I-15 ENVIRONMENTAL IMPACT STATEMENT
Farmington to Salt Lake City

MOBILITY MEMORANDUM

FOR THE I-15 ENVIRONMENTAL IMPACT STATEMENT FROM FARMINGTON TO SALT LAKE CITY

July 7TH, 2022

PROJECT NO: S-I15-7(369)309

PIN: 18857

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being or have been carried-out by UDOT pursuant to 23 USC 327 and a Memorandum of Understanding dated January 17, 2017, and executed by FHWA and UDOT.

INTRODUCTION

The Utah Department of Transportation (UDOT) is leading the I-15 Environmental Impact Statement (EIS) from Farmington to Salt Lake City. Potential improvements along the study area will eventual be identified for motorized and non-motorized transportation. This memorandum is one step of that process. An extensive data collection effort was undertaken to provide a complete assessment of current mobility conditions across the study area. Connections and access for motorized and non-motorized transportation users are examined in two chapters and followed by detailed appendices.

Chapter 1: Motorized Demand and Operations Analysis, is an evaluation of motorized traffic in the study area. A detailed discussion of the Travel Demand Model is included in Chapter 1. Motorized traffic analysis includes traffic volumes, average speeds, and other details of existing travel patterns and conditions. Also included is an analysis of No-Action conditions for the year 2050.

Chapter 2: Non-motorized Demand and Operations Analysis, is an evaluation of existing conditions for non-motorized mobility. Examples of non-motorized mobility are walking and biking. This includes evaluating connections at 19 crossings identified along I-15, as well as parallel north-south mobility. Chapter 2 also includes demographic information of populations using non-motorized mobility and what crossings are being used.

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CHAPTER1: TRAVEL DEMAND AND OPERATIONS ANALYSIS

MAY 20TH, 2022

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TECHNICAL MEMORANDUM

TO: **Project Team, I-15 EIS; Farmington to Salt Lake City**

FROM: **Traffic Group, Horrocks Engineers**

DATE: **May 20th,2022**

SUBJECT: **Travel Demand and Operations Analysis**
I-15 EIS; Farmington to Salt Lake City
Project No. S-I15-7(369)309; PIN 18857

1. INTRODUCTION

This memorandum details the results of the existing (2019) and No-Action (2050) travel model and traffic operations analysis performed in support of the Utah Department of Transportation (UDOT) I-15 Environmental Impact Statement (EIS); Farmington to Salt Lake City. The EIS team is evaluating improvements to I-15 between Farmington and Salt Lake City that are programmed for the Phase 1 project R-D-53 as identified in the Wasatch Front Regional Council (WFRC) 2019-2050 Regional Transportation Plan (2019). The required traffic data collection, roadway configurations, study methodology, model calibration, and traffic operations for existing (2019) and 2050 No-Action conditions are provided in this memorandum.

The traffic analysis contained in this report is based on future land use, planned projects, and modeling assumptions. If some of the assumptions change as the study progresses the results contained in this report may be updated based on more current information.

1.1 LOGICAL TERMINI

Logical termini provide rational end points for transportation improvements. Rational end points can include major crossroads, population centers, traffic generators, or highway control elements. They allow the project to tie into the existing transportation system without prescribing future improvements. They must be broad enough to allow for a range of reasonable transportation solution alternatives and to allow for a comprehensive review of environmental impacts.

The southern logical termini for the I-15 EIS; Farmington to Salt Lake City is I-15 just south of the I-15/400 South interchange in Salt Lake City. Salt Lake City is a primary commuting destination for morning peak trips and a primary source of trips during the evening peak. 400 South, 600 North, and Beck Street are the primary interchanges into Salt Lake City, while the interchanges farther south at 1300 South and 2100 South, which are not included in the study area, do not tie as directly into the dense business and population centers of Salt Lake City.

The I-15/I-80 westbound freeway-to-freeway connection provides a system-to-system interchange that leads to industrial centers, the airport, and additional system-to-system connections. Farther south is an additional system-to-system connection at I-80 eastbound and SR-201 westbound and the beginning/end of a Collector-Distributor (C-D) system.

The northern logical termini for the I-15 EIS; Farmington to Salt Lake City is I-15 just north of the I-15/US-89 system-to-system interchange in Farmington. US-89 north of I-15 in Farmington serves commuter traffic from Farmington, Fruit Heights, Kaysville, and Layton and provides a connection between I-84 to the north and I-15 to the south.

Each of the I-15 interchanges between the northern and southern logical termini are included in the study area. The logical termini for the east and west include the next major intersection to the east and to the west of each of the service interchanges.

These logical termini establish the general location limits of alternatives that will be given detailed consideration in the EIS. The traffic study area for the EIS extends a little farther south beyond the proposed logical termini to 1300 South in Salt Lake City and farther north to the planned Shepard Lane interchange in Farmington to demonstrate forward-compatibility. The traffic study area for the I-15 EIS; Farmington to Salt Lake City is shown in Figure 1-1.

Figure 1-1. I-15 EIS; Farmington to Salt Lake City Traffic Study Area Map

2. DATA COLLECTION

In 2020, transportation volumes were disrupted by the COVID-19 pandemic. For many sectors, normal business services were interrupted, and many employees began working from home. This led to unpredictable traffic volumes in 2020. Using 2020/2021 traffic volumes for this study would have led to an inaccurate assessment of current and future conditions. Figure 2-1 displays traffic volumes on I-15 in Davis County at permanent count stations during 2019 (black line) and 2021 (orange bars). **In this traffic study, the existing conditions analysis refers to a 2019 AM and PM peak period condition. 2019 was selected over 2021 as the base year for the following reasons:**

- Although 2021 volumes approached or surpassed pre-COVID levels, congestion along the I-15 corridor was less volatile and more predictable in 2019. Simulation models can be calibrated better when there is existing congestion to match the causes of congestion.
- Transit ridership in 2021 did not recover to pre-COVID levels.
    - FrontRunner System-Wide:
        - 2018 (221,170), 2019 (225,743), 2020 (86,782), 2021 (86,484)
- The regional Travel Demand Model (TDM) 8.3.2 (discussed in detail in Section 4.2) is calibrated to 2019 and uses transit ridership from 2019.

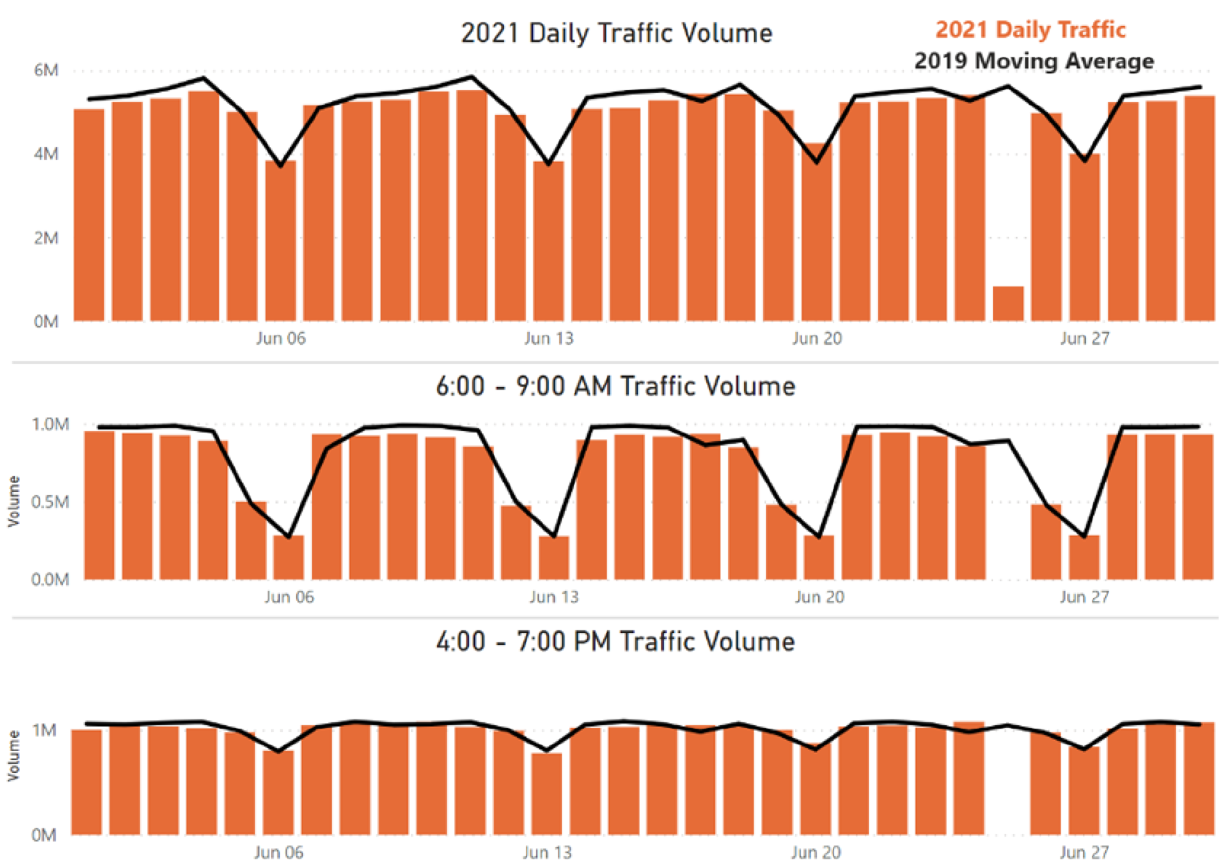

Figure 2-1. 2019 to 2021 Traffic Volume Comparison

2.1 TIME PERIOD ESTABLISHED

Two 4-hour time blocks have been established on I-15 mainline as the analysis periods: AM (6:00 to 10:00 AM), which coincides with peak I-15 travel in the southbound direction, and PM (3:00 to 7:00 PM), which coincides with peak I-15 travel in the northbound direction. These peak periods are based on count data collected from the UDOT permanent counting stations. These hours were selected to begin and end the traffic simulation in an uncongested state with a defined peak so that congestion would build and then dissipate over time. The 4-hour periods demonstrate how much peak spreading occurs in 2050 as travel demand continues to increase and congestion spreads outside the typical 1- or 2-hour peak demand periods. Backup data is contained in the Methods and Assumptions memorandum that was prepared previously.

Intersection analysis uses the same 4-hour time blocks that was established for mainline operations analysis: AM (6:00 to 10:00 AM) and PM (3:00 to 7:00 PM).

2.2 DATA COLLECTION LOCATIONS

The I-15 EIS; Farmington to Salt Lake City traffic analysis utilized 2019 pre-COVID traffic volumes as well as traffic data gathered in 2021.

2.2.1 Intersection Count Locations

Table 2-1 displays traffic count locations observed in 2019.

Table 2-1. 2019 Intersection Count Locations (AM/PM Peak Period)

Location	N/S Street	E/W Street	City
1	US-89	Park Lane	Farmington
2	I-15	Park Lane	Farmington
3	I-15	200 West	Farmington
4	I-15	Parrish Lane	Centerville
5	I-15	400 North	West Bountiful/Bountiful
6	I-15	500 South	Woods Cross/West Bountiful/Bountiful
7	I-15	2600 South	Woods Cross/North Salt Lake/Bountiful
8	I-15	Center Street	North Salt Lake
9	I-15	I-215	Salt Lake City
10	I-15	US-89/Beck Street	Salt Lake City
11	I-15	1100 West/Warm Springs Road	Salt Lake City
12	I-15	1000 North	Salt Lake City
13	I-15	600 North	Salt Lake City
14	I-15	I-80	Salt Lake City
15	I-15	400 South	Salt Lake City

Additional daily pneumatic tube counts were obtained for one week in the spring of 2021 for model calibration at the road segments shown in Table 2-2.

Table 2-2. 2021 Daily Pneumatic Tube Counts

Location	Count Road	Count Area	City
1	1500 South	600 West – 675 West	Woods Cross
2	Main Street	500 North – 550 North	North Salt Lake

Additional peak hour traffic counts were collected between May 4 and July 2 of 2021 at intersections adjacent to I-15 in the traffic study area and are included in Table 2-3 .

Table 2-3. 2021 Intersection Count Locations (AM/PM Peak Period)

Location	N/S Street	E/W Street	City
1	900 West	600 North	Salt Lake City
2	800 West	600 North	Salt Lake City
3	400 West	600 North	Salt Lake City
4	Warm Springs Road	On-ramp to I-15	Salt Lake City
5	900 West	On-ramp to I-15	Salt Lake City
6	US-89	Eaglegate Drive	North Salt Lake
7	US-89	Eagle Ridge Drive	North Salt Lake
8	US-89	Center Street	North Salt Lake
9	Main Street	Center Street	North Salt Lake
10	Wildcat Way	2600 South	Woods Cross
11	US-89	2600 South	Woods Cross/North Salt Lake/Bountiful
12	1100 West	2600 South	North Salt Lake
13	US-89	500 South	Bountiful
14	700 West	500 South	West Bountiful/Woods Cross
15	800 West	500 South	West Bountiful
16	500 West	400 North	West Bountiful/Bountiful
17	660 West	400 North	West Bountiful
18	About 750 West	400 North	West Bountiful
19	800 West	400 North	West Bountiful
20	US-89	1000 North	Bountiful
21	Frontage Road	1600 North	Bountiful
22	Frontage Road	Parrish Lane	Bountiful
23	Marketplace Drive	Parrish Lane	Centerville
24	400 West	Parrish Lane	Centerville
25	1250 West	Parrish Lane	Centerville
26	Legacy Parkway Northbound Ramps	Parrish Lane	Centerville

Location	N/S Street	E/W Street	City
27	Legacy Parkway Southbound Ramps	Parrish Lane	Centerville
28	Frontage Road	Glovers Lane	Farmington
29	Tippetts Lane	Glovers Lane	Farmington
30	200 West	State Street	Farmington
31	400 West	State Street	Farmington
32	Tippetts Lane	State Street	Farmington
33	Chicago Street	1800 North	Salt Lake City
34	Beck Street	Chicago Street	Salt Lake City
35	Warm Springs Road	1800 North	Salt Lake City
36	US-89	I-15 Southbound On-ramp	Salt Lake City
37	300 West	600 North	Salt Lake City
38	I-15 Southbound Off-ramp	I-80 West	Salt Lake City
39	I-15 Northbound On-ramp	I-80 West	Salt Lake City
40	I-15 Southbound Off-ramp	Poplar Grove Boulevard	Salt Lake City
41	I-15 SB On-ramp, I-15 NB Off-ramp	Poplar Grove Boulevard	Salt Lake City
42	I-15 Northbound On-ramp	University Boulevard	Salt Lake City

3. EXISTING (2019) AND 2050 NO-ACTION CONDITIONS

3.1 EXISTING (2019) CONDITIONS

3.1.1 Intersection Volumes and Geometries

The existing (2019) intersections and roadway network are portrayed in Appendix A and include intersection geometries, signal locations, and AM/PM traffic volumes. The roadway geometries and configurations are representative of the time and day when data were collected. Since data were collected on different days, the peak hour turning volumes were balanced to accommodate simulation parameters.

3.1.2 I-15 Mainline Geometries and Volumes

The traffic study area consists of 18 miles of I-15 mainline roadway between downtown Salt Lake City and Farmington, Utah. The existing mainline geometries, volumes, and ramp volumes are shown in Appendix B.

In each direction, I-15 has four general-purpose lanes north of the I-215 interchange and three general-purpose lanes south of I-215 with one Express Lane that extends through the study area. Auxiliary lanes are included in several sections between on- and off-ramps. I-15 has a speed limit of 70 mph throughout the study area. In the study area, I-15 is accessed by 13 service interchanges and 3 system-to-system interchanges, with a future system-to-system interchange at the planned West Davis Corridor.

I-15 System-to-System Interchanges:

- I-80 (full system-to-system interchange).
- I-215 (eastbound I-215 to northbound I-15 and southbound I-15 to westbound I-215 ramps only).
- US-89 (I-15 northbound exit ramp and southbound entrance ramp only).
- West Davis Corridor (future eastbound West Davis Corridor to southbound I-15 and northbound I-15 to westbound West Davis Corridor ramps only).

I-15 Service Interchanges:

- 400 South (Salt Lake City) – Partial Single Point Urban Interchange (SPUI) with north ramps for all vehicles and south ramps for HOT vehicles only.
- 600 North (Salt Lake City) - SPUI.
- 1000 North/900 West (Salt Lake City) – Partial interchange with no northbound exit ramp and the south ramps disconnected by 900 West.
- 1100 West/Warm Springs (Salt Lake City) – northbound ramps connect to Warm Springs Road on the east side, southbound ramps connect to 2300 North/1100 West on the west side.
- Beck Street (North Salt Lake) – Partial interchange with free flow northbound on- and southbound off-ramps.
- Center Street (North Salt Lake) – Partial intersection with southbound exit ramp only.
- 2600 South (North Salt Lake) – Modified Diverging Diamond Interchange (DDI) with westbound cross-over only and southbound exit ramp jug handle.
- 500 South (West Bountiful) – DDI.
- 400 North (West Bountiful) – Half Diamond Interchange with south ramps only.
- 500 West (Bountiful) - Partial interchange with free flow northbound on- and southbound off-ramps.
- Parrish Lane (Centerville) – Tight Diamond Interchange (TDI).
- 200 West (Farmington) – Partial interchange with free flow northbound off- and southbound on-ramps.
- Park Lane (Farmington) – TDI.

3.2 2050 NO-ACTION CONDITION

The 2050 No-Action condition assumes that the identified projects within the WFRC 2019-2050 Regional Transportation Plan would be operational by 2050, except for the improvements that are the subject of this environmental study (WFRC project ID R-D-53). All other improvements listed in the WFRC 2019-2050 Regional Transportation Plan and other local plans are included in the volume calculations and traffic modeling. Projected 2050 traffic I-15 mainline traffic is provided in Appendix

C. The WFRC 2019-2050 Regional Transportation Plan projects near the traffic study area are displayed in Table 3-1 and Table 3-2.

Table 3-1. WFRC Roadway Improvements in the Traffic Study Area

WFRC Project ID	Roadway Project Name	Description	Phase Funded
R-D-53	I-15 Widening: Farmington to Salt Lake County Line	Widening (Add 1 Express Lane both directions)	1
R-S-137	I-15 Widening: Davis County Line to 600 North	Widening (from 4 and 5 lanes to 6 lanes in both directions)	1
R-D-22	Park Lane: Station Parkway to Lagoon Drive	Operational	1
R-D-23	500 South: I-15 to Main Street	Operational	2
R-D-24	Center Street: Legacy Parkway to US-89	Operational	1
R-D-30	West Davis Corridor	New Construction	1
R-D-40; R-S-132	I-15/Managed Motorways	Operational	2
R-D-42	Legacy Parkway I-15/US-89 to I-215	Widening (Add 1 Express Lane Northbound and Southbound)	2
R-D-46	Redwood Road: 500 South to 2600 South Widening	Widening to 5 lanes	3
R-D-52	1250 West/650 West: New Road - Glovers Lane to 1275 North	New Construction	1
R-D-54	Farmington Frontage Road Connection: Lagoon Drive to 200 West	New Construction	3
R-D-56	US-89: Widen to 6 lanes between I-15 and US-89	Widening	1
R-D-57	500 West (US-89): I-15 to 2600 South	Operational	2
R-D-58	Davis Boulevard Extension: Davis Boulevard to 400 North	New Construction	3
R-D-73	I-15 Parrish Lane Interchange	Interchange Improvement	2
R-D-74	Porter Lane Overpass of I-15	Grade-Separated Crossing	2
R-D-75	500 South Crossing of Railroad at 800 West	Grade-Separated Crossing	1
R-D-76	1500 South Crossing of Railroad at 900 West	Grade-Separated Crossing	2
R-D-77	2600 South/1100 North Railroad crossing at 1050 West	Grade-Separated Crossing	1
R-D-78	Center Street Overpass Railroad Crossing at 300 West	Grade-Separated Crossing	1
R-S-136	I-15 Express Ramps and Reversible Lanes: Davis County to Utah County	Widening	3

Table 3-2. WFRC Transit Improvements in the Traffic Study Area

WFRC Project ID	Transit Project Name	Description	Phase Funded
T-D-1/T-S-1	Doubletrack FrontRunner: Davis and Salt Lake Counties	Upgrade	2
T-D-3/T-S-3	Davis-Salt Lake City Community Connector Bus Rapid Transit (BRT)	Bus Rapid Transit (BRT)	1
T-D-4	North Redwood Corridor Core Service	Core Service	2
T-D-9	Clearfield to Woods Cross Core Service 15	Core Service 15	2

4. TRAFFIC ANALYSIS METHODOLOGY

A Methods and Assumptions memorandum was previously submitted to establish the analysis methodologies to be performed for this traffic study. This section provides a brief outline of the methodologies used, with more complete detail provided in the Methodologies and Assumptions memorandum.

4.1 ANALYTICAL SOFTWARE TOOLS

The following traffic analytical software packages were used in the traffic analysis:

- Synchro/SimTraffic (Trafficware/Cubic)
- VISSIM (PTV)
- Cube (Bentley/Citilabs)

4.1.1 Synchro/SimTraffic

Synchro/SimTraffic software, version 10, was used to organize and balance the peak hour traffic counts along the study corridors. The software was also used for optimizing signal timing for future year scenarios.

4.1.2 VISSIM

VISSIM is a microscopic simulation software program used to perform a detailed traffic operations analysis for this study. VISSIM elevates the Synchro/SimTraffic data to the next level of analysis and simulation with the ability to model complicated intersection geometries and operations in addition to freeway operations. VISSIM was used in this study for performing traffic operations analysis on the I-15 mainline, I-15 interchanges, and adjacent intersections. The study used VISSIM 2021, with the most current service packs, for operational analysis.

4.1.3 Cube

Cube software was used in this traffic study to forecast future traffic based on projections of land use, socioeconomic patterns, and transportation system characteristics. Cube software runs the TDM (see section 4.2) and is the medium where the traffic operations model data resides and where calculations are performed.

Table 4-1 details the analysis type and use of each of the software packages.

Table 4-1. Traffic Analysis Software Packages

Software Package	Use/Analysis Type	Output/Performance Measure
Synchro/SimTraffic, version 10	Arterial intersections/signal optimization	Optimized signal timings, intersection delay, congestion
VISSIM, version 2021-12	Intersections	Delay, congestion
	Basic freeway segments, weaving areas	Density, speed, percent of traffic demand served
	Ramp junctions (merges/diverges)	Density, speed, percent of traffic demand served, number of lane changes
	Ramp terminal intersections, adjacent intersections	queue length, congestion
	Overall roadway network system	Travel time, delay, vehicle miles traveled
Cube, version 6.5.0	Development of future travel demand	Daily and peak hour turning movement volumes

4.2 REGIONAL TRAVEL DEMAND MODEL

4.2.1 Metropolitan Planning Organization Oversight

The Mountainland Association of Governments (MAG) and the Wasatch Front Regional Council (WFRC) jointly maintain a travel demand forecasting model for the five-county metropolitan region that includes Box Elder, Weber, Davis, Salt Lake, and Utah Counties. The regional TDM predicts future travel demand based on projections of land use, socioeconomic patterns, and transportation system characteristics. The model is based on the Cube software (currently using version 6.5.0). References to "the model" in this report refer to the scripts and data maintained by MAG and WFRC, not to the Cube software. The most recent official release of the model is version 8.3.2, which was made available on February 4, 2022.

The modifications to the TDM for the I-15 EIS; Farmington to Salt Lake City, outlined in subsequent sections of this report, improve the results for the existing (2019) conditions model. These improvements result in a better match with existing count data over the unmodified model. It is therefore reasonable to expect that these improvements will also improve the future conditions traffic projections and will be applied, as appropriate, to the model.

4.2.2 Travel Demand Model Input

Specific inputs to the model include socioeconomic forecasts and transportation system data. The socioeconomic data include population, households, and employment. Household data is further classified by household size and average household income. Employment data is classified into 12 categories, which include subcategories for retail, industrial, and office. Public school enrollment is classified into elementary, middle, and high school. Special trip generation tables are included for colleges, the Salt Lake City International Airport, and Lagoon. Transportation system data include both roadway and transit networks. The roadway network includes freeways, arterials, and collectors. The transit network includes commuter rail, light rail, bus rapid transit (BRT), express bus routes, and many local bus routes. The TDM also includes a freight component that estimates truck traffic. Bicycle and pedestrian trips are tracked internally by the model, but do not have any specific inputs.

The MAG/WFRC model uses the traditional four-step modeling process, consisting of trip generation, trip distribution, mode split, and trip assignment. It includes an auto ownership model to better estimate trip generation and mode split. The model provides a feedback loop during trip distribution, allowing traffic congestion to influence trip distribution patterns.

Teleworking is not a new concept, and due to COVID it is becoming more acceptable and being offered more often as a perk of employment. Teleworking can help reduce vehicle trips and, with better data over time, may become a more substantial trip reducer. Teleworking has recently been included in the TDM and incorporates recent behavior changes of the work force and the potential long-term effects.

4.2.3 Traffic Analysis Zones

The TDM was refined within the study area with the intent to improve the level of accuracy provided by the model. The original roadway network and Traffic Analysis Zones (TAZ) in the model are well-suited for regional traffic forecasts but generally do not provide enough detail for a smaller-scale study. Smaller TAZ can provide better loading of traffic onto the roadway network.

For these reasons, some of the original WFRC TAZ within or near the study area were split into smaller zones. In most instances, the TAZ were split along barriers such as existing or planned roads, rivers, railroads, and/or major land-use changes. After the splits, the socioeconomic data from the original TAZ were distributed into the new zones. It was assumed that variables such as income and household size for the smaller TAZ were the same as the original TAZ from which they were split. The roadway and transit networks were updated to accommodate the new TAZ structure and to better represent the existing roadway network within the study area. Figure 4-1 and Figure 4-2 show the TAZ splits that were applied for the EIS.

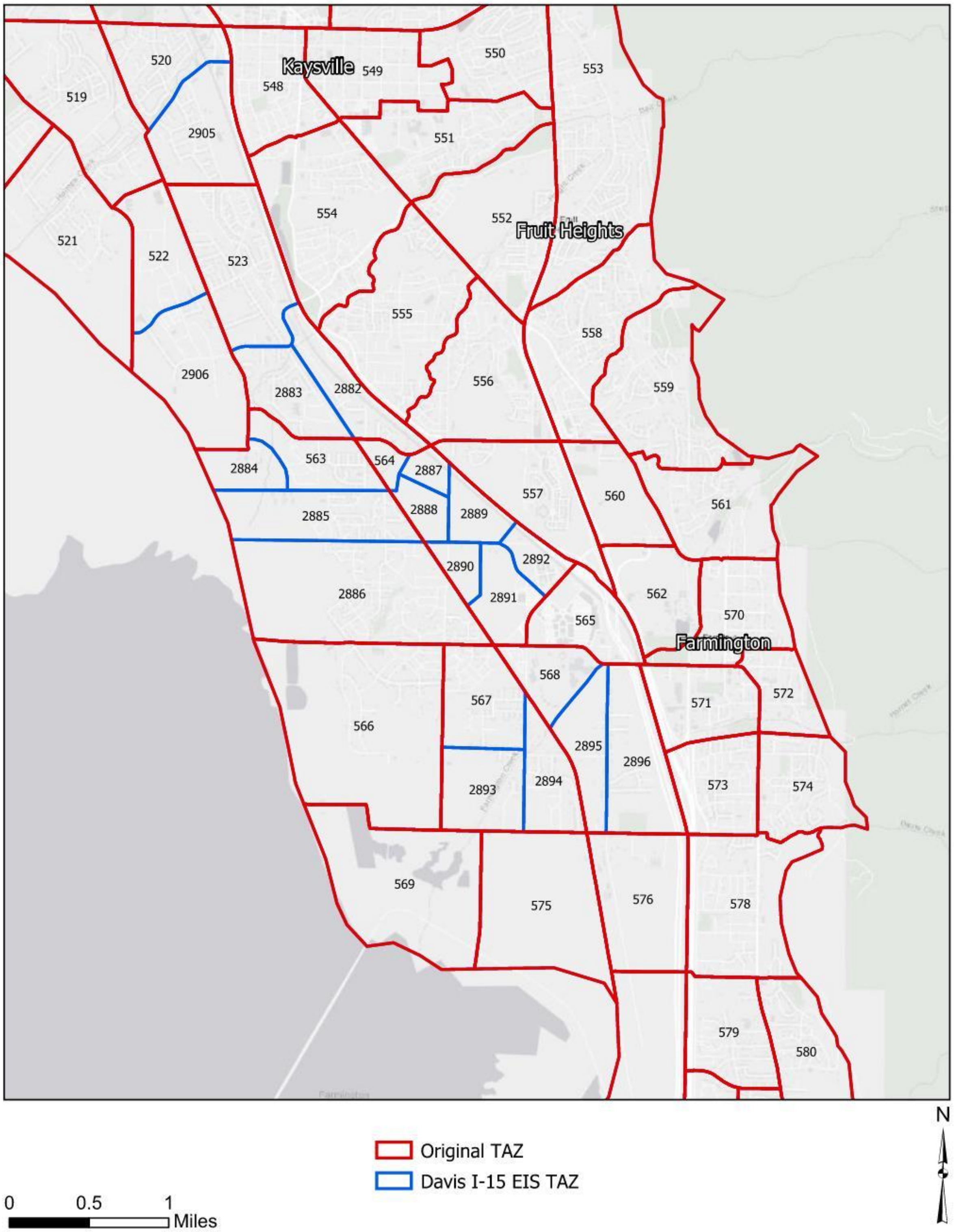

Figure 4-1. TDM TAZ modification (1 of 2)

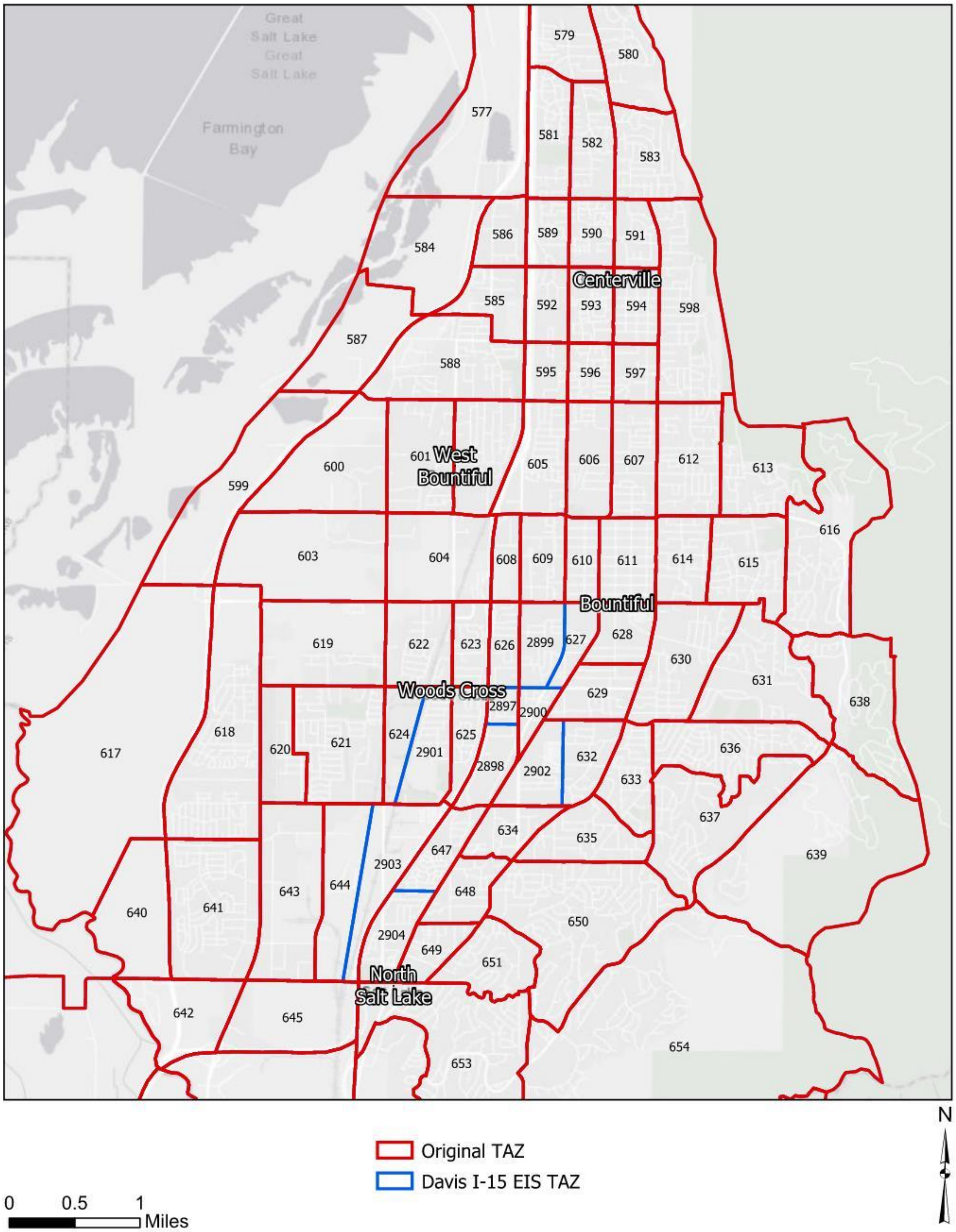

Figure 4-2. TDM TAZ modification (2 of 2)

4.2.4 Travel Demand Model Socioeconomic Data Adjustments

The original socioeconomic data included in the model were provided to all Cities within the study area. The Cities reviewed the employment and household data for the TAZ and provided comments. These comments were used to adjust the socioeconomic data in the model. Also, to maintain total data within the model, additional modifications were applied to TAZ outside the study area. Quality control checks were performed when running the model. No anomalies in socioeconomics were found in the study area. This information is shown in Appendix D.

