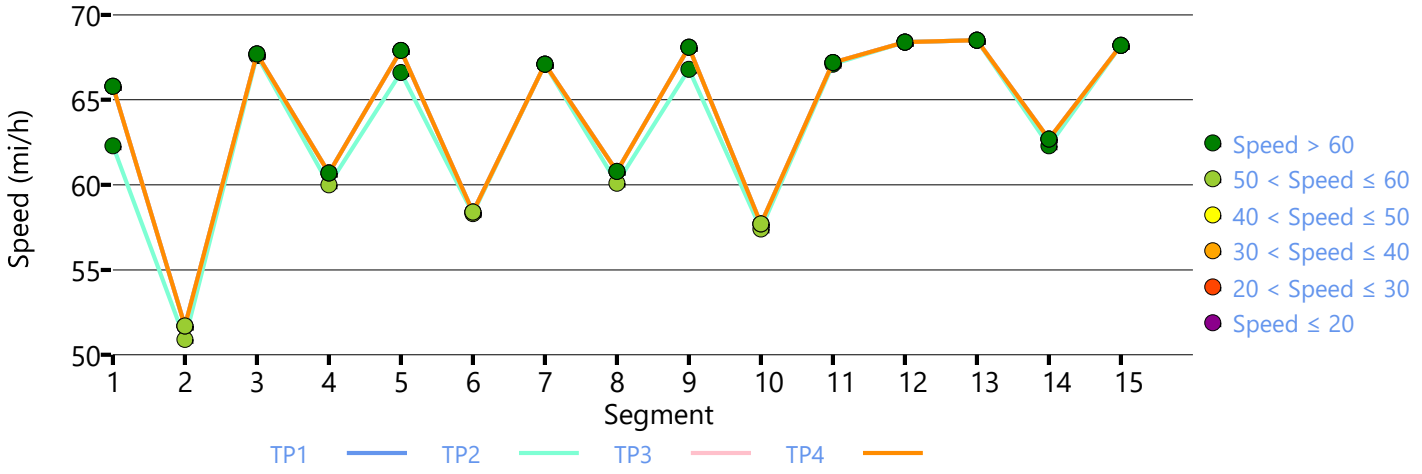
Messages

Comments

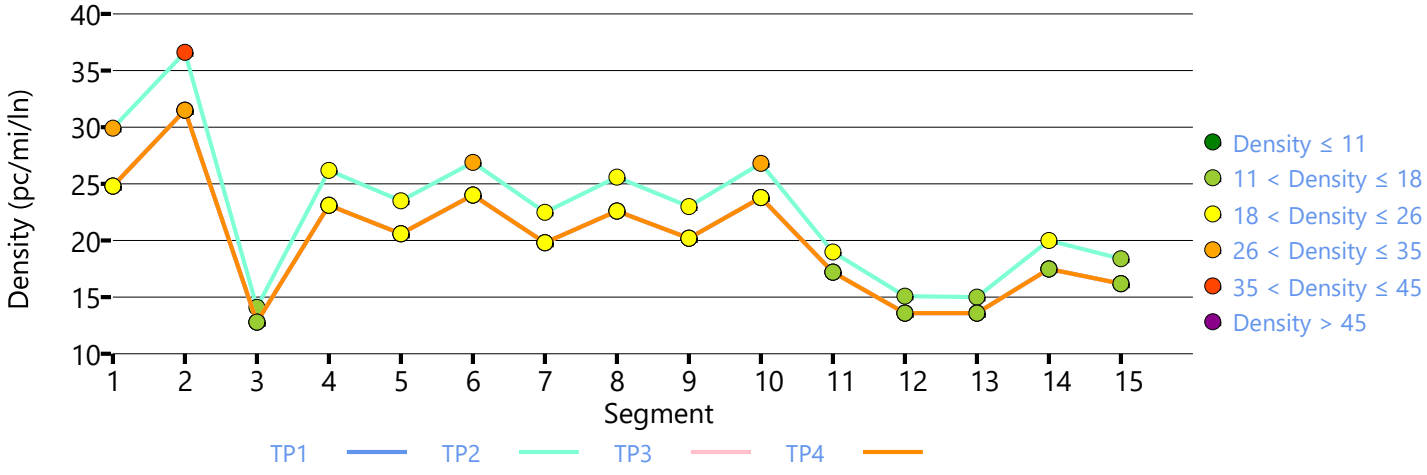
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	APS	Date	3/18/2022
Agency	Garver	Analysis Year	2022
Jurisdiction	ARDOT	Time Analyzed	PM Peak hour
Project Description	I-49 SB Action with Bella Vista Bypass	Units	U.S. Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	15
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	4.96		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	north of Hwy 71B	50	2
2	Diverge	Diverge	off-ramp to Hwy 71B	1500	2
3	Basic	Basic	between Hwy 71B ramps	2080	2
4	Merge	Merge	on-ramp from Hwy 71B	1500	2
5	Basic	Basic	between Hwy 71B and NE J St	4650	2
6	Diverge	Diverge	off-ramp to NE J St	1500	2
7	Basic	Basic	between NE J St ramps	850	2
8	Merge	Merge	on-ramp from NE J St	1500	2
9	Basic	Basic	between NE J St and Hwy 72	5165	2
10	Diverge	Diverge	off-ramp to Hwy 72	1500	2
11	Basic	Basic	between Hwy 72 off-ramp and loop on-ramp	1015	2
12	Merge	Basic	loop on-ramp from Hwy 72	1225	3
13	Overlap	Basic	between on-ramps from Hwy 72	275	3
14	Merge	Merge	on-ramp from Hwy 72	1225	3
15	Basic	Basic	between Hwy 72 and SE 8th St	2165	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.820	2085	4619	0.45	68.6	15.2	B
2	1.00	0.820	2312	4619	0.50	68.6	16.9	B
3	1.00	0.820	2085	4619	0.45	68.6	15.2	B
4	1.00	0.820	2085	4619	0.45	68.6	15.2	B

Segment 2: Diverge

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.820	0.658	2085	819	4550	1839	0.46	0.45	53.3	53.3	19.6	20.0	B
2	1.00	1.00	0.820	0.658	2312	1008	4550	1839	0.51	0.55	52.8	52.8	21.9	22.0	C
3	1.00	1.00	0.820	0.658	2085	819	4550	1839	0.46	0.45	53.3	53.3	19.6	20.0	B
4	1.00	1.00	0.820	0.658	2085	819	4550	1839	0.46	0.45	53.3	53.3	19.6	20.0	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	1265	4619	0.27	67.8	9.2	A
2	1.00	0.943	1308	4619	0.28	67.7	9.5	A
3	1.00	0.926	1265	4619	0.27	67.8	9.2	A
4	1.00	0.926	1265	4619	0.27	67.8	9.2	A

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.685	1839	574	4550	3678	0.40	0.16	61.7	61.7	14.9	10.2	B
2	1.00	1.00	0.943	0.685	2063	755	4550	3678	0.45	0.21	61.6	61.6	16.7	11.9	B
3	1.00	1.00	0.926	0.685	1839	574	4550	3678	0.40	0.16	61.7	61.7	14.9	10.2	B
4	1.00	1.00	0.926	0.685	1839	574	4550	3678	0.40	0.16	61.7	61.7	14.9	10.2	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.847	1847	4619	0.40	68.6	13.5	B
2	1.00	0.847	2066	4619	0.45	68.6	15.1	B
3	1.00	0.847	1847	4619	0.40	68.6	13.5	B
4	1.00	0.847	1847	4619	0.40	68.6	13.5	B

Segment 6: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.847	0.847	1847	124	4550	1936	0.41	0.06	58.3	58.3	15.8	11.5	B
2	1.00	1.00	0.847	0.847	2066	138	4550	1936	0.45	0.07	58.3	58.3	17.7	13.4	B
3	1.00	1.00	0.847	0.847	1847	124	4550	1936	0.41	0.06	58.3	58.3	15.8	11.5	B
4	1.00	1.00	0.847	0.847	1847	124	4550	1936	0.41	0.06	58.3	58.3	15.8	11.5	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.847	1723	4619	0.37	67.1	12.6	B
2	1.00	0.847	1928	4619	0.42	67.1	14.1	B
3	1.00	0.847	1723	4619	0.37	67.1	12.6	B
4	1.00	0.847	1723	4619	0.37	67.1	12.6	B

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.847	0.847	1784	61	4550	1936	0.39	0.03	61.8	61.8	14.4	12.4	B
2	1.00	1.00	0.847	0.847	1998	70	4550	1936	0.44	0.04	61.6	61.6	16.2	14.0	B
3	1.00	1.00	0.847	0.847	1784	61	4550	1936	0.39	0.03	61.8	61.8	14.4	12.4	B
4	1.00	1.00	0.847	0.847	1784	61	4550	1936	0.39	0.03	61.8	61.8	14.4	12.4	B

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.847	1784	4619	0.39	68.6	13.0	B
2	1.00	0.847	1998	4619	0.43	68.6	14.6	B
3	1.00	0.847	1784	4619	0.39	68.6	13.0	B
4	1.00	0.847	1784	4619	0.39	68.6	13.0	B

Segment 10: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.847	0.980	1784	135	4550	1936	0.39	0.07	58.3	58.3	15.3	17.8	B
2	1.00	1.00	0.847	0.980	1998	234	4550	1936	0.44	0.12	58.0	58.0	17.2	19.6	B
3	1.00	1.00	0.847	0.980	1784	135	4550	1936	0.39	0.07	58.3	58.3	15.3	17.8	B
4	1.00	1.00	0.847	0.980	1784	135	4550	1936	0.39	0.07	58.3	58.3	15.3	17.8	B

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.833	1655	4619	0.36	67.3	12.1	B
2	1.00	0.833	1756	4619	0.38	67.2	12.8	B
3	1.00	0.833	1655	4619	0.36	67.3	12.1	B
4	1.00	0.833	1655	4619	0.36	67.3	12.1	B

Segment 12: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.833	0.980	1927	272	6929	1839	0.28	0.15	68.4	68.6	9.4	9.4	A
2	1.00	1.00	0.833	0.980	2114	358	6929	1839	0.31	0.19	68.4	68.6	10.3	10.3	A
3	1.00	1.00	0.833	0.980	1927	272	6929	1839	0.28	0.15	68.4	68.6	9.4	9.4	A
4	1.00	1.00	0.833	0.980	1927	272	6929	1839	0.28	0.15	68.4	68.6	9.4	9.4	A

Segment 13: Overlap

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.862	1910	6929	0.28	68.5	9.3	A
2	1.00	0.862	2104	6929	0.30	68.5	10.2	A

3	1.00	0.862	1910	6929	0.28	68.5	9.3	A
4	1.00	0.862	1910	6929	0.28	68.5	9.3	A

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.862	0.980	2543	633	6824	1936	0.37	0.33	63.1	61.3	13.4	13.6	B
2	1.00	1.00	0.862	0.980	2966	862	6824	1936	0.43	0.45	62.7	61.0	15.8	16.2	B
3	1.00	1.00	0.862	0.980	2543	633	6824	1936	0.37	0.33	63.1	61.3	13.4	13.6	B
4	1.00	1.00	0.862	0.980	2543	633	6824	1936	0.37	0.33	63.1	61.3	13.4	13.6	B

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.893	2538	6929	0.37	68.2	12.3	B
2	1.00	0.893	2978	6929	0.43	68.2	14.5	B
3	1.00	0.893	2538	6929	0.37	68.2	12.3	B
4	1.00	0.893	2538	6929	0.37	68.2	12.3	B

Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	64.8	13.2	11.3	4.60	B
2	64.7	14.8	12.8	4.60	B
3	64.8	13.2	11.3	4.60	B
4	64.8	13.2	11.3	4.60	B

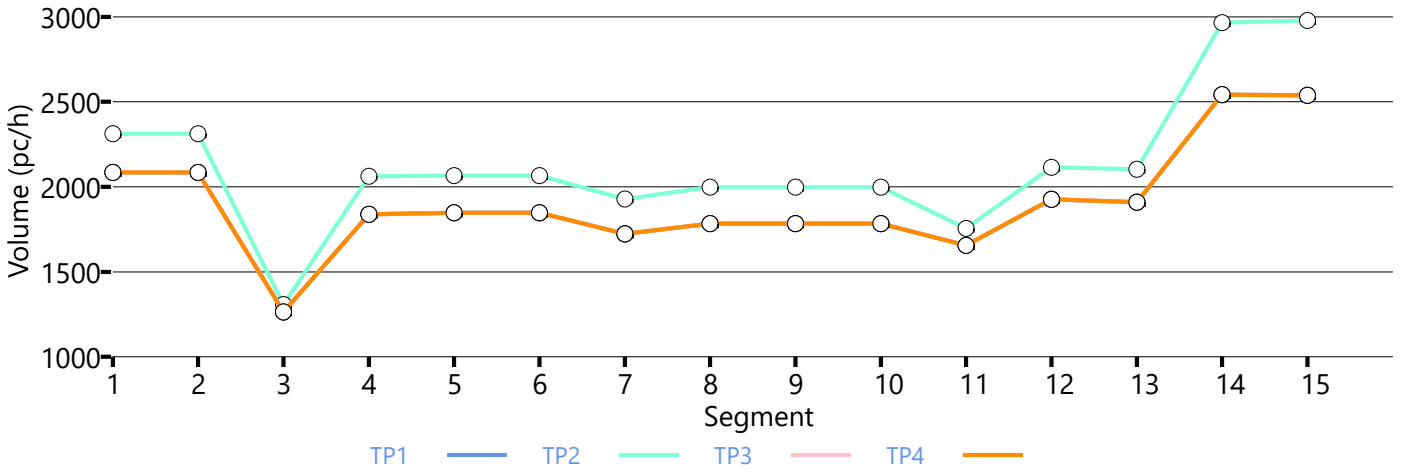
Facility Overall Results

Space Mean Speed, mi/h	64.8	Density, veh/mi/ln	11.7
Average Travel Time, min	4.60	Density, pc/mi/ln	13.6

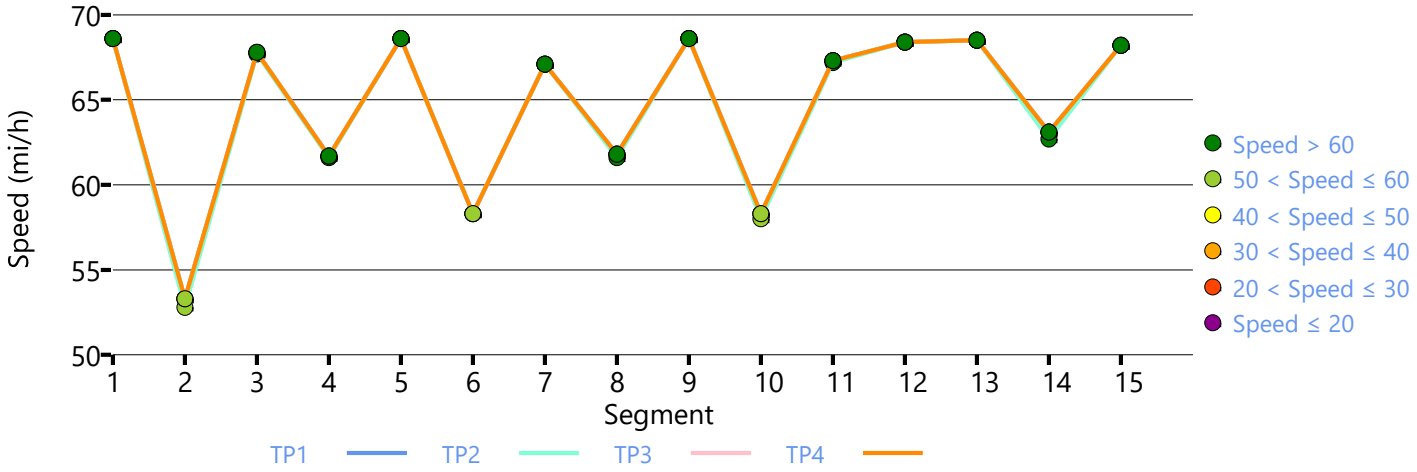
Messages

Comments

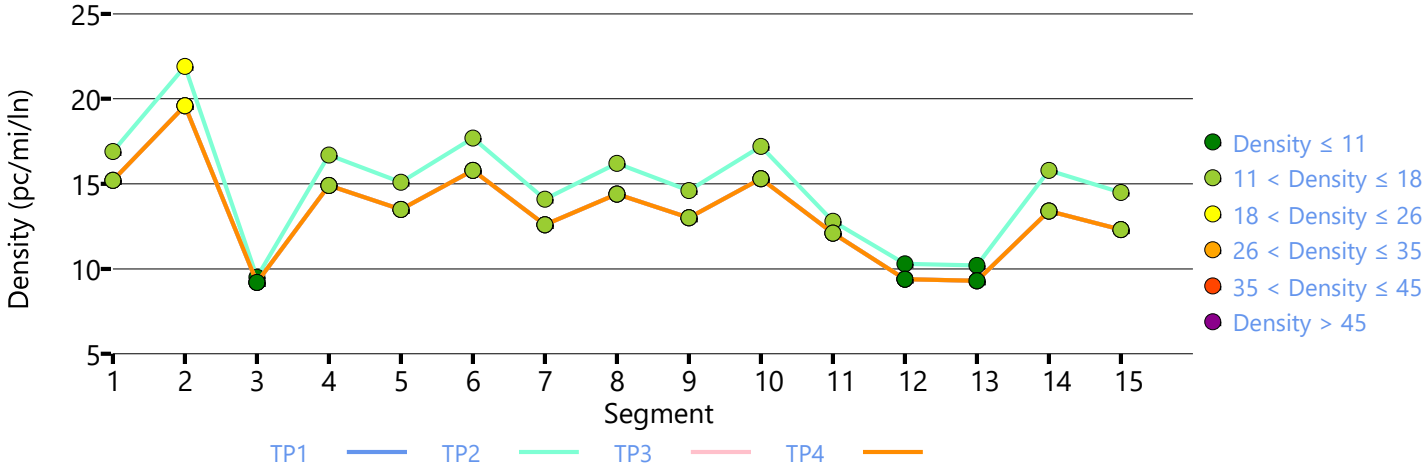
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	APS	Date	3/18/2022
Agency	Garver	Analysis Year	2045
Jurisdiction	ARDOT	Time Analyzed	AM Peak hour
Project Description	I-49 SB Action with Bella Vista Bypass	Units	U.S. Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	15
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	4.96		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	north of Hwy 71B	50	3
2	Diverge	Diverge	off-ramp to Hwy 71B	1500	3
3	Basic	Basic	between Hwy 71B ramps	2080	3
4	Merge	Merge	on-ramp from Hwy 71B	1500	3
5	Basic	Basic	between Hwy 71B and NE J St	4650	3
6	Diverge	Diverge	off-ramp to NE J St	1500	3
7	Basic	Basic	between NE J St ramps	850	3
8	Merge	Merge	on-ramp from NE J St	1500	3
9	Basic	Basic	between NE J St and Hwy 72	5165	3
10	Diverge	Diverge	off-ramp to Hwy 72	1500	3
11	Basic	Basic	between Hwy 72 off-ramp and loop on-ramp	1015	3
12	Merge	Merge	loop on-ramp from Hwy 72	1225	3
13	Overlap	Basic	between on-ramps from Hwy 72	275	3
14	Merge	Merge	on-ramp from Hwy 72	1225	3
15	Basic	Basic	between Hwy 72 and SE 8th St	2165	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.847	4747	6929	0.69	66.4	23.8	C
2	1.00	0.833	5493	6929	0.79	62.8	29.2	D
3	1.00	0.847	4747	6929	0.69	66.4	23.8	C
4	1.00	0.847	4747	6929	0.69	66.4	23.8	C

Segment 2: Diverge

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.847	0.667	4747	2115	6824	1839	0.70	1.15	50.6	50.1	45.0	32.6	F
2	1.00	1.00	0.833	0.667	5493	2559	6824	1839	0.80	1.39	50.6	49.1	45.0	36.8	F
3	1.00	1.00	0.847	0.667	4747	2115	6824	1839	0.70	1.15	50.6	50.1	45.0	32.6	F
4	1.00	1.00	0.847	0.667	4747	2115	6824	1839	0.70	1.15	50.6	50.1	45.0	32.6	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.980	2632	6929	0.38	67.6	12.8	B
2	1.00	0.980	3046	6929	0.42	67.6	14.8	B
3	1.00	0.980	2536	6929	0.38	67.6	12.3	B
4	1.00	0.980	2632	6929	0.38	67.6	12.8	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.980	0.847	4429	1797	6824	3678	0.65	0.49	61.2	59.6	24.1	21.1	C
2	1.00	1.00	0.980	0.847	5120	2074	6824	3678	0.75	0.56	59.5	57.7	28.7	24.9	C
3	1.00	1.00	0.980	0.847	4333	1797	6824	3678	0.63	0.49	61.3	59.7	23.6	20.6	C
4	1.00	1.00	0.980	0.847	4429	1797	6824	3678	0.65	0.49	61.2	59.6	24.1	21.1	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	4429	6929	0.64	67.4	21.9	C
2	1.00	0.926	5120	6929	0.72	64.8	26.3	D
3	1.00	0.926	4333	6929	0.64	67.6	21.4	C
4	1.00	0.926	4429	6929	0.64	67.4	21.9	C

