APPENDIX H – CORRIDOR FEASIBILITY ASSESSMENT TRAFFIC ANALYSIS

Transportation Impact Study

Downtown Phoenix Active Transportation Corridor Feasibility Assessment

City of Phoenix

June 27, 2023 — TYLin Project #13328

TYLin

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1 INTRODUCTION

1.1 Scope and Objective

TYLin was retained by the City of Phoenix to complete a Traffic Brief in support of the Active Transportation Corridor Assessment within the Downtown Phoenix area.

The purpose of this study is to determine existing traffic volumes and roadway capacity within the study area, during the weekday a.m. and p.m. peak periods, and to assess whether sufficient capacity exists to accommodate the addition of a proposed active transportation corridor on the following proposed alternative corridors/alignments:

1. An alignment following 1st Street in both directions through the study area;
2. An alignment following 3rd Street in both directions through the study area;
3. An alignment generally following 3rd Street through the study area, with the exception of the segment between Jefferson and Roosevelt Streets, through which the alignment follows 3rd Street southbound and 5th Street/4th Street northbound.

The three alignments listed above are illustrated in **Figure 1-1**.

This Traffic Brief consists of the following elements:

- A review of the existing study area transportation network;
- A summary of the expected traffic operations of the study area road network under existing (2022) conditions;
- An assessment of how capacity constraints on the study area road network may affect the feasibility of the proposed alternative alignments for the active transportation corridor.

A detailed scope was submitted by TYLin to the City of Phoenix ("the City") for review and comment.

Figure 1-1 Proposed Active Transportation Corridor Alignments and Road Network

2 STUDY AREA

2.1 Study Area Road Network

The study area being considered for the Phoenix Active Transportation Corridor is located within Downtown Phoenix. The study area is bounded by Interstate 10 to the north, East Lincoln Street to the south, North/South 5th Street to the east, and North/South 1st Street to the west. The study area, along with intersections under analysis in this traffic brief, is illustrated in **Figure 1-1**.

The following existing roads are included in the study area transportation network.

1st Street is a north-south minor collector roadway west of 3rd Street and east of Central Avenue. Within the study area, 1st street has an existing two-lane cross-section with a posted speed limit of 30mph. 1st Street has a three-lane cross-section, with two northbound lanes bounded between Adams Street and Jackson Street.

3rd Street is a north-south collector roadway west of 4th/5th Street and east of 1st Street. Within the study area, 3rd Street has an existing three-lane cross-section with two southbound lanes, and one northbound lane with a posted speed limit of 30mph. 3rd Street is also exclusively one-way southbound between a point just north of Roosevelt Street and Fillmore Street, as well as between Washington Street and a point just north of Buchanan Street.

4th Street is a northbound collector roadway bounded by Roosevelt Street and Fillmore Street. North of Roosevelt Street, its alignment defaults to 3rd Street; south of Fillmore Street, it defaults to 5th Street. 4th Street is west of 5th Street and east of 3rd Street. 4th Street has a three-lane cross-section and a posted speed limit of 30mph.

5th Street is a northbound collector roadway bounded by Fillmore Street and Jefferson Street. 5th Street has a three-lane cross-section and a posted speed limit of 30mph.

Interstate 10 (I-10) is an east-west interstate freeway with ten lanes, composed of four general traffic lanes and an HOV lane in each direction. The freeway has a posted speed limit of 65mph. The intersection of I-10 and 3rd Street provides an eastbound on-ramp and a westbound off-ramp to the I-10 HOV lanes.

Roosevelt Street is an east-west minor collector roadway south of I-10 and north of Fillmore Street. Within the study area, Roosevelt Street has an existing two-lane cross-section with a posted speed limit of 30mph.

Fillmore Street is an east-west collector roadway south of Roosevelt Street and north of Van Buren Street. Within the study area, Fillmore Street has an existing four-lane cross-section with a posted speed limit of 30mph.

Van Buren Street is an east-west arterial roadway south of Fillmore Street and north of Washington Street. Within the study area, Van Buren Street has an existing four-lane cross-section with a posted speed limit of 30mph.

Washington Street is a westbound arterial roadway south of Van Buren Street and north of Jefferson Street. Within the study area, Washington Street has an existing three-lane cross-section with a posted speed limit of 30mph.

Jefferson Street is an eastbound arterial roadway south of the Washington Street and north of Jackson Street. Within the study area, Jefferson Street has an existing four-lane cross-section with a posted speed limit of 30mph.

Jackson Street is an east-west minor collector roadway south of Jefferson Street and north of Lincoln Street. Within the study area, Jackson Street has an existing two-lane cross-section with a posted speed limit of 30mph.

Lincoln Street is an east-west collector roadway south of Jackson Street. Within the study area, Lincoln Street has an existing four-lane cross-section with a posted speed limit of 30mph.

Lane configuration diagrams for the existing study area road network are provided in **Figure 2-1** and **Figure 2-2**.

The following existing intersections have been included in the study area:

- 3rd Street & I-10 HOV (signalized)
- 1st Street & Roosevelt Street (signalized)
- 3rd Street & Roosevelt Street (signalized)
- 3rd Street/4th Street & Roosevelt Street (signalized)
- 1st Street & Fillmore Street (unsignalized)
- 3rd Street & Fillmore Street (signalized)
- 4th Street/5th Street & Fillmore Street (signalized)
- 1st Street & Van Buren Street (signalized)
- 3rd Street & Van Buren Street (signalized)
- 5th Street & Van Buren Street (signalized)
- 1st Street/1st Street & Washington Street (signalized)
- 3rd Street & Washington Street (signalized)
- 5th Street/5th Street & Washington Street (signalized)
- 1st Street & Jefferson Street (signalized)
- 3rd Street & Jefferson Street (signalized)

- 5th Street & Jefferson Street (signalized)
- 1st Street & Jackson Street (unsignalized)
- 3rd Street & Jackson Street (unsignalized)
- 1st Street & Lincoln Street (signalized)
- 3rd Street & Lincoln Street (signalized)

Figure 2-1 Existing Road Network Lane Configuration – Van Buren to I-10

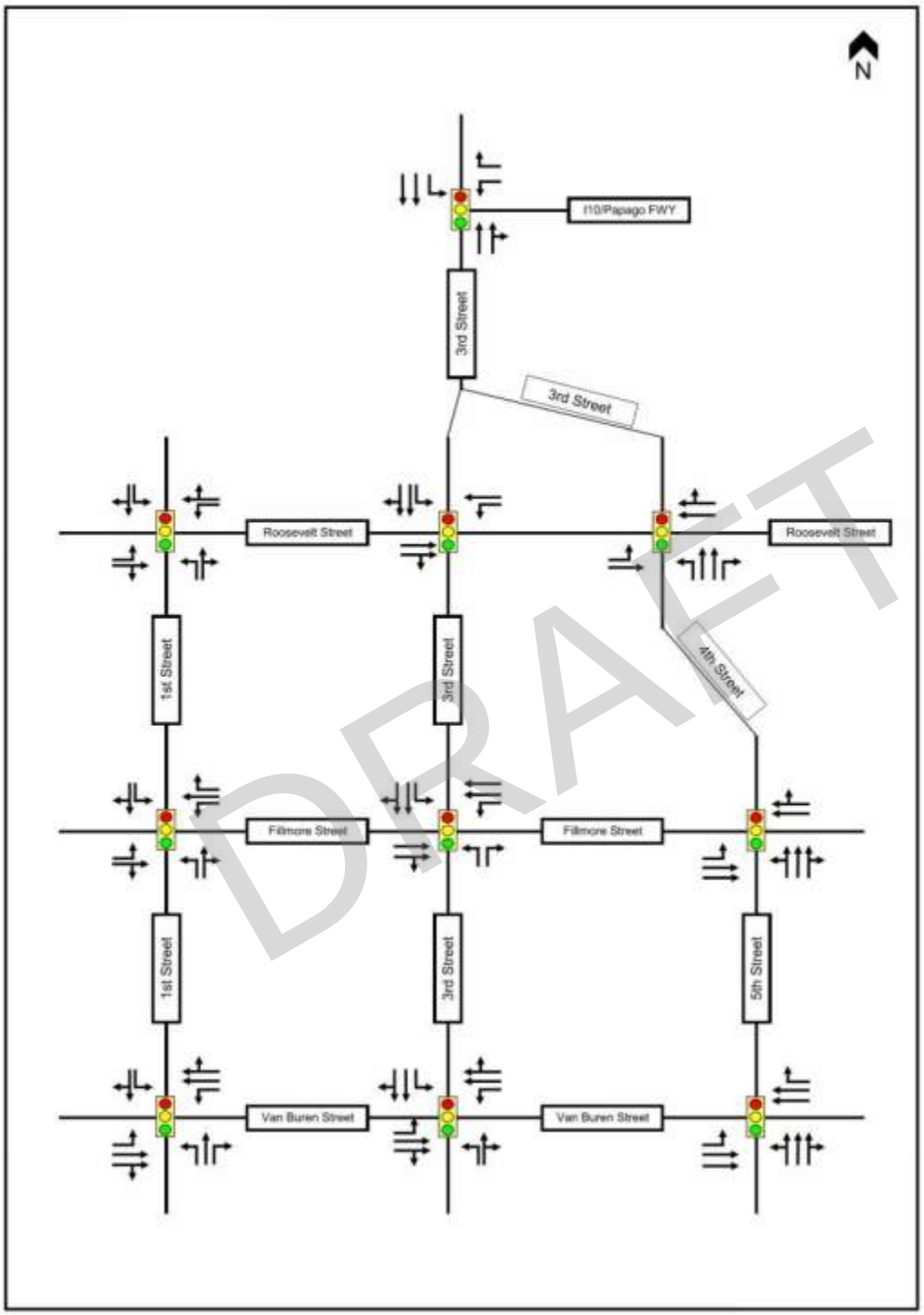
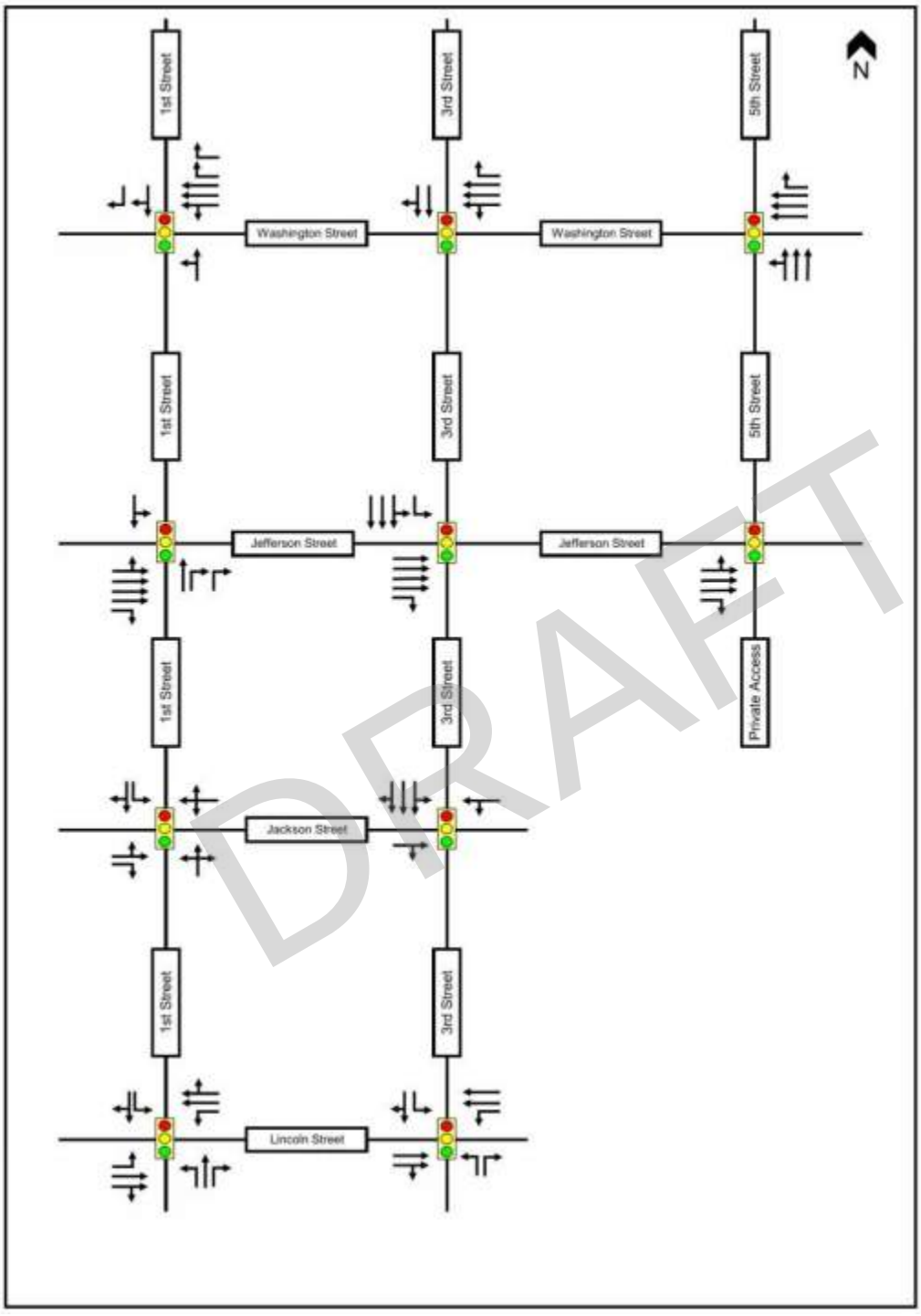


Figure 2-2 Existing Road Network Lane Configuration – Washington to Lincoln



2.2 Study Area Transit Network

The study area is well-served by the existing Valley Metro transit network, including bus routes as well as the Valley Metro Rail light rail transit (LRT) line.

