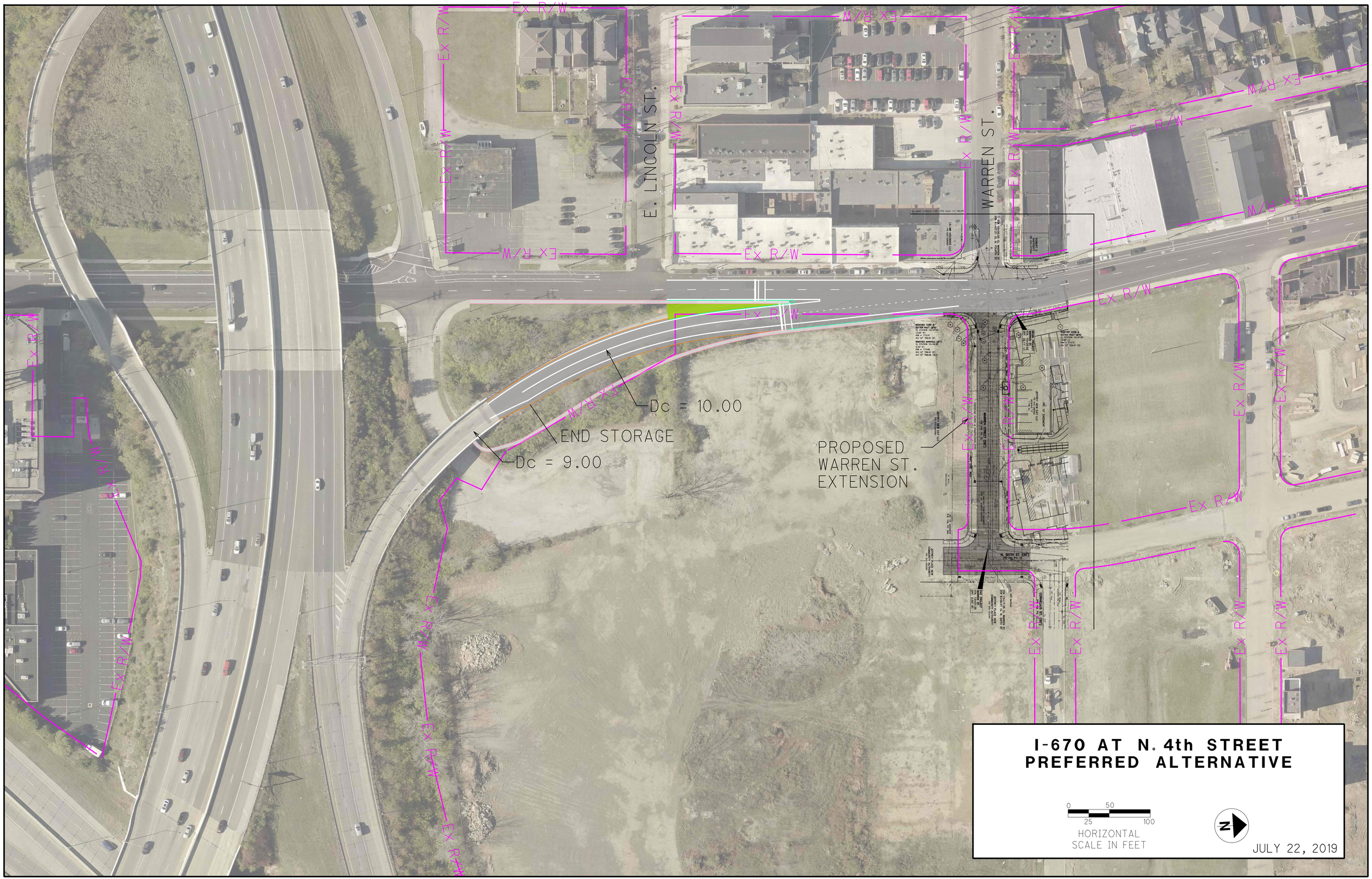
Interchange Operations Study

Appendix

February 24, 2023

Build Alternative



I-670 AT N. 4th STREET
PREFERRED ALTERNATIVE

0 50
25 100
HORIZONTAL
SCALE IN FEET

N

JULY 22, 2019

Certified Traffic Volumes

INTER-OFFICE COMMUNICATION

TO: **Drew Hurst, P.E., Transportation Engineer, District 6**

FROM: Joshua Kieselbach, P.E., Transportation Engineer, Office of Statewide Planning & Research, Modeling & Forecasting Section

SUBJECT: **FRA-670-3.75, No PID**

DATE: October 6, 2022

In reply to a request dated October 3, 2022, the review of the subject project has been completed and is approved for use on this project. Attached is a copy of the original memo and the updated plates.

If you have any questions, please contact me at Joshua.Kieselbach@dot.ohio.gov or (614) 752-5747.

c: G. Giaimo, OSPR – File

BURGESS & NIPLE Memorandum

330 Rush Alley | Columbus, Ohio 43215 | 614.459.2050

To: Andrew Hurst
ODOT District 6

July 22, 2022

From: Randy Kill, PE, PTOE
Burgess & Niple, Inc.

Subject: Procedure for Developing Certified Traffic for I-670 and N 4th Street IOS.

On behalf of City of Columbus, Burgess & Niple is conducting an intersection study for the I-670 and 4th Street Intersection Operations (IOS) Study. This memo will outline the procedure and data used to develop the traffic volumes that are being submitted for certification for the I-670 and N 4th St IOS. Because there are no changes in land use or connectivity between the No-Build and Build alternatives it is assumed that the forecast for the No-Build and Build conditions will be the same and separate No-Build and Build volumes were not developed. The Opening Year for the project will be 2025 and the Design Year will be 2045.

Certified Traffic Development

Traffic Counts

The certified traffic study area consists of Westbound Interstate 670, from east of the Southbound I-71 on-ramp to west of the NB SR 315 off-ramp including all ramps, and a section of N 4th St from Goodale Street to Warren Street. For the intersections on N 4th Street, 8-hour turning movement counts were expanded to 24-hour volumes and the 24-hour expansions are included in the Counts folder included with this submission. The N 4th Street intersections at Warren Street and the WB I-670 On-ramp were conducted on Wed April 27th, 2022, and the intersection at Goodale Street was conducted on Tuesday June 4th, 2022. The 4th Street corridor AM peak hour was identified as 8:00-9:00 AM and the PM peak hour was determined to be 4:45-5:45 PM. Ramp volumes were taken from MS2. All ramp locations used a Wednesday count from 2019, ranging in month from April to August. A mainline count was taken from an ATR located west of Goodale St Off-ramp. The I-670 mainline AM peak hour for the ramps was identified as 7:15-8:15 AM and the PM peak hour was identified as 5:00-6:00 PM.

Existing traffic counts for the ADT, AM Peak and PM Peak volumes, and truck percentages are shown on Plates 1-9.

NCHRP Adjustments

The procedures outlined in the ODOT Traffic Forecasting Manual were used to develop future traffic assignments. Travel Demand Model (TDM) outputs from the MORPC Regional model for the 2018 base year and 2050 horizon year were provided by MORPC. The assignments are included in the MORPC Model Assignments folder included with this submission.

Four NCHRP spreadsheets were developed for the study intersections and mainline ramps. Each spreadsheet includes the ADT, AM peak and PM peak traffic counts as well as the MORPC 2018 and 2050 TDM model assignments. An additional NCHRP spreadsheet was developed for the ramp locations on WB I-670. The DHV factor selected for the study intersections was based on the counts being conducted midweek between April and June for an urban principal arterial street. Using ODOT's Peak Hour to Design Hour Factor Report, a DHV factor of 1.14 was selected for all legs of the N 4th St intersections. For the freeway and ramps, the DHV factor selected was based on the average DHV factor for midweek counts between April and August. A DHV factor of 1.1 was selected for all ramps.

Future 2025 and 2045 ADT, AM Peak and PM Peak volumes are shown on Plates 10-18.

Please contact me at randy.kill@burgessniple.com or 614-459-2050 if you have any questions.

I-670 AND 4TH ST IOS
EXISTING ADT

ANAL'ST KEB
DATE 07/21/22

0
NOT TO SCALE

N

I-670 AND 4TH ST IOS
EXISTING ADT

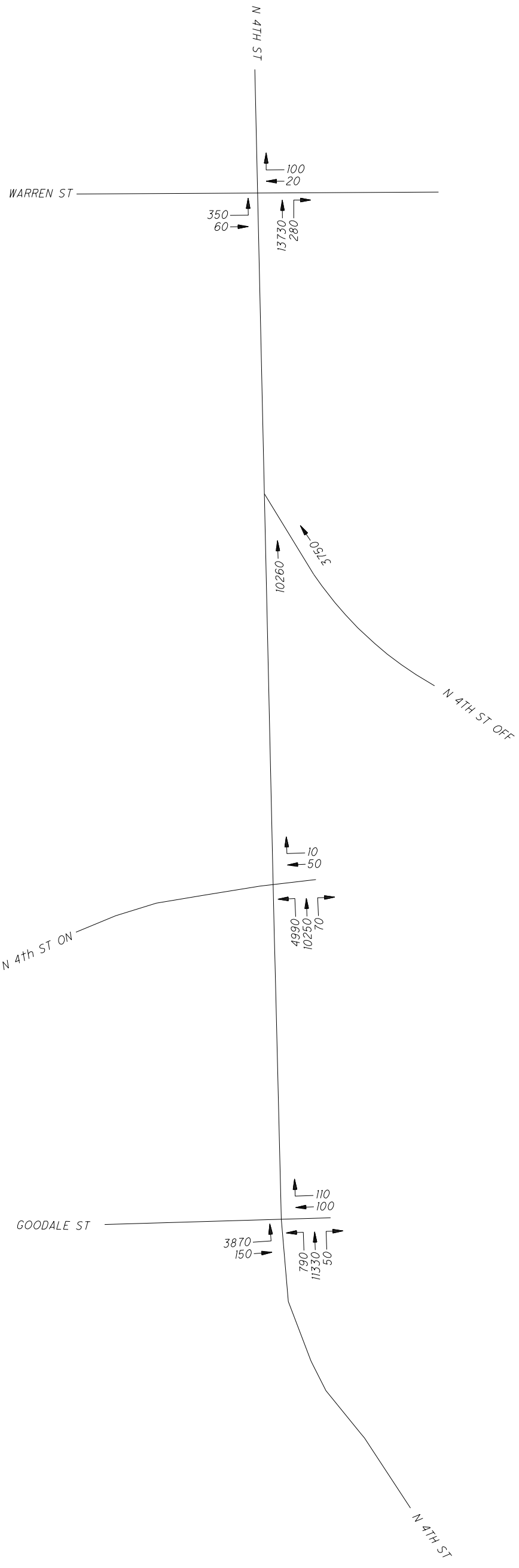
ANALYST KEB
DATE 07/21/22

0
NOT TO SCALE

2
18

P:\PR60328\Traffic\Certified Traffic\I-670 Certified Traffic Plates.dgn Sheet 7/22/2022 9:25:03 PM kbright

P:\PR60328\Traffic\Certified Traffic\I-670 Certified Traffic Plates.dgn Sheet 7/22/2022 9:25:34 PM kbright



3 / 18		**I-670 AND 4TH ST IOS EXISTING ADT**	ANALYST KEB / DATE 07/21/22	NOT TO SCALE	N

I-670 AND 4TH ST IOS
EXISTING AM/PM VOLUMES

ANALYST KEB
DATE 07/21/22

0
NOT TO SCALE

P:\PR60328\Traffic\Certified Traffic\I-670 Certified Traffic Plates.dgn Sheet 7/29/2022 1:15:50 PM kbright

NB SR 315 OFF

1720/960

GOODALE ST

1310/990

N 3RD ST ON

620/740

230/440

N 4TH ST ON

4550/4940

MATCHLINE A

850/1180

5400/6120

4090/5130

2370/4170

INTERSTATE 670

WB I-670

I-670 AND 4TH ST IOS
EXISTING AM/PM VOLUME

ANALYST: KEB

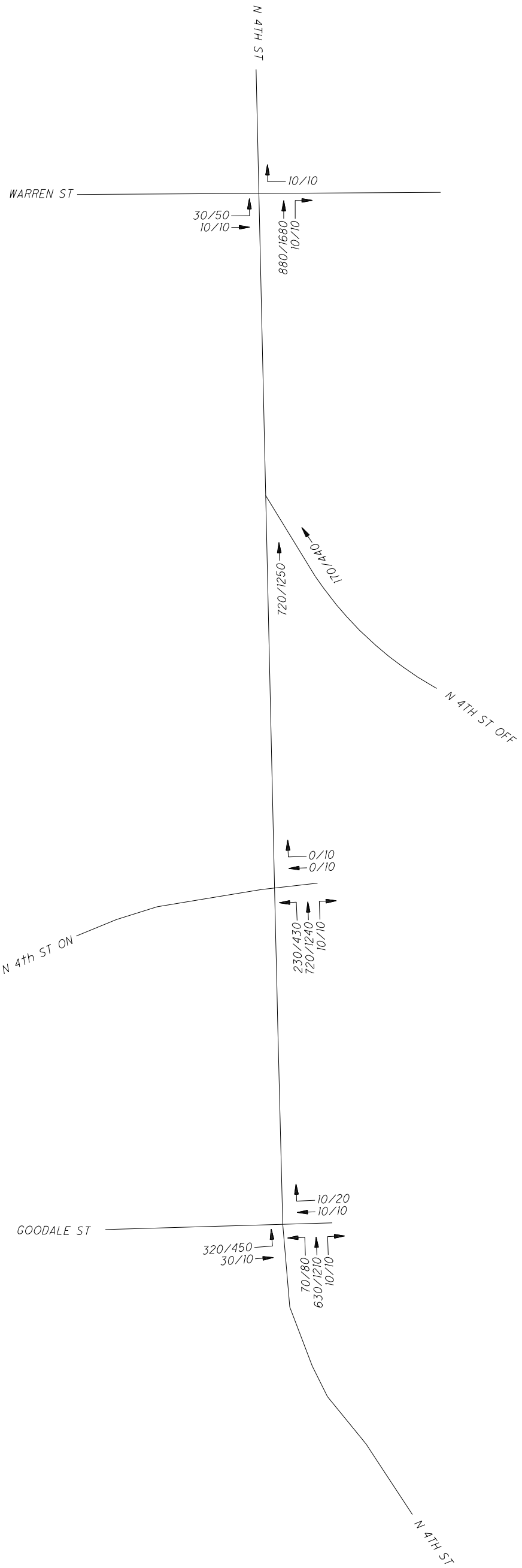
DATE: 07/21/22

0

NOT TO SCALE

5
18

P:\PR60328\Traffic\Certified Traffic\I-670 Certified Traffic Plates.dgn Sheet 7/29/2022 12:59:20 PM kbright



6/18		**I-670 AND 4TH ST IOS** **EXISTING AM/PM VOLUMES**	ANALYST KEB DATE 07/21/22	NOT TO SCALE	N

NOT TO SCALE

ANALYST KEB

DATE 07/21/22

I-670 AND 4TH ST IOS
EXISTING 24 HR/ AM/ PM TRUCKS

I-670 AND 4TH ST IOS
EXISTING 24 HR/ AM/ PM TRUCKS

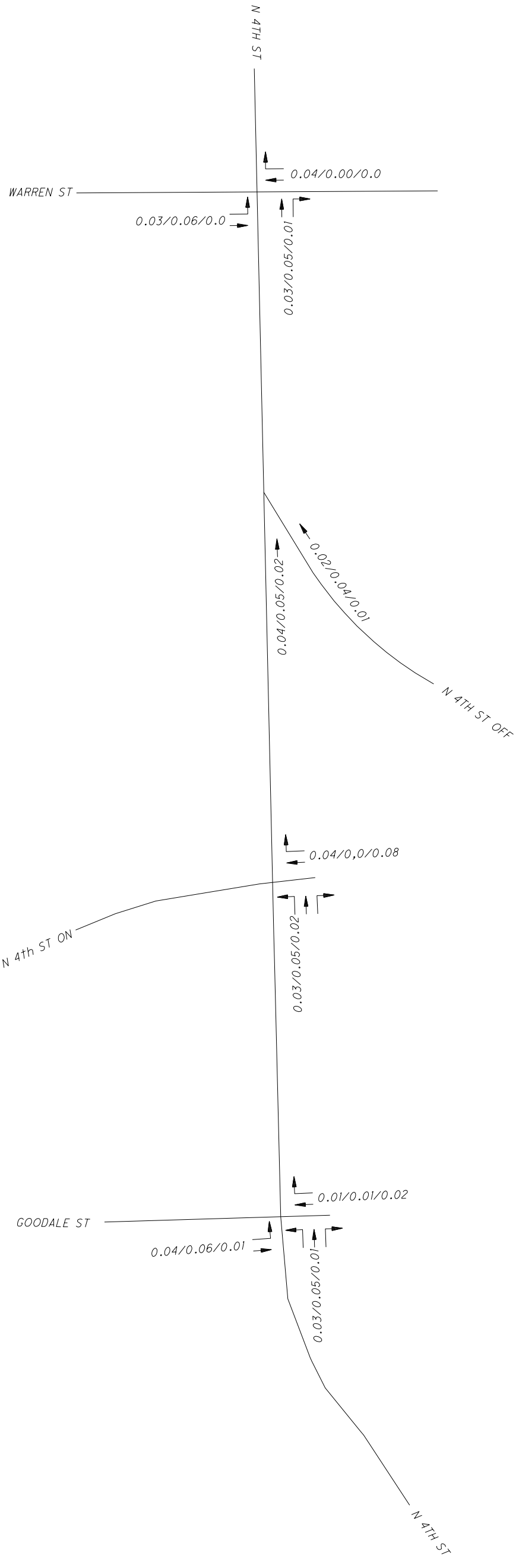
ANALYST KEB
DATE 07/21/22

0
NOT TO SCALE

8
18

P:\PR60328\Traffic\Certified Traffic\I-670 Certified Traffic Plates.dgn Sheet 7/28/2022 1:12:29 PM kbright

P:\PR60328\Traffic\Certified Traffic\I-670 Certified Traffic Plates.dgn Sheet 2/22/2023 4:44:09 PM kill



9 / 18		**I-670 AND 4TH ST IOS** **EXISTING 24 HR/AM/PM TRUCKS**	ANALYST KEB DATE 07/21/22	NOT TO SCALE	N

P:\PR60328\Traffic\Certified Traffic\I-670 Certified Traffic Plates.dgn Sheet 7/22/2022 9:28:10 PM kbright

NOT TO SCALE

ANALYST KEB

DATE 07/21/22

I-670 AND 4TH ST IOS
2025 / 2045 ADT

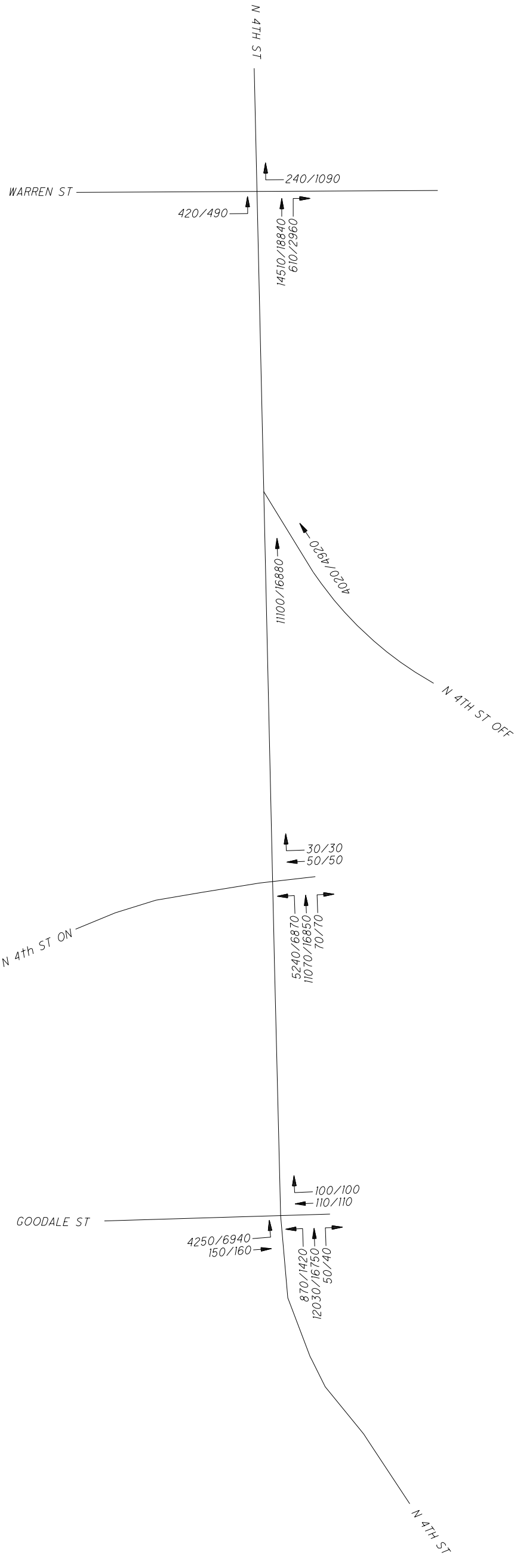
I-670 AND 4TH ST IOS
2020S / 2045 ADT

NOT TO SCALE

ANALYST KEB
DATE 07/21/22

11
18

P:\PR60328\Traffic\Certified Traffic\I-670 Certified Traffic Plates.dgn Sheet 7/28/2022 1:15:47 PM kbright



12/18		**I-670 AND 4TH ST IOS** **2025/2045 ADT**	ANALYST KEB DATE 07/21/22	NOT TO SCALE	N

I-670 AND 4TH ST IOS
2025 / 2045 AM VOLUMES

ANALYST: KEB
DATE: 07/21/22

0 NOT TO SCALE

13
18

P:\VPR60328\Traffic\Certified Traffic\I-670 Certified Traffic Plates.dgn Sheet 7/22/2022 9:29:58 PM kbright

I-670 AND 4TH ST IOS
2025 / 2045 AM VOLUMES

ANALYST KEB
DATE 07/21/22

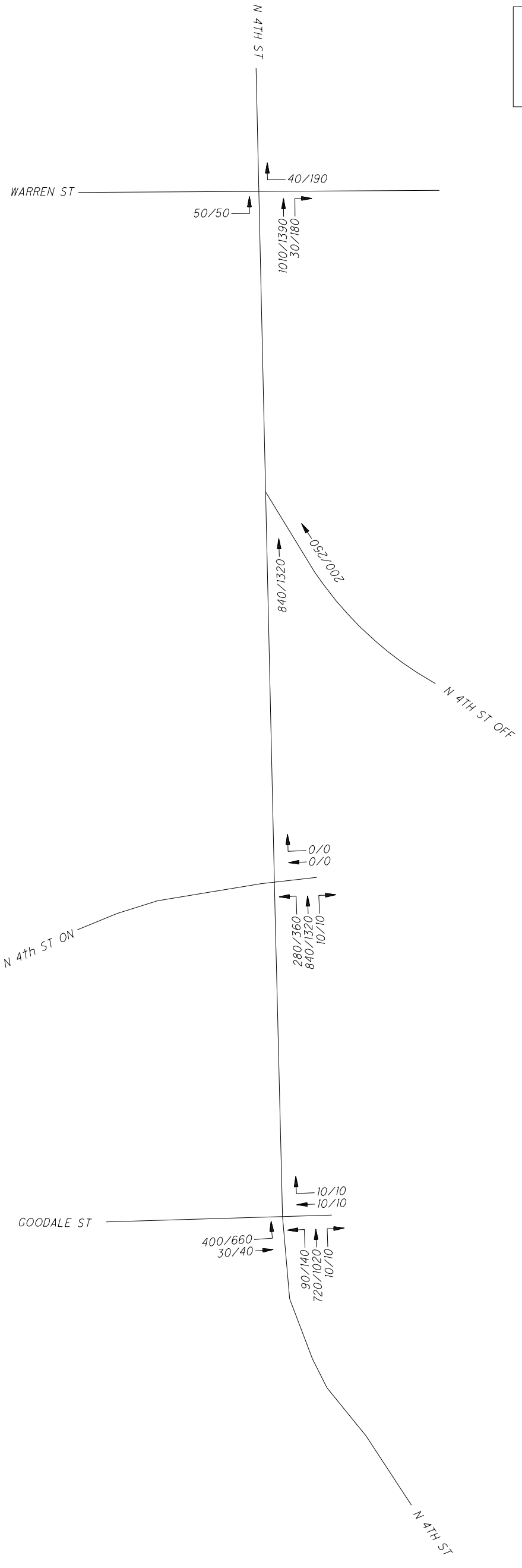
0
NOT TO SCALE

14
18

P:\PR60328\Traffic\Certified Traffic\I-670 Certified Traffic Plates.dgn Sheet 2/22/2023 1:47:52 PM kill

INTERSECTION PEAK HOUR FACTORS		
	AM PEAK	PM PEAK
GOODALE ST	0.95	0.93
WB I-670 ON	0.93	0.91
WB I-670 OFF	0.96	0.95
WARREN ST	0.92	0.91

SEE TRAFFIC PLATES 7-9
FOR AM/PM TRUCK PERCENTAGES



15/18		I-670 AND 4TH ST IOS 2025/2045 AM VOLUME	ANALYST KEB	DATE 07/21/22	NOT TO SCALE

P:\PR60328\Traffic\Certified Traffic\I-670 Certified Traffic Plates.dgn Sheet 7/22/2022 9:31:29 PM kbright

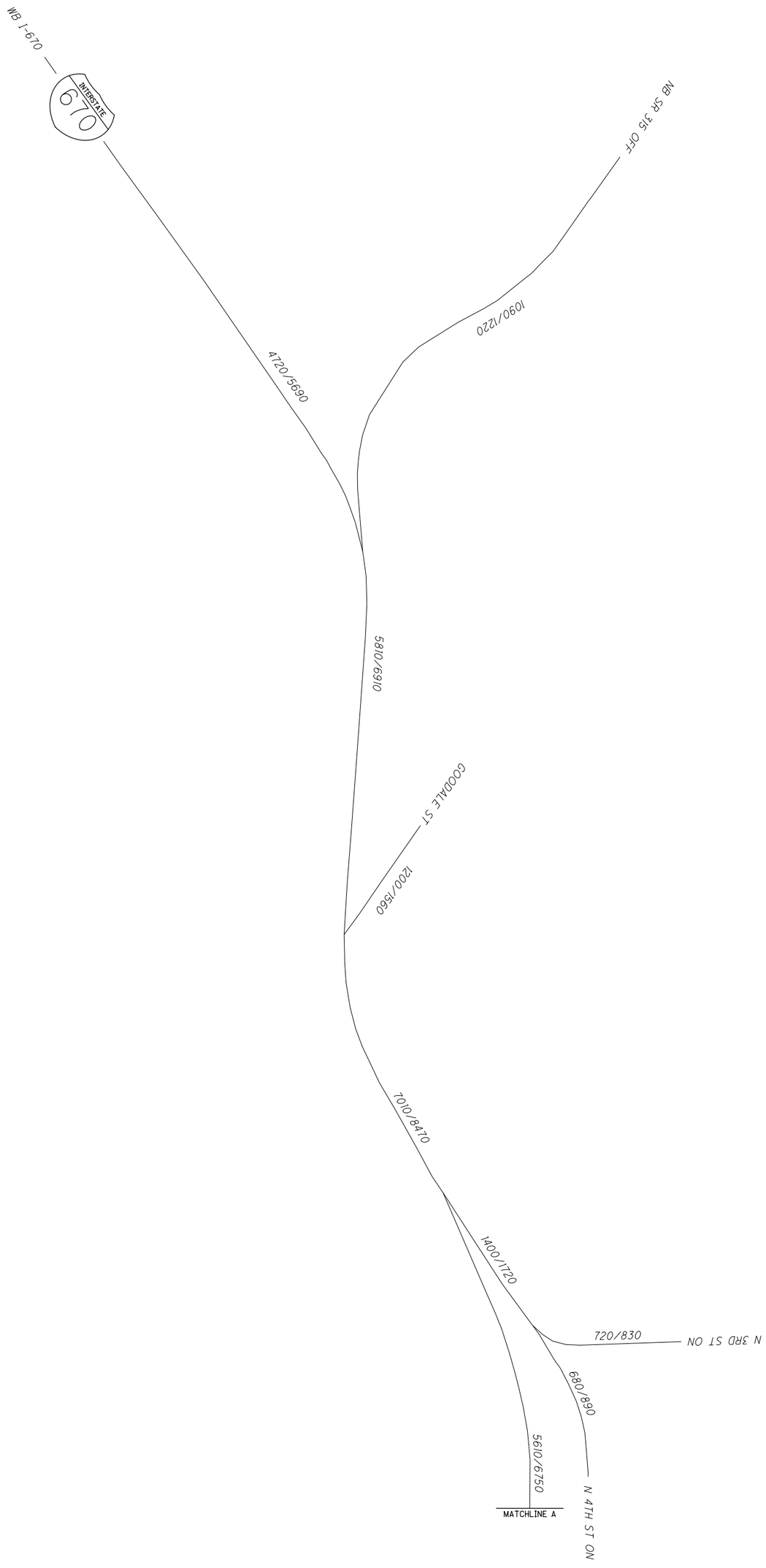
NOT TO SCALE

ANALYST KEB
DATE 07/21/22

I-670 AND 4TH ST IOS
2025 / 2045 PM VOLUMES

16
18

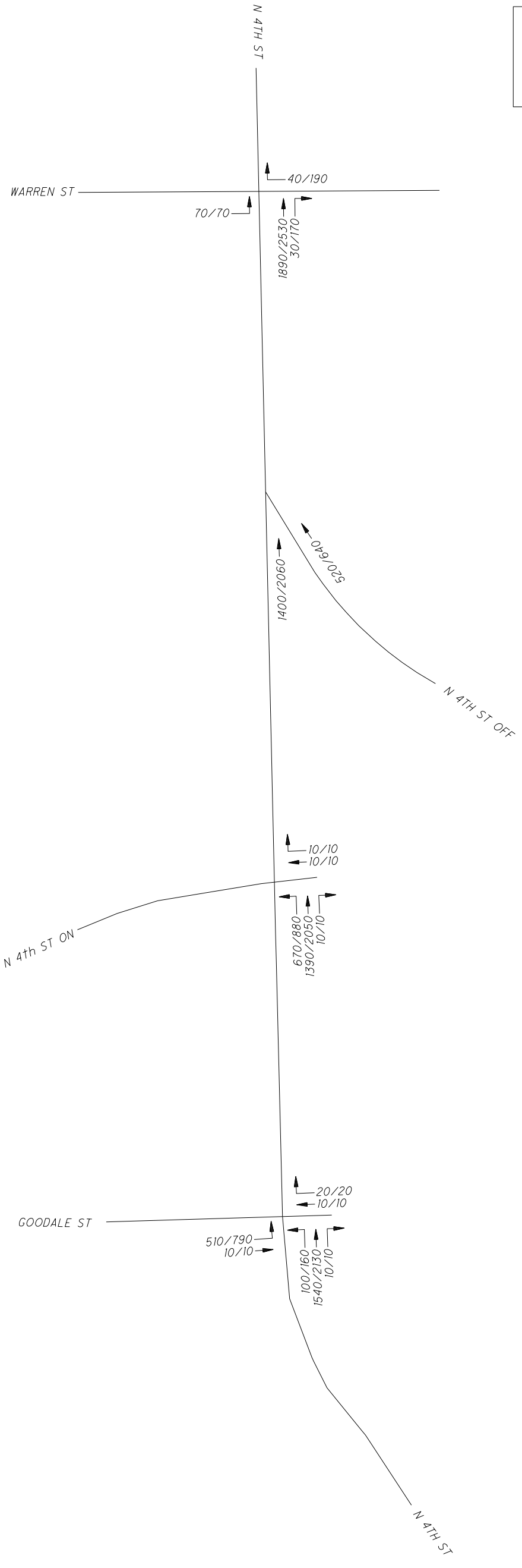
P:\PR60328\Traffic\Certified Traffic\I-670 Certified Traffic Plates.dgn Sheet 7/22/2022 9:32:00 PM kbright



