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# **TECHNICAL MEMORANDUM**

Date:	September 17, 2021	Project #: 23898.5
To:	Zach Piepmeyer, Project Manager Capital City Development Corporation 121 N 9th St #501 Boise, ID 83702	
From:	Rebecca Hoffman, Rachel Grosso, Nick Foster, AICP, RSP, and Evan	Reed, PE, PTOE
Project:	8th Street Improvements, State to Franklin	
Subject:	Technical Memorandum #1: Existing Conditions	

# INTRODUCTION

The Capital City Development Corporation (CCDC) has initiated a project to improve 8th Street from State Street to Franklin Street. The project is focused on providing a low stress biking experience, improving streetscapes, and undergrounding overhead utilities. This memorandum provides a summary of the existing plans, projects, and conditions along this corridor. It includes a summary of documents reviewed, multimodal volumes and operations, parking inventory and analysis, and crash history. The information contained in this memorandum will be used in developing alternative conceptual designs for this section of 8th Street.

# **Corridor Context**

As shown in Figure 1, the study section of 8<sup>th</sup> Street is north of downtown Boise, linking it to the North End neighborhood. The study corridor is contained in CCDC's Westside Urban Renewal District. CCDC and the City of Boise recently improved streetscapes, added on-street angle parking, and a southbound protected bike lane to 8<sup>th</sup> Street from State Street to Bannock Street. At Franklin Street, 8th Street intersects with the Ada County Highway District's (ACHD's) planned Franklin Street Bikeway, which will be a low-stress bike route connecting to Boise High School and the 11<sup>th</sup> Street Bikeway. ACHD is also planning to prepare a concept design for 8<sup>th</sup> Street from Franklin Street to Union Street in the next fiscal year.

Surrounding land-uses are a mix of office buildings, government buildings, and St. Michael's Episcopal Cathedral.



cument Path: H:/23/23898 - CCDC 2019 On-Call Design/005 - 8th Street Bikeway - State to Franklin/GIS/mxd/fig1\_projectarea.mxd

STATE TO FRANKLIN CONCEPT DESIGN

Figure 1: Project Area

## **Document Review Summary**

The project team reviewed existing plans from CCDC, the City of Boise, ACHD, and development proposals to understand what is already planned or proposed for the corridor. This section summarizes relevant findings from this review.

### AGENCY PLANS & PROGRAMS REVIEW

This section summarizes the plans and programs of partner agencies relevant to the project area.

### **ACHD Livable Streets Performance Measures**

The ACHD Commission adopted the Livable Streets Performance Measures in June 2021 (Reference 1). This document provides methods to gauge the experience of the transportation system's various users, including people walking, biking, and driving. The method for vehicular Level of Service (LOS) is based on peak hour traffic volumes and infrastructure. Bicycle Level of Traffic Stress (BLTS) is based on roadway and bike lane infrastructure, and Pedestrian Level of Traffic Stress (PLTS) is based on roadway and sidewalk infrastructure.

### ACHD Roadways to Bikeways Plan

The ACHD Commission adopted the Roadways to Bikeways 2018 Addendum in February 2018 (Reference 2). This addendum serves as ACHD's current bicycle master plan. It identifies 8<sup>th</sup> Street and Franklin Street as shared-street bikeways. However, based on conversations with ACHD staff, the Livable Streets Performance Measures guidance described previously is expected to supersede the planned bikeway treatments in Roadways to Bikeways.

### ACHD Integrated Five Year Work Plan (2021-2025/2022-2026)

The ACHD Commission adopted the 2021-2025 Integrated Five-Year Work Plan (IFYWP) in September 2020 (Reference 3). The Draft 2022-2026 IFYWP is currently open for public comment and planned to be adopted in September 2021 (Reference 4). The planned projects that will impact the concept design of 8<sup>th</sup> Street include:

- Franklin Street Bikeway, Resseguie Street / Bannock Street (2021-2025/2022-2026 IFYWPs) is a community project that plans to improve Franklin Street as a bikeway to include wayfinding and bikeway signage, enhanced crossings, a connection through Fort Boise, and roadway markings.
- 8<sup>th</sup> Street Bike Facility, Washington Street / Union Street (Draft 2022-2026 IFYWP) plans to improve pedestrian facilities, ADA facilities, and bike facilities.

### ACHD North Boise Neighborhood Bicycle & Pedestrian Plan

The ACHD Commission adopted the North Boise Neighborhood Bicycle and Pedestrian Plan in September 2016 (Reference 5). The Plan proposes several walking and biking projects based on technical analysis and community input. Relevant projects from this plan include:

- Planned bike lane along 8<sup>th</sup> Street north of State Street, with the intent to match south of State Street.
- Designated bike route along Franklin Street from 18<sup>th</sup> Street to 6<sup>th</sup> Street using sharrows/wayfinding, traffic calming, and crossings at 16th St, 15th St, 13th St, 9th St, 8th St, and 6th St.
- Addition of a leading pedestrian interval for north side crossing at the intersection of 8<sup>th</sup> Street and Fort Street.

### **City of Boise Transportation Action Plan**

The City of Boise Transportation Action Plan (TAP) identifies a set of actions with strategic importance and provides a framework for prioritizing projects in the City of Boise based on shared values for high quality of life (Reference 6). This plan outlines Mobility Moves as high-level initiatives to advance the City's mobility. The following Moves are relevant to the concept design of 8<sup>th</sup> Street:

- Move 1: Safety For All focused on adding pedestrian safety improvements to dangerous intersections, protected bike lanes, bicycle intersection treatments, implementing automobile lane width reduction, access management, and traffic calming strategies.
- Move 2: Walk and Bike to the Store focused on adding pedestrian improvements within ¼ mile of activity centers and creating pedestrian friendly environments within activity centers. Move 2 also prioritizes "all ages" bikeways, providing secure bike parking at activity centers, and implementing traffic calming and access management within walksheds of activity centers.
- Move 3: All Ages Bike Network construct new bicycle infrastructure to "all ages" standard and create a network of traffic-calmed bicycle boulevards. Move 3 also aims to improve intersection treatments for people biking to support an all ages experience.

### **City of Boise North End Plan**

Within the City of Boise North End Plan (Reference 7), the City of Boise and the North End Neighborhood Association identified a placemaking project for creating gateway signage for major entrances to the North End, including the entrance along 8<sup>th</sup> Street.

## **DEVELOPMENT PLANS & APPLICATIONS**

Within the project area, three parcels are currently under development or will likely develop in the near future. Currently, there is a vacant building at 800 W State St; an active demolition permit application for 622 N 8<sup>th</sup> St, the former site of an auto mechanic garage; and the State of Idaho recently authorized the purchase of the former Carnegie Public Library building at 815 W Washington St for the University of Idaho.

# **TRANSPORTATION SYSTEM OVERVIEW**

Located in the transition zone between Downtown Boise and the North End neighborhood, 8<sup>th</sup> Street is a oneway northbound two-lane town center collector roadway, with metered parking and sidewalks present on both sides of the street. Study intersections for this project include:

- / 8th Street & Washington Street
- / 8th Street & Franklin Street
- / 8<sup>th</sup> Street & State Street (bicycle and pedestrian operations only)

As displayed in Figure 2, the Washington and Franklin Street intersections are two-way stop controlled. There are marked crosswalks across all approaches at both intersections. State Street is signalized.



FIGURE 2 STUDY INTERSECTION LANE CONFIGURATIONS & TRAFFIC CONTROL

Valley Regional Transit maintains one bus stop in the project area, at the southeast corner of the 8<sup>th</sup> Street & Franklin intersection. This bus stop currently includes a bench and serves Route 10. The Route 16 buses also traverse the 8<sup>th</sup> Street corridor.

Table 1 delineates the roadway characteristics of the project area, and Figure 3 displays the pedestrian, bicycle, transit, and roadway facilities.

Roadway	Lanes	Functional Classification	Posted Speed Limit	Sidewalk Presence	Bicycle Facility Presence	On-Street Parking
8 <sup>th</sup> Street	2	Collector	25	Yes	South of State Street	Yes – Metered
State Street	4 (W/O 8 <sup>th</sup> ) / 2 E/O 8 <sup>th</sup> )	Minor Arterial	30	Yes	No	Yes – Metered
Washington Street	2	Local	20	Yes	No	Yes – Metered
Franklin Street	2	Local	20	Yes	Planned	Yes – Unregulated

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#### **TABLE 1 PROJECT AREA ROADWAY CHARACTERISTICS**





Figure 3: Multimodal Transportation Infrastructure

# **EXISTING CONDITIONS EVALUATION**

This section describes the analyses performed to evaluate the existing conditions of the project area, including pedestrian and bicycle level of traffic stress, vehicular operations, vehicular parking, and crash data evaluations.

# Traffic Volume and Parking Data Collection

Traffic volume and parking data collection at the study intersections includes:

- / Pedestrian, bicycle, scooter, and vehicle turning movement counts
- / Parking utilization

Turning movement count data was collected during a typical midweek (Tuesday through Thursday) AM peak period (7:00 AM – 9:00 AM) and PM peak period (4:00 PM – 6:00 PM). Due to change in travel patterns caused by the COVID-19 pandemic, collection of accurate traffic counts that represent normal travel activity was not possible, and a modification factor was applied to traffic counts (detailed in the 'Traffic Volumes' section). Additionally, parking utilization data was also collected on a typical Sunday at 8:00 AM and 10:00 AM to quantify the effect of in-person religious services on parking availability, as well as during typical midweek AM peak period (8:00 AM) and PM peak period (6:00PM). *Appendix 1 contains the turning movement count data, and Appendix 2 contains the parking utilization data*.

# Performance Measurement

In accordance with ACHD's recently adopted Livable Streets Performance Measures, this memorandum evaluates existing transportation system performance at intersections and along segments by utilizing

multimodal performance measures:

- / Pedestrian Level of Traffic Stress (PLTS)
- / Bicycle Level of Traffic Stress (BLTS)
- Vehicular Level of Service (LOS), Volume-to-Capacity ratio (V/C), and Delay

The PLTS and BLTS analyses are performed in accordance with the methodologies outlined in ACHD's



Image source: ACHD Livable Streets Performance Measures

Livable Streets Performance Measures guide. The intersection motor vehicle traffic operations performance measures of LOS, V/C ratio, and delay are based on the peak 15-minutes of the peak hour and therefore, conditions may be better during other times of the day. Intersection operations results are reported by critical



movement for both two-way stop-controlled intersections in the project area. The vehicular operations analysis was performed in accordance with the methodologies stated in Section 7106.6 of the *ACHD Policy Manual*. Intersection and segment LOS are reported per ACHD thresholds. ACHD desires operations of LOS "D" or better on collectors, with v/c of 0.90 or better for the critical lane group at study intersections. The intersection operations analyses were prepared using Synchro 10.