4.2.5 Travel Demand Model Speed Factor Adjustments

To improve the local calibration of the model, the results of the TDM were compared with existing count data. If the TDM results were very high or very low compared to count data, then speed factors of the network links were modified to improve and match data gathered in the field. Speed factors will increase or decrease the base speed assumed by the TDM. In this way, a street can be made more attractive or less attractive in the model because it will modify travel times between origins and destinations along that route. These same speed factors were applied to the future conditions model. Table 4-2 summarizes the locations with speed factor modifications.

Table 4-2. Speed Factor Modification Summary

Street	Limits	Original Speed Factor	Modified Speed Factor
2600 South	400 West (Woods Cross) to 200 West (Bountiful)	0	0.90
I-215	I-80 to I-15	0	0.80
600 North	I-15 to Wall Street	0	0.85
Beck Street	2000 North to Eagle Ridge Drive	0	0.70

4.2.6 Travel Model Verification

The changes performed to the base WFRC model were done to increase its accuracy within the study area. A Root Mean Squared Error (RMSE) analysis was performed within the surrounding area for the modified model to verify that it remains a valid tool. A statement from the documentation of a previous TDM version, v6.0, is applicable to RMSE analyses in general. It states, "*The RMSE is used to calculate the effectiveness of individual link and node modifications, as well as general changes in trip generation and distribution and assignment parameters. RMSE should generally be less than 40%*."

Table 4-3 contains a comparison of the RMSE values from the base unmodified model with the modified model in which all the updates described previously have been applied.

Table 4-3. RMSE Summary

Roadway Volume	Number of Data Locations	Unmodified Model RMSE	Modified Model RMSE
Less than 15,000	55	47%	44%
15,000 to 30,000	37	33%	25%
Over 30,000	16	12%	11%
Combined	108	25%	22%

Generally, higher-volume roadways have a closer match with TDM results than lower-volume roadways do. This is true for this analysis with the lower-volume roadways at 44-47% and the higher-volume roadways at 11-12%. For each roadway volume class, the modified model performed better than the unmodified model. The overall RMSE was 22%, which is well within the 40% criteria.

4.2.7 Managed Motorways

Managed Motorways uses systemwide sensors to monitor traffic and control access using coordinated ramp metering to maintain peak traffic flows. Managed Motorways is on the WFRC 2019-2050 Regional Transportation Plan as a Phase I project and is assumed to be part of the 2050 No-Action conditions.

Managed Motorways is integrated into the regional TDM 2050 base network. The model applies a time penalty to ramps based on the congestion levels of I-15. Sometimes these time penalties cause the predicted ramp volumes in 2050 to be much smaller than expected (e.g., smaller than existing), which can cause the ramp intersections to be under-designed. To address this issue, and in consultation with WFRC, the model was run both with and without Managed Motorways. The “without" Managed Motorways used the same origin-destination tables as “with” Managed Motorways and only runs the assignment portion of the model. This method allows the model to use the trip assumptions generated with Managed Motorways and route them in a more realistic way at the interchanges without the high ramp time penalties. This provides more reasonable results to use in generating the 2050 traffic volumes.

4.2.8 Forecast 2050 No-Action Volumes

2050 traffic volumes for the traffic study area were developed using the TDM, with 2050 socioeconomic data developed by WFRC for Phases 1-3 of the WFRC 2019-2050 Regional Transportation Plan (minus the I-15 Davis; Farmington to Salt Lake City improvements projects R-D-53 and R-S-137).

The TDM generates volumes to a three-hour default during peak periods (both AM and PM) at the interchange intersections. Conversion factors of 0.41 (AM) and 0.37 (PM) were used to change these three-hour forecasts to peak hour periods. These factors were calculated based on traffic count data in the TDM area. The existing balanced traffic volumes, along with the existing (2019) and 2050 model output data, were used for calculating volumes as described in the UDOT document “Utah Travel Demand Forecasting” (2008), which follows Chapter 8 of the National Cooperative Highway Research Program’s (NCHRP) Report 255 (1982).

This process involved comparing the existing model volumes with actual count data. The numeric difference between the two volumes was used to make an adjustment to the 2050 volumes to help correct for errors in the model where it might be over-predicting or under-predicting volumes. The adjusted 2050 No-Action AM and PM peak hour traffic volumes at interchange intersections are included in Appendix E.

4.3 VISSIM MODEL CALIBRATION

The VISSIM software package, detailed in section 4.1.2, allows the user to modify settings to achieve more accurate results. For this traffic analysis, version 2021-12 of the VISSIM microsimulation software was used to model traffic in the study area. Several models of the existing geometry and traffic volumes were prepared to replicate the typical traffic conditions. Separate models were created due to the scale of the study area. The I-15 mainline was modeled separately from the adjacent intersections and corridors. In an attempt to further replicate actual traffic conditions, traffic observations, video recordings and travel time information were all used to calibrate the traffic models used for this analysis. A memo detailing the VISSIM model calibration is provided under a separate cover (*VISSIM Calibration Methodology and Results*, April 2022).

4.4 MEASURES OF EFFECTIVENESS

4.4.1 Average Speed Through Corridors

Measures of Effectiveness (MOEs) were used to estimate the effects of traffic congestion on drivers. The primary MOE used to quantify the effects of traffic on the road network is average travel speed. This method of measuring effectiveness allows the driver's experience to be somewhat quantified by reviewing a roadway system and not just one intersection at a time.

The traffic analysis identified the average travel speed along I-15 and arterials. For arterials, average speeds were compared to the posted speed during the AM and PM peak hours. Thresholds obtained from the 6th Edition of the Highway Capacity Manual (HCM) (Transportation Research Board [TRB], 2016) were used to assign a congestion level similar to what a driver would experience.

Table 4-4 shows the congestion thresholds for the arterials based on average travel speed through the corridor and the corresponding speed limit.

Table 4-4. Arterial Corridor Driver Experience

Travel Speed Threshold by Free Flow Speed (mph)							
Congestion	Posted Speed Limit						
	25 mph	30 mph	35 mph	40 mph	45 mph	50 mph	55 mph
Nominal	>20	>24	>28	>32	>36	>40	>44
Light	>17	>20	>23	>27	>30	>34	>37
Moderate	>13	>15	>18	>20	>23	>25	>28
Heavy	>10	>12	>14	>16	>18	>20	>22
Very Heavy	>8	>9	>11	>12	>14	>15	>17

4.4.2 Driver Experience at Intersections

To estimate what a driver may experience, the average vehicle delay is measured in seconds per vehicle. The more time the average driver waits or is delayed due to an intersection, the more their driver experience degrades (TRB, 2016). Table 4-5 shows how the average delay due to intersection congestion relates to what a driver will experience.

Table 4-5. Intersection Driver Experience

Driver Experience	Delay (s/veh)	
	Signalized	Unsignalized
Free Flow Operations / Minor Delays	0 ≤ 10	0 ≤ 10
Smooth Operations / Short Delays	10 ≤ 20	10 ≤ 15
Stable Operations / Moderate Delays	20 ≤ 35	20 ≤ 25
Approaching Unstable Operations / Extended Delays	35 ≤ 55	25 ≤ 35
Unstable Operations / Long Delays	55 ≤ 80	35 ≤ 50
Very Poor Operations / Excessive Delays	> 80	> 50

4.4.3 Intersection Queue Lengths

Another MOE used in the traffic analysis was queueing at intersections. The analysis identified the average and 95th percentile queue length for each movement at the study intersections. Queue length is used to identify issues such as queuing between intersections, queues that extend in mainline I-15, and turning movement queues that exceed their available storage.

5. SOCIOECONOMIC DATA AND TRAVEL DEMAND

5.1 EXISTING (2019)/2050 COUNTY LEVEL SOCIOECONOMIC DATA

Socioeconomic data (households, population, employment) is a primary input to the TDM. Future control totals for housing and jobs are forecast by the Kem C. Gardner Policy Institute (GPI) of the University of Utah at a county level for the state of Utah (GPI, 2017). WFRC then uses a land use model to allocate those control totals for the Metropolitan Planning Organization (MPO) boundary at a TAZ level using information such as land use plans, accessibility, environmental constraints, and market analysis. Table 5-1 and Table 5-2 display the 2019 and 2050 household, population, and employment data for the counties along the Wasatch Front.

The four highest-populated counties along the Wasatch Front are expected to grow by an average of 50% between 2019 and 2050. The jobs per population ratio is expected to increase in Salt Lake and Davis Counties and decrease in Utah and Weber Counties.

Table 5-1. 2019 Population/Employment

County	2019 Population	2019 Employment	2019 Jobs/Population
Davis	356,000	170,000	0.48
Salt Lake	1,144,000	846,000	0.74
Utah	643,000	317,000	0.49
Weber	251,000	132,000	0.53
Total/Average	**2,394,000**	**1,465,000**	**0.61 (Average)**

Table 5-2. 2050 Population/Employment

County	2050 Population	Growth from 2019	2050 Employment	Growth from 2019	2050 Jobs/Population
Davis	488,000	37%	252,000	48%	0.52
Salt Lake	1,502,000	31%	1,198,000	42%	0.80
Utah	1,269,000	97%	594,000	87%	0.47
Weber	342,000	36%	168,000	27%	0.49
Total/Average	**3,601,000**	**50% (Average)**	**2,212,000**	**52% (Average)**	**0.61 (Average)**

5.1.1 Travel Patterns

Regional travel patterns were analyzed using information collected from StreetLight data, the WFRC TDM, UDOT PeMS /Clearguide, and Census data.

Table 5-3 shows that 43% of Davis County residents' employment is located in Salt Lake or Utah counties. Additionally,

Table 5-4 shows that 41% of Weber County residents commute to Davis, Salt Lake, and Utah Counties for work.

With over half of the jobs along the Wasatch Front located in Salt Lake County and over 40% of Davis and Weber County workers commuting south, it creates a heavy north/south travel demand between Weber/Davis and Salt Lake Counties with strong directional splits during peak commuter travel times. This pattern is confirmed in the traffic volumes gathered as part of this study.

Table 5-3. Davis County Residents' Work Destinations

County	Jobs	Percentage
Weber	21,000	14%
Davis	55,000	38%
Salt Lake	59,000	40%
Utah	5,000	3%
Other	6,000	4%
Total	**146,000**	**100%**

Source: Census LEHD 2018

Table 5-4. Weber County Residents' Work Destinations

County	Jobs	Percentage
Weber	56,000	52%
Davis	21,000	19%
Salt Lake	20,000	19%
Utah	4,000	3%
Other	7,000	6%
Total	**108,000**	**100%**

Source: Census LEHD 2018

To better understand regional travel patterns through the study area, the Wasatch Front was divided into five zones:

1. Weber County/ Northern Davis County
2. Southern Davis County
3. West Salt Lake City
4. East Salt Lake City
5. Southern Salt Lake County/Utah County

Existing (2019) and future 2050 origin-destination trips were calculated between these zones using the WFRC TDM and StreetLight data.

Figure 5-1 displays the existing (2019) and 2050 daily (24-hour) person trips on an average weekday between northern Davis County/Weber County to southern Davis County and other counties to the south. Over 200,000 daily trips occurred between northern Davis/Weber counties and the zones to the south in the 2019 condition. With forecasted development in the region, it is predicted that by 2050 the travel demand between these areas will increase by over 50% to over 300,000 trips per day.

Figure 5-2 displays daily travel between southern Davis County and the surrounding zones. Over 250,000 daily trips occurred between southern Davis County and the surrounding zones in 2019. It is predicted that by 2050 the travel demand between these areas will increase by 60% to nearly 400,000 trips per day.

A screen-line analysis was performed to quantify the travel demand across northern/southern Davis County on the north side and Davis and Salt Lake Counties on the south side. A similar screen-line was established along the I-15 corridor in southern Davis County to estimate east-west travel across I-15.

The screen-lines drawn in Figure 5-3 shows travel demand across northern/southern Davis County increasing by over 125,000 daily trips by 2050, an increase of over 64%. The screen-line shows travel demand across Davis and Salt Lake Counties increasing by over 125,000 daily trips by 2050, an increase of over 51%. East-west travel demand across I-15 in the study area is expected to increase by 26,000 daily trips, an increase of 37%.

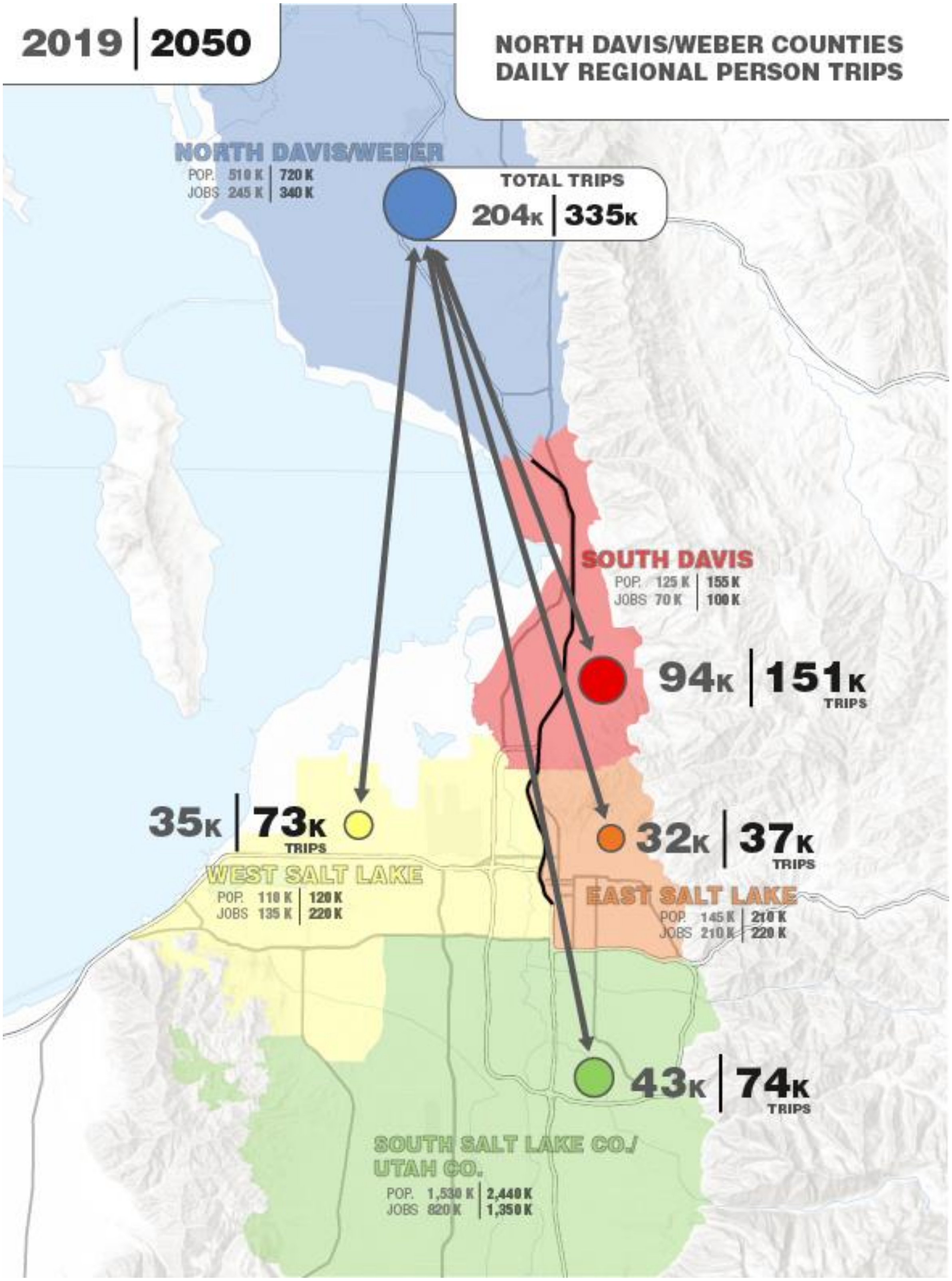

Figure 5-1. Existing (2019) and 2050 No-Action North Davis/Weber Counties Regional Travel Demand

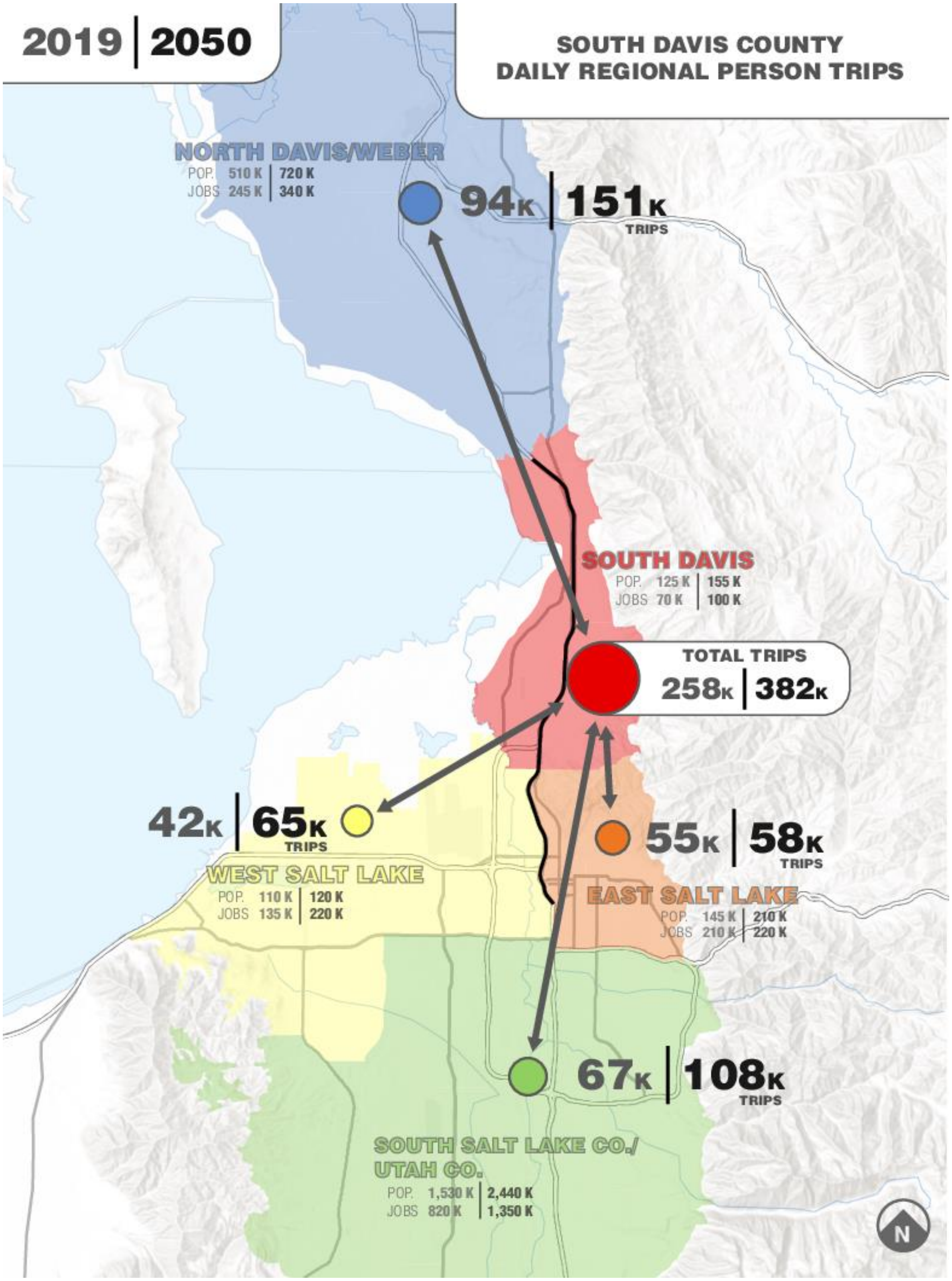

Figure 5-2. Existing (2019) and 2050 No-Action South Davis County Regional Travel Demand

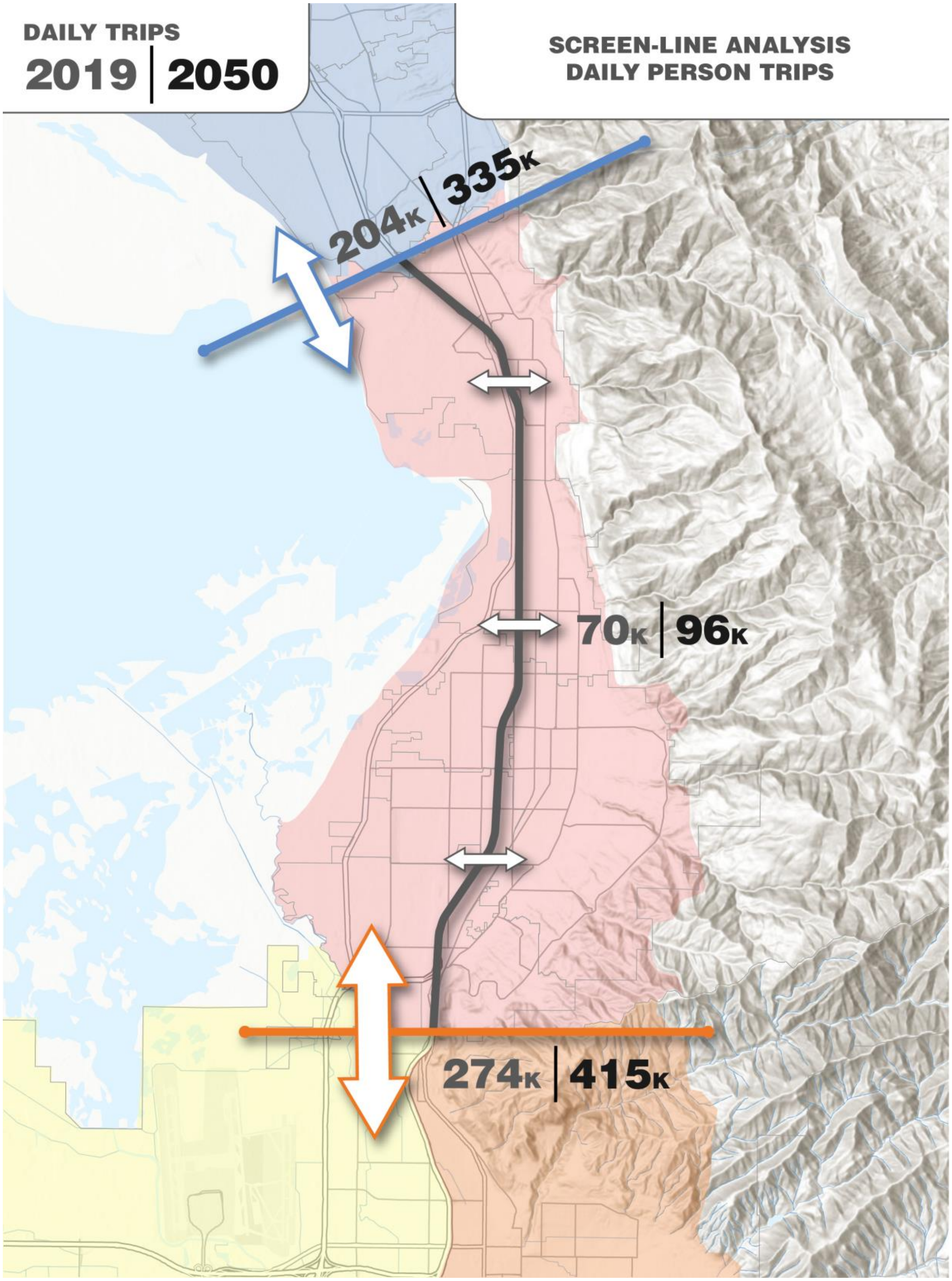

Figure 5-3. Existing (2019) and 2050 No-Action Screen-Line Analysis Results

North of the Salt Lake Study area, Legacy Parkway and I-15 accommodate regional trips south of US-89 and the future West Davis Corridor. Table 5-5 and Table 5-6 display screen-line average weekday daily traffic (AWDT) and transit riders on the north side of the study area.

Table 5-5. Project Area North Side Screen-line (Traffic Volumes)

Roadway	2019		2050	
	# Lanes	AWDT	# Lanes	AWDT
Legacy Parkway	4	30,000	6	80,000
I-15	10	170,000	10	227,000
Total	**14**	**200,000**	**16**	**307,000**

Table 5-6. Project Area North Side Screen-line (Transit Riders)

Transit Line	Total Daily Riders	
	2019	2050
FrontRunner	5,760	14,000
S455	170	360
S456	20	140
S470	240	170
S472X	20	40
S473X	310	820
BRTNSDA_R	--	760
Total	**6,520**	**16,290**

At the Salt Lake/Davis County line, I-215 and I-15 accommodate regional trips south, with Beck Street and Redwood Road providing additional capacity as major arterials.

Table 5-7 and Table 5-8 display screen-line average weekday daily traffic volumes and transit riders at the Salt Lake/Davis County line.

Table 5-7. Salt Lake/Davis County Line Screen-line (Traffic Volumes)

Roadway	2019		2050	
	# Lanes	AWDT	# Lanes	AWDT
I-215	6	80,000	8	130,000
I-15	8	170,000	8	220,000
Beck Street	4	30,000	4	34,000
Redwood Road	2	14,000	4	17,000
Total	**20**	**294,000**	**24**	**401,000**

Table 5-8. Salt Lake/Davis County Line Screen-line Daily Riders

Transit Line	Total Daily Riders	
	2019	2050
FrontRunner	8,410	19,660
D460	60	40
D461	50	30
D462	50	50
S455	730	430
S456	30	170
S463	80	40
S470	560	180
S471	150	50
S472X	20	40
S473X	550	1,060
BRTNRedwd_T	--	690
BRTNSDA_R	--	3,070
Total	**10,690**	**25,510**

6. TRAFFIC OPERATIONS ANALYSIS

Traffic operations were analyzed in the study area using the calibrated VISSIM models for existing (2019) and 2050 No-Action conditions using the study methodology detailed in Section 4. Traffic signal timings were optimized for 2050 using Synchro and then manually adjusted as appropriate to improve operations.

6.1 EXISTING (2019) AND 2050 NO-ACTION ARTERIAL ANALYSIS

6.1.1 Arterial Operations (2019/2050)

Vehicle travel times were measured throughout the VISSIM network and collected for each of the arterial corridors for existing (2019) and 2050 No-Action conditions during AM and PM peak travel times. The results of the travel time analysis are shown in Table 6-1.

Table 6-1: Arterial Travel Time Comparison (PM Peak Hour)

Street	City	Begin Segment	End Segment	2019 Travel Time (Minutes)	2050 Travel Time (Minutes)	% Change
600 N EB	Salt Lake	1200 W	US-89	5.4	9.0	66%
600 N WB	Salt Lake	Wall St	800 W	4.2	4.7	13%
2600 S EB	N. Salt Lake	1250 W	US-89	5.0	7.4	47%
2600 S WB	N. Salt Lake	500 W	1100 W	4.2	9.7	134%
500 S EB	W. Bountiful	Howard St	500 W	3.3	3.7	12%
500 S WB	W. Bountiful	285 W	8th W	3.2	6.8	113%
400 N EB	W. Bountiful	900 W	500 W	2.1	3.6	73%
400 N WB	W. Bountiful	200 W	800 W	2.4	9.3	290%
Parrish Ln EB	Centerville	Legacy Pkwy	400 W	2.5	10.5	320%
Parrish Ln WB	Centerville	Main St	Legacy Pkwy	4.2	12.0	187%
			AVERAGE	3.6	7.7	111%

Table 6-1 shows the travel time along study corridors are estimated to more than double between 2019 and 2050 with Parrish Lane travel time increasing by more than 300%.

See Appendix F for average travel times and speed through corridors during the 4-hour AM and PM peak periods.

6.1.2 Intersections Operations (2019/2050)

Traffic operations at each study intersection, including intersections at the interchange ramp terminals, were measured using the VISSIM models for existing (2019) and 2050 No-Action peak hour conditions. Average delay, percent of travel demand served, and 95% queues were collected.

Figure 6-1 and Figure 6-2 compare the level of congestion and 95% queueing for the PM peak hour at each intersection for existing (2019) and 2050 No-Action conditions.

Figure 6-1 and Figure 6-2 also show that several of the study intersections are expected to experience heavy congestion during the PM peak hour in 2050. Each of the service interchanges experience congested conditions at one or more of the ramp terminal intersections during the 2050 PM peak hour. In 2050, queue lengths are expected to extend back into I-15 mainline at the 600 North, 2600 South, 500 South, 400 North, and Parrish Lane interchanges.