Segment 6: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.926	4429	160	6824	1936	0.65	0.08	62.6	58.2	23.6	20.6	C
2	1.00	1.00	0.926	0.926	5120	178	6824	1936	0.75	0.09	62.5	58.2	27.3	23.7	C
3	1.00	1.00	0.926	0.926	4333	160	6824	1936	0.63	0.08	62.6	58.2	23.1	20.1	C
4	1.00	1.00	0.926	0.926	4429	160	6824	1936	0.65	0.08	62.6	58.2	23.6	20.6	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	4269	6929	0.62	67.7	21.0	C
2	1.00	0.926	4936	6929	0.70	65.6	25.1	C
3	1.00	0.926	4178	6929	0.62	67.7	20.5	C
4	1.00	0.926	4270	6929	0.62	67.7	21.0	C

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.926	4345	76	6824	1936	0.64	0.04	62.2	60.9	23.3	19.3	B
2	1.00	1.00	0.926	0.926	5020	84	6824	1936	0.74	0.04	61.4	60.1	27.3	22.6	C
3	1.00	1.00	0.926	0.926	4254	76	6824	1936	0.62	0.04	62.3	61.0	22.8	18.9	B
4	1.00	1.00	0.926	0.926	4346	76	6824	1936	0.64	0.04	62.2	60.9	23.3	19.3	B

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	4345	6929	0.63	67.6	21.4	C
2	1.00	0.926	5020	6929	0.71	65.3	25.6	C
3	1.00	0.926	4254	6929	0.63	67.8	20.9	C
4	1.00	0.926	4346	6929	0.63	67.6	21.4	C

Segment 10: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.980	4345	678	6824	1936	0.64	0.35	61.5	57.0	23.6	27.8	C
2	1.00	1.00	0.926	0.980	5020	907	6824	1936	0.74	0.47	60.9	56.4	27.5	31.2	D
3	1.00	1.00	0.926	0.980	4254	678	6824	1936	0.62	0.35	61.5	57.0	23.1	27.4	C
4	1.00	1.00	0.926	0.980	4346	678	6824	1936	0.64	0.35	61.5	57.0	23.6	27.8	C

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.909	3667	6929	0.54	67.7	17.8	B
2	1.00	0.909	4243	6929	0.58	67.6	20.9	C
3	1.00	0.909	3467	6929	0.54	67.7	16.8	B
4	1.00	0.909	3673	6929	0.54	67.7	17.8	B

Segment 12: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.909	0.962	4110	443	6824	1839	0.60	0.24	61.8	60.1	22.2	18.6	B
2	1.00	1.00	0.909	0.962	4762	519	6824	1839	0.70	0.28	61.0	59.3	26.0	21.9	C
3	1.00	1.00	0.909	0.962	3910	443	6824	1839	0.57	0.24	62.0	60.3	21.0	17.7	B
4	1.00	1.00	0.909	0.962	4116	443	6824	1839	0.60	0.24	61.8	60.1	22.2	18.7	B

Segment 13: Overlap

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	4110	6929	0.59	66.6	20.2	C
2	1.00	0.926	4762	6929	0.65	66.3	22.2	C

3	1.00	0.926	3910	6929	0.59	66.6	20.2	C
4	1.00	0.926	4116	6929	0.59	66.6	20.2	C

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.980	4947	837	6824	1936	0.72	0.43	60.8	59.1	27.1	25.4	C
2	1.00	1.00	0.926	0.980	5883	1121	6824	1936	0.86	0.58	58.5	56.3	33.5	30.6	D
3	1.00	1.00	0.926	0.980	4747	837	6824	1936	0.70	0.43	61.1	59.4	25.9	24.5	C
4	1.00	1.00	0.926	0.980	4953	837	6824	1936	0.73	0.43	60.8	59.1	27.2	25.5	C

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	4947	6929	0.72	65.6	25.1	C
2	1.00	0.926	5883	6929	0.82	60.3	32.5	D
3	1.00	0.926	4747	6929	0.72	66.4	23.8	C
4	1.00	0.926	4953	6929	0.72	65.6	25.2	C

Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	64.1	23.1	21.3	4.60	F
2	62.2	27.2	25.1	4.80	F
3	64.2	22.5	20.7	4.60	F
4	64.1	23.1	21.3	4.60	F

Facility Overall Results

Space Mean Speed, mi/h	63.6	Density, veh/mi/ln	22.1
Average Travel Time, min	4.70	Density, pc/mi/ln	24.0

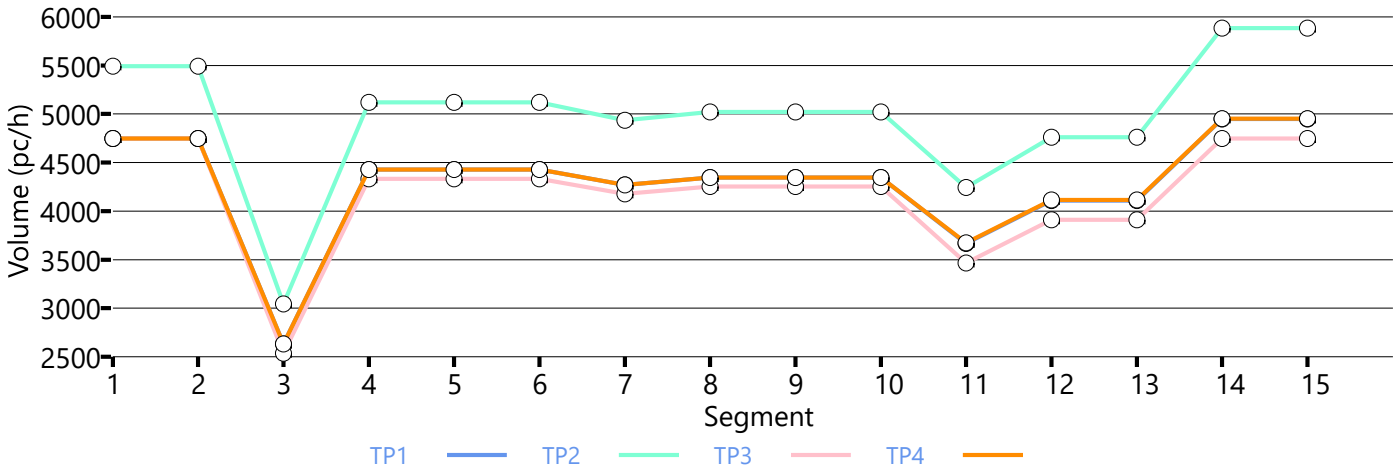
Messages

WARNING 1	Oversaturated conditions currently exist in boundary analysis period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary analysis period 4. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 3	Oversaturated conditions currently exist on segment 1, which is less than 300 feet. Due to time step size, these segments may produce unreliable results. Consider reviewing facility segmentation to resolve this warning.
WARNING 4	Oversaturated conditions currently exist on segment 13, which is less than 300 feet. Due to time step size, these segments may produce unreliable results. Consider reviewing facility segmentation to resolve this warning.
WARNING 5	Diverge capacity is less than diverge demand for analysis period 1 on segment 2. This may result in an off-ramp queue affecting the mainline flow. This is not currently modeled in HCM methodologies. Use caution when reviewing results.
WARNING 6	Diverge capacity is less than diverge demand for analysis period 2 on segment 2. This may result in an off-ramp queue affecting the mainline flow. This is not currently modeled in HCM methodologies. Use caution when reviewing results.

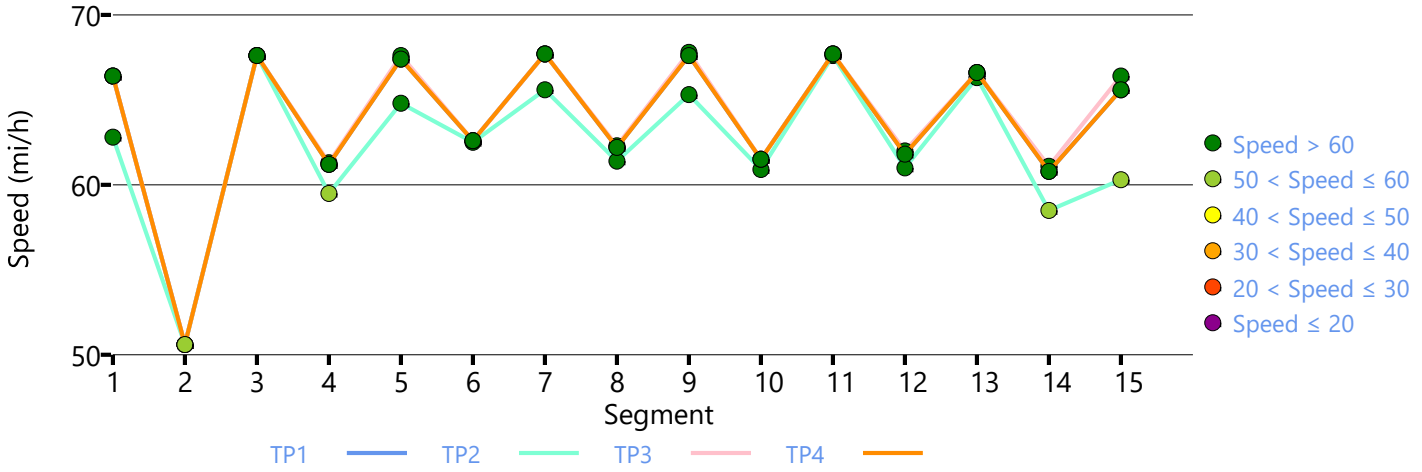
WARNING 7	Diverge capacity is less than diverge demand for analysis period 3 on segment 2. This may result in an off-ramp queue affecting the mainline flow. This is not currently modeled in HCM methodologies. Use caution when reviewing results.
WARNING 8	Diverge capacity is less than diverge demand for analysis period 4 on segment 2. This may result in an off-ramp queue affecting the mainline flow. This is not currently modeled in HCM methodologies. Use caution when reviewing results.

Comments

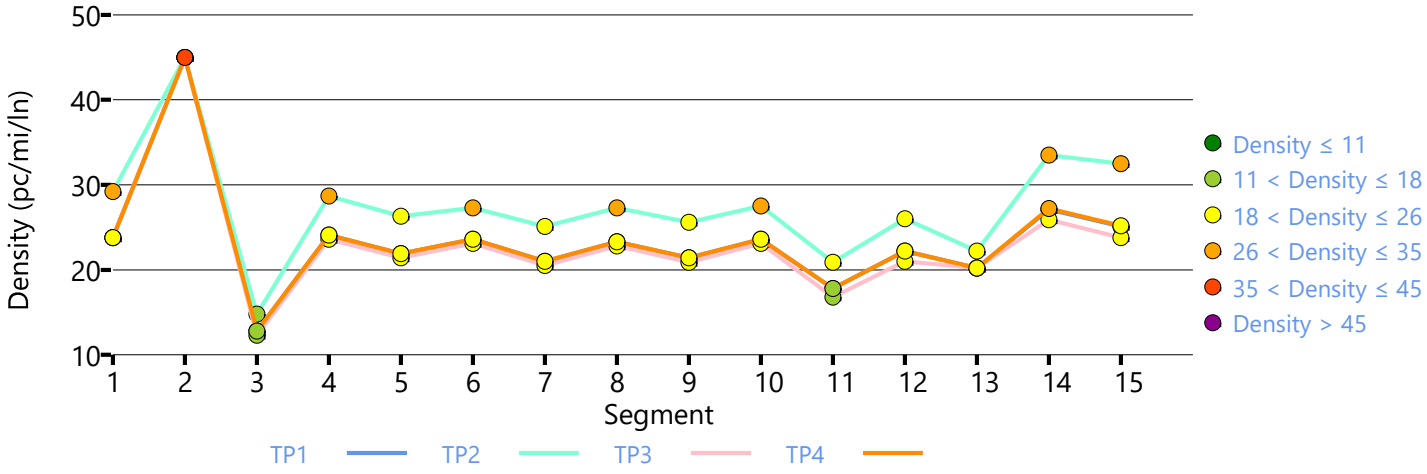
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	APS	Date	3/18/2022
Agency	Garver	Analysis Year	2045
Jurisdiction	ARDOT	Time Analyzed	PM Peak hour
Project Description	I-49 SB Action with Bella Vista Bypass	Units	U.S. Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	15
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	4.96		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	north of Hwy 71B	50	3
2	Diverge	Diverge	off-ramp to Hwy 71B	1500	3
3	Basic	Basic	between Hwy 71B ramps	2080	3
4	Merge	Merge	on-ramp from Hwy 71B	1500	3
5	Basic	Basic	between Hwy 71B and NE J St	4650	3
6	Diverge	Diverge	off-ramp to NE J St	1500	3
7	Basic	Basic	between NE J St ramps	850	3
8	Merge	Merge	on-ramp from NE J St	1500	3
9	Basic	Basic	between NE J St and Hwy 72	5165	3
10	Diverge	Diverge	off-ramp to Hwy 72	1500	3
11	Basic	Basic	between Hwy 72 off-ramp and loop on-ramp	1015	3
12	Merge	Merge	loop on-ramp from Hwy 72	1225	3
13	Overlap	Basic	between on-ramps from Hwy 72	275	3
14	Merge	Merge	on-ramp from Hwy 72	1225	3
15	Basic	Basic	between Hwy 72 and SE 8th St	2165	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.833	3088	6929	0.45	68.6	15.0	B
2	1.00	0.833	3394	6929	0.49	68.6	16.5	B
3	1.00	0.833	3088	6929	0.45	68.6	15.0	B
4	1.00	0.833	3088	6929	0.45	68.6	15.0	B

Segment 2: Diverge

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.833	0.658	3088	1164	6824	1839	0.45	0.63	56.4	52.4	18.3	22.5	C
2	1.00	1.00	0.833	0.658	3394	1432	6824	1839	0.50	0.78	55.7	51.8	20.3	24.7	C
3	1.00	1.00	0.833	0.658	3088	1164	6824	1839	0.45	0.63	56.4	52.4	18.3	22.5	C
4	1.00	1.00	0.833	0.658	3088	1164	6824	1839	0.45	0.63	56.4	52.4	18.3	22.5	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.926	1950	6929	0.28	67.9	9.5	A
2	1.00	0.962	1959	6929	0.28	67.9	9.5	A
3	1.00	0.926	1950	6929	0.28	67.9	9.5	A
4	1.00	0.926	1950	6929	0.28	67.9	9.5	A

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.926	0.685	2957	1007	6824	3678	0.43	0.27	63.1	61.5	15.6	12.2	B
2	1.00	1.00	0.962	0.685	3283	1324	6824	3678	0.48	0.36	62.7	61.2	17.5	14.6	B
3	1.00	1.00	0.926	0.685	2957	1007	6824	3678	0.43	0.27	63.1	61.5	15.6	12.2	B
4	1.00	1.00	0.926	0.685	2957	1007	6824	3678	0.43	0.27	63.1	61.5	15.6	12.2	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.847	2947	6929	0.43	68.6	14.3	B
2	1.00	0.847	3296	6929	0.48	68.6	16.0	B
3	1.00	0.847	2947	6929	0.43	68.6	14.3	B
4	1.00	0.847	2947	6929	0.43	68.6	14.3	B

Segment 6: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.847	0.847	2947	196	6824	1936	0.43	0.10	62.4	58.1	15.7	13.3	B
2	1.00	1.00	0.847	0.847	3296	220	6824	1936	0.48	0.11	62.5	58.1	17.6	15.2	B
3	1.00	1.00	0.847	0.847	2947	196	6824	1936	0.43	0.10	62.4	58.1	15.7	13.3	B
4	1.00	1.00	0.847	0.847	2947	196	6824	1936	0.43	0.10	62.4	58.1	15.7	13.3	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.847	2751	6929	0.40	67.7	13.4	B
2	1.00	0.847	3077	6929	0.44	67.7	15.0	B
3	1.00	0.847	2751	6929	0.40	67.7	13.4	B
4	1.00	0.847	2751	6929	0.40	67.7	13.4	B

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.847	0.847	2844	93	6824	1936	0.42	0.05	63.5	61.8	14.9	12.2	B
2	1.00	1.00	0.847	0.847	3181	104	6824	1936	0.47	0.05	63.3	61.7	16.8	13.9	B
3	1.00	1.00	0.847	0.847	2844	93	6824	1936	0.42	0.05	63.5	61.8	14.9	12.2	B
4	1.00	1.00	0.847	0.847	2844	93	6824	1936	0.42	0.05	63.5	61.8	14.9	12.2	B

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.847	2844	6929	0.41	68.6	13.8	B
2	1.00	0.847	3181	6929	0.46	68.6	15.5	B
3	1.00	0.847	2844	6929	0.41	68.6	13.8	B
4	1.00	0.847	2844	6929	0.41	68.6	13.8	B

Segment 10: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.847	0.980	2844	248	6824	1936	0.42	0.13	62.2	58.0	15.2	19.7	B
2	1.00	1.00	0.847	0.980	3181	433	6824	1936	0.47	0.22	61.9	57.6	17.1	21.8	C
3	1.00	1.00	0.847	0.980	2844	248	6824	1936	0.42	0.13	62.2	58.0	15.2	19.7	B
4	1.00	1.00	0.847	0.980	2844	248	6824	1936	0.42	0.13	62.2	58.0	15.2	19.7	B

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.833	2600	6929	0.38	67.8	12.6	B
2	1.00	0.833	2725	6929	0.39	67.7	13.2	B
3	1.00	0.833	2600	6929	0.38	67.8	12.6	B
4	1.00	0.833	2600	6929	0.38	67.8	12.6	B

Segment 12: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.833	0.980	2880	280	6824	1839	0.42	0.15	62.9	61.0	15.3	12.3	B
2	1.00	1.00	0.833	0.980	3093	368	6824	1839	0.45	0.20	62.7	60.9	16.4	13.6	B
3	1.00	1.00	0.833	0.980	2880	280	6824	1839	0.42	0.15	62.9	61.0	15.3	12.3	B
4	1.00	1.00	0.833	0.980	2880	280	6824	1839	0.42	0.15	62.9	61.0	15.3	12.3	B

Segment 13: Overlap

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.847	2881	6929	0.42	66.9	14.0	B
2	1.00	0.847	3106	6929	0.45	66.8	15.1	B

3	1.00	0.847	2881	6929	0.42	66.9	14.0	B
4	1.00	0.847	2881	6929	0.42	66.9	14.0	B

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.847	0.980	3964	1083	6824	1936	0.58	0.56	61.8	60.2	21.4	21.5	C
2	1.00	1.00	0.847	0.980	4582	1476	6824	1936	0.67	0.76	60.7	58.9	25.2	25.4	C
3	1.00	1.00	0.847	0.980	3964	1083	6824	1936	0.58	0.56	61.8	60.2	21.4	21.5	C
4	1.00	1.00	0.847	0.980	3964	1083	6824	1936	0.58	0.56	61.8	60.2	21.4	21.5	C

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	3992	6929	0.58	68.2	19.5	C
2	1.00	0.893	4566	6929	0.66	67.0	22.7	C
3	1.00	0.877	3992	6929	0.58	68.2	19.5	C
4	1.00	0.877	3992	6929	0.58	68.2	19.5	C

Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	65.5	15.0	12.8	4.50	B
2	65.2	16.8	14.5	4.60	B
3	65.5	15.0	12.8	4.50	B
4	65.5	15.0	12.8	4.50	B