# **Existing Conditions Analysis**

### TRAFFIC VOLUMES

Pedestrian, bicycle, scooter, and vehicle turning movement counts were collected at both study intersections for the AM and PM peak periods on a typical mid-weekday. Due to the travel impacts of the on-going COVID-19 pandemic, an adjustment factor of 12% was applied to the turning movement counts to estimate "regular" traffic volumes in the project area. This factor was obtained by reviewing average daily traffic volumes from the Idaho Transportation Department's (ITD's) automatic traffic recorder (ATR) #230 on Harrison Boulevard for the month of June in 2021 and 2019 (i.e., June 2019/June 2021 = 14,014/12,474 = 1.12). Figure 4 displays the weekday AM and PM peak hour multi-modal volumes. Total pedestrian ("peds") counts are displayed with motor vehicle volumes. Total bicycles using sidewalks ("sdwlk bike") and scooter counts are depicted with bicycle volumes. In general, most people riding bikes are doing so in the roadway, with the percentage of people riding on the sidewalk ranging from about 25% to 60%, depending on the intersection and time period. *Appendix 1 contains the turning movement count data.* 



FIGURE 4 MULTIMODAL VOLUMES – WEEKDAY AM & PM PEAK HOURS

### PEDESTRIAN & BICYCLE LEVEL OF TRAFFIC STRESS ANALYSIS

Pedestrian Level of Traffic Stress was calculated considering roadway segments and intersections along 8<sup>th</sup> Street from State Street to Franklin Street. Segments were evaluated for sidewalk presence, sidewalk buffer, and sidewalk width and condition, and intersections were evaluated based on characteristics such as speed limit, traffic control devices, and number of lanes. Sidewalks along 8<sup>th</sup> Street from State Street to Franklin Street are complete on both sides and are adjacent to two travel lanes with a posted speed limit of 25 miles per hour. The total buffer width along each segment ranges from about 9 to 20 feet (including on-street parking) and the sidewalks are about 5 feet wide and in good condition. The resulting PLTS is generally 2 (High Comfort for Adults). Additional buffer space in areas without a landscaped buffer or furnishing zone would increase the PLTS to 1. The study intersections are both unsignalized with 2 lanes, and have inaccessible ADA ramps, thus they both have a PLTS 2 (High Comfort for Adults). The State Street intersection is a signalized 4-lane crossing, so it is a PLTS 2.

Bicycle Level of Traffic Stress was also calculated for each study intersection and segment. Given the posted speed of 25 MPH and that the 24-hour volume on 8<sup>th</sup> Street is 6,474 vehicles (Reference 8), the BLTS of both 8<sup>th</sup> Street segments is 3 (Increasing Stress for Most). The BLTS could be improved by providing dedicated space for people biking separate from motor vehicle traffic. The study intersections are both unsignalized with 2 lanes, thus they both have a BLTS 1 (High Comfort for All). The State Street intersection is a signalized 4-lane crossing. There is no northbound bike lane so the intersection does not neatly fit in ACHD's table. Given that people biking are directed by the shared lane marking to occupy the travel lane, the project team has assigned a BLTS 3 (Increasing Stress for Most) to the intersection to match the segment.

Figure 5 illustrates the PLTS and BLTS results.





Figure 5: Pedestrian & Bicycle Level of Traffic Stress

### VEHICULAR OPERATIONS ANALYSIS

The intersection operational analysis was performed using the *Highway Capacity Manual (HCM)* 6<sup>th</sup> Edition analysis procedures (Reference 9).

Table 2 presents the traffic operation results for each intersection and its corresponding lane groups during existing weekday AM and PM peak hours. Both intersections operate within ACHD's desired parameters under current conditions in the AM and PM peak periods. *Appendix 3 includes the Synchro Reports for the existing conditions analysis.* 

No	Intersection	Intersection	Lane	AM	Peak F	lour	PM	Peak l	Hour
<b>NO</b> .	mersection	Control	Group	V/C	LOS	Delay	V/C	LOS	Delay
			NBTL	-	-	-	-	-	-
1	8 <sup>th</sup> Street & Washington Street	Two Way Stop	NBTR	-	-	-	-	-	-
I		Control	WBTR	0.04	В	11.1	0.24	В	12.9
			EBLT	0.01	В	11.6	0.03	В	11.6
			NBTL	-	-	-	-	-	-
2	8th Street & Franklin	Two Way Stop	NBTR	-	-	-	-	-	-
2	Street	Control	WBTR	0.03	В	10.3	0.12	Peak H LOS - 4 B B B - 4 B B B B B	11.3
			EBLT	0.07	В	10.6	0.06	В	11.6

#### TABLE 2 EXISTING INTERSECTION OPERATIONS - WEEKDAY AM & PM PEAK HOUR

South of State Street, 8<sup>th</sup> Street has only one northbound through travel lane. Since there is only one lane sending traffic north of State Street, the project team analyzed how this section of 8<sup>th</sup> Street would operate with only one northbound through lane as well. Table 3 summarizes the operations results with only one northbound travel lane on 8<sup>th</sup> Street.

#### TABLE 3 INTERSECTION OPERATIONS WITH ONE NB TRAVEL LANE - WEEKDAY AM & PM PEAK HOUR

No	Intersection	Intersection	Lane	AM	Peak F	lour	PM	Peak I	Hour
<b>N</b> O.	mersection	Control	Group	V/C	LOS	Delay	V/C	LOS	Delay
			NBTL	-	-	-	-	-	-
1	8th Street & Washington	Two Way Stop	NBTR	-	-	-	-	-	-
I	Street	Control	WBTR	0.04	В	11.4	0.25	В	13.2
			EBLT	0.01	В	12.7	0.03	В	12.3
			NBTL	-	-	-	-	-	-
2	8th Street & Franklin	Two Way Stop	NBTR	-	-	-	-	-	-
2	Street	Control	WBTR	0.04	В	10.4	0.14	Peak H LOS - B B B - B B B B	11.9
			Group         V/C         LOS         Delay         V/C         LOS           NBTL         -	В	12.5				

Both intersections would continue to meet ACHD's desired parameters if 8<sup>th</sup> Street were reduced to one northbound through lane in this section.

Additionally, the peak hour volumes on 8<sup>th</sup> Street are within ACHD's level of service planning thresholds (i.e., Table 2 in Section 7100 of the ACHD Policy Manual) for a one or two-lane collector.

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### **VEHICULAR PARKING ANALYSIS**

The project team and City of Boise inventoried the existing on-street vehicular parking in the project area and collected utilization data during the morning, midday, evening peak hours on a typical mid-weekday, as well as on a typical Sunday during religious services hosted by St. Michael's Episcopal Cathedral. Along 8<sup>th</sup> Street, State Street, and Washington Street, there is short-term, metered parking (4 hours maximum). Along Franklin Street there is regulated, residential parking. Parking capacity for the entire corridor is shown in Figure 7. Capacity for the unmarked spaces along Franklin Street is estimated using an assumption that each space occupies 20 feet of curb, which is based on the measured length of most marked parking stalls along the corridor. There is one special-purpose space for accessible vehicles and delivery loading adjacent to St. Michael's Episcopal Cathedral, in addition to one bus stop adjacent to 622 N 8<sup>th</sup> Street.

Figure 6 displays the parking utilization during the weekday peak hours, in addition to the highest utilized Sunday AM period. In general, there is available parking capacity along most streets during all observed periods. The exceptions to this are the unmetered spaces along the south side of Franklin Street east of 8<sup>th</sup> Street during the weekday periods and three of the four block faces of Washington Street on Sunday mornings when St. Michael's is conducting services.

Table 4 delineates parking utilization by time-period along each road.

Street	Capacity	Sunday 8AM¹	Sunday 10AM¹	Weekday 8AM	Weekday 12PM	Weekday 6PM
8 <sup>th</sup> Street	30	43%	73%	20%	50%	53%
State Street	4	75%	0%	25%	25%	0%
Washington Street	34	15%	26%	15%	24%	26%
Franklin Street	37	59%	65%	59%	78%	68%
Project Area Total	105	41%	52%	32%	50%	48%

#### **TABLE 4 PARKING UTILIZATION**

<sup>1</sup>Sunday services at St. Michael's services are currently capacity constrained due to COVID-19 precautions. According to St. Michael's staff and leadership, the second Sunday morning service is limited to about one-third of normal attendance. During normal attendance, adjacent on-street parking may be at capacity

A few block faces are at capacity during each observed time periods, however on-street parking is generally below 80%, and often below 50%, utilization on each roadway during all analyzed time periods. *It is possible that on-street parking may be at or near capacity during a typical mid-morning Sunday period when St. Michael's is at full attendance. Appendix 2 includes the parking data.* 



Figure 6: Parking Capacity & Utilization

### SAFETY ANALYSIS

The project team reviewed crash data from ITD for the most recent ten-year period for which data was available, 2011-2020. Figure 7 shows the total crashes for all modes. Table 5 delineates the total crashes by type and severity. *Appendix 4 includes the summary of the crash data.* 

				Cras	h Severi	ty	
		Fatal	Injury A	Injury B	Injury C	Property Damage Only	Total
	Angle	-	1	2	5	7	15
	Backed Into	-	-	-	-	1	1
Crach Type	Bicycle	-	-	4	-	-	4
Clash Type	Pedestrian	-	-	2	-	-	2
	Rear-End	-	-	-	1	3	4
	Side Swipe	-	-	-	-	3	3
	Turning	-	-	2	1	7	10
	Total	0	1	10	7	21	39

#### TABLE 5 TOTAL CRASHES - ALL MODES (2011 - 2020)

Most (i.e., 54%) crashes resulted in property damage only, while the remaining 46% of crashes resulted in an injury. There were no reported fatalities during the study period, but one crash did result in a suspected serious injury (Injury A). The most common crash type is angle crashes, followed by turning crashes. Table 5 summarizes the crash rates along the study corridor and at the study intersections.

### TABLE 5: STUDY CORRIDOR CRASH RATES (2011-20)

Location	Number of Crashes	Crash Rate
Intersection		
8th Street & Washington Street	13	0.74 crashes/mev <sup>1</sup>
8 <sup>th</sup> Street & Franklin Street	4	0.25 crashes/mev
Segments		
8 <sup>th</sup> Street – State Street to Franklin Street <sup>1</sup> mev = million entering vehicles	2	0.68 crashes/mvm <sup>2</sup>

<sup>2</sup>mvm = million vehicle miles





Figure 7: Total Crashes - All Modes (2011-2020)

Crash rates at both intersections and along the 8<sup>th</sup> Street segment are below 1.0 crashes/mev(mvm). The intersection of 8<sup>th</sup> Street & State Street had the highest number at 20 crashes over the ten-year period (i.e., two crashes per year on average). The intersection of 8<sup>th</sup> Street & Washington Street had 13 crashes, while the intersection of 8<sup>th</sup> Street & Franklin Street had 4 crashes. The remaining two crashes occurred along 8<sup>th</sup> Street between intersections.

Figure 7 also displays the locations of the 6 pedestrian and bicycle crashes reported between 2011 and 2020; it is worth noting that additional crashes may have occurred that were not reported to the police. There were no reported fatalities, but all bicycle and pedestrian crashes resulted in an injury. In most instances, driver failure to yield or inattention contributed to the crash.