17 / 18	**I-670 AND 4TH ST IOS** **2025 / 2045 PM VOLUMES**	ANALYST KEB DATE 07/21/22	0 NOT TO SCALE	N

INTERSECTION PEAK HOUR FACTORS		
	AM PEAK	PM PEAK
GOODALE ST	0.95	0.93
WB I-670 ON	0.93	0.91
WB I-670 OFF	0.96	0.95
WARREN ST	0.92	0.91

SEE TRAFFIC PLATES 7-9
FOR AM/PM TRUCK PERCENTAGES



18 18		**I-670 AND 4TH ST IOS** **2025/2045 PM VOLUME**	ANALYST KEB DATE 07/21/22	NOT TO SCALE	N

Freeway Capacity Analysis

No-Build

Project: I-670 No Build
Scenario: No Build AM
Run(s): Batch (10 runs)
Simulated: Various
Time: 08:00:00 - 09:00:00
Interval: Summary
Selection: --

Freeway Segment Level of Service - Overview

I 670

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - From I 670 (SWB) - SWB				**Segment: 720491522**
	1	104.7	No	F
	2	104.7	No	F
	3	105.2	No	F
	4	103.1	No	F
	5	103.5	No	F
	6	103.0	No	F
	7	100.4	No	F
	8	106.7	No	F
	9	105.6	No	F
	10	99.9	No	F
	Average:	**59.8**	**No**	**F**
Merge - From RAMP (SWB) - SWB				**Segment: 720491523**
	1	67.6	Yes	F
	2	66.6	Yes	F
	3	67.1	Yes	F
	4	67.2	Yes	F
	5	67.0	Yes	F
	6	67.2	Yes	F
	7	67.9	Yes	F
	8	66.0	Yes	F
	9	68.0	Yes	F
	10	68.0	Yes	F
	Average:	**59.8**	**No**	**F**
Merge - From RAMP (SWB) - SWB				**Segment: 720491585**
	1	67.6	Yes	F
	2	66.6	Yes	F
	3	67.1	Yes	F
	4	67.2	Yes	F
	5	67.0	Yes	F
	6	67.2	Yes	F
	7	67.9	Yes	F
	8	66.0	Yes	F
	9	68.0	Yes	F

I 670

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Merge - From RAMP (SWB) - SWB				**Segment: 720491585**
	10	68.0	Yes	F
	Average:	**39.9**	**No**	**E**
Merge - From RAMP (SWB) - SWB				**Segment: 720491586**
	1	67.6	Yes	F
	2	66.6	Yes	F
	3	67.1	Yes	F
	4	67.2	Yes	F
	5	67.0	Yes	F
	6	67.2	Yes	F
	7	67.9	Yes	F
	8	66.0	Yes	F
	9	68.0	Yes	F
	10	68.0	Yes	F
	Average:	**39.9**	**No**	**E**
Diverge - To RAMP (SB) - SWB				**Segment: 720491524**
	1	78.0	Yes	F
	2	79.4	Yes	F
	3	79.3	Yes	F
	4	79.5	Yes	F
	5	79.3	Yes	F
	6	79.5	Yes	F
	7	78.2	Yes	F
	8	79.0	Yes	F
	9	77.8	Yes	F
	10	77.7	Yes	F
	Average:	**59.8**	**No**	**F**
Basic - Between RAMP and N 4TH ST - WB				**Segment: 720491538**
	1	25.1	No	C
	2	25.6	No	C
	3	26.3	No	D
	4	27.0	No	D
	5	26.6	No	D
	6	26.2	No	D
	7	24.8	No	C
	8	25.6	No	C
	9	25.5	No	C
	10	25.2	No	C
	Average:	**59.8**	**No**	**F**

I 670

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - From RAMP - WB				**Segment: 720491540**
	1	33.8	No	D
	2	33.2	No	D
	3	33.1	No	D
	4	33.6	No	D
	5	34.8	No	D
	6	34.1	No	D
	7	34.8	No	D
	8	34.1	No	D
	9	32.4	No	D
	10	34.4	No	D
	Average:	**59.8**	**No**	**F**
Basic - Between RAMP (WB) and RAMP - SWB				**Segment: 720491525**
	1	45.8	No	F
	2	51.6	No	F
	3	48.1	No	F
	4	49.7	No	F
	5	50.3	No	F
	6	52.7	No	F
	7	49.8	No	F
	8	48.0	No	F
	9	47.4	No	F
	10	59.5	No	F
	Average:	**59.8**	**No**	**F**
Weaving - From N 4TH ST to RAMP (WB) - WB				**Segment: 720491529**
	1	39.0	No	E
	2	38.8	Yes	F
	3	39.2	Yes	F
	4	39.5	Yes	F
	5	40.1	Yes	F
	6	40.8	Yes	F
	7	40.2	Yes	F
	8	39.3	Yes	F
	9	40.0	Yes	F
	10	41.1	Yes	F
	Average:	**59.8**	**No**	**F**
Weaving - From N 4TH ST to RAMP (WB) - WB				**Segment: 720491584**
	1	39.0	No	E
	2	38.8	Yes	F
	3	39.2	Yes	F

I 670

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Weaving - From N 4TH ST to RAMP (WB) - WB				**Segment: 720491584**
	4	39.5	Yes	F
	5	40.1	Yes	F
	6	40.8	Yes	F
	7	40.2	Yes	F
	8	39.3	Yes	F
	9	40.0	Yes	F
	10	41.1	Yes	F
	Average:	**39.9**	**No**	**E**
Basic - Between RAMP and RAMP (NB) - WB				**Segment: 720491515**
	1	25.6	No	C
	2	26.0	No	C
	3	26.3	No	D
	4	26.1	No	D
	5	26.3	No	D
	6	27.0	No	D
	7	26.6	No	D
	8	25.8	No	C
	9	25.8	No	C
	10	26.1	No	D
	Average:	**59.8**	**No**	**F**
Basic - Between RAMP and I 670 (SWB) - SWB				**Segment: 720491495**
	1	14.7	No	B
	2	16.1	No	B
	3	15.9	No	B
	4	15.4	No	B
	5	15.6	No	B
	6	14.0	No	B
	7	15.6	No	B
	8	14.8	No	B
	9	15.2	No	B
	10	15.5	No	B
	Average:	**59.8**	**No**	**F**

RAMP

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - From RAMP (SWB) - SWB				**Segment: 720491521**
	1	157.0	No	F
	2	156.8	No	F
	3	155.9	No	F
	4	156.1	No	F

RAMP

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - From RAMP (SWB) - SWB				**Segment: 720491521**
	5	158.4	No	F
	6	158.6	No	F
	7	156.2	No	F
	8	157.0	No	F
	9	156.6	No	F
	10	155.9	No	F
	Average:	**59.8**	**No**	**F**
Basic - From RAMP (WB) - WB				**Segment: 720491577**
	1	17.6	No	B
	2	18.0	No	B
	3	18.0	No	C
	4	18.2	No	C
	5	17.8	No	B
	6	17.6	No	B
	7	17.7	No	B
	8	18.0	No	B
	9	18.1	No	C
	10	17.8	No	B
	Average:	**39.9**	**No**	**E**
Basic - From RAMP (WB) - WB				**Segment: 720491578**
	1	17.6	No	B
	2	18.0	No	B
	3	18.0	No	C
	4	18.2	No	C
	5	17.8	No	B
	6	17.6	No	B
	7	17.7	No	B
	8	18.0	No	B
	9	18.1	No	C
	10	17.8	No	B
	Average:	**39.9**	**No**	**E**
Basic - From RAMP (WB) - WB				**Segment: 720491579**
	1	29.1	No	D
	2	29.5	No	D
	3	29.0	No	D
	4	29.2	No	D
	5	29.4	No	D
	6	30.5	No	D
	7	29.8	No	D

RAMP

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - From RAMP (WB) - WB				**Segment: 720491579**
	8	29.3	No	D
	9	29.0	No	D
	10	31.0	No	D
	Average:	**39.9**	**No**	**E**

ABOUT FREEWAY LOS
The LOS determination based on density will be overridden with LOS F when demand exceeds capacity (i.e., Over Capacity = Yes).

Project: I-670 No Build
Scenario: No Build AM
Run(s): Batch (10 runs)
Simulated: Various
Time: 08:00:00 - 09:00:00
Interval: Summary
Selection: --

Freeway Segment Level of Service - Density

I 670

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491522	SW	Basic	From I 670 (SWB)	103.7	2.2	99.9	106.7	10
720491523	SW	Merge	From RAMP (SWB)	67.3	0.6	66.0	68.0	10
720491585	SW	Merge	From RAMP (SWB)	67.3	0.6	66.0	68.0	10
720491586	SW	Merge	From RAMP (SWB)	67.3	0.6	66.0	68.0	10
720491524	SW	Diverge	To RAMP (SB)	78.8	0.8	77.7	79.5	10
720491538	W	Basic	Between RAMP and N 4TH ST	25.8	0.7	24.8	27.0	10
720491540	W	Basic	From RAMP	33.8	0.8	32.4	34.8	10
720491525	SW	Basic	Between RAMP (WB) and RAMP	50.3	3.8	45.8	59.5	10
720491529	W	Weaving	From N 4TH ST to RAMP (WB)	39.8	0.8	38.8	41.1	10
720491584	W	Weaving	From N 4TH ST to RAMP (WB)	39.8	0.8	38.8	41.1	10
720491515	W	Basic	Between RAMP and RAMP (NB)	26.2	0.4	25.6	27.0	10
720491495	SW	Basic	Between RAMP and I 670 (SWB)	15.3	0.6	14.0	16.1	10

RAMP

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491521	SW	Basic	From RAMP (SWB)	156.9	1.0	155.9	158.6	10
720491577	W	Basic	From RAMP (WB)	17.9	0.2	17.6	18.2	10
720491578	W	Basic	From RAMP (WB)	17.9	0.2	17.6	18.2	10
720491579	W	Basic	From RAMP (WB)	29.6	0.7	29.0	31.0	10

Project: I-670 No Build
Scenario: No Build AM
Run(s): Batch (10 runs)
Simulated: Various
Time: 08:00:00 - 09:00:00
Interval: Summary
Selection: --

Freeway Segment Level of Service - VgtC

I 670

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491522	SW	Basic	From I 670 (SWB)	0.0	0.0	0.0	0.0	10
720491523	SW	Merge	From RAMP (SWB)	0.0	0.0	0.0	0.0	10
720491585	SW	Merge	From RAMP (SWB)	0.0	0.0	0.0	0.0	10
720491586	SW	Merge	From RAMP (SWB)	0.0	0.0	0.0	0.0	10
720491524	SW	Diverge	To RAMP (SB)	0.0	0.0	0.0	0.0	10
720491538	W	Basic	Between RAMP and N 4TH ST	0.0	0.0	0.0	0.0	10
720491540	W	Basic	From RAMP	0.0	0.0	0.0	0.0	10
720491525	SW	Basic	Between RAMP (WB) and RAMP	0.0	0.0	0.0	0.0	10
720491529	W	Weaving	From N 4TH ST to RAMP (WB)	0.0	0.0	0.0	0.0	10
720491584	W	Weaving	From N 4TH ST to RAMP (WB)	0.0	0.0	0.0	0.0	10
720491515	W	Basic	Between RAMP and RAMP (NB)	0.0	0.0	0.0	0.0	10
720491495	SW	Basic	Between RAMP and I 670 (SWB)	0.0	0.0	0.0	0.0	10

RAMP

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491521	SW	Basic	From RAMP (SWB)	0.0	0.0	0.0	0.0	10
720491577	W	Basic	From RAMP (WB)	0.0	0.0	0.0	0.0	10
720491578	W	Basic	From RAMP (WB)	0.0	0.0	0.0	0.0	10
720491579	W	Basic	From RAMP (WB)	0.0	0.0	0.0	0.0	10

Project: I-670 No Build
Scenario: No Build AM
Run(s): Batch (10 runs)
Simulated: Various
Time: 08:00:00 - 09:00:00
Interval: Summary
Selection: --

Freeway Segment Level of Service - Over Capacity

I 670

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491522	SW	Basic	From I 670 (SWB)	0.0	0.0	0.0	0.0	10
720491523	SW	Merge	From RAMP (SWB)	0.0	0.0	0.0	0.0	10
720491585	SW	Merge	From RAMP (SWB)	0.0	0.0	0.0	0.0	10
720491586	SW	Merge	From RAMP (SWB)	0.0	0.0	0.0	0.0	10
720491524	SW	Diverge	To RAMP (SB)	0.0	0.0	0.0	0.0	10
720491538	W	Basic	Between RAMP and N 4TH ST	0.0	0.0	0.0	0.0	10
720491540	W	Basic	From RAMP	0.0	0.0	0.0	0.0	10
720491525	SW	Basic	Between RAMP (WB) and RAMP	0.0	0.0	0.0	0.0	10
720491529	W	Weaving	From N 4TH ST to RAMP (WB)	0.0	0.0	0.0	0.0	10
720491584	W	Weaving	From N 4TH ST to RAMP (WB)	0.0	0.0	0.0	0.0	10
720491515	W	Basic	Between RAMP and RAMP (NB)	0.0	0.0	0.0	0.0	10
720491495	SW	Basic	Between RAMP and I 670 (SWB)	0.0	0.0	0.0	0.0	10

RAMP

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491521	SW	Basic	From RAMP (SWB)	0.0	0.0	0.0	0.0	10
720491577	W	Basic	From RAMP (WB)	0.0	0.0	0.0	0.0	10
720491578	W	Basic	From RAMP (WB)	0.0	0.0	0.0	0.0	10
720491579	W	Basic	From RAMP (WB)	0.0	0.0	0.0	0.0	10

Project: I-670 No Build
Scenario: No Build AM
Run(s): Batch (10 runs)
Simulated: Various
Time: 08:00:00 - 09:00:00
Interval: Summary
Selection: --

Segment Statistics - Overview

[UNNAMED STREET]

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
EB on Segment ID 720491580				
1	43	12.1	--	2.5
2	49	13.4	--	2.3
3	51	12.4	--	2.5
4	52	8.8	--	2.5
5	46	9.9	--	2.4
6	53	12.8	--	3.0
7	50	11.4	--	2.4
8	49	12.7	--	2.2
9	47	9.6	--	2.7
10	50	9.8	--	2.6
Average:	**48.9**	**11.3**	**0.0**	**2.5**
EB on Segment ID 720491581				
1	178	27.0	7.1	8.1
2	163	26.3	5.3	6.8
3	172	29.9	7.0	8.2
4	179	28.5	6.2	7.8
5	173	28.1	6.0	8.1
6	170	28.3	7.3	6.3
7	167	28.6	6.4	7.2
8	168	28.3	7.7	7.4
9	150	28.7	6.9	6.9
10	164	27.4	6.8	8.0
Average:	**168.4**	**28.1**	**6.7**	**7.5**
WB on Segment ID 720491581				
1	192	23.2	17.5	8.6
2	183	24.0	14.1	8.0
3	185	22.8	16.7	7.2
4	193	20.5	17.4	8.9
5	190	23.0	17.5	7.8
6	190	22.9	17.1	8.8
7	190	23.0	15.2	7.7
8	189	27.3	16.6	8.9
9	185	24.0	16.8	7.6
10	189	27.0	16.0	8.0

[UNNAMED STREET]

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
Average:	**188.6**	**23.8**	**16.5**	**8.2**

ACCESS RD

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
EB on Segment ID 720474312				
1	49	35.0	--	0.8
2	49	--	--	0.0
3	51	24.0	--	0.8
4	52	25.0	--	0.8
5	48	--	--	0.0
6	51	24.5	--	1.5
7	58	34.0	--	0.8
8	53	37.8	--	0.8
9	51	--	--	0.0
10	49	--	--	0.0
Average:	**51.0**	**18.0**	**0.0**	**0.6**
WB on Segment ID 720474312				
1	19	0.0	--	9.7
2	12	1.0	--	6.9
3	18	0.5	1.9	9.1
4	21	3.2	--	5.2
5	18	0.4	--	8.3
6	18	2.0	--	10.0
7	20	0.5	--	9.4
8	23	0.7	--	7.8
9	23	3.9	--	6.7
10	17	5.0	8.2	7.4
Average:	**18.8**	**1.7**	**1.0**	**8.1**

E GOODALE ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
EB on Segment ID 720474311				
1	690	30.3	12.7	22.7
2	697	31.3	11.8	21.1
3	695	31.6	12.2	21.9
4	698	32.4	11.1	19.9
5	705	30.7	12.6	21.4
6	701	31.5	12.8	20.6
7	696	30.5	13.0	21.8

E GOODALE ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
8	688	32.7	10.8	21.3
9	696	30.2	13.5	22.7
10	700	31.3	11.0	22.8
Average:	**696.7**	**31.3**	**12.2**	**21.6**
EB on Segment ID 720474314				
1	716	2.3	6.9	73.6
2	702	2.1	6.9	75.9
3	688	2.2	6.9	78.0
4	683	2.7	7.4	78.0
5	709	2.6	7.6	73.9
6	720	2.0	6.7	74.0
7	702	2.7	7.6	76.1
8	700	2.4	7.2	75.2
9	704	2.0	6.4	74.9
10	714	2.2	6.8	72.5
Average:	**703.9**	**2.3**	**7.0**	**75.2**
WB on Segment ID 720474311				
1	148	40.6	7.7	2.3
2	147	39.6	7.4	2.3
3	149	40.8	7.1	2.5
4	143	39.8	5.8	1.8
5	149	37.0	5.6	2.0
6	151	37.2	6.4	1.8
7	150	39.3	8.0	2.2
8	155	38.8	6.9	2.6
9	157	38.6	6.5	2.6
10	149	39.1	5.5	2.0
Average:	**149.8**	**39.1**	**6.7**	**2.2**
WB on Segment ID 720474314				
1	147	28.7	4.5	4.8
2	148	32.3	--	2.8
3	151	29.0	6.4	6.4
4	146	30.6	8.5	7.2
5	152	31.6	7.6	6.0
6	151	30.4	5.8	4.1
7	153	30.3	6.1	6.0
8	149	33.7	7.3	5.2
9	151	29.5	--	4.0
10	150	29.1	--	6.5

E GOODALE ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
Average:	**149.9**	**30.5**	**4.6**	**5.3**

I 670

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
SWB on Segment ID 720491495				
1	2,857	57.6	4.4	14.7
2	2,870	56.6	4.3	16.1
3	2,899	56.5	4.5	15.9
4	2,877	57.0	4.7	15.4
5	2,856	57.1	5.1	15.5
6	2,853	57.8	4.7	13.9
7	2,901	56.6	4.6	15.6
8	2,848	57.1	4.5	14.7
9	2,900	56.6	4.8	15.2
10	2,948	57.3	4.5	15.5
Average:	**2,880.8**	**57.0**	**4.6**	**15.3**
SWB on Segment ID 720491522				
1	3,918	12.7	10.8	104.5
2	3,905	12.7	10.8	104.5
3	3,981	12.9	10.4	105.0
4	3,972	13.0	11.1	102.9
5	3,924	12.9	11.2	103.3
6	3,969	13.0	11.3	102.8
7	3,962	13.4	11.9	100.2
8	3,917	12.3	10.2	106.5
9	3,951	12.6	10.7	105.4
10	4,040	13.5	11.7	99.7
Average:	**3,953.9**	**12.9**	**11.0**	**103.5**
SWB on Segment ID 720491523				
1	5,365	9.8	5.5	119.6
2	5,392	10.1	4.7	113.6
3	5,418	10.3	5.1	114.8
4	5,482	10.2	5.4	116.8
5	5,423	10.2	4.9	115.4
6	5,510	10.2	5.1	113.9
7	5,552	10.1	5.1	114.6
8	5,450	10.0	4.6	115.1
9	5,353	10.3	5.0	117.9
10	5,494	10.4	5.7	116.1

I 670

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
Average:	**5,443.9**	**10.2**	**5.1**	**115.8**
SWB on Segment ID 720491524				
1	5,389	34.0	8.1	41.5
2	5,355	34.3	7.6	41.3
3	5,418	34.1	7.6	42.8
4	5,429	34.2	8.2	42.1
5	5,379	34.3	8.2	42.5
6	5,477	33.7	8.0	42.9
7	5,472	34.6	7.5	42.4
8	5,463	34.1	8.3	40.4
9	5,402	35.1	8.0	40.6
10	5,477	34.1	7.6	43.6
Average:	**5,426.0**	**34.3**	**7.9**	**42.0**
SWB on Segment ID 720491525				
1	5,451	31.7	13.5	45.8
2	5,597	28.7	13.4	51.5
3	5,525	30.7	13.2	48.0
4	5,645	29.7	13.3	49.6
5	5,549	29.2	13.5	50.2
6	5,550	27.5	12.7	52.6
7	5,521	29.4	13.4	49.7
8	5,532	30.5	13.5	47.9
9	5,511	30.8	13.4	47.3
10	5,604	25.0	12.3	59.4
Average:	**5,548.6**	**29.3**	**13.2**	**50.2**
SWB on Segment ID 720491585				
1	5,369	14.7	6.3	99.7
2	5,389	14.4	5.5	98.8
3	5,403	14.7	5.8	97.5
4	5,483	14.5	6.3	99.6
5	5,395	14.6	5.9	99.0
6	5,513	14.5	5.9	98.7
7	5,554	14.7	5.9	100.1
8	5,458	14.4	6.1	98.7
9	5,367	14.4	5.8	99.8
10	5,502	15.0	6.0	98.8
Average:	**5,443.3**	**14.6**	**6.0**	**99.1**

I 670

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
SWB on Segment ID 720491586				
1	5,375	23.9	9.4	60.3
2	5,393	23.3	9.2	64.1
3	5,393	22.3	9.2	63.4
4	5,439	22.6	9.3	62.8
5	5,375	23.4	8.9	62.4
6	5,511	22.7	9.1	63.3
7	5,501	23.4	9.1	62.0
8	5,451	22.7	9.4	62.6
9	5,388	23.6	9.4	62.2
10	5,474	23.7	9.2	60.0
Average:	**5,430.2**	**23.2**	**9.2**	**62.3**
WB on Segment ID 720491515				
1	4,826	49.9	9.7	25.5
2	4,924	49.6	9.3	25.9
3	4,952	48.9	10.0	26.2
4	4,921	49.0	10.6	26.0
5	4,884	49.2	9.8	26.2
6	4,898	48.3	10.6	26.9
7	4,964	48.3	11.2	26.5
8	4,916	50.2	9.3	25.8
9	4,945	50.0	9.6	25.7
10	4,954	49.1	10.0	26.0
Average:	**4,918.4**	**49.3**	**10.0**	**26.1**
WB on Segment ID 720491529				
1	6,679	27.8	12.3	52.5
2	6,806	26.2	12.9	52.8
3	6,758	27.4	12.7	54.2
4	6,812	25.8	12.0	54.1
5	6,727	25.6	12.3	53.9
6	6,782	25.1	12.4	57.5
7	6,810	25.9	12.0	56.9
8	6,749	27.0	12.6	54.7
9	6,815	25.9	12.5	56.2
10	6,809	25.0	12.2	59.8
Average:	**6,774.7**	**26.2**	**12.4**	**55.3**
WB on Segment ID 720491538				
1	3,353	46.4	7.6	25.1
2	3,322	46.5	8.2	25.5

I 670

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
3	3,341	45.8	7.8	26.3
4	3,448	45.7	8.3	26.9
5	3,338	45.6	8.3	26.5
6	3,439	45.1	8.4	26.2
7	3,352	46.0	7.3	24.8
8	3,434	46.1	8.3	25.5
9	3,406	46.5	8.4	25.5
10	3,377	46.1	8.1	25.1
Average:	**3,380.9**	**46.0**	**8.1**	**25.7**
WB on Segment ID 720491540				
1	3,113	50.1	5.7	33.7
2	3,181	51.0	5.6	33.1
3	3,140	50.4	5.3	33.0
4	3,267	49.7	5.7	33.5
5	3,174	50.1	5.5	34.7
6	3,205	49.4	5.3	34.1
7	3,139	49.3	6.1	34.7
8	3,182	50.2	5.7	34.1
9	3,159	50.5	5.8	32.3
10	3,212	47.9	8.4	34.3
Average:	**3,177.1**	**49.9**	**5.9**	**33.8**
WB on Segment ID 720491584				
1	6,667	40.4	8.7	35.4
2	6,785	39.8	8.5	35.2
3	6,760	40.2	8.8	35.3
4	6,800	39.9	8.7	35.7
5	6,734	39.9	8.7	36.4
6	6,780	38.9	8.9	36.5
7	6,815	39.3	8.5	35.9
8	6,768	40.1	8.4	35.3
9	6,813	39.5	8.4	35.8
10	6,794	39.9	8.0	36.1
Average:	**6,771.5**	**39.8**	**8.6**	**35.8**

N 4TH ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
EB on Segment ID 720475346				
1	9	--	--	0.0
2	12	--	--	0.0

N 4TH ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
3	16	--	--	0.0
4	9	--	--	0.0
5	11	24.5	--	0.8
6	9	--	--	0.0
7	10	--	--	0.0
8	14	--	--	0.0
9	12	22.6	--	0.8
10	11	--	--	0.0
Average:	**11.2**	**4.7**	**0.0**	**0.2**
NB on Segment ID 720474309				
1	1,193	36.4	7.4	11.0
2	1,192	36.5	8.1	10.9
3	1,184	37.2	7.0	10.7
4	1,188	36.7	7.5	10.9
5	1,172	36.6	7.5	10.9
6	1,177	37.1	7.1	10.8
7	1,188	36.3	8.2	10.9
8	1,191	36.5	7.8	11.2
9	1,176	36.4	8.0	11.0
10	1,172	36.4	7.9	11.0
Average:	**1,183.2**	**36.6**	**7.7**	**10.9**
NB on Segment ID 720474313				
1	1,702	34.2	8.0	13.3
2	1,698	33.7	8.2	13.3
3	1,691	34.1	8.7	13.5
4	1,675	34.1	8.1	12.7
5	1,683	34.1	7.4	13.1
6	1,709	33.9	7.9	13.0
7	1,662	34.0	7.3	14.9
8	1,697	33.3	8.4	12.5
9	1,661	33.3	7.5	13.3
10	1,668	34.2	8.3	13.5
Average:	**1,684.5**	**33.9**	**8.0**	**13.3**
NB on Segment ID 720474315				
1	1,165	8.3	11.3	45.2
2	1,189	8.5	10.8	46.7
3	1,174	10.1	11.8	44.7
4	1,199	8.6	12.1	45.8
5	1,168	7.2	11.3	47.0

N 4TH ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
6	1,157	8.4	11.8	44.2
7	1,171	8.0	12.3	46.3
8	1,172	7.8	10.9	45.8
9	1,155	8.3	11.8	45.9
10	1,179	8.4	12.0	46.5
Average:	**1,172.9**	**8.4**	**11.6**	**45.8**
NB on Segment ID 720475198				
1	1,585	38.1	5.9	7.3
2	1,625	40.0	4.5	7.7
3	1,540	37.2	6.7	8.4
4	1,601	39.0	6.0	7.5
5	1,626	40.2	5.2	7.5
6	1,585	39.5	4.9	7.8
7	1,605	37.0	4.1	6.5
8	1,568	38.3	6.2	8.0
9	1,551	36.9	8.8	8.0
10	1,625	37.6	5.2	9.0
Average:	**1,591.1**	**38.4**	**5.8**	**7.8**
NB on Segment ID 720475199				
1	1,524	29.6	9.8	23.3
2	1,522	31.2	8.6	23.0
3	1,516	33.0	8.6	24.6
4	1,534	31.8	8.9	23.8
5	1,537	32.3	8.4	23.2
6	1,529	32.1	9.2	24.0
7	1,538	32.2	8.4	26.1
8	1,492	31.2	8.5	20.8
9	1,497	31.4	8.5	20.7
10	1,547	31.7	7.6	23.4
Average:	**1,523.6**	**31.7**	**8.7**	**23.3**
NB on Segment ID 720475200				
1	1,564	34.9	5.0	28.6
2	1,603	35.6	5.5	28.2
3	1,576	35.5	5.1	28.0
4	1,599	35.3	4.8	28.2
5	1,610	35.2	4.8	28.1
6	1,591	35.3	4.6	29.3
7	1,606	35.0	5.1	28.4
8	1,569	34.7	5.1	31.2

N 4TH ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
9	1,564	35.1	5.5	30.7
10	1,620	34.8	4.9	28.7
Average:	**1,590.3**	**35.1**	**5.0**	**28.9**
NB on Segment ID 720491582				
1	1,559	32.3	5.2	20.8
2	1,593	28.8	9.7	25.8
3	1,578	31.3	7.6	21.8
4	1,605	30.5	7.4	28.0
5	1,608	31.4	8.9	21.0
6	1,589	30.3	10.2	19.3
7	1,599	30.7	6.9	26.5
8	1,567	31.2	6.4	21.0
9	1,568	32.2	7.6	28.1
10	1,620	31.4	6.7	27.3
Average:	**1,588.6**	**31.0**	**7.7**	**24.0**
NEB on Segment ID 720475191				
1	1,322	35.2	5.6	21.3
2	1,311	34.9	5.5	20.8
3	1,323	34.6	4.7	20.6
4	1,311	35.4	5.9	22.2
5	1,336	34.3	4.2	21.0
6	1,321	34.5	5.2	19.9
7	1,309	34.2	4.4	20.3
8	1,314	34.7	5.0	21.4
9	1,306	34.7	5.0	20.9
10	1,332	34.5	5.5	20.8
Average:	**1,318.5**	**34.7**	**5.1**	**20.9**
WB on Segment ID 720475346				
1	0	--	--	0.0
2	0	--	--	0.0
3	0	--	--	0.0
4	0	--	--	0.0
5	0	--	--	0.0
6	0	--	--	0.0
7	0	--	--	0.0
8	0	--	--	0.0
9	0	--	--	0.0
10	0	--	--	0.0
Average:	**0.0**	**0.0**	**0.0**	**0.0**