LRT service within the study area is provided via the Valley Metro Rail line, which proceeds east-west (eastbound via Jefferson Street and westbound via Washington Street) before turning to a north-south alignment along the study area's western boundary (northbound via Central Avenue and southbound via 1st Avenue, before merging to bidirectional service via Central Avenue north of Roosevelt Street). Stops within or adjacent to the study area are provided at Roosevelt Street and Central Avenue/1st Avenue, Van Buren Street and Central Avenue/1st Avenue, Jefferson Street/1st Avenue and Washington Street/Central Avenue, 3rd Street and Washington Street/Jefferson Street.

Bus service within or adjacent to the study area is provided on corridors including Roosevelt Street, Fillmore Street, Van Buren Street, Adams Street, 1st Avenue, Central Avenue, 3rd Street, 4th Street, 5th Street, 7th Street, and Interstate-10.

The existing transit network in the study area is illustrated in **Figure 2-3**.

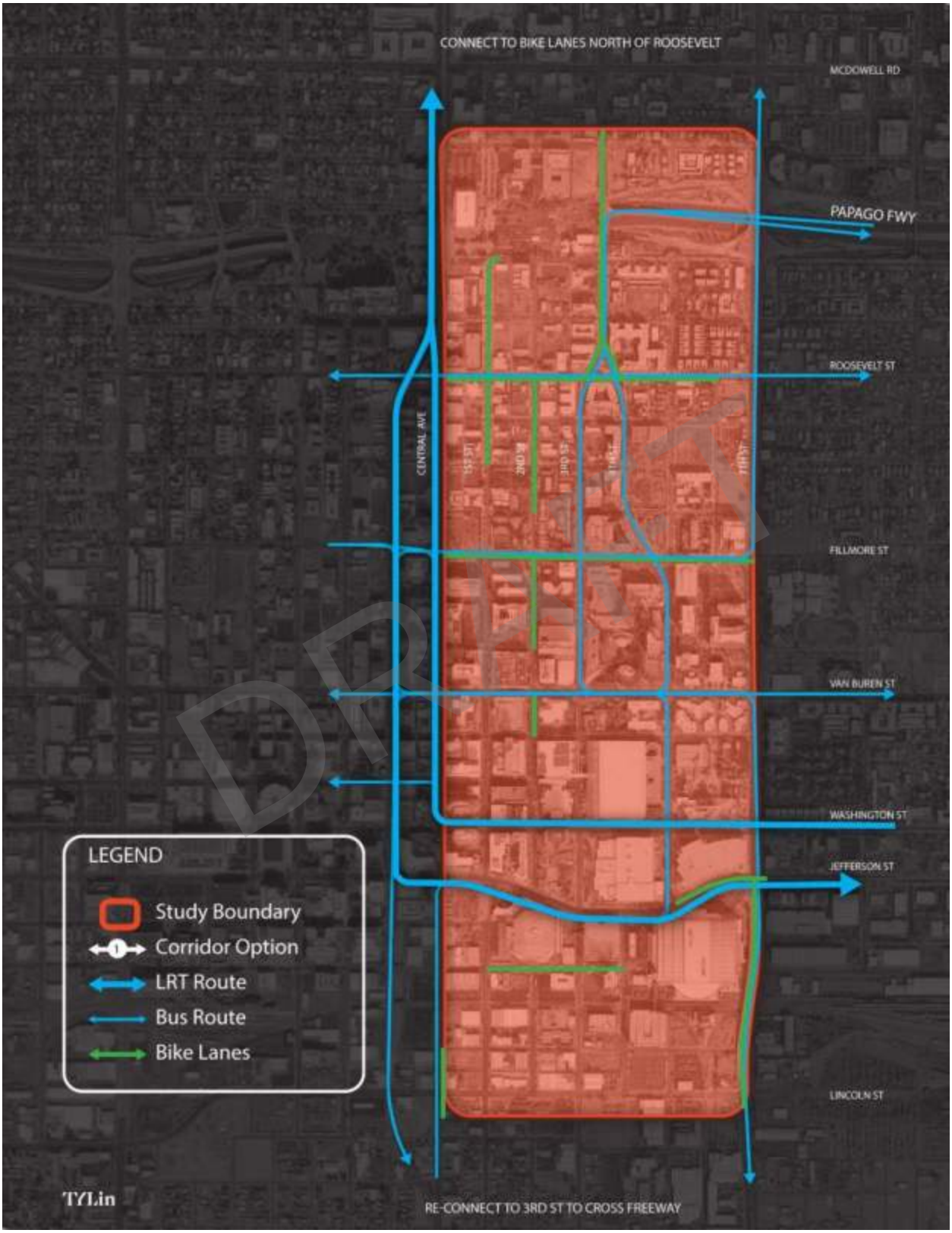
2.3 Study Area Active Transportation Network

The study area features numerous active transportation connections. Most streets within the study area boundaries feature sidewalks, of varying widths, on both sides of the road. In conjunction with the extensive network of off-street pathways and trails within the study area, both within municipal parks/plazas and on publicly accessible private properties, the study area features a fine-grained pedestrian network providing access to the many major trip generators located within its boundaries, including Footprint Center, Chase Field, Phoenix Convention Center, Arizona Science Center, Arizona Center, Symphony Hall, and Arizona State University.

Cycling infrastructure is present on many streets within the study area; however, it presently takes the form of a discontinuous patchwork of cycling lanes that offers limited opportunities for continuous north-south or east-west travel through the study area. Painted and/or separated cycling lanes are present on segments of Central Avenue, 1st Street, 2nd Street, 3rd Street, 4th Street, 7th Street, Jackson Street, Jefferson Street, Fillmore Street, and Roosevelt Street. In addition, many study area roadways feature painted 'sharrows' to indicate cycling routes.

The existing cycling network in the study area is also illustrated in **Figure 2-3**.

Figure 2-3 Existing Transit and Active Transportation Networks



3 TRAFFIC CAPACITY ANALYSIS

Traffic capacity analysis identifies how well the study area intersections are operating under existing traffic conditions. The purpose of this analysis is to assess where, if any, capacity constraints on the study area road network may exist and how they may affect the proposed alternative alignments for the north-south active transportation corridor. The analysis contained in this report utilized the Highway Capacity Manual (HCM) 2000 techniques within the Synchro software package. The reported intersection volume-to-capacity ratios (v/c) are a measure of the saturation volume for each turning movement, while the levels-of-service (LOS) are a measure of the average delay (in seconds) for each turning movement. Queueing characteristics are reported as the predicted 95th percentile queue for each turning movement.

For all intersections and traffic movements within the study area, critical intersections and movements shall be highlighted (**in bold**). 'Critical' intersections and movements include:

- v/c ratios of or exceeding 0.90 for overall intersection operations, through movements, or shared through/turning movements;
- v/c ratios of or exceeding 1.00 for exclusive movements;
- Any movements or overall intersection operations experiencing level of service 'E' or "F'.

The Synchro model used for this analysis was based on an existing provided by the City of Phoenix, as originally prepared by Burgess & Niple consultants for the 2020 Downtown Transportation Plan Update. The model was updated with multi-modal turning movement counts conducted by the United Civil Group sub-consultants for the study area intersections on Tuesday, October 11, 2022.

For the future conditions, in addition to considering the two options for 3rd Street, the 2020 Sunburst event access traffic control plans for less than 25,000, and over 25,000 were also considered for each of the scenarios.

Detailed Synchro summary reports are provided in **Appendix A.**

3.1 Existing Conditions

Synchro traffic capacity analysis results for the study area intersections are summarized in **Table 3-1** for both the weekday a.m. and p.m. peak hours under existing (2022) traffic conditions.

Table 3-1 Existing 2022 Capacity Analysis

Intersection	Movement	Storage Length (ft)	Weekday AM Peak Hour				Weekday PM Peak Hour			
			V/C	Delay (s)	LOS	95% Queue (ft)	V/C	Delay (s)	LOS	95% Queue (ft)
1st St & Van Buren St (signalized)	*Overall*	-	*0.3*	*8*	*A*	-	*0.32*	*15*	*B*	-
	EBL	173	0.03	3	A	1 veh	0.08	12	B	1 veh
	EBTR	-	0.3	4	A	75	0.36	14	B	146
	WBL	98	0.19	5	A	28	0.08	12	B	23
	WBTR	-	0.22	4	A	55	0.43	15	B	186
	NBL	112	0.27	28	C	48	0.17	19	B	60
	NBT	-	0.17	27	C	45	0.13	18	B	68
	NBR	112	0.02	27	C	1 veh	0.05	17	B	24
	SBL	95	0.14	27	C	28	0.1	18	B	37
	SBTR	-	0.29	28	C	65	0.1	18	B	47
3rd St & Van Buren St (signalized)	*Overall*	-	*0.27*	*10*	*B*	-	*0.31*	*9*	*A*	-
	EBL	82	0.05	5	A	1 veh	0.05	4	A	1 veh
	EBTR	-	0.31	8	A	103	0.34	7	A	136
	WBL	46	0.05	5	A	1 veh	0.08	1	A	1 veh
	WBTR	-	0.27	8	A	90	0.31	4	A	149
	NBL	151	0	24	C	1 veh	0.06	32	C	1 veh
	NBTR	-	0.02	24	C	1 veh	0.06	32	C	31
	SBL	144	0.13	25	C	36	0.17	32	C	46
	SBTR	-	0.18	25	C	44	0.23	33	C	55
3rd St & Fillmore St (signalized)	*Overall*	-	*0.11*	*22*	*C*	-	*0.12*	*18*	*B*	-
	EBTR	-	0.04	4	A	1 veh	0.08	4	A	22
	WBL	158	0.02	3	A	1 veh	0.03	2	A	1 veh
	WBT	-	0.03	3	A	1 veh	0.05	2	A	1 veh
	NBL	-	0.05	32	C	1 veh	0.13	32	C	34
	NBR	-	0.02	31	C	24	0.05	32	C	37
	SBL	-	0.24	33	C	73	0.09	32	C	34
	SBTR	-	0.41	34	C	101	0.31	33	C	78
4th St & Roosevelt St (signalized)	*Overall*	-	*0.18*	*18*	*B*	-	*0.35*	*18*	*B*	-
	EBL	-	0.17	6	A	1 veh	0.25	6	A	1 veh
	EBT	-	0.6	10	B	30	0.71	14	B	41
	WBTR	98	0.39	31	C	98	0.42	28	C	119
	NBL	-	0.02	8	A	1 veh	0.07	12	B	48
	NBT	-	0.04	8	A	25	0.17	13	B	94

Intersection	Movement	Storage Length (ft)	Weekday AM Peak Hour				Weekday PM Peak Hour			
			V/C	Delay (s)	LOS	95% Queue (ft)	V/C	Delay (s)	LOS	95% Queue (ft)
	NBR	-	0	8	A	0	0	11	B	0
3rd St & Roosevelt St (signalized)	*Overall*	-	*0.26*	*18*	*B*	-	*0.33*	*24*	*C*	-
	EBTR	-	0.41	33	C	102	0.47	29	C	131
	WBL	120	0.15	11	B	1 veh	0.17	18	B	1 veh
	WBT	-	0.66	17	B	41	0.79	30	C	84
	SBL	-	0.02	7	A	1 veh	0.04	9	A	32
	SBTR	-	0.15	7	A	63	0.14	10	A	62
3rd St & I-10 HOV (signalized)	*Overall*	-	*0.28*	*19*	*B*	-	*0.4*	*38*	*D*	-
	WBL	190	0.3	19	B	110	0.17	18	B	68
	WBR	-	0.14	18	B	44	0.06	17	B	28
	NBTR	-	0.17	17	B	53	0.38	19	B	115
	SBL	121	0.41	36	D	82	**1.12**	**132**	**F**	**267**
	SBT	-	0.21	17	B	72	0.3	18	B	100
3rd St & Lincoln St (signalized)	*Overall*	-	*0.14*	*25*	*C*	-	*0.16*	*8*	*A*	-
	EBTR	-	**1.50dr**	26	C	98	**2.20dl**	1	A	43
	WBL	105	0.04	24	C	1 veh	0.01	1	A	1 veh
	WBT	-	0.39	27	C	102	0.08	1	A	1 veh
	NBL	-	0	7	A	1 veh	0.19	43	D	28
	NBR	157	0.01	7	A	1 veh	0.01	42	D	1 veh
	SBL	144	0.01	7	A	1 veh	0.25	43	D	41
	SBTR	-	0.02	7	A	1 veh	0.29	43	D	56
5th St & Van Buren St (signalized)	*Overall*	-	*0.24*	*7*	*A*	-	*0.27*	*8*	*A*	-
	EBL	131	0.12	3	A	1 veh	0.12	4	A	1 veh
	EBTR	-	0.21	3	A	58	0.29	4	A	81
	WBT	-	0.26	6	A	102	0.28	8	A	112
	WBR	207	0.12	6	A	1 veh	0.05	6	A	1 veh
	NBLTR	-	0.11	34	C	24	0.12	32	C	33
5th St/4th St & Fillmore St (signalized)	*Overall*	-	*0.1*	*12*	*B*	-	*0.2*	*23*	*C*	-
	EBL	128	0.03	8	A	1 veh	0.09	5	A	37
	EBT	-	0.05	8	A	31	0.09	5	A	41
	WBTR	-	0.09	4	A	25	0.06	4	A	1 veh
	NBLTR	-	0.12	32	C	32	0.64	36	D	112
	Overall	-	*0.24*	*5*	*A*	-	*0.18*	*6*	*A*	-
	WBT	-	0.25	2	A	51	0.17	1	A	1 veh