# SUMMARY OF FINDINGS

Key findings from this analysis include:

- / ACHD, the City of Boise, and the North End Neighborhood Association identify 8<sup>th</sup> Street as a corridor in need of improvements to enhance safety and mobility for all transportation modes.
- / The Pedestrian LTS is 2 for walking along this section of 8<sup>th</sup> Street. The PLTS is 2 at all the intersections.
  - o A consistent wide landscaped buffer could achieve Pedestrian LTS 1 for the segments.
- / The Bicycle LTS along 8<sup>th</sup> Street is 3, which is not comfortable for most adults. Crossing 8<sup>th</sup> Street is BLTS 1 at the unsignalized intersections. The State Street intersection is BLTS 3.
  - Separate space for people biking would be required to achieve Bicycle LTS 2 or better for the segment.
  - Most people who bike on 8<sup>th</sup> Street today bike in the road, but a notable portion bike on the sidewalk.
- / Both study intersections operate acceptably under current conditions in the AM and PM peak periods.
- / Parking in the vicinity of 8<sup>th</sup> Street is primarily under-utilized during weekday conditions. Parking along 8<sup>th</sup> Street experiences more utilization on Sunday during the religious services held at St. Michael's Episcopal Cathedral than it does during the week.
- / The intersection of 8<sup>th</sup> Street and State Street had 20 crashes over the ten-year period. There were a total of 6 pedestrian and bicycle crashes that all resulted in an injury. No fatalities were reported in the project area over the ten-year period.

# REFERENCES

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- 9. Transportation Research Board. *Highway Capacity Manual 6th Edition: A Guide for Multimodal Mobility Analysis,* 2016.

# **APPENDICES**

- 1. Traffic Volume Data
- 2. Parking Data & Summary
- 3. Synchro Reports
- 4. Crash Data & Summary

Appendix 1 Traffic Volume Data

# Ada County Highway District 3775 Adams St Garden City, ID 83714

Site Code: 111 Station ID: 08th St N-O State St Latitude: 43' 37.1630 North

Start Time	Mon 02-Apr-18	Tue 03-Apr-18	Wed 04-Apr-18	Thu 05-Apr-18	Fri 06-Apr-18	Average Day		Sat 07-Apr-18	Sun 08-Apr-18	Week Average	
12:00 AM	*	43	. 30	35	34	3	6	72	. 78	49 📃	
01:00	*	16	12	17	28	1	3	43	45	27	
02:00	*	10	19	16	17	1	6	37	53	25	
03:00	*	9	3	8	10		8	21	24	12 🛛	
04:00	*	16	13	16	16	1	5	9	14	14	
05:00	*	60	56	54	44	5	4	16	14	41 📃	
06:00	*	213	216	209	179	20	4	23	30	145	
07:00	*	552	507	528	519	520	5	78	84	378	
08:00	*	440	507	393	403	43	6	126	118	331	
09:00	*	300	328	362	323	32	3	158	203	279	
10:00	*	278	308	286	284	28	9	244	246	274	
11:00	*	327	370	373	372	36	D	320	338	350	
12:00 PM	*	434	398	404	405	41	C	318	370	388	
01:00	383	391	382	417	386	39	2	313	356	375	
02:00	352	394	425	383	406	39	2	338	344	377	
03:00	434	488	493	484	534	48	7	310	290	433	
04:00	506	512	484	524	494	50	4	331	300	450	
05:00	544	615	629	589	570	589	•	330	280	508	
06:00	388	409	412	416	314	38	8	262	244	349	
07:00	280	256	294	301	256	27	7	298	186	267	
08:00	212	236	226	261	241	23	5	200	158	219	
09:00	144	150	210	198	202	18	1	174	98	168	
10:00	74	100	95	98	134	10	0	134	78	102 📃	
11:00	48	64	57	67	118	7	1	88	36	68	
Day Total	3365	6313	6474	6439	6289	631	6	4243	3987	5629	
% Avg.	53.3%	100.0%	102 5%	101 9%	99.6%						
WkDay	00.070	100.070	102.070	1011770	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
% Avg.	59.8%	112.2%	115.0%	114.4%	111.7%	112.29	6	75.4%	70.8%		
Week											
AM Peak	-	07:00	07:00	07:00	07:00	- 07:0	) - ,	11:00	11:00	- 07:00 -	-
Vol.	-	552	507	528	519	- 52	<u>5</u> -	320	338	- 3/8 -	-
PM Peak	1/:00	1/:00	1/:00	1/:00	1/:00	- 17:0	J -	14:00	12:00	- 1/:00 -	-
Vol.	544	615	629	589	570	- 58	- /	338	370	- 508 -	-

# Ada County Highway District 3775 Adams St Garden City, ID 83714

Site Code: 111 Station ID: 08th St N-O State St Latitude: 43' 37.1630 North

Start Time	Mon 09-Apr-18	Tue 10-Apr-18	Wed 11-Apr-18	Thu 12-Apr-18	Fri 13-Apr-18	Avera	age	1	Sat 4-Apr-18	Sun 15-Apr-18		Week Average	
12:00 AM	33	30	*	*	*		32		*	*		32	
01:00	18	20	*	*	*		19		*	*		19	
02:00	13	22	*	*	*		18		*	*		18	
03:00	12	11	*	*	*		12		*	*		12	
04:00	17	16	*	*	*		16		*	*		16	
05:00	49	59	*	*	*		54		*	*		54	
06:00	196	210	*	*	*		203		*	*		203 📃	
07:00	530	537	*	*	*		534		*	*		534	
08:00	441	400	*	*	*		420		*	*		420	
09:00	304	*	*	*	*		304		*	*		304	
10:00	310	*	*	*	*		310		*	*		310 🗖	
11:00	336	*	*	*	*		336		*	*		336	
12:00 PM	378	*	*	*	*		378		*	*		378 📃	
01:00	404	*	*	*	*		404		*	*		404	
02:00	382	*	*	*	*		382		*	*		382 🗖	
03:00	423	*	*	*	*		423		*	*		423	
04:00	485	*	*	*	*		485		*	*		485 🗖	
05:00	562	*	*	*	*		562		*	*		562	
06:00	414	*	*	*	*		414		*	*		414 📃	
07:00	276	*	*	*	*		276		*	*		276 📃	
08:00	231	*	*	*	*		231		*	*		231 🗖	
09:00	218	*	*	*	*		218		*	*		218 📃	
10:00	86	*	*	*	*		86		*	*		86	
11:00	58	*	*	*	*		58		*	*		58	
Day Total	6176	1305	0	0	0		6175		0	0		6175	
% Avg. WkDay	100.0%	21.1%	0.0%	0.0%	0.0%								
% Avg. Week	100.0%	21.1%	0.0%	0.0%	0.0%	10	10.0%		0.0%	0.0%			
AM Peak	07:00	07:00	-	-	-	- (	07:00	-	-	-	-	07:00	
Vol.	530	537	-	-	-	-	534	-	-	-	-	534	
PM Peak	17:00	-	-	-	-	- 1	17:00	-	-	-	-	17:00	
Vol.	562	-	-	-	-	-	562	-	-	-	-	562	

Grand Total	9541	7618	6474	6439	6289	12491	4243	3987	11804
ADT	А	DT 5,703	AAD	T 5,703					

Appendix 2 Parking Data & Summary





101 S CAPITOL BOULEVARD, SUITE 600 BOISE, ID 83702 P 208.338.2683 F 208.338.2685

### PARKING UTILIZATION

Street	Extents	Blockface	Sunday 8AM	Sunday 10AM	Weekday 8AM	Weekday 6PM
	State Street /	West	88%	88%	25%	75%
8th Street	Washington Street	East	86%	100%	14%	71%
o" Slieel	Washington Street /	West	0%	88%	0%	25%
	Franklin Street	East	0%	14%	43%	43%
State Street	8 <sup>th</sup> Street / 7 <sup>th</sup> Street	North	75%	0%	25%	0%
	Oth Street / 8th Street	North	0%	0%	0%	29%
Washington Street		South	0%	25%	0%	25%
	Oth Otre at / 7th Otre at	North	50%	67%	17%	17%
	o" Street / / " Street	South	22%	22%	44%	33%
	9th Street / 8th Street	North	42%	67%	42%	58%
Franklin Street		South	50%	63%	38%	63%
	8th Street / 7th Street	North	70%	60%	70%	70%
		South	86%	71%	100%	86%

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Wedne sdowy 8 4 2021 2:00 000





8us ADA





# Appendix 3 Synchro Reports

### Intersection

| Movement               | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NEL  | NET  | NER  | SWL  | SWT   | SWR  |
|------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Lane Configurations    |      | ÷.   |      |      | 1.   |      |      | 412  |      |      |       |      |
| Traffic Vol, veh/h     | 2    | 2    | 0    | 0    | 7    | 8    | 31   | 182  | 190  | 0    | 0     | 0    |
| Future Vol, veh/h      | 2    | 2    | 0    | 0    | 7    | 8    | 31   | 182  | 190  | 0    | 0     | 0    |
| Conflicting Peds, #/hr | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control           | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Stop | Stop  | Stop |
| RT Channelized         | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None |
| Storage Length         | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -    |
| Veh in Median Storage, | # -  | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %               | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor       | 64   | 64   | 64   | 58   | 58   | 58   | 79   | 79   | 79   | 25   | 25    | 25   |
| Heavy Vehicles, %      | 0    | 0    | 0    | 0    | 0    | 12   | 0    | 2    | 0    | 0    | 0     | 0    |
| Mvmt Flow              | 3    | 3    | 0    | 0    | 12   | 14   | 39   | 230  | 241  | 0    | 0     | 0    |

| Major/Minor          | Minor2 |     | Mi | inor1 |     | Ν    | lajor1 |   |   |  |
|----------------------|--------|-----|----|-------|-----|------|--------|---|---|--|
| Conflicting Flow All | 199    | 549 | -  | -     | 429 | 236  | 0      | 0 | 0 |  |
| Stage 1              | 0      | 0   | -  | -     | 429 | -    | -      | - | - |  |
| Stage 2              | 199    | 549 | -  | -     | 0   | -    | -      | - | - |  |
| Critical Hdwy        | 7.5    | 6.5 | -  | -     | 6.5 | 7.14 | 4.1    | - | - |  |
| Critical Hdwy Stg 1  | -      | -   | -  | -     | 5.5 | -    | -      | - | - |  |
| Critical Hdwy Stg 2  | 6.5    | 5.5 | -  | -     | -   | -    | -      | - | - |  |
| Follow-up Hdwy       | 3.5    | 4   | -  | -     | 4   | 3.42 | 2.2    | - | - |  |
| Pot Cap-1 Maneuver   | 747    | 446 | 0  | 0     | 521 | 736  | -      | - | - |  |
| Stage 1              | -      | -   | 0  | 0     | 587 | -    | -      | - | - |  |
| Stage 2              | 790    | 520 | 0  | 0     | -   | -    | -      | - | - |  |
| Platoon blocked, %   |        |     |    |       |     |      |        | - | - |  |
| Mov Cap-1 Maneuver   | 720    | 446 | -  | -     | 521 | 736  | -      | - | - |  |
| Mov Cap-2 Maneuver   | 720    | 446 | -  | -     | 521 | -    | -      | - | - |  |
| Stage 1              | -      | -   | -  | -     | 587 | -    | -      | - | - |  |
| Stage 2              | 759    | 520 | -  | -     | -   | -    | -      | - | - |  |
|                      |        |     |    |       |     |      |        |   |   |  |
| Approach             | EB     |     |    | WB    |     |      | NE     |   |   |  |

| Approach             | EB   | WB   | NE |  |
|----------------------|------|------|----|--|
| HCM Control Delay, s | 11.6 | 11.1 |    |  |
| HCM LOS              | В    | В    |    |  |

| Minor Lane/Major Mvmt | NEL | NET | NER EBLn1 | NBLn1 |  |
|-----------------------|-----|-----|-----------|-------|--|
| Capacity (veh/h)      | -   | -   | - 551     | 617   |  |
| HCM Lane V/C Ratio    | -   | -   | - 0.011   | 0.042 |  |
| HCM Control Delay (s) | -   | -   | - 11.6    | 11.1  |  |
| HCM Lane LOS          | -   | -   | - B       | В     |  |
| HCM 95th %tile Q(veh) | -   | -   | - 0       | 0.1   |  |