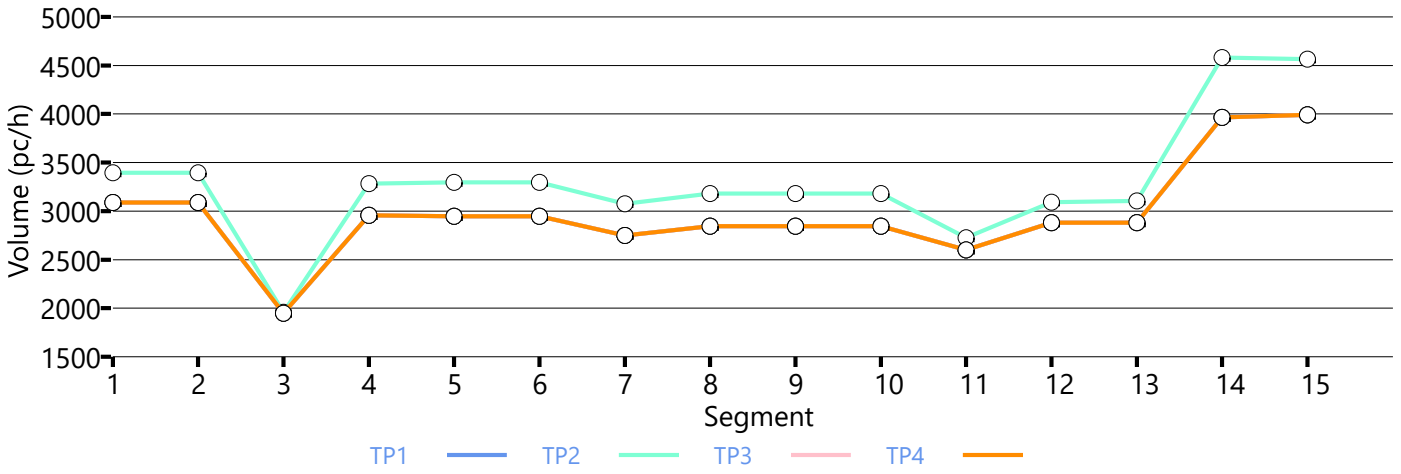
Facility Overall Results

Space Mean Speed, mi/h	65.4	Density, veh/mi/ln	13.3
Average Travel Time, min	4.50	Density, pc/mi/ln	15.4

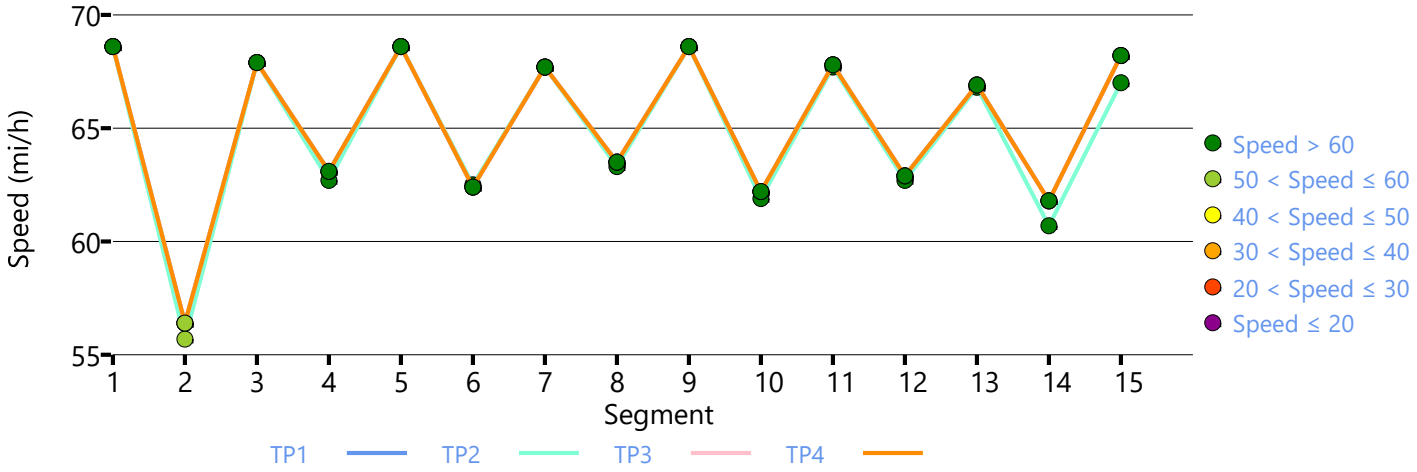
Messages

Comments

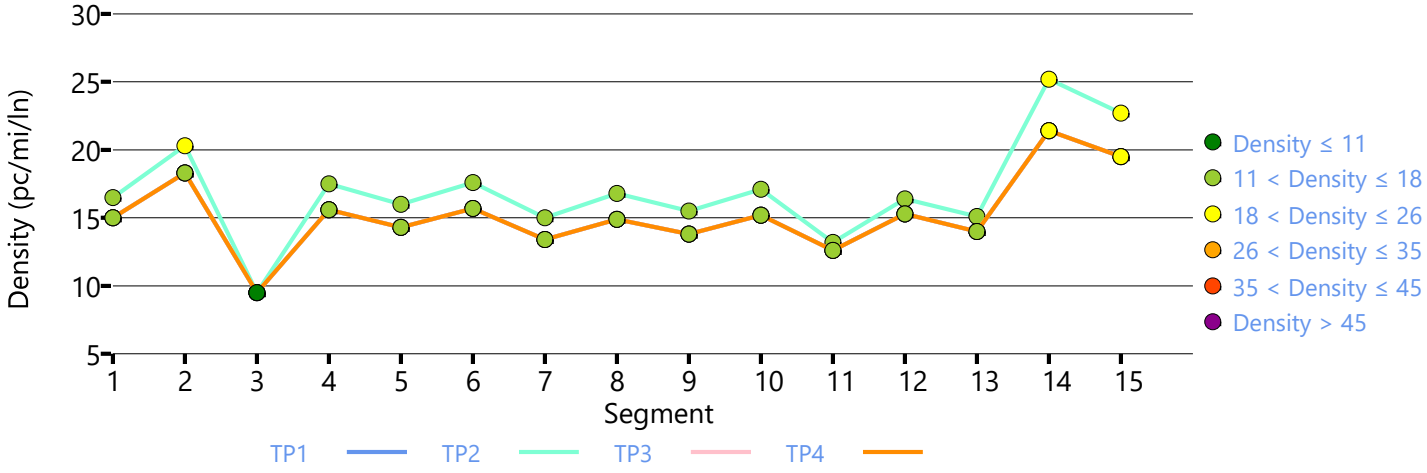
Volume Distribution



Speed Distribution



Density Distribution



Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	194	257	21	189	5	113	13	18	4	30	7
Future Vol, veh/h	13	194	257	21	189	5	113	13	18	4	30	7
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	211	279	23	205	5	123	14	20	4	33	8
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	15.7	11	11.2	9.7
HCM LOS	C	B	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	3%	10%	10%
Vol Thru, %	0%	42%	42%	88%	73%
Vol Right, %	0%	58%	55%	2%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	113	31	464	215	41
LT Vol	113	0	13	21	4
Through Vol	0	13	194	189	30
RT Vol	0	18	257	5	7
Lane Flow Rate	123	34	504	234	45
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.235	0.056	0.647	0.34	0.076
Departure Headway (Hd)	6.894	5.972	4.621	5.233	6.107
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	521	599	787	687	586
Service Time	4.635	3.712	2.621	3.268	4.156
HCM Lane V/C Ratio	0.236	0.057	0.64	0.341	0.077
HCM Control Delay	11.8	9.1	15.7	11	9.7
HCM Lane LOS	B	A	C	B	A
HCM 95th-tile Q	0.9	0.2	4.8	1.5	0.2

3: NE J St & Tiger Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.6	0.5	0.4	0.3	0.2	0.2	0.6	0.1	0.1	0.2	0.2	0.1
Total Delay (hr)	0.0	0.7	0.6	0.0	0.5	0.0	0.2	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	10.4	12.7	8.8	7.2	9.6	5.1	6.2	7.7	2.6	6.3	8.1	3.6
Stop Delay (hr)	0.0	0.2	0.3	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Stop Del/Veh (s)	4.5	4.2	4.2	3.7	3.5	2.5	3.4	3.1	2.6	4.1	3.6	3.0
Total Stops	11	200	256	17	195	5	113	15	19	4	34	7
Stop/Veh	1.00	0.98	0.98	0.94	0.99	1.00	0.98	1.00	1.00	1.00	1.00	0.88
Travel Dist (mi)	6.0	109.1	140.2	10.5	118.3	3.0	54.3	7.2	9.0	1.9	15.5	3.4
Travel Time (hr)	0.2	3.9	5.0	0.4	3.9	0.1	1.8	0.2	0.3	0.1	0.5	0.1
Avg Speed (mph)	28	28	28	30	30	31	30	30	31	28	30	30
Vehicles Entered	11	199	257	17	192	5	112	15	19	4	33	8
Vehicles Exited	11	200	255	17	195	5	113	15	19	4	34	7
Hourly Exit Rate	11	200	255	17	195	5	113	15	19	4	34	7
Input Volume	13	194	257	21	189	5	113	13	18	4	30	7
% of Volume	83	103	99	82	103	100	100	113	107	100	113	97
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0
Density (ft/veh)												
Occupancy (veh)	0	4	5	0	4	0	2	0	0	0	1	0

3: NE J St & Tiger Blvd Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.4
Total Delay (hr)	2.3
Total Del/Veh (s)	9.3
Stop Delay (hr)	1.0
Stop Del/Veh (s)	3.8
Total Stops	876
Stop/Veh	0.98
Travel Dist (mi)	478.5
Travel Time (hr)	16.6
Avg Speed (mph)	29
Vehicles Entered	872
Vehicles Exited	875
Hourly Exit Rate	875
Input Volume	865
% of Volume	101
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	828
Occupancy (veh)	16

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.4
Total Delay (hr)	3.1
Total Del/Veh (s)	12.2
Stop Delay (hr)	1.1
Stop Del/Veh (s)	4.2
Total Stops	876
Stop/Veh	0.97
Travel Dist (mi)	957.2
Travel Time (hr)	31.6
Avg Speed (mph)	30
Vehicles Entered	872
Vehicles Exited	875
Hourly Exit Rate	875
Input Volume	1730
% of Volume	51
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	432
Occupancy (veh)	32

Intersection: 3: NE J St & Tiger Blvd

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	148	81	84	39	67
Average Queue (ft)	74	48	37	19	26
95th Queue (ft)	114	73	61	42	54
Link Distance (ft)	2882	3227		2540	2447
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			330		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Intersection Delay, s/veh	17.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	203	205	15	281	6	247	17	15	2	20	14
Future Vol, veh/h	12	203	205	15	281	6	247	17	15	2	20	14
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	221	223	16	305	7	268	18	16	2	22	15
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	19.5	15.6	17.2	10.5
HCM LOS	C	C	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	3%	5%	6%
Vol Thru, %	0%	53%	48%	93%	56%
Vol Right, %	0%	47%	49%	2%	39%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	247	32	420	302	36
LT Vol	247	0	12	15	2
Through Vol	0	17	203	281	20
RT Vol	0	15	205	6	14
Lane Flow Rate	268	35	457	328	39
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.539	0.062	0.685	0.535	0.075
Departure Headway (Hd)	7.227	6.382	5.403	5.862	6.937
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	497	558	662	611	520
Service Time	5.008	4.162	3.483	3.948	4.937
HCM Lane V/C Ratio	0.539	0.063	0.69	0.537	0.075
HCM Control Delay	18.2	9.6	19.5	15.6	10.5
HCM Lane LOS	C	A	C	C	B
HCM 95th-tile Q	3.2	0.2	5.4	3.2	0.2

3: NE J St & Tiger Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.4	0.4	0.4	0.4	0.3	0.2	0.6	0.4	0.4	0.1	0.1	0.1
Total Delay (hr)	0.0	0.7	0.5	0.0	0.9	0.0	0.6	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	10.3	12.7	8.9	10.2	11.3	6.3	8.8	9.2	3.9	2.7	9.1	3.6
Stop Delay (hr)	0.0	0.3	0.3	0.0	0.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Stop Del/Veh (s)	4.9	5.1	4.6	5.3	4.5	4.2	4.9	3.5	2.7	1.8	4.7	3.4
Total Stops	11	207	204	14	284	6	243	19	16	1	20	15
Stop/Veh	1.00	0.98	0.98	1.00	0.97	1.00	0.98	1.00	1.00	1.00	1.00	1.00
Travel Dist (mi)	6.1	113.5	111.7	8.3	173.9	3.8	117.0	9.2	7.8	0.3	9.3	6.8
Travel Time (hr)	0.2	4.1	4.0	0.3	5.9	0.1	4.2	0.3	0.3	0.0	0.3	0.2
Avg Speed (mph)	28	28	28	29	29	29	28	29	30	30	29	30
Vehicles Entered	11	208	205	13	285	6	244	19	16	1	20	15
Vehicles Exited	11	208	204	14	285	6	243	19	16	1	20	15
Hourly Exit Rate	11	208	204	14	285	6	243	19	16	1	20	15
Input Volume	12	203	205	15	281	6	247	17	15	2	20	14
% of Volume	90	102	100	92	101	96	98	110	105	50	101	105
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0
Density (ft/veh)												
Occupancy (veh)	0	4	4	0	6	0	4	0	0	0	0	0

3: NE J St & Tiger Blvd Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.4
Total Delay (hr)	3.0
Total Del/Veh (s)	10.2
Stop Delay (hr)	1.4
Stop Del/Veh (s)	4.7
Total Stops	1040
Stop/Veh	0.98
Travel Dist (mi)	567.6
Travel Time (hr)	19.9
Avg Speed (mph)	29
Vehicles Entered	1043
Vehicles Exited	1042
Hourly Exit Rate	1042
Input Volume	1038
% of Volume	100
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	690
Occupancy (veh)	20

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.4
Total Delay (hr)	4.1
Total Del/Veh (s)	13.7
Stop Delay (hr)	1.5
Stop Del/Veh (s)	5.1
Total Stops	1040
Stop/Veh	0.96
Travel Dist (mi)	1142.5
Travel Time (hr)	38.1
Avg Speed (mph)	30
Vehicles Entered	1043
Vehicles Exited	1039
Hourly Exit Rate	1039
Input Volume	2076
% of Volume	50
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	359
Occupancy (veh)	38

Intersection: 3: NE J St & Tiger Blvd

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	143	109	121	44	48
Average Queue (ft)	74	60	58	21	22
95th Queue (ft)	119	91	98	43	46
Link Distance (ft)	2882	3227		2540	2447
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			330		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Intersection Delay, s/veh	79.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	306	405	34	298	8	179	21	29	6	47	11
Future Vol, veh/h	21	306	405	34	298	8	179	21	29	6	47	11
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	333	440	37	324	9	195	23	32	7	51	12
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	132.2	20.4	15.9	12.7
HCM LOS	F	C	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	3%	10%	9%
Vol Thru, %	0%	42%	42%	88%	73%
Vol Right, %	0%	58%	55%	2%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	179	50	732	340	64
LT Vol	179	0	21	34	6
Through Vol	0	21	306	298	47
RT Vol	0	29	405	8	11
Lane Flow Rate	195	54	796	370	70
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.426	0.106	1.22	0.638	0.147
Departure Headway (Hd)	8.473	7.537	5.52	6.573	8.244
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	428	478	660	554	438
Service Time	6.173	5.237	3.542	4.573	6.244
HCM Lane V/C Ratio	0.456	0.113	1.206	0.668	0.16
HCM Control Delay	17.3	11.1	132.2	20.4	12.7
HCM Lane LOS	C	B	F	C	B
HCM 95th-tile Q	2.1	0.4	28.3	4.5	0.5

3: NE J St & Tiger Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.9	0.7	0.7	0.3	0.3	0.1	0.6	0.3	0.2	0.1	0.1	0.2
Total Delay (hr)	0.2	4.2	4.7	0.1	1.1	0.0	0.4	0.1	0.0	0.0	0.1	0.0
Total Del/Veh (s)	41.8	46.3	41.5	10.5	12.4	9.1	8.2	8.4	3.9	6.0	9.8	5.0
Stop Delay (hr)	0.2	3.5	4.3	0.1	0.4	0.0	0.2	0.0	0.0	0.0	0.1	0.0
Stop Del/Veh (s)	36.4	39.1	37.5	5.7	5.2	5.4	4.8	3.7	3.1	3.9	5.1	4.1
Total Stops	20	318	401	35	303	6	181	21	31	5	48	12
Stop/Veh	1.00	0.98	0.98	0.97	0.98	1.00	0.99	0.91	0.97	1.00	1.00	1.00
Travel Dist (mi)	10.6	173.3	218.7	21.4	186.1	3.8	86.5	10.4	15.1	2.2	22.2	5.3
Travel Time (hr)	0.6	9.2	11.5	0.8	6.5	0.1	3.0	0.4	0.5	0.1	0.8	0.2
Avg Speed (mph)	19	19	19	29	29	30	29	30	30	29	29	29
Vehicles Entered	19	317	400	35	304	6	179	22	31	5	48	11
Vehicles Exited	19	317	397	35	303	6	181	21	31	5	48	12
Hourly Exit Rate	19	317	397	35	303	6	181	21	31	5	48	12
Input Volume	21	306	405	34	298	8	179	21	29	6	47	11
% of Volume	92	104	98	103	102	73	101	101	107	80	102	107
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0
Density (ft/veh)												
Occupancy (veh)	1	9	11	1	6	0	3	0	0	0	1	0

3: NE J St & Tiger Blvd Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.6
Total Delay (hr)	11.0
Total Del/Veh (s)	28.1
Stop Delay (hr)	8.9
Stop Del/Veh (s)	22.7
Total Stops	1381
Stop/Veh	0.98
Travel Dist (mi)	755.7
Travel Time (hr)	33.6
Avg Speed (mph)	23
Vehicles Entered	1377
Vehicles Exited	1375
Hourly Exit Rate	1375
Input Volume	1365
% of Volume	101
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	409
Occupancy (veh)	33

Total Network Performance

Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.6
Total Delay (hr)	12.4
Total Del/Veh (s)	31.2
Stop Delay (hr)	9.1
Stop Del/Veh (s)	22.9
Total Stops	1381
Stop/Veh	0.97
Travel Dist (mi)	1508.0
Travel Time (hr)	57.4
Avg Speed (mph)	26
Vehicles Entered	1377
Vehicles Exited	1371
Hourly Exit Rate	1371
Input Volume	2730
% of Volume	50
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	238
Occupancy (veh)	57

Intersection: 3: NE J St & Tiger Blvd

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	708	127	92	67	66
Average Queue (ft)	309	67	50	28	30
95th Queue (ft)	651	105	79	50	58
Link Distance (ft)	2882	3227		2540	2447
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			330		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Intersection Delay, s/veh	137.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	320	323	24	442	10	389	27	24	3	32	23
Future Vol, veh/h	19	320	323	24	442	10	389	27	24	3	32	23
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	348	351	26	480	11	423	29	26	3	35	25
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	226.4	91.9	67.6	16.2
HCM LOS	F	F	F	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	3%	5%	5%
Vol Thru, %	0%	53%	48%	93%	55%
Vol Right, %	0%	47%	49%	2%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	389	51	662	476	58
LT Vol	389	0	19	24	3
Through Vol	0	27	320	442	32
RT Vol	0	24	323	10	23
Lane Flow Rate	423	55	720	517	63
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.992	0.117	1.431	1.07	0.164
Departure Headway (Hd)	9.356	8.491	7.393	8.235	11.056
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	393	425	497	445	327
Service Time	7.056	6.191	5.393	6.235	9.056
HCM Lane V/C Ratio	1.076	0.129	1.449	1.162	0.193
HCM Control Delay	74.9	12.3	226.4	91.9	16.2
HCM Lane LOS	F	B	F	F	C
HCM 95th-tile Q	11.8	0.4	33.9	15.3	0.6

3: NE J St & Tiger Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.8	0.6	0.6	0.3	0.4	0.3	0.8	0.5	0.5	0.3	0.2	0.2
Total Delay (hr)	0.5	9.9	9.1	0.2	4.9	0.1	2.7	0.1	0.0	0.0	0.1	0.0
Total Del/Veh (s)	106.8	108.5	101.9	36.2	39.0	39.2	23.3	11.2	6.5	9.2	11.2	5.8
Stop Delay (hr)	0.5	9.8	9.3	0.2	4.1	0.1	2.1	0.0	0.0	0.0	0.1	0.0
Stop Del/Veh (s)	108.3	108.0	104.7	32.4	32.3	35.5	18.5	4.7	3.9	6.2	6.7	5.2
Total Stops	18	321	313	20	442	10	407	26	22	3	31	25
Stop/Veh	1.00	0.98	0.98	0.95	0.98	1.00	0.98	1.00	0.96	1.00	1.00	1.00
Travel Dist (mi)	9.5	172.9	169.1	12.6	270.3	6.1	195.4	12.4	10.8	1.5	14.2	11.4
Travel Time (hr)	0.8	14.9	14.3	0.6	12.7	0.3	8.6	0.4	0.4	0.1	0.5	0.4
Avg Speed (mph)	12	12	12	21	21	21	23	28	29	28	28	29
Vehicles Entered	17	318	313	21	442	10	406	26	23	3	31	24
Vehicles Exited	17	309	301	20	443	10	405	26	22	3	31	25
Hourly Exit Rate	17	309	301	20	443	10	405	26	22	3	31	25
Input Volume	19	320	323	24	442	10	389	27	24	3	32	23
% of Volume	91	96	93	84	100	98	104	97	93	100	97	110
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0
Density (ft/veh)												
Occupancy (veh)	1	15	14	1	13	0	9	0	0	0	1	0