More detailed metrics for the existing (2019) AM/PM peak hour traffic analysis is provided in Appendix G. Details on the No-Action (2050) intersection traffic analysis report is shown in Appendix H

Existing (2019)/No-Action (2050) PM Peak Hour Traffic Operations Comparison

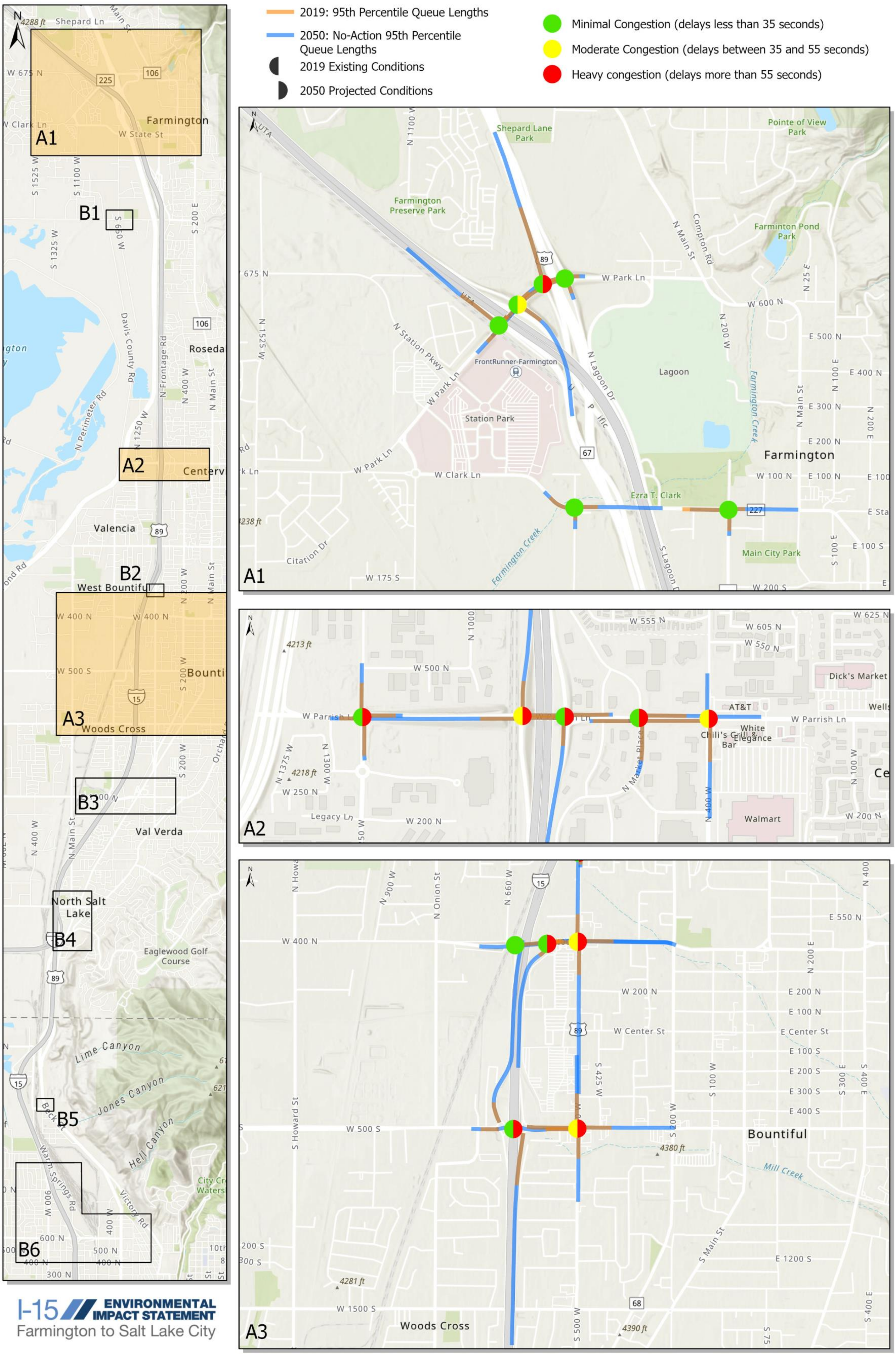

Figure 6-1: Existing (2019)/2050 No-Action Traffic Operations Comparison (1 of 2)

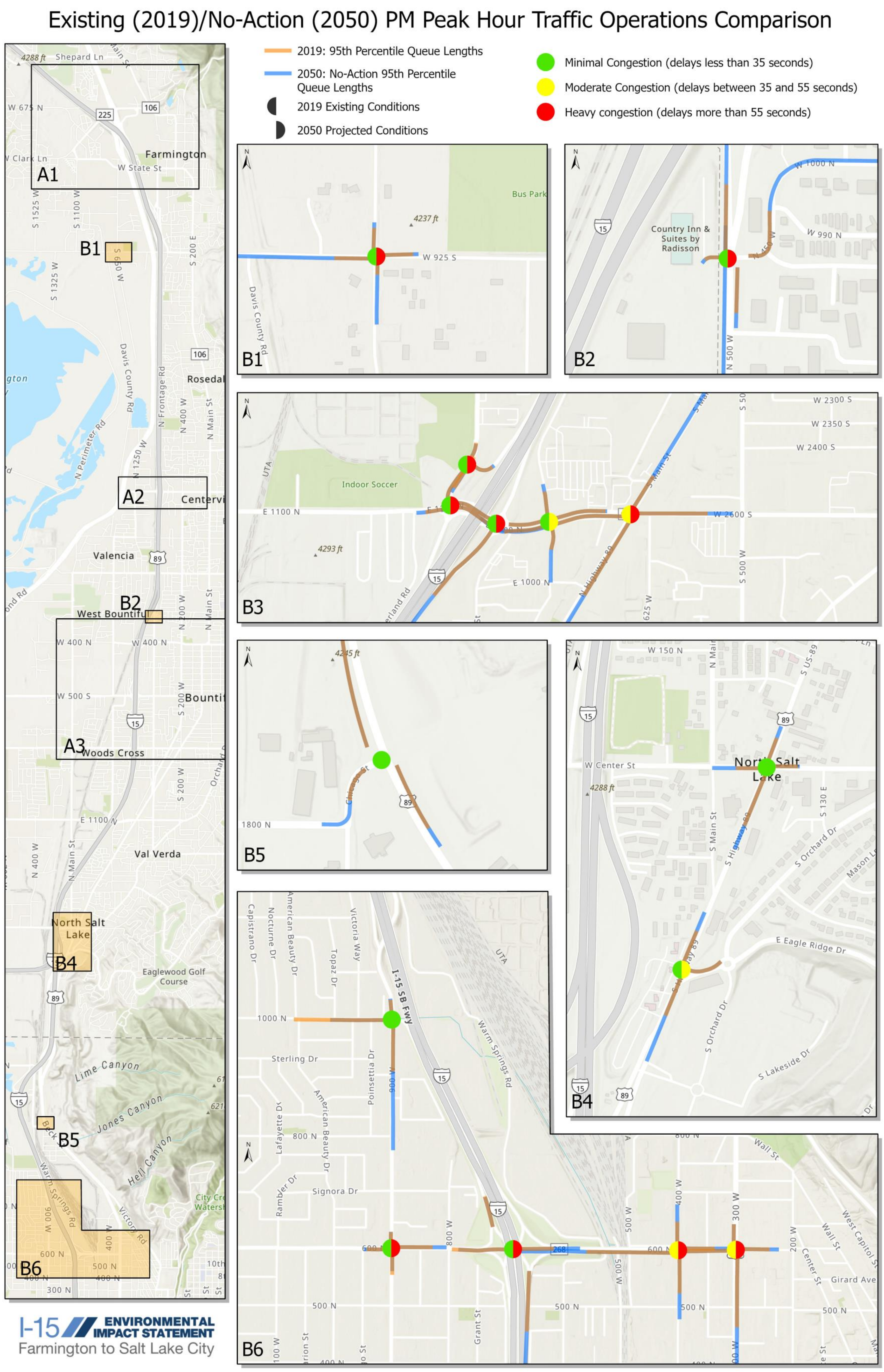

Figure 6-2. Existing (2019)/2050 No-Action Traffic Operations Comparison (2 of 2)

6.2 EXISTING (2019) AND 2050 NO-ACTION I-15 FREEWAY OPERATIONS

6.2.1 I-15 Travel Times

Travel times were measured on I-15 using the VISSIM models for existing (2019) and 2050 No-Action conditions during AM and PM peak travel times. The results of the AM travel time comparison for I-15 southbound is shown in Table 6-2.

Table 6-2. I-15 Southbound Mainline Travel Time Comparison

I-15 Southbound	Existing (2019) Travel Time (Minutes)	2050 No-Action Travel Time (Minutes)	% Change
6:00 AM	15.9	20.6	30%
7:00 AM	19.2	41.6	117%
8:00 AM	19.1	69.1	262%
9:00 AM	16.7	88.9	432%
Average	17.7	55.1	211%

As shown above in Table 6-2, travel times on I-15 are expected to more than triple during the 4-hour AM commute period between 2019 and 2050.

Table 6-3. I-15 Northbound Mainline Travel Time Comparison

I-15 Northbound	Existing (2019) Travel Time (Minutes)	2050 No-Action Travel Time (Minutes)	% Change
3:00 PM	16.5	37.8	129%
4:00 PM	20.6	64.5	213%
5:00 PM	23.6	78.1	231%
6:00 PM	16.6	84.2	407%
Average	19.3	66.2	242%

As shown above in Table 6-3, travel times on I-15 are expected to more than triple during the PM peak period between 2019 and 2050.

For existing (2019) conditions I-15 southbound operates with some congestion toward the middle and south portion of the study area between 7:00 to 9:00 during the AM period. I-15 northbound experiences congested conditions during the PM period between the south end of the traffic study area to south of the I-215 on-ramp where I-15 is widened to four general purpose lanes plus one Express Lane. I-15 northbound also experiences congestion during the PM peak period toward the north end of the project area due to spillback from congestion outside the study. Under 2050 No-Action conditions, heavy congestion occurs on I-15 in the northbound and southbound directions during the AM and PM periods. Congested conditions spread to encompass the full four-hour analyzed period in the AM and PM periods.

Traffic on I-15 northbound is heavily metered in 2050 on the south end due to limited capacity with only three general purpose lanes plus one Express Lane creating a bottleneck prior to I-15 being widened to five lanes. The increase of speeds north of 600 North is a result of traffic being severely metered upstream by the bottleneck.

6.2.2 Network Delay

The total vehicle delay for I-15 in the study area was calculated for the existing (2019) and 2050 No-Action scenarios using the Vissim models. Included in the calculation is the latent delay, which is the time vehicles were waiting to enter the network but were denied because of queues that have extended back into the edge of the model. I-15 northbound experiences high latent delay because of insufficient capacity to serve 2050 peak period travel demand toward the south end of the study area. Table 6-4 and Table 6-5 summarize the 2019 and 2050 I-15 network delay during the AM and PM peak periods.

Table 6-4: 2019 Network Delay

Time	2019 I-15 Delay (Hours)		
	Network Delay	Latent Delay	Total Delay
5:00	460	0	460
6:00	959	0	959
7:00	800	0	800
8:00	190	0	190
15:00	450	0	450
16:00	1,142	0	1,142
17:00	1,051	0	1,051
18:00	267	0	267
		Total (Rounded):	**5,000**

Table 6-5: 2050 Network Delay

Time	2050 I-15 Delay (Hours)		
	Network Delay	Latent Delay	Total Delay
5:00	1,179	234	1,413
6:00	5,426	1,661	7,086
7:00	8,047	5,483	13,530
8:00	6,975	7,778	14,753
15:00	2,094	498	2,592
16:00	4,476	3,721	8,197
17:00	7,014	7,517	14,531
18:00	6,951	10,229	17,180
		Total (Rounded):	**79,000**

As shown in the above tables, network delay is expected to increase on I-15 in the study area by over 1,400% under 2050 no-action conditions when compared to 2019.

7. CONCLUSIONS

Under existing (2019) conditions I-15 experiences periods of congestion in both the northbound and southbound directions during the AM and PM peak periods. Regional travel between Davis and Salt Lake Counties is expected to increase by more than 50% between 2019 and 2050. Despite several planned roadway improvement projects, including the widening of Legacy Parkway and the FrontRunner double-tracking, travel demand on I-15 is expected to increase by more than 30% over the next 30 years.

With the forecasted increase in travel demand on I-15 it is expected that average travel times will more than triple in 2050 during both the AM and PM peak periods when compared to existing (2019) conditions.

East-west travel demand across I-15 is expected to increase by nearly 40% between 2019 and 2050. Increased east-west travel, in addition to an increase travel between the arterials and I-15, is expected to cause heavy congestion along several of the study corridors, including 600 North in Salt Lake City, 2600 South in North Salt Lake, 500 South and 400 North in West Bountiful, and Parrish Lane in Centerville with average travel times during peak periods more than doubling. Traffic simulation shows queues from the following interchange ramp terminals extending back into mainline I-15:

- 600 North (Salt Lake City)
- 2600 South (North Salt Lake City
- 500 South (West Bountiful)
- 400 North (West Bountiful)
- 500 West (Bountiful)
- Parrish Lane (Centerville)

8. REFERENCES

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I-15 ENVIRONMENTAL IMPACT STATEMENT
Farmington to Salt Lake City

CHAPTER 2: NON-MOTORIZED DEMAND AND OPERATIONS ANALYSIS

MAY 17TH, 2022

PROJECT NO: S-I15-7(369)309 | PIN: 18857

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being or have been carried-out by UDOT pursuant to 23 USC 327 and a Memorandum of Understanding dated January 17, 2017, and executed by FHWA and UDOT.

NON-MOTORIZED DEMAND AND OPERATIONS ANALYSIS

April 26th, 2022

I-15 EIS; Farmington to Salt Lake City
Project No. S-I15-7(369)309; PIN 18857

1. INTRODUCTION

The Utah Department of Transportation (UDOT) is preparing an environmental impact statement (EIS) for the I-15 EIS; Farmington to Salt Lake City. The study location spans from the northern logical termini just north of the I-15/US-89 system-to-system interchange in Farmington to the southern logical termini just south of the I-15/400 South interchange in Salt Lake City. Figure 1-1 shows the study area, including the locations that provide non-motorized access to cross I-15.

This chapter assesses non-motorized demand and operations within the study area. The location, distance, origin, and destination of non-motorized trips are evaluated in the narrative. Demographic information of populations using non-motorized transportation is also included.

The EIS team also facilitated workshops with key stakeholders, local staff, elected officials, and NGOs. A summary matrix of this can be found in Table 7-2 and a written summary of the outreach is provided in Appendix I: Active Transportation and Community I-15 Purpose and Need Scoping Memorandum.

Figure 1-1. EIS Study Area

2. DATA COLLECTION AND RESEARCH

Data was collected to understand travel behavior, crashes, trip length and purpose, and demographics. Research was conducted to pull in local and regional plans, identify east-west barriers, and define gaps in the multimodal network. The 19 crossings in the study area were assessed through this process. These crossings are listed from north to south in table 2-1. While the majority of crossings provide east-west access for non-motorized transportation trips, Beck Street in Salt Lake City and Main Street in North Salt Lake offer north-south travel for non-motorized trips. Beck Street merges with I-15 but does not cross over or under it. North-south non-motorized travel continues along parallel facilities on the east of I-15.

Table 2-1. EIS Crossing Locations

Crossing	N/S Street	E/W Street	City
Park Lane	I-15	Park Lane	Farmington
State Street	I-15	State Street	Farmington
Glovers Lane	I-15	Glovers Lane	Farmington
Parrish Lane	I-15	Parrish Lane	Centerville
Pages Lane	I-15	Pages Lane	West Bountiful/Bountiful
400 North	I-15	400 North	West Bountiful/Bountiful
500 South	I-15	500 South	Woods Cross/West Bountiful/Bountiful
1500 South	I-15	1500 South	Woods Cross/Bountiful
2600 South	I-15	2600 South	Woods Cross/North Salt Lake/Bountiful
Main Street	I-15	NA	North Salt Lake
Center Street	I-15	Center Street	North Salt Lake
Beck Street	Beck Street	NA	Salt Lake City
900 West	I-15	900 West	Salt Lake City
600 North	I-15	600 North	Salt Lake City
300 North	I-15	300 North	Salt Lake City
North Temple	I-15	North Temple	Salt Lake City
South Temple	I-15	South Temple	Salt Lake City
200 South	I-15	200 South	Salt Lake City
400 South	I-15	400 South	Salt Lake City

2.1 PRIMARY SOURCES

This section describes the primary sources collected. The sources are explained below and include:

- **Wasatch Front Regional Council and Local Plans**
- **StreetLight**
- **Numetric Crash Data**

WFRC and Local Plans

The Wasatch Front Regional Council (WFRC) is the Metropolitan Planning Organization for Davis and Salt Lake County and adjacent urbanized areas. WFRC is responsible for managing and updating the Regional Transportation Plan (RTP), which identifies projects for the future transportation network. Active transportation and transit projects in the RTP are expanded on in section 3.

Local municipal plans were also reviewed, including active transportation plans.

Non-motorized users are often referred to as active transportation (AT) users. AT is non-motorized mobility such as walking and biking. Referenced data sources in this memorandum use the term AT rather than non-motorized users. Therefore, the descriptive terms *Active Transportation (AT)* and *non-motorized* mobility are considered synonymous for the purpose of this document.

StreetLight

StreetLight is a data analytics company that uses a wide array of available transportation data and relies on information from mobile devices, geospatial databases, and machine learning. Table 2-2 provides an overview of the data collected through StreetLight (A more thorough explanation of each type of data collected is provided in subsequent sections).

Methodology: To calculate trips for people walking and biking, StreetLight uses a statistical method based on aggregate cell phone data. StreetLight has developed algorithms and machine learning techniques that utilize several types of data including general Location-Based Services, which can be used to identify travel mode, and well-validated bicycle and pedestrian counts.

Pedestrian and Bicycle Data Validation: Streetlight does not provide specific counts for nonmotorized trips but applies a normalized index to each mode that represents accurate trip volumes. These indices are calibrated for accuracy through reoccurring quality control tests which are measured against permanent pedestrian and bicycle counters in various locations, including San Francisco, where 11 permanent counters are used to verify StreetLight methodology.

Based on published studies validating StreetLight data[1], findings suggest StreetLight is accurate in reporting out travel behavior and trends like Average Daily Traffic (ADT), Origin and Destination (O-D) pairs, trip circuity, trip type, and distance. No manual bicycle or pedestrian counts were collected as part of this effort.

[1]Published studies validating StreetLight data; https://www.streetlightdata.com/whitepapers/

Comparison Between Modes: It should be noted that the index for bicycle trips is different from the index for pedestrian trips and the two modes cannot be compared because the numeric scale for pedestrians is different than the one used for bicyclists. What the data does show are comparisons among locations for the same mode.

Reported Years for Data: StreetLight Data from 2019 to October 2021 was used to inform travel behavior and trends for non-motorized users. The 2019 data was selected as the reference year for analysis for most reported data, as 2020 and 2021 data were affected by the pandemic and may not represent normal trends. Analyses that compared year-over-year trends used 2019, 2020, and 2021 data.

Geographic Areas: StreetLight allows data to be gathered at a zone level. Transportation Analysis Zones (TAZs) may be used, or more granular zone boundaries can be created based on TAZs, Census Block Groups, zip codes, or unique polygons identified on a project-by-project basis. A combination of TAZs and unique zones were used for data collection in this the study area. Table 2-2 describes the types of data collected using StreetLight for this I-15 EIS.

Demographics: StreetLight combines the ability to target people's location with publicly available Census data at the Block Group level. Assumptions about whether a person is making a trip from or to home, work, or neither are made through StreetLight's methodology. Once this is determined, the 2010 US Decennial Census and the 2010 American Community Survey are used to assign demographic characteristics to a traveler's assumed home. StreetLight cannot access personal information, so demographic information is not tied directly from mobile devices or from personal information related to devices.

The table below provides an overview of the analysis conducted using the StreetLight data platform.

Table 2-2. Types of Data Collected Using StreetLight

Data Collected	Description of Data
Zone Activity	StreetLight uses the term "activity" to refer to pedestrian and bicycle trips crossing through a defined zone. Data on trips passing through zones around I-15 crossings was collected and the activity level was reported.
Trip Circuity	A circuity score is applied to pedestrian and bicycle trips. Direct trips have a low score and indirect trips have a high score. The higher the score, the longer the trip is, and the more out-of-direction travel required.
Origin and Destination (O-D)	O-D is transportation term that refers to the start and the end of a single trip. O-D data for non-motorized trips was collected between zones on either side of I-15.
Short Vehicle Trips	Short vehicle trip data was collected for a motorized trip using an I-15 crossing while staying within a 3-mile buffer of the crossing for the entire trip. Quantifying short vehicle trips shows the potential for future mode shift to biking or walking, provided adequate facilities.

Data Collected	Description of Data
Demographic Profiles	Census Block Group data is captured by StreetLight and applied to the origin and destination locations of the trip. Refined algorithms and statistical models are used by StreetLight to determine if the trip's origin location is a home, a job, or whether the trip's origin is neither. Demographic data reported for a trip is tied to the home location, only.
Trip Attributes	Identifying pedestrian and bicycle trips based on trip purpose (home-based work, home-based other, non-home-based), trips length (pedestrian trips less than 2 miles and bicyclist trips less than 3 miles), time of day, and time of week.

Numetric

Numetric Data (a safety analytic tool) is managed by UDOT and consists of detailed records of every reported crash in the state. Among the information recorded is whether a bicycle or pedestrian is involved in a crash. This study reviewed data from 2015 through 2021 to analyze pedestrian- and bicyclist-involved crashes near each crossing. A buffer of 0.3 miles around each crossing was selected as the boundary for reporting data.

2.2 DATA COLLECTION ASSESSMENT PROCESS

The following questions were assessed through the existing conditions and data collection process:

- Which crossings of I-15 are most utilized by people walking, biking, and accessing transit?
- How safe, direct, comfortable, and accessible are these crossings?
- What crossings are most used to reach destinations for non-motorized trips?
- Which crossings experience the most short-length vehicle trips?
- Who are the people living in communities along the EIS study area?

3. EXISTING AND PLANNED NON-MOTORIZED FACILITIES

Included in this section is a summary of existing and planned active transportation facilities. Knowing where these facilities exist and where they are planned helps identify gaps and barriers and ensure our future alternatives development aligns with local plans. Also included is a summary on the utilization of crossings and the top origins and destinations for non-motorized trips from people using each crossing and where potential future demand for walking and biking may exist.

3.1 DEFINING COMFORTABLE FACILITIES

One of the identified purposes of this study is to improve comfort and access for non-motorized transportation. WFRC has developed a Level of Traffic Stress (LTS) online map to quantify the stress people feel when they bicycle on different facilities in varying traffic conditions. Factors that contribute to high stress biking facilities include traffic volumes and speeds, bike lane widths and buffers (or lack of), physical or grade separation of bicycle facilities, multi-lane arterials, truck traffic and noise, emissions, and unclear signage and signalization. LTS is a rating system based on the numbers 1-4, where 1 is most comfortable and 4 is the least comfortable. To quantify comfort, LTS uses variables such as traffic volumes and speed.

Table 3-1. Level of Traffic Stress LTS

LTS 1: Comfortable for nearly all riders	LTS 3: Comfortable for confident bicyclists
LTS 2: Comfortable for most adults	LTS 4: Comfortable for only the most confident bicyclists

Comfortable facilities are those with a low level of stress. High-comfort facilities are associated with low vehicle speeds and facilities that are physically separated from traffic. These facilities are intended to be welcoming to people of all ages and abilities, from children on bikes to seniors walking. Examples of high-comfort facilities are multi-use paths that have a physical barrier to separate them from traffic and grade separated bike lanes. An example of a low-comfort facility is a designated shoulder on a road with a speed limit of 40 miles per hour. The higher the traffic speed and the volume, the more separation bicycle and pedestrian facilities need to maintain a high level of comfort.

Figures 3-1 and 3-2 show existing and planned bicycle facilities and the Level of Traffic Stress (LTS).

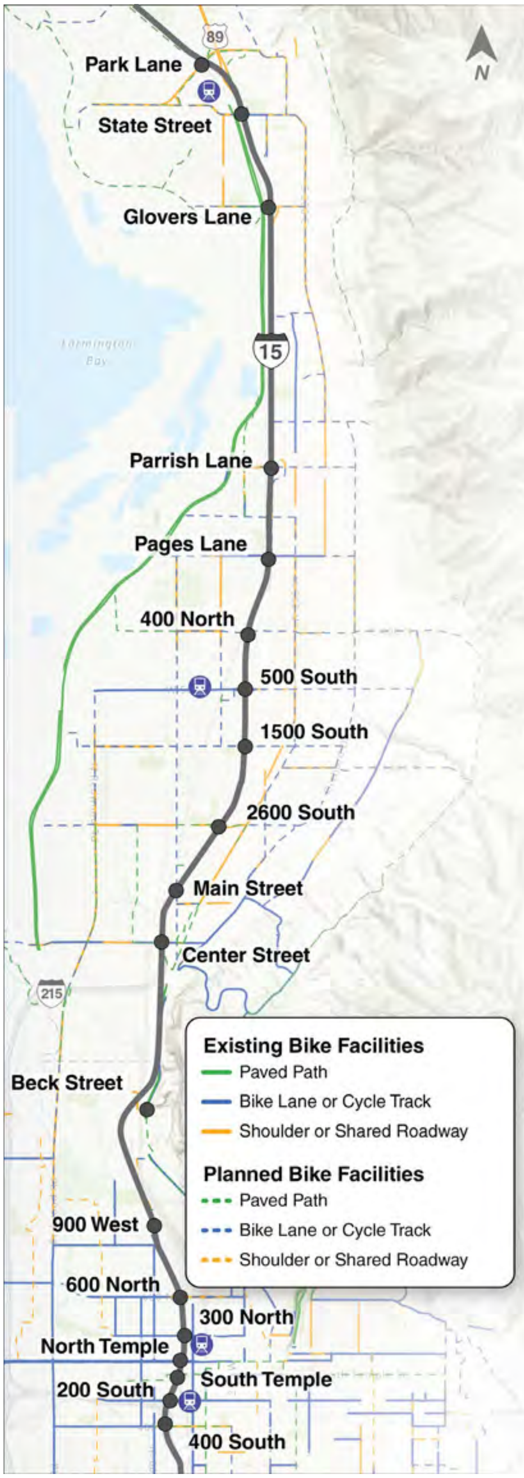


Figure 3-1. Existing and Planned Bicycle Facilities, WFRC Active Transportation GIS Data Resources

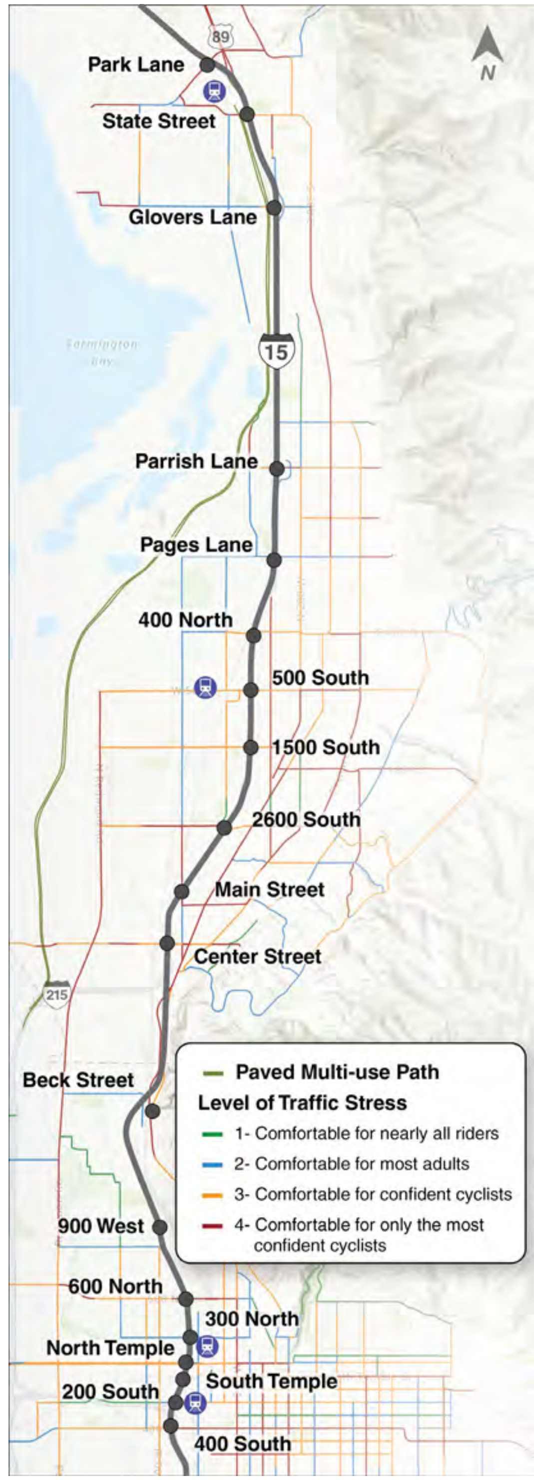


Figure 3-2. Level of Traffic Stress, WFRC Active Transportation GIS Data Resources

Table 3-2 provides information about each crossing's existing and planned active transportation facilities.

Table 3-2. Overview of Existing and Planned Active Transportation Facilities at Crossings

City	Location	LTS	Speed Limit	Pedestrian Facilities	Bicycle Facilities	Planned Facilities
Farmington	**Park Lane**	4	45 mph	There are no pedestrian facilities.	There are no bicycle facilities at the I-15 overpass. Narrow shoulders are located on both sides of the crossing.	A paved path is planned on the south side of Park Lane where it crosses I-15. A planned paved path along the Frontage Road (north-south) has been identified in Farmington City.
	State Street	4	35 mph	Where State Street crosses I-15, the road is only 30 feet wide and without shoulders, bike facilities, or sidewalk on the north side.	Along the south side of the crossing, there is the Farmington Creek Trail, a paved, mixed-use path.	A buffered bike lane is proposed for State Street on both sides, starting on the west side of I-15, transitioning to striped bike lanes on both sides to the east of I-15.
	Glovers Lane	3	35 mph	At the south side of the road, the sidewalk abruptly terminates into a chain-link fence looking over I-15 and the railroad corridor.	There is a wide, grade-separated, paved path on the north side of this crossing that provides a high level of comfort.	A buffered bike lane on both sides is proposed for Glovers Lane.
Centerville	**Parrish Lane**	4	35 mph	There is a wide multi-use path; however, the width and design are not consistent at the crossing, and barriers create pedestrian visibility concerns with vehicles accessing I-15 via the ramps.	This crossing is the only connection for people on the east side of I-15 to the DRGW and the Legacy Parkway Trail, although a direct connection to the trail does not exist here.	A striped bike lane on both sides is proposed for this corridor, and Centerville City has had discussions about a separated pedestrian bridge at 1000 North to connect directly into the Legacy Parkway Trail. A bike lane and paved path are planned at different locations along 800 West and Marketplace Drive to

City	Location	LTS	Speed Limit	Pedestrian Facilities	Bicycle Facilities	Planned Facilities
				There is no buffer between the edge of sidewalk and travel lanes once the barrier is gone at 700 W		the east of I-15. A paved path is planned along 1250 West to the west of I-15.
West Bountiful /Bountiful	**Pages Lane**	1	25 mph	Sidewalks exist on both sides of the corridor, although they are inconsistent in width.	There are no bicycle facilities on the segment under I-15.	A striped bike lane on both sides of the road is planned for Pages Lane.
	400 North	4	35 mph	East of I-15, sidewalks are located on either side of 400 North, but only the north side has continuous sidewalks at the crossing.	No bicycle facilities exist, and the whole corridor lacks dedicated bicycle infrastructure.	A striped bike lane on both sides of the road is planned for 400 North.
Woods Cross / West Bountiful /Bountiful	**500 South**	3	45 mph	At the I-15 crossing a 250' section of sidewalk is located in the center of the road and this is the only means for a pedestrian to walk from one side of I-15 to the other. The geometry of the intersection requires pedestrians to cross traffic several times to get through the interchange.	There is a shoulder bikeway at this crossing that starts at 500 West and continues to the Legacy Parkway. At the underpass, both pedestrian and bicyclist networks have multi-stage crossings, making it lengthy and time-consuming to use.	An extension of the bike lanes are planned from 500 West to the eastern terminus of 500 South at Davis Boulevard.
Woods Cross/ Bountiful	**1500 South**	1	25 mph	Sidewalks exist on both sides.	There are no bicycle facilities.	A buffered bike lane on both sides of the road is planned for 1500 South.
Woods Cross/ North	**2600 South**	3	35-40 mph	There are sidewalks on both sides of the street, but the sidewalk may not	There is a shoulder bikeway on both sides of the street, but they are narrow.	A striped bike lane on both sides of the road is planned for 2600 South, transitioning to a barrier protected bike

City	Location	LTS	Speed Limit	Pedestrian Facilities	Bicycle Facilities	Planned Facilities
				meet ADA compliance in some locations. In addition to multiple pedestrian crossings at interchange ramps, accessing the south sidewalk requires walking between westbound traffic entering I-15 and eastbound traffic.	At the underpass, both pedestrian and bicyclist networks have multi-stage crossings, making it lengthy and time-consuming to use.	lane on both sides of the road east of I-15. A paved path on US-89 (north-south) is planned in this area.
North Salt Lake	**Main Street**	4	25 mph	Sidewalks exist on both sides.	There are no bicycle facilities.	No pedestrian or bicycle facilities are planned.
	Center Street	3	25 mph	Sidewalks are located on both sides of the road until west of I-15 where the north sidewalk ends and only the south sidewalk continues. The rail corridor west of I-15 creates a barrier for east-west non-motorized travel.	Bike lanes are located on the shoulders and are identified with signage only and lack painted roadway markings. However, faded bike lane symbols can be seen on the shoulders to the east by the crosswalk at Hatch Park.	A paved pathway on Center Street is proposed on one side of the road. A paved path is planned for Beck Street/US-89 (north-south) in North Salt Lake.
Salt Lake City	**Beck Street**	4	50 mph	There are no pedestrian facilities.	Bike lanes are located on the shoulders and are identified with signage only and lack painted roadway markings. Separate bike multi-use path exists on west side of Frontage Road/east side of US 89 between 2500 North in Salt Lake City to Eagle Ridge	A buffered bike lane along Victory Road and a paved multiuse path along Beck Street are planned.