### Intersection

| 3.8  |                                                                       |                                                                                                   |                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                      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| EBL  | EBT                                                                   | EBR                                                                                               | WBL                                                                                                                                                                                                  | WBT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | WBR                                                                                                                                                  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| 4    | 9                                                                     | 0                                                                                                 | 0                                                                                                                                                                                                    | 78                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 15                                                                                                                                                   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| Stop | Stop                                                                  | Stop                                                                                              | Stop                                                                                                                                                                                                 | Stop                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Stop                                                                                                                                                 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| 77   | 77                                                                    | 77                                                                                                | 65                                                                                                                                                                                                   | 65                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 65                                                                                                                                                   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| 5    | 12                                                                    | 0                                                                                                 | 0                                                                                                                                                                                                    | 120                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 23                                                                                                                                                   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|      | 3.8<br>EBL<br>4<br>4<br>0<br>Stop<br>-<br>-<br>-<br>#<br>77<br>0<br>5 | 3.8<br>EBL EBT<br>4 9<br>4 9<br>0 0<br>Stop Stop<br><br>4 -<br>7<br>7<br>7<br>7<br>0 0<br>5<br>12 | 3.8       EBL     EBT     EBR       4     9     0       4     9     0       4     9     0       5     500     0       5     10     0       7     77     77       0     0     0       75     12     0 | 3.8         EBI         EBR         WBL           4         9         0         0           4         9         0         0           4         9         0         0           4         9         0         0           5         5         5         0           5         5         5         5           6         7         7         7           7         7         7         6           7         7         7         6           0         0         0         0         0 | 3.8         EBL       EBT       EBR       WBL       WBT         4       9       0       0       78         4       9       0       0       78         4       9       0       0       78         4       9       0       0       78         4       9       0       0       78         0       0       0       0       78         500       Stop       Stop       Stop       Stop         500       Stop       Stop       Stop       Stop         71       77       77       65       65         0       0       0       0       0         77       77       77       65       65         0       0       0       0       0         5       12       0       0       120 | 3.8           EBL         EBT         EBR         WBL         WBT         WBR           4         9         0         0         78         15           4         9         0         0         78         15           4         9         0         0         78         15           4         9         0         0         78         15           0         0         0         0         78         15           0         0         0         0         78         15           0         0         0         0         0         0         0           Stop         Stop         Stop         Stop         Stop         Stop         Stop           -         -         -         -         -         -         -           -         -         -         -         -         -         -           -         -         -         -         -         -         -           -         -         -         -         -         -         -           -         -         -         -         - | 3.8         EBL       EBT       EBR       WBL       WBT       WBR       NEL         4       9       0       0       78       15       3         4       9       0       0       78       15       3         4       9       0       0       78       15       3         0       0       0       0       78       15       3         0       0       0       0       78       15       3         0       0       0       0       78       15       3         0       0       0       0       78       15       3         0       0       0       0       0       0       0         Stop       Stop       Stop       Stop       Stop       Free         -       -       -       -       -       -       -         #       0       -       -       0       -       -         #       0       -       -       0       -       -         77       77       77       65       65       65       92         0 | 3.8           EBL         EBT         EBR         WBL         WBT         WBR         NEL         NET           4         9         0         0         78         15         3         319           4         9         0         0         78         15         3         319           4         9         0         0         78         15         3         319           0         0         0         0         78         15         3         319           0         0         0         0         78         15         3         319           0         0         0         0         78         15         3         319           0         0         0         0         0         0         0         0         0           Stop         Stop         Stop         Stop         Stop         Stop         Free         Free           -         -         -         -         -         -         -         -           -         -         -         0         -         -         0         -         -         - | 3.8EBLEBTEBRWBLWBTWBRNELNETNER $4$ 900781533192249007815331922000781533192200000000StopStopStopStopStopFreeFree-None-None-NoneNone-0NoneNone-0#0-0000-77776565659292920000000051200120233347 | 3.8EBLEBTEBRWBLWBTWBRNELNETNERSWL $4$ 90078153319220 $4$ 90078153319220 $4$ 90078153319220 $4$ 9000000000 $4$ 900781553319220 $4$ 9000000000 $4$ 9000000000 $4$ 9000000000 $4$ 9000000000 $4$ 9000000000 $5$ 5051051051200120233347240 | 3.8EBLEBTEBRWBLWBTWBRNELNETNERSWLSWT $4$ 900781533192200490078153319220049007815331922004900781533192200490078153319220049007815331922000000000000058topStopStopStopFreeFreeFreeStopStop51200101111778746565929292252500000000000512001202333472400 | 3.8EBLEBRWBLWBTWBRNELNETNERSWLSWTSWR4900781533192200049007815331922000490078153319220004900781533192200049007815331922000049007815331922000049007815331922000049007815331922000055topStopStopStopStopFreeFreeFreeStopStopStopStop5101111111111111111111177777656592929225252501000000000005120012023334724000 |

| Major/Minor          | Minor2 |     | М | inor1 |     | Ν   | lajor1 |   |   |  |
|----------------------|--------|-----|---|-------|-----|-----|--------|---|---|--|
| Conflicting Flow All | 240    | 377 | - | -     | 365 | 186 | 0      | 0 | 0 |  |
| Stage 1              | 0      | 0   | - | -     | 365 | -   | -      | - | - |  |
| Stage 2              | 240    | 377 | - | -     | 0   | -   | -      | - | - |  |
| Critical Hdwy        | 7.5    | 6.5 | - | -     | 6.5 | 6.9 | 4.1    | - | - |  |
| Critical Hdwy Stg 1  | -      | -   | - | -     | 5.5 | -   | -      | - | - |  |
| Critical Hdwy Stg 2  | 6.5    | 5.5 | - | -     | -   | -   | -      | - | - |  |
| Follow-up Hdwy       | 3.5    | 4   | - | -     | 4   | 3.3 | 2.2    | - | - |  |
| Pot Cap-1 Maneuver   | 699    | 558 | 0 | 0     | 566 | 831 | -      | - | - |  |
| Stage 1              | -      | -   | 0 | 0     | 627 | -   | -      | - | - |  |
| Stage 2              | 748    | 619 | 0 | 0     | -   | -   | -      | - | - |  |
| Platoon blocked, %   |        |     |   |       |     |     |        | - | - |  |
| Mov Cap-1 Maneuver   | 569    | 558 | - | -     | 566 | 831 | -      | - | - |  |
| Mov Cap-2 Maneuver   | 569    | 558 | - | -     | 566 | -   | -      | - | - |  |
| Stage 1              | -      | -   | - | -     | 627 | -   | -      | - | - |  |
| Stage 2              | 588    | 619 | - | -     | -   | -   | -      | - | - |  |
|                      |        |     |   |       |     |     |        |   |   |  |
| Approach             | EB     |     |   | WB    |     |     | NE     |   |   |  |

| Approach             | EB   | WB   | NE |  |
|----------------------|------|------|----|--|
| HCM Control Delay, s | 11.6 | 12.9 |    |  |
| HCM LOS              | В    | В    |    |  |

| Minor Lane/Major Mvmt | NEL | NET | NER E | EBLn1W | /BLn1 |
|-----------------------|-----|-----|-------|--------|-------|
| Capacity (veh/h)      | -   | -   | -     | 561    | 597   |
| HCM Lane V/C Ratio    | -   | -   | -     | 0.03   | 0.24  |
| HCM Control Delay (s) | -   | -   | -     | 11.6   | 12.9  |
| HCM Lane LOS          | -   | -   | -     | В      | В     |
| HCM 95th %tile Q(veh) | -   | -   | -     | 0.1    | 0.9   |

| ī |   |    |    |          |     |     |  |
|---|---|----|----|----------|-----|-----|--|
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|                        |      |      |      |      |      |      |      |      |      |      | <u> </u> |      |
|------------------------|------|------|------|------|------|------|------|------|------|------|----------|------|
| Movement               | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NEL  | NET  | NER  | SWL  | SWT      | SWR  |
| Lane Configurations    |      | 4    |      |      | 1.   |      |      | 412  |      |      |          |      |
| Traffic Vol, veh/h     | 12   | 24   | 0    | 0    | 13   | 3    | 24   | 171  | 18   | 0    | 0        | 0    |
| Future Vol, veh/h      | 12   | 24   | 0    | 0    | 13   | 3    | 24   | 171  | 18   | 0    | 0        | 0    |
| Conflicting Peds, #/hr | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0        | 0    |
| Sign Control           | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Stop | Stop     | Stop |
| RT Channelized         | -    | -    | None | -    | -    | None | -    | -    | None | -    | -        | None |
| Storage Length         | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -        | -    |
| Veh in Median Storage, | # -  | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965    | -    |
| Grade, %               | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0        | -    |
| Peak Hour Factor       | 75   | 75   | 75   | 67   | 67   | 67   | 92   | 92   | 92   | 25   | 25       | 25   |
| Heavy Vehicles, %      | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 4    | 0    | 0    | 0        | 0    |
| Mvmt Flow              | 16   | 32   | 0    | 0    | 19   | 4    | 26   | 186  | 20   | 0    | 0        | 0    |