3: NE J St & Tiger Blvd Performance by movement

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.6
Total Delay (hr)	27.7
Total Del/Veh (s)	59.5
Stop Delay (hr)	26.4
Stop Del/Veh (s)	56.7
Total Stops	1638
Stop/Veh	0.98
Travel Dist (mi)	886.3
Travel Time (hr)	54.1
Avg Speed (mph)	16
Vehicles Entered	1634
Vehicles Exited	1612
Hourly Exit Rate	1612
Input Volume	1636
% of Volume	99
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	253
Occupancy (veh)	54

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.6
Total Delay (hr)	29.7
Total Del/Veh (s)	62.9
Stop Delay (hr)	26.7
Stop Del/Veh (s)	56.6
Total Stops	1638
Stop/Veh	0.96
Travel Dist (mi)	1778.1
Travel Time (hr)	82.7
Avg Speed (mph)	22
Vehicles Entered	1634
Vehicles Exited	1610
Hourly Exit Rate	1610
Input Volume	3271
% of Volume	49
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	165
Occupancy (veh)	82

Intersection: 3: NE J St & Tiger Blvd

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	1056	430	256	56	63
Average Queue (ft)	572	182	124	27	29
95th Queue (ft)	1179	379	224	53	55
Link Distance (ft)	2882	3227		2540	2447
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			330		
Storage Blk Time (%)			0		
Queuing Penalty (veh)			0		

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Intersection Delay, s/veh	15.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	167	222	16	139	21	88	56	14	18	133	32
Future Vol, veh/h	56	167	222	16	139	21	88	56	14	18	133	32
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	182	241	17	151	23	96	61	15	20	145	35
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	19.3	11.6	11.2	12.4
HCM LOS	C	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	13%	9%	100%	0%
Vol Thru, %	0%	80%	38%	79%	0%	81%
Vol Right, %	0%	20%	50%	12%	0%	19%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	88	70	445	176	18	165
LT Vol	88	0	56	16	18	0
Through Vol	0	56	167	139	0	133
RT Vol	0	14	222	21	0	32
Lane Flow Rate	96	76	484	191	20	179
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.194	0.14	0.696	0.311	0.039	0.328
Departure Headway (Hd)	7.283	6.627	5.177	5.859	7.228	6.577
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	490	538	697	608	493	543
Service Time	5.067	4.411	3.24	3.942	5.01	4.358
HCM Lane V/C Ratio	0.196	0.141	0.694	0.314	0.041	0.33
HCM Control Delay	11.8	10.5	19.3	11.6	10.3	12.6
HCM Lane LOS	B	B	C	B	B	B
HCM 95th-tile Q	0.7	0.5	5.6	1.3	0.1	1.4

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	96	0	81	46	0	41
Future Vol, veh/h	96	0	81	46	0	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	200	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	104	0	88	50	0	45

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	136	69	0	0	88	0
Stage 1	113	-	-	-	-	-
Stage 2	23	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	844	980	-	-	1506	-
Stage 1	899	-	-	-	-	-
Stage 2	996	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	844	980	-	-	1506	-
Mov Cap-2 Maneuver	844	-	-	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	996	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	844	-	1506	-
HCM Lane V/C Ratio	-	-	0.124	-	-	-
HCM Control Delay (s)	-	-	9.9	0	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0.4	-	0	-

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	0	0	81	0	0
Future Vol, veh/h	41	0	0	81	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	200	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	0	0	88	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	45	44	0	0	0	0
Stage 1	44	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	960	1017	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	960	1017	-	-	-	-
Mov Cap-2 Maneuver	960	-	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	960	-	-	-
HCM Lane V/C Ratio	-	-	0.046	-	-	-
HCM Control Delay (s)	-	-	8.9	0	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	109	70	57	76	63	74
Future Vol, veh/h	109	70	57	76	63	74
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	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	118	76	62	83	68	80

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	280	73	0	0	145	0
Stage 1	104	-	-	-	-	-
Stage 2	176	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	687	974	-	-	1435	-
Stage 1	909	-	-	-	-	-
Stage 2	837	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	655	974	-	-	1435	-
Mov Cap-2 Maneuver	655	-	-	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	798	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	3.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	751	1435	-
HCM Lane V/C Ratio	-	-	0.259	0.048	-
HCM Control Delay (s)	-	-	11.5	7.6	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	1	0.1	-

3: NE J St & Tiger Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.4	0.3	0.2	0.2	0.2	0.6	0.3	0.2	0.0	0.0	0.0
Total Delay (hr)	0.2	0.7	0.6	0.0	0.3	0.0	0.2	0.1	0.0	0.0	0.4	0.0
Total Del/Veh (s)	12.3	14.3	9.6	7.0	9.2	4.8	6.4	9.0	3.8	6.1	9.6	5.0
Stop Delay (hr)	0.1	0.3	0.3	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.2	0.0
Stop Del/Veh (s)	6.7	6.3	5.4	4.0	3.7	3.1	3.7	3.6	2.9	3.5	4.5	3.9
Total Stops	57	170	215	15	133	23	87	57	14	22	131	34
Stop/Veh	0.98	0.98	0.98	1.00	0.97	1.00	0.98	0.98	1.00	1.00	0.97	1.00
Travel Dist (mi)	31.0	92.6	117.4	9.3	81.9	13.9	41.9	27.6	6.7	6.0	36.0	9.2
Travel Time (hr)	1.1	3.4	4.2	0.3	2.7	0.5	1.4	0.9	0.2	0.2	1.4	0.3
Avg Speed (mph)	27	28	28	30	30	31	29	29	31	27	26	26
Vehicles Entered	56	170	216	15	134	23	86	58	14	22	132	34
Vehicles Exited	57	170	214	15	133	23	87	57	14	22	133	34
Hourly Exit Rate	57	170	214	15	133	23	87	57	14	22	133	34
Input Volume	56	167	222	16	139	21	88	56	14	18	134	32
% of Volume	102	102	96	92	96	111	99	102	98	124	99	106
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0
Density (ft/veh)												
Occupancy (veh)	1	3	4	0	3	0	1	1	0	0	1	0

3: NE J St & Tiger Blvd Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.3
Total Delay (hr)	2.6
Total Del/Veh (s)	9.7
Stop Delay (hr)	1.3
Stop Del/Veh (s)	4.8
Total Stops	958
Stop/Veh	0.98
Travel Dist (mi)	473.5
Travel Time (hr)	16.8
Avg Speed (mph)	28
Vehicles Entered	960
Vehicles Exited	959
Hourly Exit Rate	959
Input Volume	963
% of Volume	100
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	841
Occupancy (veh)	17

8: NE J St & I-49 SB Ramps Performance by movement

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.1
Total Delay (hr)	0.1	0.1	0.1	0.0	0.2
Total Del/Veh (s)	4.7	2.6	4.2	0.7	3.4
Stop Delay (hr)	0.1	0.0	0.0	0.0	0.1
Stop Del/Veh (s)	3.0	0.1	0.1	0.2	1.1
Total Stops	91	0	0	0	91
Stop/Veh	0.99	0.00	0.00	0.00	0.35
Travel Dist (mi)	11.9	20.1	10.4	8.9	51.3
Travel Time (hr)	0.6	0.6	0.4	0.3	1.9
Avg Speed (mph)	19	31	28	29	27
Vehicles Entered	91	82	46	40	259
Vehicles Exited	91	82	46	40	259
Hourly Exit Rate	91	82	46	40	259
Input Volume	96	81	46	41	264
% of Volume	95	101	99	97	98
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)					3828
Occupancy (veh)	1	1	0	0	2

10: NE J St & I-49 NB Ramps Performance by movement

Movement	WBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.1
Total Delay (hr)	0.0	0.1	0.1
Total Del/Veh (s)	4.0	2.7	3.2
Stop Delay (hr)	0.0	0.0	0.0
Stop Del/Veh (s)	2.4	0.0	0.8
Total Stops	40	0	40
Stop/Veh	0.98	0.00	0.33
Travel Dist (mi)	5.5	16.7	22.2
Travel Time (hr)	0.3	0.6	0.8
Avg Speed (mph)	20	29	26
Vehicles Entered	41	82	123
Vehicles Exited	40	82	122
Hourly Exit Rate	40	82	122
Input Volume	41	81	122
% of Volume	97	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0
Density (ft/veh)			6361
Occupancy (veh)	0	1	1

12: NE J St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.0	0.0	0.1
Total Delay (hr)	0.3	0.1	0.0	0.0	0.1	0.0	0.5
Total Del/Veh (s)	8.2	7.0	0.3	0.3	4.0	0.5	3.8
Stop Delay (hr)	0.1	0.1	0.0	0.0	0.0	0.0	0.2
Stop Del/Veh (s)	4.1	2.9	0.0	0.0	0.5	0.2	1.6
Total Stops	115	69	0	0	7	0	191
Stop/Veh	0.99	1.00	0.00	0.00	0.12	0.00	0.42
Travel Dist (mi)	29.7	17.8	11.0	15.1	14.4	18.4	106.4
Travel Time (hr)	1.3	0.7	0.4	0.5	0.6	0.7	4.1
Avg Speed (mph)	24	24	29	29	25	28	26
Vehicles Entered	114	68	59	79	58	74	452
Vehicles Exited	115	69	59	80	58	74	455
Hourly Exit Rate	115	69	59	80	58	74	455
Input Volume	109	70	57	76	63	75	450
% of Volume	106	99	104	105	92	99	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0
Density (ft/veh)							1766
Occupancy (veh)	1	1	0	1	1	1	4

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.3
Total Delay (hr)	4.6
Total Del/Veh (s)	14.5
Stop Delay (hr)	1.8
Stop Del/Veh (s)	5.6
Total Stops	1280
Stop/Veh	1.13
Travel Dist (mi)	1270.0
Travel Time (hr)	43.9
Avg Speed (mph)	29
Vehicles Entered	1089
Vehicles Exited	1091
Hourly Exit Rate	1091
Input Volume	3526
% of Volume	31
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	920
Occupancy (veh)	44

Intersection: 3: NE J St & Tiger Blvd

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	197	82	66	70	35	84
Average Queue (ft)	86	48	34	32	17	47
95th Queue (ft)	146	72	55	58	41	74
Link Distance (ft)	2883	3227		2540		1401
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			330		120	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 8: NE J St & I-49 SB Ramps

Movement	WB
Directions Served	L
Maximum Queue (ft)	63
Average Queue (ft)	33
95th Queue (ft)	50
Link Distance (ft)	686
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: NE J St & I-49 NB Ramps

Movement	WB
Directions Served	L
Maximum Queue (ft)	50
Average Queue (ft)	23
95th Queue (ft)	47
Link Distance (ft)	712
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: NE J St

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	93	36
Average Queue (ft)	46	6
95th Queue (ft)	74	27
Link Distance (ft)	1366	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Intersection Delay, s/veh	22.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	181	183	13	246	24	248	69	15	9	87	61
Future Vol, veh/h	49	181	183	13	246	24	248	69	15	9	87	61
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	197	199	14	267	26	270	75	16	10	95	66
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	29.2	19.2	19.3	14.3
HCM LOS	D	C	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	12%	5%	100%	0%
Vol Thru, %	0%	82%	44%	87%	0%	59%
Vol Right, %	0%	18%	44%	8%	0%	41%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	248	84	413	283	9	148
LT Vol	248	0	49	13	9	0
Through Vol	0	69	181	246	0	87
RT Vol	0	15	183	24	0	61
Lane Flow Rate	270	91	449	308	10	161
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.595	0.185	0.789	0.584	0.023	0.347
Departure Headway (Hd)	7.951	7.307	6.326	6.834	8.574	7.756
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	450	488	570	523	420	467
Service Time	5.748	5.102	4.411	4.932	6.274	5.456
HCM Lane V/C Ratio	0.6	0.186	0.788	0.589	0.024	0.345
HCM Control Delay	21.9	11.8	29.2	19.2	11.5	14.5
HCM Lane LOS	C	B	D	C	B	B
HCM 95th-tile Q	3.8	0.7	7.5	3.7	0.1	1.5

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	108	0	91	51	0	46
Future Vol, veh/h	108	0	91	51	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	200	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	117	0	99	55	0	50

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	152	77	0	0	99	0
Stage 1	127	-	-	-	-	-
Stage 2	25	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	825	968	-	-	1492	-
Stage 1	885	-	-	-	-	-
Stage 2	994	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	825	968	-	-	1492	-
Mov Cap-2 Maneuver	825	-	-	-	-	-
Stage 1	885	-	-	-	-	-
Stage 2	994	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	825	-	1492	-
HCM Lane V/C Ratio	-	-	0.142	-	-	-
HCM Control Delay (s)	-	-	10.1	0	0	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.5	-	0	-

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	46	0	0	91	0	0
Future Vol, veh/h	46	0	0	91	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	200	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	0	0	99	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	51	50	0	0	0	0
Stage 1	50	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	952	1008	-	-	-	-
Stage 1	966	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	952	1008	-	-	-	-
Mov Cap-2 Maneuver	952	-	-	-	-	-
Stage 1	966	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	952	-	-	-
HCM Lane V/C Ratio	-	-	0.053	-	-	-
HCM Control Delay (s)	-	-	9	0	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	-	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	68	52	91	52	65	89
Future Vol, veh/h	68	52	91	52	65	89
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	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	74	57	99	57	71	97

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	319	78	0	0	156	0
Stage 1	128	-	-	-	-	-
Stage 2	191	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	649	967	-	-	1422	-
Stage 1	884	-	-	-	-	-
Stage 2	822	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	617	967	-	-	1422	-
Mov Cap-2 Maneuver	617	-	-	-	-	-
Stage 1	884	-	-	-	-	-
Stage 2	781	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	3.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	732	1422	-
HCM Lane V/C Ratio	-	-	0.178	0.05	-
HCM Control Delay (s)	-	-	11	7.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.2	-

3: NE J St & Tiger Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.4	0.4	0.4	0.3	0.3	0.3	0.7	0.4	0.4	0.0	0.0	0.0
Total Delay (hr)	0.2	0.8	0.6	0.0	1.0	0.1	0.8	0.2	0.0	0.0	0.3	0.1
Total Del/Veh (s)	14.4	14.6	11.2	10.2	13.4	8.5	11.2	9.8	5.8	5.4	10.7	6.6
Stop Delay (hr)	0.1	0.4	0.4	0.0	0.5	0.0	0.5	0.1	0.0	0.0	0.1	0.1
Stop Del/Veh (s)	8.4	7.3	7.1	6.2	6.8	5.2	7.0	4.2	3.8	3.3	5.9	5.6
Total Stops	49	187	184	14	261	23	239	72	15	7	84	64
Stop/Veh	0.96	0.98	0.98	1.00	0.98	0.96	0.98	0.99	1.00	1.00	0.98	1.00
Travel Dist (mi)	27.2	102.0	100.3	8.3	159.1	14.1	114.8	34.6	7.2	2.0	23.2	17.7
Travel Time (hr)	1.0	3.7	3.7	0.3	5.6	0.5	4.2	1.2	0.2	0.1	0.9	0.7
Avg Speed (mph)	27	27	27	28	29	29	27	29	29	28	25	25
Vehicles Entered	50	187	184	14	260	23	238	72	15	7	85	64
Vehicles Exited	49	187	184	13	261	23	239	72	15	7	84	63
Hourly Exit Rate	49	187	184	13	261	23	239	72	15	7	84	63
Input Volume	49	181	183	13	246	24	248	69	15	9	87	61
% of Volume	99	103	100	98	106	97	96	104	98	76	97	104
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0
Density (ft/veh)												
Occupancy (veh)	1	4	4	0	6	0	4	1	0	0	1	1

3: NE J St & Tiger Blvd Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.4
Total Delay (hr)	4.0
Total Del/Veh (s)	11.8
Stop Delay (hr)	2.3
Stop Del/Veh (s)	6.7
Total Stops	1199
Stop/Veh	0.98
Travel Dist (mi)	610.4
Travel Time (hr)	22.2
Avg Speed (mph)	28
Vehicles Entered	1199
Vehicles Exited	1197
Hourly Exit Rate	1197
Input Volume	1186
% of Volume	101
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	636
Occupancy (veh)	22

8: NE J St & I-49 SB Ramps Performance by movement

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.1
Total Delay (hr)	0.1	0.1	0.1	0.0	0.3
Total Del/Veh (s)	5.1	2.4	3.8	0.7	3.4
Stop Delay (hr)	0.1	0.0	0.0	0.0	0.1
Stop Del/Veh (s)	3.2	0.1	0.1	0.2	1.2
Total Stops	104	0	0	0	104
Stop/Veh	0.99	0.00	0.00	0.00	0.35
Travel Dist (mi)	13.6	22.8	13.1	9.6	59.2
Travel Time (hr)	0.7	0.7	0.5	0.3	2.2
Avg Speed (mph)	19	31	29	29	27
Vehicles Entered	105	92	57	44	298
Vehicles Exited	104	93	57	44	298
Hourly Exit Rate	104	93	57	44	298
Input Volume	108	91	51	46	297
% of Volume	96	102	111	95	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)					3312
Occupancy (veh)	1	1	0	0	2

10: NE J St & I-49 NB Ramps Performance by movement

Movement	WBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0
Total Delay (hr)	0.0	0.1	0.1
Total Del/Veh (s)	3.9	2.9	3.2
Stop Delay (hr)	0.0	0.0	0.0
Stop Del/Veh (s)	2.4	0.0	0.8
Total Stops	44	0	44
Stop/Veh	1.00	0.00	0.32
Travel Dist (mi)	5.9	18.7	24.6
Travel Time (hr)	0.3	0.6	0.9
Avg Speed (mph)	20	29	26
Vehicles Entered	44	93	137
Vehicles Exited	44	93	137
Hourly Exit Rate	44	93	137
Input Volume	46	91	137
% of Volume	95	102	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0
Density (ft/veh)			5710
Occupancy (veh)	0	1	1

12: NE J St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.1	0.0	0.0	0.1	0.0	0.3
Total Del/Veh (s)	7.5	6.6	0.2	0.3	4.2	0.6	2.9
Stop Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Stop Del/Veh (s)	3.7	2.8	0.0	0.0	0.5	0.2	1.1
Total Stops	68	59	0	0	7	0	134
Stop/Veh	0.99	0.98	0.00	0.00	0.12	0.00	0.32
Travel Dist (mi)	17.7	15.2	17.1	10.2	14.5	22.3	97.1
Travel Time (hr)	0.7	0.6	0.6	0.3	0.6	0.8	3.7
Avg Speed (mph)	24	25	30	29	25	28	26
Vehicles Entered	68	59	91	54	58	90	420
Vehicles Exited	68	59	92	54	58	89	420
Hourly Exit Rate	68	59	92	54	58	89	420
Input Volume	68	52	92	52	65	90	418
% of Volume	100	114	100	104	89	99	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0
Density (ft/veh)							1974
Occupancy (veh)	1	1	1	0	1	1	4

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.4
Total Delay (hr)	6.2
Total Del/Veh (s)	16.4
Stop Delay (hr)	2.7
Stop Del/Veh (s)	7.1
Total Stops	1481
Stop/Veh	1.08
Travel Dist (mi)	1532.8
Travel Time (hr)	53.4
Avg Speed (mph)	29
Vehicles Entered	1320
Vehicles Exited	1317
Hourly Exit Rate	1317
Input Volume	3938
% of Volume	33
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	756
Occupancy (veh)	53

Intersection: 3: NE J St & Tiger Blvd

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	186	163	134	78	30	87
Average Queue (ft)	90	70	63	35	6	43
95th Queue (ft)	153	119	111	63	26	73
Link Distance (ft)	2883	3227		2540		1401
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			330		120	
Storage Blk Time (%)						0
Queuing Penalty (veh)						0

Intersection: 8: NE J St & I-49 SB Ramps

Movement	WB
Directions Served	L
Maximum Queue (ft)	66
Average Queue (ft)	34
95th Queue (ft)	56
Link Distance (ft)	686
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: NE J St & I-49 NB Ramps

Movement	WB
Directions Served	L
Maximum Queue (ft)	54
Average Queue (ft)	26
95th Queue (ft)	49
Link Distance (ft)	712
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: NE J St