N 4TH ST

RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
NB on Segment ID 720491516				
1	2,046	35.6	2.8	59.9
2	2,048	35.1	2.7	60.5
3	2,080	34.8	2.6	61.3
4	2,031	35.1	2.6	60.7
5	2,047	35.2	2.7	60.4
6	2,035	35.2	2.7	60.8
7	2,038	35.1	2.8	60.3
8	2,037	35.0	2.6	60.3
9	2,030	35.1	2.4	60.7
10	2,068	35.1	2.8	60.8
Average:	**2,045.9**	**35.1**	**2.7**	**60.6**
NB on Segment ID 720491539				
1	207	43.5	5.4	5.3
2	196	44.2	7.2	5.4
3	205	44.2	6.2	5.7
4	230	42.9	6.5	4.4
5	198	43.5	4.8	4.9
6	204	42.4	6.2	5.4
7	199	42.1	6.0	5.1
8	204	42.2	6.8	4.9
9	198	43.5	5.8	4.1
10	190	44.5	7.0	4.3
Average:	**203.2**	**43.3**	**6.2**	**5.0**
SB on Segment ID 720491465				
1	1,735	42.4	4.3	21.4
2	1,710	42.2	4.0	21.7
3	1,746	42.6	4.4	21.4
4	1,677	42.6	4.1	21.4
5	1,757	42.2	4.0	22.0
6	1,759	42.2	4.1	21.7
7	1,765	42.4	4.3	21.2
8	1,741	42.5	4.4	21.6
9	1,723	42.4	4.5	21.5
10	1,711	42.3	4.3	21.3
Average:	**1,732.4**	**42.4**	**4.2**	**21.5**

RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
SWB on Segment ID 720491487				
1	873	41.7	4.8	21.3
2	876	40.8	4.9	22.7
3	879	41.9	5.2	22.1
4	883	41.6	4.7	21.8
5	880	41.0	4.7	21.8
6	872	41.5	5.6	22.7
7	874	41.7	4.9	22.3
8	876	41.5	4.8	22.5
9	881	41.6	4.9	21.5
10	886	39.6	7.5	22.4
Average:	**877.9**	**41.3**	**5.2**	**22.1**
SWB on Segment ID 720491521				
1	1,816	6.0	4.9	156.7
2	1,835	5.9	5.0	156.5
3	1,770	6.1	4.5	155.6
4	1,811	6.0	4.8	155.8
5	1,857	5.9	4.5	158.0
6	1,837	5.9	4.8	158.3
7	1,825	6.0	4.9	155.9
8	1,834	5.8	4.8	156.7
9	1,792	6.0	4.8	156.3
10	1,804	6.0	4.9	155.5
Average:	**1,818.3**	**6.0**	**4.8**	**156.5**
SWB on Segment ID 720491526				
1	1,222	36.6	8.3	17.9
2	1,239	27.9	15.6	23.3
3	1,227	38.2	7.2	17.2
4	1,227	36.9	7.9	17.4
5	1,255	31.2	13.0	23.4
6	1,238	20.2	16.0	29.8
7	1,221	37.9	7.2	16.7
8	1,239	37.1	8.5	16.6
9	1,215	37.6	7.0	17.0
10	1,228	10.9	12.1	71.2
Average:	**1,231.1**	**31.5**	**10.3**	**25.1**
SWB on Segment ID 720491527				
1	1,221	20.7	11.5	69.8
2	1,252	14.4	9.2	88.0

RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
3	1,220	21.7	11.8	64.7
4	1,221	19.1	11.2	70.0
5	1,255	16.5	10.8	81.7
6	1,241	14.9	9.4	88.5
7	1,217	20.5	12.1	69.2
8	1,230	19.9	11.3	70.0
9	1,223	18.7	11.2	71.0
10	1,236	12.4	7.3	108.6
Average:	**1,231.8**	**17.9**	**10.6**	**78.2**
SWB on Segment ID 720491573				
1	2,034	38.1	6.9	29.7
2	2,049	38.1	6.7	27.7
3	2,073	37.5	7.4	28.8
4	2,000	38.0	6.2	28.0
5	2,049	38.5	7.3	26.5
6	1,999	34.9	8.8	30.8
7	2,073	38.3	6.7	30.7
8	2,021	38.5	6.7	26.2
9	1,994	38.5	6.3	28.3
10	2,079	36.2	7.2	30.9
Average:	**2,037.1**	**37.7**	**7.0**	**28.8**
SWB on Segment ID 720491574				
1	2,034	40.4	4.8	17.8
2	2,000	40.6	4.5	17.7
3	2,036	40.5	4.2	18.0
4	1,966	40.5	4.7	16.8
5	2,047	41.4	5.1	17.9
6	2,039	40.5	5.4	18.0
7	2,062	41.0	4.9	17.5
8	2,027	41.2	5.5	17.4
9	2,005	40.2	5.1	18.9
10	2,015	40.7	5.4	17.4
Average:	**2,023.1**	**40.7**	**5.0**	**17.7**
WB on Segment ID 720491464				
1	297	43.3	5.8	6.9
2	270	43.0	5.8	6.6
3	282	42.4	5.2	6.7
4	280	44.0	6.5	6.3
5	299	43.7	6.5	7.3

RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
6	299	43.6	6.1	5.9
7	298	43.0	6.2	6.5
8	274	43.4	6.3	7.9
9	296	43.7	6.6	5.6
10	284	43.2	6.3	7.1
Average:	**288.0**	**43.3**	**6.1**	**6.7**
WB on Segment ID 720491520				
1	352	39.8	6.3	8.3
2	362	39.9	6.8	7.2
3	352	40.7	7.5	7.0
4	360	40.5	5.1	7.3
5	368	39.1	5.9	8.2
6	375	39.4	7.3	7.5
7	358	41.9	6.0	7.6
8	357	40.3	5.8	9.4
9	351	39.5	6.8	7.5
10	346	35.2	9.9	8.8
Average:	**358.2**	**39.6**	**6.7**	**7.9**
WB on Segment ID 720491534				
1	1,843	42.9	4.2	21.8
2	1,865	43.0	4.5	21.2
3	1,839	42.6	4.6	21.0
4	1,899	42.4	4.7	23.3
5	1,853	42.5	4.8	21.7
6	1,868	42.9	4.7	21.2
7	1,856	42.6	4.5	20.8
8	1,857	42.6	4.8	21.7
9	1,866	43.0	4.5	21.3
10	1,863	42.8	4.4	21.8
Average:	**1,860.8**	**42.7**	**4.6**	**21.6**
WB on Segment ID 720491577				
1	2,399	47.2	4.6	17.1
2	2,401	47.1	5.0	17.5
3	2,400	47.1	4.8	17.6
4	2,390	47.1	4.8	17.5
5	2,395	47.4	4.8	17.4
6	2,402	46.7	4.8	17.5
7	2,399	46.8	4.9	17.8
8	2,396	47.2	5.2	17.9

RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
9	2,398	47.1	5.0	17.7
10	2,403	46.9	4.8	17.3
Average:	**2,398.3**	**47.1**	**4.9**	**17.5**
WB on Segment ID 720491578				
1	2,400	45.8	4.7	18.2
2	2,395	45.2	4.4	18.7
3	2,409	45.4	4.3	18.6
4	2,393	45.3	4.5	19.2
5	2,395	45.2	4.6	18.4
6	2,392	45.8	4.3	17.8
7	2,400	46.0	4.2	17.6
8	2,406	45.4	4.3	17.9
9	2,393	44.9	4.5	18.7
10	2,396	45.4	4.5	18.4
Average:	**2,397.8**	**45.4**	**4.4**	**18.4**
WB on Segment ID 720491579				
1	2,400	42.8	4.3	29.1
2	2,390	42.4	4.0	29.5
3	2,388	42.5	4.5	29.0
4	2,401	42.5	3.9	29.1
5	2,396	42.5	4.1	29.3
6	2,393	41.9	4.7	30.4
7	2,402	42.5	4.0	29.7
8	2,398	42.4	4.2	29.2
9	2,410	42.8	4.4	29.0
10	2,397	40.8	5.4	30.9
Average:	**2,397.5**	**42.3**	**4.4**	**29.5**

Project: I-670 No Build
Scenario: No Build AM
Run(s): Batch (10 runs)
Simulated: Various
Time: 08:00:00 - 09:00:00
Interval: Summary
Selection: --

Segment Statistics - Flow

Segment ID	Average	Std Deviation	Minimum	Maximum	# Samples
720491586	2,084.6	1,937.9	0.0	6,814.8	10

Project: I-670 No Build
Scenario: No Build AM
Run(s): Batch (10 runs)
Simulated: Various
Time: 08:00:00 - 09:00:00
Interval: Summary
Selection: --

Segment Statistics - Avg Speed

Segment ID	Average	Std Deviation	Minimum	Maximum	# Samples
720491586	31.7	13.6	0.0	57.8	10

Project: I-670 No Build
Scenario: No Build AM
Run(s): Batch (10 runs)
Simulated: Various
Time: 08:00:00 - 09:00:00
Interval: Summary
Selection: --

Segment Statistics - Std Dev Speed

Segment ID	Average	Std Deviation	Minimum	Maximum	# Samples
720491586	7.4	3.0	1.9	17.5	10

Project: I-670 No Build
Scenario: No Build AM
Run(s): Batch (10 runs)
Simulated: Various
Time: 08:00:00 - 09:00:00
Interval: Summary
Selection: --

Segment Statistics - Density

Segment ID	Average	Std Deviation	Minimum	Maximum	# Samples
720491586	32.3	33.6	0.0	158.3	10

Project: I-670 No Build
Scenario: No Build PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:00:00 - 17:00:00
Interval: Summary
Selection: --

Freeway Segment Level of Service - Overview

I 670

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - From I 670 (SWB) - SWB				**Segment: 720491522**
	1	88.3	No	F
	2	86.4	No	F
	3	84.7	No	F
	4	84.1	No	F
	5	83.3	No	F
	6	88.2	No	F
	7	87.7	No	F
	8	86.2	No	F
	9	85.6	No	F
	10	86.6	No	F
	Average:	**55.9**	**No**	**F**
Merge - From RAMP (SWB) - SWB				**Segment: 720491523**
	1	71.2	Yes	F
	2	73.2	Yes	F
	3	72.4	Yes	F
	4	71.6	Yes	F
	5	72.2	Yes	F
	6	75.4	Yes	F
	7	73.4	Yes	F
	8	72.9	Yes	F
	9	76.0	Yes	F
	10	72.0	Yes	F
	Average:	**55.9**	**No**	**F**
Merge - From RAMP (SWB) - SWB				**Segment: 720491585**
	1	71.2	Yes	F
	2	73.2	Yes	F
	3	72.4	Yes	F
	4	71.6	Yes	F
	5	72.2	Yes	F
	6	75.4	Yes	F
	7	73.4	Yes	F
	8	72.9	Yes	F
	9	76.0	Yes	F

I 670

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Merge - From RAMP (SWB) - SWB				**Segment: 720491585**
	10	72.0	Yes	F
	Average:	**44.1**	**No**	**F**
Merge - From RAMP (SWB) - SWB				**Segment: 720491586**
	1	71.2	Yes	F
	2	73.2	Yes	F
	3	72.4	Yes	F
	4	71.6	Yes	F
	5	72.2	Yes	F
	6	75.4	Yes	F
	7	73.4	Yes	F
	8	72.9	Yes	F
	9	76.0	Yes	F
	10	72.0	Yes	F
	Average:	**44.1**	**No**	**F**
Diverge - To RAMP (SB) - SWB				**Segment: 720491524**
	1	71.8	Yes	F
	2	73.2	Yes	F
	3	72.4	Yes	F
	4	72.5	Yes	F
	5	70.4	Yes	F
	6	72.6	Yes	F
	7	72.0	Yes	F
	8	69.7	Yes	F
	9	72.1	Yes	F
	10	70.9	Yes	F
	Average:	**55.9**	**No**	**F**
Basic - Between RAMP and N 4TH ST - WB				**Segment: 720491538**
	1	51.5	No	F
	2	49.5	No	F
	3	49.4	No	F
	4	47.1	No	F
	5	48.9	No	F
	6	50.8	No	F
	7	47.2	No	F
	8	48.3	No	F
	9	52.3	No	F
	10	49.8	No	F
	Average:	**55.9**	**No**	**F**

I 670

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - From RAMP - WB				**Segment: 720491540**
	1	65.2	No	F
	2	61.3	No	F
	3	62.3	No	F
	4	59.5	No	F
	5	60.7	No	F
	6	64.5	No	F
	7	60.5	No	F
	8	61.2	No	F
	9	65.5	No	F
	10	63.1	No	F
	Average:	**55.9**	**No**	**F**
Basic - Between RAMP (WB) and RAMP - SWB				**Segment: 720491525**
	1	64.8	No	F
	2	63.4	No	F
	3	61.1	No	F
	4	61.5	No	F
	5	61.4	No	F
	6	64.1	No	F
	7	60.9	No	F
	8	62.7	No	F
	9	64.8	No	F
	10	63.7	No	F
	Average:	**55.9**	**No**	**F**
Weaving - From N 4TH ST to RAMP (WB) - WB				**Segment: 720491529**
	1	47.7	Yes	F
	2	47.9	Yes	F
	3	47.1	Yes	F
	4	47.7	Yes	F
	5	47.2	Yes	F
	6	47.4	Yes	F
	7	46.8	Yes	F
	8	47.2	Yes	F
	9	46.9	Yes	F
	10	46.9	Yes	F
	Average:	**55.9**	**No**	**F**
Weaving - From N 4TH ST to RAMP (WB) - WB				**Segment: 720491584**
	1	47.7	Yes	F
	2	47.9	Yes	F
	3	47.1	Yes	F

I 670

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Weaving - From N 4TH ST to RAMP (WB) - WB				**Segment: 720491584**
	4	47.7	Yes	F
	5	47.2	Yes	F
	6	47.4	Yes	F
	7	46.8	Yes	F
	8	47.2	Yes	F
	9	46.9	Yes	F
	10	46.9	Yes	F
	Average:	**44.1**	**No**	**F**
Basic - Between RAMP and RAMP (NB) - WB				**Segment: 720491515**
	1	33.6	No	D
	2	33.5	No	D
	3	33.7	No	D
	4	33.4	No	D
	5	33.4	No	D
	6	33.5	No	D
	7	33.5	No	D
	8	33.7	No	D
	9	33.5	No	D
	10	33.8	No	D
	Average:	**55.9**	**No**	**F**
Basic - Between RAMP and I 670 (SWB) - SWB				**Segment: 720491495**
	1	30.4	No	D
	2	29.7	No	D
	3	30.1	No	D
	4	30.4	No	D
	5	31.2	No	D
	6	29.9	No	D
	7	30.9	No	D
	8	30.3	No	D
	9	29.6	No	D
	10	30.4	No	D
	Average:	**55.9**	**No**	**F**

RAMP

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - From RAMP (SWB) - SWB				**Segment: 720491521**
	1	28.4	No	D
	2	27.7	No	D
	3	27.2	No	D
	4	41.9	No	E

RAMP

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - From RAMP (SWB) - SWB				**Segment: 720491521**
	5	38.2	No	E
	6	69.5	No	F
	7	43.1	No	E
	8	38.2	No	E
	9	69.1	No	F
	10	41.3	No	E
	Average:	**55.9**	**No**	**F**
Basic - From RAMP (WB) - WB				**Segment: 720491577**
	1	18.9	No	C
	2	18.7	No	C
	3	19.2	No	C
	4	18.9	No	C
	5	18.9	No	C
	6	19.0	No	C
	7	19.3	No	C
	8	19.0	No	C
	9	18.7	No	C
	10	18.9	No	C
	Average:	**44.1**	**No**	**E**
Basic - From RAMP (WB) - WB				**Segment: 720491578**
	1	18.9	No	C
	2	18.7	No	C
	3	19.2	No	C
	4	18.9	No	C
	5	18.9	No	C
	6	19.0	No	C
	7	19.3	No	C
	8	19.0	No	C
	9	18.7	No	C
	10	18.9	No	C
	Average:	**44.1**	**No**	**E**
Basic - From RAMP (WB) - WB				**Segment: 720491579**
	1	33.8	No	D
	2	34.1	No	D
	3	33.5	No	D
	4	33.2	No	D
	5	32.8	No	D
	6	34.1	No	D
	7	33.1	No	D

RAMP

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - From RAMP (WB) - WB				**Segment: 720491579**
	8	33.4	No	D
	9	33.9	No	D
	10	33.4	No	D
	Average:	**44.1**	**No**	**E**

ABOUT FREEWAY LOS
The LOS determination based on density will be overridden with LOS F when demand exceeds capacity (i.e., Over Capacity = Yes).

Project: I-670 No Build
Scenario: No Build PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:00:00 - 17:00:00
Interval: Summary
Selection: --

Freeway Segment Level of Service - Density

I 670

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491522	SW	Basic	From I 670 (SWB)	86.1	1.7	83.3	88.3	10
720491523	SW	Merge	From RAMP (SWB)	73.0	1.6	71.2	76.0	10
720491585	SW	Merge	From RAMP (SWB)	73.0	1.6	71.2	76.0	10
720491586	SW	Merge	From RAMP (SWB)	73.0	1.6	71.2	76.0	10
720491524	SW	Diverge	To RAMP (SB)	71.8	1.1	69.7	73.2	10
720491538	W	Basic	Between RAMP and N 4TH ST	49.5	1.7	47.1	52.3	10
720491540	W	Basic	From RAMP	62.4	2.1	59.5	65.5	10
720491525	SW	Basic	Between RAMP (WB) and RAMP	62.8	1.5	60.9	64.8	10
720491529	W	Weaving	From N 4TH ST to RAMP (WB)	47.3	0.4	46.8	47.9	10
720491584	W	Weaving	From N 4TH ST to RAMP (WB)	47.3	0.4	46.8	47.9	10
720491515	W	Basic	Between RAMP and RAMP (NB)	33.6	0.1	33.4	33.8	10
720491495	SW	Basic	Between RAMP and I 670 (SWB)	30.3	0.5	29.6	31.2	10

RAMP

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491521	SW	Basic	From RAMP (SWB)	42.5	15.4	27.2	69.5	10
720491577	W	Basic	From RAMP (WB)	19.0	0.2	18.7	19.3	10
720491578	W	Basic	From RAMP (WB)	19.0	0.2	18.7	19.3	10
720491579	W	Basic	From RAMP (WB)	33.5	0.4	32.8	34.1	10

Project: I-670 No Build
Scenario: No Build PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:00:00 - 17:00:00
Interval: Summary
Selection: --

Freeway Segment Level of Service - VgtC

I 670

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491522	SW	Basic	From I 670 (SWB)	0.0	0.0	0.0	0.0	10
720491523	SW	Merge	From RAMP (SWB)	0.0	0.0	0.0	0.0	10
720491585	SW	Merge	From RAMP (SWB)	0.0	0.0	0.0	0.0	10
720491586	SW	Merge	From RAMP (SWB)	0.0	0.0	0.0	0.0	10
720491524	SW	Diverge	To RAMP (SB)	0.0	0.0	0.0	0.0	10
720491538	W	Basic	Between RAMP and N 4TH ST	0.0	0.0	0.0	0.0	10
720491540	W	Basic	From RAMP	0.0	0.0	0.0	0.0	10
720491525	SW	Basic	Between RAMP (WB) and RAMP	0.0	0.0	0.0	0.0	10
720491529	W	Weaving	From N 4TH ST to RAMP (WB)	0.0	0.0	0.0	0.0	10
720491584	W	Weaving	From N 4TH ST to RAMP (WB)	0.0	0.0	0.0	0.0	10
720491515	W	Basic	Between RAMP and RAMP (NB)	0.0	0.0	0.0	0.0	10
720491495	SW	Basic	Between RAMP and I 670 (SWB)	0.0	0.0	0.0	0.0	10

RAMP

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491521	SW	Basic	From RAMP (SWB)	0.0	0.0	0.0	0.0	10
720491577	W	Basic	From RAMP (WB)	0.0	0.0	0.0	0.0	10
720491578	W	Basic	From RAMP (WB)	0.0	0.0	0.0	0.0	10
720491579	W	Basic	From RAMP (WB)	0.0	0.0	0.0	0.0	10

Project: I-670 No Build
Scenario: No Build PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:00:00 - 17:00:00
Interval: Summary
Selection: --

Freeway Segment Level of Service - Over Capacity

I 670

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491522	SW	Basic	From I 670 (SWB)	0.0	0.0	0.0	0.0	10
720491523	SW	Merge	From RAMP (SWB)	0.0	0.0	0.0	0.0	10
720491585	SW	Merge	From RAMP (SWB)	0.0	0.0	0.0	0.0	10
720491586	SW	Merge	From RAMP (SWB)	0.0	0.0	0.0	0.0	10
720491524	SW	Diverge	To RAMP (SB)	0.0	0.0	0.0	0.0	10
720491538	W	Basic	Between RAMP and N 4TH ST	0.0	0.0	0.0	0.0	10
720491540	W	Basic	From RAMP	0.0	0.0	0.0	0.0	10
720491525	SW	Basic	Between RAMP (WB) and RAMP	0.0	0.0	0.0	0.0	10
720491529	W	Weaving	From N 4TH ST to RAMP (WB)	0.0	0.0	0.0	0.0	10
720491584	W	Weaving	From N 4TH ST to RAMP (WB)	0.0	0.0	0.0	0.0	10
720491515	W	Basic	Between RAMP and RAMP (NB)	0.0	0.0	0.0	0.0	10
720491495	SW	Basic	Between RAMP and I 670 (SWB)	0.0	0.0	0.0	0.0	10

RAMP

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491521	SW	Basic	From RAMP (SWB)	0.0	0.0	0.0	0.0	10
720491577	W	Basic	From RAMP (WB)	0.0	0.0	0.0	0.0	10
720491578	W	Basic	From RAMP (WB)	0.0	0.0	0.0	0.0	10
720491579	W	Basic	From RAMP (WB)	0.0	0.0	0.0	0.0	10

Project: I-670 No Build
Scenario: No Build PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:00:00 - 17:00:00
Interval: Summary
Selection: --

Segment Statistics - Overview

[UNNAMED STREET]

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
EB on Segment ID 720491580				
1	70	6.8	13.1	4.7
2	72	7.3	11.2	5.4
3	68	3.7	9.3	4.9
4	70	8.4	14.5	5.4
5	66	5.8	10.4	5.5
6	66	2.9	7.8	4.9
7	72	6.5	12.6	6.0
8	69	6.9	12.6	5.0
9	78	8.1	14.1	6.3
10	73	8.1	12.0	4.8
Average:	**70.4**	**6.5**	**11.8**	**5.3**
EB on Segment ID 720491581				
1	152	28.1	5.3	5.4
2	156	27.0	6.3	4.8
3	143	28.6	6.4	6.9
4	151	27.1	6.4	6.4
5	147	27.1	5.2	4.9
6	159	28.9	5.9	5.5
7	145	28.5	6.3	5.7
8	150	28.2	5.5	5.7
9	155	28.3	8.1	6.8
10	154	27.8	5.8	5.2
Average:	**151.2**	**28.0**	**6.1**	**5.7**
WB on Segment ID 720491581				
1	178	23.9	17.4	8.6
2	182	22.4	16.7	8.1
3	179	22.9	18.8	9.2
4	183	22.1	18.3	8.9
5	180	21.5	16.8	8.4
6	175	20.9	17.6	9.3
7	183	18.0	18.5	9.9
8	181	20.9	19.4	9.2
9	178	19.1	17.5	8.8
10	183	22.0	15.4	8.4

[UNNAMED STREET]

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
Average:	**180.1**	**21.4**	**17.6**	**8.9**

ACCESS RD

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
EB on Segment ID 720474312				
1	17	--	--	0.0
2	16	--	--	0.0
3	16	14.6	--	1.5
4	17	--	--	0.0
5	25	--	--	0.0
6	18	--	--	0.0
7	20	19.0	--	3.2
8	13	--	--	0.0
9	21	--	--	0.0
10	14	--	--	0.0
Average:	**17.7**	**3.4**	**0.0**	**0.5**
WB on Segment ID 720474312				
1	24	0.4	2.2	13.0
2	33	0.5	1.9	13.5
3	31	0.0	--	11.8
4	29	0.8	--	11.3
5	30	0.0	--	9.5
6	25	2.2	--	9.8
7	34	1.2	--	11.7
8	29	0.8	2.9	14.1
9	28	1.6	6.5	12.2
10	32	1.8	--	12.5
Average:	**29.5**	**0.9**	**1.4**	**11.9**

E GOODALE ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
EB on Segment ID 720474311				
1	825	6.7	9.6	113.8
2	809	6.8	9.8	108.7
3	794	12.0	14.0	64.7
4	799	9.4	12.3	84.1
5	788	10.0	12.1	79.6
6	793	12.0	13.6	66.6
7	809	8.2	11.0	95.8

E GOODALE ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
8	787	7.9	10.9	95.3
9	796	12.6	14.5	62.3
10	790	6.8	9.8	113.0
Average:	**799.1**	**9.2**	**11.8**	**88.4**
EB on Segment ID 720474314				
1	767	1.9	5.9	107.1
2	762	2.0	5.6	106.3
3	790	1.6	5.4	102.2
4	796	1.9	5.6	105.5
5	778	2.0	6.0	97.7
6	780	1.6	5.0	105.0
7	782	1.9	5.8	105.5
8	732	1.9	5.7	106.0
9	796	1.8	5.1	108.4
10	750	2.0	5.9	111.0
Average:	**773.2**	**1.9**	**5.6**	**105.5**
WB on Segment ID 720474311				
1	154	39.7	5.2	2.6
2	157	37.1	5.0	2.8
3	151	39.9	5.4	2.5
4	144	39.2	6.8	1.8
5	145	37.7	6.4	2.6
6	139	37.1	5.6	2.0
7	170	39.4	6.3	2.3
8	142	37.4	6.6	1.6
9	158	36.4	4.9	2.6
10	141	40.6	6.8	2.1
Average:	**150.2**	**38.5**	**5.9**	**2.3**
WB on Segment ID 720474314				
1	151	31.6	6.4	4.1
2	152	27.9	10.6	6.0
3	154	24.3	--	2.9
4	143	28.2	11.0	5.2
5	146	29.6	7.2	5.2
6	138	27.4	9.4	7.0
7	162	25.8	9.2	4.0
8	140	30.2	7.4	3.7
9	156	31.1	--	4.2
10	143	25.0	--	1.7

E GOODALE ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
Average:	**148.6**	**28.1**	**6.1**	**4.4**

I 670

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
SWB on Segment ID 720491495				
1	5,223	52.2	4.5	30.3
2	5,175	52.4	4.3	29.7
3	5,253	52.6	4.3	30.1
4	5,240	52.1	4.3	30.4
5	5,216	52.1	4.3	31.1
6	5,200	52.2	4.4	29.8
7	5,243	52.2	4.4	30.8
8	5,211	52.6	4.3	30.2
9	5,199	52.6	4.6	29.6
10	5,240	52.3	4.6	30.4
Average:	**5,220.0**	**52.3**	**4.4**	**30.2**
SWB on Segment ID 720491522				
1	3,939	15.3	14.3	88.1
2	3,943	15.7	14.6	86.2
3	3,949	16.0	15.0	84.5
4	4,041	16.4	15.0	84.0
5	3,998	16.4	15.4	83.1
6	3,924	15.2	14.4	88.0
7	3,931	15.2	14.3	87.5
8	3,958	15.8	14.8	86.0
9	3,958	15.6	15.0	85.4
10	3,958	15.6	14.6	86.4
Average:	**3,960.0**	**15.7**	**14.7**	**85.9**
SWB on Segment ID 720491523				
1	5,351	13.5	8.2	88.2
2	5,386	13.4	8.1	88.1
3	5,353	13.4	8.1	82.4
4	5,434	13.2	7.7	88.7
5	5,351	13.4	8.8	86.3
6	5,298	11.9	7.4	94.1
7	5,314	12.9	8.7	91.8
8	5,323	12.8	8.5	88.0
9	5,308	11.7	8.9	96.8
10	5,403	13.5	9.6	86.7

I 670

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
Average:	**5,352.0**	**13.0**	**8.4**	**89.1**
SWB on Segment ID 720491524				
1	5,268	26.8	8.8	52.1
2	5,305	27.0	8.7	52.9
3	5,345	26.8	8.3	51.4
4	5,382	28.1	8.5	50.4
5	5,313	27.5	8.5	51.2
6	5,242	26.2	9.3	53.2
7	5,335	27.5	9.1	51.8
8	5,307	27.7	8.9	50.5
9	5,286	25.7	8.5	52.9
10	5,342	27.0	9.0	52.5
Average:	**5,312.6**	**27.0**	**8.8**	**51.9**
SWB on Segment ID 720491525				
1	6,468	26.3	9.3	64.7
2	6,467	26.6	9.3	63.2
3	6,481	27.7	9.9	60.9
4	6,541	28.1	9.8	61.3
5	6,462	28.0	10.4	61.3
6	6,445	26.6	9.9	63.9
7	6,442	28.2	10.4	60.7
8	6,435	27.3	10.0	62.5
9	6,448	26.2	10.2	64.7
10	6,471	27.1	9.9	63.6
Average:	**6,465.9**	**27.2**	**9.9**	**62.7**
SWB on Segment ID 720491585				
1	5,334	15.9	7.1	88.8
2	5,357	15.7	7.1	91.0
3	5,350	15.7	7.4	90.6
4	5,432	16.1	6.8	89.8
5	5,354	15.9	7.2	87.3
6	5,290	15.8	7.3	90.5
7	5,325	15.4	7.1	88.9
8	5,318	15.9	7.8	88.6
9	5,304	15.3	7.3	90.6
10	5,404	16.2	7.8	86.6
Average:	**5,347.0**	**15.8**	**7.3**	**89.3**

I 670

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
SWB on Segment ID 720491586				
1	5,301	21.7	8.9	64.6
2	5,328	21.1	8.2	67.4
3	5,331	20.8	8.4	68.7
4	5,407	21.5	8.0	67.2
5	5,317	21.1	8.2	67.1
6	5,280	20.8	8.3	67.6
7	5,311	21.2	7.7	67.0
8	5,312	21.8	9.2	66.0
9	5,288	20.1	8.5	67.9
10	5,384	21.2	8.4	66.4
Average:	**5,326.0**	**21.1**	**8.4**	**67.0**
WB on Segment ID 720491515				
1	6,331	49.8	5.5	33.6
2	6,277	49.5	6.0	33.4
3	6,362	49.8	5.7	33.6
4	6,354	49.9	5.8	33.4
5	6,341	49.4	5.6	33.4
6	6,315	49.5	5.8	33.5
7	6,303	49.7	5.9	33.5
8	6,317	49.7	5.8	33.6
9	6,303	50.0	5.6	33.4
10	6,334	49.4	5.8	33.7
Average:	**6,323.8**	**49.7**	**5.8**	**33.5**
WB on Segment ID 720491529				
1	7,796	25.3	9.8	65.9
2	7,789	25.6	9.9	66.0
3	7,779	26.3	10.0	64.0
4	7,838	25.5	10.4	64.6
5	7,853	25.6	10.4	63.5
6	7,808	25.1	10.1	63.4
7	7,764	25.8	10.6	62.9
8	7,782	25.8	10.4	63.6
9	7,770	25.7	9.9	63.4
10	7,821	26.1	10.5	64.8
Average:	**7,799.9**	**25.7**	**10.2**	**64.2**
WB on Segment ID 720491538				
1	4,474	31.1	10.0	51.4
2	4,465	31.9	10.2	49.4