| Major/Minor          | Minor2 |     | Mi | nor1 |     | N   | lajor1 |   |   |  |
|----------------------|--------|-----|----|------|-----|-----|--------|---|---|--|
| Conflicting Flow All | 155    | 258 | -  | -    | 248 | 103 | 0      | 0 | 0 |  |
| Stage 1              | 0      | 0   | -  | -    | 248 | -   | -      | - | - |  |
| Stage 2              | 155    | 258 | -  | -    | 0   | -   | -      | - | - |  |
| Critical Hdwy        | 7.5    | 6.5 | -  | -    | 6.5 | 6.9 | 4.1    | - | - |  |
| Critical Hdwy Stg 1  | -      | -   | -  | -    | 5.5 | -   | -      | - | - |  |
| Critical Hdwy Stg 2  | 6.5    | 5.5 | -  | -    | -   | -   | -      | - | - |  |
| Follow-up Hdwy       | 3.5    | 4   | -  | -    | 4   | 3.3 | 2.2    | - | - |  |
| Pot Cap-1 Maneuver   | 802    | 650 | 0  | 0    | 658 | 938 | -      | - | - |  |
| Stage 1              | -      | -   | 0  | 0    | 705 | -   | -      | - | - |  |
| Stage 2              | 838    | 698 | 0  | 0    | -   | -   | -      | - | - |  |
| Platoon blocked, %   |        |     |    |      |     |     |        | - | - |  |
| Mov Cap-1 Maneuver   | 780    | 650 | -  | -    | 658 | 938 | -      | - | - |  |
| Mov Cap-2 Maneuver   | 780    | 650 | -  | -    | 658 | -   | -      | - | - |  |
| Stage 1              | -      | -   | -  | -    | 705 | -   | -      | - | - |  |
| Stage 2              | 811    | 698 | -  | -    | -   | -   | -      | - | - |  |
|                      |        |     |    |      |     |     |        |   |   |  |
| Approach             | EB     |     |    | WB   |     |     | NE     |   |   |  |
|                      |        |     |    |      |     |     |        |   |   |  |

| HCM Control Delay, s | 10.6 | 10.3 |  |
|----------------------|------|------|--|
| HCMLOS               | В    | В    |  |

| Minor Lane/Major Mvmt | NEL | NET | NER E | BLn1V | VBLn1 |
|-----------------------|-----|-----|-------|-------|-------|
| Capacity (veh/h)      | -   | -   | -     | 688   | 697   |
| HCM Lane V/C Ratio    | -   | -   | -     | 0.07  | 0.034 |
| HCM Control Delay (s) | -   | -   | -     | 10.6  | 10.3  |
| HCM Lane LOS          | -   | -   | -     | В     | В     |
| HCM 95th %tile Q(veh) | -   | -   | -     | 0.2   | 0.1   |

### Intersection

|                          |      |      |      |      | WET  |      |      |      |      | 0.14 | 014/7 | 011/5 |
|--------------------------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBI  | WBR  | NEL  | NET  | NER  | SWL  | SWI   | SWR   |
| Lane Configurations      |      | 4    |      |      | 1.   |      |      | 412  |      |      |       |       |
| Traffic Vol, veh/h       | 9    | 13   | 0    | 0    | 31   | 29   | 10   | 325  | 9    | 0    | 0     | 0     |
| Future Vol, veh/h        | 9    | 13   | 0    | 0    | 31   | 29   | 10   | 325  | 9    | 0    | 0     | 0     |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0     |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Stop | Stop  | Stop  |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None  |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -     |
| Veh in Median Storage, # | ŧ -  | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -     |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -     |
| Peak Hour Factor         | 66   | 66   | 66   | 74   | 74   | 74   | 88   | 88   | 88   | 25   | 25    | 25    |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0     |
| Mvmt Flow                | 14   | 20   | 0    | 0    | 42   | 39   | 11   | 369  | 10   | 0    | 0     | 0     |

| Major/Minor          | Minor2 |     | Mi | inor1 |     | N   | 1ajor1 |   |   |  |
|----------------------|--------|-----|----|-------|-----|-----|--------|---|---|--|
| Conflicting Flow All | 228    | 401 | -  | -     | 396 | 190 | 0      | 0 | 0 |  |
| Stage 1              | 0      | 0   | -  | -     | 396 | -   | -      | - | - |  |
| Stage 2              | 228    | 401 | -  | -     | 0   | -   | -      | - | - |  |
| Critical Hdwy        | 7.5    | 6.5 | -  | -     | 6.5 | 6.9 | 4.1    | - | - |  |
| Critical Hdwy Stg 1  | -      | -   | -  | -     | 5.5 | -   | -      | - | - |  |
| Critical Hdwy Stg 2  | 6.5    | 5.5 | -  | -     | -   | -   | -      | - | - |  |
| Follow-up Hdwy       | 3.5    | 4   | -  | -     | 4   | 3.3 | 2.2    | - | - |  |
| Pot Cap-1 Maneuver   | 713    | 541 | 0  | 0     | 544 | 826 | -      | - | - |  |
| Stage 1              | -      | -   | 0  | 0     | 607 | -   | -      | - | - |  |
| Stage 2              | 760    | 604 | 0  | 0     | -   | -   | -      | - | - |  |
| Platoon blocked, %   |        |     |    |       |     |     |        | - | - |  |
| Mov Cap-1 Maneuver   | 639    | 541 | -  | -     | 544 | 826 | -      | - | - |  |
| Mov Cap-2 Maneuver   | 639    | 541 | -  | -     | 544 | -   | -      | - | - |  |
| Stage 1              | -      | -   | -  | -     | 607 | -   | -      | - | - |  |
| Stage 2              | 674    | 604 | -  | -     | -   | -   | -      | - | - |  |
|                      |        |     |    |       |     |     |        |   |   |  |
| Approach             | EB     |     |    | WB    |     |     | NE     |   |   |  |

| Approach             | EB   | WB   | NE |  |
|----------------------|------|------|----|--|
| HCM Control Delay, s | 11.6 | 11.3 |    |  |
| HCM LOS              | В    | В    |    |  |

| Minor Lane/Major Mvmt | NEL | NET | NER | EBLn1 | WBLn1 |
|-----------------------|-----|-----|-----|-------|-------|
| Capacity (veh/h)      | -   | -   | -   | 577   | 652   |
| HCM Lane V/C Ratio    | -   | -   | -   | 0.058 | 0.124 |
| HCM Control Delay (s) | -   | -   | -   | 11.6  | 11.3  |
| HCM Lane LOS          | -   | -   | -   | В     | В     |
| HCM 95th %tile Q(veh) | -   | -   | -   | 0.2   | 0.4   |

### Intersection

| Movement               | FRI  | FBT  | FRR  | WRI  | WRT  | WRR  | NFI  | NFT  | NFR  | SWI  | SWT   | SWR  |
|------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Lane Configurations    |      | ្ដ   |      |      | 1    |      |      | 4    |      | OWL  | 0001  | 0000 |
| Traffic Vol, veh/h     | 2    | 2    | 0    | 0    | 7    | 8    | 31   | 182  | 190  | 0    | 0     | 0    |
| Future Vol, veh/h      | 2    | 2    | 0    | 0    | 7    | 8    | 31   | 182  | 190  | 0    | 0     | 0    |
| Conflicting Peds, #/hr | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control           | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Stop | Stop  | Stop |
| RT Channelized         | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None |
| Storage Length         | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -    |
| Veh in Median Storage, | # -  | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %               | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor       | 64   | 64   | 64   | 58   | 58   | 58   | 79   | 79   | 79   | 25   | 25    | 25   |
| Heavy Vehicles, %      | 0    | 0    | 0    | 0    | 0    | 12   | 0    | 2    | 0    | 0    | 0     | 0    |
| Mvmt Flow              | 3    | 3    | 0    | 0    | 12   | 14   | 39   | 230  | 241  | 0    | 0     | 0    |

| Major/Minor          | Minor2 |     | Mi | inor1 |     | Ν     | 1ajor1 |   |   |  |
|----------------------|--------|-----|----|-------|-----|-------|--------|---|---|--|
| Conflicting Flow All | 442    | 549 | -  | -     | 429 | 351   | 0      | 0 | 0 |  |
| Stage 1              | 0      | 0   | -  | -     | 429 | -     | -      | - | - |  |
| Stage 2              | 442    | 549 | -  | -     | 0   | -     | -      | - | - |  |
| Critical Hdwy        | 7.1    | 6.5 | -  | -     | 6.5 | 6.32  | 4.1    | - | - |  |
| Critical Hdwy Stg 1  | -      | -   | -  | -     | 5.5 | -     | -      | - | - |  |
| Critical Hdwy Stg 2  | 6.1    | 5.5 | -  | -     | -   | -     | -      | - | - |  |
| Follow-up Hdwy       | 3.5    | 4   | -  | -     | 4   | 3.408 | 2.2    | - | - |  |
| Pot Cap-1 Maneuver   | 529    | 446 | 0  | 0     | 521 | 670   | -      | - | - |  |
| Stage 1              | -      | -   | 0  | 0     | 587 | -     | -      | - | - |  |
| Stage 2              | 598    | 520 | 0  | 0     | -   | -     | -      | - | - |  |
| Platoon blocked, %   |        |     |    |       |     |       |        | - | - |  |
| Mov Cap-1 Maneuver   | 509    | 446 | -  | -     | 521 | 670   | -      | - | - |  |
| Mov Cap-2 Maneuver   | 509    | 446 | -  | -     | 521 | -     | -      | - | - |  |
| Stage 1              | -      | -   | -  | -     | 587 | -     | -      | - | - |  |
| Stage 2              | 574    | 520 | -  | -     | -   | -     | -      | - | - |  |
|                      |        |     |    |       |     |       |        |   |   |  |
| Annroach             | FR     |     |    | W/R   |     |       |        |   |   |  |

| Approach             | EB   | WB   | NE |  |
|----------------------|------|------|----|--|
| HCM Control Delay, s | 12.7 | 11.4 |    |  |
| HCM LOS              | В    | В    |    |  |

| Minor Lane/Major Mvmt | NEL | NET | NER | EBLn1\ | NBLn1 |
|-----------------------|-----|-----|-----|--------|-------|
| Capacity (veh/h)      | -   | -   | -   | 475    | 591   |
| HCM Lane V/C Ratio    | -   | -   | -   | 0.013  | 0.044 |
| HCM Control Delay (s) | -   | -   | -   | 12.7   | 11.4  |
| HCM Lane LOS          | -   | -   | -   | В      | В     |
| HCM 95th %tile Q(veh) | -   | -   | -   | 0      | 0.1   |