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	65	36
Average Queue (ft)	38	6
95th Queue (ft)	58	27
Link Distance (ft)	1366	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Intersection Delay, s/veh	116.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	88	264	350	25	219	34	139	88	23	29	209	51
Future Vol, veh/h	88	264	350	25	219	34	139	88	23	29	209	51
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	96	287	380	27	238	37	151	96	25	32	227	55
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	225.9	24.7	17.2	24.6
HCM LOS	F	C	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	13%	9%	100%	0%
Vol Thru, %	0%	79%	38%	79%	0%	80%
Vol Right, %	0%	21%	50%	12%	0%	20%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	139	111	702	278	29	260
LT Vol	139	0	88	25	29	0
Through Vol	0	88	264	219	0	209
RT Vol	0	23	350	34	0	51
Lane Flow Rate	151	121	763	302	32	283
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.371	0.274	1.435	0.63	0.076	0.628
Departure Headway (Hd)	9.983	9.305	6.77	8.428	9.722	9.054
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	363	389	542	432	371	401
Service Time	7.683	7.005	4.815	6.428	7.422	6.754
HCM Lane V/C Ratio	0.416	0.311	1.408	0.699	0.086	0.706
HCM Control Delay	18.5	15.5	225.9	24.7	13.2	25.9
HCM Lane LOS	C	C	F	C	B	D
HCM 95th-tile Q	1.7	1.1	36.5	4.2	0.2	4.1

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	152	0	128	72	0	64
Future Vol, veh/h	152	0	128	72	0	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	200	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	165	0	139	78	0	70

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	213	109	0	0	139	0
Stage 1	178	-	-	-	-	-
Stage 2	35	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	756	924	-	-	1442	-
Stage 1	835	-	-	-	-	-
Stage 2	983	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	756	924	-	-	1442	-
Mov Cap-2 Maneuver	756	-	-	-	-	-
Stage 1	835	-	-	-	-	-
Stage 2	983	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	756	-	1442	-
HCM Lane V/C Ratio	-	-	0.219	-	-	-
HCM Control Delay (s)	-	-	11.1	0	0	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.8	-	0	-

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	64	0	0	128	0	0
Future Vol, veh/h	64	0	0	128	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	200	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	70	0	0	139	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	71	70	0	0	0	0
Stage 1	70	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	925	978	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	925	978	-	-	-	-
Mov Cap-2 Maneuver	925	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	925	-	-	-
HCM Lane V/C Ratio	-	-	0.075	-	-	-
HCM Control Delay (s)	-	-	9.2	0	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	-	-	-

Intersection	
Int Delay, s/veh	7.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	172	110	90	120	99	117
Future Vol, veh/h	172	110	90	120	99	117
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	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	187	120	98	130	108	127

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	443	114	0	0	228	0
Stage 1	163	-	-	-	-	-
Stage 2	280	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	543	917	-	-	1337	-
Stage 1	849	-	-	-	-	-
Stage 2	742	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	499	917	-	-	1337	-
Mov Cap-2 Maneuver	499	-	-	-	-	-
Stage 1	849	-	-	-	-	-
Stage 2	682	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	3.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	607	1337	-
HCM Lane V/C Ratio	-	-	0.505	0.08	-
HCM Control Delay (s)	-	-	16.8	7.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	2.8	0.3	-

3: NE J St & Tiger Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.8	0.8	0.8	0.2	0.3	0.2	0.7	0.3	0.2	0.0	0.0	0.0
Total Delay (hr)	4.7	14.2	18.6	0.1	0.9	0.1	0.4	0.3	0.0	0.1	0.8	0.1
Total Del/Veh (s)	186.1	187.8	186.3	12.7	14.6	9.5	9.4	10.7	6.3	7.8	13.7	9.4
Stop Delay (hr)	4.9	14.8	19.7	0.1	0.5	0.1	0.2	0.1	0.0	0.0	0.4	0.1
Stop Del/Veh (s)	196.0	195.3	197.4	8.9	8.1	6.8	6.1	5.1	4.4	4.7	8.1	7.6
Total Stops	86	262	347	27	220	33	140	88	19	31	196	48
Stop/Veh	0.96	0.96	0.97	0.96	0.98	0.97	0.99	0.99	1.00	1.00	0.98	0.98
Travel Dist (mi)	46.2	139.7	185.1	16.6	134.2	20.4	67.1	42.7	9.2	8.6	54.2	13.2
Travel Time (hr)	6.1	18.3	24.3	0.6	4.8	0.7	2.4	1.5	0.3	0.3	2.3	0.6
Avg Speed (mph)	8	8	8	28	28	29	28	29	29	26	23	24
Vehicles Entered	88	263	349	27	219	34	139	88	19	31	197	48
Vehicles Exited	81	247	322	27	220	33	139	88	19	31	197	48
Hourly Exit Rate	81	247	322	27	220	33	139	88	19	31	197	48
Input Volume	88	264	350	25	219	34	139	88	23	29	210	51
% of Volume	92	94	92	109	100	97	100	100	84	107	94	94
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0
Density (ft/veh)												
Occupancy (veh)	6	18	24	1	5	1	2	1	0	0	2	1

3: NE J St & Tiger Blvd Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.5
Total Delay (hr)	40.1
Total Del/Veh (s)	94.0
Stop Delay (hr)	41.0
Stop Del/Veh (s)	95.9
Total Stops	1497
Stop/Veh	0.97
Travel Dist (mi)	737.2
Travel Time (hr)	62.2
Avg Speed (mph)	12
Vehicles Entered	1502
Vehicles Exited	1452
Hourly Exit Rate	1452
Input Volume	1519
% of Volume	96
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	226
Occupancy (veh)	62

8: NE J St & I-49 SB Ramps Performance by movement

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.1
Total Delay (hr)	0.2	0.1	0.1	0.0	0.4
Total Del/Veh (s)	5.8	3.0	4.4	0.8	3.9
Stop Delay (hr)	0.2	0.0	0.0	0.0	0.2
Stop Del/Veh (s)	3.9	0.1	0.1	0.2	1.5
Total Stops	144	0	0	0	144
Stop/Veh	0.99	0.00	0.00	0.00	0.35
Travel Dist (mi)	18.7	30.9	16.2	14.0	79.8
Travel Time (hr)	1.0	1.0	0.6	0.5	3.1
Avg Speed (mph)	18	31	28	29	26
Vehicles Entered	143	126	71	64	404
Vehicles Exited	144	127	72	63	406
Hourly Exit Rate	144	127	72	63	406
Input Volume	152	129	72	64	417
% of Volume	95	98	100	98	97
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)					2404
Occupancy (veh)	1	1	1	0	3

10: NE J St & I-49 NB Ramps Performance by movement

Movement	WBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0
Total Delay (hr)	0.1	0.1	0.2
Total Del/Veh (s)	4.1	3.0	3.4
Stop Delay (hr)	0.0	0.0	0.0
Stop Del/Veh (s)	2.4	0.0	0.8
Total Stops	64	0	64
Stop/Veh	1.00	0.00	0.34
Travel Dist (mi)	8.6	25.3	33.9
Travel Time (hr)	0.4	0.9	1.3
Avg Speed (mph)	20	29	26
Vehicles Entered	64	125	189
Vehicles Exited	64	125	189
Hourly Exit Rate	64	125	189
Input Volume	64	128	192
% of Volume	100	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0
Density (ft/veh)			4114
Occupancy (veh)	0	1	1

12: NE J St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.0	0.0	0.0	0.0	0.1
Total Delay (hr)	0.5	0.3	0.0	0.0	0.1	0.0	0.9
Total Del/Veh (s)	10.4	8.8	0.3	0.5	4.4	0.6	4.7
Stop Delay (hr)	0.3	0.1	0.0	0.0	0.0	0.0	0.4
Stop Del/Veh (s)	5.8	4.3	0.0	0.0	0.7	0.2	2.2
Total Stops	162	110	0	0	17	0	289
Stop/Veh	0.99	0.99	0.00	0.00	0.18	0.00	0.42
Travel Dist (mi)	42.1	28.4	16.7	21.8	23.8	28.2	161.1
Travel Time (hr)	1.9	1.2	0.6	0.7	1.0	1.0	6.4
Avg Speed (mph)	22	23	29	29	25	28	25
Vehicles Entered	163	109	89	116	95	112	684
Vehicles Exited	163	110	89	115	95	112	684
Hourly Exit Rate	163	110	89	115	95	112	684
Input Volume	172	110	91	120	99	118	710
% of Volume	95	100	98	96	96	95	96
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0
Density (ft/veh)							1134
Occupancy (veh)	2	1	1	1	1	1	6

Total Network Performance

Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.5
Total Delay (hr)	43.6
Total Del/Veh (s)	88.0
Stop Delay (hr)	41.9
Stop Del/Veh (s)	84.6
Total Stops	1994
Stop/Veh	1.12
Travel Dist (mi)	1945.2
Travel Time (hr)	103.9
Avg Speed (mph)	19
Vehicles Entered	1707
Vehicles Exited	1657
Hourly Exit Rate	1657
Input Volume	5563
% of Volume	30
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	388
Occupancy (veh)	104

Intersection: 3: NE J St & Tiger Blvd

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	1835	146	90	83	53	126
Average Queue (ft)	1065	74	46	40	21	66
95th Queue (ft)	2153	120	77	64	47	106
Link Distance (ft)	2883	3227		2540		1401
Upstream Blk Time (%)	1					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)			330		120	
Storage Blk Time (%)						1
Queuing Penalty (veh)						0

Intersection: 8: NE J St & I-49 SB Ramps

Movement	WB
Directions Served	L
Maximum Queue (ft)	81
Average Queue (ft)	41
95th Queue (ft)	67
Link Distance (ft)	686
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: NE J St & I-49 NB Ramps

Movement	WB
Directions Served	L
Maximum Queue (ft)	55
Average Queue (ft)	29
95th Queue (ft)	51
Link Distance (ft)	712
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: NE J St

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	130	44
Average Queue (ft)	64	13
95th Queue (ft)	105	40
Link Distance (ft)	1366	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Intersection Delay, s/veh	183.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	77	285	288	21	388	39	391	109	24	14	138	97
Future Vol, veh/h	77	285	288	21	388	39	391	109	24	14	138	97
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	310	313	23	422	42	425	118	26	15	150	105
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	340	141.7	95.4	34.2
HCM LOS	F	F	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	12%	5%	100%	0%
Vol Thru, %	0%	82%	44%	87%	0%	59%
Vol Right, %	0%	18%	44%	9%	0%	41%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	391	133	650	448	14	235
LT Vol	391	0	77	21	14	0
Through Vol	0	109	285	388	0	138
RT Vol	0	24	288	39	0	97
Lane Flow Rate	425	145	707	487	15	255
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	1.119	0.355	1.68	1.185	0.043	0.67
Departure Headway (Hd)	11.409	10.743	9.37	10.738	12.565	11.72
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	323	337	396	341	287	312
Service Time	9.109	8.443	7.37	8.738	10.265	9.42
HCM Lane V/C Ratio	1.316	0.43	1.785	1.428	0.052	0.817
HCM Control Delay	121.3	19.2	340	141.7	15.8	35.3
HCM Lane LOS	F	C	F	F	C	E
HCM 95th-tile Q	14.1	1.6	38.9	16.7	0.1	4.5

Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	171	0	144	81	0	72
Future Vol, veh/h	171	0	144	81	0	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	200	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	186	0	157	88	0	78

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	240	123	0	0	157	0
Stage 1	201	-	-	-	-	-
Stage 2	39	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	727	905	-	-	1420	-
Stage 1	813	-	-	-	-	-
Stage 2	978	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	727	905	-	-	1420	-
Mov Cap-2 Maneuver	727	-	-	-	-	-
Stage 1	813	-	-	-	-	-
Stage 2	978	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	727	-	1420	-
HCM Lane V/C Ratio	-	-	0.256	-	-	-
HCM Control Delay (s)	-	-	11.6	0	0	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	1	-	0	-

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	72	0	0	144	0	0
Future Vol, veh/h	72	0	0	144	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	200	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	0	0	157	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	80	79	0	0	0	0
Stage 1	79	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	913	965	-	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	913	965	-	-	-	-
Mov Cap-2 Maneuver	913	-	-	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	913	-	-	-
HCM Lane V/C Ratio	-	-	0.086	-	-	-
HCM Control Delay (s)	-	-	9.3	0	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	-	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	108	82	143	82	102	141
Future Vol, veh/h	108	82	143	82	102	141
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	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	117	89	155	89	111	153

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	499	122	0	0	244	0
Stage 1	200	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	501	906	-	-	1319	-
Stage 1	814	-	-	-	-	-
Stage 2	726	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	459	906	-	-	1319	-
Mov Cap-2 Maneuver	459	-	-	-	-	-
Stage 1	814	-	-	-	-	-
Stage 2	665	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.5	0	3.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	583	1319	-
HCM Lane V/C Ratio	-	-	0.354	0.084	-
HCM Control Delay (s)	-	-	14.5	8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	1.6	0.3	-

3: NE J St & Tiger Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	2.8	9.4	9.4	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	134.6	115.7	116.7	0.4	0.4	0.4	0.8	0.6	0.5	0.0	0.0	0.0
Total Delay (hr)	9.7	37.9	38.8	1.4	23.9	2.4	16.1	2.3	0.4	0.0	1.0	0.5
Total Del/Veh (s)	507.1	514.3	524.4	227.4	216.4	223.8	145.0	78.2	69.0	9.4	24.5	19.3
Stop Delay (hr)	10.3	39.8	41.0	1.4	24.3	2.5	16.3	2.1	0.4	0.0	0.8	0.5
Stop Del/Veh (s)	536.1	541.3	555.4	233.7	220.1	231.0	147.1	72.2	66.5	5.9	19.4	17.8
Total Stops	43	168	164	21	388	38	391	144	29	14	144	98
Stop/Veh	0.62	0.63	0.62	0.95	0.97	0.97	0.98	1.35	1.38	1.00	0.99	0.99
Travel Dist (mi)	32.4	125.7	127.4	12.9	231.8	23.0	186.3	50.4	10.1	3.9	39.5	26.9
Travel Time (hr)	13.5	50.9	52.0	1.8	30.7	3.1	21.8	3.8	0.7	0.2	2.1	1.4
Avg Speed (mph)	3	3	3	7	8	7	9	13	14	25	18	19
Vehicles Entered	66	256	258	22	387	38	390	106	21	14	143	98
Vehicles Exited	53	211	211	20	352	35	376	103	21	14	144	96
Hourly Exit Rate	53	211	211	20	352	35	376	103	21	14	144	96
Input Volume	77	285	288	21	388	39	391	109	24	14	138	97
% of Volume	69	74	73	96	91	90	96	94	88	98	104	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	9	36	32	0	0	0	0	0	0	0	0	0
Density (ft/veh)												
Occupancy (veh)	11	41	43	2	31	3	22	4	1	0	2	1

3: NE J St & Tiger Blvd Performance by movement

Movement	All
Denied Delay (hr)	21.8
Denied Del/Veh (s)	41.7
Total Delay (hr)	134.4
Total Del/Veh (s)	262.7
Stop Delay (hr)	139.6
Stop Del/Veh (s)	272.7
Total Stops	1642
Stop/Veh	0.89
Travel Dist (mi)	870.3
Travel Time (hr)	182.0
Avg Speed (mph)	5
Vehicles Entered	1799
Vehicles Exited	1636
Hourly Exit Rate	1636
Input Volume	1872
% of Volume	87
Denied Entry Before	0
Denied Entry After	77
Density (ft/veh)	88
Occupancy (veh)	160

8: NE J St & I-49 SB Ramps Performance by movement

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.1
Total Delay (hr)	0.3	0.1	0.1	0.0	0.5
Total Del/Veh (s)	6.1	2.9	3.9	0.8	4.0
Stop Delay (hr)	0.2	0.0	0.0	0.0	0.2
Stop Del/Veh (s)	4.1	0.1	0.1	0.2	1.6
Total Stops	169	0	0	0	169
Stop/Veh	0.99	0.00	0.00	0.00	0.38
Travel Dist (mi)	21.9	32.4	17.2	15.5	87.1
Travel Time (hr)	1.2	1.1	0.6	0.5	3.4
Avg Speed (mph)	18	31	28	30	26
Vehicles Entered	169	131	75	71	446
Vehicles Exited	168	131	75	70	444
Hourly Exit Rate	168	131	75	70	444
Input Volume	171	144	81	72	468
% of Volume	98	91	92	97	95
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)					2175
Occupancy (veh)	1	1	1	1	3

10: NE J St & I-49 NB Ramps Performance by movement

Movement	WBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.1
Total Delay (hr)	0.1	0.1	0.2
Total Del/Veh (s)	4.1	3.2	3.5
Stop Delay (hr)	0.0	0.0	0.0
Stop Del/Veh (s)	2.4	0.0	0.8
Total Stops	71	0	71
Stop/Veh	1.00	0.00	0.35
Travel Dist (mi)	9.6	26.5	36.1
Travel Time (hr)	0.5	0.9	1.4
Avg Speed (mph)	20	28	25
Vehicles Entered	71	131	202
Vehicles Exited	71	131	202
Hourly Exit Rate	71	131	202
Input Volume	72	144	216
% of Volume	99	91	93
Denied Entry Before	0	0	0
Denied Entry After	0	0	0
Density (ft/veh)			3805
Occupancy (veh)	0	1	1

12: NE J St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.3	0.0	0.0	0.0	0.0	0.1
Total Delay (hr)	0.3	0.2	0.0	0.0	0.1	0.0	0.7
Total Del/Veh (s)	10.1	8.6	0.4	0.6	4.3	0.6	3.9
Stop Delay (hr)	0.2	0.1	0.0	0.0	0.0	0.0	0.3
Stop Del/Veh (s)	5.9	4.3	0.0	0.0	0.6	0.2	1.8
Total Stops	115	81	0	0	16	0	212
Stop/Veh	0.99	0.99	0.00	0.00	0.16	0.00	0.33
Travel Dist (mi)	29.8	21.1	23.7	12.7	25.0	35.2	147.5
Travel Time (hr)	1.3	0.9	0.8	0.4	1.0	1.3	5.8
Avg Speed (mph)	22	23	29	29	25	28	26
Vehicles Entered	116	82	125	67	100	140	630
Vehicles Exited	114	81	125	68	100	141	629
Hourly Exit Rate	114	81	125	68	100	141	629
Input Volume	108	82	143	82	102	142	660
% of Volume	106	98	87	83	98	99	95
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0
Density (ft/veh)							1259
Occupancy (veh)	1	1	1	0	1	1	6

Total Network Performance

Denied Delay (hr)	21.8
Denied Del/Veh (s)	38.1
Total Delay (hr)	138.1
Total Del/Veh (s)	240.5
Stop Delay (hr)	140.5
Stop Del/Veh (s)	244.6
Total Stops	2094
Stop/Veh	1.01
Travel Dist (mi)	2171.0
Travel Time (hr)	226.7
Avg Speed (mph)	11
Vehicles Entered	1983
Vehicles Exited	1818
Hourly Exit Rate	1818
Input Volume	6221
% of Volume	29
Denied Entry Before	0
Denied Entry After	77
Density (ft/veh)	196
Occupancy (veh)	205

Intersection: 3: NE J St & Tiger Blvd

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	2931	1236	345	860	39	188
Average Queue (ft)	2173	728	266	426	12	87
95th Queue (ft)	3653	1430	430	1386	37	153
Link Distance (ft)	2883	3227		2540		1401
Upstream Blk Time (%)	45					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)			330		120	
Storage Blk Time (%)			40	0		5
Queuing Penalty (veh)			54	2		1

Intersection: 8: NE J St & I-49 SB Ramps

Movement	WB
Directions Served	L
Maximum Queue (ft)	99
Average Queue (ft)	44
95th Queue (ft)	75
Link Distance (ft)	686
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: NE J St & I-49 NB Ramps

Movement	WB
Directions Served	L
Maximum Queue (ft)	55
Average Queue (ft)	30
95th Queue (ft)	48
Link Distance (ft)	712
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: NE J St

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	124	50
Average Queue (ft)	53	15
95th Queue (ft)	93	43
Link Distance (ft)	1366	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 57

HCM 6th Signalized Intersection Summary
3: NE J St & Tiger Blvd

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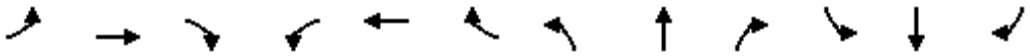