Intersection	Movement	Storage Length (ft)	Weekday AM Peak Hour				Weekday PM Peak Hour			
			V/C	Delay (s)	LOS	95% Queue (ft)	V/C	Delay (s)	LOS	95% Queue (ft)
5th St & Washington St (signalized)	WBR	295	0.04	2	A	m11	0.04	1	A	m5
	NBTL	-	0.2	53	D	32	0.26	54	D	40
5th St & Jefferson St (signalized)	*Overall*	-	*0.09*	*1*	*A*	-	*0.29*	*2*	*A*	-
	EBTL	-	0.09	1	A	40	0.29	2	A	132
	EBR	-	0	0	0	0	0	0	0	0
1st St & Jefferson St (signalized)	*Overall*	-	*0.15*	*12*	*B*	-	*0.31*	*11*	*B*	-
	EBTL	-	0.08	3	A	1 veh	0.21	6	A	61
	EBR	144	0.04	3	A	1 veh	0.06	5	A	28
	NBT	112	0.47	24	C	80	0.26	18	B	57
	NBR	-	0.17	21	C	25	0.38	19	B	50
	SBTL	-	0.44	24	C	67	0.57	22	C	92
Washington St & 1st St (signalized)	*Overall*	-	*0.29*	*15*	*B*	-	*0.34*	*16*	*B*	-
	WBTL	-	0.18	5	A	64	0.23	10	A	75
	WBR	161	0.04	4	A	1 veh	0.04	8	A	1 veh
	NBTL	-	0.7	39	D	155	0.52	27	C	177
	SBTR	-	0.25	29	C	72	0.22	21	C	92
	SBR	115	0.28	30	C	67	0.13	21	C	46
3rd St & Washington St (signalized)	*Overall*	-	*0.26*	*26*	*C*	-	*0.22*	*28*	*C*	-
	WBTL	-	0.63	29	C	188	0.63	32	C	158
	WBR	210	0	23	C	1 veh	0.08	27	C	32
	SBTR	-	0.08	7	A	37	0.07	5	A	28
1st St & Roosevelt St (signalized)	*Overall*	-	*0.19*	*10*	*B*	-	*0.31*	*26*	*C*	-
	EBL	89	0.07	7	A	23	0.16	22	C	37
	EBTR	-	0.24	8	A	98	0.71	33	C	327
	WBL	92	0.08	7	A	26	0.31	27	C	53
	WBTR	-	0.22	8	A	93	0.56	28	C	253
	NBL	115	0.05	24	C	26	0.04	9	A	1 veh
	NBTR	-	0.03	23	C	25	0.07	9	A	29
	SBL	112	0.02	23	C	1 veh	0.04	9	A	1 veh
	SBTR	-	0.07	24	C	37	0.04	9	A	1 veh
3rd St & Jefferson St (signalized)	*Overall*	-	*0.08*	*9*	*A*	-	*0.21*	*10*	*B*	-
	EBT	-	0.07	2	A	1 veh	0.29	10	A	77
	EBR	164	0.02	2	A	1 veh	0.11	9	A	38

Intersection	Movement	Storage Length (ft)	Weekday AM Peak Hour				Weekday PM Peak Hour			
			V/C	Delay (s)	LOS	95% Queue (ft)	V/C	Delay (s)	LOS	95% Queue (ft)
	SBL	141	0.02	27	C	26	0.03	15	B	23
	SBTL	-	0.23	28	C	28	0.08	15	B	25
3rd Street & Jackson Street (unsignalized)	EBTR	-	-	-	-	-	-	-	-	-
	WBLT	-	-	-	-	-	-	-	-	-
	SBLTR	-	-	-	-	-	-	-	-	-
1st Street & Jackson Street (unsignalized)	EBLTR	-	0.1	8	A	-	0.28	10	A	-
	WBLTR	-	0.14	8	A	-	0.13	8	A	-
	NBLTR	-	0.25	9	A	-	0.17	9	A	-
	SBLTR	-	0.09	7	A	-	0.18	8	A	-
1st Street & Lincoln Street (unsignalized)	EBLTR	-	0.06	3	A	1 veh	0.03	2	A	1 veh
	WBLTR	-	<0.01	0	A	0	<0.01	0	A	0
	NBLTR	-	0.09	15	C	1 veh	0.09	14	B	1 veh
	SBLTR	-	0.11	13	B	1 veh	0.31	16	C	33
1st Street & Fillmore Street (unsignalized)	EBLTR	98	-	-	-	-	-	-	-	-
	WBLTR	89	-	-	-	-	-	-	-	-
	NBLTR	98	-	-	-	-	-	-	-	-
	SBLTR	98	-	-	-	-	-	-	-	-

Under existing conditions, all study area intersections are operating with overall reserve capacity and acceptable delays during both the weekday a.m. and p.m. peak hours. Individual movements and overall intersections operate with LOS D or better during the peak hour, with the exception of the southbound left movement at the intersection of I-10 and 3rd Street, i.e. movements to the freeway ramp. It should be noted that, based on Google Street View imagery, at some point between March 2022 and January 2023 this intersection was reconstructed to add separated cycling lanes. As part of this reconstruction, the southbound left-turn lane was lengthened (from a storage length of approximately 180ft to approximately 260ft). Along with other potential mitigation measures related to traffic signal timings, this may mitigate the operational issues noted for this movement. Since it cannot be verified that these changes were in place at the time of turning movement count collection in October 2022 and for the sake of consistency, the conservative approach of not implementing these changes in the Synchro model was followed for this study.

Volume-to-capacity ratios at all study area intersections and movements are within the acceptable range with the exception of the eastbound through-right movement at the intersection of 3rd Street and Lincoln Street, which experiences a volume-to-capacity ratio of 1.50 and 2.20 in the a.m. and p.m. respectively. The LOS and delay for this movement, however, are well within acceptable limits in both time periods.

Overall, study area intersections operate with acceptable 95th percentile queues during both the weekday a.m. and p.m. peak hours under existing conditions. The only exception is the southbound left movement at the intersection of I-10 and 3rd Street, with a queue of 267ft, as compared to a storage length of 180ft; however, as discussed above, the left-turn lane storage length for this movement has since been lengthened to approximately 260ft, mitigating this operational issue. The westbound right movement at the intersection of 5th Street and Washington Street experiences a metered queue, which operate within limits.

3.2 Future Conditions

The Study Area was assessed with three possible configurations for N 3rd Street within the study area. Option 1 and 3 of the possible configurations had a single lane going north and south respectively, with bicycles on either side of the street in Option 1 and with the lanes on the same side of the street with Option 3. The three lane configurations can be seen in **Figure 3-1**, **Figure 3-2**, and **Figure 3-3** respectively.

Figure 3-1 Future Conditions Option 1

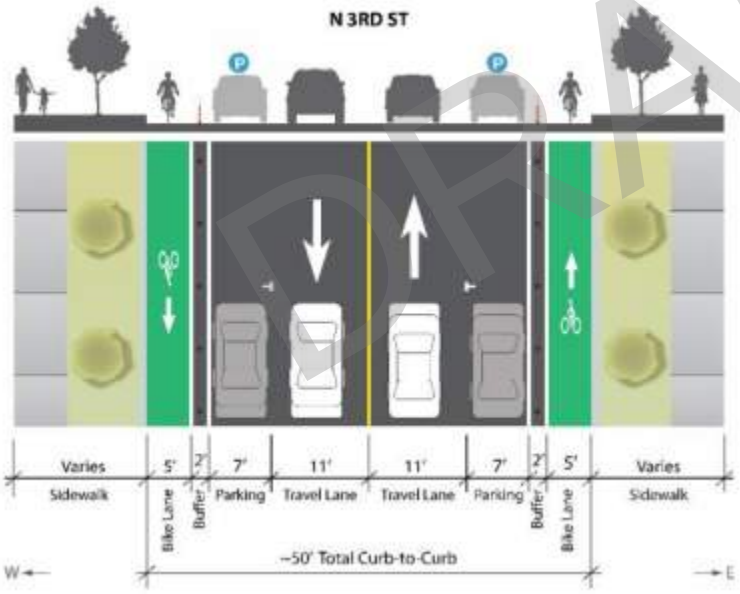


Figure 3-2 Future Conditions Option 2

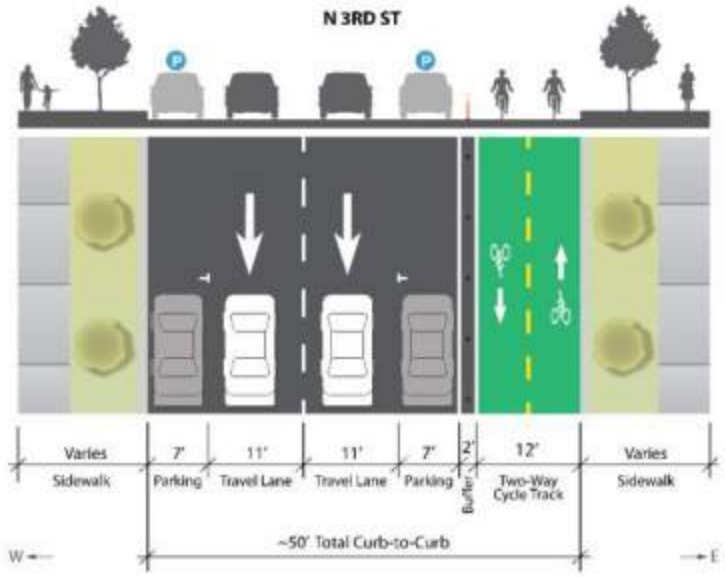
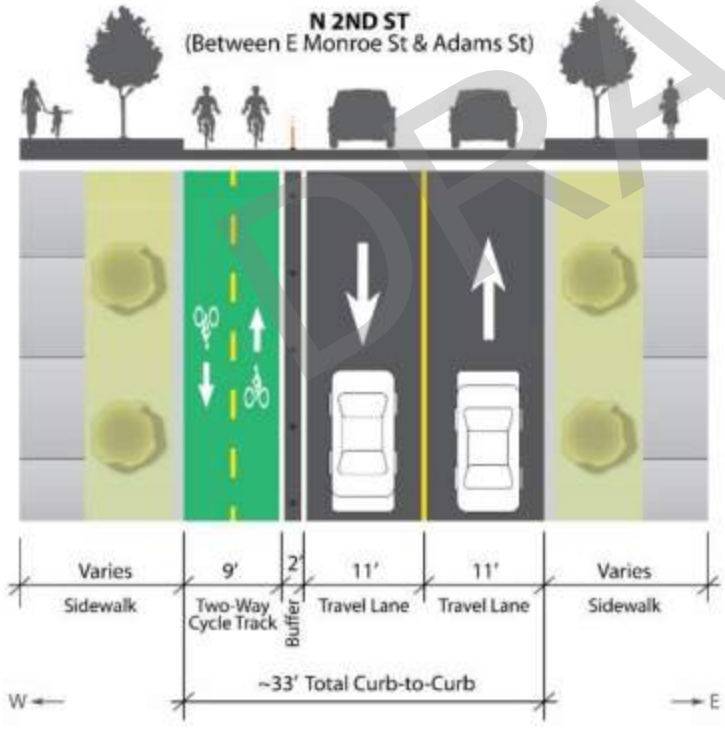


Figure 3-3 Future Conditions Option 3



For the sake of traffic analysis, both are functionally the same, and were treated as the same future conditions and will henceforth be referred to as Option 1 for simplification. Option 2 of the possible future conditions had N 3rd Street eliminating the northbound movement completely and considering 2 lanes going southbound along the corridor.

Additionally, the two scenarios in addition to their base future configurations, also considered the Sunburst Traffic Control Plan's two modifications for each of the two options. The Traffic Control Plan considered the standard egress of under 25,000, and over 25,000.

The scenarios studied have can be seen below:

Option 1 – Bidirectional along N 3rd St

1-0 – Without any event

1-1 – With <25,000 Event

1-2 – With 25,000+ Event

Option 2 – Unidirectional along N 3rd St (SB)

2-0 – Without any event

2-1 – With <25,000 Event

2-2 – With 25,000+ Event

3.2.1 Capacity Analysis for Options 1

3.2.1.1 Option 1 – AM Traffic Capacity Analysis

The traffic capacity analysis for the AM peak hour for the three Option 1 configurations are shown in **Table 3-2** below.