### Intersection

Int Delay, s/veh

|                        |      |      |      |      |      |      |      |      |      | <b></b> | <u> </u> | <u> </u> |
|------------------------|------|------|------|------|------|------|------|------|------|---------|----------|----------|
| Movement               | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NEL  | NET  | NER  | SWL     | SWT      | SWR      |
| Lane Configurations    |      | ÷.   |      |      | 1.   |      |      | 4    |      |         |          |          |
| Traffic Vol, veh/h     | 4    | 9    | 0    | 0    | 78   | 15   | 3    | 319  | 22   | 0       | 0        | 0        |
| Future Vol, veh/h      | 4    | 9    | 0    | 0    | 78   | 15   | 3    | 319  | 22   | 0       | 0        | 0        |
| Conflicting Peds, #/hr | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0       | 0        | 0        |
| Sign Control           | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Stop    | Stop     | Stop     |
| RT Channelized         | -    | -    | None | -    | -    | None | -    | -    | None | -       | -        | None     |
| Storage Length         | -    | -    | -    | -    | -    | -    | -    | -    | -    | -       | -        | -        |
| Veh in Median Storage, | # -  | 0    | -    | -    | 0    | -    | -    | 0    | -    | -       | 16965    | -        |
| Grade, %               | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -       | 0        | -        |
| Peak Hour Factor       | 77   | 77   | 77   | 65   | 65   | 65   | 92   | 92   | 92   | 25      | 25       | 25       |
| Heavy Vehicles, %      | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0       | 0        | 0        |
| Mvmt Flow              | 5    | 12   | 0    | 0    | 120  | 23   | 3    | 347  | 24   | 0       | 0        | 0        |

| Major/Minor          | Minor2 |     | Μ | inor1 |     | Ν   | lajor1 |   |   |  |
|----------------------|--------|-----|---|-------|-----|-----|--------|---|---|--|
| Conflicting Flow All | 437    | 377 | - | -     | 365 | 359 | 0      | 0 | 0 |  |
| Stage 1              | 0      | 0   | - | -     | 365 | -   | -      | - | - |  |
| Stage 2              | 437    | 377 | - | -     | 0   | -   | -      | - | - |  |
| Critical Hdwy        | 7.1    | 6.5 | - | -     | 6.5 | 6.2 | 4.1    | - | - |  |
| Critical Hdwy Stg 1  | -      | -   | - | -     | 5.5 | -   | -      | - | - |  |
| Critical Hdwy Stg 2  | 6.1    | 5.5 | - | -     | -   | -   | -      | - | - |  |
| Follow-up Hdwy       | 3.5    | 4   | - | -     | 4   | 3.3 | 2.2    | - | - |  |
| Pot Cap-1 Maneuver   | 533    | 558 | 0 | 0     | 566 | 690 | -      | - | - |  |
| Stage 1              | -      | -   | 0 | 0     | 627 | -   | -      | - | - |  |
| Stage 2              | 602    | 619 | 0 | 0     | -   | -   | -      | - | - |  |
| Platoon blocked, %   |        |     |   |       |     |     |        | - | - |  |
| Mov Cap-1 Maneuver   | 431    | 558 | - | -     | 566 | 690 | -      | - | - |  |
| Mov Cap-2 Maneuver   | 431    | 558 | - | -     | 566 | -   | -      | - | - |  |
| Stage 1              | -      | -   | - | -     | 627 | -   | -      | - | - |  |
| Stage 2              | 471    | 619 | - | -     | -   | -   | -      | - | - |  |
|                      |        |     |   |       |     |     |        |   |   |  |
| Approach             | EB     |     |   | WB    |     |     | NE     |   |   |  |
| HCM Control Delay, s | 12.3   |     |   | 13.2  |     |     |        |   |   |  |

HCM LOS B B

| Minor Lane/Major Mvmt | NEL | NET | NER | EBLn1\ | WBLn1 |
|-----------------------|-----|-----|-----|--------|-------|
| Capacity (veh/h)      | -   | -   | -   | 512    | 583   |
| HCM Lane V/C Ratio    | -   | -   | -   | 0.033  | 0.245 |
| HCM Control Delay (s) | -   | -   | -   | 12.3   | 13.2  |
| HCM Lane LOS          | -   | -   | -   | В      | В     |
| HCM 95th %tile Q(veh) | -   | -   | -   | 0.1    | 1     |

### Intersection

| Int Delay, s/veh       | 2.5  |      |      |      |      |      |      |      |      |      |       |      |  |
|------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|--|
| Movement               | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NEL  | NET  | NER  | SWL  | SWT   | SWR  |  |
| Lane Configurations    |      | ŧ    |      |      | ţ,   |      |      | \$   |      |      |       |      |  |
| Traffic Vol, veh/h     | 12   | 24   | 0    | 0    | 13   | 3    | 24   | 171  | 18   | 0    | 0     | 0    |  |
| Future Vol, veh/h      | 12   | 24   | 0    | 0    | 13   | 3    | 24   | 171  | 18   | 0    | 0     | 0    |  |
| Conflicting Peds, #/hr | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |  |
| Sign Control           | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Stop | Stop  | Stop |  |
| RT Channelized         | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None |  |
| Storage Length         | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -    |  |
| Veh in Median Storage, | ,# - | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |  |
| Grade, %               | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |  |
| Peak Hour Factor       | 75   | 75   | 75   | 67   | 67   | 67   | 92   | 92   | 92   | 25   | 25    | 25   |  |
| Heavy Vehicles, %      | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 4    | 0    | 0    | 0     | 0    |  |
| Mvmt Flow              | 16   | 32   | 0    | 0    | 19   | 4    | 26   | 186  | 20   | 0    | 0     | 0    |  |

| Major/Minor          | Minor2 |     | Mi | nor1 |     | Ν   | lajor1 |   |   |  |
|----------------------|--------|-----|----|------|-----|-----|--------|---|---|--|
| Conflicting Flow All | 260    | 258 | -  | -    | 248 | 196 | 0      | 0 | 0 |  |
| Stage 1              | 0      | 0   | -  | -    | 248 | -   | -      | - | - |  |
| Stage 2              | 260    | 258 | -  | -    | 0   | -   | -      | - | - |  |
| Critical Hdwy        | 7.1    | 6.5 | -  | -    | 6.5 | 6.2 | 4.1    | - | - |  |
| Critical Hdwy Stg 1  | -      | -   | -  | -    | 5.5 | -   | -      | - | - |  |
| Critical Hdwy Stg 2  | 6.1    | 5.5 | -  | -    | -   | -   | -      | - | - |  |
| Follow-up Hdwy       | 3.5    | 4   | -  | -    | 4   | 3.3 | 2.2    | - | - |  |
| Pot Cap-1 Maneuver   | 697    | 650 | 0  | 0    | 658 | 850 | -      | - | - |  |
| Stage 1              | -      | -   | 0  | 0    | 705 | -   | -      | - | - |  |
| Stage 2              | 749    | 698 | 0  | 0    | -   | -   | -      | - | - |  |
| Platoon blocked, %   |        |     |    |      |     |     |        | - | - |  |
| Mov Cap-1 Maneuver   | 677    | 650 | -  | -    | 658 | 850 | -      | - | - |  |
| Mov Cap-2 Maneuver   | 677    | 650 | -  | -    | 658 | -   | -      | - | - |  |
| Stage 1              | -      | -   | -  | -    | 705 | -   | -      | - | - |  |
| Stage 2              | 725    | 698 | -  | -    | -   | -   | -      | - | - |  |
|                      |        |     |    |      |     |     |        |   |   |  |
| Approach             | EB     |     |    | WB   |     |     | NE     |   |   |  |
| HCM Control Delay s  | 10.0   |     |    | 10 / |     |     |        |   |   |  |

| riow control Dolay, 5 | 10.0 | 10.4 |  |
|-----------------------|------|------|--|
| HCM LOS               | В    | В    |  |

| Minor Lane/Major Mvmt | NEL | NET | NER | EBLn1V | VBLn1 |  |  |
|-----------------------|-----|-----|-----|--------|-------|--|--|
| Capacity (veh/h)      | -   | -   | -   | 659    | 687   |  |  |
| HCM Lane V/C Ratio    | -   | -   | -   | 0.073  | 0.035 |  |  |
| HCM Control Delay (s) | -   | -   | -   | 10.9   | 10.4  |  |  |
| HCM Lane LOS          | -   | -   | -   | В      | В     |  |  |
| HCM 95th %tile Q(veh) | -   | -   | -   | 0.2    | 0.1   |  |  |

### Intersection

| Movement               | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NEL  | NET  | NER  | SWL  | SWT   | SWR  |
|------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Lane Configurations    |      | ŧ    |      |      | ţ,   |      |      | \$   |      |      |       |      |
| Traffic Vol, veh/h     | 9    | 13   | 0    | 0    | 31   | 29   | 10   | 325  | 9    | 0    | 0     | 0    |
| Future Vol, veh/h      | 9    | 13   | 0    | 0    | 31   | 29   | 10   | 325  | 9    | 0    | 0     | 0    |
| Conflicting Peds, #/hr | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control           | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Stop | Stop  | Stop |
| RT Channelized         | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None |
| Storage Length         | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -    |
| Veh in Median Storage, | # -  | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %               | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor       | 66   | 66   | 66   | 74   | 74   | 74   | 88   | 88   | 88   | 25   | 25    | 25   |
| Heavy Vehicles, %      | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Mvmt Flow              | 14   | 20   | 0    | 0    | 42   | 39   | 11   | 369  | 10   | 0    | 0     | 0    |

| Major/Minor          | Minor2 |     | М | inor1 |     | Ν   | lajor1 |   |   |  |
|----------------------|--------|-----|---|-------|-----|-----|--------|---|---|--|
| Conflicting Flow All | 437    | 401 | - | -     | 396 | 374 | 0      | 0 | 0 |  |
| Stage 1              | 0      | 0   | - | -     | 396 | -   | -      | - | - |  |
| Stage 2              | 437    | 401 | - | -     | 0   | -   | -      | - | - |  |
| Critical Hdwy        | 7.1    | 6.5 | - | -     | 6.5 | 6.2 | 4.1    | - | - |  |
| Critical Hdwy Stg 1  | -      | -   | - | -     | 5.5 | -   | -      | - | - |  |
| Critical Hdwy Stg 2  | 6.1    | 5.5 | - | -     | -   | -   | -      | - | - |  |
| Follow-up Hdwy       | 3.5    | 4   | - | -     | 4   | 3.3 | 2.2    | - | - |  |
| Pot Cap-1 Maneuver   | 533    | 541 | 0 | 0     | 544 | 677 | -      | - | - |  |
| Stage 1              | -      | -   | 0 | 0     | 607 | -   | -      | - | - |  |
| Stage 2              | 602    | 604 | 0 | 0     | -   | -   | -      | - | - |  |
| Platoon blocked, %   |        |     |   |       |     |     |        | - | - |  |
| Mov Cap-1 Maneuver   | 473    | 541 | - | -     | 544 | 677 | -      | - | - |  |
| Mov Cap-2 Maneuver   | 473    | 541 | - | -     | 544 | -   | -      | - | - |  |
| Stage 1              | -      | -   | - | -     | 607 | -   | -      | - | - |  |
| Stage 2              | 528    | 604 | - | -     | -   | -   | -      | - | - |  |
|                      |        |     |   |       |     |     |        |   |   |  |
| Annroach             | FR     |     |   | W/R   |     |     | NE     |   |   |  |

| Approach             | EB   | WB   | NE |  |
|----------------------|------|------|----|--|
| HCM Control Delay, s | 12.5 | 11.9 |    |  |
| HCM LOS              | В    | В    |    |  |

| Minor Lane/Major Mvmt | NEL | NET | NER | EBLn1\ | NBLn1 |
|-----------------------|-----|-----|-----|--------|-------|
| Capacity (veh/h)      | -   | -   | -   | 511    | 601   |
| HCM Lane V/C Ratio    | -   | -   | -   | 0.065  | 0.135 |
| HCM Control Delay (s) | -   | -   | -   | 12.5   | 11.9  |
| HCM Lane LOS          | -   | -   | -   | В      | В     |
| HCM 95th %tile Q(veh) | -   | -   | -   | 0.2    | 0.5   |

Appendix 4 Crash Data & Summary

### Total Accidents: 20 Total Fatalities: 0

Total Units: 40 Total Injuries: 10

Total People: 56

Report Criteria: 8th St-Boise And State St

Streets :