I 670

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
3	4,516	32.5	9.7	49.4
4	4,539	34.3	9.6	47.1
5	4,520	32.4	10.7	48.8
6	4,427	30.6	10.5	50.7
7	4,521	33.1	11.2	47.1
8	4,485	33.1	10.5	48.2
9	4,467	29.9	10.6	52.2
10	4,488	32.2	9.8	49.8
Average:	**4,490.1**	**32.1**	**10.3**	**49.4**
WB on Segment ID 720491540				
1	3,883	31.4	9.2	65.1
2	3,879	33.3	9.9	61.2
3	3,899	33.3	10.2	62.2
4	3,938	34.8	9.3	59.4
5	3,918	34.0	10.5	60.6
6	3,860	31.7	10.4	64.4
7	3,883	34.0	10.9	60.3
8	3,868	34.2	10.2	61.1
9	3,875	30.9	10.4	65.4
10	3,867	32.6	10.1	63.0
Average:	**3,887.0**	**33.0**	**10.1**	**62.3**
WB on Segment ID 720491584				
1	7,807	37.9	7.3	42.9
2	7,783	37.8	6.9	43.2
3	7,794	38.5	6.5	42.6
4	7,831	37.9	6.8	43.2
5	7,842	38.2	6.8	42.9
6	7,790	38.0	7.1	43.2
7	7,764	38.8	7.0	42.5
8	7,775	38.2	7.1	42.9
9	7,761	38.5	7.0	42.6
10	7,795	38.5	7.1	42.2
Average:	**7,794.3**	**38.2**	**7.0**	**42.8**

N 4TH ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
EB on Segment ID 720475346				
1	12	20.9	--	0.8
2	14	--	--	0.0

N 4TH ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
3	13	--	--	0.0
4	12	--	--	0.0
5	9	--	--	0.0
6	15	--	--	0.0
7	14	23.0	--	0.8
8	12	26.0	--	0.8
9	9	--	--	0.0
10	5	--	--	0.0
Average:	**11.5**	**7.0**	**0.0**	**0.2**

NB on Segment ID 720474309

1	2,308	10.0	13.0	74.6
2	2,304	9.8	13.0	75.0
3	2,306	10.5	13.3	71.0
4	2,312	9.5	12.7	76.5
5	2,307	11.3	13.9	64.7
6	2,305	10.5	13.5	69.4
7	2,307	10.5	13.5	70.1
8	2,307	8.6	12.1	84.0
9	2,313	10.7	13.6	68.5
10	2,308	10.0	13.1	74.5
Average:	**2,307.7**	**10.1**	**13.2**	**72.8**

NB on Segment ID 720474313

1	2,722	11.0	11.9	77.2
2	2,778	10.7	11.9	82.2
3	2,812	10.6	12.0	81.3
4	2,778	11.0	12.0	77.8
5	2,775	11.4	12.2	76.8
6	2,781	10.7	11.6	83.1
7	2,785	10.8	11.9	79.2
8	2,697	10.6	11.5	79.7
9	2,794	11.1	11.9	79.0
10	2,792	10.5	11.9	79.9
Average:	**2,771.5**	**10.8**	**11.9**	**79.6**

NB on Segment ID 720474315

1	2,116	10.4	8.0	92.5
2	2,158	10.4	8.5	92.4
3	2,154	10.7	8.3	95.1
4	2,124	10.7	8.0	91.3
5	2,154	10.3	8.2	92.0

N 4TH ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
6	2,136	10.9	8.4	92.5
7	2,172	10.3	8.2	93.9
8	2,100	10.5	7.8	95.8
9	2,169	10.7	7.5	94.9
10	2,145	10.4	7.8	94.4
Average:	**2,142.9**	**10.5**	**8.1**	**93.5**
NB on Segment ID 720475198				
1	2,650	38.6	5.6	13.2
2	2,702	36.3	5.6	10.9
3	2,706	37.9	5.2	14.3
4	2,732	36.9	5.8	12.1
5	2,701	36.7	6.5	11.8
6	2,741	38.1	7.3	13.8
7	2,738	38.0	5.2	13.7
8	2,680	36.8	5.2	12.2
9	2,695	37.4	4.9	12.6
10	2,700	37.7	6.2	13.5
Average:	**2,704.4**	**37.4**	**5.8**	**12.8**
NB on Segment ID 720475199				
1	2,581	32.0	8.0	31.1
2	2,599	30.8	9.2	35.7
3	2,668	32.5	7.9	30.1
4	2,599	31.1	8.8	33.7
5	2,586	32.1	8.1	31.5
6	2,644	30.7	8.5	34.8
7	2,630	33.0	7.3	31.9
8	2,563	31.1	8.3	34.3
9	2,594	31.5	8.3	32.8
10	2,599	31.8	7.6	28.0
Average:	**2,606.4**	**31.7**	**8.2**	**32.4**
NB on Segment ID 720475200				
1	2,652	32.9	5.1	43.7
2	2,692	33.1	4.9	42.8
3	2,738	32.7	4.7	45.9
4	2,694	32.7	4.9	44.2
5	2,665	32.6	5.2	45.4
6	2,746	33.2	4.3	44.5
7	2,726	33.1	5.3	45.0
8	2,654	32.5	5.0	42.9

N 4TH ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
9	2,693	32.9	4.7	44.0
10	2,700	33.2	4.8	43.5
Average:	**2,696.0**	**32.9**	**4.9**	**44.2**
NB on Segment ID 720491582				
1	2,647	30.1	8.5	40.5
2	2,701	28.5	8.0	31.6
3	2,743	28.5	9.5	39.1
4	2,690	29.4	9.1	35.5
5	2,672	27.5	9.1	33.8
6	2,732	30.6	8.4	27.6
7	2,737	28.9	6.9	33.6
8	2,648	28.6	9.0	38.0
9	2,704	29.9	9.6	47.8
10	2,690	29.1	8.1	38.5
Average:	**2,696.2**	**29.1**	**8.6**	**36.6**
NEB on Segment ID 720475191				
1	1,999	33.8	5.1	32.0
2	2,038	34.1	5.0	31.2
3	2,070	34.2	4.2	29.9
4	2,014	34.4	4.9	33.0
5	2,004	34.1	4.6	33.9
6	2,076	34.3	4.9	30.1
7	2,018	34.4	4.2	32.3
8	1,932	33.6	4.7	30.8
9	2,008	34.2	4.9	30.4
10	2,009	34.7	5.3	32.2
Average:	**2,016.7**	**34.2**	**4.8**	**31.6**
WB on Segment ID 720475346				
1	8	2.1	--	5.2
2	9	0.6	--	7.2
3	8	0.6	3.1	21.4
4	9	0.0	--	7.9
5	11	2.0	--	9.5
6	7	1.1	--	11.8
7	9	0.0	--	5.4
8	11	0.3	1.5	14.2
9	9	1.9	--	7.9
10	8	0.7	3.4	15.8
Average:	**8.9**	**0.9**	**0.8**	**10.6**

N 4TH ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)

RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
NB on Segment ID 720491516				
1	1,105	39.0	4.2	29.5
2	1,090	39.6	3.9	28.9
3	1,099	39.7	4.4	28.7
4	1,129	39.0	4.0	29.8
5	1,083	39.3	3.9	28.9
6	1,081	39.5	4.0	28.8
7	1,111	39.3	3.9	29.1
8	1,101	39.1	3.7	29.3
9	1,109	39.1	4.1	29.2
10	1,105	39.2	3.9	29.5
Average:	**1,101.1**	**39.3**	**4.0**	**29.2**
NB on Segment ID 720491539				
1	601	41.2	5.7	16.0
2	589	40.1	5.5	14.0
3	616	40.9	5.7	15.0
4	597	40.9	5.8	16.0
5	587	41.5	6.8	15.4
6	589	40.6	6.3	16.7
7	602	41.4	6.0	14.8
8	599	41.3	5.9	15.3
9	585	41.9	5.9	16.0
10	605	40.8	5.0	16.3
Average:	**596.9**	**41.1**	**5.9**	**15.6**
SB on Segment ID 720491465				
1	696	43.7	5.2	8.4
2	705	45.6	6.0	8.1
3	704	45.2	5.4	8.4
4	716	45.0	5.5	8.4
5	720	44.5	5.2	8.2
6	701	44.8	5.9	8.3
7	704	45.1	5.6	7.8
8	701	44.4	5.2	8.4
9	704	44.6	5.5	8.4
10	725	44.6	5.4	8.0
Average:	**707.6**	**44.8**	**5.5**	**8.2**

RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
SWB on Segment ID 720491487				
1	742	5.5	7.6	138.9
2	741	5.6	8.1	134.6
3	741	5.6	7.9	135.4
4	753	5.5	7.9	133.4
5	763	5.8	8.3	131.5
6	740	5.4	7.8	137.3
7	773	5.8	8.3	133.6
8	759	5.6	8.0	134.6
9	754	5.4	7.8	136.2
10	763	5.6	8.1	133.4
Average:	**752.9**	**5.6**	**8.0**	**134.9**
SWB on Segment ID 720491521				
1	1,606	29.7	18.6	28.4
2	1,603	30.0	18.8	27.6
3	1,618	31.1	18.3	27.1
4	1,629	20.6	18.4	41.9
5	1,624	22.4	18.9	38.1
6	1,606	12.3	15.0	69.4
7	1,610	19.7	18.3	43.0
8	1,614	23.3	19.2	38.1
9	1,618	12.4	14.9	69.0
10	1,610	20.8	18.9	41.2
Average:	**1,613.9**	**22.2**	**17.9**	**42.4**
SWB on Segment ID 720491526				
1	1,364	4.6	3.2	155.0
2	1,362	4.4	3.1	148.3
3	1,364	4.7	4.0	150.7
4	1,367	4.4	4.3	152.7
5	1,378	4.7	2.7	154.2
6	1,360	4.8	4.3	152.0
7	1,414	4.7	3.7	151.2
8	1,349	4.1	3.4	152.6
9	1,340	4.5	3.6	152.9
10	1,368	4.3	2.9	156.3
Average:	**1,366.6**	**4.5**	**3.5**	**152.6**
SWB on Segment ID 720491527				
1	1,353	10.5	3.4	131.1
2	1,348	10.4	3.1	130.7

RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
3	1,345	10.8	3.5	128.7
4	1,355	10.8	3.5	128.6
5	1,375	10.9	3.8	127.2
6	1,358	10.9	3.6	129.3
7	1,384	10.7	4.2	128.9
8	1,350	10.6	4.0	130.1
9	1,329	10.8	3.6	129.5
10	1,361	10.9	3.5	129.3
Average:	**1,355.8**	**10.7**	**3.6**	**129.3**

SWB on Segment ID 720491573

1	798	42.3	5.8	9.5
2	818	42.7	5.3	10.2
3	806	42.5	6.0	9.9
4	836	42.9	6.5	9.4
5	810	43.4	6.4	11.0
6	824	43.3	6.6	9.7
7	813	43.3	6.8	10.0
8	804	41.7	4.9	9.5
9	812	42.4	6.0	9.8
10	835	42.3	6.1	9.4
Average:	**815.5**	**42.7**	**6.0**	**9.8**

SWB on Segment ID 720491574

1	802	43.5	5.6	5.5
2	817	42.9	5.3	6.0
3	805	44.2	6.3	6.9
4	836	44.6	6.2	7.6
5	825	44.7	5.8	7.3
6	811	43.8	6.1	6.5
7	821	43.8	5.4	7.4
8	806	43.5	5.3	7.5
9	801	42.8	4.3	6.2
10	820	42.3	5.1	6.7
Average:	**814.5**	**43.6**	**5.5**	**6.8**

WB on Segment ID 720491464

1	105	45.6	6.1	2.9
2	114	42.8	5.3	3.8
3	105	44.7	6.5	2.5
4	119	43.1	3.8	2.8
5	105	43.0	6.1	2.4

RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
6	111	42.9	5.8	3.1
7	109	45.1	6.9	2.4
8	108	43.8	5.7	3.2
9	102	43.5	5.0	3.2
10	114	45.7	5.6	3.6
Average:	**109.0**	**44.0**	**5.7**	**3.0**
WB on Segment ID 720491520				
1	712	4.8	5.4	150.8
2	705	4.5	5.2	151.8
3	691	4.8	5.2	150.0
4	704	4.5	5.4	152.4
5	714	4.9	6.2	147.3
6	698	4.7	4.8	152.4
7	721	4.9	5.5	153.0
8	706	4.8	5.6	149.4
9	687	4.7	5.7	151.9
10	703	4.8	5.5	150.5
Average:	**704.0**	**4.7**	**5.5**	**151.0**
WB on Segment ID 720491534				
1	1,459	43.8	5.2	17.1
2	1,482	43.5	5.4	17.0
3	1,463	43.0	5.5	17.4
4	1,468	43.9	5.1	15.2
5	1,468	43.6	5.0	16.4
6	1,457	43.7	5.5	16.5
7	1,452	43.8	4.8	16.9
8	1,460	43.4	4.8	16.4
9	1,454	44.0	5.1	16.3
10	1,456	43.7	5.2	16.6
Average:	**1,461.8**	**43.6**	**5.2**	**16.6**
WB on Segment ID 720491577				
1	2,597	47.5	4.7	18.8
2	2,604	47.6	4.7	18.4
3	2,605	47.5	4.7	18.7
4	2,592	47.5	4.9	18.7
5	2,605	48.0	4.7	18.7
6	2,591	47.4	4.8	19.0
7	2,592	47.9	4.6	19.1
8	2,605	47.6	4.9	18.9

RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
9	2,604	48.0	4.8	18.8
10	2,592	47.3	4.7	19.1
Average:	**2,598.6**	**47.6**	**4.8**	**18.8**
WB on Segment ID 720491578				
1	2,598	47.3	4.7	19.0
2	2,598	46.9	4.9	19.0
3	2,590	46.4	4.8	20.0
4	2,591	47.4	4.3	19.1
5	2,601	47.1	4.9	19.0
6	2,574	47.2	5.0	19.0
7	2,599	46.7	4.7	19.7
8	2,598	46.6	4.8	19.1
9	2,585	46.5	5.2	18.5
10	2,599	46.5	4.7	18.5
Average:	**2,593.3**	**46.9**	**4.8**	**19.1**
WB on Segment ID 720491579				
1	2,599	40.3	5.6	33.8
2	2,595	40.2	6.1	34.1
3	2,576	40.5	5.9	33.4
4	2,606	40.9	5.2	33.2
5	2,596	41.1	5.7	32.8
6	2,583	39.6	6.2	34.0
7	2,603	40.7	5.9	33.1
8	2,608	40.6	5.8	33.4
9	2,592	40.2	6.3	33.8
10	2,589	40.8	5.8	33.3
Average:	**2,594.6**	**40.5**	**5.9**	**33.5**

Project: I-670 No Build
Scenario: No Build PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:00:00 - 17:00:00
Interval: Summary
Selection: --

Segment Statistics - Flow

Segment ID	Average	Std Deviation	Minimum	Maximum	# Samples
720491586	2,364.1	2,204.8	5.1	7,853.0	10

Project: I-670 No Build
Scenario: No Build PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:00:00 - 17:00:00
Interval: Summary
Selection: --

Segment Statistics - Avg Speed

Segment ID	Average	Std Deviation	Minimum	Maximum	# Samples
720491586	26.4	15.3	0.0	52.6	10

Project: I-670 No Build
Scenario: No Build PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:00:00 - 17:00:00
Interval: Summary
Selection: --

Segment Statistics - Std Dev Speed

Segment ID	Average	Std Deviation	Minimum	Maximum	# Samples
720491586	7.8	3.6	1.5	19.4	10

Project: I-670 No Build
Scenario: No Build PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:00:00 - 17:00:00
Interval: Summary
Selection: --

Segment Statistics - Density

Segment ID	Average	Std Deviation	Minimum	Maximum	# Samples
720491586	46.7	41.9	0.0	156.3	10

Freeway Capacity Analysis

Build

Project: I-670 Build
Scenario: Build AM
Run(s): Batch (10 runs)
Simulated: Various
Time: 08:00:00 - 09:00:00
Interval: Summary
Selection: --

Freeway Segment Level of Service - Overview

I 670

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - SWB				**Segment: 720491522**
	1	103.0	No	F
	2	106.0	No	F
	3	103.2	No	F
	4	109.4	No	F
	5	97.9	No	F
	6	103.5	No	F
	7	105.6	No	F
	8	107.4	No	F
	9	106.5	No	F
	10	108.6	No	F
	Average:	**59.6**	**No**	**F**
Merge - From SB I-71 On-Ramp (SWB) - SWB				**Segment: 720491523**
	1	68.9	Yes	F
	2	66.3	Yes	F
	3	65.8	Yes	F
	4	67.6	Yes	F
	5	67.0	Yes	F
	6	66.6	Yes	F
	7	66.7	Yes	F
	8	68.1	Yes	F
	9	66.9	Yes	F
	10	65.8	Yes	F
	Average:	**59.6**	**No**	**F**
Merge - From SB I-71 On-Ramp (SWB) - SWB				**Segment: 720491585**
	1	68.9	Yes	F
	2	66.3	Yes	F
	3	65.8	Yes	F
	4	67.6	Yes	F
	5	67.0	Yes	F
	6	66.6	Yes	F
	7	66.7	Yes	F
	8	68.1	Yes	F
	9	66.9	Yes	F

I 670

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Merge - From SB I-71 On-Ramp (SWB) - SWB				**Segment: 720491585**
	10	65.8	Yes	F
	Average:	**39.8**	**No**	**E**
Merge - From SB I-71 On-Ramp (SWB) - SWB				**Segment: 720491586**
	1	68.9	Yes	F
	2	66.3	Yes	F
	3	65.8	Yes	F
	4	67.6	Yes	F
	5	67.0	Yes	F
	6	66.6	Yes	F
	7	66.7	Yes	F
	8	68.1	Yes	F
	9	66.9	Yes	F
	10	65.8	Yes	F
	Average:	**39.8**	**No**	**E**
Diverge - To RAMP (SB) - SWB				**Segment: 720491524**
	1	79.3	Yes	F
	2	77.4	Yes	F
	3	79.8	Yes	F
	4	79.5	Yes	F
	5	76.5	Yes	F
	6	77.8	Yes	F
	7	78.0	Yes	F
	8	78.6	Yes	F
	9	78.6	Yes	F
	10	79.1	Yes	F
	Average:	**59.6**	**No**	**F**
Basic - Between 3rd/Convention Center Off-Ramp and N 4TH ST - WB				**Segment: 720491538**
	1	26.5	No	D
	2	26.1	No	D
	3	25.3	No	C
	4	26.3	No	D
	5	26.6	No	D
	6	25.8	No	C
	7	26.2	No	D
	8	24.4	No	C
	9	24.4	No	C
	10	25.4	No	C
	Average:	**59.6**	**No**	**F**

I 670

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - From 4th St Off-Ramp - WB				**Segment: 720491540**
	1	31.8	No	D
	2	32.9	No	D
	3	33.9	No	D
	4	32.5	No	D
	5	33.6	No	D
	6	33.1	No	D
	7	33.1	No	D
	8	33.9	No	D
	9	33.2	No	D
	10	32.0	No	D
	Average:	**59.6**	**No**	**F**
Basic - Between NB I-71 On-RAMP (WB) and 3rd/4th On-Ramp - SWB				**Segment: 720491525**
	1	48.0	No	F
	2	45.1	No	F
	3	48.7	No	F
	4	48.4	No	F
	5	53.4	No	F
	6	51.9	No	F
	7	48.9	No	F
	8	46.5	No	F
	9	45.6	No	F
	10	49.4	No	F
	Average:	**59.6**	**No**	**F**
Weaving - From N 4TH ST to Goodale Off-Ramp (WB) - WB				**Segment: 720491529**
	1	39.1	Yes	F
	2	38.7	No	E
	3	39.6	Yes	F
	4	39.1	No	E
	5	40.7	Yes	F
	6	39.8	Yes	F
	7	40.3	Yes	F
	8	39.0	No	E
	9	39.5	Yes	F
	10	39.2	Yes	F
	Average:	**59.6**	**No**	**F**
Weaving - From N 4TH ST to Goodale Off-Ramp (WB) - WB				**Segment: 720491584**
	1	39.1	Yes	F
	2	38.7	No	E
	3	39.6	Yes	F

I 670

Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Weaving - From N 4TH ST to Goodale Off-Ramp (WB) - WB			**Segment: 720491584**
4	39.1	No	E
5	40.7	Yes	F
6	39.8	Yes	F
7	40.3	Yes	F
8	39.0	No	E
9	39.5	Yes	F
10	39.2	Yes	F
Average:	**39.8**	**No**	**E**
Basic - Between Goodale Off-Ramp and RAMP (NB) - WB			**Segment: 720491515**
1	26.6	No	D
2	29.0	No	D
3	26.2	No	D
4	25.5	No	C
5	26.0	No	C
6	26.2	No	D
7	25.8	No	C
8	26.1	No	D
9	26.7	No	D
10	25.5	No	C
Average:	**59.6**	**No**	**F**
Basic - From RAMP - SWB			**Segment: 720491495**
1	15.5	No	B
2	14.4	No	B
3	15.9	No	B
4	15.5	No	B
5	16.0	No	B
6	15.8	No	B
7	15.0	No	B
8	14.7	No	B
9	14.8	No	B
10	15.0	No	B
Average:	**59.6**	**No**	**F**

NB I-71 ON-RAMP

Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - WB			**Segment: 720491577**
1	17.9	No	B
2	17.8	No	B
3	17.8	No	B
4	17.7	No	B

NB I-71 ON-RAMP

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - WB				**Segment: 720491577**
	5	17.8	No	B
	6	18.3	No	C
	7	18.3	No	C
	8	17.8	No	B
	9	18.1	No	C
	10	18.0	No	B
	Average:	**39.8**	**No**	**E**
Basic - WB				**Segment: 720491578**
	1	17.9	No	B
	2	17.8	No	B
	3	17.8	No	B
	4	17.7	No	B
	5	17.8	No	B
	6	18.3	No	C
	7	18.3	No	C
	8	17.8	No	B
	9	18.1	No	C
	10	18.0	No	B
	Average:	**39.8**	**No**	**E**
Basic - WB				**Segment: 720491579**
	1	30.0	No	D
	2	29.2	No	D
	3	29.6	No	D
	4	29.4	No	D
	5	29.8	No	D
	6	29.0	No	D
	7	29.3	No	D
	8	29.6	No	D
	9	29.2	No	D
	10	29.3	No	D
	Average:	**39.8**	**No**	**E**

SB I-71 ON-RAMP

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - SWB				**Segment: 720491521**
	1	157.5	No	F
	2	157.4	No	F
	3	156.6	No	F
	4	158.6	No	F
	5	157.9	No	F

SB I-71 ON-RAMP

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - SWB				**Segment: 720491521**
	6	156.9	No	F
	7	154.6	No	F
	8	157.6	No	F
	9	156.4	No	F
	10	158.7	No	F
	Average:	**59.6**	**No**	**F**

ABOUT FREEWAY LOS
The LOS determination based on density will be overridden with LOS F when demand exceeds capacity (i.e., Over Capacity = Yes).

Project: I-670 Build
Scenario: Build AM
Run(s): Batch (10 runs)
Simulated: Various
Time: 08:00:00 - 09:00:00
Interval: Summary
Selection: --

Freeway Segment Level of Service - Density

I 670

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491522	SW	Basic		105.1	3.4	97.9	109.4	10
720491523	SW	Merge	From SB I-71 On-Ramp (SWB)	67.0	1.0	65.8	68.9	10
720491585	SW	Merge	From SB I-71 On-Ramp (SWB)	67.0	1.0	65.8	68.9	10
720491586	SW	Merge	From SB I-71 On-Ramp (SWB)	67.0	1.0	65.8	68.9	10
720491524	SW	Diverge	To RAMP (SB)	78.5	1.0	76.5	79.8	10
720491538	W	Basic	Between 3rd/Convention Center Off-Ramp and N 4TH ST	25.7	0.8	24.4	26.6	10
720491540	W	Basic	From 4th St Off-Ramp	33.0	0.7	31.8	33.9	10
720491525	SW	Basic	Between NB I-71 On-RAMP (WB) and 3rd/4th On-Ramp	48.6	2.6	45.1	53.4	10
720491529	W	Weaving	From N 4TH ST to Goodale Off-Ramp (WB)	39.5	0.6	38.7	40.7	10
720491584	W	Weaving	From N 4TH ST to Goodale Off-Ramp (WB)	39.5	0.6	38.7	40.7	10
720491515	W	Basic	Between Goodale Off-Ramp and RAMP (NB)	26.4	1.0	25.5	29.0	10
720491495	SW	Basic	From RAMP	15.3	0.6	14.4	16.0	10

NB I-71 ON-RAMP

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491577	W	Basic		18.0	0.2	17.7	18.3	10
720491578	W	Basic		18.0	0.2	17.7	18.3	10
720491579	W	Basic		29.4	0.3	29.0	30.0	10

SB I-71 ON-RAMP

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491521	SW	Basic		157.2	1.2	154.6	158.7	10

Project: I-670 Build
Scenario: Build AM
Run(s): Batch (10 runs)
Simulated: Various
Time: 08:00:00 - 09:00:00
Interval: Summary
Selection: --

Freeway Segment Level of Service - VgtC

I 670

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491522	SW	Basic		0.0	0.0	0.0	0.0	10
720491523	SW	Merge	From SB I-71 On-Ramp (SWB)	0.0	0.0	0.0	0.0	10
720491585	SW	Merge	From SB I-71 On-Ramp (SWB)	0.0	0.0	0.0	0.0	10
720491586	SW	Merge	From SB I-71 On-Ramp (SWB)	0.0	0.0	0.0	0.0	10
720491524	SW	Diverge	To RAMP (SB)	0.0	0.0	0.0	0.0	10
720491538	W	Basic	Between 3rd/Convention Center Off-Ramp and N 4TH ST	0.0	0.0	0.0	0.0	10
720491540	W	Basic	From 4th St Off-Ramp	0.0	0.0	0.0	0.0	10
720491525	SW	Basic	Between NB I-71 On-RAMP (WB) and 3rd/4th On-Ramp	0.0	0.0	0.0	0.0	10
720491529	W	Weaving	From N 4TH ST to Goodale Off-Ramp (WB)	0.0	0.0	0.0	0.0	10
720491584	W	Weaving	From N 4TH ST to Goodale Off-Ramp (WB)	0.0	0.0	0.0	0.0	10
720491515	W	Basic	Between Goodale Off-Ramp and RAMP (NB)	0.0	0.0	0.0	0.0	10
720491495	SW	Basic	From RAMP	0.0	0.0	0.0	0.0	10

NB I-71 ON-RAMP

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491577	W	Basic		0.0	0.0	0.0	0.0	10
720491578	W	Basic		0.0	0.0	0.0	0.0	10
720491579	W	Basic		0.0	0.0	0.0	0.0	10

SB I-71 ON-RAMP

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491521	SW	Basic		0.0	0.0	0.0	0.0	10

Project: I-670 Build
Scenario: Build AM
Run(s): Batch (10 runs)
Simulated: Various
Time: 08:00:00 - 09:00:00
Interval: Summary
Selection: --

Freeway Segment Level of Service - Over Capacity

I 670

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491522	SW	Basic		0.0	0.0	0.0	0.0	10
720491523	SW	Merge	From SB I-71 On-Ramp (SWB)	0.0	0.0	0.0	0.0	10
720491585	SW	Merge	From SB I-71 On-Ramp (SWB)	0.0	0.0	0.0	0.0	10
720491586	SW	Merge	From SB I-71 On-Ramp (SWB)	0.0	0.0	0.0	0.0	10
720491524	SW	Diverge	To RAMP (SB)	0.0	0.0	0.0	0.0	10
720491538	W	Basic	Between 3rd/Convention Center Off-Ramp and N 4TH ST	0.0	0.0	0.0	0.0	10
720491540	W	Basic	From 4th St Off-Ramp	0.0	0.0	0.0	0.0	10
720491525	SW	Basic	Between NB I-71 On-RAMP (WB) and 3rd/4th On-Ramp	0.0	0.0	0.0	0.0	10
720491529	W	Weaving	From N 4TH ST to Goodale Off-Ramp (WB)	0.0	0.0	0.0	0.0	10
720491584	W	Weaving	From N 4TH ST to Goodale Off-Ramp (WB)	0.0	0.0	0.0	0.0	10
720491515	W	Basic	Between Goodale Off-Ramp and RAMP (NB)	0.0	0.0	0.0	0.0	10
720491495	SW	Basic	From RAMP	0.0	0.0	0.0	0.0	10

NB I-71 ON-RAMP

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491577	W	Basic		0.0	0.0	0.0	0.0	10
720491578	W	Basic		0.0	0.0	0.0	0.0	10
720491579	W	Basic		0.0	0.0	0.0	0.0	10

SB I-71 ON-RAMP

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491521	SW	Basic		0.0	0.0	0.0	0.0	10

Project: I-670 Build
Scenario: Build AM
Run(s): Batch (10 runs)
Simulated: Various
Time: 08:00:00 - 09:00:00
Interval: Summary
Selection: --

Segment Statistics - Overview

[UNNAMED STREET]

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
EB on Segment ID 720491580				
1	51	15.0	16.5	1.7
2	40	18.0	--	1.9
3	47	10.3	--	2.2
4	50	13.3	15.6	1.9
5	48	14.8	11.6	2.2
6	50	11.6	14.4	2.0
7	49	13.0	--	2.3
8	41	10.5	14.4	2.0
9	49	13.4	12.1	2.4
10	48	13.0	13.6	2.6
Average:	**47.2**	**13.3**	**9.8**	**2.1**
EB on Segment ID 720491581				
1	179	29.0	--	4.7
2	165	27.0	5.9	6.4
3	169	26.5	6.0	8.9
4	160	28.1	5.4	7.2
5	163	28.7	5.2	6.7
6	162	27.4	5.7	5.3
7	162	27.7	5.7	8.5
8	175	26.4	--	5.2
9	162	26.1	6.6	5.3
10	184	26.0	7.6	5.8
Average:	**168.1**	**27.3**	**4.8**	**6.4**
WB on Segment ID 720491581				
1	182	11.8	13.3	15.5
2	192	13.8	14.2	17.4
3	197	11.1	14.3	19.5
4	191	11.2	13.2	15.8
5	191	11.3	13.2	16.6
6	187	11.1	13.6	16.7
7	194	9.6	14.1	17.6
8	187	9.7	11.1	17.2
9	191	9.6	12.1	17.8
10	189	9.7	14.0	20.4

[UNNAMED STREET]

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
Average:	**190.2**	**10.9**	**13.3**	**17.5**

3RD/4TH ON-RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
SWB on Segment ID 720491526				
1	1,226	31.8	13.1	22.7
2	1,220	36.6	9.2	18.7
3	1,220	37.3	8.0	20.0
4	1,232	36.2	7.5	19.0
5	1,217	24.0	15.4	29.7
6	1,235	7.8	9.1	84.3
7	1,219	36.5	9.3	18.0
8	1,234	37.5	7.8	15.5
9	1,227	38.2	7.1	18.1
10	1,229	36.7	10.2	15.3
Average:	**1,225.9**	**32.3**	**9.7**	**26.1**
SWB on Segment ID 720491527				
1	1,223	17.7	11.7	73.4
2	1,234	20.4	11.1	68.0
3	1,214	18.9	11.1	68.7
4	1,241	20.5	12.0	67.6
5	1,222	15.9	10.6	86.9
6	1,225	11.7	6.8	117.0
7	1,222	17.8	10.2	73.9
8	1,241	19.7	11.0	69.2
9	1,206	21.2	11.6	61.9
10	1,215	16.8	10.1	77.6
Average:	**1,224.3**	**18.1**	**10.6**	**76.4**