Table 3-2 Option 1-0 to 1-2 AM Traffic Capacity Analysis

Intersection	Movement	Storage Length (ft)	Option 1-0 Weekday AM Peak Hour				Option 1-1 Weekday AM Peak Hour				Option 1-2 Weekday AM Peak Hour			
			v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)
Signalized														
1st St & Van Buren St	*Overall*	-	*0.30*	8	A	-	*0.30*	8	A	-	*0.30*	8	A	-
	EBL	173	0.03	3	A	8	0.03	3	A	8	0.03	3	A	8
	EBTR	-	0.30	4	A	75	0.30	4	A	75	0.30	4	A	75
	WBL	98	0.19	5	A	28	0.19	5	A	28	0.19	5	A	28
	WBTR	-	0.22	4	A	55	0.22	4	A	55	0.22	4	A	55
	NBL	112	0.27	28	C	48	0.27	28	C	48	0.27	28	C	48
	NBT	-	0.17	27	C	45	0.17	27	C	45	0.17	27	C	45
	NBR	112	0.02	27	C	18	0.02	27	C	18	0.02	27	C	18
	SBL	95	0.14	27	C	28	0.14	27	C	28	0.14	27	C	28
	SBTR	-	0.29	28	C	65	0.29	28	C	65	0.29	28	C	65
	Overall	-	*0.32*	*11*	*B*	-	*0.32*	*11*	*B*	-	*0.32*	*11*	*B*	-

Intersection	Movement	Storage Length (ft)	Option 1-0 Weekday AM Peak Hour				Option 1-1 Weekday AM Peak Hour				Option 1-2 Weekday AM Peak Hour			
			v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)
3rd St & Van Buren St	EBL	82	0.05	5	A	9	0.05	5	A	9	0.05	5	A	9
	EBTR	-	0.31	8	A	105	0.31	8	A	105	0.31	8	A	105
	WBL	46	0.05	5	A	9	0.05	5	A	9	0.05	5	A	9
	WBTR	-	0.27	8	A	91	0.27	8	A	91	0.27	8	A	91
	NBL	151	0.00	24	C	4	0.00	24	C	4	0.00	24	C	4
	NBTR	-	0.02	24	C	16	0.02	24	C	16	0.02	24	C	16
	SBL	144	0.13	25	C	36	0.13	25	C	36	0.13	25	C	36
	SBTR	-	0.40	26	C	103	0.40	26	C	103	0.40	26	C	103
3rd St & Fillmore St	*Overall*	-	*0.19*	*25*	*C*	-	*0.19*	*25*	*C*	-	*0.19*	*25*	*C*	-
	EBTR	-	0.05	4	A	21	0.05	4	A	21	0.05	4	A	21
	WBL	158	0.02	4	A	11	0.02	4	A	11	0.02	4	A	11
	WBT	-	0.04	4	A	16	0.04	4	A	16	0.04	4	A	16
	NBL	-	0.06	29	C	15	0.06	29	C	15	0.06	29	C	15
	NBTR	-	0.00	45	D	0	0.00	45	D	0	0.00	45	D	0
	SBL	-	0.20	30	C	63	0.20	30	C	63	0.20	30	C	63
	SBTR	-	0.71	39	D	204	0.71	39	D	204	0.71	39	D	204
4th St & Roosevelt St	*Overall*	-	*0.18*	*18*	*B*	-	*0.18*	*18*	*B*	-	*0.18*	*18*	*B*	-
	EBL	-	0.17	5	A	7	0.17	5	A	7	0.17	5	A	7
	EBT	-	0.60	10	A	31	0.60	10	A	31	0.60	10	A	31
	WBTR	98	0.39	31	C	98	0.39	31	C	98	0.39	31	C	98
	NBL	-	0.02	8	A	17	0.02	8	A	17	0.02	8	A	17
	NBT	-	0.04	8	A	25	0.04	8	A	25	0.04	8	A	25
	NBR	-	0.00	8	A	0	0.00	8	A	0	0.00	8	A	0
3rd St & Roosevelt St	*Overall*	-	*0.27*	*18*	*B*	-	*0.27*	*18*	*B*	-	*0.27*	*18*	*B*	-
	EBTR	-	0.41	33	C	102	0.41	33	C	102	0.41	33	C	102
	WBL	120	0.15	11	B	9	0.15	11	B	9	0.15	11	B	9
	WBT	-	0.66	17	B	41	0.66	17	B	41	0.66	17	B	41
	NBL	-	0.00	0	0	-	0.00	0	0	-	0.00	0	0	-
	NBR	-	0.00	0	0	-	0.00	0	0	-	0.00	0	0	-
	SBLTR		0.16	7	A	68	0.16	7	A	68	0.16	7	A	68
3rd St & I10 HOV	*Overall*	-	*0.28*	*19*	*B*	-	*0.28*	*19*	*B*	-	*0.28*	*19*	*B*	-
	WBL	190	0.30	19	B	110	0.30	19	B	110	0.30	19	B	110
	WBR	-	0.14	18	B	44	0.14	18	B	44	0.14	18	B	44
	NBTR	-	0.17	17	B	53	0.17	17	B	53	0.17	17	B	53
	SBL	121	0.41	36	D	82	0.41	36	D	82	0.41	36	D	82
	SBT	-	0.21	17	B	72	0.21	17	B	72	0.21	17	B	72

Intersection	Movement	Storage Length (ft)	Option 1-0 Weekday AM Peak Hour				Option 1-1 Weekday AM Peak Hour				Option 1-2 Weekday AM Peak Hour			
			v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)
3rd St & Lincoln St	*Overall*	-	*0.14*	*33*	*C*	-	*0.03*	*0*	*A*	-	*0.03*	*0*	*A*	-
	EBTR	-	0.47	34	C	107	0.00	0	0	-	0.00	0	0	-
	WBL	105	0.06	31	C	16	0.00	0	0	-	0.00	0	0	-
	WBT	-	0.56	35	C	132	0.00	0	0	-	0.00	0	0	-
	NBL	-	0.00	4	A	4	0.00	0	0	-	0.00	0	0	-
	NBTR	157	0.00	47	D	0	0.00	0	0	-	0.00	0	0	-
	SBL	144	0.01	4	A	10	0.00	0	0	-	0.00	0	0	-
	SBTR	-	0.02	4	A	9	0.03	0	A	0	0.03	0	A	0
5th St & Van Buren St	*Overall*	-	*0.24*	*7*	*A*	-	*0.24*	*7*	*A*	-	*0.24*	*7*	*A*	-
	EBL	131	0.12	3	A	18	0.12	3	A	18	0.12	3	A	18
	EBTR	-	0.21	3	A	58	0.21	3	A	58	0.21	3	A	58
	WBT	-	0.26	6	A	102	0.26	6	A	102	0.26	6	A	102
	WBR	207	0.12	6	A	20	0.12	6	A	20	0.12	6	A	20
	NBLTR	-	0.11	34	C	24	0.11	34	C	24	0.11	34	C	24
5th St/4th St & Fillmore St	*Overall*	-	*0.10*	*12*	*B*	-	*0.10*	*12*	*B*	-	*0.10*	*12*	*B*	-
	EBL	128	0.03	7	A	15	0.03	7	A	15	0.03	7	A	15
	EBT	-	0.05	6	A	24	0.05	6	A	24	0.05	6	A	24
	WBTR	-	0.09	4	A	25	0.09	4	A	25	0.09	4	A	25
	NBLTR	-	0.12	32	C	32	0.12	32	C	32	0.12	32	C	32
5th St & Washington St	*Overall*	-	*0.24*	*5*	*A*	-	*0.24*	*5*	*A*	-	*0.24*	*5*	*A*	-
	WBT	-	0.25	2	A	51	0.25	2	A	51	0.25	2	A	51
	WBR	295	0.04	2	A	m11	0.04	2	A	m11	0.04	2	A	m11
	NBTL	-	0.20	53	D	32	0.20	53	D	32	0.20	53	D	32
5th St & Jefferson St	*Overall*	-	*0.09*	*1*	*A*	-	*0.09*	*1*	*A*	-	*0.09*	*1*	*A*	-
	EBTL	-	0.09	1	A	40	0.10	1	A	46	0.10	1	A	46
	EBR	-	0.00	0	0	-	0.00	0	0	-	0.00	0	0	-
1st St & Jefferson St	*Overall*	-	*0.15*	*12*	*B*	-	*0.07*	*0*	*A*	-	*0.17*	*0*	*A*	-
	EBTL	-	0.08	3	A	20	0.06	0	A	0	0.14	0	A	0
	EBR	144	0.04	3	A	16	0.00	0	0	-	-	-	-	-
	NBT	112	0.47	24	C	80	0.00	0	0	-	0.00	0	0	-
	NBR	-	0.17	21	C	25	0.00	0	0	-	0.00	0	0	-
	SBTL	-	0.44	24	C	67	0.00	0	0	-	0.00	0	0	-
Washington St & 1st St	*Overall*	-	*0.29*	*15*	*B*	-	*0.31*	*11*	*B*	-	*0.35*	*18*	*B*	-
	WBTL	-	0.18	5	A	64	0.24	5	A	90	0.25	6	A	103
	WBR	161	0.04	4	A	15	0.04	4	A	14	0.04	4	A	17
	NBL	-								-	0.11	28	C	44

Intersection	Movement	Storage Length (ft)	Option 1-0 Weekday AM Peak Hour				Option 1-1 Weekday AM Peak Hour				Option 1-2 Weekday AM Peak Hour			
			v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)
	NBTL	-	0.70	39	D	155	0.00	0	0	-	0.69	36	D	194
	SBTR	-	0.25	29	C	72				-				-
	SBR	**115**	0.28	30	C	67	0.62	37	D	**128**	0.54	32	C	**120**
3rd St & Washington St	*Overall*	-	*0.31*	*26*	*C*	-	*0.29*	*26*	*C*	-	*0.29*	*26*	*C*	-
	WBTL	-	0.64	28	C	191	0.70	26	C	258	0.70	26	C	258
	WBR	210	0.00	22	C	5	0.00	18	B	4	0.00	18	B	4
	NBTL	-	0.00	0	0	-	0.00	0	0	-	0.00	0	0	-
	SBTR	-	0.16	8	A	79	0.00	0	0	-	0.00	0	0	-
1st St & Roosevelt St	*Overall*	-	*0.19*	*10*	*B*	-	*0.19*	*10*	*B*	-	*0.19*	*10*	*B*	-
	EBL	89	0.07	7	A	23	0.07	7	A	23	0.07	7	A	23
	EBTR	-	0.24	8	A	98	0.24	8	A	98	0.24	8	A	98
	WBL	92	0.08	7	A	26	0.08	7	A	26	0.08	7	A	26
	WBTR	-	0.22	8	A	93	0.22	8	A	93	0.22	8	A	93
	NBL	115	0.05	24	C	26	0.05	24	C	26	0.05	24	C	26
	NBTR	-	0.03	23	C	25	0.03	23	C	25	0.03	23	C	25
	SBL	112	0.02	23	C	15	0.02	23	C	15	0.02	23	C	15
	SBTR	-	0.07	24	C	37	0.07	24	C	37	0.07	24	C	37
3rd St & Jefferson St	*Overall*	-	*0.12*	*10*	*A*	-	0.06	0	A	-	0.06	0	A	-
	EBT	-	0.07	2	A	16	*0.06*	*0*	*A*	0	*0.06*	*0*	*A*	0
	EBR	164	0.02	2	A	8				-				-
	NBTR	-	0.00	0	0	-	0.00	0	0	-	0.00	0	0	-
	SBL	141	0.23	26	C	41	0.00	0	0	-	0.00	0	0	-
	SBT	-	0.44	28	C	71	0.00	0	0	-	0.00	0	0	-
Unsignalized														
3rd Street & Jackson Street	EBTR	-	0.07	7	A	-	0.06	7	A	-	0.06	7	A	-
	WBLT	-	0.03	7	A	-	0.03	7	A	-	0.03	7	A	-
	NBLTR	-	0.00	7	A	-	0.00	7	A	-	0.00	7	A	-
	SBLTR	-	0.11	7	A	-	0.11	7	A	-	0.11	7	A	-
1st Street & Jackson Street	EBLTR	-	0.10	8	A	-	0.10	8	A	-	0.10	8	A	-
	WBLTR	-	0.14	8	A	-	*0.15*	*9*	*A*	-	*0.15*	*9*	*A*	-
	NBLTR	-	0.25	9	A	-	0.25	9	A	-	0.25	9	A	-
	SBL	-	0.03	8	A	-	0.03	8	A	-	0.03	8	A	-
	SBTR	-	0.09	7	-	-	0.09	7	-	-	0.09	7	-	-
1st Street & Lincoln Street	EBLT	-	0.06	3	A	5	0.28	8	A	29	0.28	8	A	29
	EBTR	-	0.10	0	-	-	-	-	-	-	-	-	-	-
	WBLT	-	0.00	0	A	-	0.00	0	A	0	0.00	0	A	0

Intersection	Movement	Storage Length (ft)	Option 1-0 Weekday AM Peak Hour				Option 1-1 Weekday AM Peak Hour				Option 1-2 Weekday AM Peak Hour			
			v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)
	WBTR	-	0.14	0	-	-	0.14	0	-	0	0.14	0	-	0
	NBLTR	-	0.08	15	C	7	0.22	35	D	20	0.22	35	D	20
	SBLTR	-	0.10	13	B	8	0.21	24	C	19	0.21	24	C	19
1st Street & Fillmore Street	EBLTR	98	-	-	-	-	-	-	-	-	-	-	-	-
	WBLTR	89	-	-	-	-	-	-	-	-	-	-	-	-
	NBLTR	98	-	-	-	-	-	-	-	-	-	-	-	-
	SBLTR	98	-	-	-	-	-	-	-	-	-	-	-	-

1-0 AM – Future conditions without any events

Under future conditions considering traffic in both the north and south direction along N 3rd Street, all study area intersections are operation with overall reserve capacity and acceptable delays during both the weekday a.m. peak hours. Individual movements and over intersections operate with LOS D or better during the a.m. peak hour.