City	Location	LTS	Speed Limit	Pedestrian Facilities	Bicycle Facilities	Planned Facilities
					Drive in North Salt Lake.	
	900 West	NA	40 mph	There are no pedestrian facilities.	There are no bicycle facilities.	A bike lane is planned on both sides of 900 West.
	600 North	4	35 mph	There is a sidewalk on the south side protected by a concrete barrier, although crossing the freeway exit and entry ramps leaves pedestrians vulnerable and exposed.	There are shoulder bikeways from 300 West to 500 West and a bike lane from 500 West to 1400 West.	The City is conducting a corridor study to look at transit, pedestrian, and bicycle facilities on 600 North, west of I-15 and is nearing a preferred concept. The City is in the process of designing a north-south multi-use pathway adjacent to Beck Street that connects Salt Lake and Davis Counties.
	300 North	2	30 mph	Sidewalks exist on both sides.	Bike lanes exist on both sides.	A buffered bike lane on both sides is planned for 300 North. Salt Lake City will construct a pedestrian bridge over the railroad tracks at 300 North in 2023.
	North Temple	3	30 mph	Paved path exists both sides.	Bike lanes exist on both sides.	No additional pedestrian or bicycle facilities are planned for North Temple.
	South Temple	NA	35 mph	A sidewalk exists only on the north side.	There are no bicycle facilities.	A paved path on one side is planned for South Temple.
	200 South	3	35 mph	Sidewalks exist on both sides.	Bike lanes exist on both sides.	No additional pedestrian or bicycle facilities are planned for 200 South.
	400 South	4	35 mph	There is no sidewalk on the segment of 400 South that goes over the railroad, and the sidewalk on the segment that goes under I-15 has multi-stage crossings, making it lengthy and time-consuming to use.	There are shoulder bikeways from 300 West to 900 West and a bike lane from 900 West to the West side.	A buffered bike lane on both sides is planned for 400 South.

4. STREETLIGHT ANALYSIS FINDINGS

This section includes zone activity and trip circuity results using StreetLight data. StreetLight uses the term "activity" to refer to pedestrian and bicycle trips. Zone activity analysis are helpful in finding trends for the utilization of I-15 crossings over time, and trip circuity is useful in determining whether a trip is short and direct or long and indirect with potential gaps and barriers to access.

4.1 ZONE ACTIVITY

Activity zones were defined at each crossing of I-15 to capture user trends and determine how frequently a crossing was utilized. All east-west trips that entered a zone during a trip were captured. North-south trips were screened out to ensure no I-15 trips were captured in the findings. Figure 4-1 shows the pedestrian activity for crossings from 2019 through 2021. As a reminder, StreetLight data does not provide specific volumes to pedestrian and bicycle trips, but instead provides an index score to indicate level of use. Pedestrian and bicycle indices cannot be compared against each other but do offer a comparison between locations for the same mode.

As shown in Figure 4-1, the most utilized crossings by pedestrians in the study area were State Street, Parrish Lane, 500 South, 1500 South, 2600 South, 300 North, and North Temple.

Overall, pedestrian activity in Woods Cross, West Bountiful, and Bountiful increased during the last three years. At the 2600 South crossing in Woods Cross/North Salt Lake/Bountiful, pedestrian trips almost doubled between 2019 and 2020. However, between 2019 to 2021, a decrease in pedestrian activity was observed around crossings in Salt Lake City.

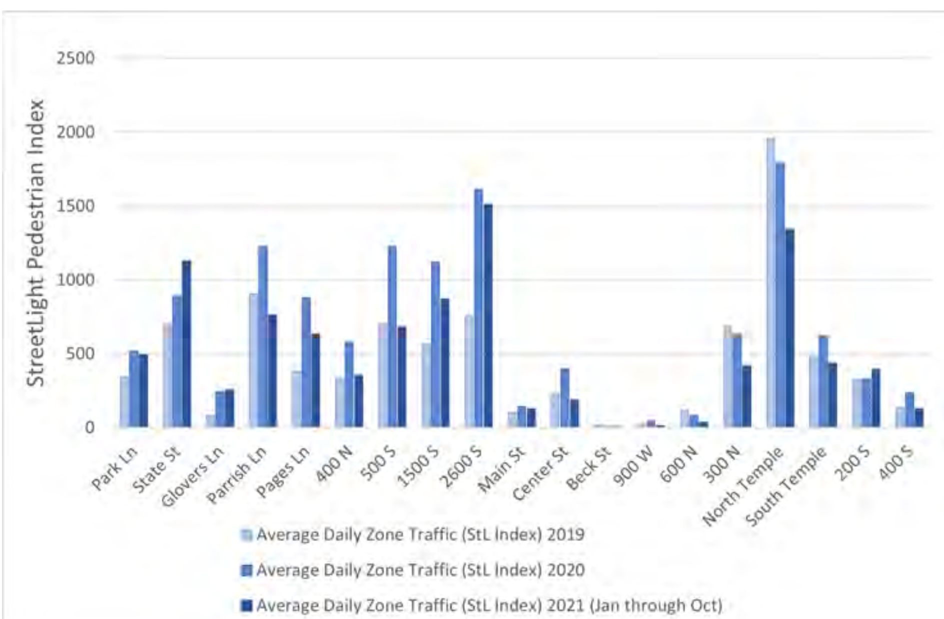


Figure 4-1. Pedestrian Activity at Crossings (2019-2021)

Figure 4-2 shows bicycle activity for crossings from 2019 through 2021. The most utilized crossings by bicyclists were Parrish Lane, Pages Lane, 300 North, and North Temple.

From 2019 to 2021, the Salt Lake City crossings of 300 North and North Temple were utilized by bicyclists more than other crossings in the study area. After 2020, all locations except 2600 South experienced a decrease in bicycle activity.

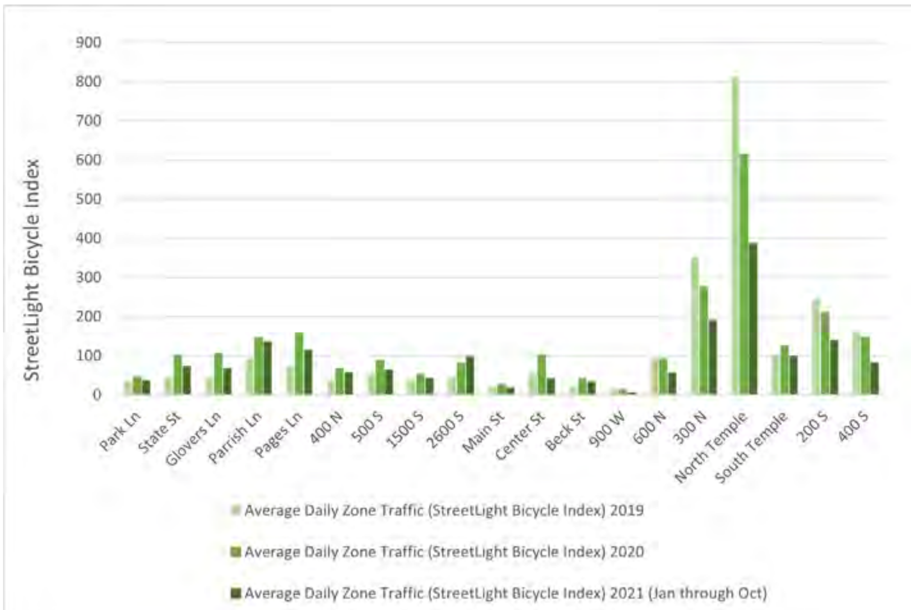


Figure 4-2. Bicycle Activity at Crossings (2019-2021)

Beck Street's North South Connection

For non-motorized transportation users, Beck Street is one of the only north-south routes that connects Salt Lake City to North Salt Lake, but it has low usage from pedestrians and bicyclists. To the east of Beck Street there is a paved path alongside a frontage road that is used by a mining operation. Accessing the paved path requires traveling along the frontage road which can mean traveling alongside the large vehicles used by the mining operation. Beck Street is one of the few roads that may pull traffic from I-15 to enter and exit Salt Lake City. Vehicles heading along Beck Street are traveling at speeds of 50 mph. The closest road that offers protection from high speeds is over a mile to the south of the frontage road access. Along this segment of Beck Street there are no sidewalks and only a striped shoulder marked with a bicycle symbol for protection.

The high bicycle and pedestrian activities on crossings are likely related to adjacent land uses (see Figure 4-3). For example:

- State Street is the closest connection to Lagoon Amusement Park, Farmington Junior High School, and Farmington Elementary School to the east of I-15; and Farmington Station Park to the west of I-15. It also connects people to the highly utilized Legacy Parkway Trail.
- Parrish Lane is the only close connection for people on the east side of I-15 to access the Denver and Rio Grande Western Rail Trail and the Legacy Parkway Trail on the west side of I-15. The closest northern connection is Glovers Lane at approximately 3 miles and the closest southern connection is approximately 1 mile at Pages Lane. It also connects people who live on the west side of I-15 to goods and services in the commercial district to the east.
- Pages Lane provides a direct connection to the Legacy Parkway Trail.
- 1500 South offer east-west connectivity that does not require navigating an interchange and provides a more direct trip for non-motorized users.
- 500 South sees higher pedestrian trips due to its proximity to the FrontRunner Woods Cross Station and commercial zones on the east side.
- 2600 South connects the commercial zone on the east and the residential zone on the west side of I-15.
- 600 North connects residential neighborhoods on the west to the downtown core and TRAX and FrontRunner on the east.

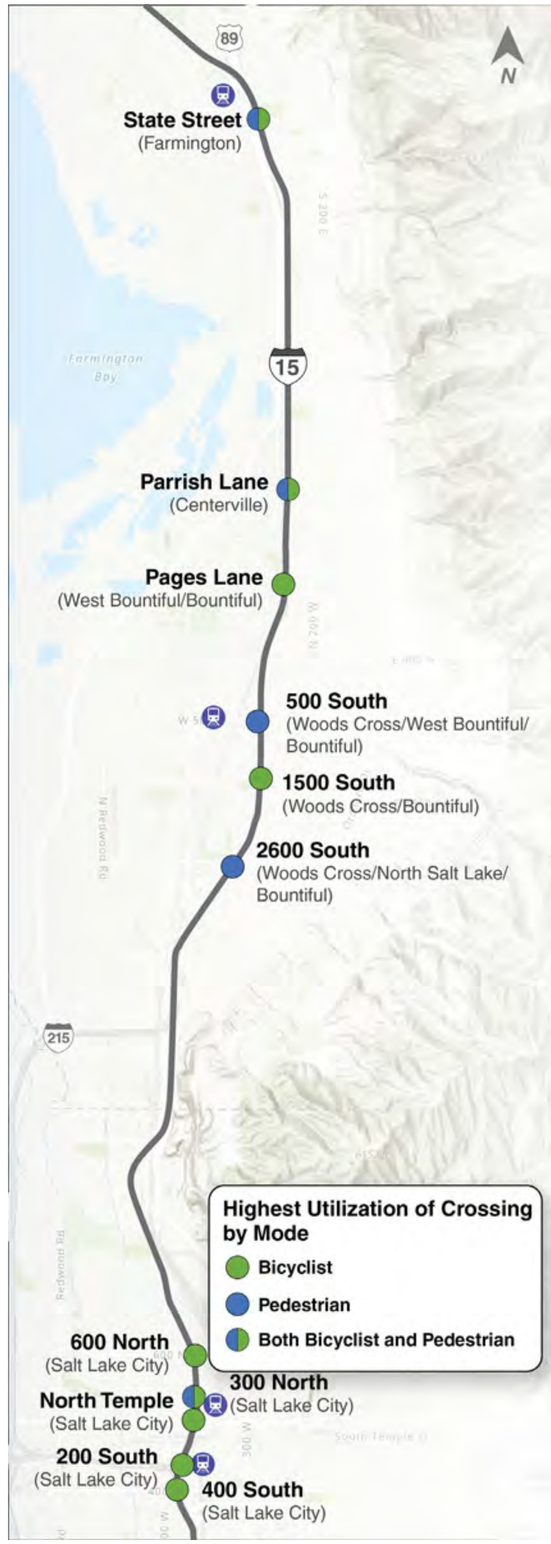


Figure 4-3. Crossings with the Highest Pedestrian and Bicycle Utilization

- 300 North provides a fairly direct connection between residential neighborhoods and the downtown core without requiring a user to navigate an interstate interchange. It also is a route for students to access West High School.
- North Temple provides a separated crossing with comfortable non-motorized facilities and is a direct connection to the downtown core as well as several transit rail lines.
- 200 South is a grade separated crossing, and while sidewalks are narrow, this is a fairly comfortable connection for non-motorized users.
- The 400 South viaduct connects social services, commercial, and dense residential on both sides of the interstate.

North Temple as an Outlier

North Temple is an example of a crossing that provides connected and comfortable facilities for non-motorized travelers. Wide paved-use paths, striped bike lanes, and direct connections to frequent transit makes this crossing the most utilized in the study area by pedestrians and bicyclists.

Because of the high use of North Temple compared to all other crossings in the study area, the remainder of this chapter has omitted it from the majority of the StreetLight findings; it minimizes the results of the other crossings. The goal of this data collection and comparison is to identify crossings that need improvements to non-motorized facilities.

4.1.1 StreetLight Trip Circuity Analysis

Trip circuity refers to how many turns, or how indirect, travel is between points A and B. Pedestrians may have circuitous routes from points A to B because of gaps, barriers, or safety concerns.

When StreetLight calculates trip circuity, a number between 0-6 is applied to the analysis. This is a numeric rating that represents the actual length of the trip compared to the ideal "as the crow flies," or linear trip length. As Figure 4-4 shows if a trip is twice as long as the linear distance it receives a trip circuity score of 2, if a trip is 4 times as long as the linear distance it has a circuity score of 4.

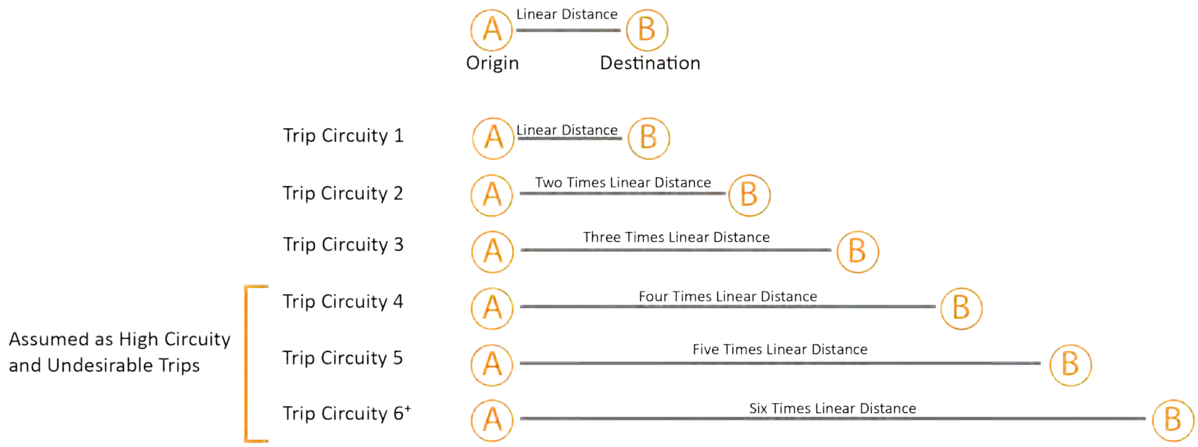


Figure 4-4. Trip Circuity

Figure 4-5 below shows pedestrian activity for trip circuity of level 4+ was highest on State Street, Parrish Lane, 500 South, 1500 South, 2600 South, 300 North, and South Temple.

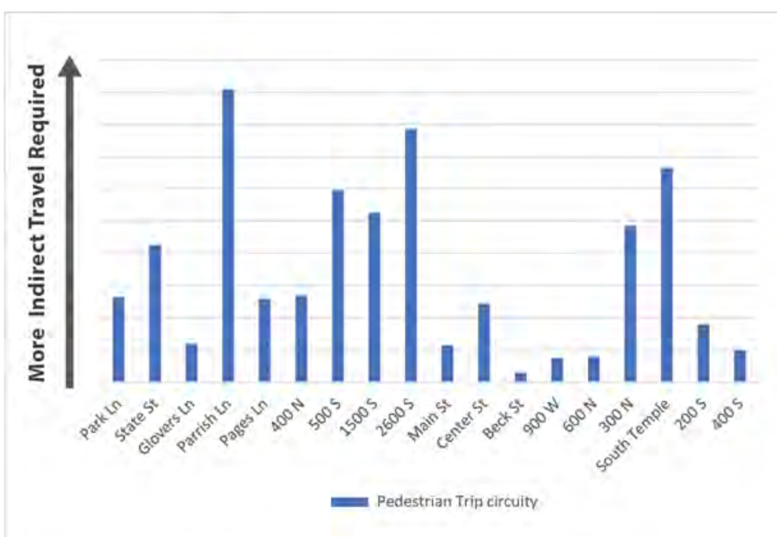


Figure 4-5. Pedestrian Trip Circuity for Level 4 and Higher

Figure 4-6 below shows bicyclist activity for trip circuity of level 4+ was highest on Pages Lane, 600 North, 300 North, South Temple, 200 South, and 400 South.

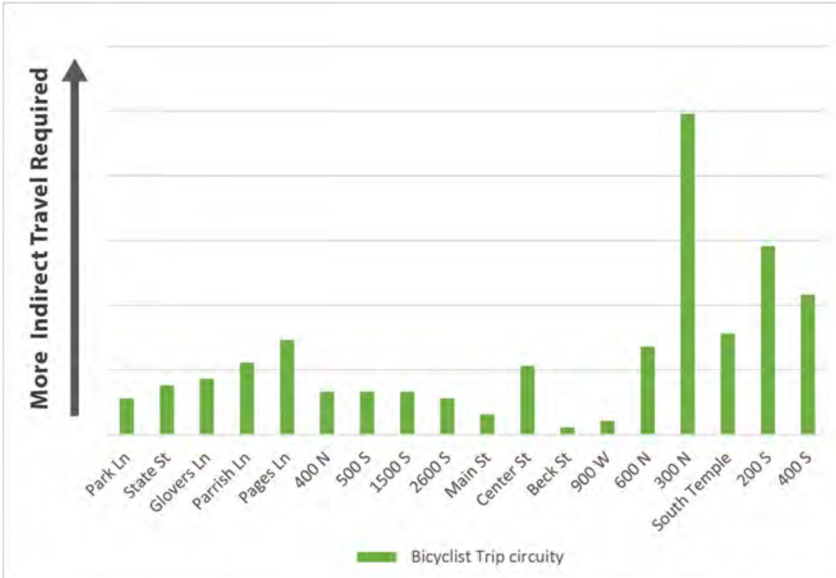


Figure 4-6. Bicyclist Trip Circuity for Level 4 and Higher

4.2 CROSSINGS USED FOR TRIPS TO TOP ORIGINS AND DESTINATIONS

A combination of Transportation Analysis Zones (TAZs) and unique polygons were used for data collection across the study area. Origin and Destination (O-D) trips for pedestrians and bicyclists were identified through StreetLight travel analysis. The focus of the analysis was to determine O-D trips that began in a zone on one side of I-15 and ended in a zone on the opposite side of I-15. This information is valuable because it helps identify which zones have more non-motorized travel activity than other zones along the study area. It also shows which crossings area being most used for non-motorized trips.

4.2.1 Top Crossings Used For Pedestrian Trips

Figure 4-7 shows the most used crossing locations for O-D pedestrian trips in 2019. The crossings most frequently used and the locations of the O-D zones are discussed below:

- **Farmington:** The State Street crossing provides a connection between the zone on the west that has the Station Park shopping center and Frontrunner Farmington Station and the zone to the east that has Lagoon Amusement Park.
- **Centerville:** The Parrish Lane crossing provides a connection between the high-density housing and commercial zones located on the east and west side of I-15. This is also a highly utilized connection to the Denver and Rio Grande Western Rail Trail and the Legacy Parkway Trail.
- **Bountiful/West Bountiful:** The 500 South crossing connects the commercial zone on the east and the residential zone and FrontRunner Woods Cross Station on the west.
- **Woods Cross**: Both the 1500 South and 2600 South crossings are frequently used for trips that go between the commercial/residential zones on the west and the commercial zone on the east and are potentially used for trips to Woods Cross High School and South Davis Junior High School on the east side of I-15.
- **Salt Lake City**: The 600 North, 300 North, and South Temple crossings are frequently used for pedestrian trips between the residential zones on the west and the downtown core on the east side of I-15.

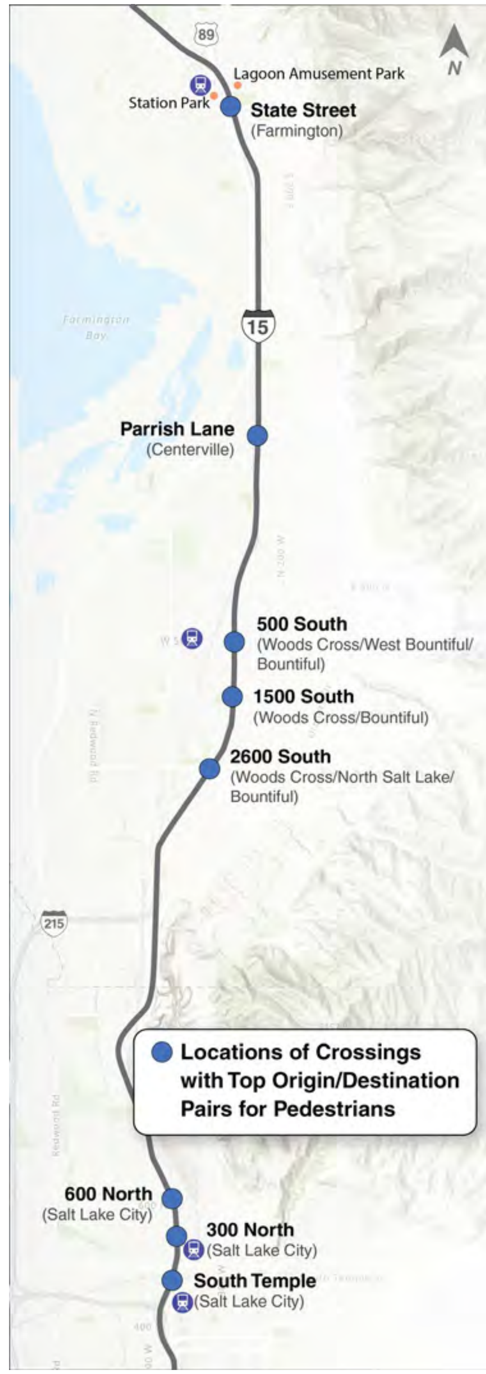


Figure 4-7. Locations of Crossings Used by Top O-D Pairs Across I-15 for Pedestrian Trips (2019)

4.2.2 Top Crossings Used for Bicycle Trips

Figure 4-8 shows the most used crossing locations for O-D bicycle trips in 2019. The crossings most frequently used and the locations of the O-D zones are discussed below:

- **Farmington:** The State Street crossing provides a connection between the zone on the west that has the Station Park shopping center and Frontrunner Farmington Station and the and the zone to the east that has Lagoon Amusement Park.
- **Centerville:** The Parrish Lane crossing provides a connection between the high-density housing and commercial zones located on the east and west side of I-15. This is also a highly utilized connection to the Denver and Rio Grande Western Rail Trail and the Legacy Parkway Trail.
- **Bountiful/West Bountiful/Woods Cross:** The 500 South and the 1500 South crossings connects the commercial zone on the east and the residential zone and FrontRunner Woods Cross Station on the west.
- **Woods Cross**: The 2600 South crossing is frequently used for trips that go between the commercial/residential zones on the west and the commercial zone on the east.
- **Salt Lake City**: The 600 North and 300 North crossings are frequently used for bicycle trips between the residential zones on the west and the downtown core on the east side of I-15.

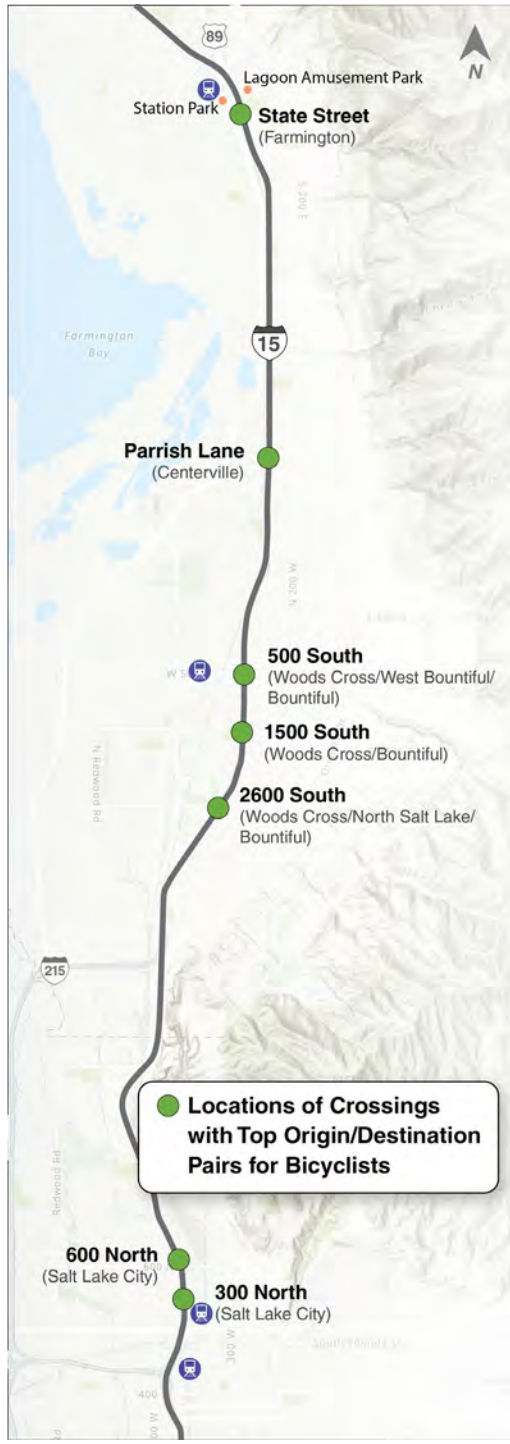


Figure 4-8. Locations of Crossings Used by Top O-D Pairs Across I-15 for Bicyclist Trips (2020)

4.3 FUTURE DEMAND FOR WALKING AND BIKING

This section includes short vehicle trip findings and activity around park and rides. Short vehicle trips were assessed using StreetLight to determine the potential demand in mode shift if active transportation connectivity is enhanced.

4.3.1 Short Vehicle Trips

Short vehicle trips are trips originating on one side of I-15 and ending on the opposite side of I-15 within a 3-mile radius of a crossing. **All vehicle trips** are trips originating on one side of I-15 and ending on the opposite side of I-15 with no defined trip length. Table 4-1 shows what percentage of all vehicle trips are short vehicle trips. Three miles was selected as the radius because it is about the average distance of a bicycle trip; and a short enough distance that a traveler may be willing to switch from taking the trip in their car, to taking the trip on a bicycle.

Most short vehicle trips happened between Bountiful and Woods Cross. Short vehicle trips were high on Park Lane, State Street, Parrish Lane, Pages Lane, 400 North, 500 South, 1500 South, and 2600 South.

The 1500 South Crossing had the highest percentage of short vehicle trips at 41.6 percent. The second highest was on Pages Lane with 38.2 percent.

All vehicle trips (trips with no defined trip length) were high on Park Lane, 500 South, 2600 South, Beck Street, and 400 South.

As mentioned in section 3.1, there are no bicycle facilities on Pages Lane and 1500 South. This might be the reason for high short vehicle trips on these crossings.

Table 4-11. Short Vehicle Trips within a 3-mile Radius and Total Vehicle Trips with no Radius

Crossing	Average Daily Short Vehicle Trips	Average Daily All Vehicle Trips	Average Daily Short Vehicle Trips as a Percentage of All Average Daily Vehicle Trips
Park Lane	2,864	27,802	10.30%
State Street	2,811	14,344	19.60%
Glovers Lane	956	6,734	14.20%
Parrish Lane	2,476	17,434	14.20%
Pages Lane	2,821	7,384	38.20%
400 North	2,385	14,455	16.50%
500 South	2,992	23,938	12.50%
1500 South	3,601	8,657	41.60%
2600 South	3,711	31,447	11.80%
Main Street	689	6,693	10.29%
Center Street	1,370	12,928	10.60%
Beck Street	29	28,947	0.10%
900 West	99	5,810	1.70%
600 North	1,289	19,537	6.60%
300 North	1,381	5,851	23.60%
South Temple	691	3,072	22.49%
200 South	1,222	6,639	18.41%
400 South	1,351	25,486	5.30%

4.3.2 Park-and-Ride Short Trips for Walking, Biking, and Driving

Four UTA FrontRunner Stations are located in the study area: Farmington Station (near Park Lane and State Street), Woods Cross Station (near 500 South), North Temple Station (near North Temple), and Salt Lake Central Station (near South Temple and 300 North). Zone activity analyses were conducted using StreetLight at each station for pedestrians, bicyclists, and vehicles from 2019 to 2021.

Figure 4-9 shows crossings utilized by pedestrians to access FrontRunner Stations. Crossings used to access stations include Park Lane, State Street, 500 South, 1500 South, 300 North, South Temple, 200 South, and 400 South.

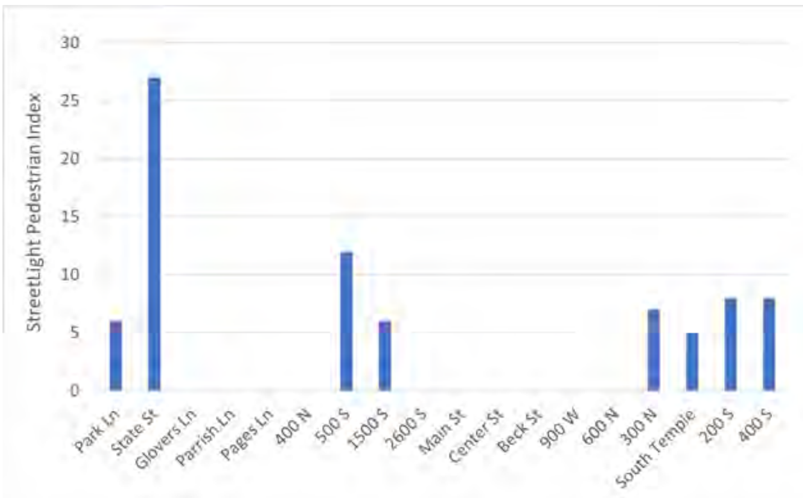


Figure 4-9. Crossings Utilized by Pedestrians to Access FrontRunner Stations

Figure-4-10 shows crossings utilized by bicyclists to access FrontRunner Stations at Park Lane, State Street, and 200 South. The StreetLight Bicycle Index (shown on the y-axis) was low, less than 2. It indicates bicycle activity to FrontRunner stations was not substantial.

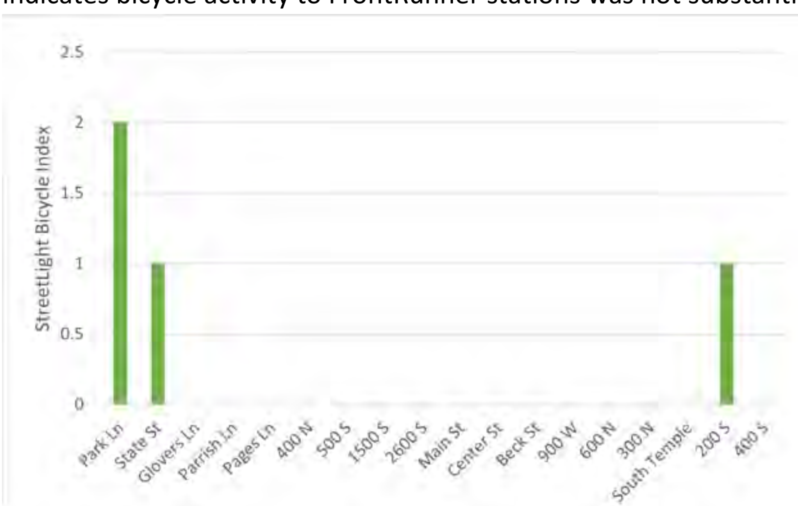


Figure 4-10. Crossings Utilized by Bicyclists to Access FrontRunner Stations

The following figures show yearly trends for pedestrian activity (Figure 4-11), bicycle activity (Figure 4-12), and short vehicle trips within a 3-mile radius (Figure-4-13) over three years. For capturing short vehicle trips to stations, park-and-ride (P&R) lots are considered as reference zones. The North Temple Station does not have a designated P&R lot. Salt Lake Central has two lots, one of which is located at the east side of 600 West and is used only for park-and-ride trips to the Salt Lake Central Station. The other one is located on the west side of 600 West and includes stalls designated for UTA employees/vanpools and a pick-up/drop-off area, where parking is only allowed for a short period of time. The Salt Lake Central Station lots were analyzed separately to get more accurate results on short vehicle trips related to FrontRunner stations.