3RD/CONVENTION CENTER OFF-RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
SWB on Segment ID 720491573				
1	2,062	36.7	7.9	29.2
2	1,970	38.0	7.5	27.4
3	2,010	36.0	8.9	28.2
4	1,967	36.8	8.1	27.7
5	2,100	37.3	7.5	28.2
6	1,993	38.1	7.1	27.9
7	1,947	37.8	7.1	26.9

3RD/CONVENTION CENTER OFF-RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
8	1,997	38.0	7.2	28.6
9	2,042	38.2	6.8	29.4
10	1,954	37.4	6.9	28.6
Average:	**2,004.4**	**37.4**	**7.5**	**28.2**
SWB on Segment ID 720491574				
1	2,037	41.0	4.9	17.4
2	1,965	40.6	5.1	17.8
3	2,010	39.6	5.6	16.8
4	1,968	40.4	5.5	18.2
5	2,065	41.1	4.7	17.3
6	2,012	41.2	5.0	17.5
7	2,001	40.6	5.4	18.2
8	1,971	40.8	5.7	16.4
9	2,068	40.1	5.4	16.8
10	1,948	40.4	4.6	18.3
Average:	**2,004.5**	**40.6**	**5.2**	**17.5**

4TH ST OFF-RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
NWB on Segment ID 720491539				
1	212	41.8	5.8	6.3
2	196	42.7	5.1	5.2
3	208	41.9	5.7	5.9
4	201	42.0	5.1	4.3
5	198	41.7	5.0	5.2
6	199	43.1	--	4.1
7	218	42.9	5.6	5.5
8	212	40.9	4.9	5.8
9	194	43.3	5.5	5.2
10	210	42.7	5.4	4.8
Average:	**204.9**	**42.3**	**4.8**	**5.2**
NWB on Segment ID 720491587				
1	213	7.9	12.8	8.6
2	197	11.3	14.1	8.8
3	205	8.1	13.3	12.3
4	200	12.0	14.2	9.8
5	199	9.7	15.4	7.8
6	207	7.1	12.3	9.2
7	209	10.3	14.3	10.1

4TH ST OFF-RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
8	220	10.5	15.0	9.4
9	199	9.3	14.0	10.3
10	205	10.5	15.8	11.4
Average:	**205.3**	**9.7**	**14.1**	**9.8**

ACCESS RD

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
EB on Segment ID 720474312				
1	51	--	--	0.0
2	49	21.2	--	0.8
3	63	--	--	0.0
4	51	25.0	--	0.8
5	56	29.8	--	1.5
6	46	--	--	0.0
7	50	24.3	--	1.7
8	48	--	--	0.0
9	46	--	--	0.0
10	48	22.3	--	0.9
Average:	**50.8**	**12.3**	**0.0**	**0.6**
WB on Segment ID 720474312				
1	21	0.0	0.0	9.1
2	21	1.5	5.7	8.4
3	17	1.7	--	8.1
4	24	2.1	4.1	10.5
5	19	2.6	--	8.7
6	13	1.0	--	8.3
7	21	0.0	--	7.7
8	19	0.0	--	7.7
9	26	1.7	--	8.4
10	20	1.4	--	9.7
Average:	**20.1**	**1.2**	**1.0**	**8.7**

E GOODALE ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
EB on Segment ID 720474311				
1	702	30.1	12.8	22.0
2	687	30.9	12.3	21.5
3	708	30.6	13.2	22.3
4	697	29.5	13.8	22.1

E GOODALE ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
5	697	31.0	12.4	22.5
6	703	31.3	11.7	22.0
7	699	29.2	14.2	23.2
8	695	32.1	11.3	21.1
9	693	30.8	11.5	21.0
10	696	32.2	11.5	20.6
Average:	**697.8**	**30.8**	**12.5**	**21.8**
EB on Segment ID 720474314				
1	704	2.6	7.2	76.8
2	704	2.4	6.8	74.5
3	705	2.0	6.4	77.3
4	700	2.5	7.3	73.9
5	701	2.4	6.5	72.9
6	699	2.3	7.0	74.3
7	675	2.2	6.7	75.8
8	690	2.5	7.2	74.0
9	705	2.2	6.4	73.5
10	701	2.1	6.4	72.4
Average:	**698.3**	**2.3**	**6.8**	**74.5**
WB on Segment ID 720474311				
1	141	36.5	6.3	2.0
2	144	39.9	5.6	2.2
3	151	39.7	7.4	2.5
4	150	40.4	6.6	2.4
5	147	38.6	6.2	2.4
6	152	40.0	6.4	1.6
7	149	39.7	6.8	1.9
8	150	39.1	6.9	1.9
9	145	41.0	7.0	2.0
10	149	39.4	5.3	1.9
Average:	**147.8**	**39.4**	**6.5**	**2.1**
WB on Segment ID 720474314				
1	148	33.6	6.8	6.5
2	147	28.3	--	4.5
3	152	32.4	--	3.7
4	149	28.0	--	3.7
5	151	32.7	--	4.1
6	154	31.2	7.4	4.9
7	139	30.3	4.6	6.2

E GOODALE ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
8	149	28.7	--	4.1
9	149	29.5	7.9	5.2
10	145	31.6	3.9	5.3
Average:	**148.3**	**30.6**	**3.1**	**4.8**

GOODALE OFF-RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
WB on Segment ID 720491534				
1	1,860	42.8	4.8	20.2
2	1,826	42.6	4.4	20.8
3	1,840	43.2	4.7	21.7
4	1,844	42.3	4.9	20.8
5	1,882	42.8	4.3	21.5
6	1,858	42.8	4.7	21.5
7	1,833	42.8	4.6	21.9
8	1,859	42.9	4.5	21.2
9	1,862	43.0	4.9	21.7
10	1,851	42.3	4.4	20.8
Average:	**1,851.5**	**42.8**	**4.6**	**21.2**

I 670

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
SWB on Segment ID 720491495				
1	2,905	57.2	4.7	15.5
2	2,883	56.9	4.8	14.4
3	2,861	56.5	4.6	15.9
4	2,854	57.2	4.6	15.4
5	2,885	56.7	4.7	16.0
6	2,879	56.9	4.7	15.8
7	2,814	56.8	4.7	14.9
8	2,855	57.0	4.9	14.7
9	2,884	57.2	4.6	14.7
10	2,835	56.9	4.7	15.0
Average:	**2,865.5**	**56.9**	**4.7**	**15.2**
SWB on Segment ID 720491522				
1	3,969	13.0	11.3	102.8
2	3,942	12.5	10.4	105.7
3	3,923	13.0	11.0	102.9
4	3,826	11.9	10.1	109.2

I 670

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
5	4,005	13.9	12.2	97.7
6	3,931	12.9	10.9	103.3
7	3,901	12.5	10.8	105.4
8	3,870	12.2	10.5	107.2
9	3,832	12.2	10.4	106.3
10	3,882	12.1	10.1	108.3
Average:	**3,908.1**	**12.6**	**10.8**	**104.9**
SWB on Segment ID 720491523				
1	5,405	9.6	5.0	114.6
2	5,331	9.9	5.0	118.1
3	5,439	9.9	4.9	114.5
4	5,313	9.7	4.5	116.2
5	5,465	10.2	4.9	115.0
6	5,447	10.0	5.3	114.5
7	5,436	10.0	5.0	112.6
8	5,456	9.8	5.1	113.2
9	5,378	10.0	4.6	113.8
10	5,291	10.0	4.7	115.6
Average:	**5,396.1**	**9.9**	**4.9**	**114.8**
SWB on Segment ID 720491524				
1	5,401	33.6	8.4	43.1
2	5,269	35.5	7.9	40.7
3	5,443	34.4	8.3	42.0
4	5,328	34.2	8.1	42.1
5	5,440	34.0	8.1	40.9
6	5,371	34.4	7.5	40.9
7	5,342	34.8	7.9	40.4
8	5,394	34.7	7.5	41.9
9	5,370	34.4	7.7	40.9
10	5,368	34.9	7.6	40.0
Average:	**5,372.5**	**34.5**	**7.9**	**41.3**
SWB on Segment ID 720491525				
1	5,529	29.9	13.3	47.9
2	5,521	31.6	13.2	45.0
3	5,527	29.6	13.2	48.7
4	5,545	30.3	13.5	48.3
5	5,594	27.4	12.8	53.3
6	5,528	28.3	13.4	51.7
7	5,550	29.5	13.4	48.8

I 670

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
8	5,564	30.8	13.6	46.4
9	5,509	32.1	13.2	45.5
10	5,532	29.4	13.3	49.3
Average:	**5,539.9**	**29.9**	**13.3**	**48.5**
SWB on Segment ID 720491585				
1	5,402	14.2	5.5	98.3
2	5,329	14.8	6.1	96.8
3	5,429	14.1	5.6	99.5
4	5,308	13.9	5.8	102.1
5	5,463	15.1	6.3	96.8
6	5,443	14.4	6.0	97.9
7	5,409	14.6	5.8	99.8
8	5,445	14.3	6.0	100.3
9	5,371	14.0	5.7	98.5
10	5,283	13.6	5.9	100.3
Average:	**5,388.3**	**14.3**	**5.9**	**99.0**
SWB on Segment ID 720491586				
1	5,413	22.1	8.9	65.6
2	5,289	23.5	9.5	61.0
3	5,433	22.8	9.1	61.4
4	5,296	22.7	9.2	61.8
5	5,446	24.2	9.1	61.1
6	5,396	23.1	9.5	62.3
7	5,360	22.8	9.2	62.5
8	5,395	22.8	9.7	63.2
9	5,367	23.5	9.6	63.4
10	5,335	22.1	9.6	61.8
Average:	**5,373.0**	**23.0**	**9.3**	**62.4**
WB on Segment ID 720491515				
1	4,929	48.8	10.6	26.5
2	4,920	45.0	13.4	28.9
3	4,908	49.2	9.6	26.2
4	4,913	50.2	9.2	25.4
5	4,948	49.0	9.9	25.9
6	4,895	49.0	10.8	26.1
7	4,882	49.7	9.7	25.8
8	4,900	49.6	9.4	26.0
9	4,902	48.5	10.7	26.6
10	4,847	50.2	9.4	25.4

I 670

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
Average:	**4,904.4**	**48.9**	**10.3**	**26.3**
WB on Segment ID 720491529				
1	6,761	26.8	12.8	52.5
2	6,755	27.4	12.4	52.3
3	6,741	26.5	12.5	54.2
4	6,758	26.7	12.7	52.5
5	6,856	25.5	12.0	55.7
6	6,732	26.2	12.5	54.2
7	6,713	26.4	12.4	54.8
8	6,739	27.2	12.6	53.0
9	6,735	26.8	12.6	54.0
10	6,729	25.9	12.3	54.0
Average:	**6,751.7**	**26.5**	**12.5**	**53.7**
WB on Segment ID 720491538				
1	3,359	45.7	8.3	26.5
2	3,284	46.4	7.5	26.0
3	3,443	46.2	8.1	25.2
4	3,376	46.1	7.8	26.3
5	3,355	45.0	8.6	26.5
6	3,375	46.5	7.9	25.8
7	3,428	46.6	8.1	26.1
8	3,406	46.2	8.3	24.4
9	3,298	47.3	7.4	24.4
10	3,404	46.5	7.6	25.4
Average:	**3,373.0**	**46.3**	**8.0**	**25.7**
WB on Segment ID 720491540				
1	3,115	50.5	6.1	31.7
2	3,116	50.6	5.6	32.8
3	3,188	50.5	5.5	33.8
4	3,163	50.3	5.8	32.5
5	3,202	49.5	6.5	33.5
6	3,154	50.1	5.7	33.0
7	3,202	50.4	5.8	33.0
8	3,212	50.6	5.6	33.8
9	3,080	50.8	5.6	33.2
10	3,169	50.7	5.6	32.0
Average:	**3,160.1**	**50.4**	**5.8**	**32.9**

I 670

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
WB on Segment ID 720491584				
1	6,749	40.5	8.4	35.5
2	6,739	40.6	8.6	35.2
3	6,746	39.9	9.0	35.8
4	6,758	40.0	8.5	35.5
5	6,855	39.7	9.0	36.7
6	6,729	40.4	8.8	36.0
7	6,715	39.8	8.7	36.6
8	6,728	40.3	8.5	35.3
9	6,754	39.2	8.3	35.8
10	6,717	40.1	8.8	35.3
Average:	**6,749.0**	**40.1**	**8.7**	**35.8**

N 4TH ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
EB on Segment ID 720475346				
1	8	--	--	0.0
2	8	--	--	0.0
3	11	--	--	0.0
4	8	--	--	0.0
5	8	--	--	0.0
6	13	--	--	0.0
7	12	--	--	0.0
8	9	22.5	--	0.8
9	11	--	--	0.0
10	9	--	--	0.0
Average:	**9.7**	**2.3**	**0.0**	**0.1**
NB on Segment ID 720474309				
1	1,186	36.2	8.2	10.8
2	1,203	36.4	7.9	11.0
3	1,189	36.3	8.6	11.3
4	1,175	36.5	9.2	11.0
5	1,181	36.4	7.9	10.9
6	1,189	36.9	7.7	10.7
7	1,171	36.3	7.8	11.0
8	1,181	36.2	8.1	11.1
9	1,172	36.4	7.5	11.0
10	1,169	36.4	7.8	11.0
Average:	**1,181.5**	**36.4**	**8.1**	**11.0**

N 4TH ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
NB on Segment ID 720474313				
1	1,739	33.2	7.4	14.2
2	1,697	33.3	7.9	12.7
3	1,717	32.5	7.5	14.1
4	1,610	32.7	7.1	14.4
5	1,685	33.0	7.2	14.3
6	1,693	33.0	7.7	13.5
7	1,662	33.0	7.7	14.0
8	1,710	33.2	7.1	12.7
9	1,692	32.8	7.5	14.3
10	1,717	33.2	8.0	13.4
Average:	**1,692.3**	**33.0**	**7.5**	**13.8**
NB on Segment ID 720474315				
1	1,163	7.0	12.5	45.8
2	1,145	7.7	12.0	48.2
3	1,203	7.2	11.3	44.4
4	1,162	7.1	12.2	47.0
5	1,170	7.3	11.5	45.6
6	1,188	8.9	11.1	48.6
7	1,164	8.1	12.1	44.4
8	1,180	7.8	11.4	48.2
9	1,169	6.7	11.3	44.2
10	1,172	8.3	11.6	48.4
Average:	**1,171.6**	**7.6**	**11.7**	**46.5**
NB on Segment ID 720475191				
1	1,394	13.6	11.8	66.6
2	1,335	14.5	11.2	61.5
3	1,316	15.9	11.8	50.8
4	1,288	13.0	12.4	57.3
5	1,306	13.4	12.6	64.0
6	1,339	14.9	12.2	61.0
7	1,328	13.8	14.0	52.7
8	1,331	11.0	12.6	64.3
9	1,327	15.3	12.2	54.3
10	1,366	16.2	13.4	51.8
Average:	**1,332.7**	**14.2**	**12.4**	**58.4**
NB on Segment ID 720475198				
1	1,573	40.7	5.8	6.4
2	1,604	38.1	--	4.4

N 4TH ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
3	1,575	37.7	5.5	4.0
4	1,593	40.4	8.8	6.7
5	1,582	37.7	--	5.3
6	1,594	39.0	5.4	4.9
7	1,562	37.2	6.3	5.2
8	1,628	38.8	5.8	7.4
9	1,577	38.2	6.1	4.3
10	1,626	38.6	6.6	6.1
Average:	**1,591.5**	**38.6**	**5.0**	**5.5**
NB on Segment ID 720475199				
1	1,531	25.2	5.7	35.6
2	1,574	24.6	5.8	44.2
3	1,496	24.9	6.4	49.9
4	1,483	25.3	6.9	36.7
5	1,461	24.2	6.8	40.9
6	1,518	24.4	6.4	49.1
7	1,467	24.8	7.3	45.6
8	1,625	25.7	7.0	33.4
9	1,479	23.6	6.7	48.8
10	1,636	24.9	7.3	41.9
Average:	**1,526.9**	**24.8**	**6.6**	**42.6**
NB on Segment ID 720475200				
1	1,564	35.0	5.0	16.6
2	1,620	35.7	5.0	18.4
3	1,561	34.4	4.9	22.1
4	1,573	35.1	5.0	22.2
5	1,549	35.0	5.1	18.7
6	1,578	35.7	5.5	16.9
7	1,538	34.7	5.4	23.6
8	1,640	35.8	5.2	17.8
9	1,539	34.4	4.4	20.8
10	1,671	35.0	4.6	21.8
Average:	**1,583.2**	**35.1**	**5.0**	**19.9**
NB on Segment ID 720491582				
1	1,570	30.2	5.1	38.2
2	1,624	29.7	6.1	33.0
3	1,562	30.8	4.1	35.4
4	1,569	27.7	5.6	32.0
5	1,545	29.4	4.6	28.5

N 4TH ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
6	1,584	29.3	6.1	35.9
7	1,536	29.9	5.1	29.0
8	1,639	29.2	6.5	29.2
9	1,533	29.0	4.7	28.7
10	1,683	29.6	4.9	40.6
Average:	**1,584.5**	**29.5**	**5.3**	**33.1**
WB on Segment ID 720475346				
1	0	--	--	0.0
2	0	--	--	0.0
3	0	--	--	0.0
4	0	--	--	0.0
5	0	--	--	0.0
6	0	--	--	0.0
7	0	--	--	0.0
8	0	--	--	0.0
9	0	--	--	0.0
10	0	--	--	0.0
Average:	**0.0**	**0.0**	**0.0**	**0.0**

NB I-71 ON-RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
WB on Segment ID 720491577				
1	2,398	46.9	4.8	17.1
2	2,395	47.5	4.9	17.5
3	2,405	46.9	4.9	17.5
4	2,407	46.9	4.6	17.6
5	2,404	46.6	4.6	17.3
6	2,397	46.9	4.8	17.7
7	2,391	47.7	4.9	17.9
8	2,405	46.7	4.7	17.7
9	2,402	47.3	4.5	17.5
10	2,401	47.2	4.7	17.8
Average:	**2,400.5**	**47.1**	**4.7**	**17.6**
WB on Segment ID 720491578				
1	2,408	45.2	4.0	19.1
2	2,406	45.7	4.8	18.2
3	2,395	46.0	4.3	18.2
4	2,402	45.8	4.6	17.6
5	2,397	45.8	4.5	18.6

NB I-71 ON-RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
6	2,396	45.5	4.3	19.1
7	2,393	45.1	5.1	18.7
8	2,393	45.5	4.3	17.9
9	2,396	45.4	5.0	18.9
10	2,394	45.3	4.4	18.2
Average:	**2,398.0**	**45.5**	**4.5**	**18.5**
WB on Segment ID 720491579				
1	2,399	42.1	4.3	29.9
2	2,402	42.9	4.2	29.2
3	2,392	42.6	4.2	29.6
4	2,396	42.4	4.1	29.4
5	2,390	41.9	4.3	29.7
6	2,389	42.5	3.8	29.0
7	2,387	42.5	4.2	29.2
8	2,391	42.2	4.4	29.6
9	2,394	43.1	3.8	29.1
10	2,381	42.8	4.2	29.2
Average:	**2,392.1**	**42.5**	**4.2**	**29.4**

RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
NB on Segment ID 720491516				
1	2,039	34.9	2.7	61.0
2	2,030	35.3	2.7	60.4
3	2,033	35.3	2.8	60.3
4	2,018	35.3	2.6	59.4
5	2,035	35.2	2.6	60.4
6	2,024	35.0	2.5	60.6
7	2,041	35.3	2.8	60.2
8	2,022	35.2	2.9	59.9
9	2,005	35.3	2.8	60.2
10	2,017	35.6	2.8	59.0
Average:	**2,026.6**	**35.2**	**2.7**	**60.1**
SB on Segment ID 720491465				
1	1,722	42.4	4.2	21.3
2	1,680	42.2	4.2	22.2
3	1,754	42.1	4.3	22.0
4	1,701	42.0	4.0	21.3
5	1,732	42.2	4.3	21.7

RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
6	1,715	42.5	4.4	21.7
7	1,731	42.1	4.3	21.9
8	1,700	42.4	4.3	21.5
9	1,749	42.5	4.4	20.9
10	1,671	41.9	4.3	21.7
Average:	**1,715.5**	**42.2**	**4.3**	**21.6**
SWB on Segment ID 720491487				
1	879	41.4	5.1	21.9
2	878	41.2	4.9	22.1
3	887	41.0	4.6	22.3
4	882	40.8	4.7	21.9
5	886	41.1	4.7	22.1
6	885	36.9	11.0	24.6
7	878	41.5	4.9	22.7
8	877	41.8	5.0	22.3
9	875	42.0	5.0	21.7
10	873	40.9	4.8	22.4
Average:	**879.9**	**40.9**	**5.5**	**22.4**
WB on Segment ID 720491464				
1	290	44.2	6.1	7.1
2	270	43.8	6.3	6.4
3	286	43.4	5.4	6.9
4	273	44.2	6.9	6.7
5	297	43.9	6.1	8.4
6	289	42.6	5.4	7.2
7	290	42.1	5.5	6.8
8	278	43.9	5.2	6.6
9	304	43.5	6.4	6.6
10	271	44.3	5.9	6.5
Average:	**284.8**	**43.6**	**5.9**	**6.9**
WB on Segment ID 720491520				
1	362	39.1	5.7	9.2
2	361	39.4	6.7	7.1
3	361	39.6	6.0	8.9
4	341	39.3	7.0	8.7
5	363	39.6	6.9	9.0
6	363	33.0	11.9	9.7
7	362	40.2	7.4	7.6
8	359	39.7	6.8	8.6

RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
9	350	39.6	5.7	9.4
10	354	40.6	5.6	7.2
Average:	**357.6**	**39.0**	**7.0**	**8.5**

SB I-71 ON-RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
SWB on Segment ID 720491521				
1	1,741	5.8	4.7	157.2
2	1,794	5.9	4.6	157.1
3	1,819	5.8	4.7	156.3
4	1,849	6.1	4.5	158.3
5	1,792	5.8	4.8	157.6
6	1,780	5.9	4.8	156.6
7	1,834	6.1	5.1	154.3
8	1,809	5.9	4.8	157.3
9	1,870	6.1	4.6	156.0
10	1,824	6.0	4.7	158.4
Average:	**1,811.1**	**5.9**	**4.7**	**156.9**

Project: I-670 Build
Scenario: Build AM
Run(s): Batch (10 runs)
Simulated: Various
Time: 08:00:00 - 09:00:00
Interval: Summary
Selection: --

Segment Statistics - Flow

Segment ID	Average	Std Deviation	Minimum	Maximum	# Samples
720491587	2,034.3	1,924.1	0.0	6,855.6	10

Project: I-670 Build
Scenario: Build AM
Run(s): Batch (10 runs)
Simulated: Various
Time: 08:00:00 - 09:00:00
Interval: Summary
Selection: --

Segment Statistics - Avg Speed

Segment ID	Average	Std Deviation	Minimum	Maximum	# Samples
720491587	30.2	14.4	0.0	57.2	10

Project: I-670 Build
Scenario: Build AM
Run(s): Batch (10 runs)
Simulated: Various
Time: 08:00:00 - 09:00:00
Interval: Summary
Selection: --

Segment Statistics - Std Dev Speed

Segment ID	Average	Std Deviation	Minimum	Maximum	# Samples
720491587	7.6	3.2	0.0	16.5	10

Project: I-670 Build
Scenario: Build AM
Run(s): Batch (10 runs)
Simulated: Various
Time: 08:00:00 - 09:00:00
Interval: Summary
Selection: --

Segment Statistics - Density

Segment ID	Average	Std Deviation	Minimum	Maximum	# Samples
720491587	33.1	33.5	0.0	158.4	10

Project: I-670 Build
Scenario: Build PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:00:00 - 17:00:00
Interval: Summary
Selection: --

Freeway Segment Level of Service - Overview

I 670

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - SWB				**Segment: 720491522**
	1	91.0	No	F
	2	86.2	No	F
	3	86.0	No	F
	4	87.3	No	F
	5	86.7	No	F
	6	85.2	No	F
	7	90.1	No	F
	8	88.9	No	F
	9	83.2	No	F
	10	85.8	No	F
	Average:	**55.6**	**No**	**F**
Merge - From SB I-71 On-Ramp (SWB) - SWB				**Segment: 720491523**
	1	73.8	Yes	F
	2	71.5	Yes	F
	3	72.1	Yes	F
	4	74.3	Yes	F
	5	74.7	Yes	F
	6	71.5	Yes	F
	7	71.8	Yes	F
	8	74.5	Yes	F
	9	74.4	Yes	F
	10	69.9	Yes	F
	Average:	**55.6**	**No**	**F**
Merge - From SB I-71 On-Ramp (SWB) - SWB				**Segment: 720491585**
	1	73.8	Yes	F
	2	71.5	Yes	F
	3	72.1	Yes	F
	4	74.3	Yes	F
	5	74.7	Yes	F
	6	71.5	Yes	F
	7	71.8	Yes	F
	8	74.5	Yes	F
	9	74.4	Yes	F

I 670

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Merge - From SB I-71 On-Ramp (SWB) - SWB				**Segment: 720491585**
	10	69.9	Yes	F
	Average:	**44.2**	**No**	**F**
Merge - From SB I-71 On-Ramp (SWB) - SWB				**Segment: 720491586**
	1	73.8	Yes	F
	2	71.5	Yes	F
	3	72.1	Yes	F
	4	74.3	Yes	F
	5	74.7	Yes	F
	6	71.5	Yes	F
	7	71.8	Yes	F
	8	74.5	Yes	F
	9	74.4	Yes	F
	10	69.9	Yes	F
	Average:	**44.2**	**No**	**F**
Diverge - To RAMP (SB) - SWB				**Segment: 720491524**
	1	73.3	Yes	F
	2	71.2	Yes	F
	3	70.1	Yes	F
	4	73.1	Yes	F
	5	73.1	Yes	F
	6	73.1	Yes	F
	7	74.2	Yes	F
	8	74.2	Yes	F
	9	71.2	Yes	F
	10	71.5	Yes	F
	Average:	**55.6**	**No**	**F**
Basic - Between 3rd/Convention Center Off-Ramp and N 4TH ST - WB				**Segment: 720491538**
	1	50.3	No	F
	2	48.1	No	F
	3	47.0	No	F
	4	50.5	No	F
	5	51.4	No	F
	6	47.5	No	F
	7	48.2	No	F
	8	49.5	No	F
	9	45.9	No	F
	10	46.5	No	F
	Average:	**55.6**	**No**	**F**

I 670

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - From 4th St Off-Ramp - WB				**Segment: 720491540**
	1	63.5	No	F
	2	62.0	No	F
	3	60.9	No	F
	4	65.4	No	F
	5	63.9	No	F
	6	59.4	No	F
	7	62.7	No	F
	8	63.6	No	F
	9	59.4	No	F
	10	57.3	No	F
	Average:	**55.6**	**No**	**F**
Basic - Between NB I-71 On-RAMP (WB) and 3rd/4th On-Ramp - SWB				**Segment: 720491525**
	1	63.1	No	F
	2	62.2	No	F
	3	63.3	No	F
	4	65.3	No	F
	5	65.3	No	F
	6	61.0	No	F
	7	63.7	No	F
	8	64.0	No	F
	9	62.6	No	F
	10	59.1	No	F
	Average:	**55.6**	**No**	**F**
Weaving - From N 4TH ST to Goodale Off-Ramp (WB) - WB				**Segment: 720491529**
	1	47.8	Yes	F
	2	47.3	Yes	F
	3	47.6	Yes	F
	4	48.0	Yes	F
	5	47.8	Yes	F
	6	47.4	Yes	F
	7	48.1	Yes	F
	8	47.5	Yes	F
	9	47.2	Yes	F
	10	47.4	Yes	F
	Average:	**55.6**	**No**	**F**
Weaving - From N 4TH ST to Goodale Off-Ramp (WB) - WB				**Segment: 720491584**
	1	47.8	Yes	F
	2	47.3	Yes	F
	3	47.6	Yes	F

I 670

Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Weaving - From N 4TH ST to Goodale Off-Ramp (WB) - WB			**Segment: 720491584**
4	48.0	Yes	F
5	47.8	Yes	F
6	47.4	Yes	F
7	48.1	Yes	F
8	47.5	Yes	F
9	47.2	Yes	F
10	47.4	Yes	F
Average:	**44.2**	**No**	**F**
Basic - Between Goodale Off-Ramp and RAMP (NB) - WB			**Segment: 720491515**
1	32.8	No	D
2	33.4	No	D
3	33.6	No	D
4	32.8	No	D
5	32.8	No	D
6	33.5	No	D
7	33.6	No	D
8	33.5	No	D
9	33.8	No	D
10	33.1	No	D
Average:	**55.6**	**No**	**F**
Basic - From RAMP - SWB			**Segment: 720491495**
1	30.4	No	D
2	31.3	No	D
3	30.3	No	D
4	30.3	No	D
5	30.9	No	D
6	31.0	No	D
7	30.5	No	D
8	29.8	No	D
9	31.2	No	D
10	30.7	No	D
Average:	**55.6**	**No**	**F**

NB I-71 ON-RAMP

Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - WB			**Segment: 720491577**
1	18.6	No	C
2	19.1	No	C
3	19.0	No	C
4	19.1	No	C

NB I-71 ON-RAMP

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - WB				**Segment: 720491577**
	5	19.2	No	C
	6	18.9	No	C
	7	19.0	No	C
	8	18.9	No	C
	9	19.3	No	C
	10	19.1	No	C
	Average:	**44.2**	**No**	**E**
Basic - WB				**Segment: 720491578**
	1	18.6	No	C
	2	19.1	No	C
	3	19.0	No	C
	4	19.1	No	C
	5	19.2	No	C
	6	18.9	No	C
	7	19.0	No	C
	8	18.9	No	C
	9	19.3	No	C
	10	19.1	No	C
	Average:	**44.2**	**No**	**E**
Basic - WB				**Segment: 720491579**
	1	34.1	No	D
	2	33.6	No	D
	3	33.4	No	D
	4	34.3	No	D
	5	34.3	No	D
	6	33.4	No	D
	7	34.1	No	D
	8	34.0	No	D
	9	33.2	No	D
	10	33.0	No	D
	Average:	**44.2**	**No**	**E**

SB I-71 ON-RAMP

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - SWB				**Segment: 720491521**
	1	38.6	No	E
	2	32.8	No	D
	3	34.8	No	D
	4	41.8	No	E
	5	60.9	No	F

SB I-71 ON-RAMP

	Run	Density (pc/mi/ln)	Over Capacity	Level of Service
Basic - SWB				**Segment: 720491521**
	6	31.2	No	D
	7	29.5	No	D
	8	41.7	No	E
	9	44.9	No	E
	10	28.8	No	D
	Average:	**55.6**	**No**	**F**

ABOUT FREEWAY LOS
The LOS determination based on density will be overridden with LOS F when demand exceeds capacity (i.e., Over Capacity = Yes).