Volume-to-capacity ratios at all study intersections and movements are within the acceptable range during the a.m. peak hour.

Overall, study area intersections operate with acceptable 95th percentile queues during the weekday a.m. peak hour under future conditions for option 1-0.

1-1 AM – Future conditions with <25,000 Event

Under future conditions considering traffic in both the north and south direction along N 3rd Street, all study area intersections are operation with overall reserve capacity and acceptable delays during both the weekday a.m. and p.m. peak hours. Individual movements and over intersections operate with LOS D or better during the a.m. peak hour.

Volume-to-capacity ratios at all study intersections and movements are within the acceptable range during the a.m. peak hour.

Overall, study area intersections operate with acceptable 95th percentile queues during the weekday a.m. peak hour under future conditions for option 1-1. The only exception is the southbound right movement at the intersection of Washington Street and 1st Street, with a queue of 128ft, as compared to the storage length of 115ft.

1-2 AM – Future conditions with 25,000+ Event

Under future conditions considering traffic in both the north and south direction along N 3rd Street, all study area intersections are operation with overall reserve capacity and acceptable delays during

both the weekday a.m. and p.m. peak hours. Individual movements and over intersections operate with LOS D or better during the a.m. peak hour.

Volume-to-capacity ratios at all study intersections and movements are within the acceptable range during the a.m. peak hour.

Overall, study area intersections operate with acceptable 95th percentile queues during the weekday a.m. peak hour under future conditions for option 1-2. The only exception is the southbound right movement at the intersection of Washington Street and 1st Street, with a queue of 120ft, as compared to the storage length of 115ft.

3.2.1.2 Option 1 – PM Traffic Capacity Analysis

The traffic capacity analysis for the p.m. peak hour for the three Option 1 configurations are shown in **Table 3-3** below.

Table 3-3 Option 1-0 to 1-2 PM Traffic Capacity Analysis

Intersection	Movement	Storage Length (ft)	Option 1-0 Weekday PM Peak Hour				Option 1-1 Weekday PM Peak Hour				Option 1-2 Weekday PM Peak Hour			
			v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)
Signalized														
1st St & Van Buren St	*Overall*	-	*0.32*	15	B	-	*0.32*	15	B	-	*0.32*	15	B	-
	EBL	173	0.08	12	B	19	0.08	12	B	19	0.08	12	B	19
	EBTR	-	0.36	14	B	146	0.36	14	B	146	0.36	14	B	146
	WBL	98	0.08	12	B	23	0.08	12	B	23	0.08	12	B	23
	WBTR	-	0.43	15	B	186	0.43	15	B	186	0.43	15	B	186
	NBL	112	0.17	19	B	60	0.17	19	B	60	0.17	19	B	60
	NBT	-	0.13	18	B	68	0.13	18	B	68	0.13	18	B	68
	NBR	112	0.05	17	B	24	0.05	17	B	24	0.05	17	B	24
	SBL	95	0.10	18	B	37	0.10	18	B	37	0.10	18	B	37
	SBTR	-	0.10	18	B	47	0.10	18	B	47	0.10	18	B	47
3rd St & Van Buren St	*Overall*	-	*0.36*	*9*	*A*	-	*0.36*	*9*	*A*	-	*0.36*	*9*	*A*	-
	EBL	82	0.05	5	A	9	0.05	5	A	9	0.05	5	A	9
	EBTR	-	0.35	7	A	150	0.35	7	A	150	0.35	7	A	150
	WBL	46	0.08	1	A	2	0.08	1	A	2	0.08	1	A	2
	WBTR	-	0.31	4	A	161	0.31	4	A	161	0.31	4	A	161
	NBL	151	0.07	31	C	17	0.07	31	C	17	0.07	31	C	17
	NBTR	-	0.06	31	C	30	0.06	31	C	30	0.06	31	C	30
	SBL	144	0.17	32	C	45	0.17	32	C	45	0.17	32	C	45
	SBTR	-	0.47	34	C	122	0.47	34	C	122	0.47	34	C	122
	Overall	-	*0.18*	*20*	*C*	-	*0.18*	*20*	*C*	-	*0.18*	*20*	*C*	-

Intersection	Movement	Storage Length (ft)	Option 1-0 Weekday PM Peak Hour				Option 1-1 Weekday PM Peak Hour				Option 1-2 Weekday PM Peak Hour			
			v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)
3rd St & Fillmore St	EBTR	-	0.08	4	A	27	0.08	4	A	27	0.08	4	A	27
	WBL	158	0.03	3	A	8	0.03	3	A	8	0.03	3	A	8
	WBT	-	0.05	3	A	12	0.05	3	A	12	0.05	3	A	12
	NBL	-	0.16	32	C	32	0.16	32	C	32	0.16	32	C	32
	NBTR	-	0.00	45	D	0	0.00	45	D	0	0.00	45	D	0
	SBL	-	0.08	31	C	32	0.08	31	C	32	0.08	31	C	32
	SBTR	-	0.61	37	D	167	0.61	37	D	167	0.61	37	D	167
4th St & Roosevelt St	*Overall*	-	*0.35*	*17*	*B*	-	*0.35*	*17*	*B*	-	*0.35*	*17*	*B*	-
	EBL	-	0.25	6	A	11	0.25	6	A	11	0.25	6	A	11
	EBT	-	0.71	14	B	39	0.71	14	B	39	0.71	14	B	39
	WBTR	98	0.42	28	C	119	0.42	28	C	119	0.42	28	C	119
	NBL	-	0.07	12	B	48	0.07	12	B	48	0.07	12	B	48
	NBT	-	0.17	13	B	94	0.17	13	B	94	0.17	13	B	94
	NBR	-	0.00	11	B	0	0.00	11	B	0	0.00	11	B	0
3rd St & Roosevelt St	*Overall*	-	*0.35*	*24*	*C*	-	*0.35*	*24*	*C*	-	*0.35*	*24*	*C*	-
	EBTR	-	0.47	29	C	131	0.47	29	C	131	0.47	29	C	131
	WBL	120	0.17	18	B	16	0.17	18	B	16	0.17	18	B	16
	WBT	-	0.79	30	C	84	0.79	30	C	84	0.79	30	C	84
	NBL	-	0.00	0	0	-	0.00	0	0	-	0.00	0	0	-
	NBR	-	0.00	0	0	-	0.00	0	0	-	0.00	0	0	-
	SBLTR		0.16	10	A	75	0.16	10	A	75	0.16	10	A	75
3rd St & I10 HOV	*Overall*	-	*0.40*	*38*	*D*	-	*0.40*	*38*	*D*	-	*0.40*	*38*	*D*	-
	WBL	190	0.17	18	B	68	0.17	18	B	68	0.17	18	B	68
	WBR	-	0.06	17	B	28	0.06	17	B	28	0.06	17	B	28
	NBTR	-	0.38	19	B	115	0.38	19	B	115	0.38	19	B	115
	SBL	121	**1.12**	**132**	**F**	**267***	**1.12**	**132**	**F**	**267***	**1.12**	**132**	**F**	**267***
	SBT	-	0.30	18	B	100	0.30	18	B	100	0.30	18	B	100
3rd St & Lincoln St	*Overall*	-	*0.16*	*8*	*A*	-	*0.00*	*43*	*D*	-	*0.00*	*43*	*D*	-
	EBTR	-	**2.20dl**	1	A	43	0.00	0	0	-	0.00	0	0	-
	WBL	105	0.01	1	A	2	0.00	0	0	-	0.00	0	0	-
	WBT	-	0.08	1	A	18	0.00	0	0	-	0.00	0	0	-
	NBL	-	0.19	43	D	28	0.00	0	0	-	0.00	0	0	-
	NBTR	157	0.00	47	D	0	0.00	0	0	-	0.00	0	0	-
	SBL	144	0.25	43	D	41	0.00	0	0	-	0.00	0	0	-
	SBTR	-	0.29	43	D	56	0.07	43	D	0	0.07	43	D	0
5th St & Van Buren St	*Overall*	-	*0.27*	*8*	*A*	-	*0.27*	*8*	*A*	-	*0.27*	*8*	*A*	-
	EBL	131	0.12	5	A	24	0.12	5	A	24	0.12	5	A	24

Intersection	Movement	Storage Length (ft)	Option 1-0 Weekday PM Peak Hour				Option 1-1 Weekday PM Peak Hour				Option 1-2 Weekday PM Peak Hour			
			v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)
	EBTR	-	0.29	5	A	115	0.29	5	A	115	0.29	5	A	115
	WBT	-	0.28	8	A	112	0.28	8	A	112	0.28	8	A	112
	WBR	207	0.05	6	A	14	0.05	6	A	14	0.05	6	A	14
	NBLTR	-	0.12	32	C	33	0.12	32	C	33	0.12	32	C	33
5th St/4th St & Fillmore St	*Overall*	-	*0.20*	*23*	*C*	-	*0.20*	*23*	*C*	-	*0.20*	*23*	*C*	-
	EBL	128	0.09	4	A	15	0.09	4	A	15	0.09	4	A	15
	EBT	-	0.09	3	A	16	0.09	3	A	16	0.09	3	A	16
	WBTR	-	0.06	4	A	16	0.06	4	A	16	0.06	4	A	16
	NBLTR	-	0.64	36	D	112	0.64	36	D	112	0.64	36	D	112
5th St & Washington St	*Overall*	-	*0.18*	*6*	*A*	-	*0.18*	*6*	*A*	-	*0.18*	*6*	*A*	-
	WBT	-	0.17	1	A	18	0.17	1	A	18	0.17	1	A	18
	WBR	295	0.04	1	A	m5	0.04	1	A	m5	0.04	1	A	m5
	NBTL	-	0.26	54	D	40	0.26	54	D	40	0.26	54	D	40
5th St & Jefferson St	*Overall*	-	*0.29*	*2*	*A*	-	*0.29*	*2*	*A*	-	*0.29*	*2*	*A*	-
	EBTL	-	0.29	2	A	132	0.29	2	A	140	0.29	2	A	140
	EBR	-	0.00	0	0	-	0.00	0	0	-	0.00	0	0	-
1st St & Jefferson St	*Overall*	-	*0.31*	*11*	*B*	-	*0.15*	*0*	*A*	-	*0.20*	*0*	*A*	-
	EBTL	-	0.21	6	A	61	0.12	0	A	0	0.16	0	A	0
	EBR	144	0.06	5	A	28	0.00	0	0	-	-	-	-	-
	NBT	112	0.26	18	B	57	0.00	0	0	-	0.00	0	0	-
	NBR	-	0.38	19	B	50	0.00	0	0	-	0.00	0	0	-
	SBTL	-	0.57	22	C	92	0.00	0	0	-	0.00	0	0	-
Washington St & 1st St	*Overall*	-	*0.34*	*16*	*B*	-	*0.35*	*13*	*B*	-	*0.57*	*34*	*C*	-
	WBTL	-	0.23	10	A	75	0.31	11	B	116	0.31	11	B	116
	WBR	161	0.04	8	A	17	0.04	8	A	17	0.04	8	A	17
	NBL	-	-	-	-	-	-	-	-	-	0.44	25	C	146
	NBTL	-	0.52	27	C	177	0.00	0	0	-	1.00	66	**E**	**545***
	SBTR	-	0.22	21	C	92	-	-	-	-	-	-	-	-
	SBR	115	0.13	21	C	46	0.42	25	C	127	0.42	25	C	127
3rd St & Washington St	*Overall*	-	*0.27*	*27*	*C*	-	*0.25*	*29*	*C*	-	*0.25*	*29*	*C*	-
	WBTL	-	0.64	32	C	165	0.70	29	C	221	0.70	29	C	221
	WBR	210	0.08	26	C	31	0.06	21	C	26	0.06	21	C	26
	NBTL	-	0.00	0	-	-	0.00	0	-	-	0.00	0	-	-
	SBTR	-	0.13	6	A	60	0.00	0	-	-	0.00	0	-	-
	Overall	-	*0.31*	*26*	*C*	-	*0.31*	*26*	*C*	-	*0.31*	*26*	*C*	-
	EBL	89	0.16	22	C	37	0.16	22	C	37	0.16	22	C	37