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	167	222	16	139	21	88	56	14	18	133	32
Future Volume (veh/h)	56	167	222	16	139	21	88	56	14	18	133	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	61	182	241	17	151	23	96	61	15	20	145	35
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	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	426	419	355	374	295	45	419	314	77	494	236	57
Arrive On Green	0.06	0.24	0.24	0.02	0.20	0.20	0.08	0.23	0.23	0.03	0.18	0.18
Sat Flow, veh/h	1641	1723	1460	1641	1460	222	1641	1335	328	1641	1341	324
Grp Volume(v), veh/h	61	182	241	17	0	174	96	0	76	20	0	180
Grp Sat Flow(s),veh/h/ln	1641	1723	1460	1641	0	1683	1641	0	1664	1641	0	1664
Q Serve(g_s), s	1.1	3.4	5.7	0.3	0.0	3.5	1.7	0.0	1.4	0.3	0.0	3.8
Cycle Q Clear(g_c), s	1.1	3.4	5.7	0.3	0.0	3.5	1.7	0.0	1.4	0.3	0.0	3.8
Prop In Lane	1.00		1.00	1.00		0.13	1.00		0.20	1.00		0.19
Lane Grp Cap(c), veh/h	426	419	355	374	0	340	419	0	391	494	0	293
V/C Ratio(X)	0.14	0.43	0.68	0.05	0.00	0.51	0.23	0.00	0.19	0.04	0.00	0.61
Avail Cap(c_a), veh/h	649	978	829	663	0	956	607	0	1121	778	0	1121
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.8	12.1	13.0	10.5	0.0	13.4	11.2	0.0	11.6	10.5	0.0	14.4
Incr Delay (d2), s/veh	0.2	0.7	2.3	0.0	0.0	1.2	0.3	0.0	0.2	0.0	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	1.9	2.9	0.2	0.0	2.1	0.9	0.0	0.8	0.2	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.0	12.8	15.3	10.5	0.0	14.6	11.5	0.0	11.9	10.6	0.0	16.5
LnGrp LOS	B	B	B	B	A	B	B	A	B	B	A	B
Approach Vol, veh/h		484			191			172			200	
Approach Delay, s/veh		13.8			14.3			11.7			15.9	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.4	13.4	5.3	13.7	7.7	11.2	6.9	12.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	25.5	7.5	21.5	7.5	25.5	7.5	21.5
Max Q Clear Time (g_c+I1), s	2.3	3.4	2.3	7.7	3.7	5.8	3.1	5.5
Green Ext Time (p_c), s	0.0	0.3	0.0	1.5	0.1	0.9	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	96	0	81	46	0	41
Future Vol, veh/h	96	0	81	46	0	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	200	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	104	0	88	50	0	45

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	136	69	0	0	88	0
Stage 1	113	-	-	-	-	-
Stage 2	23	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	844	980	-	-	1506	-
Stage 1	899	-	-	-	-	-
Stage 2	996	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	844	980	-	-	1506	-
Mov Cap-2 Maneuver	844	-	-	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	996	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	844	-	1506	-
HCM Lane V/C Ratio	-	-	0.124	-	-	-
HCM Control Delay (s)	-	-	9.9	0	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0.4	-	0	-

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	0	0	81	0	0
Future Vol, veh/h	41	0	0	81	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	200	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	0	0	88	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	45	44	0	0	0	0
Stage 1	44	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	960	1017	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	960	1017	-	-	-	-
Mov Cap-2 Maneuver	960	-	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	960	-	-	-
HCM Lane V/C Ratio	-	-	0.046	-	-	-
HCM Control Delay (s)	-	-	8.9	0	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	109	70	57	76	63	74
Future Vol, veh/h	109	70	57	76	63	74
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	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	118	76	62	83	68	80

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	280	73	0	0	145	0
Stage 1	104	-	-	-	-	-
Stage 2	176	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	687	974	-	-	1435	-
Stage 1	909	-	-	-	-	-
Stage 2	837	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	655	974	-	-	1435	-
Mov Cap-2 Maneuver	655	-	-	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	798	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	3.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	751	1435	-
HCM Lane V/C Ratio	-	-	0.259	0.048	-
HCM Control Delay (s)	-	-	11.5	7.6	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	1	0.1	-

3: NE J St & Tiger Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.7	0.4	0.7	0.1	0.2	0.2	0.9	0.3	0.2	0.0	0.0	0.0
Total Delay (hr)	0.2	0.5	0.4	0.0	0.5	0.0	0.3	0.1	0.0	0.1	0.5	0.1
Total Del/Veh (s)	12.2	11.3	6.3	11.9	12.7	6.2	10.8	7.9	3.6	9.2	12.7	6.4
Stop Delay (hr)	0.1	0.3	0.2	0.0	0.3	0.0	0.2	0.1	0.0	0.0	0.3	0.0
Stop Del/Veh (s)	7.8	5.6	2.9	9.1	8.2	4.6	8.4	4.3	2.7	6.5	8.5	5.1
Total Stops	42	89	122	12	80	15	67	24	7	14	81	21
Stop/Veh	0.72	0.52	0.55	0.80	0.60	0.65	0.74	0.41	0.47	0.61	0.60	0.64
Travel Dist (mi)	31.0	92.3	118.4	9.4	80.3	13.8	42.4	28.1	7.3	6.2	36.2	8.9
Travel Time (hr)	1.1	3.2	4.1	0.3	2.8	0.5	1.6	0.9	0.2	0.3	1.5	0.3
Avg Speed (mph)	27	29	30	28	29	30	27	30	31	25	24	25
Vehicles Entered	56	170	217	15	131	23	88	59	15	23	133	32
Vehicles Exited	57	169	217	15	130	22	89	58	15	22	134	33
Hourly Exit Rate	57	169	217	15	130	22	89	58	15	22	134	33
Input Volume	56	167	222	16	139	21	88	56	14	18	134	32
% of Volume	102	101	98	92	94	106	101	104	105	124	100	103
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0
Density (ft/veh)												
Occupancy (veh)	1	3	4	0	3	0	2	1	0	0	2	0

3: NE J St & Tiger Blvd Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.4
Total Delay (hr)	2.7
Total Del/Veh (s)	9.9
Stop Delay (hr)	1.6
Stop Del/Veh (s)	6.0
Total Stops	574
Stop/Veh	0.59
Travel Dist (mi)	474.3
Travel Time (hr)	16.9
Avg Speed (mph)	28
Vehicles Entered	962
Vehicles Exited	961
Hourly Exit Rate	961
Input Volume	963
% of Volume	100
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	1370
Occupancy (veh)	17

8: NE J St & I-49 SB Ramps Performance by movement

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.1
Total Delay (hr)	0.1	0.1	0.1	0.0	0.2
Total Del/Veh (s)	4.7	2.6	4.1	0.7	3.3
Stop Delay (hr)	0.1	0.0	0.0	0.0	0.1
Stop Del/Veh (s)	2.9	0.1	0.1	0.2	1.1
Total Stops	91	0	0	0	91
Stop/Veh	0.99	0.00	0.00	0.00	0.35
Travel Dist (mi)	11.9	19.8	10.2	8.9	50.8
Travel Time (hr)	0.6	0.6	0.4	0.3	1.9
Avg Speed (mph)	19	31	28	29	27
Vehicles Entered	91	80	45	40	256
Vehicles Exited	91	81	45	40	257
Hourly Exit Rate	91	81	45	40	257
Input Volume	96	81	46	41	264
% of Volume	95	100	97	97	97
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)					3861
Occupancy (veh)	1	1	0	0	2

10: NE J St & I-49 NB Ramps Performance by movement

Movement	WBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0
Total Delay (hr)	0.0	0.1	0.1
Total Del/Veh (s)	4.0	2.7	3.2
Stop Delay (hr)	0.0	0.0	0.0
Stop Del/Veh (s)	2.4	0.0	0.8
Total Stops	40	0	40
Stop/Veh	0.98	0.00	0.33
Travel Dist (mi)	5.5	16.3	21.8
Travel Time (hr)	0.3	0.6	0.8
Avg Speed (mph)	20	29	26
Vehicles Entered	41	81	122
Vehicles Exited	40	80	120
Hourly Exit Rate	40	80	120
Input Volume	41	81	122
% of Volume	97	98	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0
Density (ft/veh)			6452
Occupancy (veh)	0	1	1

12: NE J St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.0	0.0	0.1
Total Delay (hr)	0.3	0.1	0.0	0.0	0.1	0.0	0.5
Total Del/Veh (s)	8.3	6.9	0.3	0.4	4.1	0.6	3.9
Stop Delay (hr)	0.1	0.1	0.0	0.0	0.0	0.0	0.2
Stop Del/Veh (s)	4.2	2.9	0.0	0.0	0.6	0.2	1.6
Total Stops	117	68	0	0	8	0	193
Stop/Veh	0.99	0.99	0.00	0.00	0.13	0.00	0.42
Travel Dist (mi)	30.2	17.5	10.8	15.4	14.8	18.1	106.9
Travel Time (hr)	1.3	0.7	0.4	0.5	0.6	0.7	4.2
Avg Speed (mph)	23	24	29	29	25	28	26
Vehicles Entered	116	67	58	81	59	73	454
Vehicles Exited	117	68	58	82	59	73	457
Hourly Exit Rate	117	68	58	82	59	73	457
Input Volume	109	70	57	76	63	75	450
% of Volume	107	97	102	108	94	97	102
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0
Density (ft/veh)							1753
Occupancy (veh)	1	1	0	1	1	1	4

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.4
Total Delay (hr)	4.6
Total Del/Veh (s)	14.7
Stop Delay (hr)	2.1
Stop Del/Veh (s)	6.5
Total Stops	898
Stop/Veh	0.79
Travel Dist (mi)	1271.7
Travel Time (hr)	44.0
Avg Speed (mph)	29
Vehicles Entered	1091
Vehicles Exited	1091
Hourly Exit Rate	1091
Input Volume	3526
% of Volume	31
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	1120
Occupancy (veh)	44

Intersection: 3: NE J St & Tiger Blvd

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	TR	L	TR
Maximum Queue (ft)	65	131	91	36	124	76	71	44	122
Average Queue (ft)	28	50	46	12	52	33	16	12	55
95th Queue (ft)	57	93	78	37	95	62	47	38	101
Link Distance (ft)		2882			3227		2521		1395
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	200		200	200		330		120	
Storage Blk Time (%)		0							0
Queuing Penalty (veh)		0							0

Intersection: 8: NE J St & I-49 SB Ramps

Movement	WB
Directions Served	L
Maximum Queue (ft)	66
Average Queue (ft)	33
95th Queue (ft)	51
Link Distance (ft)	686
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: NE J St & I-49 NB Ramps

Movement	WB
Directions Served	L
Maximum Queue (ft)	55
Average Queue (ft)	24
95th Queue (ft)	48
Link Distance (ft)	712
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: NE J St

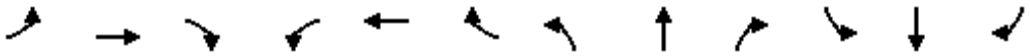
Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	82	40
Average Queue (ft)	45	8
95th Queue (ft)	71	31
Link Distance (ft)	1366	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

HCM 6th Signalized Intersection Summary
3: NE J St & Tiger Blvd

04/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	181	183	13	246	24	248	69	15	9	87	61
Future Volume (veh/h)	49	181	183	13	246	24	248	69	15	9	87	61
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	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	53	197	199	14	267	26	270	75	16	10	95	66
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	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	457	387	352	355	35	518	436	93	539	143	99
Arrive On Green	0.05	0.27	0.27	0.02	0.23	0.23	0.18	0.32	0.32	0.01	0.15	0.15
Sat Flow, veh/h	1641	1723	1460	1641	1545	150	1641	1376	294	1641	947	658
Grp Volume(v), veh/h	53	197	199	14	0	293	270	0	91	10	0	161
Grp Sat Flow(s),veh/h/ln	1641	1723	1460	1641	0	1696	1641	0	1670	1641	0	1604
Q Serve(g_s), s	1.1	4.4	5.4	0.3	0.0	7.5	6.1	0.0	1.8	0.2	0.0	4.4
Cycle Q Clear(g_c), s	1.1	4.4	5.4	0.3	0.0	7.5	6.1	0.0	1.8	0.2	0.0	4.4
Prop In Lane	1.00		1.00	1.00		0.09	1.00		0.18	1.00		0.41
Lane Grp Cap(c), veh/h	317	457	387	352	0	389	518	0	529	539	0	242
V/C Ratio(X)	0.17	0.43	0.51	0.04	0.00	0.75	0.52	0.00	0.17	0.02	0.00	0.67
Avail Cap(c_a), veh/h	494	759	644	588	0	747	770	0	952	782	0	638
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.0	14.2	14.5	12.3	0.0	16.7	12.8	0.0	11.5	10.5	0.0	18.6
Incr Delay (d2), s/veh	0.2	0.6	1.1	0.0	0.0	3.0	0.8	0.0	0.2	0.0	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.5	1.6	0.1	0.0	2.7	1.9	0.0	0.6	0.1	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.2	14.8	15.6	12.3	0.0	19.6	13.6	0.0	11.6	10.5	0.0	21.8
LnGrp LOS	B	B	B	B	A	B	B	A	B	B	A	C
Approach Vol, veh/h		449			307			361			171	
Approach Delay, s/veh		15.0			19.3			13.1			21.1	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	19.2	5.3	16.8	12.8	11.5	7.0	15.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	26.5	7.5	20.5	15.5	18.5	7.5	20.5
Max Q Clear Time (g_c+I1), s	2.2	3.8	2.3	7.4	8.1	6.4	3.1	9.5
Green Ext Time (p_c), s	0.0	0.4	0.0	1.4	0.5	0.6	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	108	0	91	51	0	46
Future Vol, veh/h	108	0	91	51	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	200	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	117	0	99	55	0	50

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	152	77	0	0	99	0
Stage 1	127	-	-	-	-	-
Stage 2	25	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	825	968	-	-	1492	-
Stage 1	885	-	-	-	-	-
Stage 2	994	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	825	968	-	-	1492	-
Mov Cap-2 Maneuver	825	-	-	-	-	-
Stage 1	885	-	-	-	-	-
Stage 2	994	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	825	-	1492	-
HCM Lane V/C Ratio	-	-	0.142	-	-	-
HCM Control Delay (s)	-	-	10.1	0	0	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.5	-	0	-

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	46	0	0	91	0	0
Future Vol, veh/h	46	0	0	91	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	200	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	0	0	99	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	51	50	0	0	0	0
Stage 1	50	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	952	1008	-	-	-	-
Stage 1	966	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	952	1008	-	-	-	-
Mov Cap-2 Maneuver	952	-	-	-	-	-
Stage 1	966	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	952	-	-	-
HCM Lane V/C Ratio	-	-	0.053	-	-	-
HCM Control Delay (s)	-	-	9	0	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	-	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	68	52	91	52	65	89
Future Vol, veh/h	68	52	91	52	65	89
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	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	74	57	99	57	71	97

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	319	78	0	0	156	0
Stage 1	128	-	-	-	-	-
Stage 2	191	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	649	967	-	-	1422	-
Stage 1	884	-	-	-	-	-
Stage 2	822	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	617	967	-	-	1422	-
Mov Cap-2 Maneuver	617	-	-	-	-	-
Stage 1	884	-	-	-	-	-
Stage 2	781	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	3.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	732	1422	-
HCM Lane V/C Ratio	-	-	0.178	0.05	-
HCM Control Delay (s)	-	-	11	7.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.2	-

3: NE J St & Tiger Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.8	0.4	0.8	0.2	0.3	0.3	1.0	0.4	0.4	0.0	0.0	0.0
Total Delay (hr)	0.2	0.7	0.3	0.1	1.3	0.1	1.0	0.2	0.0	0.0	0.4	0.2
Total Del/Veh (s)	15.5	13.1	6.3	15.1	17.7	13.7	14.4	9.6	4.6	9.1	17.4	8.8
Stop Delay (hr)	0.1	0.4	0.2	0.0	0.8	0.1	0.7	0.1	0.0	0.0	0.3	0.1
Stop Del/Veh (s)	10.7	7.6	2.8	11.8	11.3	9.3	10.0	5.5	2.7	7.2	12.7	7.4
Total Stops	38	96	109	12	170	17	181	30	7	4	61	49
Stop/Veh	0.78	0.51	0.56	0.80	0.64	0.74	0.72	0.43	0.47	0.50	0.71	0.74
Travel Dist (mi)	26.5	100.8	103.2	8.7	159.0	14.0	118.7	32.9	7.2	2.1	23.3	18.0
Travel Time (hr)	1.0	3.6	3.5	0.3	5.9	0.5	4.7	1.1	0.2	0.1	1.1	0.7
Avg Speed (mph)	26	28	30	27	27	27	26	29	30	25	21	24
Vehicles Entered	48	185	189	14	260	23	247	68	15	8	85	66
Vehicles Exited	48	185	189	14	261	23	248	69	15	8	84	65
Hourly Exit Rate	48	185	189	14	261	23	248	69	15	8	84	65
Input Volume	49	181	183	13	246	24	248	69	15	9	87	61
% of Volume	97	102	103	106	106	97	100	100	98	86	97	107
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0
Density (ft/veh)												
Occupancy (veh)	1	4	3	0	6	1	5	1	0	0	1	1

3: NE J St & Tiger Blvd Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.5
Total Delay (hr)	4.5
Total Del/Veh (s)	13.2
Stop Delay (hr)	2.9
Stop Del/Veh (s)	8.5
Total Stops	774
Stop/Veh	0.63
Travel Dist (mi)	614.4
Travel Time (hr)	22.9
Avg Speed (mph)	27
Vehicles Entered	1208
Vehicles Exited	1209
Hourly Exit Rate	1209
Input Volume	1186
% of Volume	102
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	1012
Occupancy (veh)	23

8: NE J St & I-49 SB Ramps Performance by movement

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.1
Total Delay (hr)	0.1	0.1	0.1	0.0	0.3
Total Del/Veh (s)	5.2	2.3	3.7	0.7	3.3
Stop Delay (hr)	0.1	0.0	0.0	0.0	0.1
Stop Del/Veh (s)	3.3	0.1	0.1	0.2	1.2
Total Stops	103	0	0	0	103
Stop/Veh	0.99	0.00	0.00	0.00	0.35
Travel Dist (mi)	13.4	22.1	12.4	9.8	57.7
Travel Time (hr)	0.7	0.7	0.4	0.3	2.2
Avg Speed (mph)	19	32	29	29	27
Vehicles Entered	103	89	54	45	291
Vehicles Exited	103	90	54	45	292
Hourly Exit Rate	103	90	54	45	292
Input Volume	108	91	51	46	297
% of Volume	95	99	105	97	98
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)					3393
Occupancy (veh)	1	1	0	0	2

10: NE J St & I-49 NB Ramps Performance by movement

Movement	WBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0
Total Delay (hr)	0.0	0.1	0.1
Total Del/Veh (s)	3.9	2.8	3.2
Stop Delay (hr)	0.0	0.0	0.0
Stop Del/Veh (s)	2.4	0.0	0.8
Total Stops	45	0	45
Stop/Veh	1.00	0.00	0.33
Travel Dist (mi)	6.0	18.1	24.1
Travel Time (hr)	0.3	0.6	0.9
Avg Speed (mph)	20	29	26
Vehicles Entered	44	90	134
Vehicles Exited	45	90	135
Hourly Exit Rate	45	90	135
Input Volume	46	91	137
% of Volume	97	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0
Density (ft/veh)			5801
Occupancy (veh)	0	1	1

12: NE J St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.1	0.0	0.0	0.1	0.0	0.3
Total Del/Veh (s)	7.6	6.6	0.3	0.3	4.1	0.5	3.0
Stop Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Stop Del/Veh (s)	3.8	3.0	0.0	0.0	0.6	0.2	1.2
Total Stops	71	58	0	0	7	0	136
Stop/Veh	1.00	1.00	0.00	0.00	0.12	0.00	0.32
Travel Dist (mi)	18.3	14.9	16.3	10.2	14.5	22.3	96.5
Travel Time (hr)	0.8	0.6	0.6	0.3	0.6	0.8	3.7
Avg Speed (mph)	24	24	29	29	25	28	26
Vehicles Entered	70	57	87	54	58	89	415
Vehicles Exited	71	58	87	54	58	90	418
Hourly Exit Rate	71	58	87	54	58	90	418
Input Volume	68	52	92	52	65	90	418
% of Volume	104	112	95	104	89	101	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0
Density (ft/veh)							1983
Occupancy (veh)	1	1	1	0	1	1	4

Total Network Performance

Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.5
Total Delay (hr)	6.8
Total Del/Veh (s)	17.8
Stop Delay (hr)	3.3
Stop Del/Veh (s)	8.6
Total Stops	1058
Stop/Veh	0.77
Travel Dist (mi)	1540.7
Travel Time (hr)	54.3
Avg Speed (mph)	28
Vehicles Entered	1324
Vehicles Exited	1328
Hourly Exit Rate	1328
Input Volume	3938
% of Volume	34
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	909
Occupancy (veh)	54

Intersection: 3: NE J St & Tiger Blvd

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	TR	L	TR
Maximum Queue (ft)	61	138	85	40	224	145	63	30	116
Average Queue (ft)	25	56	46	11	97	75	20	4	53
95th Queue (ft)	54	111	77	34	164	131	53	19	97
Link Distance (ft)		2882			3227		2521		1395
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	200		200	200		330		120	
Storage Blk Time (%)					0				0
Queuing Penalty (veh)					0				0