Project: I-670 Build
Scenario: Build PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:00:00 - 17:00:00
Interval: Summary
Selection: --

Freeway Segment Level of Service - Density

I 670

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491522	SW	Basic		87.0	2.4	83.2	91.0	10
720491523	SW	Merge	From SB I-71 On-Ramp (SWB)	72.9	1.7	69.9	74.7	10
720491585	SW	Merge	From SB I-71 On-Ramp (SWB)	72.9	1.7	69.9	74.7	10
720491586	SW	Merge	From SB I-71 On-Ramp (SWB)	72.9	1.7	69.9	74.7	10
720491524	SW	Diverge	To RAMP (SB)	72.5	1.4	70.1	74.2	10
720491538	W	Basic	Between 3rd/Convention Center Off-Ramp and N 4TH ST	48.5	1.9	45.9	51.4	10
720491540	W	Basic	From 4th St Off-Ramp	61.8	2.5	57.3	65.4	10
720491525	SW	Basic	Between NB I-71 On-RAMP (WB) and 3rd/4th On-Ramp	63.0	1.9	59.1	65.3	10
720491529	W	Weaving	From N 4TH ST to Goodale Off-Ramp (WB)	47.6	0.3	47.2	48.1	10
720491584	W	Weaving	From N 4TH ST to Goodale Off-Ramp (WB)	47.6	0.3	47.2	48.1	10
720491515	W	Basic	Between Goodale Off-Ramp and RAMP (NB)	33.3	0.4	32.8	33.8	10
720491495	SW	Basic	From RAMP	30.6	0.5	29.8	31.3	10

NB I-71 ON-RAMP

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491577	W	Basic		19.0	0.2	18.6	19.3	10
720491578	W	Basic		19.0	0.2	18.6	19.3	10
720491579	W	Basic		33.7	0.5	33.0	34.3	10

SB I-71 ON-RAMP

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491521	SW	Basic		38.5	9.7	28.8	60.9	10

Project: I-670 Build
Scenario: Build PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:00:00 - 17:00:00
Interval: Summary
Selection: --

Freeway Segment Level of Service - VgtC

I 670

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491522	SW	Basic		0.0	0.0	0.0	0.0	10
720491523	SW	Merge	From SB I-71 On-Ramp (SWB)	0.0	0.0	0.0	0.0	10
720491585	SW	Merge	From SB I-71 On-Ramp (SWB)	0.0	0.0	0.0	0.0	10
720491586	SW	Merge	From SB I-71 On-Ramp (SWB)	0.0	0.0	0.0	0.0	10
720491524	SW	Diverge	To RAMP (SB)	0.0	0.0	0.0	0.0	10
720491538	W	Basic	Between 3rd/Convention Center Off-Ramp and N 4TH ST	0.0	0.0	0.0	0.0	10
720491540	W	Basic	From 4th St Off-Ramp	0.0	0.0	0.0	0.0	10
720491525	SW	Basic	Between NB I-71 On-RAMP (WB) and 3rd/4th On-Ramp	0.0	0.0	0.0	0.0	10
720491529	W	Weaving	From N 4TH ST to Goodale Off-Ramp (WB)	0.0	0.0	0.0	0.0	10
720491584	W	Weaving	From N 4TH ST to Goodale Off-Ramp (WB)	0.0	0.0	0.0	0.0	10
720491515	W	Basic	Between Goodale Off-Ramp and RAMP (NB)	0.0	0.0	0.0	0.0	10
720491495	SW	Basic	From RAMP	0.0	0.0	0.0	0.0	10

NB I-71 ON-RAMP

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491577	W	Basic		0.0	0.0	0.0	0.0	10
720491578	W	Basic		0.0	0.0	0.0	0.0	10
720491579	W	Basic		0.0	0.0	0.0	0.0	10

SB I-71 ON-RAMP

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491521	SW	Basic		0.0	0.0	0.0	0.0	10

Project: I-670 Build
Scenario: Build PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:00:00 - 17:00:00
Interval: Summary
Selection: --

Freeway Segment Level of Service - Over Capacity

I 670

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491522	SW	Basic		0.0	0.0	0.0	0.0	10
720491523	SW	Merge	From SB I-71 On-Ramp (SWB)	0.0	0.0	0.0	0.0	10
720491585	SW	Merge	From SB I-71 On-Ramp (SWB)	0.0	0.0	0.0	0.0	10
720491586	SW	Merge	From SB I-71 On-Ramp (SWB)	0.0	0.0	0.0	0.0	10
720491524	SW	Diverge	To RAMP (SB)	0.0	0.0	0.0	0.0	10
720491538	W	Basic	Between 3rd/Convention Center Off-Ramp and N 4TH ST	0.0	0.0	0.0	0.0	10
720491540	W	Basic	From 4th St Off-Ramp	0.0	0.0	0.0	0.0	10
720491525	SW	Basic	Between NB I-71 On-RAMP (WB) and 3rd/4th On-Ramp	0.0	0.0	0.0	0.0	10
720491529	W	Weaving	From N 4TH ST to Goodale Off-Ramp (WB)	0.0	0.0	0.0	0.0	10
720491584	W	Weaving	From N 4TH ST to Goodale Off-Ramp (WB)	0.0	0.0	0.0	0.0	10
720491515	W	Basic	Between Goodale Off-Ramp and RAMP (NB)	0.0	0.0	0.0	0.0	10
720491495	SW	Basic	From RAMP	0.0	0.0	0.0	0.0	10

NB I-71 ON-RAMP

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491577	W	Basic		0.0	0.0	0.0	0.0	10
720491578	W	Basic		0.0	0.0	0.0	0.0	10
720491579	W	Basic		0.0	0.0	0.0	0.0	10

SB I-71 ON-RAMP

Segment ID	Direction	Analysis Type	Location	Average	Std Dev	Minimum	Maximum	# Samples
720491521	SW	Basic		0.0	0.0	0.0	0.0	10

Project: I-670 Build
Scenario: Build PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:00:00 - 17:00:00
Interval: Summary
Selection: --

Segment Statistics - Overview

[UNNAMED STREET]

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
EB on Segment ID 720491580				
1	68	3.7	10.4	5.4
2	71	7.5	12.3	4.4
3	64	4.7	9.4	4.4
4	71	7.6	12.6	5.0
5	72	5.7	10.7	6.2
6	69	8.8	14.0	5.2
7	72	6.5	12.1	5.7
8	66	5.8	11.8	5.8
9	68	9.5	13.6	5.5
10	71	8.8	13.0	4.7
Average:	**69.4**	**6.9**	**12.0**	**5.2**
EB on Segment ID 720491581				
1	168	28.5	6.0	5.8
2	141	27.1	6.9	5.8
3	161	29.5	5.9	5.7
4	166	29.2	7.7	5.8
5	161	29.2	6.8	5.7
6	151	29.2	7.0	5.0
7	157	28.9	7.5	6.1
8	163	28.7	6.7	5.6
9	154	29.0	6.2	5.2
10	160	29.1	6.2	6.2
Average:	**158.1**	**28.8**	**6.7**	**5.7**
WB on Segment ID 720491581				
1	183	12.0	15.9	16.0
2	183	8.7	14.3	21.0
3	179	12.7	17.5	15.5
4	183	9.8	15.3	17.4
5	182	7.5	12.6	23.3
6	184	8.2	13.9	24.9
7	180	8.6	14.4	23.0
8	182	11.9	16.4	17.1
9	181	13.9	18.3	13.3
10	180	11.9	16.0	16.1

[UNNAMED STREET]

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
Average:	**181.8**	**10.5**	**15.5**	**18.8**

3RD/4TH ON-RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
SWB on Segment ID 720491526				
1	1,360	4.6	3.3	152.2
2	1,344	4.9	4.2	146.6
3	1,383	4.5	3.5	154.0
4	1,354	4.4	3.3	151.9
5	1,348	4.8	3.7	153.0
6	1,373	4.7	4.1	152.5
7	1,375	4.7	3.6	152.3
8	1,395	4.3	3.6	152.6
9	1,362	4.6	3.4	153.3
10	1,372	4.6	3.8	156.6
Average:	**1,366.5**	**4.6**	**3.7**	**152.5**
SWB on Segment ID 720491527				
1	1,342	10.9	3.8	129.5
2	1,345	10.9	3.5	126.9
3	1,365	11.1	3.7	128.3
4	1,342	10.3	3.1	130.0
5	1,341	10.6	3.7	128.9
6	1,347	10.8	2.9	128.5
7	1,369	10.6	3.6	128.5
8	1,366	10.8	3.6	129.2
9	1,353	10.6	3.6	129.3
10	1,358	11.1	4.0	125.5
Average:	**1,352.9**	**10.8**	**3.6**	**128.5**

3RD/CONVENTION CENTER OFF-RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
SWB on Segment ID 720491573				
1	789	42.5	6.3	9.4
2	833	43.3	5.8	9.6
3	797	42.8	6.1	10.9
4	803	43.0	6.7	9.5
5	791	42.4	6.0	9.8
6	786	43.6	6.0	8.3
7	796	43.3	6.6	10.7

3RD/CONVENTION CENTER OFF-RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
8	792	43.8	6.2	9.9
9	815	42.9	6.0	9.0
10	810	43.3	6.0	9.6
Average:	**801.2**	**43.1**	**6.2**	**9.7**
SWB on Segment ID 720491574				
1	809	43.8	6.0	5.5
2	819	43.2	5.8	7.5
3	808	43.7	5.9	6.2
4	802	43.1	5.2	6.8
5	792	45.5	6.6	5.8
6	794	44.3	5.8	7.2
7	813	43.5	5.2	6.3
8	796	43.7	5.9	6.4
9	823	42.9	5.5	7.5
10	830	42.8	5.0	6.9
Average:	**808.6**	**43.7**	**5.7**	**6.6**

4TH ST OFF-RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
NWB on Segment ID 720491539				
1	601	38.4	6.3	16.1
2	597	40.0	6.6	15.4
3	608	38.2	6.8	18.4
4	605	36.4	7.1	15.4
5	602	37.5	6.8	17.7
6	615	37.8	6.9	19.6
7	607	38.1	6.0	21.6
8	576	37.8	6.6	13.9
9	593	37.5	6.7	16.9
10	603	36.9	7.9	16.9
Average:	**600.8**	**37.9**	**6.8**	**17.2**
NWB on Segment ID 720491587				
1	593	4.4	9.3	60.8
2	585	4.3	9.3	57.8
3	604	5.0	10.2	57.8
4	599	4.8	9.1	69.7
5	580	4.6	9.5	57.1
6	598	4.4	9.9	60.0
7	592	4.5	9.6	57.0

4TH ST OFF-RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
8	590	5.2	9.4	63.6
9	585	3.2	7.7	70.3
10	596	5.3	10.2	58.7
Average:	**592.1**	**4.6**	**9.4**	**61.3**

ACCESS RD

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
EB on Segment ID 720474312				
1	18	--	--	0.0
2	14	25.0	--	0.8
3	19	--	--	0.0
4	12	--	--	0.0
5	13	--	--	0.0
6	18	--	--	0.0
7	25	17.2	--	0.9
8	20	25.2	--	1.5
9	21	--	--	0.0
10	22	21.2	--	1.5
Average:	**18.4**	**8.9**	**0.0**	**0.5**
WB on Segment ID 720474312				
1	30	3.2	--	8.4
2	32	1.1	--	7.8
3	31	1.9	--	5.7
4	26	1.9	--	7.3
5	31	0.0	--	8.3
6	34	0.2	--	6.2
7	25	0.7	2.8	9.5
8	33	0.0	--	7.0
9	28	3.1	--	8.3
10	31	1.1	4.4	8.2
Average:	**30.1**	**1.3**	**0.7**	**7.7**

E GOODALE ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
EB on Segment ID 720474311				
1	800	6.7	10.0	102.8
2	797	6.9	10.7	99.9
3	824	6.6	10.1	103.3
4	798	6.5	10.1	105.3

E GOODALE ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
5	791	7.2	10.7	97.8
6	777	8.1	11.9	84.1
7	775	6.8	10.2	99.1
8	799	8.5	11.6	88.9
9	805	5.6	8.3	125.5
10	805	6.9	9.8	105.5
Average:	**797.1**	**7.0**	**10.3**	**101.2**
EB on Segment ID 720474314				
1	741	0.5	2.7	121.2
2	727	0.3	1.9	121.6
3	761	0.6	2.8	121.2
4	724	0.4	2.8	117.5
5	745	0.3	2.2	120.9
6	747	0.4	2.6	121.8
7	754	0.6	2.8	122.4
8	772	0.5	2.7	121.6
9	733	0.5	2.1	123.1
10	762	0.5	2.8	120.1
Average:	**746.5**	**0.5**	**2.5**	**121.1**
WB on Segment ID 720474311				
1	138	36.9	5.8	3.7
2	144	39.1	5.3	3.6
3	147	39.2	6.6	3.0
4	163	39.2	7.0	3.5
5	154	37.5	6.6	3.6
6	149	40.8	7.3	2.6
7	161	37.7	5.5	3.6
8	143	37.8	5.3	3.5
9	162	38.4	6.1	3.5
10	146	37.8	5.7	3.8
Average:	**150.8**	**38.4**	**6.1**	**3.4**
WB on Segment ID 720474314				
1	136	26.3	7.1	7.6
2	146	25.4	7.9	4.0
3	149	30.4	7.3	5.7
4	161	30.9	8.6	6.1
5	150	29.8	8.8	7.3
6	150	30.6	--	4.9
7	165	30.2	--	4.0

E GOODALE ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
8	142	31.4	7.7	7.3
9	168	30.1	6.6	6.4
10	151	31.4	7.6	4.9
Average:	**151.8**	**29.7**	**6.2**	**5.8**

GOODALE OFF-RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
WB on Segment ID 720491534				
1	1,461	43.5	4.9	16.9
2	1,443	43.3	4.6	17.3
3	1,474	43.9	5.2	15.5
4	1,448	43.4	4.9	16.5
5	1,430	43.0	4.7	17.3
6	1,457	43.3	5.1	16.5
7	1,473	43.2	4.7	15.9
8	1,449	43.4	4.9	15.4
9	1,489	43.8	4.9	17.0
10	1,456	43.3	5.0	16.8
Average:	**1,458.1**	**43.4**	**4.9**	**16.5**

I 670

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
SWB on Segment ID 720491495				
1	5,153	52.5	4.4	30.4
2	5,228	51.7	4.6	31.2
3	5,253	52.3	4.5	30.3
4	5,173	52.4	4.6	30.2
5	5,149	52.3	4.4	30.8
6	5,243	51.5	4.6	31.0
7	5,171	52.6	4.3	30.4
8	5,228	52.7	4.2	29.7
9	5,261	52.3	4.4	31.2
10	5,275	52.4	4.4	30.6
Average:	**5,213.3**	**52.3**	**4.4**	**30.6**
SWB on Segment ID 720491522				
1	3,925	14.6	14.0	90.8
2	3,971	15.7	14.5	86.1
3	3,976	15.7	14.7	85.9
4	3,909	15.3	15.0	87.1

I 670

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
5	3,899	15.4	15.2	86.5
6	4,014	16.1	14.6	85.0
7	3,941	14.9	14.0	89.9
8	3,957	15.1	14.1	88.7
9	4,004	16.4	15.2	83.0
10	4,002	15.9	14.5	85.6
Average:	**3,959.9**	**15.5**	**14.6**	**86.9**
SWB on Segment ID 720491523				
1	5,312	12.6	8.1	93.1
2	5,373	12.9	8.9	87.8
3	5,365	13.3	9.5	85.0
4	5,278	12.6	8.8	94.1
5	5,295	12.2	9.0	90.8
6	5,398	12.7	7.3	88.4
7	5,310	12.8	7.3	87.7
8	5,344	11.5	6.7	95.0
9	5,362	12.5	8.3	89.7
10	5,463	13.9	9.0	86.8
Average:	**5,350.0**	**12.7**	**8.3**	**89.8**
SWB on Segment ID 720491524				
1	5,245	26.1	9.0	52.5
2	5,341	27.9	9.1	51.3
3	5,300	27.1	9.3	51.2
4	5,231	26.4	9.4	53.1
5	5,252	25.4	8.9	54.1
6	5,358	28.3	8.4	50.7
7	5,237	27.1	8.5	51.8
8	5,297	26.5	8.5	52.7
9	5,291	27.3	9.0	52.3
10	5,358	28.5	9.4	50.2
Average:	**5,290.9**	**27.1**	**9.0**	**52.0**
SWB on Segment ID 720491525				
1	6,427	27.1	10.3	63.0
2	6,464	27.3	10.3	62.1
3	6,515	27.1	9.5	63.2
4	6,454	26.3	10.1	65.2
5	6,405	26.0	10.2	65.2
6	6,507	28.0	9.8	60.9
7	6,427	26.6	10.0	63.6

I 670

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
8	6,438	26.7	9.7	63.9
9	6,485	27.4	9.9	62.5
10	6,486	28.7	9.8	58.9
Average:	**6,460.9**	**27.1**	**10.0**	**62.9**
SWB on Segment ID 720491585				
1	5,303	15.6	7.6	89.5
2	5,380	15.7	7.1	89.4
3	5,354	16.4	8.4	87.8
4	5,277	15.3	7.8	91.5
5	5,271	15.3	7.7	91.4
6	5,390	15.9	6.8	92.2
7	5,278	15.6	7.3	90.9
8	5,346	15.1	6.8	94.6
9	5,352	16.2	7.6	89.9
10	5,423	16.2	7.6	86.3
Average:	**5,337.3**	**15.7**	**7.5**	**90.4**
SWB on Segment ID 720491586				
1	5,265	20.9	8.7	68.0
2	5,365	21.5	8.6	64.9
3	5,321	21.6	9.3	66.7
4	5,214	20.5	8.6	66.9
5	5,276	20.5	8.4	67.3
6	5,358	21.7	8.1	66.3
7	5,247	21.2	8.3	67.9
8	5,323	20.8	8.3	65.8
9	5,309	21.9	8.7	67.1
10	5,410	21.7	8.5	66.5
Average:	**5,308.7**	**21.2**	**8.6**	**66.7**
WB on Segment ID 720491515				
1	6,261	50.1	5.9	32.7
2	6,349	49.3	5.9	33.3
3	6,392	49.9	5.7	33.5
4	6,282	49.7	5.8	32.8
5	6,305	49.8	5.6	32.8
6	6,402	49.8	5.8	33.5
7	6,341	49.6	6.0	33.6
8	6,329	49.7	5.9	33.5
9	6,337	49.5	5.8	33.7
10	6,374	50.0	5.3	33.1

I 670

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
Average:	**6,337.3**	**49.7**	**5.8**	**33.3**
WB on Segment ID 720491529				
1	7,749	25.5	10.3	63.8
2	7,796	25.7	10.1	63.6
3	7,864	25.9	9.8	63.4
4	7,733	24.6	9.8	65.2
5	7,784	25.2	10.4	64.3
6	7,824	26.0	9.5	65.2
7	7,820	25.2	10.4	65.1
8	7,794	25.5	10.2	64.3
9	7,820	25.7	10.3	65.2
10	7,827	25.8	10.3	65.2
Average:	**7,801.2**	**25.5**	**10.1**	**64.5**
WB on Segment ID 720491538				
1	4,446	31.5	11.1	50.2
2	4,491	32.7	10.6	48.0
3	4,499	33.8	10.5	47.0
4	4,447	31.1	11.1	50.5
5	4,441	30.1	10.7	51.3
6	4,561	34.1	10.1	47.5
7	4,453	32.7	10.8	48.2
8	4,453	32.3	10.1	49.4
9	4,482	33.7	10.5	45.9
10	4,539	34.4	10.6	46.4
Average:	**4,481.3**	**32.6**	**10.6**	**48.4**
WB on Segment ID 720491540				
1	3,842	32.3	11.1	63.4
2	3,888	33.2	10.4	61.9
3	3,899	34.3	10.7	60.8
4	3,864	31.2	10.3	65.3
5	3,831	31.8	11.4	63.8
6	3,947	34.9	10.2	59.3
7	3,846	33.0	10.8	62.6
8	3,877	32.1	9.9	63.5
9	3,907	34.6	9.9	59.3
10	3,929	36.2	10.4	57.2
Average:	**3,883.0**	**33.4**	**10.5**	**61.7**

I 670

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
WB on Segment ID 720491584				
1	7,749	38.5	7.1	43.6
2	7,784	38.0	7.3	43.0
3	7,856	38.1	7.3	43.4
4	7,751	37.8	7.1	43.5
5	7,766	38.1	7.3	43.5
6	7,827	38.3	6.9	42.7
7	7,830	37.4	7.5	43.6
8	7,781	38.4	7.1	43.1
9	7,815	38.4	7.0	42.4
10	7,819	38.8	7.6	42.8
Average:	**7,797.7**	**38.2**	**7.2**	**43.2**

N 4TH ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
EB on Segment ID 720475346				
1	9	--	--	0.0
2	13	25.5	--	1.0
3	17	--	--	0.0
4	8	--	--	0.0
5	11	--	--	0.0
6	12	--	--	0.0
7	11	--	--	0.0
8	12	--	--	0.0
9	12	--	--	0.0
10	12	--	--	0.0
Average:	**11.6**	**2.6**	**0.0**	**0.1**
NB on Segment ID 720474309				
1	2,304	9.8	12.7	76.1
2	2,306	9.5	12.5	78.0
3	2,307	10.4	13.2	71.4
4	2,314	10.5	13.1	73.3
5	2,284	9.8	12.6	76.7
6	2,301	9.8	12.9	74.7
7	2,310	10.4	13.1	71.5
8	2,321	10.3	13.0	72.3
9	2,314	10.1	13.0	73.6
10	2,309	10.0	13.0	74.7
Average:	**2,306.9**	**10.1**	**12.9**	**74.2**

N 4TH ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
NB on Segment ID 720474313				
1	2,747	9.2	10.7	78.0
2	2,756	9.9	10.8	80.3
3	2,812	9.7	10.6	77.8
4	2,777	9.8	10.5	81.9
5	2,786	9.4	10.5	83.1
6	2,787	9.3	10.0	81.5
7	2,846	10.3	10.7	79.5
8	2,713	10.0	10.4	81.3
9	2,761	9.7	10.5	81.7
10	2,727	9.8	10.3	80.1
Average:	**2,771.1**	**9.7**	**10.5**	**80.5**
NB on Segment ID 720474315				
1	2,130	10.3	8.2	92.5
2	2,164	10.0	8.0	93.1
3	2,172	10.6	7.9	92.5
4	2,180	10.6	8.0	90.1
5	2,167	10.6	8.3	90.6
6	2,169	10.2	8.1	92.8
7	2,241	10.7	8.0	90.8
8	2,127	10.7	8.6	91.1
9	2,190	10.4	7.6	91.1
10	2,122	10.5	8.1	91.0
Average:	**2,166.0**	**10.5**	**8.1**	**91.6**
NB on Segment ID 720475191				
1	1,986	15.6	11.7	71.8
2	2,008	14.0	12.1	76.6
3	2,052	15.4	11.7	74.8
4	2,010	17.4	11.5	61.2
5	2,024	14.6	11.6	73.9
6	1,981	13.8	12.4	74.4
7	1,998	14.9	11.7	72.9
8	1,984	15.2	11.6	72.6
9	2,002	17.3	10.4	66.2
10	2,012	13.7	12.1	75.2
Average:	**2,005.7**	**15.2**	**11.7**	**72.0**
NB on Segment ID 720475198				
1	2,675	37.6	5.7	11.4
2	2,665	38.2	5.7	13.0

N 4TH ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
3	2,675	37.5	6.2	15.4
4	2,653	37.0	6.3	14.2
5	2,664	37.0	4.5	12.3
6	2,626	36.2	4.8	15.7
7	2,725	38.5	5.3	12.5
8	2,674	37.9	6.2	13.9
9	2,682	37.3	6.0	12.9
10	2,718	35.8	4.4	13.0
Average:	**2,675.7**	**37.3**	**5.5**	**13.4**

NB on Segment ID 720475199

1	2,570	24.6	6.7	59.7
2	2,569	25.3	6.6	48.6
3	2,659	25.0	6.2	57.9
4	2,522	24.6	6.5	57.4
5	2,617	24.2	6.7	55.6
6	2,577	25.3	6.7	54.2
7	2,613	24.6	6.2	61.3
8	2,608	24.1	6.5	64.7
9	2,603	25.2	6.2	58.8
10	2,609	24.1	6.7	57.3
Average:	**2,594.7**	**24.7**	**6.5**	**57.6**

NB on Segment ID 720475200

1	2,662	33.2	4.4	40.4
2	2,661	32.9	5.0	40.5
3	2,699	32.5	4.9	41.3
4	2,619	33.2	4.6	42.2
5	2,666	33.0	4.5	42.4
6	2,685	32.7	4.9	42.2
7	2,735	33.2	4.5	40.6
8	2,662	32.5	4.2	44.5
9	2,684	33.1	5.1	40.7
10	2,701	33.0	4.3	43.6
Average:	**2,677.3**	**32.9**	**4.6**	**41.8**

NB on Segment ID 720491582

1	2,657	30.0	4.7	45.1
2	2,649	28.3	4.5	47.3
3	2,699	29.0	6.4	43.4
4	2,623	29.2	5.4	59.0
5	2,673	29.9	5.0	44.4

N 4TH ST

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
6	2,683	29.7	6.1	52.3
7	2,732	27.8	5.2	40.9
8	2,669	28.7	4.2	39.2
9	2,682	30.8	4.8	56.5
10	2,700	28.0	4.4	45.4
Average:	**2,676.7**	**29.1**	**5.1**	**47.4**
WB on Segment ID 720475346				
1	11	0.0	--	8.7
2	15	0.4	1.4	24.9
3	9	0.0	--	8.5
4	10	1.5	--	2.0
5	10	1.5	--	4.9
6	9	4.9	--	6.0
7	10	1.3	4.0	13.7
8	12	0.0	--	5.4
9	11	0.0	--	8.0
10	10	0.3	--	5.6
Average:	**10.7**	**1.0**	**0.5**	**8.8**

NB I-71 ON-RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
WB on Segment ID 720491577				
1	2,598	47.3	4.7	18.7
2	2,598	47.5	4.6	19.2
3	2,605	47.8	5.0	18.7
4	2,600	47.6	4.6	19.0
5	2,591	47.6	4.6	19.1
6	2,597	47.3	4.6	18.9
7	2,600	47.8	5.0	19.0
8	2,604	47.6	4.5	18.9
9	2,601	47.3	4.7	19.4
10	2,604	47.3	4.7	19.0
Average:	**2,599.7**	**47.5**	**4.7**	**19.0**
WB on Segment ID 720491578				
1	2,607	47.0	4.9	18.4
2	2,590	46.9	4.7	18.8
3	2,595	46.9	4.4	19.4
4	2,590	46.9	4.5	19.2
5	2,594	46.9	4.5	19.3

NB I-71 ON-RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
6	2,596	46.9	4.8	18.9
7	2,605	46.2	4.8	19.1
8	2,615	46.6	4.7	18.8
9	2,604	46.8	4.8	19.2
10	2,611	46.8	5.0	19.1
Average:	**2,600.8**	**46.8**	**4.7**	**19.0**
WB on Segment ID 720491579				
1	2,586	40.3	5.9	34.0
2	2,589	40.5	6.2	33.5
3	2,585	40.6	6.4	33.4
4	2,598	39.3	7.2	34.2
5	2,583	39.8	7.2	34.2
6	2,604	40.8	5.4	33.3
7	2,599	39.7	6.2	34.1
8	2,600	40.1	5.9	33.9
9	2,598	40.8	5.6	33.1
10	2,607	41.2	5.8	33.0
Average:	**2,594.9**	**40.3**	**6.2**	**33.7**

RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
NB on Segment ID 720491516				
1	1,092	39.0	4.0	29.2
2	1,114	39.6	4.1	29.0
3	1,095	39.2	3.7	29.4
4	1,085	39.7	3.9	28.6
5	1,076	39.5	4.0	28.4
6	1,121	39.9	4.0	29.3
7	1,099	39.5	3.8	28.5
8	1,095	39.3	3.8	28.8
9	1,065	39.4	3.9	29.0
10	1,129	39.0	3.9	29.4
Average:	**1,097.2**	**39.4**	**3.9**	**29.0**
SB on Segment ID 720491465				
1	676	44.8	5.5	8.8
2	713	44.2	5.2	8.4
3	687	44.4	5.5	8.0
4	682	45.0	5.5	8.4
5	695	45.2	5.6	8.3

RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
6	701	44.6	5.7	8.5
7	694	45.1	6.1	7.9
8	686	44.4	5.8	8.6
9	708	44.7	5.4	8.5
10	712	44.2	5.5	8.1
Average:	**695.4**	**44.7**	**5.6**	**8.4**
SWB on Segment ID 720491487				
1	741	5.6	7.9	134.9
2	744	5.6	8.5	130.7
3	757	5.7	8.0	134.9
4	735	5.5	7.9	134.7
5	745	5.5	7.8	136.0
6	765	5.7	7.9	133.4
7	750	5.5	8.1	135.9
8	756	5.4	7.8	138.7
9	759	5.5	7.6	136.4
10	752	5.6	8.0	134.7
Average:	**750.3**	**5.6**	**8.0**	**135.0**
WB on Segment ID 720491464				
1	116	44.8	6.1	2.6
2	119	48.1	7.1	1.4
3	116	45.7	6.9	2.7
4	112	43.8	5.6	3.2
5	98	44.2	5.4	2.4
6	104	43.0	5.3	3.3
7	117	42.2	6.1	2.3
8	106	45.9	5.9	3.2
9	118	43.7	6.0	2.8
10	113	42.5	5.3	2.5
Average:	**111.8**	**44.4**	**6.0**	**2.6**
WB on Segment ID 720491520				
1	691	5.0	5.6	147.9
2	705	4.7	5.7	148.8
3	704	4.7	5.2	152.7
4	688	4.9	5.8	150.3
5	684	4.7	5.2	152.3
6	695	4.6	5.1	151.5
7	721	4.9	5.5	148.3
8	714	4.7	5.3	152.1

RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
9	710	4.7	5.2	150.9
10	713	4.7	5.3	148.9
Average:	**702.6**	**4.8**	**5.4**	**150.4**

SB I-71 ON-RAMP

Run	Flow	Average Speed (mph)	Std Dev Speed (mph)	Average Density (pc/mi/ln)
SWB on Segment ID 720491521				
1	1,614	22.4	18.7	38.5
2	1,604	26.0	19.0	32.8
3	1,615	24.5	18.8	34.7
4	1,611	19.9	18.5	41.8
5	1,615	14.2	16.1	60.8
6	1,606	26.6	18.8	31.2
7	1,614	29.4	18.0	29.4
8	1,617	19.9	18.0	41.6
9	1,605	19.1	17.8	44.8
10	1,599	28.7	18.8	28.8
Average:	**1,610.0**	**23.1**	**18.3**	**38.4**

Project: I-670 Build
Scenario: Build PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:00:00 - 17:00:00
Interval: Summary
Selection: --