Intersection	Movement	Storage Length (ft)	Option 1-0 Weekday PM Peak Hour				Option 1-1 Weekday PM Peak Hour				Option 1-2 Weekday PM Peak Hour			
			v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)
1st St & Roosevelt St	EBTR	-	0.71	33	C	327	0.71	33	C	327	0.71	33	C	327
	WBL	92	0.31	27	C	53	0.31	27	C	53	0.31	27	C	53
	WBTR	-	0.56	28	C	253	0.56	28	C	253	0.56	28	C	253
	NBL	115	0.04	9	A	20	0.04	9	A	20	0.04	9	A	20
	NBTR	-	0.07	9	A	29	0.07	9	A	29	0.07	9	A	29
	SBL	112	0.04	9	A	18	0.04	9	A	18	0.04	9	A	18
	SBTR	-	0.04	9	A	18	0.04	9	A	18	0.04	9	A	18
3rd St & Jefferson St	*Overall*	-	*0.25*	*11*	*B*	-	0.19	10	A	-	0.19	10	A	-
	EBT	-	0.29	10	A	77	*0.32*	*10*	*A*	85	*0.32*	*10*	*A*	85
	EBR	164	0.11	9	A	38				-				-
	NBTR	-	0.00	0	0	-	0.00	0	0	-	0.00	0	0	-
	SBL	141	0.14	16	B	49	0.00	0	0	-	0.00	0	0	-
	SBT	-	0.20	16	B	71	0.00	0	0	-	0.00	0	0	-
Unsignalized														
3rd Street & Jackson Street	EBTR	-	0.15	8	A	-	0.16	8	A	-	0.16	8	A	-
	WBLT	-	0.05	8	A	-	0.05	8	A	-	0.05	8	A	-
	NBLTR	-	0.00	8	A	-	0.00	8	A	-	0.00	8	A	-
	SBLTR	-	0.22	8	A	-	0.22	8	A	-	0.22	8	A	-
1st Street & Jackson Street	EBLTR	-	0.28	10	A	-	0.27	9	A	-	0.27	9	A	-
	WBLTR	-	0.13	8	A	-	0.14	9	A	-	0.14	9	A	-
	NBLTR	-	0.17	9	A	-	0.16	9	A	-	0.16	9	A	-
	SBL	-	0.03	8	A	-	0.03	8	A	-	0.03	8	A	-
	SBTR	-	0.18	8	-	-	0.18	-	-	-	0.18	8	-	-
1st Street & Lincoln Street	EBLT	-	0.03	2	A	2	0.26	8	A	26	0.26	8	A	26
	EBTR	-	0.11	0	-	-	-	-	-	-	-	-	-	-
	WBLT	-	0.00	0	A	-	0.00	0	A	0	0.00	0	A	0
	WBTR	-	0.09	0	-	-	0.09	0	-	0	0.09	0	-	0
	NBLTR	-	0.09	14	B	8	0.26	38	E	25	0.26	38	E	25
	SBLTR	-	0.32	16	C	33	0.62	41	E	92	0.62	41	E	92
1st Street & Fillmore Street	EBLTR	98	-	-	-	-	-	-	-	-	-	-	-	-
	WBLTR	89	-	-	-	-	-	-	-	-	-	-	-	-
	NBLTR	98	-	-	-	-	-	-	-	-	-	-	-	-
	SBLTR	98	-	-	-	-	-	-	-	-	-	-	-	-

1-0 PM – Future conditions without any events

Under future conditions considering traffic in both the north and south direction along N 3rd Street, all study area intersections are operation with overall reserve capacity and acceptable delays during

both the weekday p.m. peak hours. Individual movements and over intersections operate with LOS D or better during the p.m. peak hour, with the exception of the southbound left movement at the intersection of I-10 and 3rd Street, i.e., movements to the freeway ramp, with a LOS of F. It should be noted that the movement was already experiencing LOS F during the existing p.m. peak hour.

Volume-to-capacity ratios at all study intersections and movements are within the acceptable range during the p.m. peak hour, with the exception of the southbound left movement at the intersection of I-10 and 3rd Street, i.e., movements to the freeway ramp, with a volume to capacity ration of 1.12. It should be noted that the movement was already experiencing a volume to capacity ration of 1.12 during the existing p.m. peak hour.

Overall, study area intersections operate with acceptable 95th percentile queues during the weekday p.m. peak hour under future conditions for option 1-0. The only exception is the southbound left movement at the intersection of I-10 and 3rd Street, with a queue of 267ft, as compared to the storage length of 121ft.

1-1 PM – Future conditions with <25,000 Event

Under future conditions considering traffic in both the north and south direction along N 3rd Street, all study area intersections are operation with overall reserve capacity and acceptable delays during both the weekday p.m. peak hours. Individual movements and over intersections operate with LOS D or better during the p.m. peak hour, with the exception of the southbound left movement at the intersection of I-10 and 3rd Street, i.e., movements to the freeway ramp, with a LOS of F. It should be noted that the movement was already experiencing LOS F during the existing p.m. peak hour.

Volume-to-capacity ratios at all study intersections and movements are within the acceptable range during the p.m. peak hour, with the exception of the southbound left movement at the intersection of I-10 and 3rd Street, i.e., movements to the freeway ramp, with a volume to capacity ration of 1.12. It should be noted that the movement was already experiencing a volume to capacity ration of 1.12 during the existing p.m. peak hour.

Overall, study area intersections operate with acceptable 95th percentile queues during the weekday p.m. peak hour under future conditions for option 1-1. The only exception is the southbound left movement at the intersection of I-10 and 3rd Street, with a queue of 267ft, as compared to the storage length of 121ft.

1-2 PM – Future conditions with 25,000+ Event

Under future conditions considering traffic in both the north and south direction along N 3rd Street, all study area intersections are operation with overall reserve capacity and acceptable delays during both the weekday p.m. peak hours. Individual movements and over intersections operate with LOS D or better during the p.m. peak hour, with the exception of the southbound left movement at the intersection of I-10 and 3rd Street, i.e., movements to the freeway ramp, with a LOS of F, and the

northbound through-left movement at the intersection of Washington Street and 1st Street, with LOS E. It should be noted that the movement at the intersection of I-10 and 3rd Street was already experiencing LOS F during the existing p.m. peak hour.

Volume-to-capacity ratios at all study intersections and movements are within the acceptable range during the p.m. peak hour, with the exception of the southbound left movement at the intersection of I-10 and 3rd Street, and the northbound through-left movement at the intersection of Washington Street and 1st Street. The intersection of I-10 and 3rd Street experienced a volume to capacity ration of 1.12, it should be noted that the movement was already experiencing the same ratio during the existing p.m. peak hour. The northbound through-left movement at Washington Street and 1st Street reached capacity at a ratio of 1.00 during the p.m. peak hour.

Overall, study area intersections operate with acceptable 95th percentile queues during the weekday p.m. peak hour under future conditions for option 1-2. The only exception is the southbound left movement at the intersection of I-10 and 3rd Street, with a queue of 267ft, as compared to the storage length of 121ft.

3.2.2 Capacity Analysis for Option 2

3.2.2.1 Option 2 – AM Traffic Capacity Analysis

The traffic capacity analysis for the AM peak hour for the three Option 2 configurations are shown in **Table 3-4** below.

Table 3-4 Option 2-0 to 2-2 AM Traffic Capacity Analysis

Intersection	Movement	Storage Length (ft)	Option 2-0 Weekday AM Peak Hour				Option 2-1 Weekday AM Peak Hour				Option 2-2 Weekday AM Peak Hour			
			v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)
Signalized														
1st St & Van Buren St	*Overall*	-	*0.30*	8	A	-	*0.30*	8	A	-	*0.30*	8	A	-
	EBL	173	0.03	3	A	8	0.03	3	A	8	0.03	3	A	8
	EBTR	-	0.30	4	A	75	0.30	4	A	75	0.30	4	A	75
	WBL	98	0.19	5	A	28	0.19	5	A	28	0.19	5	A	28
	WBTR	-	0.22	4	A	55	0.22	4	A	55	0.22	4	A	55
	NBL	112	0.27	28	C	48	0.27	28	C	48	0.27	28	C	48
	NBT	-	0.17	27	C	45	0.17	27	C	45	0.17	27	C	45
	NBR	112	0.02	27	C	18	0.02	27	C	18	0.02	27	C	18
	SBL	95	0.14	27	C	28	0.14	27	C	28	0.14	27	C	28
	SBTR	-	0.29	28	C	65	0.29	28	C	65	0.29	28	C	65
	Overall	-	*0.27*	*11*	*B*	-	*0.29*	*10*	*A*	-	*0.29*	*10*	*A*	-
	EBT	-	0.29	7	A	100	0.32	8	A	108	0.32	8	A	108

Intersection	Movement	Storage Length (ft)	Option 2-0 Weekday AM Peak Hour				Option 2-1 Weekday AM Peak Hour				Option 2-2 Weekday AM Peak Hour			
			v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)
3rd St & Van Buren St	EBR	-	0.00	38	D	0	-	-	-	-	-	-	-	-
	WBL	46	0.05	5	A	9	0.05	5	A	9	0.05	5	A	9
	WBT	-	0.26	7	A	91	0.26	7	A	91	0.26	7	A	91
	SBLTR	-	0.24	25	C	54	0.24	25	C	54	0.24	25	C	54
3rd St & Fillmore St	*Overall*	-	*0.14*	*22*	*C*	-	*0.14*	*22*	*C*	-	*0.14*	*22*	*C*	-
	EBTR	-	0.04	4	A	14	0.04	4	A	14	0.04	4	A	14
	WBL	158	0.02	3	A	8	0.02	3	A	8	0.02	3	A	8
	WBT	-	0.03	3	A	11	0.03	3	A	11	0.03	3	A	11
	SBLTR	-	0.55	35	C	130	0.55	35	C	130	0.55	35	C	130
4th St & Roosevelt St	*Overall*	-	*0.18*	*18*	*B*	-	*0.18*	*18*	*B*	-	*0.18*	*18*	*B*	-
	EBL	-	0.17	5	A	7	0.17	5	A	7	0.17	5	A	7
	EBT	-	0.60	10	A	31	0.60	10	A	31	0.60	10	A	31
	WBTR	98	0.39	31	C	98	0.39	31	C	98	0.39	31	C	98
	NBL	-	0.02	8	A	17	0.02	8	A	17	0.02	8	A	17
	NBT	-	0.04	8	A	25	0.04	8	A	25	0.04	8	A	25
	NBR	-	0.00	8	A	0	0.00	8	A	0	0.00	8	A	0
3rd St & Roosevelt St	*Overall*	-	*0.27*	*18*	*B*	-	*0.27*	*18*	*B*	-	*0.27*	*18*	*B*	-
	EBTR	-	0.41	33	C	102	0.41	33	C	102	0.41	33	C	102
	WBL	120	0.15	11	B	9	0.15	11	B	9	0.15	11	B	9
	WBT	-	0.66	17	B	41	0.66	17	B	41	0.66	17	B	41
	SBLTR	-	0.16	7	A	68	0.16	7	A	68	0.16	7	A	68
3rd St & I10 HOV	*Overall*	-	*0.28*	*19*	*B*	-	*0.28*	*19*	*B*	-	*0.28*	*19*	*B*	-
	WBL	190	0.30	19	B	110	0.30	19	B	110	0.30	19	B	110
	WBR	-	0.14	18	B	44	0.14	18	B	44	0.14	18	B	44
	NBTR	-	0.17	17	B	53	0.17	17	B	53	0.17	17	B	53
	SBL	121	0.41	36	D	82	0.41	36	D	82	0.41	36	D	82
	SBT	-	0.21	17	B	72	0.21	17	B	72	0.21	17	B	72
3rd St & Lincoln St	*Overall*	-	*0.14*	*33*	*C*	-	*0.03*	*0*	*A*	-	*0.02*	*0*	*A*	-
	EBTR	-	0.45	34	C	106	0.00	0	0	-	0.00	0	0	-
	WBL	105	0.06	31	C	16	0.00	0	0	-	0.00	0	0	-
	WBT	-	0.56	35	C	133	0.00	0	0	-	0.00	0	0	-
	NBL	-	0.00	4	A	4	0.00	0	0	-	0.00	0	0	-
	NBTR	157	0.00	47	D	0	0.00	0	0	-	0.00	0	0	-
	SBL	144	0.01	4	A	10	0.00	0	0	-	0.02	0	A	-
	SBTR	-	0.02	4	A	9	0.03	0	A	0	-	-	-	0
	Overall	-	*0.24*	*7*	*A*	-	*0.24*	*7*	*A*	-	*0.24*	*7*	*A*	-
	EBL	131	0.12	3	A	18	0.12	3	A	18	0.12	3	A	18