Intersection: 8: NE J St & I-49 SB Ramps

Movement	WB
Directions Served	L
Maximum Queue (ft)	74
Average Queue (ft)	35
95th Queue (ft)	60
Link Distance (ft)	686
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: NE J St & I-49 NB Ramps

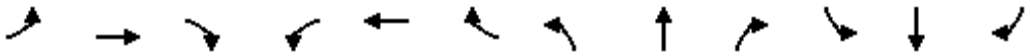
Movement	WB
Directions Served	L
Maximum Queue (ft)	51
Average Queue (ft)	26
95th Queue (ft)	48
Link Distance (ft)	712
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: NE J St

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	76	41
Average Queue (ft)	38	6
95th Queue (ft)	61	28
Link Distance (ft)	1366	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	264	350	25	219	34	139	88	23	29	209	51
Future Volume (veh/h)	88	264	350	25	219	34	139	88	23	29	209	51
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	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	96	287	380	27	238	37	151	96	25	32	227	55
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	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	399	543	460	323	400	62	360	370	96	478	292	71
Arrive On Green	0.07	0.32	0.32	0.03	0.27	0.27	0.10	0.28	0.28	0.04	0.22	0.22
Sat Flow, veh/h	1641	1723	1460	1641	1456	226	1641	1318	343	1641	1340	325
Grp Volume(v), veh/h	96	287	380	27	0	275	151	0	121	32	0	282
Grp Sat Flow(s),veh/h/ln	1641	1723	1460	1641	0	1682	1641	0	1661	1641	0	1664
Q Serve(g_s), s	2.2	7.3	12.8	0.6	0.0	7.5	3.7	0.0	3.0	0.7	0.0	8.5
Cycle Q Clear(g_c), s	2.2	7.3	12.8	0.6	0.0	7.5	3.7	0.0	3.0	0.7	0.0	8.5
Prop In Lane	1.00		1.00	1.00		0.13	1.00		0.21	1.00		0.20
Lane Grp Cap(c), veh/h	399	543	460	323	0	462	360	0	466	478	0	362
V/C Ratio(X)	0.24	0.53	0.83	0.08	0.00	0.60	0.42	0.00	0.26	0.07	0.00	0.78
Avail Cap(c_a), veh/h	513	728	617	503	0	711	553	0	764	651	0	641
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	15.0	16.9	12.1	0.0	16.7	14.5	0.0	14.9	12.8	0.0	19.6
Incr Delay (d2), s/veh	0.3	0.8	6.8	0.1	0.0	1.2	0.8	0.0	0.3	0.1	0.0	3.6
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(95%),veh/ln	1.3	4.6	7.9	0.3	0.0	4.8	2.2	0.0	1.8	0.4	0.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.0	15.8	23.7	12.2	0.0	18.0	15.3	0.0	15.2	12.8	0.0	23.3
LnGrp LOS	B	B	C	B	A	B	B	A	B	B	A	C
Approach Vol, veh/h		763			302			272			314	
Approach Delay, s/veh		19.4			17.5			15.2			22.2	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	19.4	6.1	21.3	9.7	16.1	8.3	19.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	24.5	7.5	22.5	11.5	20.5	7.5	22.5
Max Q Clear Time (g_c+I1), s	2.7	5.0	2.6	14.8	5.7	10.5	4.2	9.5
Green Ext Time (p_c), s	0.0	0.5	0.0	1.9	0.2	1.1	0.1	1.2

Intersection Summary	
HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	152	0	128	72	0	64
Future Vol, veh/h	152	0	128	72	0	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	200	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	165	0	139	78	0	70

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	213	109	0	0	139	0
Stage 1	178	-	-	-	-	-
Stage 2	35	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	756	924	-	-	1442	-
Stage 1	835	-	-	-	-	-
Stage 2	983	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	756	924	-	-	1442	-
Mov Cap-2 Maneuver	756	-	-	-	-	-
Stage 1	835	-	-	-	-	-
Stage 2	983	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	756	-	1442	-
HCM Lane V/C Ratio	-	-	0.219	-	-	-
HCM Control Delay (s)	-	-	11.1	0	0	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.8	-	0	-

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	64	0	0	128	0	0
Future Vol, veh/h	64	0	0	128	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	200	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	70	0	0	139	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	71	70	0	0	0	0
Stage 1	70	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	925	978	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	925	978	-	-	-	-
Mov Cap-2 Maneuver	925	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	925	-	-	-
HCM Lane V/C Ratio	-	-	0.075	-	-	-
HCM Control Delay (s)	-	-	9.2	0	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	-	-	-

Intersection	
Int Delay, s/veh	7.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	172	110	90	120	99	117
Future Vol, veh/h	172	110	90	120	99	117
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	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	187	120	98	130	108	127

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	443	114	0	0	228	0
Stage 1	163	-	-	-	-	-
Stage 2	280	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	543	917	-	-	1337	-
Stage 1	849	-	-	-	-	-
Stage 2	742	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	499	917	-	-	1337	-
Mov Cap-2 Maneuver	499	-	-	-	-	-
Stage 1	849	-	-	-	-	-
Stage 2	682	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	3.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	607	1337	-
HCM Lane V/C Ratio	-	-	0.505	0.08	-
HCM Control Delay (s)	-	-	16.8	7.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	2.8	0.3	-

3: NE J St & Tiger Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.0	0.8	1.0	0.2	0.3	0.2	1.0	0.3	0.3	0.0	0.0	0.0
Total Delay (hr)	0.4	1.3	1.1	0.1	1.2	0.1	0.6	0.3	0.0	0.1	1.1	0.2
Total Del/Veh (s)	17.1	17.3	10.7	16.5	18.7	11.2	15.3	12.0	6.6	13.3	19.0	11.2
Stop Delay (hr)	0.3	0.7	0.5	0.1	0.8	0.1	0.5	0.2	0.0	0.1	0.7	0.1
Stop Del/Veh (s)	11.1	9.5	4.8	12.8	12.3	8.1	11.7	8.0	5.1	10.0	13.4	8.7
Total Stops	64	149	207	23	138	24	118	45	13	19	136	35
Stop/Veh	0.73	0.54	0.57	0.82	0.62	0.71	0.81	0.50	0.57	0.68	0.68	0.69
Travel Dist (mi)	46.8	148.4	195.5	16.5	132.9	20.2	68.3	42.4	10.9	7.7	54.2	13.8
Travel Time (hr)	1.8	5.7	7.2	0.6	5.0	0.7	2.7	1.5	0.4	0.3	2.6	0.6
Avg Speed (mph)	26	26	28	26	27	28	25	28	29	22	21	23
Vehicles Entered	86	272	360	27	218	33	143	89	22	28	198	50
Vehicles Exited	86	272	357	27	217	33	143	88	23	28	198	50
Hourly Exit Rate	86	272	357	27	217	33	143	88	23	28	198	50
Input Volume	88	264	350	25	219	34	139	88	23	29	210	51
% of Volume	98	103	102	109	99	97	103	100	101	97	94	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0
Density (ft/veh)												
Occupancy (veh)	2	6	7	1	5	1	3	2	0	0	3	1

3: NE J St & Tiger Blvd Performance by movement

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.6
Total Delay (hr)	6.5
Total Del/Veh (s)	15.1
Stop Delay (hr)	4.1
Stop Del/Veh (s)	9.5
Total Stops	971
Stop/Veh	0.63
Travel Dist (mi)	757.7
Travel Time (hr)	29.3
Avg Speed (mph)	26
Vehicles Entered	1526
Vehicles Exited	1522
Hourly Exit Rate	1522
Input Volume	1519
% of Volume	100
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	791
Occupancy (veh)	29

8: NE J St & I-49 SB Ramps Performance by movement

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.1
Total Delay (hr)	0.2	0.1	0.1	0.0	0.4
Total Del/Veh (s)	5.8	3.0	4.5	0.8	3.9
Stop Delay (hr)	0.2	0.0	0.0	0.0	0.2
Stop Del/Veh (s)	3.8	0.1	0.1	0.2	1.4
Total Stops	143	0	0	0	143
Stop/Veh	0.99	0.00	0.00	0.00	0.35
Travel Dist (mi)	18.6	31.4	17.3	14.0	81.4
Travel Time (hr)	1.0	1.0	0.6	0.5	3.1
Avg Speed (mph)	18	31	28	29	26
Vehicles Entered	143	128	76	64	411
Vehicles Exited	143	129	76	63	411
Hourly Exit Rate	143	129	76	63	411
Input Volume	152	129	72	64	417
% of Volume	94	100	106	98	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)					2360
Occupancy (veh)	1	1	1	0	3

10: NE J St & I-49 NB Ramps Performance by movement

Movement	WBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0
Total Delay (hr)	0.1	0.1	0.2
Total Del/Veh (s)	4.0	3.1	3.4
Stop Delay (hr)	0.0	0.0	0.0
Stop Del/Veh (s)	2.4	0.0	0.8
Total Stops	64	0	64
Stop/Veh	0.98	0.00	0.33
Travel Dist (mi)	8.6	25.8	34.4
Travel Time (hr)	0.4	0.9	1.3
Avg Speed (mph)	20	29	26
Vehicles Entered	64	128	192
Vehicles Exited	64	127	191
Hourly Exit Rate	64	127	191
Input Volume	64	128	192
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0
Density (ft/veh)			4042
Occupancy (veh)	0	1	1

12: NE J St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.2	0.0	0.0	0.0	0.0	0.1
Total Delay (hr)	0.5	0.3	0.0	0.0	0.1	0.0	0.9
Total Del/Veh (s)	10.5	8.8	0.4	0.5	4.5	0.6	4.7
Stop Delay (hr)	0.3	0.1	0.0	0.0	0.0	0.0	0.4
Stop Del/Veh (s)	5.9	4.3	0.0	0.0	0.9	0.2	2.2
Total Stops	161	111	0	0	20	0	292
Stop/Veh	0.99	0.99	0.00	0.00	0.21	0.00	0.42
Travel Dist (mi)	41.9	28.8	17.5	21.9	23.4	28.4	161.9
Travel Time (hr)	1.9	1.2	0.6	0.8	1.0	1.0	6.5
Avg Speed (mph)	22	23	29	29	25	28	25
Vehicles Entered	162	111	94	116	93	113	689
Vehicles Exited	161	111	94	116	93	113	688
Hourly Exit Rate	161	111	94	116	93	113	688
Input Volume	172	110	91	120	99	118	710
% of Volume	94	101	104	96	94	96	97
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0
Density (ft/veh)							1127
Occupancy (veh)	2	1	1	1	1	1	6

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.6
Total Delay (hr)	10.2
Total Del/Veh (s)	20.5
Stop Delay (hr)	4.9
Stop Del/Veh (s)	9.7
Total Stops	1470
Stop/Veh	0.82
Travel Dist (mi)	2007.6
Travel Time (hr)	72.6
Avg Speed (mph)	28
Vehicles Entered	1732
Vehicles Exited	1731
Hourly Exit Rate	1731
Input Volume	5563
% of Volume	31
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	681
Occupancy (veh)	72

Intersection: 3: NE J St & Tiger Blvd

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	TR	L	TR
Maximum Queue (ft)	87	192	177	58	206	124	88	72	190
Average Queue (ft)	38	85	76	18	93	54	33	16	90
95th Queue (ft)	72	152	131	48	172	101	72	47	153
Link Distance (ft)		2882			3227		2521		1395
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	200		200	200		330		120	
Storage Blk Time (%)		0	0		1			0	3
Queuing Penalty (veh)		1	0		0			0	1

Intersection: 8: NE J St & I-49 SB Ramps

Movement	WB	NB
Directions Served	L	TR
Maximum Queue (ft)	82	6
Average Queue (ft)	40	0
95th Queue (ft)	67	6
Link Distance (ft)	686	1256
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: NE J St & I-49 NB Ramps

Movement	WB
Directions Served	L
Maximum Queue (ft)	54
Average Queue (ft)	29
95th Queue (ft)	50
Link Distance (ft)	712
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: NE J St

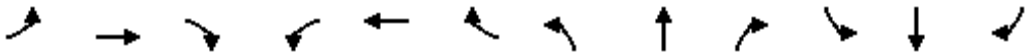
Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	128	44
Average Queue (ft)	63	15
95th Queue (ft)	103	43
Link Distance (ft)	1366	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 2

HCM 6th Signalized Intersection Summary
3: NE J St & Tiger Blvd

04/08/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	285	288	21	388	39	391	109	24	14	138	97
Future Volume (veh/h)	77	285	288	21	388	39	391	109	24	14	138	97
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	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	84	310	313	23	422	42	425	118	26	15	150	105
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	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	564	478	277	461	46	509	548	121	549	177	124
Arrive On Green	0.05	0.33	0.33	0.03	0.30	0.30	0.23	0.40	0.40	0.02	0.19	0.19
Sat Flow, veh/h	1641	1723	1460	1641	1542	153	1641	1367	301	1641	943	660
Grp Volume(v), veh/h	84	310	313	23	0	464	425	0	144	15	0	255
Grp Sat Flow(s),veh/h/ln	1641	1723	1460	1641	0	1695	1641	0	1668	1641	0	1604
Q Serve(g_s), s	2.8	11.6	14.4	0.7	0.0	20.8	16.0	0.0	4.5	0.4	0.0	12.1
Cycle Q Clear(g_c), s	2.8	11.6	14.4	0.7	0.0	20.8	16.0	0.0	4.5	0.4	0.0	12.1
Prop In Lane	1.00		1.00	1.00		0.09	1.00		0.18	1.00		0.41
Lane Grp Cap(c), veh/h	211	564	478	277	0	507	509	0	669	549	0	300
V/C Ratio(X)	0.40	0.55	0.65	0.08	0.00	0.92	0.83	0.00	0.22	0.03	0.00	0.85
Avail Cap(c_a), veh/h	280	564	478	392	0	549	536	0	669	676	0	397
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.4	21.7	22.7	17.6	0.0	26.6	19.2	0.0	15.5	13.5	0.0	30.9
Incr Delay (d2), s/veh	1.2	1.1	3.2	0.1	0.0	19.3	10.6	0.0	0.2	0.0	0.0	12.5
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(95%),veh/ln	1.9	8.1	8.7	0.5	0.0	15.8	11.3	0.0	2.9	0.3	0.0	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	22.9	25.9	17.7	0.0	45.9	29.8	0.0	15.6	13.6	0.0	43.5
LnGrp LOS	C	C	C	B	A	D	C	A	B	B	A	D
Approach Vol, veh/h		707			487			569			270	
Approach Delay, s/veh		24.0			44.6			26.2			41.8	
Approach LOS		C			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	36.1	6.5	30.3	22.7	19.2	8.7	28.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	31.5	7.5	25.5	19.5	19.5	7.5	25.5
Max Q Clear Time (g_c+I1), s	2.4	6.5	2.7	16.4	18.0	14.1	4.8	22.8
Green Ext Time (p_c), s	0.0	0.7	0.0	2.0	0.2	0.6	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	171	0	144	81	0	72
Future Vol, veh/h	171	0	144	81	0	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	200	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	186	0	157	88	0	78

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	240	123	0	0	157	0
Stage 1	201	-	-	-	-	-
Stage 2	39	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	727	905	-	-	1420	-
Stage 1	813	-	-	-	-	-
Stage 2	978	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	727	905	-	-	1420	-
Mov Cap-2 Maneuver	727	-	-	-	-	-
Stage 1	813	-	-	-	-	-
Stage 2	978	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	727	-	1420	-
HCM Lane V/C Ratio	-	-	0.256	-	-	-
HCM Control Delay (s)	-	-	11.6	0	0	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	1	-	0	-

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	72	0	0	144	0	0
Future Vol, veh/h	72	0	0	144	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	200	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	0	0	157	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	80	79	0	0	0	0
Stage 1	79	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	913	965	-	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	913	965	-	-	-	-
Mov Cap-2 Maneuver	913	-	-	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	913	-	-	-
HCM Lane V/C Ratio	-	-	0.086	-	-	-
HCM Control Delay (s)	-	-	9.3	0	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	-	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	108	82	143	82	102	141
Future Vol, veh/h	108	82	143	82	102	141
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	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	117	89	155	89	111	153

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	499	122	0	0	244	0
Stage 1	200	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	501	906	-	-	1319	-
Stage 1	814	-	-	-	-	-
Stage 2	726	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	459	906	-	-	1319	-
Mov Cap-2 Maneuver	459	-	-	-	-	-
Stage 1	814	-	-	-	-	-
Stage 2	665	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.5	0	3.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	583	1319	-
HCM Lane V/C Ratio	-	-	0.354	0.084	-
HCM Control Delay (s)	-	-	14.5	8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	1.6	0.3	-

3: NE J St & Tiger Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.9	0.7	0.9	0.5	0.4	0.4	1.5	0.7	0.8	0.0	0.0	0.0
Total Delay (hr)	0.5	1.8	0.8	0.1	3.4	0.3	3.4	0.4	0.1	0.1	1.3	0.6
Total Del/Veh (s)	24.9	21.9	10.1	22.7	30.8	23.7	30.8	13.2	8.5	13.7	33.2	21.9
Stop Delay (hr)	0.4	1.2	0.4	0.1	2.4	0.2	2.6	0.2	0.0	0.0	1.1	0.5
Stop Del/Veh (s)	19.0	14.0	4.9	17.2	21.2	17.4	23.6	7.8	5.8	10.4	26.8	18.8
Total Stops	70	180	176	17	300	28	355	47	11	9	118	81
Stop/Veh	0.90	0.59	0.61	0.85	0.75	0.74	0.89	0.44	0.48	0.64	0.81	0.84
Travel Dist (mi)	41.8	162.4	155.6	11.7	237.7	22.7	187.0	50.2	10.8	3.7	39.7	26.1
Travel Time (hr)	1.8	6.6	5.7	0.5	10.3	0.9	9.2	1.9	0.4	0.2	2.5	1.4
Avg Speed (mph)	23	25	28	24	23	24	21	27	28	22	16	18
Vehicles Entered	76	299	284	19	389	37	389	105	22	14	144	95
Vehicles Exited	77	297	286	19	389	37	391	104	23	14	145	94
Hourly Exit Rate	77	297	286	19	389	37	391	104	23	14	145	94
Input Volume	77	285	288	21	388	39	391	109	24	14	138	97
% of Volume	100	104	99	92	100	95	100	95	97	98	105	97
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0
Density (ft/veh)												
Occupancy (veh)	2	7	6	0	10	1	9	2	0	0	3	1

3: NE J St & Tiger Blvd Performance by movement

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	0.7
Total Delay (hr)	12.8
Total Del/Veh (s)	24.2
Stop Delay (hr)	9.1
Stop Del/Veh (s)	17.2
Total Stops	1392
Stop/Veh	0.73
Travel Dist (mi)	949.4
Travel Time (hr)	41.4
Avg Speed (mph)	23
Vehicles Entered	1873
Vehicles Exited	1876
Hourly Exit Rate	1876
Input Volume	1872
% of Volume	100
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	561
Occupancy (veh)	41

8: NE J St & I-49 SB Ramps Performance by movement

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.1
Total Delay (hr)	0.3	0.1	0.1	0.0	0.5
Total Del/Veh (s)	6.0	2.8	4.0	0.8	3.9
Stop Delay (hr)	0.2	0.0	0.0	0.0	0.2
Stop Del/Veh (s)	3.9	0.1	0.1	0.2	1.5
Total Stops	171	0	0	0	171
Stop/Veh	0.99	0.00	0.00	0.00	0.37
Travel Dist (mi)	22.2	35.2	18.0	15.2	90.6
Travel Time (hr)	1.2	1.1	0.6	0.5	3.5
Avg Speed (mph)	18	31	28	30	26
Vehicles Entered	170	143	79	69	461
Vehicles Exited	171	142	79	69	461
Hourly Exit Rate	171	142	79	69	461
Input Volume	171	144	81	72	468
% of Volume	100	98	97	96	98
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)					2106
Occupancy (veh)	1	1	1	1	4

10: NE J St & I-49 NB Ramps Performance by movement

Movement	WBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0
Total Delay (hr)	0.1	0.1	0.2
Total Del/Veh (s)	4.1	3.3	3.5
Stop Delay (hr)	0.0	0.0	0.0
Stop Del/Veh (s)	2.4	0.0	0.8
Total Stops	69	0	69
Stop/Veh	0.99	0.00	0.32
Travel Dist (mi)	9.4	28.8	38.2
Travel Time (hr)	0.5	1.0	1.5
Avg Speed (mph)	20	28	26
Vehicles Entered	69	142	211
Vehicles Exited	69	143	212
Hourly Exit Rate	69	143	212
Input Volume	72	144	216
% of Volume	96	99	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0
Density (ft/veh)			3629
Occupancy (veh)	0	1	1