Segment Statistics - Flow

Segment ID	Average	Std Deviation	Minimum	Maximum	# Samples
720491587	2,322.7	2,195.3	8.3	7,864.2	10

Project: I-670 Build
Scenario: Build PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:00:00 - 17:00:00
Interval: Summary
Selection: --

Segment Statistics - Avg Speed

Segment ID	Average	Std Deviation	Minimum	Maximum	# Samples
720491587	25.1	15.6	0.0	52.7	10

Project: I-670 Build
Scenario: Build PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:00:00 - 17:00:00
Interval: Summary
Selection: --

Segment Statistics - Std Dev Speed

Segment ID	Average	Std Deviation	Minimum	Maximum	# Samples
720491587	7.7	3.5	1.4	19.0	10

Project: I-670 Build
Scenario: Build PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:00:00 - 17:00:00
Interval: Summary
Selection: --

Segment Statistics - Density

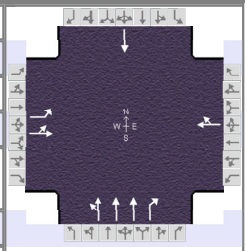
Segment ID	Average	Std Deviation	Minimum	Maximum	# Samples
720491587	49.2	42.2	0.0	156.6	10

Intersection Analysis

No-Build

HCS Signalized Intersection Input Data

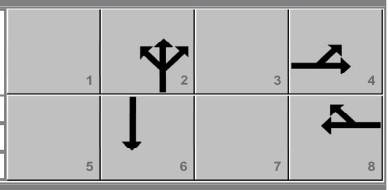
General Information				Intersection Information	
Agency	Burgess & Niple			Duration, h	0.250
Analyst	Kyle Bright	Analysis Date	Oct 19, 2022	Area Type	Other
Jurisdiction		Time Period	AM Peak Hour	PHF	0.95
Urban Street	N 4th St	Analysis Year	2045 No Build and Build	Analysis Period	1> 7:00
Intersection	N 4th St & Goodale St	File Name	N 4th St and Goodale St AM.xus		
Project Description	I-670 & 4th Street IOS				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	660	40			10	10	140	1020	10		0	

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	68.7	29.2	4.0	0.0	0.0	0.0	
Yellow	4.0	4.0	4.0	0.0	0.0	0.0	
Red	2.0	2.0	2.0	0.0	0.0	0.0	



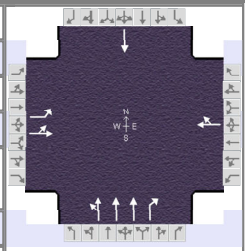
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	660	40			10	10	140	1020	10		0	
Initial Queue (Q_b), veh/h	0	0			0	0	0	0	0		0	
Base Saturation Flow Rate (s_o), veh/h	1900	1900			1900	1900	1900	1900	1900		1900	
Parking (N_m), man/h	0	L			None			None			None	
Heavy Vehicles (P_{HV}), %	6	6			1			5	5		0	
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3			3	3	3	3	3		3	
Upstream Filtering (*I*)	1.00	1.00			1.00	1.00	1.00	1.00	1.00		1.00	
Lane Width (*W*), ft	12.0	12.0			12.0			12.0	12.0		12.0	
Turn Bay Length, ft	190	300			130			700	170		675	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	35	35			35	35	35	35	35		35	

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s		73.0		19.0		28.0		28.0
Yellow Change Interval (*Y*), s		4.0		4.0		4.0		4.0
Red Clearance Interval (R_c), s		2.0		2.0		2.0		0.0
Minimum Green (G_{min}), s		8		8		20		6
Start-Up Lost Time (*l*t), s	2.0	2.0		2.0	2.0	2.0		2.0
Extension of Effective Green (*e*), s	2.0	2.0		2.0	2.0	2.0		2.0
Passage (*PT*), s		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Min		Min
Dual Entry		Yes		Yes		Yes		Yes
Walk (*Walk*), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

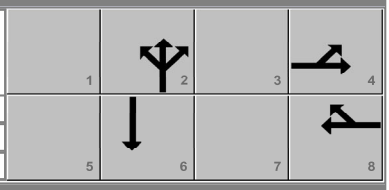
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Burgess & Niple			Duration, h	0.250
Analyst	Kyle Bright	Analysis Date	Oct 19, 2022	Area Type	Other
Jurisdiction		Time Period	AM Peak Hour	PHF	0.95
Urban Street	N 4th St	Analysis Year	2045 No Build and Build	Analysis Period	1> 7:00
Intersection	N 4th St & Goodale St	File Name	N 4th St and Goodale St AM.xus		
Project Description	I-670 & 4th Street IOS				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	660	40			10	10	140	1020	10		0	

Signal Information													
Cycle, s	120.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	68.7	29.2	4.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	4.0	4.0	0.0	0.0	0.0			
				Red	2.0	2.0	2.0	0.0	0.0	0.0			



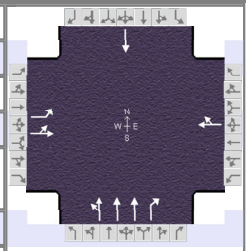
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		10.0		12.0		7.0		8.0
Phase Duration, s		35.2		10.0		74.7		74.7
Change Period, ($Y+R_c$), s		6.0		6.0		6.0		6.0
Max Allow Headway (*MAH*), s		3.1		3.2		0.0		0.0
Queue Clearance Time (g_s), s		27.8		3.4				
Green Extension Time (g_e), s		1.4		0.0		0.0		0.0
Phase Call Probability		1.00		0.50				
Max Out Probability		0.00		0.00				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4			8	18	5	2	12		6	
Adjusted Flow Rate (*v*), veh/h	382	355			21		499	722	11		0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1725	1735			1730		1674	1228	1547		1900	
Queue Service Time (g_s), s	25.8	23.3			1.4		19.2	14.2	0.4		0.0	
Cycle Queue Clearance Time (g_c), s	25.8	23.3			1.4		21.6	14.2	0.4		0.0	
Green Ratio (*g/C*)	0.24	0.24			0.03		0.57	0.57	0.57		0.57	
Capacity (*c*), veh/h	420	423			58		997	1407	886		1088	
Volume-to-Capacity Ratio (*X*)	0.909	0.839			0.362		0.500	0.513	0.012		0.000	
Back of Queue (*Q*), ft/ln (95 th percentile)	437.9	399.8			29.1		326.9	239.4	5.8		0	
Back of Queue (*Q*), veh/ln (95 th percentile)	16.7	15.3			1.2		13.1	9.2	0.2		0.0	
Queue Storage Ratio (*RQ*) (95 th percentile)	2.30	1.33			0.22		0.49	0.34	0.03		0.00	
Uniform Delay (d_1), s/veh	44.1	43.1			56.7		15.5	14.0	11.0		0.0	
Incremental Delay (d_2), s/veh	3.2	1.7			1.4		1.8	1.3	0.0		0.0	
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0		0.0	0.0	0.0		0.0	
Control Delay (*d*), s/veh	47.3	44.9			58.1		17.3	15.3	11.1		0.0	
Level of Service (LOS)	D	D			E		B	B	B			
Approach Delay, s/veh / LOS	46.1	D		58.1	E		16.1	B		0.0		
Intersection Delay, s/veh / LOS	27.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.32	B	2.15	B	1.67	B	1.89	B
Bicycle LOS Score / LOS	1.70	B	0.52	A	1.16	A	0.49	A

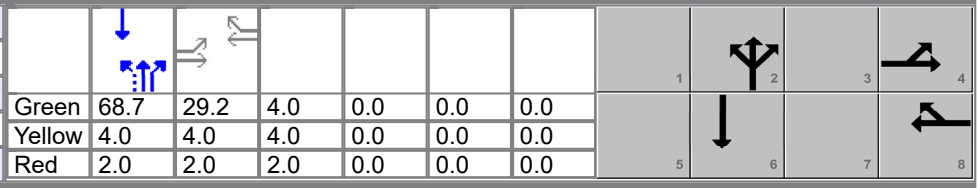
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	Burgess & Niple			Duration, h	0.250
Analyst	Kyle Bright	Analysis Date	Oct 19, 2022	Area Type	Other
Jurisdiction		Time Period	AM Peak Hour	PHF	0.95
Urban Street	N 4th St	Analysis Year	2045 No Build and Build	Analysis Period	1> 7:00
Intersection	N 4th St & Goodale St	File Name	N 4th St and Goodale St AM.xus		
Project Description	I-670 & 4th Street IOS				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	660	40			10	10	140	1020	10		0	

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	68.7	29.2	4.0	0.0	0.0	0.0						
Yellow	4.0	4.0	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.0	0.0	0.0	0.0						

Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.953	0.953	1.000	1.000	0.992	1.000	1.000	0.961	0.961	1.000	1.000	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.739	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.917	0.917		0.917	0.917		1.000	1.000	
Right-Turn Adjustment Factor (f_{RT})		1.000	1.000		0.000	0.000		0.000	0.847		0.000	1.000
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)												
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)							1.00			1.00		
Movement Saturation Flow Rate (s), veh/h	1725	1735	0	0	865	865	494	3636	1547	0	1900	0
Proportion of Vehicles Arriving on Green (P)	0.24	0.24	0.00	0.00	0.03	0.03	0.57	0.57	0.57	0.00	0.00	0.00
Incremental Delay Factor (k)	0.04	0.04			0.04		0.50	0.50	0.50			

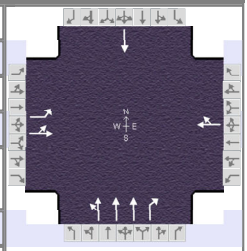
Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)		4.0		6.0		6.0		6.0
Green Ratio (g/C)		0.24		0.03		0.57		0.57
Permitted Saturation Flow Rate (s_p), veh/h/ln		1725		0		1440		534
Shared Saturation Flow Rate (s_{sh}), veh/h/ln						0		0
Permitted Effective Green Time (g_p), s		0.0		0.0		68.7		0.0
Permitted Service Time (g_u), s		0.0		0.0		68.7		0.0
Permitted Queue Service Time (g_{ps}), s						19.2		
Time to First Blockage (g_f), s		0.0		0.0		2.3		68.7
Queue Service Time Before Blockage (g_{fs}), s						2.3		
Protected Right Saturation Flow (s_R), veh/h/ln						0		
Protected Right Effective Green Time (g_R), s						0.0		

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.557	0.000	1.389	0.000	0.972	0.000	1.198	0.000
Pedestrian F_s / F_{delay}	0.000	0.161	0.000	0.164	0.000	0.096	0.000	0.093
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	67.24	56.03		67.20	1145.40	10.96	1178.74	10.12

Bicycle F_w / F_v	-3.64	1.22	-3.64	0.03	-3.64	0.68	-3.64	0.00

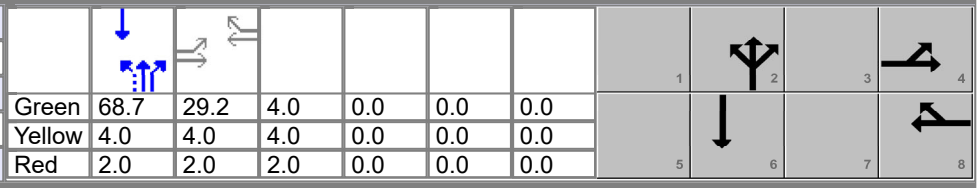
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	Burgess & Niple			Duration, h	0.250
Analyst	Kyle Bright	Analysis Date	Oct 19, 2022	Area Type	Other
Jurisdiction		Time Period	AM Peak Hour	PHF	0.95
Urban Street	N 4th St	Analysis Year	2045 No Build and Build	Analysis Period	1> 7:00
Intersection	N 4th St & Goodale St	File Name	N 4th St and Goodale St AM.xus		
Project Description	I-670 & 4th Street IOS				



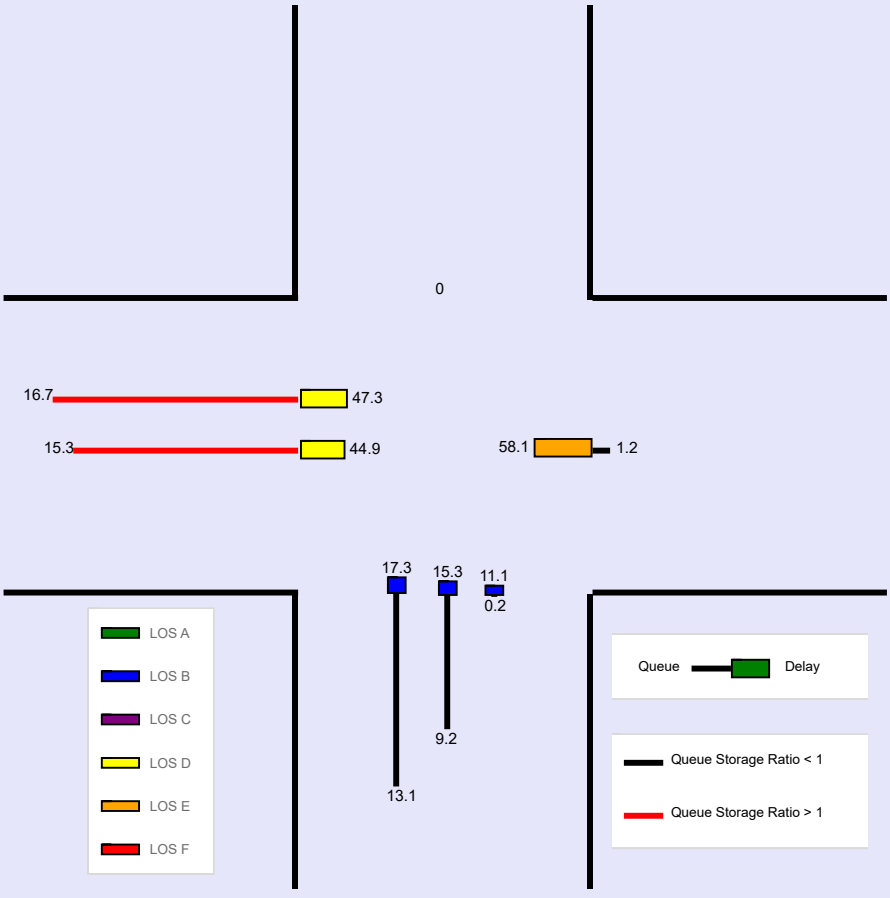
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	660	40			10	10	140	1020	10		0	

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	68.7	29.2	4.0	0.0	0.0	0.0
Yellow	4.0	4.0	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.0	0.0	0.0	0.0

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	437.9	399.8			29.1		326.9	239.4	5.8		0	
Back of Queue (*Q*), veh/ln (95 th percentile)	16.7	15.3			1.2		13.1	9.2	0.2		0.0	
Queue Storage Ratio (*RQ*) (95 th percentile)	2.30	1.33			0.22		0.49	0.34	0.03		0.00	
Control Delay (*d*), s/veh	47.3	44.9			58.1		17.3	15.3	11.1		0.0	
Level of Service (LOS)	D	D			E		B	B	B			
Approach Delay, s/veh / LOS	46.1	D		58.1	E		16.1	B		0.0		
Intersection Delay, s/veh / LOS	27.7	C										



--- Messages ---

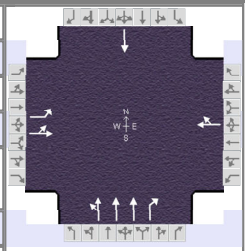
WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

WARNING: The shared-plus-exclusive turn lane solution is an approximation of the HCM method, because more than three lane groups cannot be accommodated. Input data for Percent Turns in Shared Lane are used to specify proportion of turning vehicles in the shared lane.

--- Comments ---

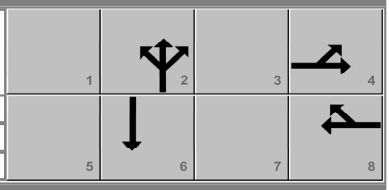
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Burgess & Niple			Duration, h	0.250
Analyst	Kyle Bright	Analysis Date	Oct 19, 2022	Area Type	Other
Jurisdiction		Time Period	PM Peak Hour	PHF	0.93
Urban Street	N 4th St	Analysis Year	2045 No Build and Build	Analysis Period	1> 17:00
Intersection	N 4th St & Goodale St	File Name	N 4th St and Goodale St PM.xus		
Project Description	I-670 & 4th Street IOS				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	790	10			10	20	160	2130	10		0	

Signal Information					EB			WB			NB			SB		
Cycle, s	120.0	Reference Phase	2		L	T	R	L	T	R	L	T	R	L	T	R
Offset, s	0	Reference Point	End	Green	62.8	34.0	5.3	0.0	0.0	0.0						
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.0	4.0	4.0	0.0	0.0	0.0						
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	2.0	2.0	0.0	0.0	0.0						



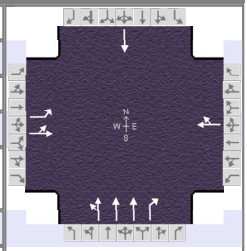
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	790	10			10	20	160	2130	10		0	
Initial Queue (Q_b), veh/h	0	0			0	0	0	0	0		0	
Base Saturation Flow Rate (s_o), veh/h	1900	1900			1900	1900	1900	1900	1900		1900	
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	1	1			2			1	1		0	
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3			3	3	3	3	3		3	
Upstream Filtering (*I*)	1.00	1.00			1.00	1.00	1.00	1.00	1.00		1.00	
Lane Width (*W*), ft	12.0	12.0			12.0			12.0	12.0		12.0	
Turn Bay Length, ft	190	300			130			700	170		675	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	35	35			35	35	35	35	35		35	

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s		69.0		21.0		30.0		30.0
Yellow Change Interval (*Y*), s		4.0		4.0		4.0		4.0
Red Clearance Interval (R_c), s		2.0		2.0		2.0		2.0
Minimum Green (G_{min}), s		8		8		20		6
Start-Up Lost Time (*l*t), s	2.0	2.0		2.0	2.0	2.0		2.0
Extension of Effective Green (*e*), s	2.0	2.0		2.0	2.0	2.0		2.0
Passage (*PT*), s		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Min		Min
Dual Entry		Yes		Yes		Yes		Yes
Walk (*Walk*), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Burgess & Niple			Duration, h	0.250
Analyst	Kyle Bright	Analysis Date	Oct 19, 2022	Area Type	Other
Jurisdiction		Time Period	PM Peak Hour	PHF	0.93
Urban Street	N 4th St	Analysis Year	2045 No Build and Build	Analysis Period	1> 17:00
Intersection	N 4th St & Goodale St	File Name	N 4th St and Goodale St PM.xus		
Project Description	I-670 & 4th Street IOS				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	790	10			10	20	160	2130	10		0	

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4
Green	62.8	34.0	5.3	0.0	0.0	0.0	5	6	7	8
Yellow	4.0	4.0	4.0	0.0	0.0	0.0				
Red	2.0	2.0	2.0	0.0	0.0	0.0				

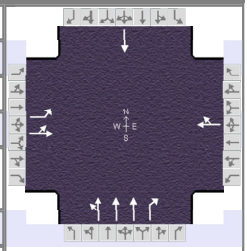
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		10.0		12.0		7.0		8.0
Phase Duration, s		40.0		11.3		68.8		68.8
Change Period, (*Y+R c*), s		6.0		6.0		6.0		6.0
Max Allow Headway (*MAH*), s		3.1		3.3		0.0		0.0
Queue Clearance Time (*g s*), s		32.3		4.3				
Green Extension Time (*g e*), s		1.7		0.0		0.0		0.0
Phase Call Probability		1.00		0.66				
Max Out Probability		0.00		0.00				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4			8	18	5	2	12		6	
Adjusted Flow Rate (*v*), veh/h	467	393			32		928	1534	11		0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1795	1798			1670		1781	1523	1598		1900	
Queue Service Time (*g s*), s	30.3	24.1			2.3		61.4	46.3	0.4		0.0	
Cycle Queue Clearance Time (*g c*), s	30.3	24.1			2.3		62.3	46.3	0.4		0.0	
Green Ratio (*g/C*)	0.28	0.28			0.04		0.52	0.52	0.52		0.52	
Capacity (*c*), veh/h	508	509			73		967	1593	836		994	
Volume-to-Capacity Ratio (*X*)	0.919	0.772			0.440		0.960	0.963	0.013		0.000	
Back of Queue (*Q*), ft/ln (95 th percentile)	493.8	401.5			44.7		983.6	722.9	6.6		0	
Back of Queue (*Q*), veh/ln (95 th percentile)	19.6	15.9			1.8		39.3	28.7	0.3		0.0	
Queue Storage Ratio (*RQ*) (95 th percentile)	2.60	1.34			0.34		1.42	1.03	0.04		0.00	
Uniform Delay (*d 1*), s/veh	41.7	39.5			55.9		28.5	24.7	13.7		0.0	
Incremental Delay (*d 2*), s/veh	3.0	1.0			1.5		20.7	15.4	0.0		0.0	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0			0.0		0.0	0.0	0.0		0.0	
Control Delay (*d*), s/veh	44.7	40.4			57.5		49.2	40.0	13.8		0.0	
Level of Service (LOS)	D	D			E		D	D	B			
Approach Delay, s/veh / LOS	42.7	D		57.5	E		43.4	D		0.0		
Intersection Delay, s/veh / LOS	43.3						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.32	B	2.15	B	1.68	B	1.90	B
Bicycle LOS Score / LOS	1.91	B	0.54	A	1.85	B	0.49	A

HCS Signalized Intersection Intermediate Values

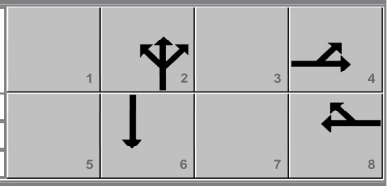
General Information				Intersection Information	
Agency	Burgess & Niple			Duration, h	0.250
Analyst	Kyle Bright	Analysis Date	Oct 19, 2022	Area Type	Other
Jurisdiction		Time Period	PM Peak Hour	PHF	0.93
Urban Street	N 4th St	Analysis Year	2045 No Build and Build	Analysis Period	1> 17:00
Intersection	N 4th St & Goodale St	File Name	N 4th St and Goodale St PM.xus		
Project Description	I-670 & 4th Street IOS				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	790	10			10	20	160	2130	10		0	

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	62.8	34.0	5.3	0.0	0.0	0.0
Yellow	4.0	4.0	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.0	0.0	0.0	0.0



Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.992	0.992	1.000	1.000	0.984	1.000	1.000	0.992	0.992	1.000	1.000	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.888	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.893	0.893		0.945	0.945		1.000	1.000	
Right-Turn Adjustment Factor (f_{RT})		1.000	1.000		0.000	0.000		0.000	0.847		0.000	1.000
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)												
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)							1.00			1.00		
Movement Saturation Flow Rate (s), veh/h	1795	1798	0	0	557	1113	330	4496	1598	0	1900	0
Proportion of Vehicles Arriving on Green (P)	0.28	0.28	0.00	0.00	0.04	0.04	0.52	0.52	0.52	0.00	0.00	0.00
Incremental Delay Factor (k)	0.04	0.04			0.04		0.50	0.50	0.50			

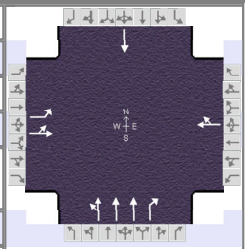
Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)		4.0		6.0		6.0		6.0
Green Ratio (g/C)		0.28		0.04		0.52		0.52
Permitted Saturation Flow Rate (s_p), veh/h/ln		1795		0		1440		164
Shared Saturation Flow Rate (s_{sh}), veh/h/ln						0		0
Permitted Effective Green Time (g_p), s		0.0		0.0		62.8		0.0
Permitted Service Time (g_u), s		0.0		0.0		62.8		0.0
Permitted Queue Service Time (g_{ps}), s						61.4		
Time to First Blockage (g_f), s		0.0		0.0		0.9		62.8
Queue Service Time Before Blockage (g_{fs}), s						0.9		
Protected Right Saturation Flow (s_R), veh/h/ln						0		
Protected Right Effective Green Time (g_R), s						0.0		

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.557	0.000	1.389	0.000	0.972	0.000	1.198	0.000
Pedestrian F_s / F_{delay}	0.000	0.161	0.000	0.164	0.000	0.105	0.000	0.105
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	87.84	54.85		67.20	1046.09	13.65	1046.09	13.65

Bicycle F_w / F_v	-3.64	1.42	-3.64	0.05	-3.64	1.36	-3.64	0.00

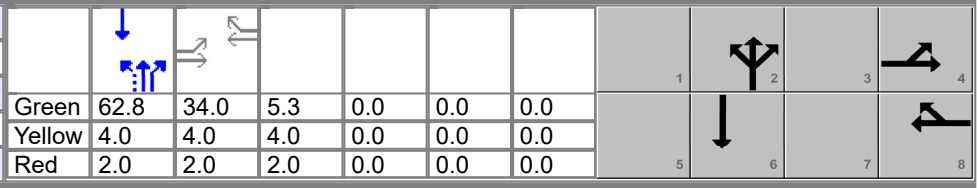
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	Burgess & Niple			Duration, h	0.250
Analyst	Kyle Bright	Analysis Date	Oct 19, 2022	Area Type	Other
Jurisdiction		Time Period	PM Peak Hour	PHF	0.93
Urban Street	N 4th St	Analysis Year	2045 No Build and Build	Analysis Period	1> 17:00
Intersection	N 4th St & Goodale St	File Name	N 4th St and Goodale St PM.xus		
Project Description	I-670 & 4th Street IOS				



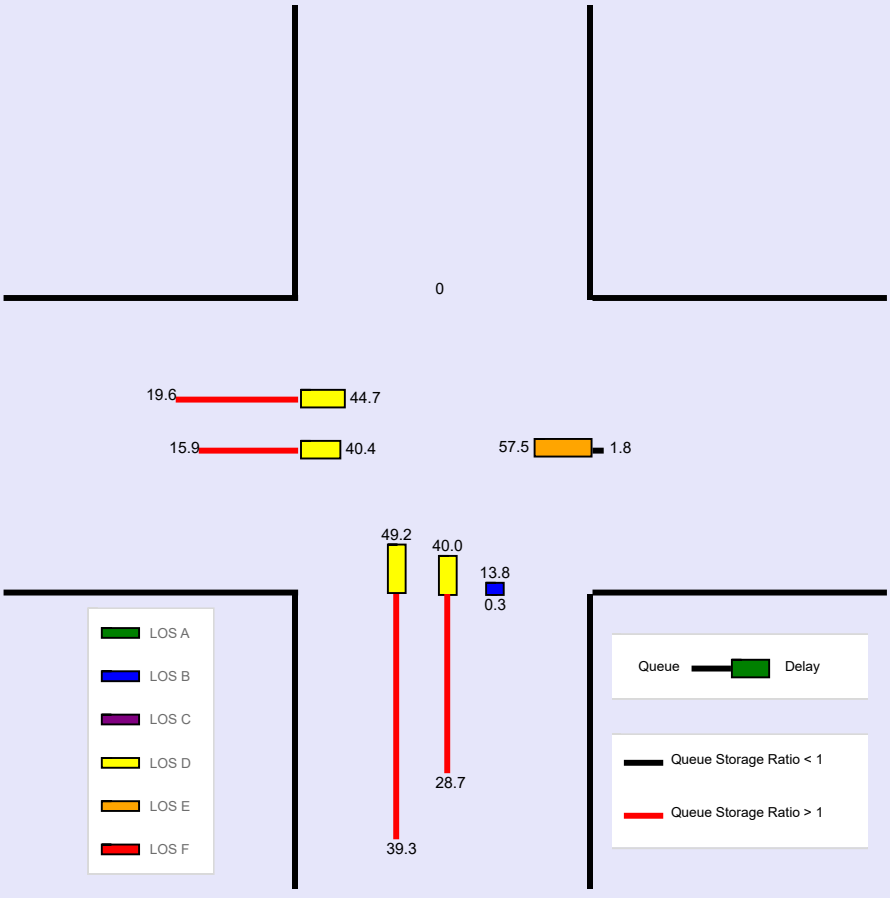
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	790	10			10	20	160	2130	10		0	

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	62.8	34.0	5.3	0.0	0.0	0.0						
Yellow	4.0	4.0	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.0	0.0	0.0	0.0						

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	493.8	401.5			44.7		983.6	722.9	6.6		0	
Back of Queue (*Q*), veh/ln (95 th percentile)	19.6	15.9			1.8		39.3	28.7	0.3		0.0	
Queue Storage Ratio (*RQ*) (95 th percentile)	2.60	1.34			0.34		1.42	1.03	0.04		0.00	
Control Delay (*d*), s/veh	44.7	40.4			57.5		49.2	40.0	13.8		0.0	
Level of Service (LOS)	D	D			E		D	D	B			
Approach Delay, s/veh / LOS	42.7	D		57.5	E		43.4	D		0.0		
Intersection Delay, s/veh / LOS	43.3	D										



--- Messages ---

WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

WARNING: The shared-plus-exclusive turn lane solution is an approximation of the HCM method, because more than three lane groups cannot be accommodated. Input data for Percent Turns in Shared Lane are used to specify proportion of turning vehicles in the shared lane.