8th St-Boise Counties: ALL, Cities: ALL - In City And Rural,

State St

Use intersection related crashes

Data From: 2020,2019,2018,2017,2016,2015,2014,2013,2012,2011,

| Year |      | Total |
|------|------|-------|
|      | 2011 | 2     |
|      | 2012 | 4     |
|      | 2013 | 2     |
|      | 2014 | 2     |
|      | 2016 | 2     |
|      | 2017 | 3     |
|      | 2019 | 4     |
|      | 2020 | 1     |

| Severity            | Total |
|---------------------|-------|
| A Injury Accident   | 1     |
| B Injury Accident   | 4     |
| C Injury Accident   | 3     |
| Property Dmg Report | 12    |

| Event Name      | Total |
|-----------------|-------|
| Angle           | 10    |
| Head-On Turning | 10    |
| Rear-End        | 6     |
| Pedestrian      | 4     |
| Side Swipe Same | 4     |
| Angle Turning   | 2     |
|                 |       |
| Backed Into     | 2     |
| Pedalcycle      | 2     |

| Injury                   | Total |
|--------------------------|-------|
| Suspected Serious Injury | 1     |
| Suspected Minor Injury   | 4     |
| Possible Injury          | 5     |
| No Apparent Injury       | 46    |

| Contributing Circumstance | Total |
|---------------------------|-------|
| Failed to Obey Signal     | 6     |
| Failed to Yield           | 6     |
| Following Too Close       | 3     |
| Improper Turn             | 2     |
| Inattention               | 2     |
| Improper Backing          | 1     |
|                           |       |
| Wrong Side or Wrong Way   | 1     |
| None                      | 99    |

### Total Accidents: 13 Total Fatalities: 0

### Total Units: 26 Total Injuries: 9

Total People: 32

Report Criteria: 8th St-Boise And Washington St

Streets :

8th St-Boise Counties:ALL, Cities:ALL - In City And Rural,

Washington St

Use intersection related crashes

Data From: 2020,2019,2018,2017,2016,2015,2014,2013,2012,2011,

| Year |      | Total |
|------|------|-------|
|      | 2011 | 2     |
|      | 2013 | 3     |
|      | 2014 | 2     |
|      | 2015 | 1     |
|      | 2017 | 2     |
|      | 2019 | 2     |
|      | 2020 | 1     |

| Event Name             | Total |
|------------------------|-------|
| Angle                  | 14    |
| Pedalcycle             | 4     |
| Same Direction Turning | 4     |
| Head-On Turning        | 2     |
| Rear-End               | 2     |

| Severity            | Total |
|---------------------|-------|
| B Injury Accident   | 5     |
| C Injury Accident   | 3     |
| Property Dmg Report | 5     |

| Injury                 | Total |
|------------------------|-------|
| Suspected Minor Injury | 5     |
| Possible Injury        | 4     |
| No Apparent Injury     | 23    |

| Circumstance             | Total |
|--------------------------|-------|
| Failed to Yield          | 4     |
| Inattention              | 3     |
| Failed to Obey Stop Sign | 2     |
| Alcohol Impaired         | 1     |
| Vehic                    | 1     |
| Following Too Close      | 1     |
| Caugh                    | 1     |
| Other                    | 1     |
| None                     | 64    |

#### Total Accidents: 4 Total Fatalities: 0

#### Total Units: 9 Total Injuries: 2

Total People: 11

Report Criteria: 8th St-Boise And Franklin St

Streets :

8th St-Boise Counties: ALL, Cities: ALL - In City And Rural,

Franklin St

Use intersection related crashes

### Data From: 2020,2019,2018,2017,2016,2015,2014,2013,2012,2011,

| Year |      | Total |
|------|------|-------|
|      | 2013 | 1     |
|      | 2015 | 1     |
|      | 2019 | 1     |
|      | 2020 | 1     |

| Severity            | Total |
|---------------------|-------|
| B Injury Accident   | 1     |
| C Injury Accident   | 1     |
| Property Dmg Report | 2     |

| Event Name | Total |
|------------|-------|
| Angle      | 6     |
| Pedalcycle | 2     |
|            |       |
| Parked Car | 1     |

| Injury                 | Total |
|------------------------|-------|
| Suspected Minor Injury | 1     |
| Possible Injury        | 1     |
| No Apparent Injury     | 9     |

| Contributing             |       |
|--------------------------|-------|
| Circumstance             | Total |
| Failed to Yield          | 2     |
| Inattention              | 2     |
|                          |       |
| Failed to Obey Stop Sign | 1     |
| None                     | 22    |

Total Accidents:2Total Fatalities:0Total Units:4Total Injuries:0Total People:5

**Report Criteria:** 8th St-Boise And State St

Route ID: 02840AOH000 Measure Range: 0.258 to 0.386 **Counties:**ALL, **Cities:**ALL - Data From: 2020,2019,2018,2017,2016,2015,2014,2013,2012,2011,

Sub-Query Filters: IsReportable - = 'Y', IntersectionRelated - IN('N'),

**Reportable Accidents Only** 

| Year | Total |
|------|-------|
| 2012 | 1     |
| 2017 | 1     |

| Event Name             | Total |
|------------------------|-------|
| Same Direction Turning | 2     |
| Side Swipe Same        | 2     |

| Injury             | Total |
|--------------------|-------|
| No Apparent Injury | 5     |

| Severity            | Total |
|---------------------|-------|
| Property Dmg Report | 2     |

| Circumstance            | Total |
|-------------------------|-------|
| Failed to Maintain Lane | 1     |
| Failed to Yield         | 1     |
| Inattention             | 1     |
| None                    | 9     |