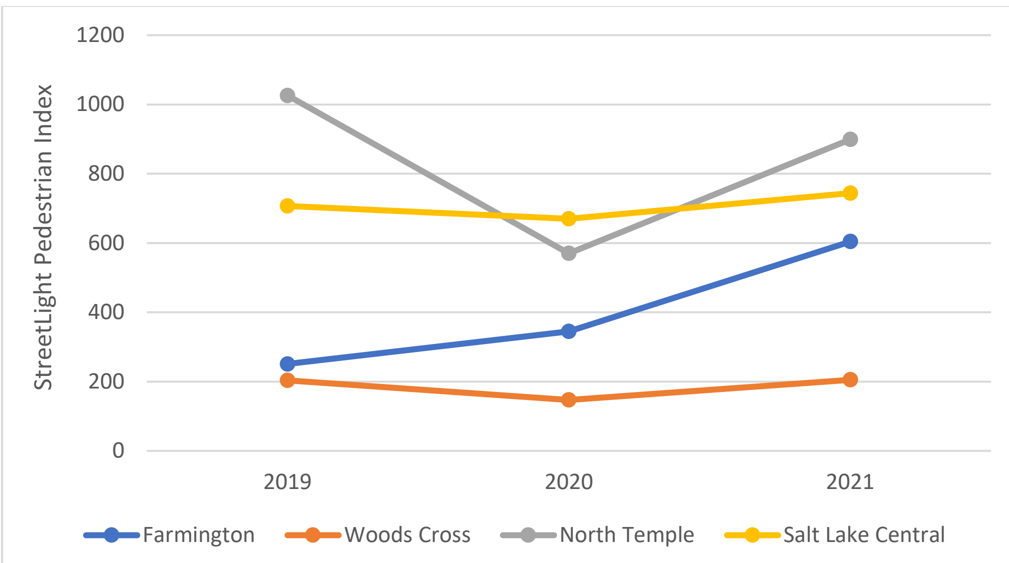


Figure 4-11. Pedestrian Activity to FrontRunner Stations Year Over Year (2019-2021)

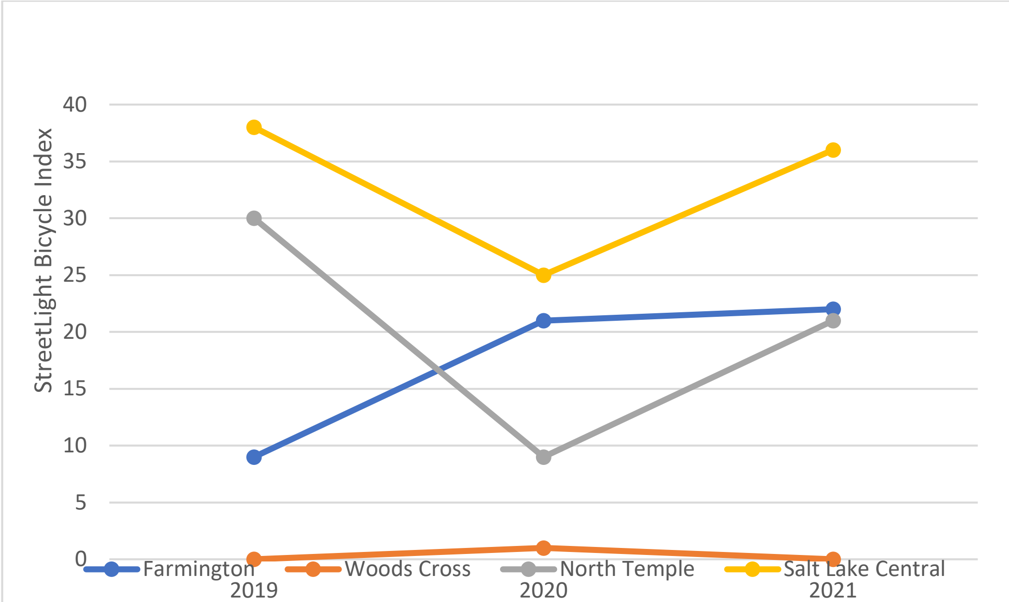


Figure 4-12. Bicyclist Activity to FrontRunner Stations Year Over Year (2019-2021)

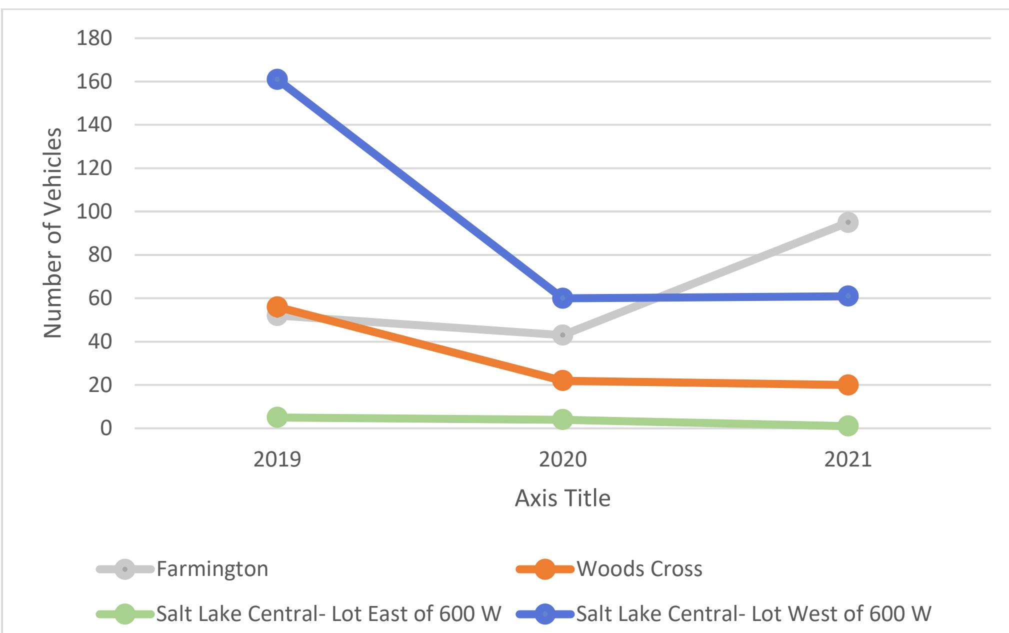


Figure 4-13. Short Vehicle Trips (in a 3-mile Radius) to FrontRunner Station Park and Ride Lots (2019-2021)

FrontRunner Farmington Station

FrontRunner Farmington is the only station with an upward trend of pedestrian activity, bicycle activity, and short vehicle trips in the study area. Pedestrian activity to this station has increased over time and experienced a substantial growth (almost 50%) from 2020 to 2021. Bicycle activity has also increased from 2019 to 2020 and remained stable in 2021. Short vehicle trips to this station increased from 40 to 100 vehicles daily between 2020 and 2021, an unexpected trend based on knowledge of systemwide ridership decline during Covid-19 years. Most short vehicle trips associated with the FrontRunner Farmington station originate from neighborhoods directly east of I-15. This could be from recent residential homes built closer to the station and more in the process of being built.

FrontRunner Woods Cross Station

Pedestrian activity to FrontRunner Woods Cross station has remained stable over time. Bicycle activity to this station was not substantial (as Figure 4-14 shows the StreetLight Bicycle Index was less than 1) and has not changed from 2019 to 2021. In 2019, the daily average number of vehicles traveling from the east of I-15 and ending at the FrontRunner Woods Cross station parking lot was 59, decreasing significantly in 2020 to 22 vehicles. This trend of a low daily average of vehicles carried over into 2021 and is likely a result of the Covid-19 pandemic. Most short vehicle trips associated with this station come from the zones east of I-15.

FrontRunner North Temple Station

The FrontRunner North Temple station had the highest pedestrian activity in 2019 compared to other stations. Pedestrian activity decreased in 2020 due to the pandemic, but in 2021 it increased and was more than other stations. Bicycle activity has experienced the same trend as pedestrian activity; a decrease in 2020 and an increase in 2021. This station is located by mixed-use development and has pedestrian and bicyclist facilities on North Temple. The combination of these two factors makes this station convenient and accessible to many users. As mentioned before there is no park-and-ride lot associated to this station and is excluded from the short vehicle trip analysis.

Salt Lake Central Station

Pedestrian activity to Salt Lake Central Station has remained stable over time. Bicycle activity to this station has decreased substantially (50%) from 2019 to 2020 and then increased in 2021. The Salt Lake Central station has two P&R lots located on the east and west sides of 600 West. Short vehicle trips to the lot east of 600 West remained stable over time. Short vehicle trips to the lot west of 600 West decreased from 160 to 60 vehicles per day between 2019 and 2020 and remained stable in 2021.

4.3.3 Future Growth

Projected future growth in communities along the I-15 study area may produce an increase in demand for non-motorized trips Projected future growth in communities along the I-15 study area may produce an increase in demand for non-motorized trips if the future growth includes mixed land uses, increased housing density, and closer proximity between everyday origins and destinations.

Two common examples of this are proximity between home and work and home and shopping. The need for a connected network of comfortable facilities for walking and biking should be considered.

5. COMMUNITY PROFILES

Understanding who to plan for will help inform the future EIS alternative development process. For example, if most people are using a specific crossing to access a paved multi-use trail for recreational purposes, the facility type recommended at the crossing will likely be different than the recommendation for a crossing if the users are mainly walking to a nearby shopping destination.

The StreetLight data platform uses 2010 US Decennial Census Block Group data and the 2010 American Community Survey demographic data to make assumptions about people who are traveling. Census Block Groups consist of geographic areas containing between 600 and 3,000 people. StreetLight analyzes where a trip starts and ends and then assumes traveler demographics based on the community profile of the origin Block Group. While StreetLight cannot predict exactly who is taking trips based on this, there is likely a strong correlation between the two. The demographic profiles can inform certain assumptions, such as trip purpose or access to a vehicle, by correlating the demographic profiles (e.g., income level, race, education level, etc.) with trip data (e.g., trip origin and destination, time, etc.)

The Travel Demand Model used for traffic analysis uses a similar methodology, as mentioned in Chapter 1, where employment and household data at the TAZ level is a data input for the model.

5.1 DEMOGRAPHIC PROFILES

Diverse populations have diverse needs. Understanding user profiles, family status, income level, and education level can help with planning better networks based on population needs.

5.1.1 Trips by Minority Populations

Figure 5-1 and Figure 5-2 show crossing utilization by populations that live in Block Groups with high percentages of minority populations. Overall, based on publicly accessible demographic data, crossings in Salt Lake City were likely used more by minority populations for walking and biking compared to other crossings based on the reported census demographics. The highest activity is at 600 North; StreetLight assumes almost 55 percent of pedestrians and 45 percent of bicyclists using 600 North to cross I-15 are part of a minority population.

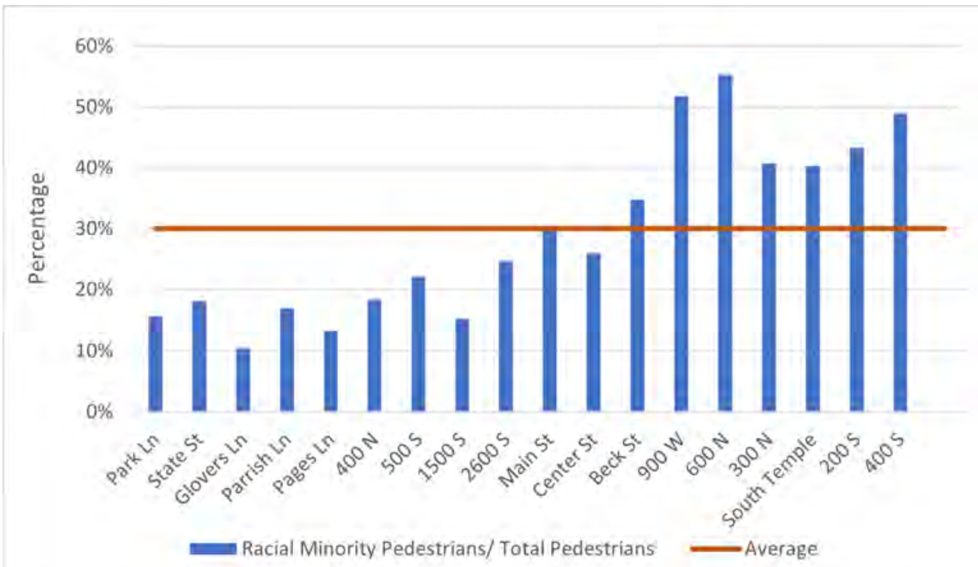


Figure 5-1. Percentage of Ethnic Minority Populations Divided by Total Pedestrian Activity Index

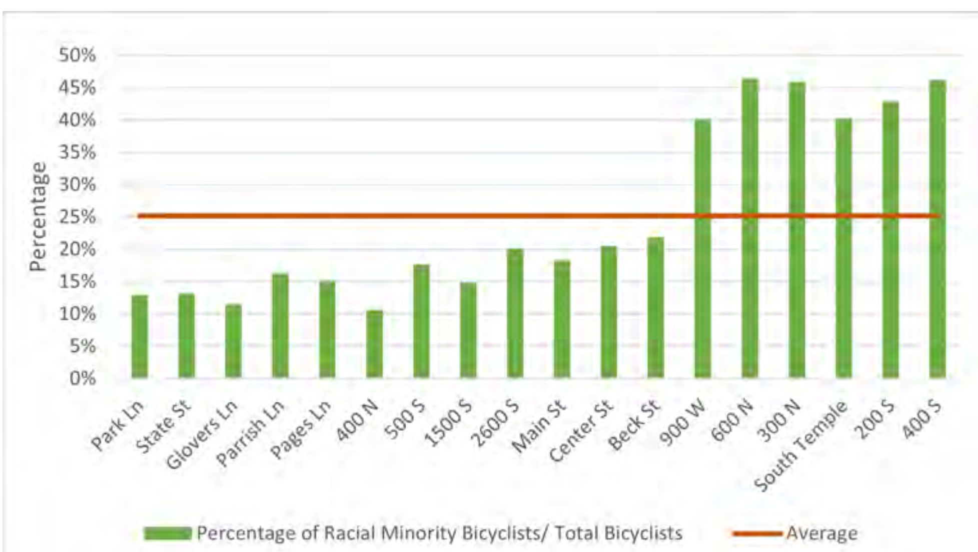


Figure 5-2. Percentage of Ethnic Minority Populations Divided by Total Bicyclist Activity Index

5.1.2 Trips by Income Level

Figure 5-3 and Figure 5-4 show the crossings utilized by pedestrians and bicyclists living in Census Block Groups with income levels less than $50K. Overall, based on data, high-use crossings for non-motorized travel in Salt Lake City (900 West, 600 North, 300 North, South Temple, 200 South, and 400 South) were used more by those living in areas reporting annual income as less than $50K. Figure 4-5 and Figure 4-6 map the crossings most utilized.

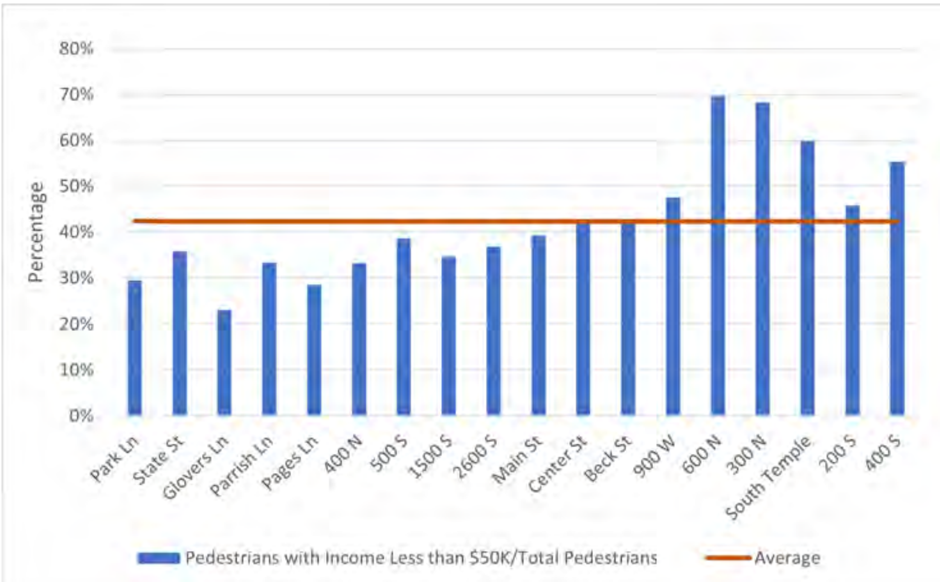


Figure 5-3. Percentage of Pedestrians with Income Less than $50K Divided by Total Pedestrian Activity Index

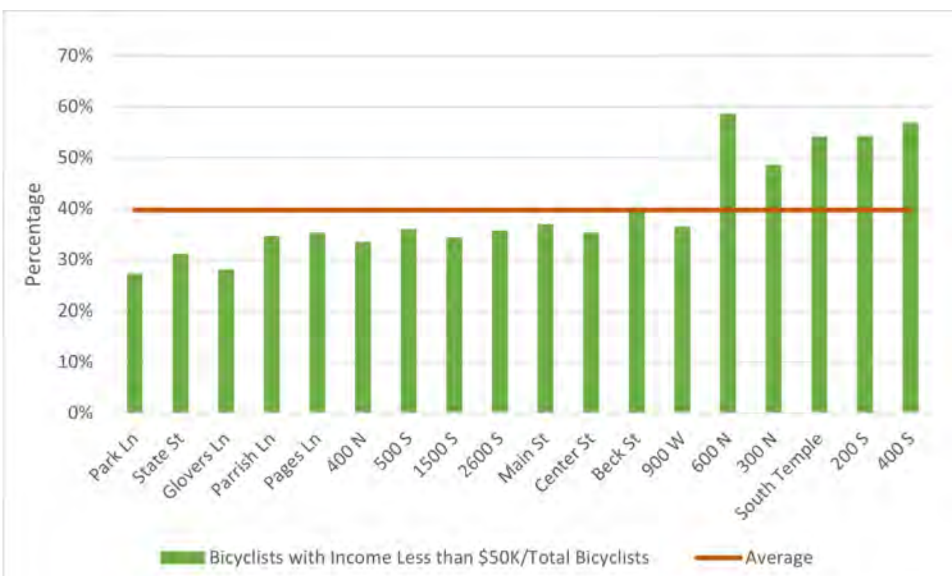


Figure 5-4. Percentage of Bicyclists with Income Less than $50K Divided by Total Bicyclist Activity Index

Figures 5-5 and 5-6 show potential crossing utilizations (by walking or biking) by those living in Census Block Groups with an average income below $50k. Those with lower incomes often have less direct or consistent access to vehicles to make trips.

Figure 5-5. Levels of Potential Pedestrian Utilization for Crossings Originating in Areas with Majority Incomes Below $50K

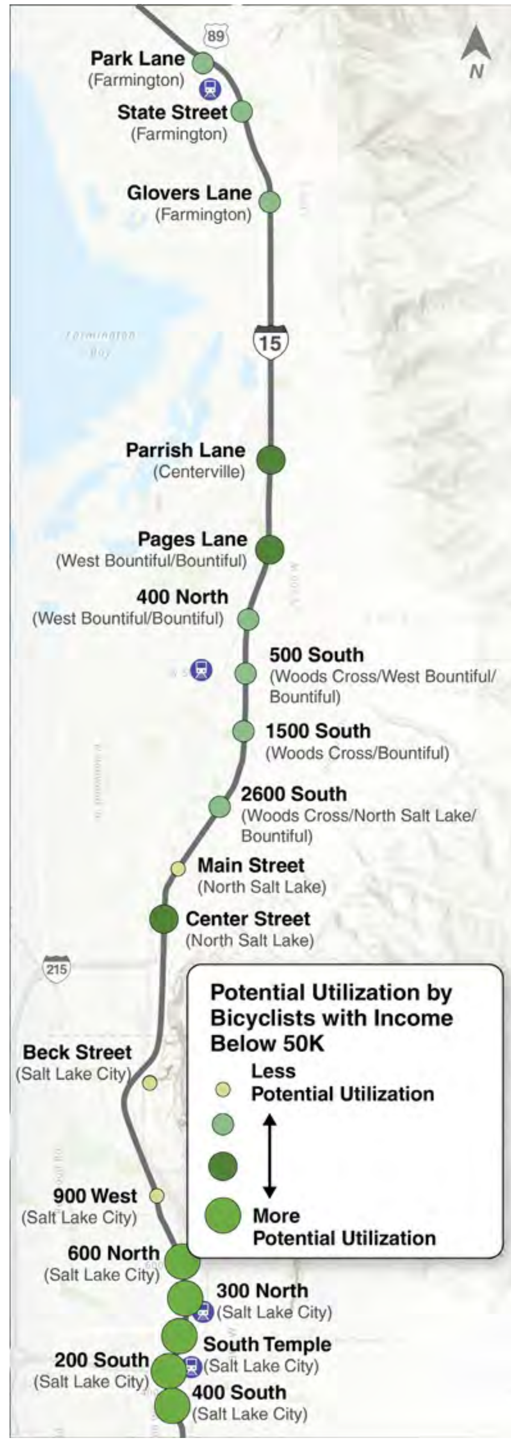


Figure5-6. Levels of Potential Bicycle Utilization for Crossings Originating in Areas with Majority Incomes Below $50K

5.1.3 Trips by Family Status

Figures 5-7 and 5-8 show the crossings used by people who live in Block Groups with a high percentage of families with children under 18 years old. Those who are ages 18 years or under may be more dependent on non-motorized transportation than many adults. In addition, children themselves may be less visible to drivers.

For all crossings, pedestrian trips that originated or ended up at a Block Group with a high percentage of families with children under 18 years fell within the range of 45 to 65 percent. The one exception to this is Glovers Lane which is close to 80 percent and is a main access route to several schools in the area.

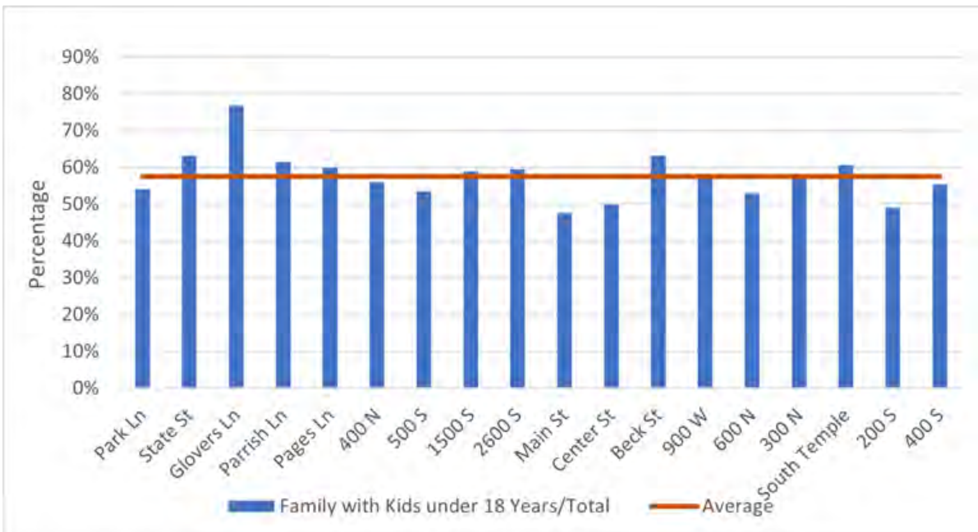


Figure 5-2. Percentage of Families with Children under 18 Years for Pedestrian Mode Divided by Total Pedestrian Activity Index

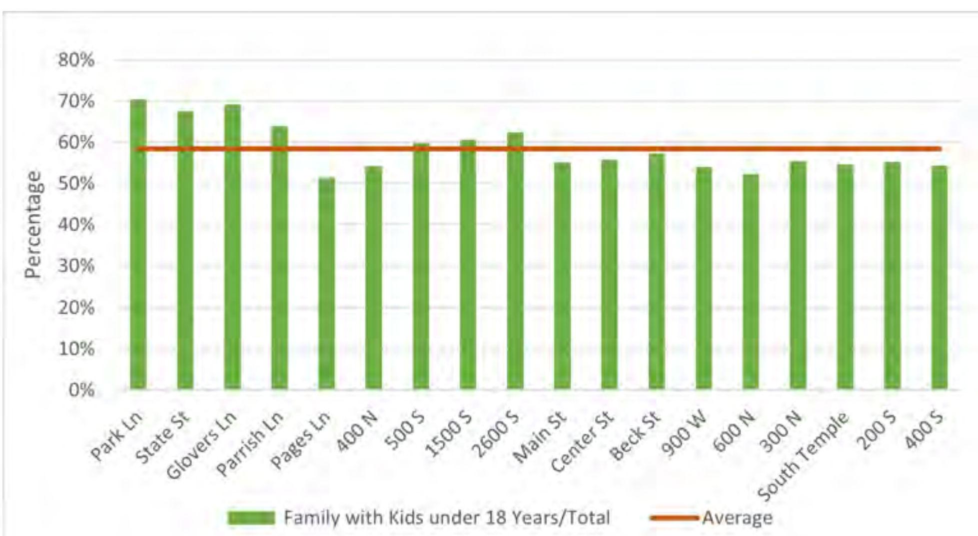


Figure 5-3. Percentage of Families with Children under 18 Years for Bicycle Mode Divided by Total Bicyclist Activity Index

5.1.4 Trip Length and Purpose

StreetLight data provides trip length, time of day, and day of week; assumptions about recreation versus non-recreation trips can be made based on that information. Trips in the northern portion of the study area seem to be primarily recreational trips by people accessing the Legacy Parkway Trail system or other trails in the network These trips are 10+ miles long and are often on weekends and at non-commute times. The southern non-motorized trips, like those in Salt Lake City, indicate a different trip purpose: short mileage trips, mostly to access work or run errands based on time of day and day of week.

StreetLight analyzes trip purpose, based on three trip categories:

- Home-Based Work (HBW), with home as the trip start and work as the trip end point. An example of this is a trip from home to the office.
- Home-Based Other (HBO), has home as the origin and a non-work location as the destination. Examples of this include a trip from home to a grocery store, or from home to the trailhead.
- Non-Home-Based (NHB), where home is not the origin or the destination. Examples of this are a trip from the transit station to the grocery store, or from lunch to the office.

StreetLight data was extrapolated by time of day to understand trip patterns:

- Early AM: 12 a.m. - 6 a.m.
- Peak AM: 6 a.m. – 10 a.m.
- Mid-Day: 10 a.m. – 3 p.m.
- Peak PM: 3 p.m. – 7 p.m.
- Late PM: 7 p.m. – 12 a.m.

Weekday versus weekend trips are also categorized. Table 5-1 summarizes findings by crossings.

Table 5-1. Percentage of Short Trips, Trip Purpose, Usage Based on Time of Day, and Time of Week

Crossing	Percentage of Pedestrian Trips Less than 2 Miles	Top Trip Purpose for Pedestrians	Most Utilized Time of Day for Pedestrians	Most Utilized Time of Week for Pedestrians	Percentage of Bicycle Trips Less than 3 Miles	Top Trip Purpose For Bicyclists	Most Utilized Time of Day for Bicyclists	Most Utilized Time of Week for Bicyclists
Park Lane	61%	46% NHB	37% Peak PM	51% Weekday	40%	46% HBO	38% Peak PM	62% Weekend
State Street	66%	76% NHB	45% Peak PM	57% Weekend	36%	47% NHB	46% Mid-Day	65% Weekend
Glovers Lane	18%	44% HBO	43% Mid-Day	51% Weekday	18%	44% HBO	29% Peak AM & 29% Mid-Day	66% Weekend
Parrish Lane	84%	65% NHB	37% Mid-Day	60% Weekday	72%	75% NHB	42% Mid-Day	Equal
Pages Lane	79%	47% HBO	34% Peak PM	54% Weekday	25%	45% HBO	34% Mid-Day	53% Weekend
400 North	75%	57% HBO	36% Mid-Day	59% Weekday	36%	44% HBO	40% Mid-Day	58% Weekend
500 South	87%	50% HBO	38% Mid-Day	58% Weekday	56%	47% NHB	38% Peak PM	57% Weekend
1500 South	78%	46% HBO	33% Mid-Day	61% Weekday	45%	50% HBO	40% Mid-Day	52% Weekday
2600 South	86%	45% HBO	32% Mid-Day	56% Weekday	53%	47% NHB	36% Mid-Day	54% Weekend
Main Street	78%	49% HBW	40% Peak PM	71% Weekday	26%	56% NHB	32% Mid-Day	79% Weekday
Center Street	75%	45% NHB	30% Mid-Day	67% Weekday	35%	62% NHB	42% Mid-Day	64% Weekday
Beck Street	72%	97% NHB	65% Peak PM	97% Weekday	14%	70% NHB	37% Peak PM	68% Weekday
900 West	41%	46% HBO	36% Mid-Day	57% Weekday	15%	56% NHB	33% Peak PM	52% Weekday
600 North	68%	40% HBW	27% Peak PM	67% Weekday	31%	45% NHB	31% Mid-Day & 31% Peak PM	56% Weekend
300 North	81%	47% HBO	32% Mid-Day	63% Weekday	31%	47% NHB	33% Mid-Day	53% Weekday
North Temple	84%	42% HBO	30% Peak PM	54% Weekday	38%	62% NHB	32% Peak PM	59% Weekend
South Temple	86%	37% HBO & 37% NHB	29% Late PM	54% Weekday	51%	59% NHB	29% Mid-Day	59% Weekend
200 South	78%	48% NHB	30% Peak PM	57% Weekday	30%	56% NHB	30 Peak PM	58% Weekend
400 South	67%	45% HBO	32% Mid-Day	64% Weekday	20%	56% NHB	32% Mid-Day	56% Weekend

6. COLLISION AND SAFETY ANALYSIS

Pedestrians and bicyclists on roadways are vulnerable in many scenarios including when they are crossing travel lanes, bicycling close to traffic, or on narrow or unprotected sidewalks. When a person is struck by a vehicle at 23mph they have a 10 percent chance of dying, at 32 mph the chance of dying increases to 32 percent, and at 50 mph, their chance of dying is 75 percent[2]. This section reviews pedestrian and bicycle related motor vehicle collisions along the study area.

Numetric Data (a safety analytic tool) is managed by UDOT and consists of detailed records of every reported crash in the state. Among the information recorded is whether a bicycle or pedestrian is involved. This study reviewed crash data from 2015 through 2021 to analyze pedestrian- and bicyclist-involved crashes at each crossing. A buffer of 0.3 miles around each crossing was selected as the boundary for reporting data.

Figure 6-1 shows crashes for the 19 crossings from 2015 through 2021. During this time period, 41 pedestrian-involved and 37 bicyclist-involved crashes were reported. Parrish Lane, Center Street, 600 North, North Temple, and 200 South had the highest number of pedestrian-involved crashes. The highest number of bicyclist-involved crashes are found at Park Lane, Parrish Lane, 400 North, 500 South, and North Temple. High pedestrian use correlates with a higher crash rate in most cases.