--- Comments ---

HCS Two-Way Stop-Control Report

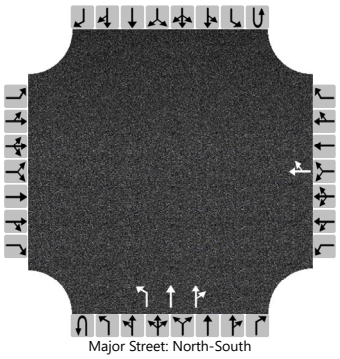
General Information

Analyst	Kyle Bright
Agency/Co.	Burgess & Niple
Date Performed	10/19/2022
Analysis Year	2045
Time Analyzed	No Build/Build AM Peak
Intersection Orientation	North-South
Project Description	I-670 & 4th Street IOS

Site Information

Intersection	N 4th St & I-670 On-Ramp
Jurisdiction	
East/West Street	I-670 On-Ramp
North/South Street	N 4th St
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	1	2	0	0	0	0	0
Configuration								TR		L	T	TR				
Volume (veh/h)							0	0		360	1320	10				
Percent Heavy Vehicles (%)							0	0		5						
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)							6.5	6.9		5.3						
Critical Headway (sec)							6.50	6.90		5.40						
Base Follow-Up Headway (sec)							4.0	3.3		3.1						
Follow-Up Headway (sec)							4.00	3.30		3.15						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)								0		387						
Capacity, c (veh/h)								0		1143						
v/c Ratio										0.34						
95% Queue Length, Q_{95} (veh)										1.5						
Control Delay (s/veh)										9.8						
Level of Service (LOS)										A						
Approach Delay (s/veh)										2.1						
Approach LOS										A						

HCS Two-Way Stop-Control Report

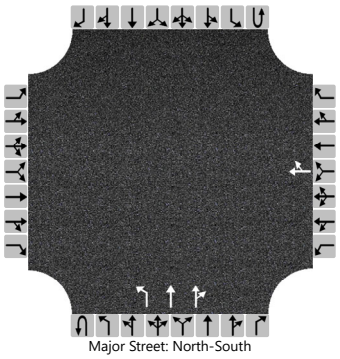
General Information

Analyst	Kyle Bright
Agency/Co.	Burgess & Niple
Date Performed	10/28/2022
Analysis Year	2045
Time Analyzed	No Build/Build PM Peak
Intersection Orientation	North-South
Project Description	I-670 & 4th Street IOS

Site Information

Intersection	N 4th St & I-670 On-Ramp
Jurisdiction	
East/West Street	I-670 On-Ramp
North/South Street	N 4th St
Peak Hour Factor	0.91
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	1	2	0	0	0	0	0
Configuration								TR		L	T	TR				
Volume (veh/h)							10	10		880	2050	10				
Percent Heavy Vehicles (%)							8	8		2						
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)							6.5	6.9		5.3						
Critical Headway (sec)							6.66	7.06		5.34						
Base Follow-Up Headway (sec)							4.0	3.3		3.1						
Follow-Up Headway (sec)							4.08	3.38		3.12						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)								22		967						
Capacity, c (veh/h)								1		1154						
v/c Ratio								37.54		0.84						
95% Queue Length, Q_{95} (veh)								4.5		10.7						
Control Delay (s/veh)								27466.8		21.7						
Level of Service (LOS)								F		C						
Approach Delay (s/veh)						27466.8				6.5						
Approach LOS						F				A						

HCS Two-Way Stop-Control Report

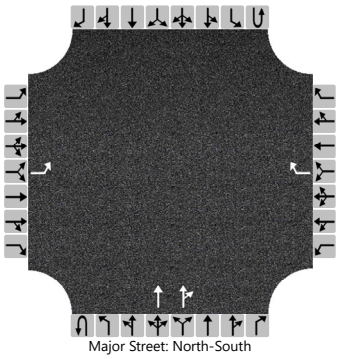
General Information

Analyst	Kyle Bright
Agency/Co.	Burgess & Niple
Date Performed	10/19/2022
Analysis Year	2045
Time Analyzed	No Build/Build AM Peak
Intersection Orientation	North-South
Project Description	I-670 & 4th Street IOS

Site Information

Intersection	N 4th St & Warren St
Jurisdiction	
East/West Street	Warren St
North/South Street	N 4th St
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	0		0	0	1	0	0	2	0	0	0	0	0
Configuration		L						R			T	TR				
Volume (veh/h)		50						190			1390	180				
Percent Heavy Vehicles (%)		0						0								
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized					No											
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5						6.9								
Critical Headway (sec)		7.50						6.90								
Base Follow-Up Headway (sec)		3.5						3.3								
Follow-Up Headway (sec)		3.50						3.30								

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		54						207								
Capacity, c (veh/h)		83						306								
v/c Ratio		0.65						0.67								
95% Queue Length, Q_{95} (veh)		3.0						4.5								
Control Delay (s/veh)		106.8						38.0								
Level of Service (LOS)		F						E								
Approach Delay (s/veh)	106.8				38.0											
Approach LOS	F				E											

HCS Two-Way Stop-Control Report

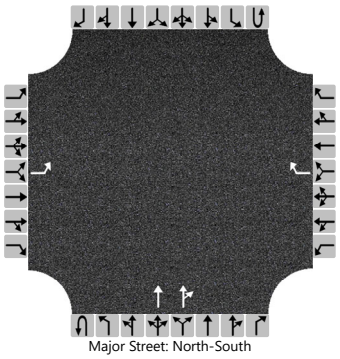
General Information

Analyst	Kyle Bright
Agency/Co.	Burgess & Niple
Date Performed	10/19/2022
Analysis Year	2045
Time Analyzed	No Build PM Peak Hour
Intersection Orientation	North-South
Project Description	I-670 & 4th Street IOS

Site Information

Intersection	N 4th St and Warren St
Jurisdiction	
East/West Street	Warren St
North/South Street	N 4th St
Peak Hour Factor	0.91
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	0		0	0	1	0	0	2	0	0	0	0	0
Configuration		L						R			T	TR				
Volume (veh/h)		70						190			2530	170				
Percent Heavy Vehicles (%)		0						0								
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized					No											
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5						6.9								
Critical Headway (sec)		7.50						6.90								
Base Follow-Up Headway (sec)		3.5						3.3								
Follow-Up Headway (sec)		3.50						3.30								

Delay, Queue Length, and Level of Service

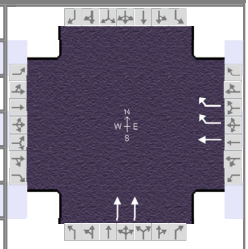
Flow Rate, v (veh/h)		77						209								
Capacity, c (veh/h)		0						116								
v/c Ratio								1.80								
95% Queue Length, Q_{95} (veh)								16.4								
Control Delay (s/veh)								454.3								
Level of Service (LOS)								F								
Approach Delay (s/veh)					454.3											
Approach LOS					F											

Intersection Analysis

Build

HCS Signalized Intersection Input Data

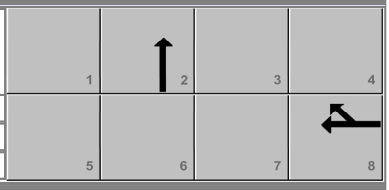
General Information				Intersection Information	
Agency	Burgess & Niple			Duration, h	0.250
Analyst	Kyle Bright	Analysis Date	Oct 19, 2022	Area Type	Other
Jurisdiction		Time Period	AM Peak Hour	PHF	0.96
Urban Street	N 4th St	Analysis Year	2045 Build	Analysis Period	1> 7:00
Intersection	N 4th St and I-670 Off-R…	File Name	N 4th St and I-670 Off AM.xus		
Project Description	I-670 & 4th Street IOS				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					0	250		1320				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	88.0	20.0	0.0	0.0	0.0	0.0	
Yellow	4.0	4.0	0.0	0.0	0.0	0.0	
Red	2.0	2.0	0.0	0.0	0.0	0.0	



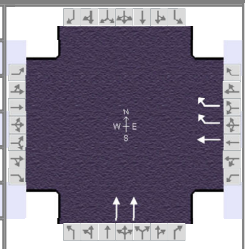
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					0	250		1320				
Initial Queue (Q_b), veh/h					0	0		0				
Base Saturation Flow Rate (s_o), veh/h					1900	1900		1900				
Parking (N_m), man/h					None			None				
Heavy Vehicles (P_{HV}), %					4	4		5				
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	
Buses (N_b), buses/h				0	0	0	0	0	0			
Arrival Type (*AT*)					3	3		3				
Upstream Filtering (*I*)					1.00	1.00		1.00				
Lane Width (*W*), ft					12.0	12.0		12.0				
Turn Bay Length, ft					0	540		350				
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h					35	35		35				

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s				93.0		27.0		
Yellow Change Interval (*Y*), s				4.0		4.0		
Red Clearance Interval (R_c), s				2.0		2.0		
Minimum Green (G_{min}), s				20		20		
Start-Up Lost Time (*l*t), s				2.0		2.0		
Extension of Effective Green (*e*), s				2.0		2.0		
Passage (*PT*), s				2.0		2.0		
Recall Mode				Off		Min		
Dual Entry				Yes		Yes		
Walk (*Walk*), s		0.0				0.0		
Pedestrian Clearance Time (*PC*), s		0.0				0.0		

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0		No	0.0	0	No			
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No				0.50		No	0.50				

HCS Signalized Intersection Results Summary

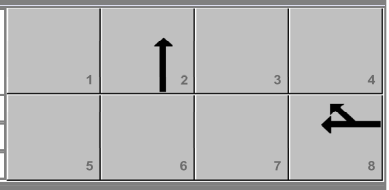
General Information				Intersection Information	
Agency	Burgess & Niple			Duration, h	0.250
Analyst	Kyle Bright	Analysis Date	Oct 19, 2022	Area Type	Other
Jurisdiction		Time Period	AM Peak Hour	PHF	0.96
Urban Street	N 4th St	Analysis Year	2045 Build	Analysis Period	1> 7:00
Intersection	N 4th St and I-670 Off-R…	File Name	N 4th St and I-670 Off AM.xus		
Project Description	I-670 & 4th Street IOS				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					0	250		1320				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	88.0	20.0	0.0	0.0	0.0	0.0	
Yellow	4.0	4.0	0.0	0.0	0.0	0.0	
Red	2.0	2.0	0.0	0.0	0.0	0.0	



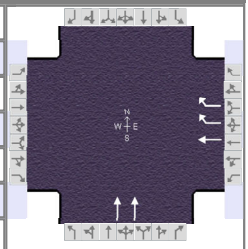
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2		
Case Number				11.0		8.0		
Phase Duration, s				26.0		94.0		
Change Period, (*Y+R c*), s				6.0		6.0		
Max Allow Headway (*MAH*), s				3.4		0.0		
Queue Clearance Time (*g s*), s				12.4				
Green Extension Time (*g e*), s				0.7		0.0		
Phase Call Probability				1.00				
Max Out Probability				0.00				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					8	18		2				
Adjusted Flow Rate (*v*), veh/h					0	260		1182				
Adjusted Saturation Flow Rate (*s*), veh/h/ln					1841	1381		1738				
Queue Service Time (*g s*), s					0.0	10.4		12.4				
Cycle Queue Clearance Time (*g c*), s					0.0	10.4		12.4				
Green Ratio (*g/C*)					0.17	0.17		0.73				
Capacity (*c*), veh/h					307	460		2549				
Volume-to-Capacity Ratio (*X*)					0.000	0.566		0.464				
Back of Queue (*Q*), ft/ln (95 th percentile)					0	165.8		161.6				
Back of Queue (*Q*), veh/ln (95 th percentile)					0.0	6.4		6.2				
Queue Storage Ratio (*RQ*) (95 th percentile)					0.00	0.31		0.46				
Uniform Delay (*d 1*), s/veh					0.0	46.0		4.2				
Incremental Delay (*d 2*), s/veh					0.0	0.4		0.6				
Initial Queue Delay (*d 3*), s/veh					0.0	0.0		0.0				
Control Delay (*d*), s/veh					0.0	46.4		4.8				
Level of Service (LOS)						D		A				
Approach Delay, s/veh / LOS	0.0			46.4		D	4.8		A	0.0		
Intersection Delay, s/veh / LOS	12.3						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.74	B	1.74	B	1.86	B	1.44	A
Bicycle LOS Score / LOS			0.92	A	1.62	B		

HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	Burgess & Niple			Duration, h	0.250
Analyst	Kyle Bright	Analysis Date	Oct 19, 2022	Area Type	Other
Jurisdiction		Time Period	AM Peak Hour	PHF	0.96
Urban Street	N 4th St	Analysis Year	2045 Build	Analysis Period	1> 7:00
Intersection	N 4th St and I-670 Off-R…	File Name	N 4th St and I-670 Off AM.xus		
Project Description	I-670 & 4th Street IOS				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					0	250		1320				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4
Green	88.0	20.0	0.0	0.0	0.0	0.0	5	6	7	8
Yellow	4.0	4.0	0.0	0.0	0.0	0.0				
Red	2.0	2.0	0.0	0.0	0.0	0.0				

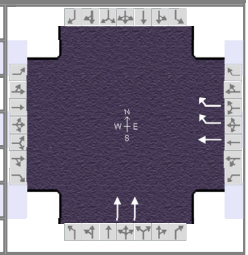
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)				1.000	1.000	1.000	1.000	1.000	1.000			
Heavy Vehicles and Grade Factor (f_{HVg})				1.000	0.969	0.969	1.000	0.961	1.000			
Parking Activity Adjustment Factor (f_p)	0.000	0.000	0.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.000	0.000
Bus Blockage Adjustment Factor (f_{bb})	0.000	0.000	0.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.000	0.000
Area Type Adjustment Factor (f_a)				1.000	1.000	1.000	1.000	1.000	1.000			
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	0.885	1.000	0.952	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})				1.000	1.000		1.000	1.000				
Right-Turn Adjustment Factor (f_{RT})					0.000	0.847		1.000	1.000			
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})				1.000			1.000					
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})						1.000			1.000			
Work Zone Adjustment Factor (f_{wz})				1.000	1.000	1.000	1.000	1.000	1.000			
DDI Factor (f_{DDI})				1.000	1.000	1.000	1.000	1.000	1.000			
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)												
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)												
Movement Saturation Flow Rate (s), veh/h				0	1841	2761	0	3652	0			
Proportion of Vehicles Arriving on Green (P)	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.81	0.00	0.00	0.00	0.00
Incremental Delay Factor (k)						0.04		0.50				

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)				4.0		6.0		
Green Ratio (g/C)				0.17		0.73		
Permitted Saturation Flow Rate (s_p), veh/h/ln				0		1440		
Shared Saturation Flow Rate (s_{sh}), veh/h/ln						0		
Permitted Effective Green Time (g_p), s				0.0		0.0		
Permitted Service Time (g_u), s				0.0		0.0		
Permitted Queue Service Time (g_{ps}), s								
Time to First Blockage (g_f), s				0.0		88.0		
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln				0				
Protected Right Effective Green Time (g_R), s				0.0				

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	0.972	0.000	0.972	0.000	1.198	0.000	0.681	0.000
Pedestrian F_s / F_{delay}	0.000	0.164	0.000	0.164	0.000	0.058	0.000	0.164
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	-83.33	65.10		67.20	1466.69	4.27	-83.33	65.10
Bicycle F_w / F_v	-3.64		-3.64	0.43	-3.64	1.13	-3.64	

HCS Signalized Intersection Results Graphical Summary

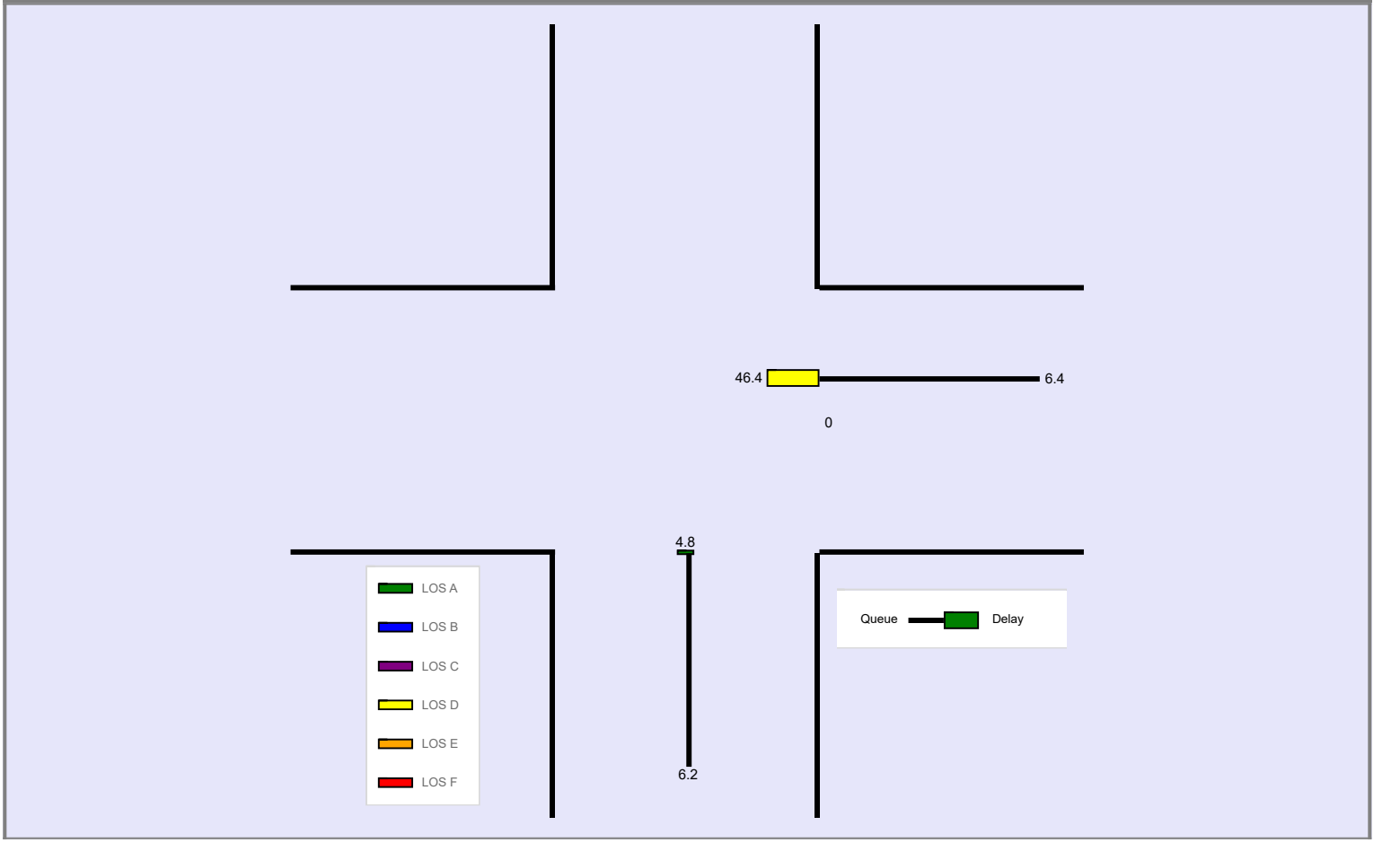
General Information				Intersection Information	
Agency	Burgess & Niple			Duration, h	0.250
Analyst	Kyle Bright	Analysis Date	Oct 19, 2022	Area Type	Other
Jurisdiction		Time Period	AM Peak Hour	PHF	0.96
Urban Street	N 4th St	Analysis Year	2045 Build	Analysis Period	1> 7:00
Intersection	N 4th St and I-670 Off-R…	File Name	N 4th St and I-670 Off AM.xus		
Project Description	I-670 & 4th Street IOS				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					0	250		1320				

Signal Information												
Cycle, s	120.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	88.0	20.0	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	4.0	0.0	0.0	0.0	0.0		
				Red	2.0	2.0	0.0	0.0	0.0	0.0		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)					0	165.8		161.6				
Back of Queue (*Q*), veh/ln (95 th percentile)					0.0	6.4		6.2				
Queue Storage Ratio (*RQ*) (95 th percentile)					0.00	0.31		0.46				
Control Delay (*d*), s/veh					0.0	46.4		4.8				
Level of Service (LOS)						D		A				
Approach Delay, s/veh / LOS	0.0			46.4		D	4.8		A	0.0		
Intersection Delay, s/veh / LOS	12.3						B					



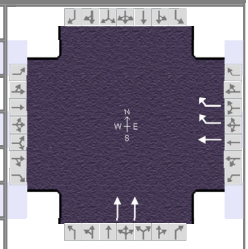
--- Messages ---

No errors or warnings exist.

--- Comments ---

HCS Signalized Intersection Input Data

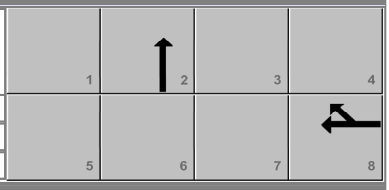
General Information				Intersection Information	
Agency	Burgess & Niple			Duration, h	0.250
Analyst	Kyle Bright	Analysis Date	Oct 19, 2022	Area Type	Other
Jurisdiction		Time Period	PM Peak Hour	PHF	0.95
Urban Street	N 4th St	Analysis Year	2045 Build	Analysis Period	1> 17:00
Intersection	N 4th St and I-670 Off-R…	File Name	N 4th St and I-670 Off PM.xus		
Project Description	I-670 & 4th Street IOS				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					0	640		2060				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	29	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	76.3	31.7	0.0	0.0	0.0	0.0	
Yellow	4.0	4.0	0.0	0.0	0.0	0.0	
Red	2.0	2.0	0.0	0.0	0.0	0.0	



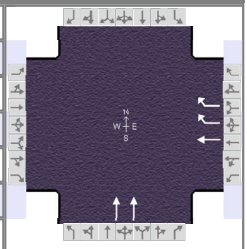
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					0	640		2060				
Initial Queue (Q_b), veh/h					0	0		0				
Base Saturation Flow Rate (s_o), veh/h					1900	1900		1900				
Parking (N_m), man/h					None			None				
Heavy Vehicles (P_{HV}), %					1	1		2				
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	
Buses (N_b), buses/h				0	0	0	0	0	0			
Arrival Type (*AT*)					3	3		3				
Upstream Filtering (*I*)					1.00	1.00		1.00				
Lane Width (*W*), ft					12.0	12.0		12.0				
Turn Bay Length, ft					0	540		350				
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h					35	35		35				

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s				64.0		56.0		
Yellow Change Interval (*Y*), s				4.0		4.0		
Red Clearance Interval (R_c), s				2.0		2.0		
Minimum Green (G_{min}), s				20		20		
Start-Up Lost Time (*l1*), s				2.0		2.0		
Extension of Effective Green (*e*), s				2.0		2.0		
Passage (*PT*), s				2.0		2.0		
Recall Mode				Off		Min		
Dual Entry				Yes		Yes		
Walk (*Walk*), s		0.0				0.0		
Pedestrian Clearance Time (*PC*), s		0.0				0.0		

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0		No	0.0	0	No			
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No				0.50		No	0.50				

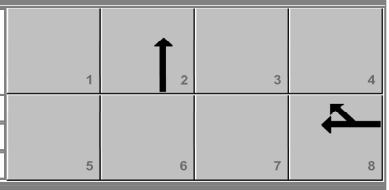
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Burgess & Niple			Duration, h	0.250
Analyst	Kyle Bright	Analysis Date	Oct 19, 2022	Area Type	Other
Jurisdiction		Time Period	PM Peak Hour	PHF	0.95
Urban Street	N 4th St	Analysis Year	2045 Build	Analysis Period	1> 17:00
Intersection	N 4th St and I-670 Off-R…	File Name	N 4th St and I-670 Off PM.xus		
Project Description	I-670 & 4th Street IOS				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					0	640		2060				

Signal Information					EB			WB			NB			SB		
Cycle, s	120.0	Reference Phase	2													
Offset, s	29	Reference Point	End	Green	76.3	31.7		0.0	0.0	0.0						
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.0	4.0		0.0	0.0	0.0						
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	2.0		0.0	0.0	0.0						



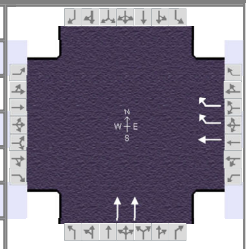
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2		
Case Number				11.0		8.0		
Phase Duration, s				37.7		82.3		
Change Period, (*Y+R c*), s				6.0		6.0		
Max Allow Headway (*MAH*), s				3.4		0.0		
Queue Clearance Time (*g s*), s				29.6				
Green Extension Time (*g e*), s				2.0		0.0		
Phase Call Probability				1.00				
Max Out Probability				0.00				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					8	18		2				
Adjusted Flow Rate (*v*), veh/h					0	674		1973				
Adjusted Saturation Flow Rate (*s*), veh/h/ln					1885	1414		1781				
Queue Service Time (*g s*), s					0.0	27.6		43.4				
Cycle Queue Clearance Time (*g c*), s					0.0	27.6		43.4				
Green Ratio (*g/C*)					0.26	0.26		0.64				
Capacity (*c*), veh/h					497	746		2266				
Volume-to-Capacity Ratio (*X*)					0.000	0.903		0.871				
Back of Queue (*Q*), ft/ln (95 th percentile)					0	371.8		387.8				
Back of Queue (*Q*), veh/ln (95 th percentile)					0.0	14.8		15.3				
Queue Storage Ratio (*RQ*) (95 th percentile)					0.00	0.69		1.11				
Uniform Delay (*d 1*), s/veh					0.0	42.7		8.5				
Incremental Delay (*d 2*), s/veh					0.0	1.7		4.9				
Initial Queue Delay (*d 3*), s/veh					0.0	0.0		0.0				
Control Delay (*d*), s/veh					0.0	44.4		13.4				
Level of Service (LOS)						D		B				
Approach Delay, s/veh / LOS	0.0			44.4		D	13.4		B	0.0		
Intersection Delay, s/veh / LOS	21.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.74	B	1.74	B	1.88	B	1.44	A
Bicycle LOS Score / LOS			1.60	B	2.28	B		

HCS Signalized Intersection Intermediate Values

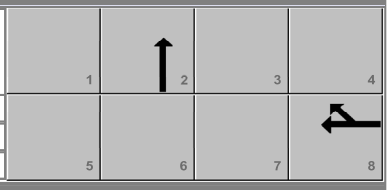
General Information				Intersection Information	
Agency	Burgess & Niple			Duration, h	0.250
Analyst	Kyle Bright	Analysis Date	Oct 19, 2022	Area Type	Other
Jurisdiction		Time Period	PM Peak Hour	PHF	0.95
Urban Street	N 4th St	Analysis Year	2045 Build	Analysis Period	1> 17:00
Intersection	N 4th St and I-670 Off-R…	File Name	N 4th St and I-670 Off PM.xus		
Project Description	I-670 & 4th Street IOS				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					0	640		2060				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	29	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	76.3	31.7	0.0	0.0	0.0	0.0	
Yellow	4.0	4.0	0.0	0.0	0.0	0.0	
Red	2.0	2.0	0.0	0.0	0.0	0.0	



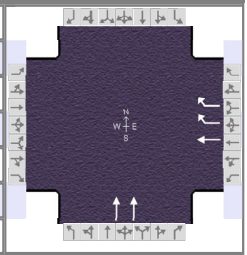
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)				1.000	1.000	1.000	1.000	1.000	1.000			
Heavy Vehicles and Grade Factor (f_{HVg})				1.000	0.992	0.992	1.000	0.984	1.000			
Parking Activity Adjustment Factor (f_p)	0.000	0.000	0.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.000	0.000
Bus Blockage Adjustment Factor (f_{bb})	0.000	0.000	0.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.000	0.000
Area Type Adjustment Factor (f_a)				1.000	1.000	1.000	1.000	1.000	1.000			
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	0.885	1.000	0.952	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})				1.000	1.000		1.000	1.000				
Right-Turn Adjustment Factor (f_{RT})					0.000	0.847		1.000	1.000			
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})				1.000			1.000					
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})						1.000			1.000			
Work Zone Adjustment Factor (f_{wz})				1.000	1.000	1.000	1.000	1.000	1.000			
DDI Factor (f_{DDI})				1.000	1.000	1.000	1.000	1.000	1.000			
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)												
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)												
Movement Saturation Flow Rate (s), veh/h				0	1885	2828	0	3741	0			
Proportion of Vehicles Arriving on Green (P)	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.80	0.00	0.00	0.00	0.00
Incremental Delay Factor (k)						0.04		0.50				

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)				4.0		6.0		
Green Ratio (g/C)				0.26		0.64		
Permitted Saturation Flow Rate (s_p), veh/h/ln				0		1440		
Shared Saturation Flow Rate (s_{sh}), veh/h/ln						0		
Permitted Effective Green Time (g_p), s				0.0		0.0		
Permitted Service Time (g_u), s				0.0		0.0		
Permitted Queue Service Time (g_{ps}), s								
Time to First Blockage (g_f), s				0.0		76.3		
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln				0				
Protected Right Effective Green Time (g_R), s				0.0				

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	0.972	0.000	0.972	0.000	1.198	0.000	0.681	0.000
Pedestrian F_s / F_{delay}	0.000	0.164	0.000	0.164	0.000	0.083	0.000	0.164
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	-83.33	65.10		67.20	1272.35	7.94	-83.33	65.10
Bicycle F_w / F_v	-3.64		-3.64	1.11	-3.64	1.79	-3.64	

HCS Signalized Intersection Results Graphical Summary

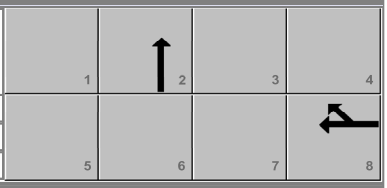
General Information				Intersection Information	
Agency	Burgess & Niple			Duration, h	0.250
Analyst	Kyle Bright	Analysis Date	Oct 19, 2022	Area Type	Other
Jurisdiction		Time Period	PM Peak Hour	PHF	0.95
Urban Street	N 4th St	Analysis Year	2045 Build	Analysis Period	1> 17:00
Intersection	N 4th St and I-670 Off-R…	File Name	N 4th St and I-670 Off PM.xus		
Project Description	I-670 & 4th Street IOS				



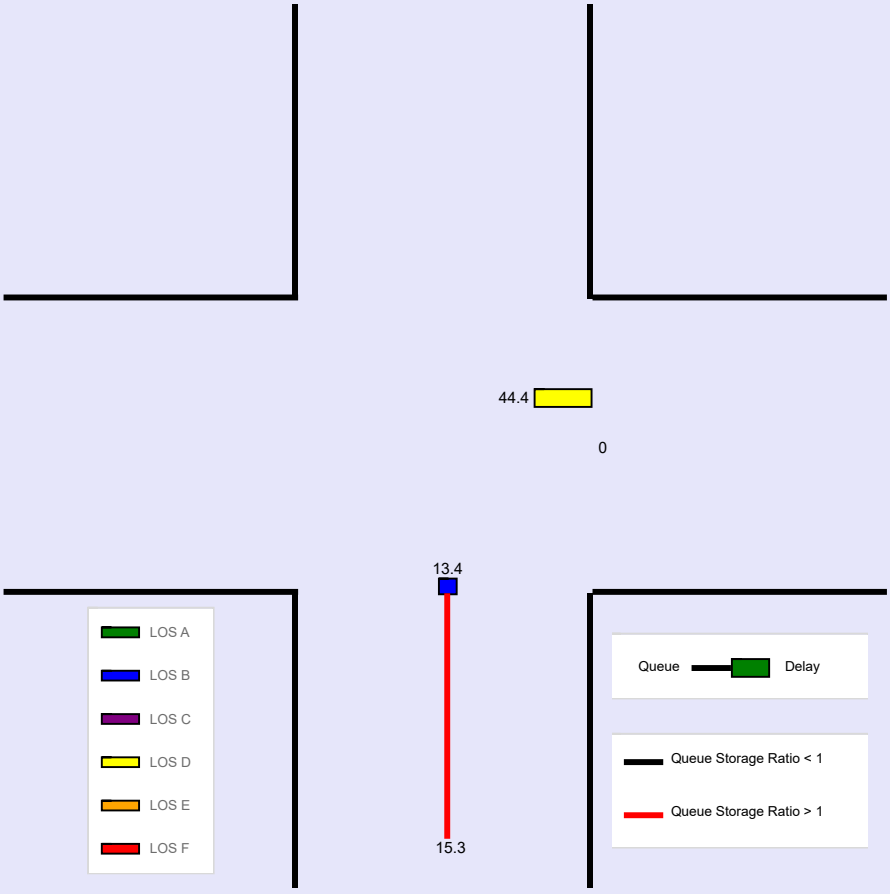
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					0	640		2060				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	29	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	76.3	31.7	0.0	0.0	0.0	0.0	
Yellow	4.0	4.0	0.0	0.0	0.0	0.0	
Red	2.0	2.0	0.0	0.0	0.0	0.0	



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)					0	371.8		387.8				
Back of Queue (*Q*), veh/ln (95 th percentile)					0.0	14.8		15.3				
Queue Storage Ratio (*RQ*) (95 th percentile)					0.00	0.69		1.11				
Control Delay (*d*), s/veh					0.0	44.4		13.4				
Level of Service (LOS)						D		B				
Approach Delay, s/veh / LOS	0.0			44.4		D	13.4		B	0.0		
Intersection Delay, s/veh / LOS	21.3						C					



--- Messages ---

WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---