| Crash Street1   | Isect_Distance | DirectionFromIntx | Street2       | Latitude    | Longitude Severity      | Туре                   | Year RefStreet    | Light                  | Weather | Slickness | SurfCond | Units Fatalitie | es Injuries | UnitId Directio | n UnitType        | Action                              | Injury Mile              | post Location              | ContribCirc                         |
|-----------------|----------------|-------------------|---------------|-------------|-------------------------|------------------------|-------------------|------------------------|---------|-----------|----------|-----------------|-------------|-----------------|-------------------|-------------------------------------|--------------------------|----------------------------|-------------------------------------|
| 1 8th St        |                |                   |               | 43.6186694  | -116.200565 PDO         | Same Direction Turning | 2017              | Day                    | Cloudy  | Dry       | None     |                 | 0           | 0 N             | Van - 1 to 8 seat | s Turning Left / Going Straight     | No Apparent Injury       | On Roadway                 | Failed to Yield                     |
| 2 8th St        |                |                   |               | 43.619658   | 3 -116.1995602 PDO      | Side Swipe Same        | 2012              | Day                    | Clear   | Dry       | None     |                 | 0           | 0 N             | Pickup            | Going Straight                      | No Apparent Injury       | On Roadway                 | Failed to Maintain Lane             |
| 3 State St      | 100.0000 F     | E                 |               | 43.61849313 | 3 -116.2001623 PDO      | Rear-End               | 2020 8th St       | Day                    | Cloudy  | Dry       | None     | 2               | 0           | 0 21655359 W    | Pickup            | Going Straight                      | No Apparent Injury       | Intersection Related       | Following Too Close                 |
| 4 8th St        |                |                   | State St      | 43.6187406  | 5 -116.2005078 B Injury | Pedestrian             | 2019              | Day                    | Clear   | Dry       | None     | 2               | 0           | 1 20001061 N    | Car               | Turning Left                        | No Apparent Injury       | In Intersection            | Failed to Yield                     |
| 5 State St      |                |                   | 8th St        | 43.6186919  | -116.2005539 PDO        | Angle                  | 2019              | Dark, Street Lights Or | n Clear | Dry       | None     | 2               | 0           | 0 19963429 N    | SUV/Crossover     | Going Straight                      | No Apparent Injury       | In Intersection            |                                     |
| 6 State St      |                |                   | 8th St        | 43.61874821 | -116.2006651 B Injury   | Pedestrian             | 2019              | Day                    | Clear   | Dry       | None     | 2               | 0           | 1 19947099 NW   | SUV/Crossover     | Turning Left                        | No Apparent Injury       | 1.124 In Intersection      | Failed to Yield                     |
| 7 8th St        | 100.0000 F     | S                 |               | 43.61845887 | -116.2007778 PDO        | Side Swipe Same        | 2019 State St     | Day                    | Clear   | Dry       | None     | 2               | 0           | 0 19796990 N    | SUV/Crossover     | Going Straight                      | No Apparent Injury       | 0.327 Nonjunction          |                                     |
| 8 8th St        |                |                   | State St      | 43.6187051  | -116.2005476 B Injury   | Angle                  | 2017              | Dark, Street Lights Or | n Clear | Dry       | None     | 2               | 0           | 1 18568596 W    | Car               | Going Straight                      | Suspected Minor Injury   | 1.12 In Intersection       | Failed to Obey Signal               |
| 9 State St      |                |                   | 8th St        | 43.6186694  | -116.200565 PDO         | Head-On Turning        | 2017              | Day                    | Clear   | Dry       | None     | 2               | 0           | 0 17981310 E    | SUV/Crossover     | Turning Left                        | No Apparent Injury       | 1.12 In Intersection       | Failed to Obey Signal               |
| 10 8th St       |                |                   | State St      | 43.625727   | 7 -116.1975585 PDO      | Side Swipe Same        | 2017              | Day                    | Cloudy  | Dry       | None     | 2               | 0           | 0 17917630 N    | Car               | Turning Left                        | No Apparent Injury       | 0.35 In Intersection       | Improper Turn                       |
| 11 State St     |                |                   | 8th St        | 43.6186694  | -116.200565 PDO         | Head-On Turning        | 2016              | Day                    | Clear   | Dry       | None     | 2               | 0           | 0 17348861 S    | Car               | Going Straight                      | No Apparent Injury       | 1.12 In Intersection       | Wrong Side or Wrong Way             |
| 12 State St     |                |                   | 8th St        | 43.6186694  | -116.200565 PDO         | Head-On Turning        | 2016              | Day                    | Cloudy  | Dry       | None     | 2               | 0           | 0 16800403 E    | Pickup            | Turning Left                        | No Apparent Injury       | 1.12 In Intersection       | Failed to Yield                     |
| 13 State St     |                |                   | 8th St        | 43.6186694  | -116.200565 PDO         | Backed Into            | 2014              | Day                    | Clear   | Dry       | None     | 2               | 0           | 0 15512142 W    | SUV/Crossover     | Backing                             | No Apparent Injury       | 1.123 Intersection Related | Improper Backing                    |
| 14 State St     |                |                   | 8th St        | 43.6186694  | -116.200565 PDO         | Head-On Turning        | 2014              | Day                    | Clear   | Dry       | None     | 2               | 0           | 0 15181364 N    | SUV/Crossover     | Turning Left                        | No Apparent Injury       | 1.123 In Intersection      | Failed to Yield                     |
| 15 State St     |                |                   | 8th St        | 43.6186694  | -116.200565 C Injury    | Head-On Turning        | 2013              | Day                    | Clear   | Dry       | None     | 2               | 0           | 1 14498653 E    | SUV/Crossover     | Turning Left                        | No Apparent Injury       | 1.123 In Intersection      | Improper Turn                       |
| 16 State St     | 30.0000 F      | E                 |               | 43.61862886 | -116.2004668 PDO        | Rear-End               | 2013 8th St       | Day                    | Clear   | Dry       | None     | 2               | 0           | 0 13987934 E    | Car               | Going Straight                      | No Apparent Injury       | 1.128 Intersection Related | Following Too Close                 |
| 17 State St     | 200.0000 F     | E                 |               | 43.61835313 | 3 -116.1999464 C Injury | Rear-End               | 2012 8th St       | Day                    | Clear   | Dry       | None     | 2               | 0           | 2 13652950 W    | SUV/Crossover     | Going Straight                      | No Apparent Injury       | 1.16 Intersection Related  | Following Too Close                 |
| 18 State St     |                |                   | 8th St        | 43.618687   | -116.2005348 PDO        | Angle Turning          | 2012              | Dark, Street Lights Or | n Clear | Dry       | None     | 2               | 0           | 0 13123210 E    | Car               | Turning Left                        | No Apparent Injury       | 1.123 In Intersection      | Failed to Yield                     |
| 19 State St     |                |                   | 8th St        | 43.618687   | 7 -116.2005348 C Injury | Angle                  | 2012              | Day                    | Cloudy  | Dry       | None     | 2               | 0           | 2 13118629 N    | Car               | Going Straight                      | No Apparent Injury       | 1.123 In Intersection      | Failed to Obey Signal               |
| 20 State St     |                |                   | 8th St        | 43.618687   | -116.2005348 PDO        | Angle                  | 2012              | Day                    | Clear   | Dry       | None     | 2               | 0           | 0 13095935 E    | Car               | Going Straight                      | No Apparent Injury       | 1.123 In Intersection      | Failed to Obey Signal               |
| 21 State St     |                |                   | 8th St        | 43.618687   | 7 -116.2005348 A Injury | Angle                  | 2011              | Day                    | Clear   | Dry       | None     | 2               | 0           | 1 12813912 N    | SUV/Crossover     | Going Straight                      | Suspected Serious Injury | 1.095 In Intersection      | Failed to Obey Signal               |
| 22 8th St       |                |                   | State St      | 43.618687   | 7 -116.2005348 B Injury | Bicycle                | 2011              | Day                    | Clear   | Dry       | None     | 2               | 0           | 1 12737825 N    | Pickup            | Turning Left                        | No Apparent Injury       | 0.34 In Intersection       | Inattention                         |
| 23 8th St       |                |                   | Washington St | 43.61945825 | 5 -116.1998266 B Injury | Angle                  | 2020              | Day                    | Clear   | Dry       | None     | 2               | 0           | 1 21722390 W    | SUV/Crossover     | Going Straight                      | Suspected Minor Injury   | In Intersection            | Failed to Obey Stop Sign            |
| 24 8th St       |                |                   | Washington St | 43.6194663  | 3 -116.1998188 C Injury | Angle                  | 2019              | Day                    | Clear   | Dry       | None     | 2               | 0           | 2 20761330 W    | Car               | Going Straight                      | Possible Injury          | In Intersection            | Failed to Obey Stop Sign            |
| 25 8th St       |                |                   | Washington St | 43.61947435 | 5 -116.199811 B Injury  | Same Direction Turning | 2019              | Day                    | Clear   | Dry       | None     | 2               | 0           | 1 20516545 N    | Car               | Turning Left                        | No Apparent Injury       | In Intersection            |                                     |
| 26 8th St       |                |                   | Washington St | 43.61944328 | 3 -116.1998316 C Injury | Angle                  | 2017              | Day                    | Clear   | Dry       | None     | 2               | 0           | 1 18209306 W    | Car               | Going Straight                      | No Apparent Injury       | 0.41 In Intersection       | Failed to Yield                     |
| 27 8th St       | 45.0000 F      | S                 |               | 43.61934231 | -116.1999067 B Injury   | Bicycle                | 2017 Washington S | St Day                 | Clear   | Dry       | None     | 2               | 0           | 1 18005950 E    | Pedalcycle        | Crossing at Intersection, Crosswalk | Suspected Minor Injury   | 0.402 Nonjunction          | Other                               |
| 28 8th St       |                |                   | Washington St | 43.6194394  | -116.1998101 B Injury   | Same Direction Turning | 2015              | Day                    | Clear   | Dry       | None     | 2               | 0           | 1 16566034 N    | Car               | Turning Left                        | No Apparent Injury       | 0.409 In Intersection      | Inattention                         |
| 29 8th St       | 25.0000 F      | S                 |               | 43.61938115 | 5 -116.1998798 PDO      | Rear-End               | 2014 Washington S | St Day                 | Cloudy  | Wet       | None     | 2               | 0           | 0 15595004 N    | Van - 1 to 8 seat | s Going Straight                    | No Apparent Injury       | 0.404 Intersection Related | Inattention                         |
| 30 Washington S | t              |                   | 8th St        | 43.6194394  | -116.1998101 PDO        | Head-On Turning        | 2014              | Day                    | Clear   | Dry       | None     | 2               | 0           | 0 15290464 E    | Car               | Turning Left                        | No Apparent Injury       | In Intersection            | Failed to Yield                     |
| 31 8th St       |                |                   | Washington St | 43.6194394  | -116.1998101 PDO        | Angle                  | 2013              | Day                    | Clear   | Dry       | None     | 2               | 0           | 0 14220339 W    | Car               | Going Straight                      | No Apparent Injury       | 0.409 In Intersection      | Inattention                         |
| 32 8th St       |                |                   | Washington St | 43.6194394  | -116.1998101 PDO        | Angle                  | 2013              | Day                    | Cloudy  | Dry       | None     | 2               | 0           | 0 14176479 W    | Pickup            | Turning Right                       | No Apparent Injury       | 0.409 In Intersection      | Foot Slipped Off or Caught On Pedal |
| 33 8th St       |                |                   | Washington St | 43.6194394  | -116.1998101 PDO        | Angle                  | 2013              | Dark, No Street Lights | s Clear | Dry       | None     | 2               | 0           | 0 13841629 W    | Pickup            | Going Straight                      | No Apparent Injury       | 0.409 In Intersection      | Alcohol Impaired                    |
| 34 Washington S | t              |                   | 8th St        | 43.61944052 | 2 -116.1997962 C Injury | Angle                  | 2011              | Day                    | Rain    | Wet       | None     | 2               | 0           | 1 12843371 W    | Car               | Going Straight                      | No Apparent Injury       | 0.4 In Intersection        | Failed to Yield                     |
| 35 Washington S | t              |                   | 8th St        | 43.61945606 | 5 -116.199882 B Injury  | Bicycle                | 2011              | Day                    | Clear   | Dry       | None     | 2               | 0           | 1 12428358 E    | SUV/Crossover     | Going Straight                      | No Apparent Injury       | In Intersection            | Failed to Yield                     |
| 36 8th St       |                |                   | Franklin St   | 43.62020567 | -116.1991009 PDO        | Angle                  | 2020              | Day                    | Clear   | Dry       | None     | 2               | 0           | 0 21443281 E    | SUV/Crossover     | Going Straight                      | No Apparent Injury       | In Intersection            | Failed to Yield                     |
| 37 8th St       |                |                   | Franklin St   | 43.62025419 | -116.1990542 PDO        | Angle                  | 2019              | Day                    | Clear   | Dry       | None     | 2               | 0           | 0 20666143 W    | SUV/Crossover     | Going Straight                      | No Apparent Injury       | In Intersection            | Inattention                         |
| 38 8th St       |                |                   | Franklin St   | 43.6202025  | 5 -116.1990877 C Injury | Angle                  | 2015              | Day                    | Cloudy  | Dry       | None     | 3               | 0           | 1 16535736 W    | Car               | Going Straight                      | No Apparent Injury       | 0.476 In Intersection      | Inattention                         |
| 39 Franklin St  |                |                   | 8th St        | 43.6202025  | 5 -116.1990877 B Injury | Bicycle                | 2013              | Day                    | Clear   | Dry       | None     | 2               | 0           | 1 14176463 E    | Car               | Going Straight                      | No Apparent Injury       | In Intersection            | Failed to Yield                     |

### **CRASH ANALYSIS**

| Project Name:   | 8th Street - State to Franklin                   |
|-----------------|--------------------------------------------------|
| Project Number: | 23898.5                                          |
| Analyst:        | Kittelson & Associates                           |
| Date:           | 08/12/2021                                       |
| Filename:       | H:\23\23898 - CCDC 2019 On-Call Design\005 - 8th |

### **KITTELSON & ASSOCIATES, INC.**

610 SW Alder, Suite 700 Portland, Oregon 97205 (503) 228-5230 Fax: (503) 273-8169

#### ARTERIAL ANALYSIS

| From:            |                 |       |             |           |       |                      |
|------------------|-----------------|-------|-------------|-----------|-------|----------------------|
|                  | State Street    |       | Mile Post - |           |       |                      |
| To:              | Franklin Street |       | Mile Post - |           |       |                      |
|                  |                 |       |             |           |       |                      |
| Average Daily Tr | raffic =        |       | 6,474       |           |       |                      |
| Length of Segme  | ent (miles) =   |       | 0.125       |           |       |                      |
| Number of Accid  | lents =         |       | 2           |           |       |                      |
| Time Period (yea | ars) =          |       | 9           |           |       |                      |
|                  | ,               |       |             |           |       |                      |
| Accident Rate =  |                 |       | 2           | 1,000,000 |       | 0.75 Accidents / mvm |
|                  |                 | 6,474 | 365         | 9         | 0.125 |                      |

#### INTERSECTION ANALYSIS

| Intersection:                                               | 8th Street / V       | ashington Str  | eet              | Mile Post -    |                      |  |
|-------------------------------------------------------------|----------------------|----------------|------------------|----------------|----------------------|--|
| Vehicles Entering In<br>Number of Accident<br>Time Period = | tersection =<br>s =  |                | 4,800<br>13<br>9 |                |                      |  |
| Accident Rate =                                             | -                    | 4,800          | 13<br>365        | 1,000,000<br>9 | 0.82 Accidents / mev |  |
| Intersection:                                               | 8th Street / F       | ranklin Street |                  | Mile Post -    |                      |  |
| Vehicles Entering In<br>Number of Accident<br>Time Period = | itersection =<br>s = |                | 4,470<br>4<br>9  |                |                      |  |
| Accident Rate =                                             | -                    | 4,470          | 4<br>365         | 1,000,000<br>9 | 0.27 Accidents / mev |  |
| Intersection:                                               |                      |                |                  | Mile Post      |                      |  |
| Vehicles Entering Ir<br>Number of Accident<br>Time Period = | tersection =<br>s =  |                |                  |                |                      |  |
| Accident Rate =                                             | -                    |                |                  | 1,000,000      | Accidents / mev      |  |
| Intersection:                                               |                      |                |                  | Mile Post      |                      |  |
| Vehicles Entering Ir<br>Number of Accident<br>Time Period = | tersection =<br>s =  |                |                  |                |                      |  |
| Accident Rate =                                             | -                    |                |                  | 1,000,000      | Accidents / mev      |  |