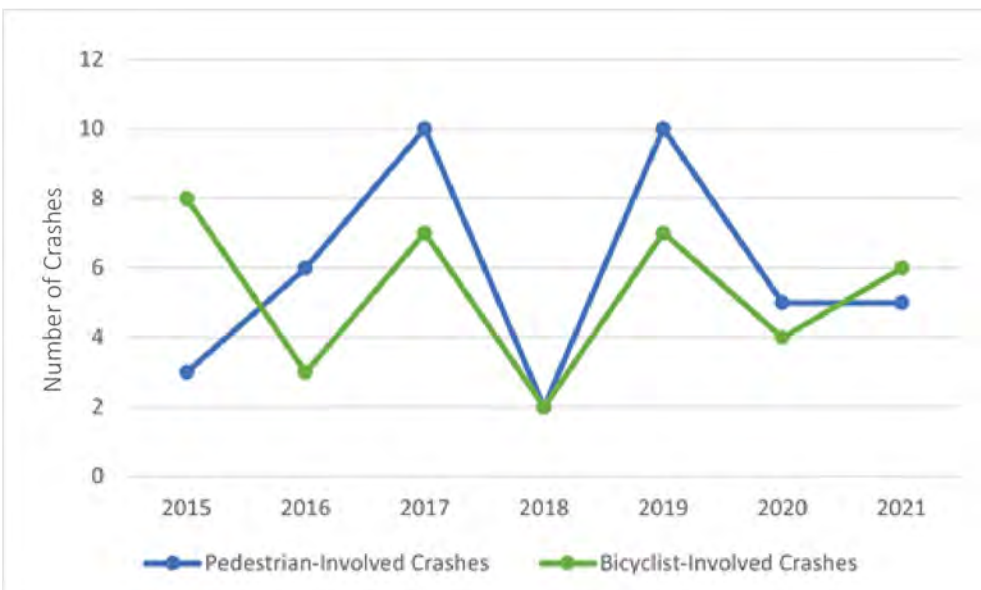


Figure 6-1. Yearly Trend of Pedestrian- and Bicyclist-Involved Crashes in a 0.3-mile Radius from Crossing (2015-2021)

[2] https://nacto.org/publication/city-limits/the-need/speed-kills/

Figure 6-2 is a heatmap of crashes and shows that the locations with the highest number of crashes are on Parrish Lane and North Temple. On Parrish Lane most crashes occurred at the intersection of 400 West, just east of I-15, where vehicles frequently make right and left turns, creating potential conflicts with pedestrians and bicyclists.

This map also shows the level of severity for each crash. Crash severity refers to the type of injury sustained. The categories of crash severity include No Injury/Property Damage Only, Possible Injury, Suspected Minor Injury, Suspected Serious Injury, and Fatal. There was one pedestrian-involved fatality at 600 North and 900 West, and four suspected serious injuries at following locations:

- Farmington: Glovers Lane and South Frontage Road - Bicyclist-involved
- Centerville: Parrish Lane and 400 West- Bicyclist-involved
- North Salt Lake: Center Street and SR-89/Main Street- Pedestrian-involved
- Salt Lake City: 400 South and Post Street- Bicyclist-involved

There are also 35 reported crashes categorized as suspected minor injury, 29 possible injury, and 9 no injury/property damage only.

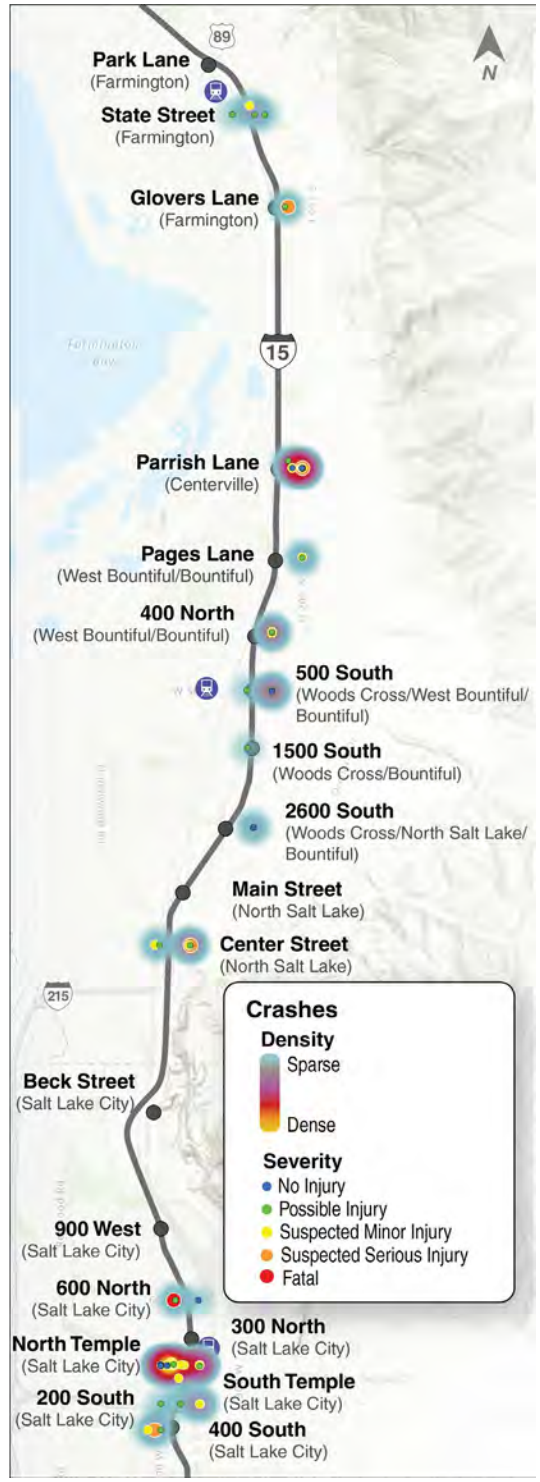


Figure 6-2 Pedestrian and Bicyclist Involved Crashes within a 0.3-mile Radius of Crossings

7. CONCLUSIONS

The evaluation of existing conditions in this chapter has shown locations for north-south non-motorized travel are few and the available connections of 900 West and Beck Street currently provide low comfort facilities to non-motorized users. Fourteen of the crossings are only comfortable to confident or the most confident of bicycle riders, according to their Level of Traffic Stress rating. Many crossings require pedestrians to cross onramps and offramps to get from one side of I-15 to another with little separation from traffic while crossing the road or while walking on sidewalks. Many of the identified planned facilities at these locations would improve safety and comfort levels and add or extend connections to existing facilities for non-motorized users. Facility upgrades may potentially make non-motorized transportation more appealing to a greater number of people, increase non-motorized access to destinations, and possibly remove vehicle trips from the road.

Table 7-1 provides a high-level summary of the data collected for each crossing in the study area. Each crossing is given a checkmark for every one of the following criteria it meets.

- Locations with high pedestrian and bicycle activity.
- Locations where there is a Level of Traffic Stress of 3 or 4. These locations are only comfortable for bicyclists who are confident traveling near high volumes of traffic and traffic moving at fast speeds.
- Locations with a high rate of pedestrian and bicycle related crashes.
- Trips that have a high circuity. These are trips that provide no direct route between an origin and destination and are much longer in actual travel distance than linear distance.
- High O-D pairs. These are crossings utilized along I-15 by people taking trips that originate at a location on one side of I-15 and end at a destination on the other side of I-15.
- Crossing locations that have high amounts of short vehicle trips. These are crossings that are utilized for vehicle trips that stay within a 3-mile radius of the crossing for the entirety of the trip.
- Crossings near FrontRunner stations that are most utilized by pedestrians and bicyclists, and vehicles at park-and-rides to access transit at a station.
- Crossings that are located near areas where there may be a high level of ethnic minority populations that travel by walking of biking.

- Crossings with a high percentage of pedestrian and bicyclist population with an annual income less than $50K.
- Crossings with a high percentage of short pedestrian and bicycle trips. Walking trips that remain within a 2-mile radius of a crossing for the entirety of the trip and bicycle trips that remain within a 3-mile radius of a crossing for the entirety of the trip are considered short trips.

The checkmarks are totaled for each location at the bottom of the table. Locations with lower totals met less of the criteria listed above. The locations with higher totals met more of the criteria. This matrix provides another way to visualize the data shared in this chapter.

Table 7-1. Data Summary Matrix

		Park Ln	State St	Glovers Ln	Parrish Ln	Pages Ln	400 N	500 S	1500 S	2600 S	Main St	Center St	Beck St	900 W	600 N	300 N	South Temple	200 S	400 S
Crossing Utilization Analysis	**Crossings with High Pedestrian and Bicyclist Activity**																		
	Pedestrian Activity		✓		✓	✓		✓	✓	✓						✓			
	Bicyclist Activity				✓	✓										✓		✓	✓
	Existing Bicycle Facilities with a High Level of Traffic Stress																		
	Comfortable for only Confident Cyclists			✓				✓		✓		✓						✓	
	Comfortable for only the Most Confident Cyclists	✓	✓		✓		✓				✓		✓	✓	✓				✓
Comfort, Directness,	**Crossings with a High Number of Crashes**																		
	Pedestrian Crashes				✓							✓			✓			✓	
	Bicyclist Crashes	✓			✓		✓	✓											
	Crossings with High Trip Circuity																		

		Park Ln	State St	Glovers Ln	Parrish Ln	Pages Ln	400 N	500 S	1500 S	2600 S	Main St	Center St	Beck St	900 W	600 N	300 N	South Temple	200 S	400 S
and Accessibility	Pedestrian Trip Circuity (4+)		✓		✓			✓	✓	✓						✓	✓		
	Bicyclist Trip Circuity (4+)					✓									✓	✓	✓	✓	✓
Top O-D for Non-motorized Travel	**Crossings between Top O-D Pairs**																		
	Pedestrian		✓		✓			✓	✓	✓					✓	✓			
	Bicyclist		✓		✓										✓	✓	✓	✓	
Future Demand for Walking and Biking	**Crossings with High Short Vehicle Trips**																		
		✓	✓		✓	✓	✓	✓	✓	✓									
	Crossings Utilized by Pedestrian, Bicyclist, and vehicles at park-and-rides to Access FrontRunner Stations																		
	Pedestrian	✓	✓					✓	✓							✓	✓	✓	✓
	Bicyclist	✓	✓															✓	
Community Profiles	**Crossings with a High Percentage of Ethnic Minority Pedestrian and Bicyclist Population**																		
	Pedestrian												✓	✓	✓	✓	✓	✓	✓
	Bicyclist													✓	✓	✓	✓	✓	✓
	Crossings with a High Percentage of Pedestrian and Bicyclist Population with Income Less than $50K																		
	Pedestrian													✓	✓	✓	✓	✓	✓
	Bicyclist														✓	✓	✓	✓	✓
	Crossings with a High Percentage of Under 18 Years Old Pedestrian and Bicyclist Population																		
	Pedestrian		✓	✓	✓	✓			✓	✓			✓						
	Bicyclist	✓	✓	✓	✓			✓	✓	✓									
	Crossings with a High Percentage of Short Pedestrian and Bicycle Trips																		
	Pedestrian				✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	
	Bicyclist	✓	✓		✓		✓	✓	✓	✓							✓		
Total		**7**	**11**	**3**	**13**	**6**	**5**	**10**	**9**	**9**	**2**	**3**	**4**	**4**	**9**	**12**	**10**	**12**	**8**

* North Temple was omitted from this summary, to emphasize crossings with greater needs for improvement.

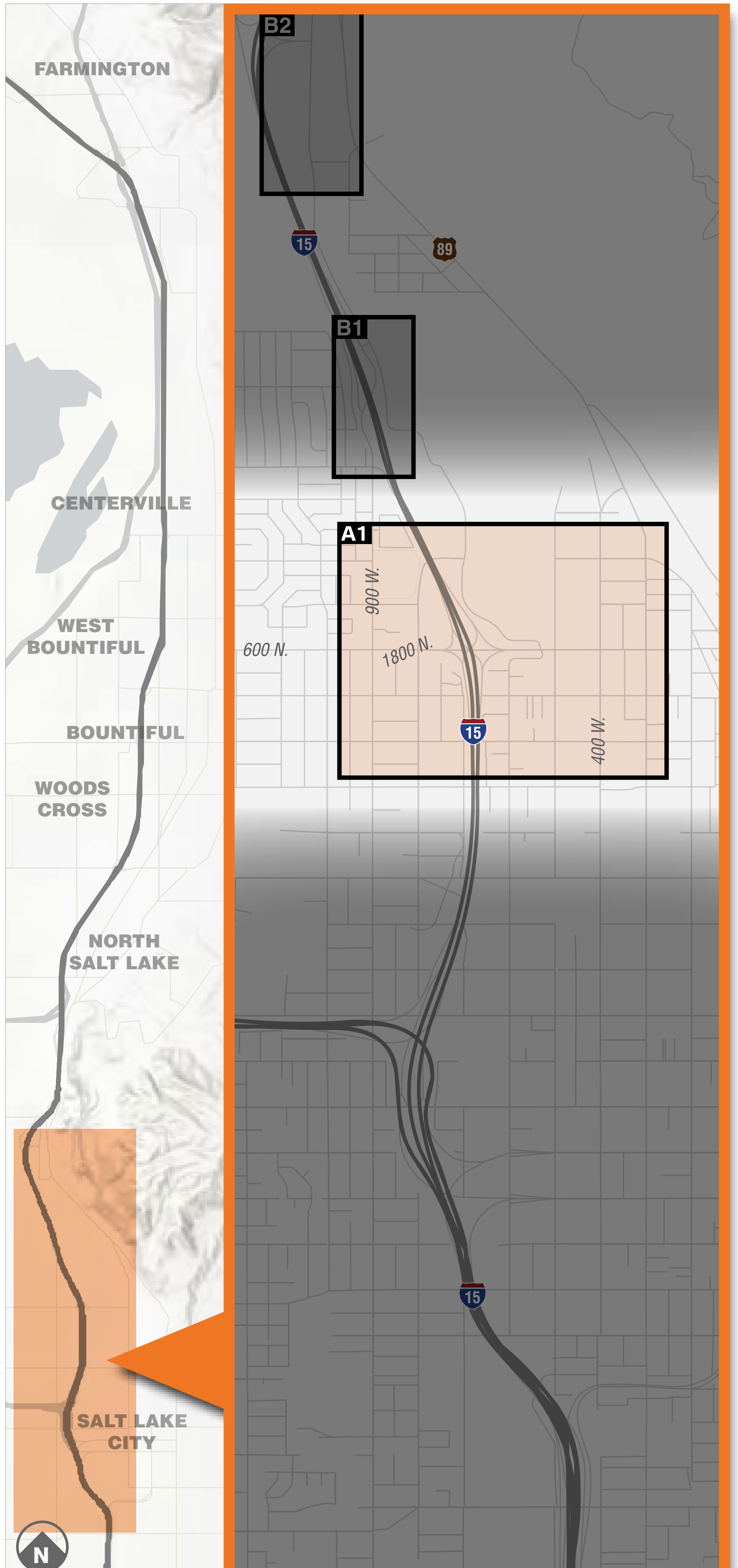
Stakeholder and community input was gathered for specific crossing locations by means of walk audits and workshops conducted by Smart Growth America. This information is summarized below in Table 7-2. A full report from Smart Growth America is in in Appendix I: Active Transportation and Community I-15 Purpose and Need Scoping Memorandum.

Table 7-2. Stakeholder Community Input

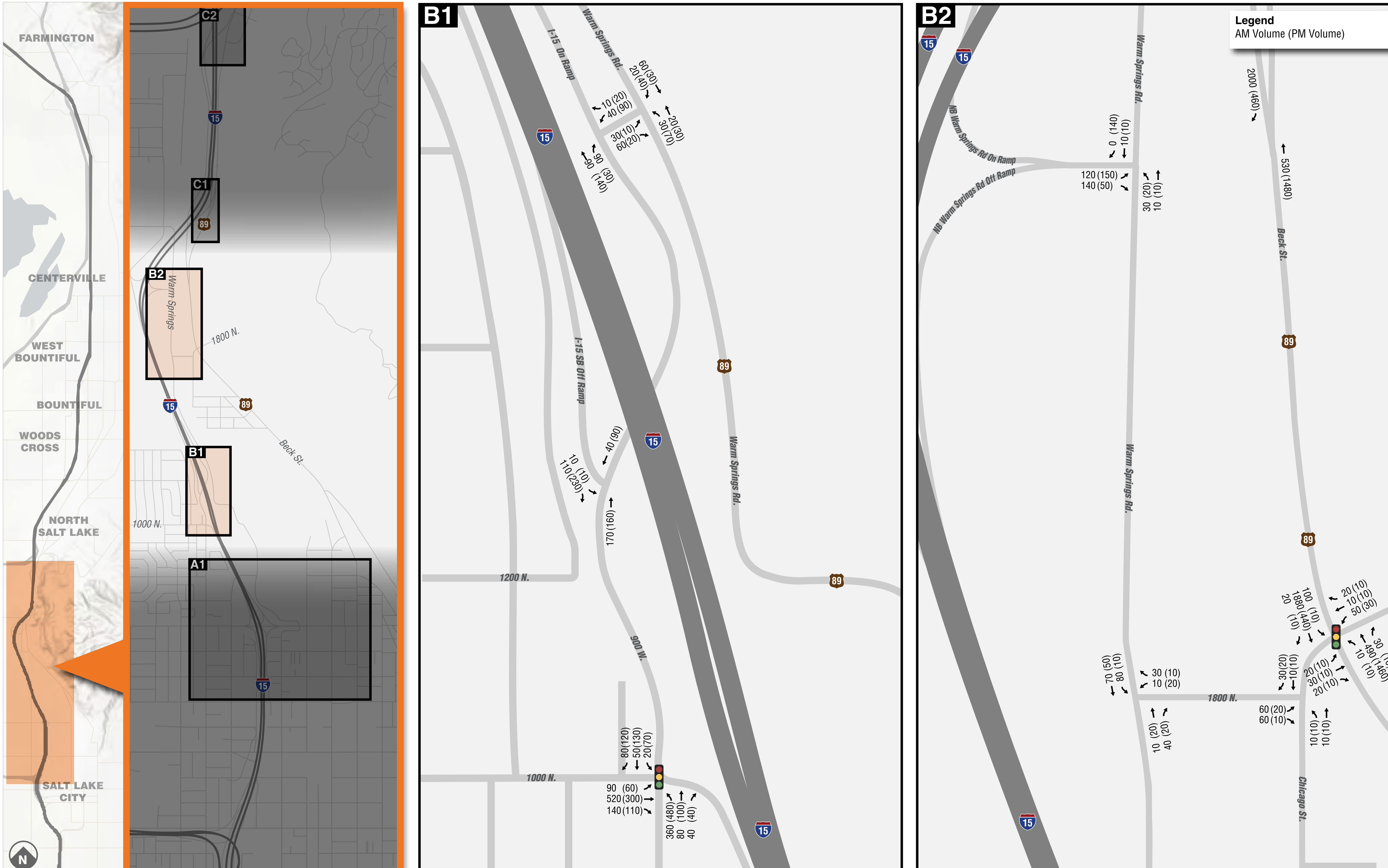
	Park Ln	State St	Glovers Ln	Parrish Ln	Pages Ln	400 N	500 S	1500 S	2600 S	Main St	Center St	Beck St	900 W	600 N	300 N	South Temple	200 S	400 S
Stakeholder Community Input on Crossings																		
Lack of Transition to Community Context		✓				✓		✓	✓					✓				
Confusing Diverging Diamonds							✓		✓									
Visibility Issues		✓		✓		✓	✓		✓									
Maintenance Issues		✓												✓				
Need for a New Bridge														✓				
Long Crossing Issues		✓		✓										✓				
Noise Issues		✓												✓				
Impacts from Truck Traffic		✓									✓			✓				
Need for Improving the Trail Connection	✓		✓	✓	✓	✓												
Need for Improving Placemaking	✓			✓					✓		✓			✓				
Desire for North-South Connectivity												✓						