Intersection	Movement	Storage Length (ft)	Option 2-0 Weekday AM Peak Hour				Option 2-1 Weekday AM Peak Hour				Option 2-2 Weekday AM Peak Hour			
			v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)
5th St & Van Buren St	EBTR	-	0.21	3	A	58	0.21	3	A	58	0.21	3	A	58
	WBT	-	0.26	6	A	102	0.26	6	A	102	0.26	6	A	102
	WBR	207	0.12	6	A	20	0.12	6	A	20	0.12	6	A	20
	NBLTR	-	0.11	34	C	24	0.11	34	C	24	0.11	34	C	24
5th St/4th St & Fillmore St	*Overall*	-	*0.10*	*12*	*B*	-	*0.10*	*12*	*B*	-	*0.10*	*12*	*B*	-
	EBL	128	0.03	6	A	16	0.03	6	A	16	0.03	6	A	16
	EBT	-	0.05	6	A	26	0.05	6	A	26	0.05	6	A	26
	WBTR	-	0.09	4	A	25	0.09	4	A	25	0.09	4	A	25
	NBLTR	-	0.12	32	C	32	0.12	32	C	32	0.12	32	C	32
5th St & Washington St	*Overall*	-	*0.24*	*5*	*A*	-	*0.24*	*5*	*A*	-	*0.24*	*5*	*A*	-
	WBT	-	0.25	2	A	51	0.25	2	A	51	0.25	2	A	51
	WBR	295	0.04	2	A	m11	0.04	2	A	m11	0.04	2	A	m11
	NBTL	-	0.20	53	D	32	0.20	53	D	32	0.20	53	D	32
5th St & Jefferson St	*Overall*	-	*0.09*	*1*	*A*	-	*0.09*	*1*	*A*	-	*0.09*	*1*	*A*	-
	EBTL	-	0.09	1	A	40	0.10	1	A	46	0.10	1	A	46
	EBR	-	0.00	0	0	-	0.00	0	0	-	0.00	0	0	-
1st St & Jefferson St	*Overall*	-	*0.15*	*12*	*B*	-	*0.07*	*0*	*A*	-	*0.17*	*0*	*A*	-
	EBTL	-	0.08	3	A	20	0.06	0	A	0	0.14	0	A	0
	EBR	144	0.04	3	A	16	0.00	0	0	-	-	-	-	-
	NBT	112	0.47	24	C	80	0.00	0	0	-	0.00	0	0	-
	NBR	-	0.17	21	C	25	0.00	0	0	-	0.00	0	0	-
	SBTL	-	0.44	24	C	67	0.00	0	0	-	0.00	0	0	-
Washington St & 1st St	*Overall*	-	*0.29*	*15*	*B*	-	*0.31*	*11*	*B*	-	*0.35*	*18*	*B*	-
	WBTL	-	0.18	5	A	64	0.24	5	A	90	0.25	6	A	103
	WBR	161	0.04	4	A	15	0.04	4	A	14	0.04	4	A	17
	NBL	-	-	-	-	-	-	-	-	-	0.11	28	C	44
	NBTL	-	0.70	39	D	155	0.00	0	0	-	0.69	36	D	194
	SBTR	-	0.25	29	C	72	-	-	-	-	-	-	-	-
	SBR	115	0.28	30	C	67	0.62	37	D	128	0.54	32	C	120
3rd St & Washington St	*Overall*	-	*0.26*	*26*	*C*	-	*0.29*	*26*	*C*	-	*0.29*	*26*	*C*	-
	WBTL	-	0.63	29	C	188	0.70	26	C	258	0.70	26	C	258
	SBTR	-	0.08	7	A	37	0.00	0	0	-	0.00	0	0	-
1st St & Roosevelt St	*Overall*	-	*0.19*	*10*	*B*	-	*0.19*	*10*	*B*	-	*0.19*	*10*	*B*	-
	EBL	89	0.07	7	A	23	0.07	7	A	23	0.07	7	A	23
	EBTR	-	0.24	8	A	98	0.24	8	A	98	0.24	8	A	98
	WBL	92	0.08	7	A	26	0.08	7	A	26	0.08	7	A	26
	WBTR	-	0.22	8	A	93	0.22	8	A	93	0.22	8	A	93

Intersection	Movement	Storage Length (ft)	Option 2-0 Weekday AM Peak Hour				Option 2-1 Weekday AM Peak Hour				Option 2-2 Weekday AM Peak Hour			
			v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)
	NBL	115	0.05	24	C	26	0.05	24	C	26	0.05	24	C	26
	NBTR	-	0.03	23	C	25	0.03	23	C	25	0.03	23	C	25
	SBL	112	0.02	23	C	15	0.02	23	C	15	0.02	23	C	15
	SBTR	-	0.07	24	C	37	0.07	24	C	37	0.07	24	C	37
3rd St & Jefferson St	*Overall*	-	*0.09*	*9*	*A*	-	*0.06*	*0*	*A*	-	*0.06*	*0*	*A*	-
	EBT	-	0.07	2	A	14	0.06	0	A	0	0.06	0	A	0
	EBR	164	0.02	2	A	7	-	-	-	-	-	-	-	-
	SBTL	-	0.30	28	C	41	0.00	0	0	-	0.00	0	0	-
Unsignalized														
3rd Street & Jackson Street	EBTR	-	0.09	7	A	-	0.06	7	A	-	0.06	7	A	-
	WBLT	-	0.03	7	A	-	0.02	7	A	-	0.03	7	A	-
	SBLT	-	0.04	7	A	-	0.04	7	A	-	0.04	7	A	-
	SBTR	-	0.09	6	-	-	0.09	6	-	-	0.09	6	-	-
1st Street & Jackson Street	EBLTR	-	0.10	8	A	-	0.10	8	A	-	0.10	8	A	-
	WBLTR	-	0.14	8	A	-	0.15	9	A	-	0.15	9	A	-
	NBLTR	-	0.25	9	A	-	0.25	9	A	-	0.25	9	A	-
	SBL	-	0.03	8	A	-	0.03	8	A	-	0.03	8	A	-
	SBTR	-	0.09	7	-	-	0.09	7	-	-	0.09	7	-	-
1st Street & Lincoln Street	EBLT	-	0.06	3	A	5	0.28	8	A	29	0.28	8	A	29
	EBTR	-	0.10	0	-	0	-	-	-	-	-	-	-	-
	WBLT	-	0.00	0	A	0	0.00	0	A	0	0.00	0	A	0
	WBTR	-	0.14	0	-	0	0.14	0	-	0	0.14	0	-	0
	NBLTR	-	0.08	15	C	7	0.22	35	D	20	0.22	35	D	20
	SBLTR	-	0.10	13	B	8	0.21	24	C	19	0.21	24	C	19
1st Street & Fillmore Street	EBLTR	98	-	-	-	-	-	-	-	-	-	-	-	-
	WBLTR	89	-	-	-	-	-	-	-	-	-	-	-	-
	NBLTR	98	-	-	-	-	-	-	-	-	-	-	-	-
	SBLTR	98	-	-	-	-	-	-	-	-	-	-	-	-

2-0 AM – Future conditions without any events

Under future conditions considering traffic in only the south direction along N 3rd Street, all study area intersections are operation with overall reserve capacity and acceptable delays during both the weekday a.m. peak hours. Individual movements and over intersections operate with LOS D or better during the a.m. peak hour.

Volume-to-capacity ratios at all study intersections and movements are within the acceptable range

during the a.m. peak hour.

Overall, study area intersections operate with acceptable 95th percentile queues during the weekday a.m. peak hour under future conditions for option 2-0.

2-1 AM – Future conditions with <25,000 Event

Under future conditions considering traffic in both the north and south direction along N 3rd Street, all study area intersections are operation with overall reserve capacity and acceptable delays during both the weekday a.m. and p.m. peak hours. Individual movements and over intersections operate with LOS D or better during the a.m. peak hour.

Volume-to-capacity ratios at all study intersections and movements are within the acceptable range during the a.m. peak hour.

Overall, study area intersections operate with acceptable 95th percentile queues during the weekday a.m. peak hour under future conditions for option 2-1.

2-2 AM – Future conditions with 25,000+ Event

Under future conditions considering traffic in both the north and south direction along N 3rd Street, all study area intersections are operation with overall reserve capacity and acceptable delays during both the weekday a.m. and p.m. peak hours. Individual movements and over intersections operate with LOS D or better during the a.m. peak hour.

Volume-to-capacity ratios at all study intersections and movements are within the acceptable range during the a.m. peak hour.

Overall, study area intersections operate with acceptable 95th percentile queues during the weekday a.m. peak hour under future conditions for option 2-2.

3.2.2.2 Option 2 – PM Traffic Capacity Analysis

The traffic capacity analysis for the PM peak hour for the three Option 2 configurations are shown in **Table 3-5** below.

Table 3-5 Option 2-0 to 2-2 PM Traffic Capacity Analysis

Intersection	Movement	Storage Length (ft)	Option 2-0 Weekday PM Peak Hour				Option 2-1 Weekday PM Peak Hour				Option 2-2 Weekday PM Peak Hour			
			v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)	v/c	Delay (s)	LOS	95% Queue (ft)
Signalized														
1st St & Van Buren St	*Overall*	-	*0.32*	15	B	-	*0.32*	15	B	-	*0.32*	15	B	-
	EBL	173	0.08	12	B	19	0.08	12	B	19	0.08	12	B	19
	EBTR	-	0.36	14	B	146	0.36	14	B	146	0.36	14	B	146
	WBL	98	0.08	12	B	23	0.08	12	B	23	0.08	12	B	23

	WBTR	-	0.43	15	B	186	0.43	15	B	186	0.43	15	B	186
	NBL	112	0.17	19	B	60	0.17	19	B	60	0.17	19	B	60
	NBT	-	0.13	18	B	68	0.13	18	B	68	0.13	18	B	68
	NBR	112	0.05	17	B	24	0.05	17	B	24	0.05	17	B	24
	SBL	95	0.10	18	B	37	0.10	18	B	37	0.10	18	B	37
	SBTR	-	0.10	18	B	47	0.10	18	B	47	0.10	18	B	47
3rd St & Van Buren St	*Overall*	-	*0.32*	*9*	*A*	-	*0.33*	*9*	*A*	-	*0.33*	*9*	*A*	-
	EBT	-	0.34	7	A	137	0.35	7	A	141	0.35	7	A	141
	EBR	-	0.00	45	D	0	-	-	-	-	-	-	-	-
	WBL	46	0.08	1	A	20	0.08	1	A	2	0.08	1	A	2
	WBT	-	0.30	4	A	149	0.30	4	A	149	0.30	4	A	149
	SBLTR	-	0.30	33	C	68	0.30	33	C	68	0.30	33	C	68
3rd St & Fillmore St	*Overall*	-	*0.13*	*15*	*B*	-	*0.13*	*15*	*B*	-	*0.13*	*#VALUE!*	*F*	-
	EBTR	-	0.08	4	A	22	0.08	4	A	22	0.08	4	A	22
	WBL	158	0.03	2	A	6	0.03	2	A	6	0.03	2	A	6
	WBT	-	0.05	2	A	9	0.05	2	A	9	0.05	2	A	9
	SBLTR	-	0.36	33	C	89	0.36	33	C	89	0.36	33	C	89
4th St & Roosevelt St	*Overall*	-	*0.35*	*17*	*B*	-	*0.35*	*17*	*B*	-	*0.35*	*17*	*B*	-
	EBL	-	0.25	6	A	11	0.25	6	A	11	0.25	6	A	11
	EBT	-	0.71	14	B	39	0.71	14	B	39	0.71	14	B	39
	WBTR	98	0.42	28	C	119	0.42	28	C	119	0.42	28	C	119
	NBL	-	0.07	12	B	48	0.07	12	B	48	0.07	12	B	48
	NBT	-	0.17	13	B	94	0.17	13	B	94	0.17	13	B	94
	NBR	-	0.00	11	B	0	0.00	11	B	0	0.00	11	B	0
3rd St & Roosevelt St	*Overall*	-	*0.35*	*24*	*C*	-	*0.35*	*24*	*C*	-	*0.35*	*24*	*C*	-
	EBTR	-	0.47	29	C	131	0.47	29	C	131	0.47	29	C	131
	WBL	120	0.17	18	B	16	0.17	18	B	16	0.17	18	B	16
	WBT	-	0.79	30	C	84	0.79	30	C	84	0.79	30	C	84
	SBLTR	-	0.16	10	A	75	0.16	10	A	75	0.16	10	A	75
3rd St & I10 HOV	*Overall*	-	*0.40*	*38*	*D*	-	*0.40*	*38*	*D*	-	*0.40*	*38*	*D*	-
	WBL	190	0.17	18	B	68	0.17	18	B	68	0.17	18	B	68
	WBR	-	0.06	17	B	28	0.06	17	B	28	0.06	17	B	28
	NBTR	-	0.38	19	B	115	0.38	19	B	115	0.38	19	B	115
	SBL	121	**1.12**	**132**	**F**	**267***	**1.12**	**132**	**F**	**267***	**1.12**	**132**	**F**	**267***
	SBT	-	0.30	18	B	100	0.30	18	B	100	0.30	18	B	100
3rd St & Lincoln St	*Overall*	-	*0.15*	*8*	*A*	-	*0.00*	*43*	*D*	-	*0.00*	*43*	*D*	-
	EBTR	-	0.14	1	A	33	0.00	0	0	-	0.00	0	0	-
	WBL	105	0.01	1	A	2	0.00	0	0	-	0.00	0	0	-
	WBT	-	0.08	1	A	19	0.00	0	0	-	0.00	0	0	-
	NBL	-	0.19	43	D	28	0.00	0	0	-	0.00	0	0	-