12: NE J St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.3	0.0	0.0	0.0	0.0	0.1
Total Delay (hr)	0.3	0.2	0.0	0.0	0.1	0.0	0.7
Total Del/Veh (s)	10.2	8.5	0.5	0.7	4.3	0.6	3.8
Stop Delay (hr)	0.2	0.1	0.0	0.0	0.0	0.0	0.3
Stop Del/Veh (s)	6.1	4.3	0.0	0.0	0.7	0.2	1.7
Total Stops	112	83	0	0	16	0	211
Stop/Veh	0.99	0.99	0.00	0.00	0.16	0.00	0.32
Travel Dist (mi)	29.0	21.6	26.2	15.6	24.8	35.4	152.5
Travel Time (hr)	1.3	0.9	0.9	0.5	1.0	1.3	6.0
Avg Speed (mph)	22	23	29	29	25	28	26
Vehicles Entered	112	84	138	82	99	141	656
Vehicles Exited	111	83	139	82	99	141	655
Hourly Exit Rate	111	83	139	82	99	141	655
Input Volume	108	82	143	82	102	142	660
% of Volume	103	101	97	100	97	99	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0
Density (ft/veh)							1221
Occupancy (veh)	1	1	1	1	1	1	6

Total Network Performance

Denied Delay (hr)	0.4
Denied Del/Veh (s)	0.7
Total Delay (hr)	17.3
Total Del/Veh (s)	29.1
Stop Delay (hr)	9.8
Stop Del/Veh (s)	16.5
Total Stops	1843
Stop/Veh	0.86
Travel Dist (mi)	2393.3
Travel Time (hr)	91.2
Avg Speed (mph)	26
Vehicles Entered	2056
Vehicles Exited	2053
Hourly Exit Rate	2053
Input Volume	6221
% of Volume	33
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	542
Occupancy (veh)	91

Intersection: 3: NE J St & Tiger Blvd

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	TR	L	TR
Maximum Queue (ft)	149	225	206	40	313	318	164	35	243
Average Queue (ft)	45	112	70	15	186	167	39	8	116
95th Queue (ft)	102	193	137	41	289	276	126	30	203
Link Distance (ft)		2882			3227		2521		1395
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	200		200	200		330		120	
Storage Blk Time (%)		1			8	1			10
Queuing Penalty (veh)		3			2	1			1

Intersection: 8: NE J St & I-49 SB Ramps

Movement	WB	NB
Directions Served	L	TR
Maximum Queue (ft)	88	4
Average Queue (ft)	43	0
95th Queue (ft)	70	0
Link Distance (ft)	686	1256
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: NE J St & I-49 NB Ramps

Movement	WB
Directions Served	L
Maximum Queue (ft)	50
Average Queue (ft)	29
95th Queue (ft)	49
Link Distance (ft)	712
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: NE J St

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	139	49
Average Queue (ft)	53	13
95th Queue (ft)	96	41
Link Distance (ft)	1366	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 7

APPENDIX B

SIGNAL WARRANT ANALYSIS RESULTS

HCS7 Warrants Report

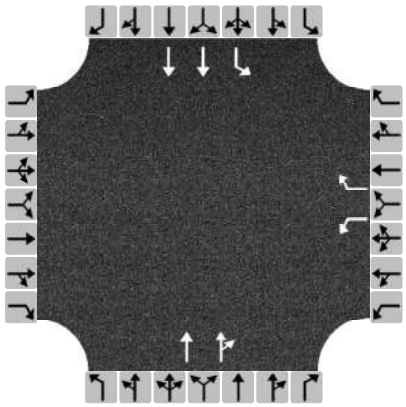
Project Information

Analyst	APS	Date	5/24/2022
Agency	Garver	Analysis Year	2022
Jurisdiction	Bentonville	Time Period Analyzed	7 AM - 7 PM
Project Description	NE J Street at I-49 NB Ramps - Action		

General

Major Street Direction	North-South	Population < 10,000	No
Starting Time Interval	7	Coordinated Signal System	No
Median Type	Undivided	Crashes (crashes/year)	0
Major Street Speed (mi/h)	35	Adequate Trials of Crash Exp. Alt.	No
Nearest Signal (ft)	9999		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Number of Lanes, N	0	0	0	1	0	1	0	2	0	1	2	0
Lane Usage				L		R		TR		L	T	
Vehicle Volumes Averages (veh/h)	0	0	0	31	0	0	0	0	62	0	0	0
Pedestrian Averages (peds/h)	0			0			0			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay (s/veh)	0.0			0.0			0.0			0.0		
Delay (veh-hrs)	0.0			0.0			0.0			0.0		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	0

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	0
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)	-	Tractor-Trailer Trucks (%)	10

HCS7 Warrants Report

Volume Summary

Hour	Major Volume	Minor Volume	Total Volume	Peds/h	Gaps/h	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (80%)	4A (100%)	4B (80%)
07 - 08	81	41	122	0	0	No	No	No	No	No	No	No	No	No
08 - 09	67	34	101	0	0	No	No	No	No	No	No	No	No	No
09 - 10	36	18	54	0	0	No	No	No	No	No	No	No	No	No
10 - 11	44	22	66	0	0	No	No	No	No	No	No	No	No	No
11 - 12	53	26	79	0	0	No	No	No	No	No	No	No	No	No
12 - 13	55	27	82	0	0	No	No	No	No	No	No	No	No	No
13 - 14	53	27	80	0	0	No	No	No	No	No	No	No	No	No
14 - 15	60	30	90	0	0	No	No	No	No	No	No	No	No	No
15 - 16	71	35	106	0	0	No	No	No	No	No	No	No	No	No
16 - 17	85	42	127	0	0	No	No	No	No	No	No	No	No	No
17 - 18	91	46	137	0	0	No	No	No	No	No	No	No	No	No
18 - 19	56	28	84	0	0	No	No	No	No	No	No	No	No	No
Total	752	376	1128	0	0	0	0	0	0	0	0	0	0	0

Warrants

Warrant 1: Eight-Hour Vehicular Volume	
A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	
B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	
80% Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	
Warrant 2: Four-Hour Vehicular Volume	
Four-Hour Vehicular Volume (Both major approaches --and-- higher minor approach)	
Warrant 3: Peak Hour	
A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--	
B. Peak-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	
Warrant 4: Pedestrian Volume	
A. Four Hour Volumes --or--	
B. One-Hour Volumes	
Warrant 5: School Crossing	
Gaps Same Period --and--	
Student Volumes	
Nearest Traffic Control Signal (optional)	✓
Warrant 6: Coordinated Signal System	
Degree of Platooning (Predominant direction or both directions)	
Warrant 7: Crash Experience	
A. Adequate trials of alternatives, observance and enforcement failed --and--	
B. Reported crashes susceptible to correction by signal (12-month period) --and--	
C. 80% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied	
Warrant 8: Roadway Network	
A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--	
B. Weekend Volume (Five hours total)	
Warrant 9: Grade Crossing	
A. Grade Crossing within 140 ft --and--	
B. Peak-Hour Vehicular Volumes	

HCS7 Warrants Report

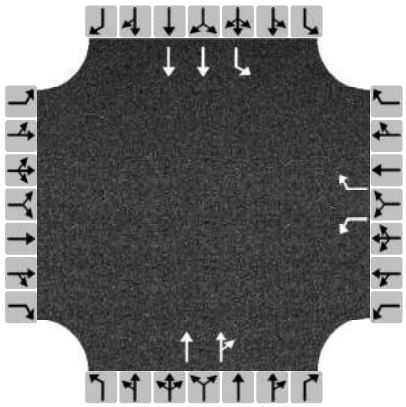
Project Information

Analyst	APS	Date	5/24/2022
Agency	Garver	Analysis Year	2022
Jurisdiction	Bentonville	Time Period Analyzed	7 AM - 7 PM
Project Description	NE J Street at I-49 SB Ramps - Action		

General

Major Street Direction	North-South	Population < 10,000	No
Starting Time Interval	7	Coordinated Signal System	No
Median Type	Undivided	Crashes (crashes/year)	0
Major Street Speed (mi/h)	35	Adequate Trials of Crash Exp. Alt.	No
Nearest Signal (ft)	9999		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Number of Lanes, N	0	0	0	1	0	1	0	2	0	1	2	0
Lane Usage				L		R		TR		L	T	
Vehicle Volumes Averages (veh/h)	0	0	0	74	0	0	0	62	35	0	31	0
Pedestrian Averages (peds/h)	0			0			0			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay (s/veh)	0.0			0.0			0.0			0.0		
Delay (veh-hrs)	0.0			0.0			0.0			0.0		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	0

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	0
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)	-	Tractor-Trailer Trucks (%)	10

HCS7 Warrants Report

Volume Summary

Hour	Major Volume	Minor Volume	Total Volume	Peds/h	Gaps/h	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (80%)	4A (100%)	4B (80%)
07 - 08	168	96	264	0	0	No	No	No	No	No	No	No	No	No
08 - 09	139	80	219	0	0	No	No	No	No	No	No	No	No	No
09 - 10	74	43	117	0	0	No	No	No	No	No	No	No	No	No
10 - 11	91	52	143	0	0	No	No	No	No	No	No	No	No	No
11 - 12	109	63	172	0	0	No	No	No	No	No	No	No	No	No
12 - 13	113	65	178	0	0	No	No	No	No	No	No	No	No	No
13 - 14	110	63	173	0	0	No	No	No	No	No	No	No	No	No
14 - 15	124	71	195	0	0	No	No	No	No	No	No	No	No	No
15 - 16	146	84	230	0	0	No	No	No	No	No	No	No	No	No
16 - 17	175	100	275	0	0	No	No	No	No	No	No	No	No	No
17 - 18	188	108	296	0	0	No	No	No	No	No	No	No	No	No
18 - 19	115	66	181	0	0	No	No	No	No	No	No	No	No	No
Total	1552	891	2443	0	0	0	0	0	0	0	0	0	0	0

Warrants

Warrant 1: Eight-Hour Vehicular Volume	
A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	
B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	
80% Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	
Warrant 2: Four-Hour Vehicular Volume	
Four-Hour Vehicular Volume (Both major approaches --and-- higher minor approach)	
Warrant 3: Peak Hour	
A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--	
B. Peak-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	
Warrant 4: Pedestrian Volume	
A. Four Hour Volumes --or--	
B. One-Hour Volumes	
Warrant 5: School Crossing	
Gaps Same Period --and--	
Student Volumes	
Nearest Traffic Control Signal (optional)	✓
Warrant 6: Coordinated Signal System	
Degree of Platooning (Predominant direction or both directions)	
Warrant 7: Crash Experience	
A. Adequate trials of alternatives, observance and enforcement failed --and--	
B. Reported crashes susceptible to correction by signal (12-month period) --and--	
C. 80% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied	
Warrant 8: Roadway Network	
A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--	
B. Weekend Volume (Five hours total)	
Warrant 9: Grade Crossing	
A. Grade Crossing within 140 ft --and--	
B. Peak-Hour Vehicular Volumes	

HCS7 Warrants Report

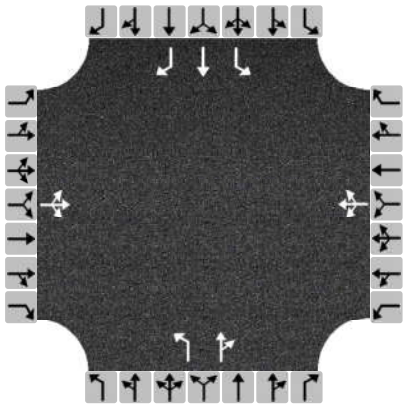
Project Information

Analyst	APS	Date	5/24/2022
Agency	Garver	Analysis Year	2022
Jurisdiction	Bentonville	Time Period Analyzed	7 AM - 7 PM
Project Description	NE J St at Tiger Blvd- Action Alternative		

General

Major Street Direction	East-West	Population < 10,000	No
Starting Time Interval	7	Coordinated Signal System	No
Median Type	Undivided	Crashes (crashes/year)	0
Major Street Speed (mi/h)	35	Adequate Trials of Crash Exp. Alt.	No
Nearest Signal (ft)	6500		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Number of Lanes, N	0	1	0	0	1	0	1	1	0	1	1	1
Lane Usage		LTR			LTR		L	TR		L	T	R
Vehicle Volumes Averages (veh/h)	37	126	142	10	145	16	131	45	10	9	75	35
Pedestrian Averages (peds/h)	0			0			0			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay (s/veh)	0.0			0.0			0.0			0.0		
Delay (veh-hrs)	0.0			0.0			0.0			0.0		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	0

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	4
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)	-	Tractor-Trailer Trucks (%)	10

HCS7 Warrants Report

Volume Summary

Hour	Major Volume	Minor Volume	Total Volume	Peds/h	Gaps/h	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (80%)	4A (100%)	4B (80%)
07 - 08	621	183	962	0	0	No	Yes	No	Yes	No	No	No	No	No
08 - 09	513	151	795	0	0	No	No	No	No	No	No	No	No	No
09 - 10	277	81	428	0	0	No	No	No	No	No	No	No	No	No
10 - 11	337	99	522	0	0	No	No	No	No	No	No	No	No	No
11 - 12	403	119	624	0	0	No	No	No	No	No	No	No	No	No
12 - 13	416	198	708	0	0	No	Yes	No	No	No	No	No	No	No
13 - 14	408	194	694	0	0	No	Yes	No	No	No	No	No	No	No
14 - 15	458	219	781	0	0	No	Yes	No	No	No	No	No	No	No
15 - 16	538	257	917	0	0	Yes	Yes	No	No	No	No	No	No	No
16 - 17	645	308	1099	0	0	Yes	Yes	No	Yes	Yes	No	No	No	No
17 - 18	696	332	1185	0	0	Yes	Yes	No	Yes	Yes	No	No	No	No
18 - 19	427	203	727	0	0	No	Yes	No	No	No	No	No	No	No
Total	5739	2344	9442	0	0	3	8	0	3	2	0	0	0	0

Warrants

Warrant 1: Eight-Hour Vehicular Volume	
A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	
B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	
80% Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	
Warrant 2: Four-Hour Vehicular Volume	
Four-Hour Vehicular Volume (Both major approaches --and-- higher minor approach)	
Warrant 3: Peak Hour	
A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--	
B. Peak-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	
Warrant 4: Pedestrian Volume	
A. Four Hour Volumes --or--	
B. One-Hour Volumes	
Warrant 5: School Crossing	
Gaps Same Period --and--	
Student Volumes	
Nearest Traffic Control Signal (optional)	✓
Warrant 6: Coordinated Signal System	
Degree of Platooning (Predominant direction or both directions)	
Warrant 7: Crash Experience	
A. Adequate trials of alternatives, observance and enforcement failed --and--	
B. Reported crashes susceptible to correction by signal (12-month period) --and--	
C. 80% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied	✓
Warrant 8: Roadway Network	
A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--	
B. Weekend Volume (Five hours total)	
Warrant 9: Grade Crossing	
A. Grade Crossing within 140 ft --and--	
B. Peak-Hour Vehicular Volumes	

HCS7 Warrants Report

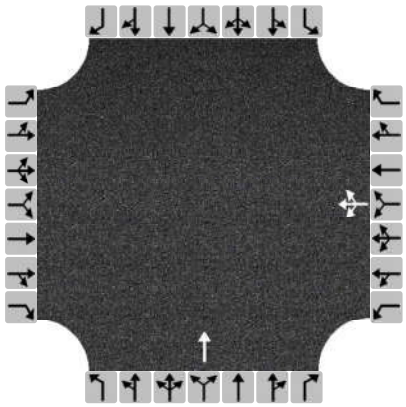
Project Information

Analyst	APS	Date	5/25/2022
Agency	Garver	Analysis Year	2025
Jurisdiction	Bentonville	Time Period Analyzed	7 AM - 7 PM
Project Description	NE J St at Tiger Blvd- Action Alternative-EBL vs WB		

General

Major Street Direction	East-West	Population < 10,000	No
Starting Time Interval	7	Coordinated Signal System	No
Median Type	Undivided	Crashes (crashes/year)	0
Major Street Speed (mi/h)	35	Adequate Trials of Crash Exp. Alt.	No
Nearest Signal (ft)	6500		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Number of Lanes, N	0	0	0	0	1	0	0	1	0	0	0	0
Lane Usage					LTR			T				
Vehicle Volumes Averages (veh/h)	0	0	0	10	145	16	0	37	0	0	0	0
Pedestrian Averages (peds/h)	0			0			0			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay (s/veh)	0.0			0.0			0.0			0.0		
Delay (veh-hrs)	0.0			0.0			0.0			0.0		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	0

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	4
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)	-	Tractor-Trailer Trucks (%)	10

HCS7 Warrants Report

Volume Summary

Hour	Major Volume	Minor Volume	Total Volume	Peds/h	Gaps/h	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (80%)	4A (100%)	4B (80%)
07 - 08	176	56	232	0	0	No	No	No	No	No	No	No	No	No
08 - 09	146	46	192	0	0	No	No	No	No	No	No	No	No	No
09 - 10	79	25	104	0	0	No	No	No	No	No	No	No	No	No
10 - 11	96	30	126	0	0	No	No	No	No	No	No	No	No	No
11 - 12	114	36	150	0	0	No	No	No	No	No	No	No	No	No
12 - 13	170	29	199	0	0	No	No	No	No	No	No	No	No	No
13 - 14	166	29	195	0	0	No	No	No	No	No	No	No	No	No
14 - 15	187	32	219	0	0	No	No	No	No	No	No	No	No	No
15 - 16	219	38	257	0	0	No	No	No	No	No	No	No	No	No
16 - 17	263	45	308	0	0	No	No	No	No	No	No	No	No	No
17 - 18	283	49	332	0	0	No	No	No	No	No	No	No	No	No
18 - 19	174	30	204	0	0	No	No	No	No	No	No	No	No	No
Total	2073	445	2518	0	0	0	0	0	0	0	0	0	0	0

Warrants

Warrant 1: Eight-Hour Vehicular Volume	
A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	
B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	
80% Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	
Warrant 2: Four-Hour Vehicular Volume	
Four-Hour Vehicular Volume (Both major approaches --and-- higher minor approach)	
Warrant 3: Peak Hour	
A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--	
B. Peak-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	
Warrant 4: Pedestrian Volume	
A. Four Hour Volumes --or--	
B. One-Hour Volumes	
Warrant 5: School Crossing	
Gaps Same Period --and--	
Student Volumes	
Nearest Traffic Control Signal (optional)	✓
Warrant 6: Coordinated Signal System	
Degree of Platooning (Predominant direction or both directions)	
Warrant 7: Crash Experience	
A. Adequate trials of alternatives, observance and enforcement failed --and--	
B. Reported crashes susceptible to correction by signal (12-month period) --and--	
C. 80% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied	
Warrant 8: Roadway Network	
A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--	
B. Weekend Volume (Five hours total)	
Warrant 9: Grade Crossing	
A. Grade Crossing within 140 ft --and--	
B. Peak-Hour Vehicular Volumes	

Interstate 49 at NE J Street

Appendix B – Traffic Report

Interchange Justification Report

Bentonville, AR

GarverUSA.com

RDCrews 5/23/2022 6:50:10 PM
WORKSPACE:Garver_2012
C:\Users\RDCrews\Documents\ArDOT\J Street Interchange\Drawings_sheets\J Street SIGN_001.dgn

GARVER

SCHEMATIC EXHIBIT
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

NE J STEET
INTERCHANGE

NE J STREET
INTERCHANGE
ALTERNATE 1
SIGNING

JOB NO.: 21T21070
DATE: SEPT. 2021
DESIGNED BY: RDC
DRAWN BY: NDT

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-100

SCHEMATIC EXHIBIT
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

NE J STREET
INTERCHANGE

NE J STREET
INTERCHANGE
ALTERNATE 1
SIGNING

JOB NO.: 21T21070
DATE: SEPT. 2021
DESIGNED BY: RDC
DRAWN BY: NDT

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

0' 75' 150' 300' 450'
(IN FEET)

DRAWING NUMBER
C-102

RDCrews
5/23/2022
6:50:27 PM
WORKSPACE:Garver_2012
C:\Users\RDCrews\Documents\ArDOT\J Street Interchange\Drawings_sheets\J Street SIGN_002.dgn

SCHEMATIC EXHIBIT
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

NE J STEET
INTERCHANGE

NE J STREET
INTERCHANGE
ALTERNATE 1
SIGNING

JOB NO.: 21T21070
DATE: SEPT. 2021
DESIGNED BY: RDC
DRAWN BY: NDT

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-103

N

0' 75' 150' 300' 450'
(IN FEET)

RDCrews 5/23/2022 6:50:45 PM
WORKSPACE:Garver_2012
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