Appendix A Existing (2019) AM and PM Peak Hour Volumes

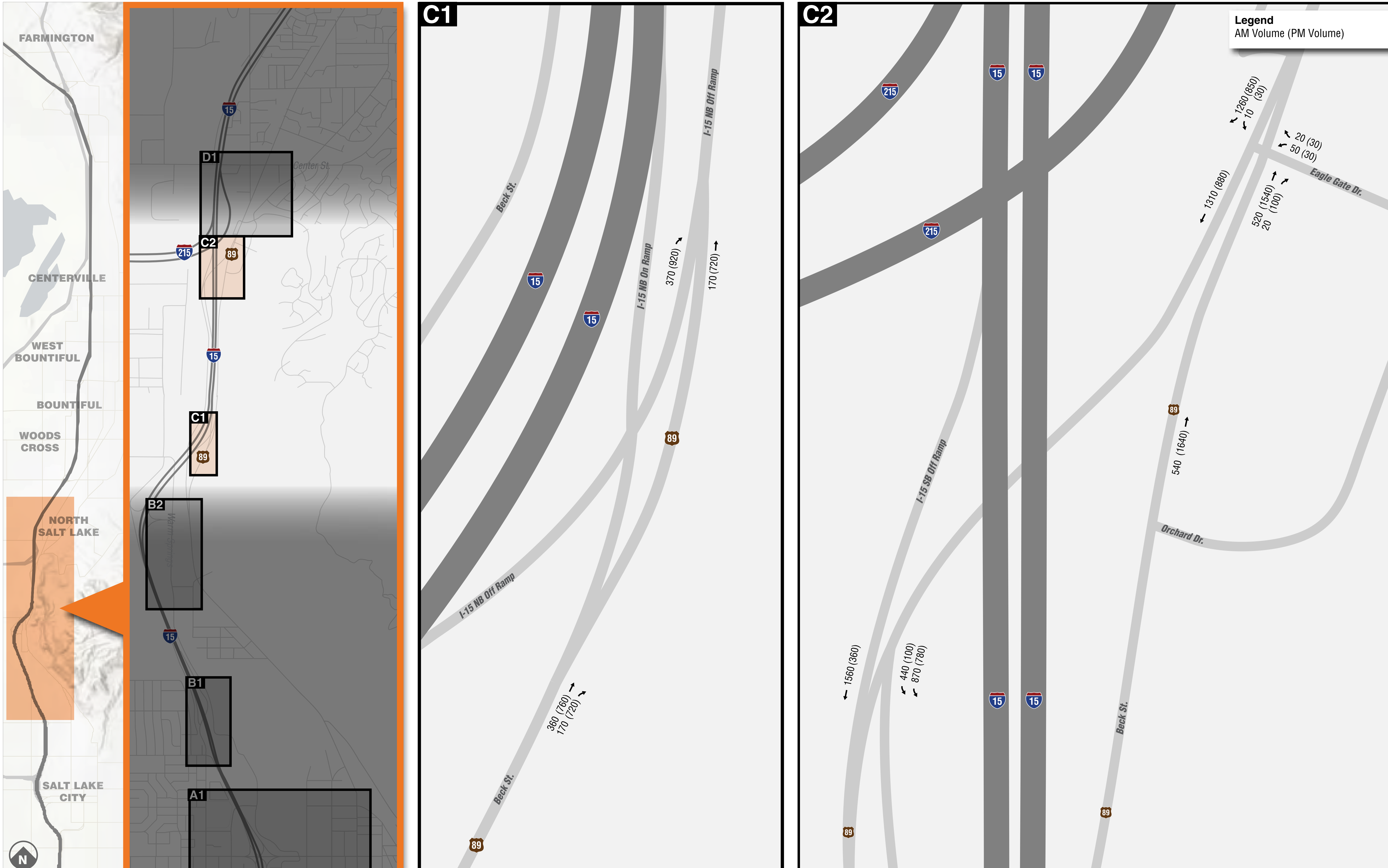
Existing (2019) AM/PM Peak Hour Volumes



Existing (2019) AM/PM Peak Hour Volumes

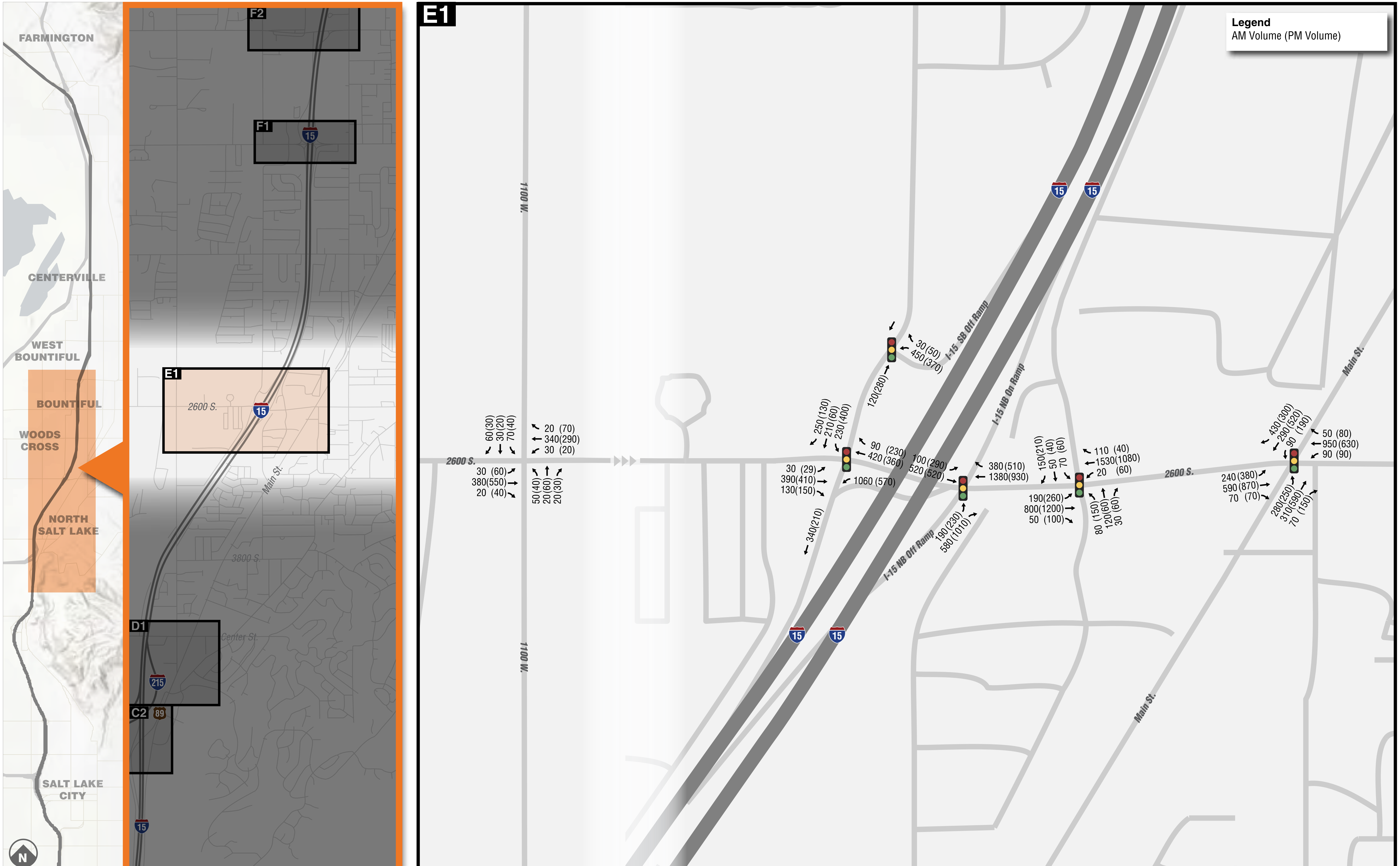


Existing (2019) AM/PM Peak Hour Volumes



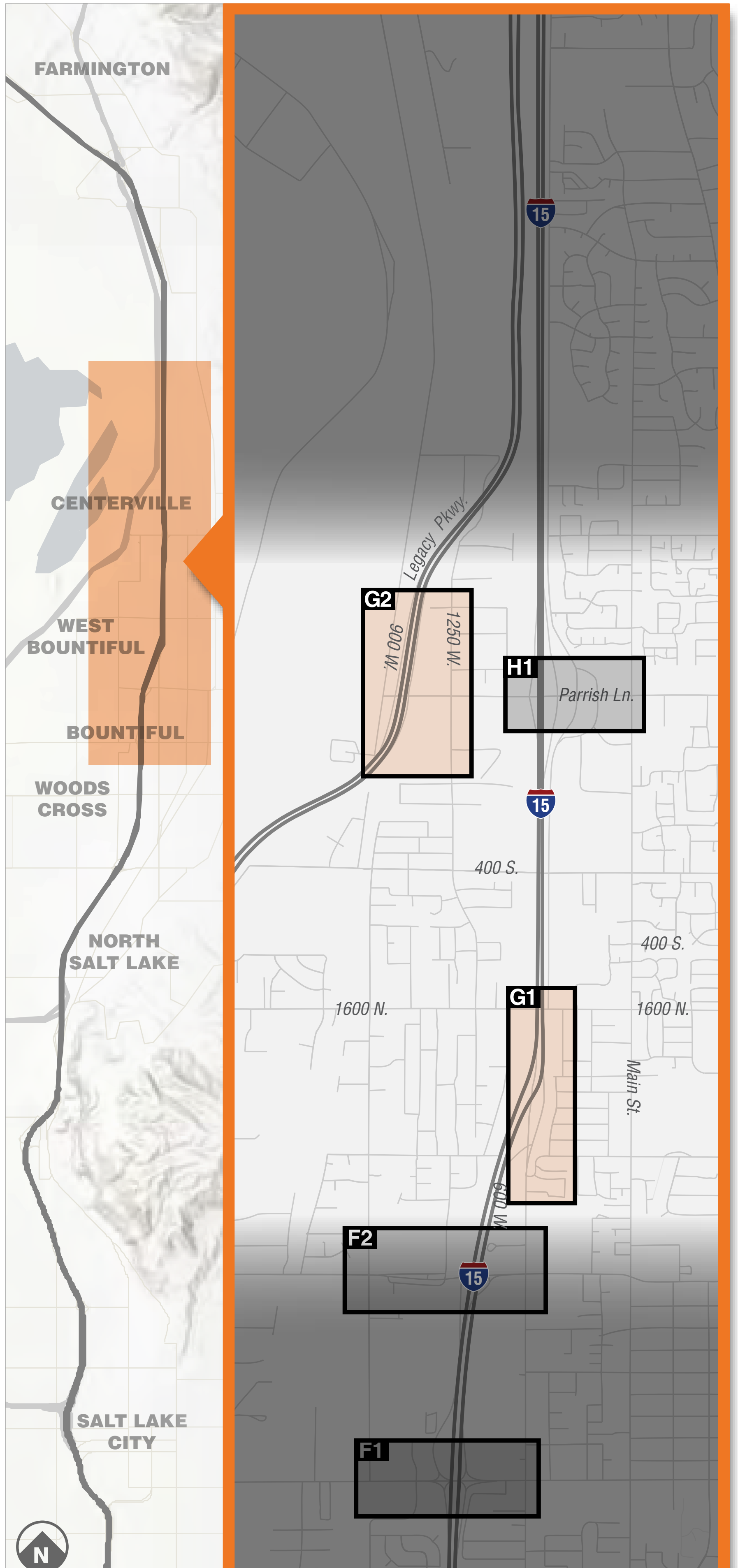
Existing (2019) AM/PM Peak Hour Volumes

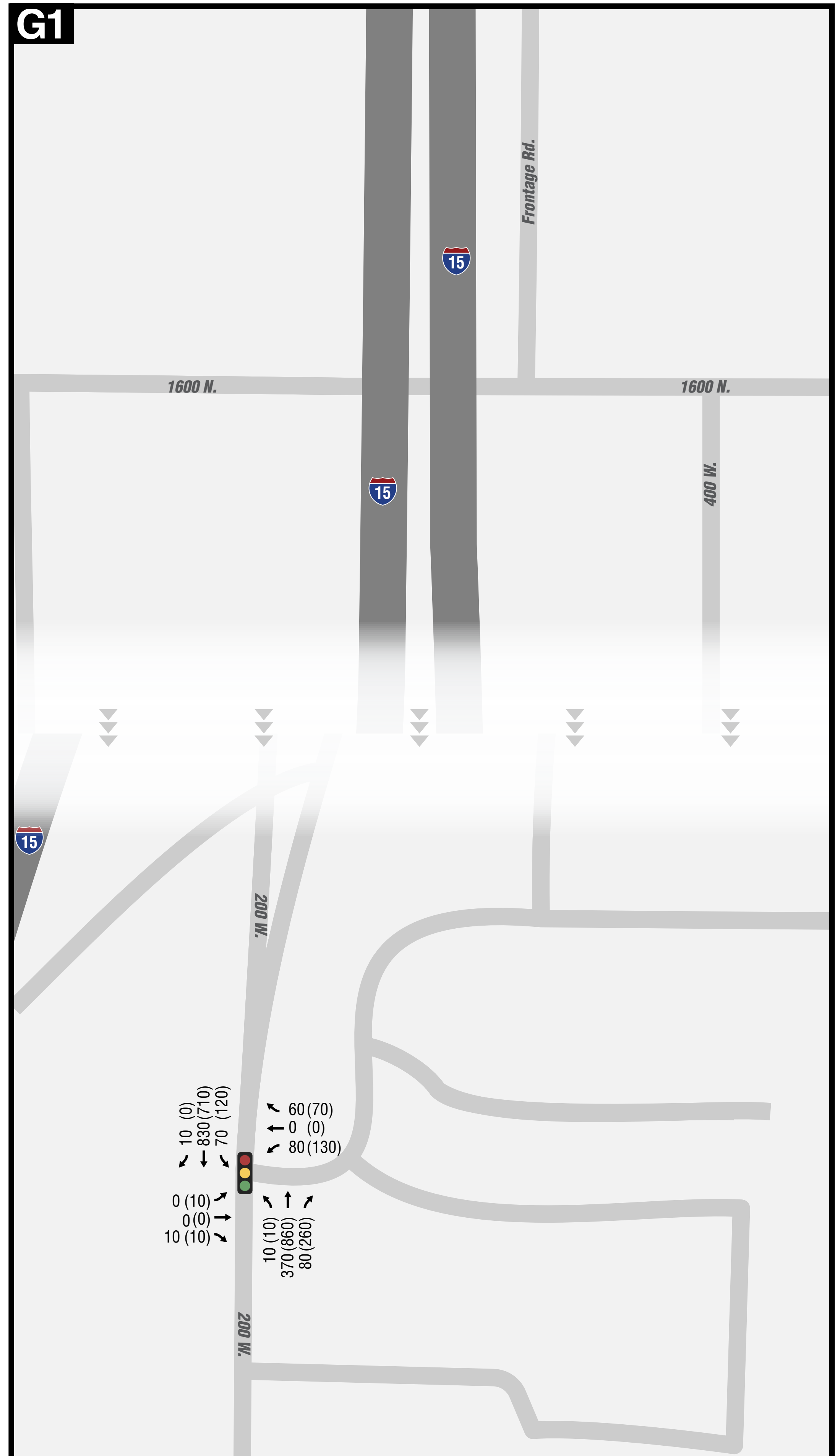
Existing (2019) AM/PM Peak Hour Volumes

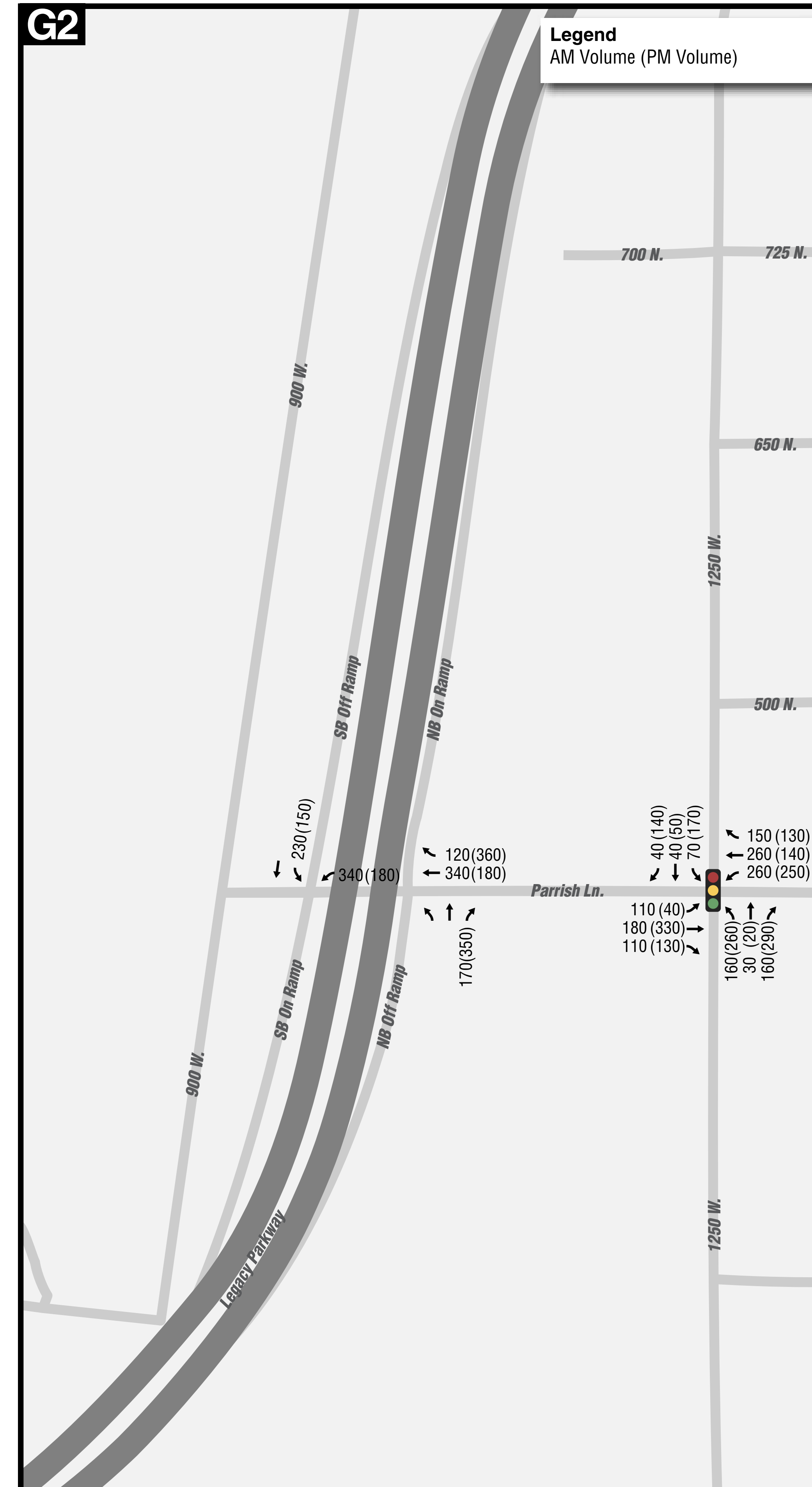


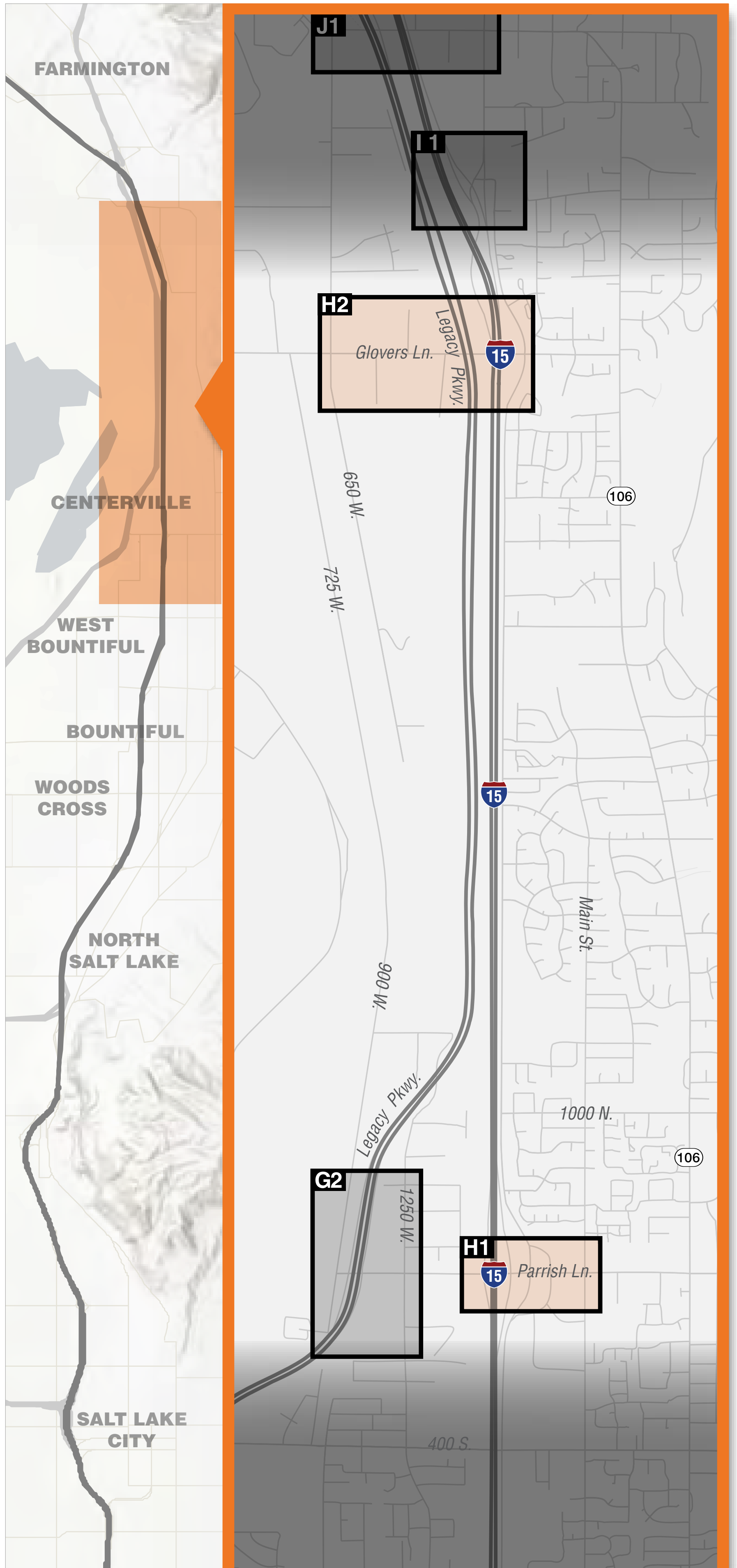
Existing (2019) AM/PM Peak Hour Volumes

Existing (2019) AM/PM Peak Hour Volumes

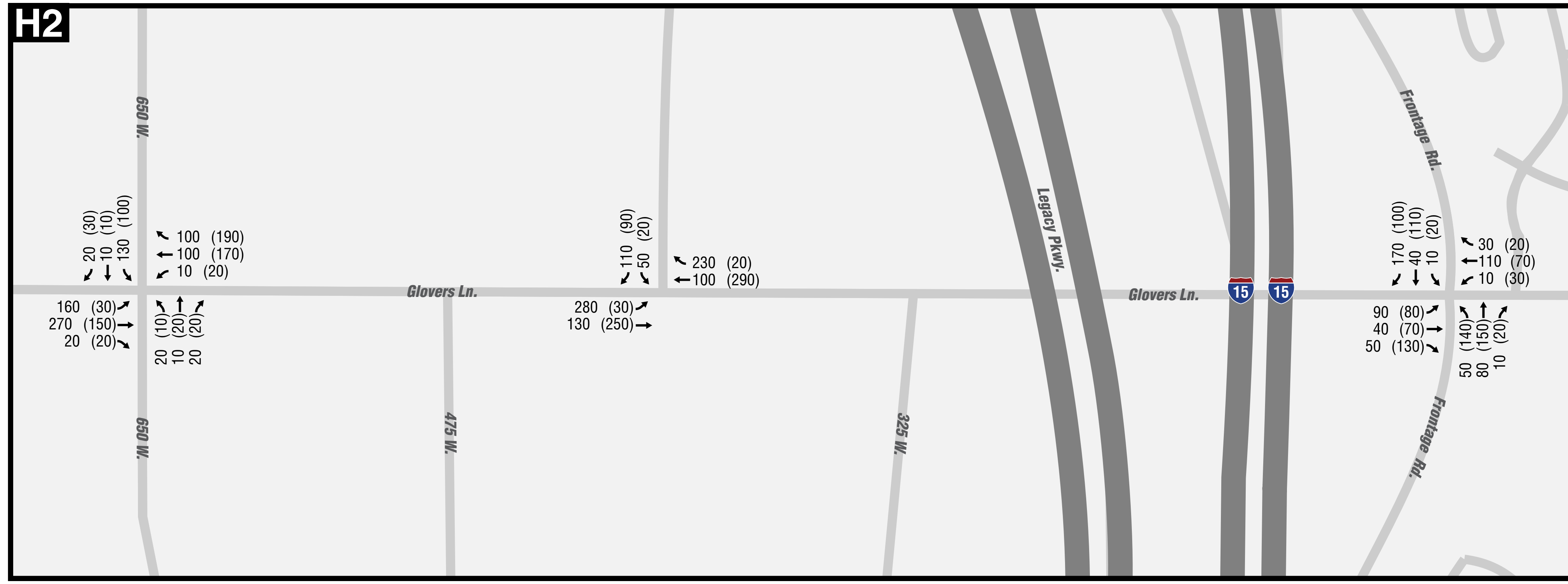




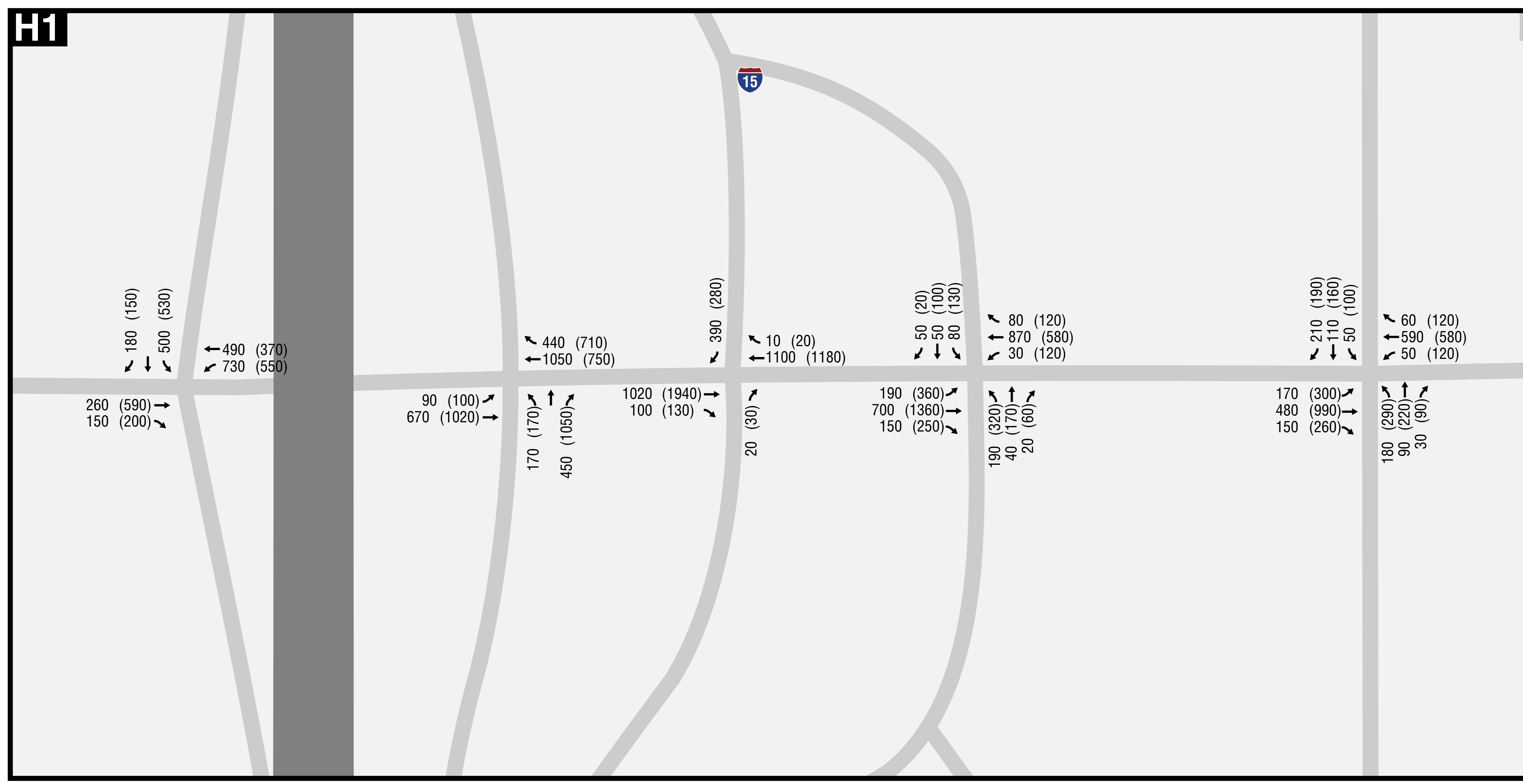




FARMINGTON
CENTERVILLE
WEST BOUNTIFUL
BOUNTIFUL
WOODS CROSS
NORTH SALT LAKE
SALT LAKE CITY
J1
I1
H2
Glovers Ln.
Legacy Pkwy.
15
650 W.
725 W.
106
Main St.
900 W.
Legacy Pkwy.
1000 N.
G2
1250 W.
H1
Parrish Ln.
400 S.

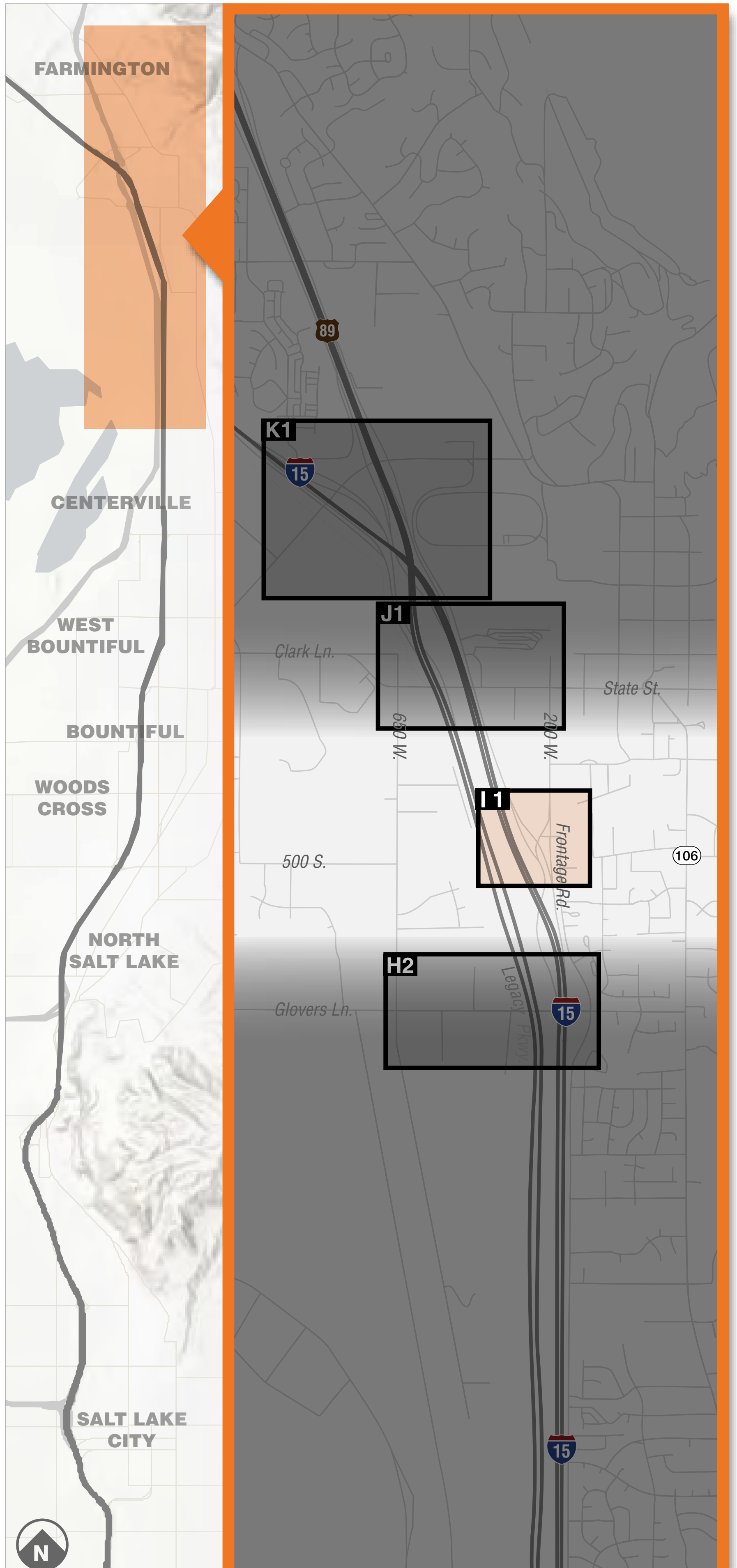


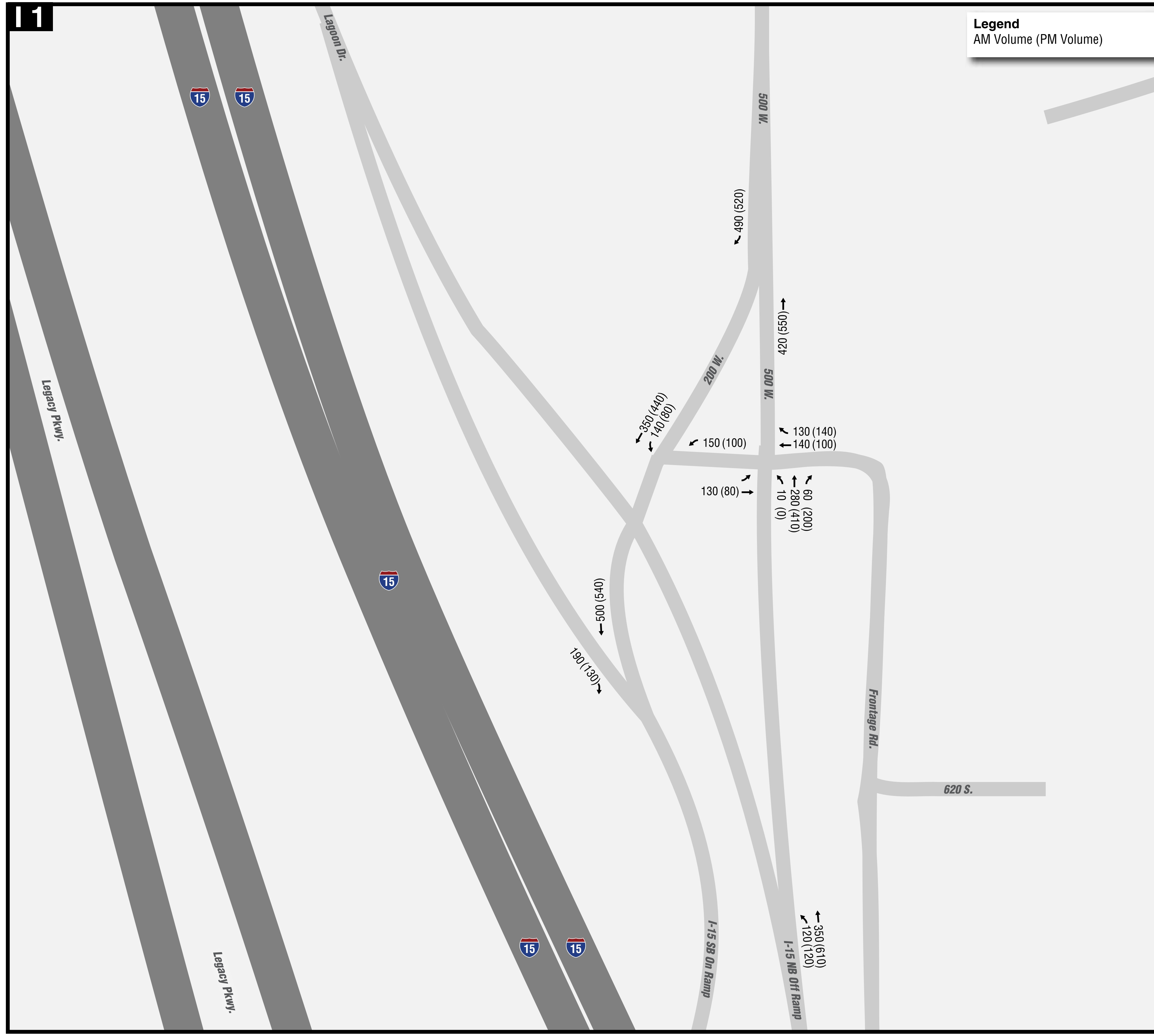
H2
650 W.
Glovers Ln.
475 W.
325 W.
Legacy Pkwy.
Glovers Ln.
15
Frontage Rd.
20 (30)
10 (10)
130 (100)
100 (190)
100 (170)
10 (20)
160 (30)
270 (150)
20 (20)
20 (10)
10 (20)
20 (20)
110 (90)
50 (20)
230 (20)
100 (290)
280 (30)
130 (250)
170 (100)
40 (110)
10 (20)
30 (20)
110 (70)
10 (30)
90 (80)
40 (70)
50 (130)
50 (140)
80 (150)
10 (20)



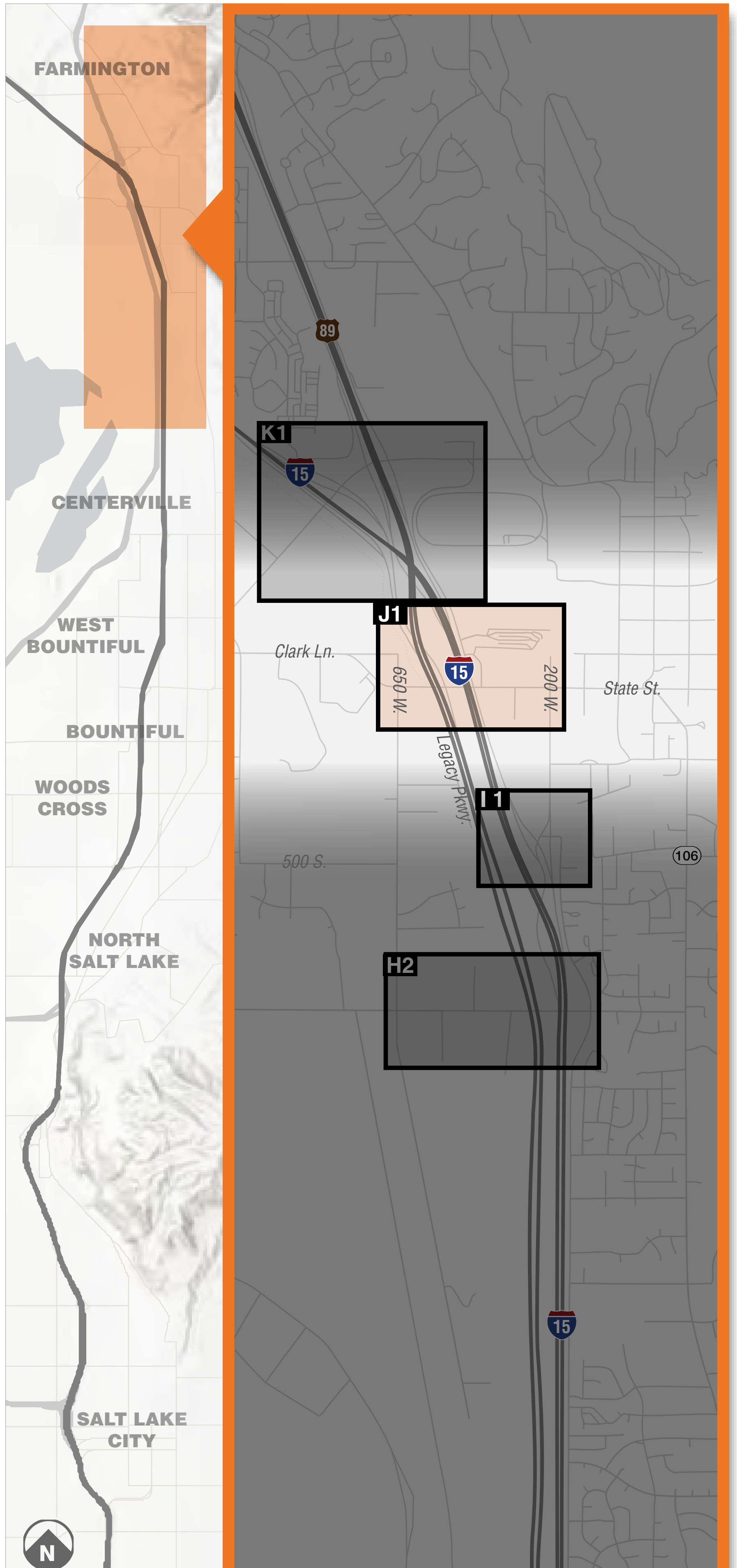
H1
15
180 (150)
500 (530)
490 (370)
730 (550)
260 (590)
150 (200)
440 (710)
1050 (750)
90 (100)
670 (1020)
170 (170)
450 (1050)
390 (280)
10 (20)
1100 (1180)
1020 (1940)
100 (130)
20 (30)
50 (20)
50 (100)
80 (130)
80 (120)
870 (580)
30 (120)
190 (360)
700 (1360)
150 (250)
190 (320)
40 (170)
20 (60)
210 (190)
110 (160)
50 (100)
60 (120)
590 (580)
50 (120)
170 (300)
480 (990)
150 (260)
180 (290)
90 (220)
30 (90)