	NBTR	157	0.00	47	D	0	0.00	0	0	-	0.00	0	0	-
	SBL	144	0.25	43	D	41	0.00	0	0	-	0.03	43	D	-
	SBTR	-	0.29	43	D	56	0.07	43	D	0	-	-	-	0
5th St & Van Buren St	*Overall*	-	*0.27*	*8*	*A*	-	*0.27*	*8*	*A*	-	*0.27*	*8*	*A*	-
	EBL	131	0.12	4	A	18	0.12	4	A	18	0.12	4	A	18
	EBTR	-	0.29	4	A	83	0.29	4	A	83	0.29	4	A	83
	WBT	-	0.28	8	A	112	0.28	8	A	112	0.28	8	A	112
	WBR	207	0.05	6	A	14	0.05	6	A	14	0.05	6	A	14
	NBLTR	-	0.12	32	C	33	0.12	32	C	33	0.12	32	C	33
5th St/4th St & Fillmore St	*Overall*	-	*0.20*	*23*	*C*	-	*0.20*	*23*	*C*	-	*0.20*	*23*	*C*	-
	EBL	128	0.09	4	A	29	0.09	4	A	29	0.09	4	A	m20
	EBT	-	0.09	3	A	20	0.09	3	A	20	0.09	3	A	m15
	WBTR	-	0.06	4	A	16	0.06	4	A	16	0.06	4	A	16
	NBLTR	-	0.64	36	D	112	0.64	36	D	112	0.64	36	D	112
5th St & Washington St	*Overall*	-	*0.18*	*6*	*A*	-	*0.18*	*6*	*A*	-	*0.18*	*6*	*A*	-
	WBT	-	0.17	1	A	18	0.17	1	A	18	0.17	1	A	18
	WBR	295	0.04	1	A	m5	0.04	1	A	m5	0.04	1	A	m5
	NBTL	-	0.26	54	D	40	0.26	54	D	40	0.26	54	D	40
5th St & Jefferson St	*Overall*	-	*0.29*	*2*	*A*	-	*0.29*	*2*	*A*	-	*0.29*	*2*	*A*	-
	EBTL	-	0.29	2	A	132	0.29	2	A	140	0.29	2	A	140
	EBR	-	0.00	0	0	-	0.00	0	0	-	0.00	0	0	-
1st St & Jefferson St	*Overall*	-	*0.31*	*11*	*B*	-	*0.15*	*0*	*A*	-	*0.41*	*0*	*A*	-
	EBTL	-	0.21	6	A	61	0.12	0	A	0	0.34	0	A	0
	EBR	144	0.06	5	A	28	0.00	0	0	-	-	-	-	-
	NBT	112	0.26	18	B	57	0.00	0	0	-	0.00	0	0	-
	NBR	-	0.38	19	B	50	0.00	0	0	-	0.00	0	0	-
	SBTL	-	0.57	22	C	92	0.00	0	0	-	0.00	0	0	-
Washington St & 1st St	*Overall*	-	*0.34*	*16*	*B*	-	*0.35*	*13*	*B*	-	*0.57*	*34*	*C*	-
	WBTL	-	0.23	10	A	75	0.31	11	B	116	0.31	11	B	116
	WBR	161	0.04	8	A	17	0.04	8	A	17	0.04	8	A	17
	NBL	-	-	-	-	-	-	-	-	-	0.44	25	C	146
	NBTL	-	0.52	27	C	177	0.00	0	0	-	**1.00**	**66**	**E**	**545***
	SBTR	-	0.22	21	C	92	-	-	-	-	-	-	-	-
	SBR	115	0.13	21	C	46	0.42	25	C	**127**	0.42	25	C	**127**
3rd St & Washington St	*Overall*	-	*0.22*	*27*	*C*	-	*0.25*	*29*	*C*	-	*0.25*	*29*	*C*	-
	WBTL	-	0.63	31	C	164	0.70	29	C	224	0.70	29	C	224
	SBTR	-	0.07	6	A	28	0.00	0	0	-	0.00	0	0	-
1st St & Roosevelt St	*Overall*	-	*0.31*	*26*	*C*	-	*0.31*	*26*	*C*	-	*0.31*	*26*	*C*	-
	EBL	89	0.16	22	C	37	0.16	22	C	37	0.16	22	C	37
	EBTR	-	0.71	33	C	327	0.71	33	C	327	0.71	33	C	327

	WBL	92	0.31	27	C	53	0.31	27	C	53	0.31	27	C	53
	WBTR	-	0.56	28	C	253	0.56	28	C	253	0.56	28	C	253
	NBL	115	0.04	9	A	20	0.04	9	A	20	0.04	9	A	20
	NBTR	-	0.07	9	A	29	0.07	9	A	29	0.07	9	A	29
	SBL	112	0.04	9	A	18	0.04	9	A	18	0.04	9	A	18
	SBTR	-	0.04	9	A	18	0.04	9	A	18	0.04	9	A	18
3rd St & Jefferson St	*Overall*	-	*0.23*	*10*	*B*	-	*0.19*	*10*	*A*	-	*0.19*	*10*	*A*	-
	EBT	-	0.29	10	A	77	0.32	10	A	85	0.32	10	A	85
	EBR	164	0.11	9	A	38	-	-	-	-	-	-	-	-
	SBTL	-	0.14	15	B	40	0.00	0	0	-	0.00	0	0	-
Unsignalized														
3rd Street & Jackson Street	EBTR	-	0.07	7	A	-	0.16	8	A	-	0.16	8	A	-
	WBLT	-	0.03	7	A	-	0.05	8	A	-	0.05	8	A	-
	SBLT		0.03	7	A	-	0.11	8	A	-	0.11	8	A	-
	SBTR	-	0.09	6	-	-	0.15	7	-	-	0.15	7	-	-
1st Street & Jackson Street	EBLTR	-	0.28	10	A	-	0.27	9	A	-	0.27	9	A	-
	WBLTR	-	0.13	8	A	-	0.14	9	A	-	0.14	9	A	-
	NBLTR	-	0.17	9	A	-	0.16	9	A	-	0.16	9	A	-
	SBL	-	0.03	8	A	-	0.03	8	A	-	0.03	8	A	-
	SBTR	-	0.18	8	-	-	0.18	8	-	-	0.18	8	-	-
1st Street & Lincoln Street	EBLT	-	0.03	2	A	2	0.26	8	A	26	0.26	8	A	26
	EBTR	-	0.11	0	-	0	-	-	-	-	-	-	-	-
	WBLT	-	0.00	0	A	0	0.00	0	A	0	0.00	0	A	0
	WBTR	-	0.09	0	-	0	0.09	0	-	0	0.09	0	-	0
	NBLTR	-	0.09	14	B	8	0.26	38	E	25	0.26	38	E	25
	SBLTR	-	0.32	16	C	33	0.62	41	E	92	0.62	41	E	92
1st Street & Fillmore Street	EBLTR	98	-	-	-	-	-	-	-	-	-	-	-	-
	WBLTR	89	-	-	-	-	-	-	-	-	-	-	-	-
	NBLTR	98	-	-	-	-	-	-	-	-	-	-	-	-
	SBLTR	98	-	-	-	-	-	-	-	-	-	-	-	-

2-0 PM – Future conditions without any events

Under future conditions considering traffic in both the north and south direction along N 3rd Street, all study area intersections are operation with overall reserve capacity and acceptable delays during both the weekday p.m. peak hours. Individual movements and over intersections operate with LOS D or better during the p.m. peak hour, with the exception of the southbound left movement at the intersection of I-10 and 3rd Street, i.e., movements to the freeway ramp, with a LOS of F. It should be noted that the movement was already experiencing LOS F during the existing p.m. peak hour.

Volume-to-capacity ratios at all study intersections and movements are within the acceptable range during the p.m. peak hour, with the exception of the southbound left movement at the intersection of I-10 and 3rd Street, i.e., movements to the freeway ramp, with a volume to capacity ration of 1.12. It should be noted that the movement was already experiencing a volume to capacity ration of 1.12 during the existing p.m. peak hour.

Overall, study area intersections operate with acceptable 95th percentile queues during the weekday p.m. peak hour under future conditions for option 2-0. The only exception is the southbound left movement at the intersection of I-10 and 3rd Street, with a queue of 267ft, as compared to the storage length of 121ft.

2-1 PM – Future conditions with <25,000 Event

Under future conditions considering traffic in both the north and south direction along N 3rd Street, all study area intersections are operation with overall reserve capacity and acceptable delays during both the weekday p.m. peak hours. Individual movements and over intersections operate with LOS D or better during the p.m. peak hour, with the exception of the southbound left movement at the intersection of I-10 and 3rd Street, i.e., movements to the freeway ramp, with a LOS of F. It should be noted that the movement was already experiencing LOS F during the existing p.m. peak hour.

Volume-to-capacity ratios at all study intersections and movements are within the acceptable range during the p.m. peak hour, with the exception of the southbound left movement at the intersection of I-10 and 3rd Street, i.e., movements to the freeway ramp, with a volume to capacity ration of 1.12. It should be noted that the movement was already experiencing a volume to capacity ration of 1.12 during the existing p.m. peak hour.

Overall, study area intersections operate with acceptable 95th percentile queues during the weekday p.m. peak hour under future conditions for option 2-1. The only exceptions were the southbound left movement at the intersection of I-10 and 3rd Street, with a queue of 267ft, as compared to the storage length of 121ft, and the southbound right movement for the intersection of Washington Street and 1st Street with a queue of 127ft, as compared to the storage length of 115ft.

2-2 PM – Future conditions with 25,000+ Event

Under future conditions considering traffic in both the north and south direction along N 3rd Street, all study area intersections are operation with overall reserve capacity and acceptable delays during both the weekday p.m. peak hours. Individual movements and over intersections operate with LOS D or better during the p.m. peak hour, with the exception of the southbound left movement at the intersection of I-10 and 3rd Street, i.e., movements to the freeway ramp, with a LOS of F, and the northbound through-left movement at the intersection of Washington Street and 1st Street, with LOS E. It should be noted that the movement at the intersection of I-10 and 3rd Street was already experiencing LOS F during the existing p.m. peak hour.

Volume-to-capacity ratios at all study intersections and movements are within the acceptable range during the p.m. peak hour, with the exception of the southbound left movement at the intersection of I-10 and 3rd Street, and the northbound through-left movement at the intersection of Washington Street and 1st Street. The intersection of I-10 and 3rd Street experienced a volume to capacity ration of 1.12, it should be noted that the movement was already experiencing the same ratio during the existing p.m. peak hour. The northbound through-left movement at Washington Street and 1st Street reached capacity at a ratio of 1.00 during the p.m. peak hour.

Overall, study area intersections operate with acceptable 95th percentile queues during the weekday p.m. peak hour under future conditions for option 2-2. The only exceptions were the southbound left movement at the intersection of I-10 and 3rd Street, with a queue of 267ft, as compared to the storage length of 121ft, and the southbound right movement for the intersection of Washington Street and 1st Street with a queue of 127ft, as compared to the storage length of 115ft.

3.3 Mobility Concerns Raised in Public Engagement

During the course of this study, members of the public raised particular concerns regarding traffic operations at the intersection of 2nd Street and Taylor Street, within the Arizona State University campus. In particular, one user of this intersection, who frequently parks at the 200 EVB parking garage accessed from 2nd Street immediately south of the intersection, noted that high pedestrian crossing volumes at the existing all-way stop configuration sometimes result in excessively long wait times for vehicles to proceed. An image of this intersection, illustrating pedestrians crossing the intersection, is provided in **Figure 3-4.**

The 2nd Street/Taylor Street intersection is located within the Arizona State University Downtown Campus, just to the east of the Taylor Street pedestrian mall between 1st Avenue and 1st Street, which logically may result in higher pedestrian volumes than in other areas of the study area road network. While it was not assessed as part of the traffic operations analysis in this study and therefore no turning movement count or pedestrian count was available for this intersection, making it difficult to verify these concerns or assess the feasibility of alternate modes of intersection control.

However, conceptually, signalization of the intersection and the addition of a pedestrian scramble signal, which is the existing configuration at the neighboring intersections of 1st Street/Taylor Street and 3rd Street/Taylor Street, may assist in better managing high volumes of pedestrians than the existing all-way stop control. Pedestrian compliance with signals, particularly in a university context, may however be an issue. Further study, including the collection of turning movement counts and active transportation counts, may however be necessary to assess whether signalization is warranted.

Driver education on possible detours to the 200 EVB parking garage (such as via Van Buren and 2nd Streets) to avoid the 2nd Street/Taylor Street intersection may also be beneficial.

Figure 3-4 2nd Street/Taylor Street Intersection

Source: Google Street View, November 2022 (facing north)

4 CONCLUSIONS AND RECOMMENDATIONS

The existing conditions traffic analysis of the study area road network reveals that the network broadly holds sufficient capacity to support any of the three alternative alignments proposed for the north-south active transportation corridor. Areas in which operational issues were apparent are rare and isolated within the network, and point to operational issues with individual turning movements as a cause rather than a broad inability of the network to handle the capacity of vehicular traffic moving through downtown Phoenix. Furthermore, the isolated areas in which operational issues were present did not tend to involve traffic movements which would be impacted by the implementation of the proposed active transportation corridor alignments; in one such case (the I-10 and 3rd Street intersection), the intersection has seen reconstruction and implementation of active transportation infrastructure since the time that turning movement counts were collected, regardless.

In the Future Traffic Analysis, considering both configurations of N 3rd Street, similar to the existing conditions, only the southbound left movement at the intersection of I-10 and 3rd Street, exceeded capacity during the p.m. peak hour.

Considering the Traffic control plan lane configurations for the future scenarios, there is sufficient capacity to support both configurations of a north-south, and only a southbound corridor along N 3rd Street. The only difference is that for southbound only traffic at the intersection of Washington Street and 1st Street, for events less than 25,000 the southbound right movement queue that exceeds capacity.

Road network capacity should therefore not be considered a limiting factor in the assessment of the proposed alternative alignments for the active transportation corridor. Any of the three alignments for this downtown corridor would be supported from a traffic perspective.

Implementation of a continuous north-south cycling connection through downtown Phoenix where no such continuous corridor currently exists may further yield benefits as a transportation demand management measure, encouraging cycling as a multi-modal alternative to the private automobile within this area.

ATTACHMENT A: SYNCHRO SUMMARY REPORTS

Attachment Content Available Upon Request