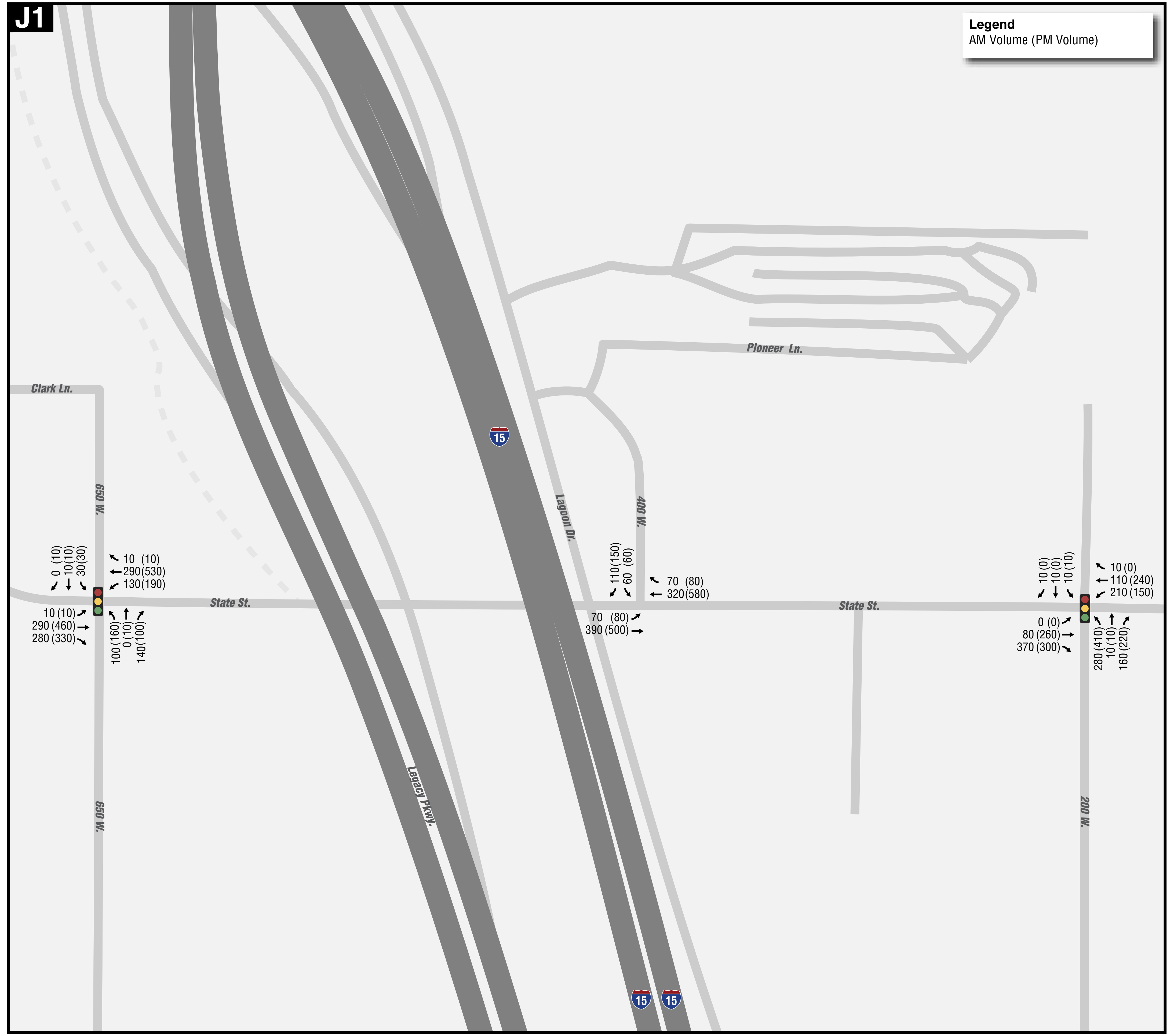
Existing (2019) AM/PM Peak Hour Volumes



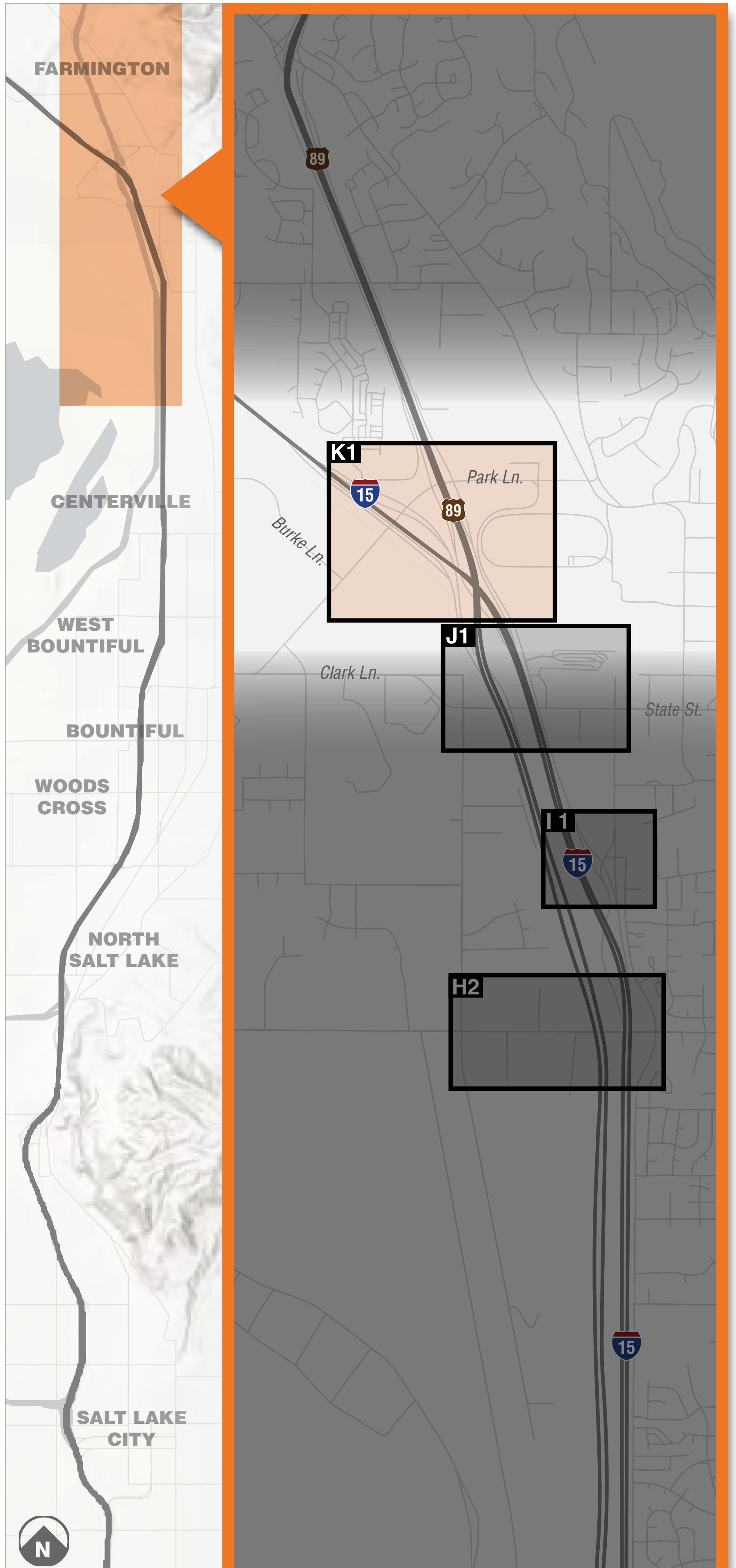


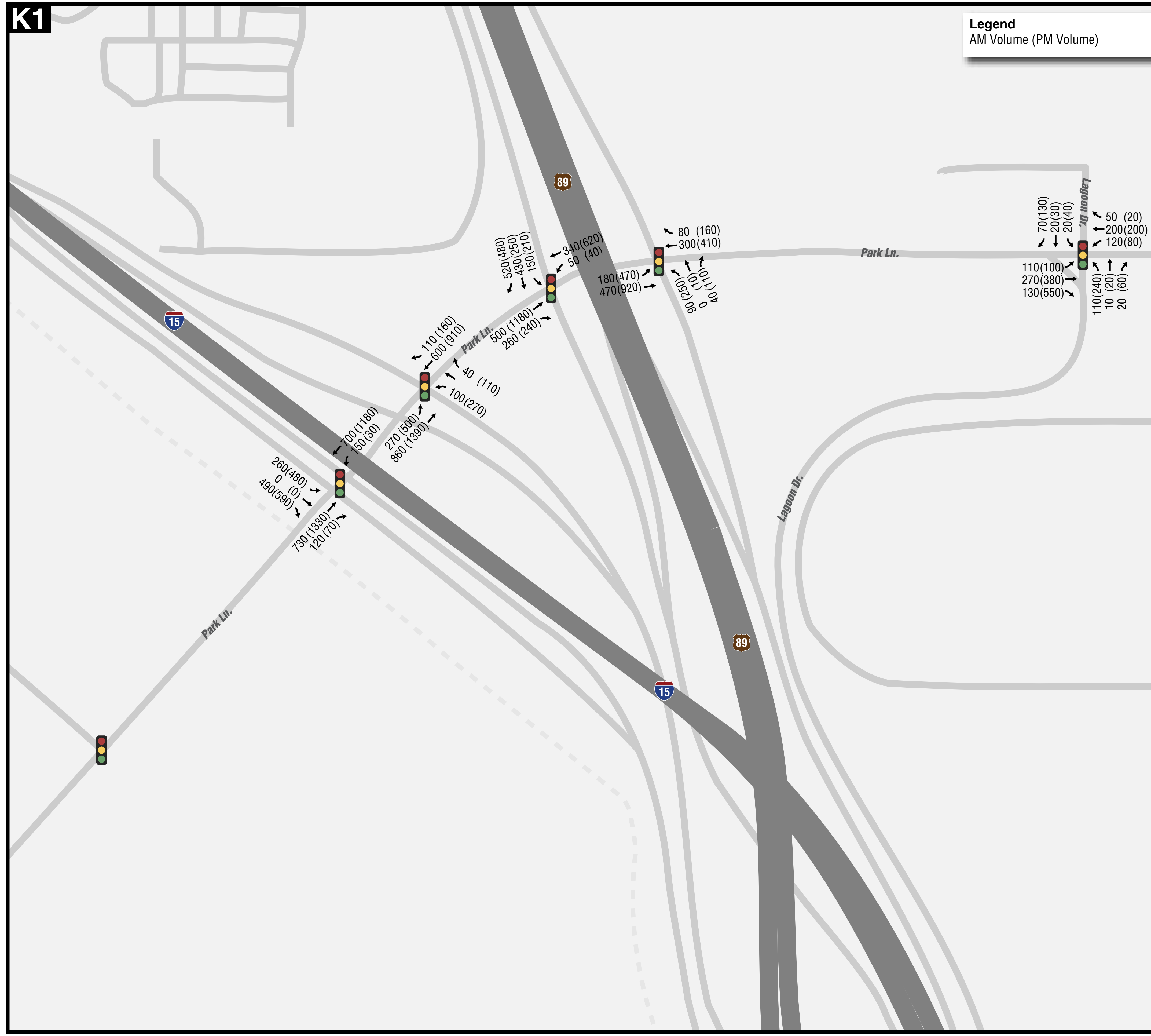
Existing (2019) AM/PM Peak Hour Volumes





Existing (2019) AM/PM Peak Hour Volumes



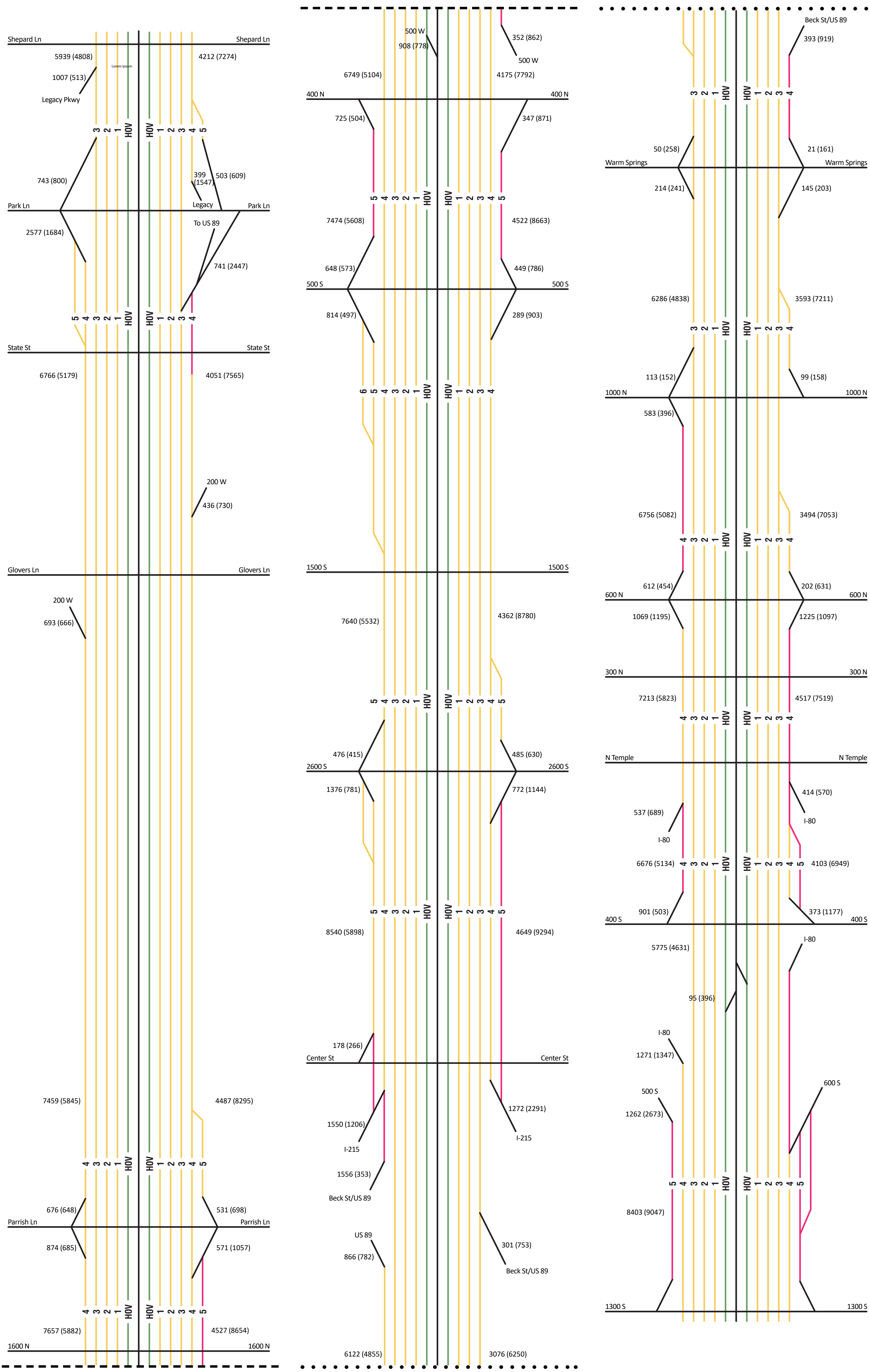


Appendix B Existing (2019) Mainline Geometries and AM and PM Peak Hour Volumes

2019 MAINLINE VOLUMES AND GEOMETRIES

Legend
AM Volume (PM Volume)

I-15 ENVIRONMENTAL IMPACT STATEMENT
Farmington to Salt Lake City

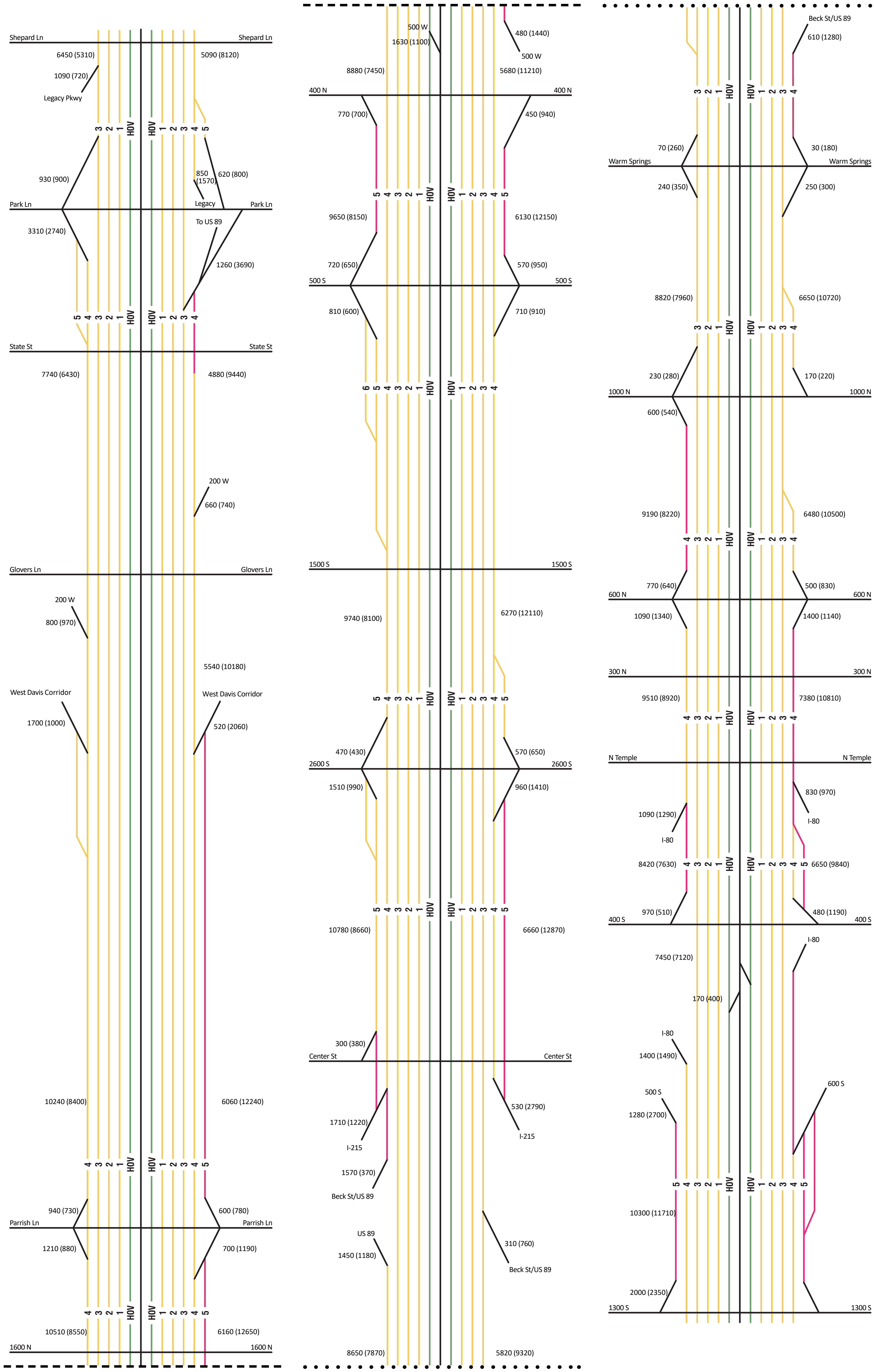


Appendix C 2050 No-Action Mainline Geometries and AM and PM Peak Hour Volumes

2050 MAINLINE VOLUMES AND GEOMETRIES

Legend
AM Volume (PM Volume)

I-15 ENVIRONMENTAL IMPACT STATEMENT
Farmington to Salt Lake City



Appendix D Socioeconomic Data Adjustments

Socioeconomic Adjustments Based on City Comments(see Section 4.2.4)

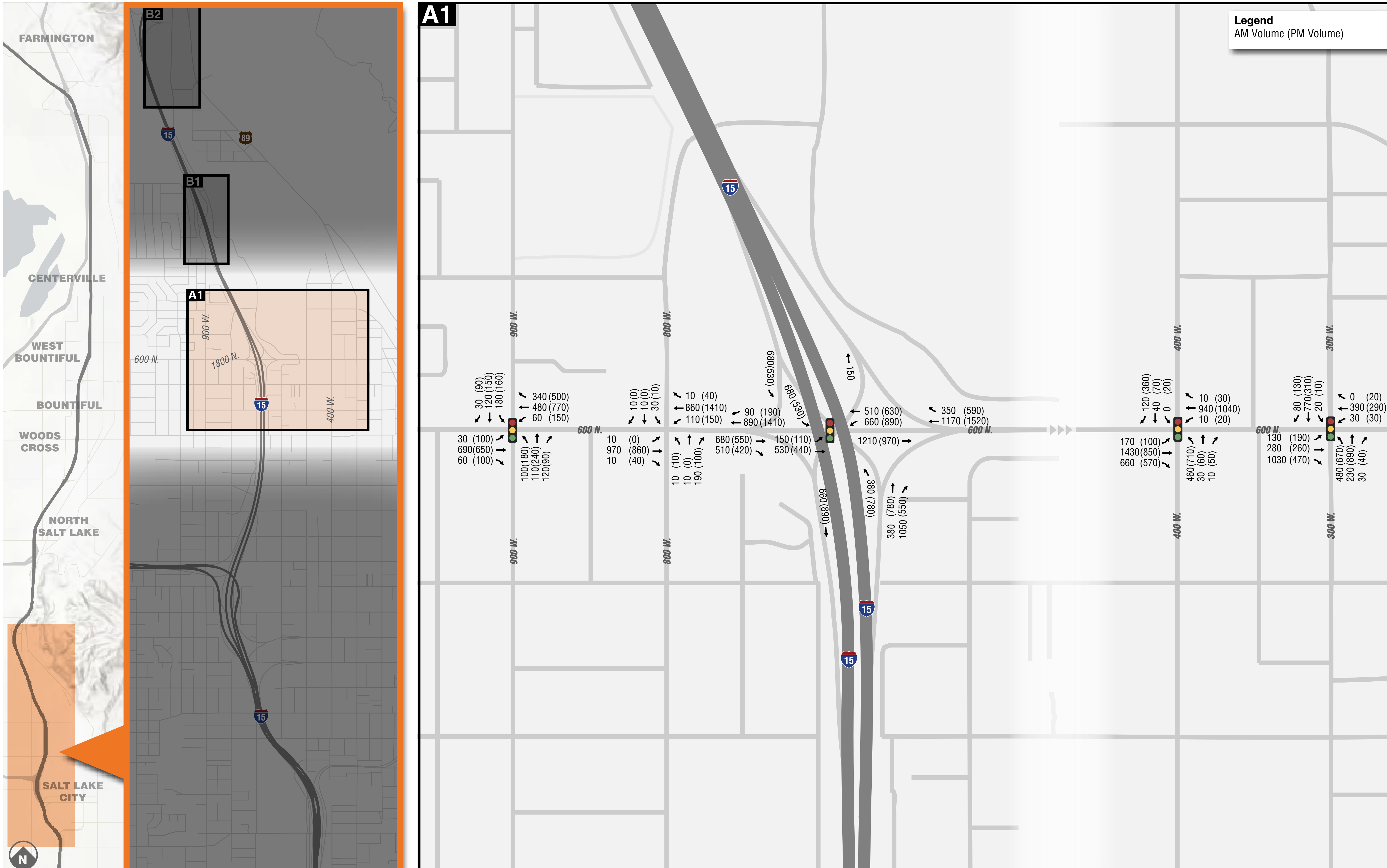
TAZ Number	Households	Empoyment
556	37	108
557	-196	150
558	-198	46
559	-49	-86
560	-7	765
561	-31	60
562	1	71
563	-155	60
564	0	0
565	142	1705
566	-55	223
567	54	33
568	91	1149
569	-3	19
570	7	-2189
571	27	823
572	-31	73
573	59	132
574	-24	91
575	-5	-4
576	13	91
578	-57	74
641	1089	0
642	-57	0
647	75	0
652	-358	0
653	210	0
2882	-159	-52
2885	0	-15
2886	14	-14
2887	0	0
2888	0	0
2889	0	99
2890	-1	-5
2891	-147	431
2892	384	-156
2893	-4	64
2894	21	263
2895	-25	94
2896	-18	73
2904	106	0

Socioeconomic Adjustments
to Maintain Limit on Total Data

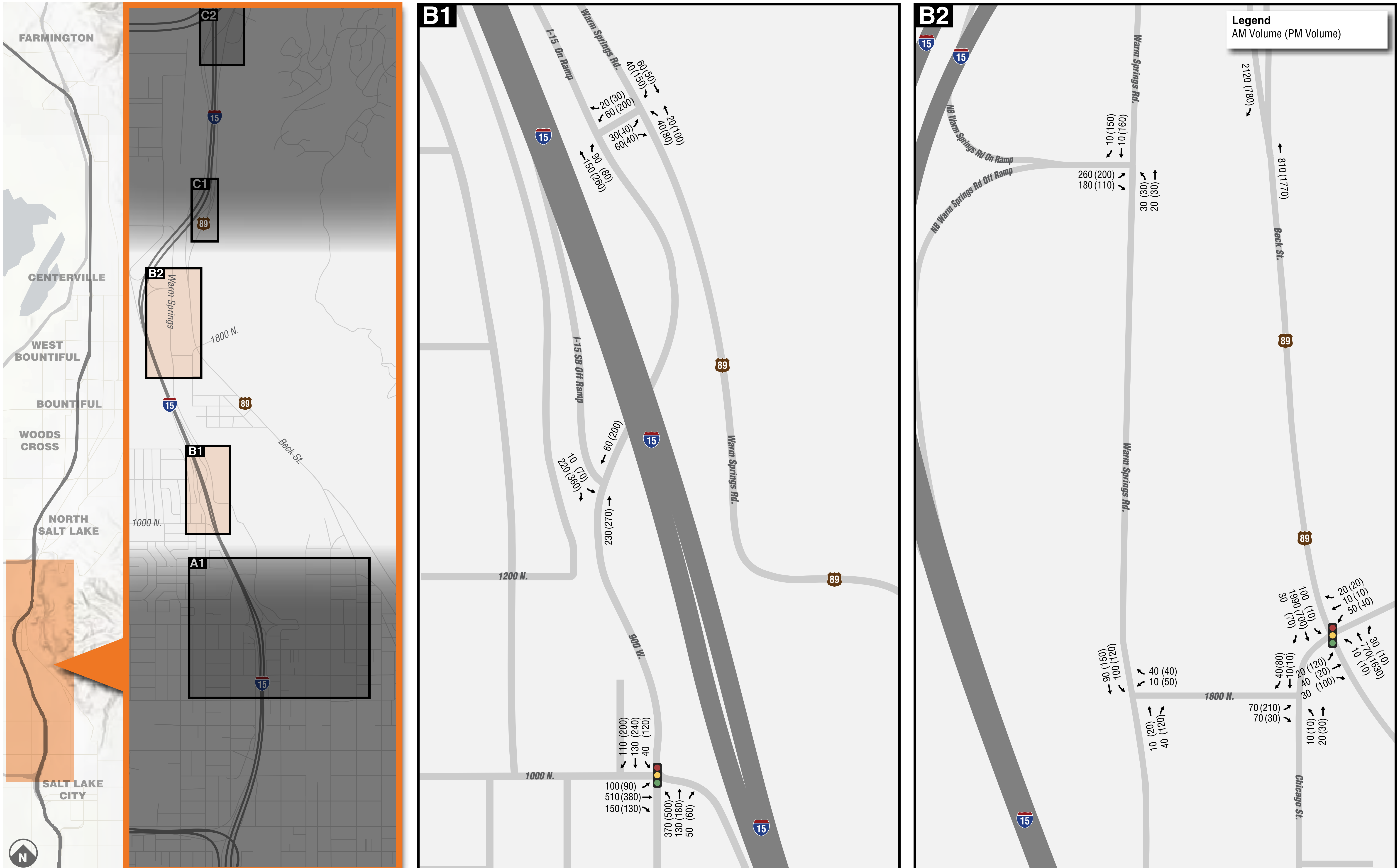
TAZ Number	Households	Empoyment
468	0	-334
526	0	-3291
535	-751	0

Appendix E 2050 No-Action AM and PM Peak Hour Volumes

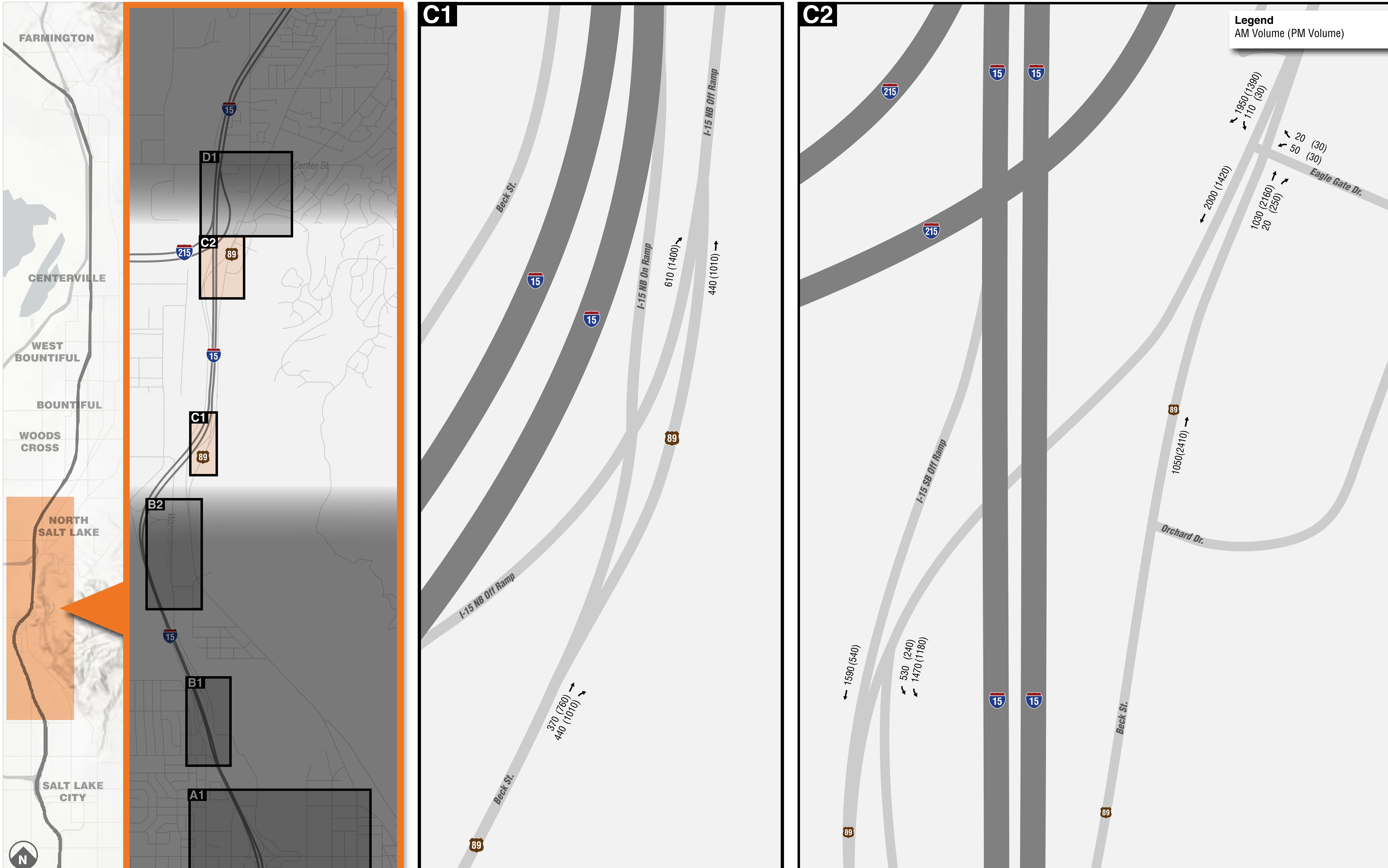
No-Action (2050) AM/PM Peak Hour Volumes



No-Action (2050) AM/PM Peak Hour Volumes

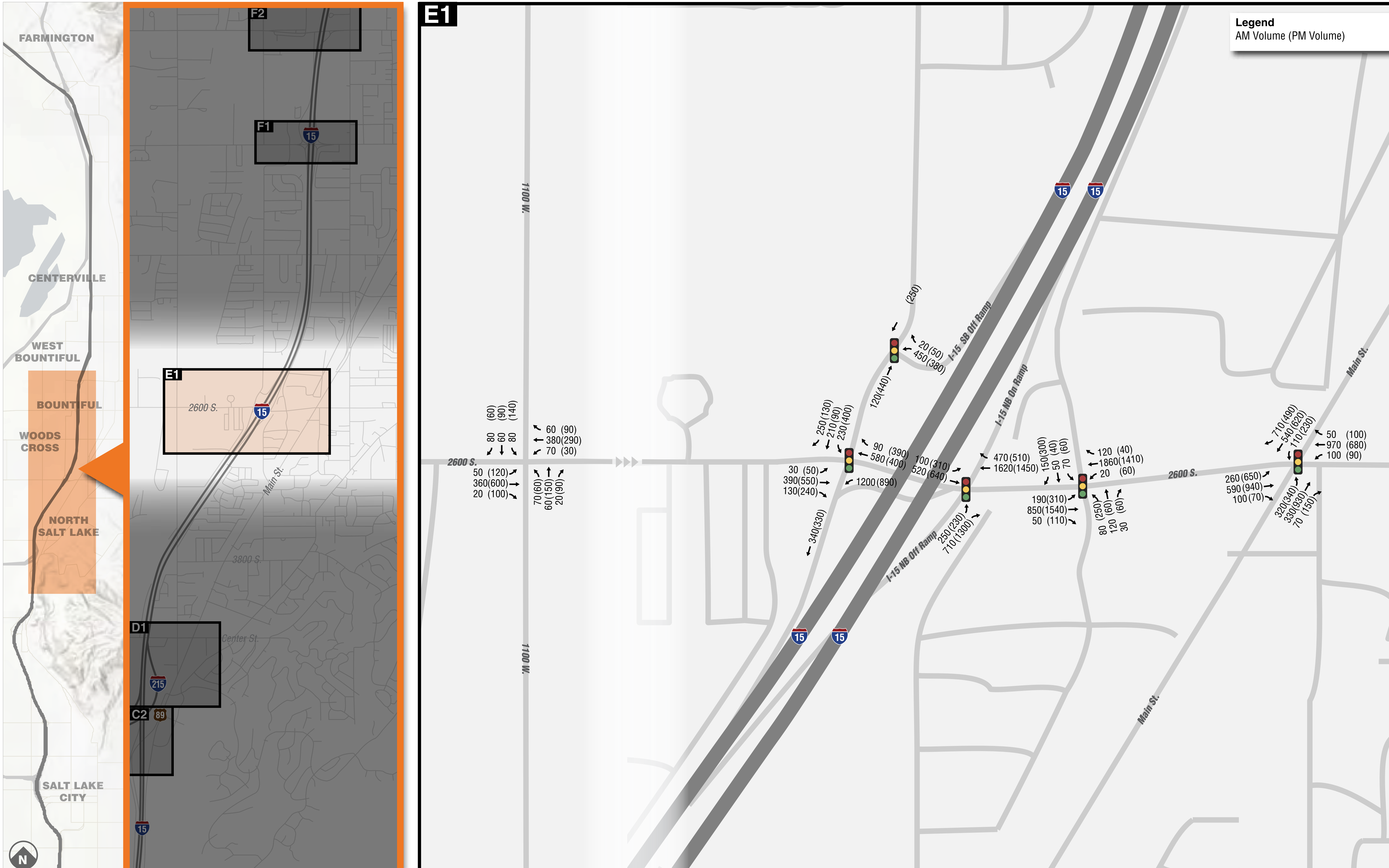


No-Action (2050) AM/PM Peak Hour Volumes

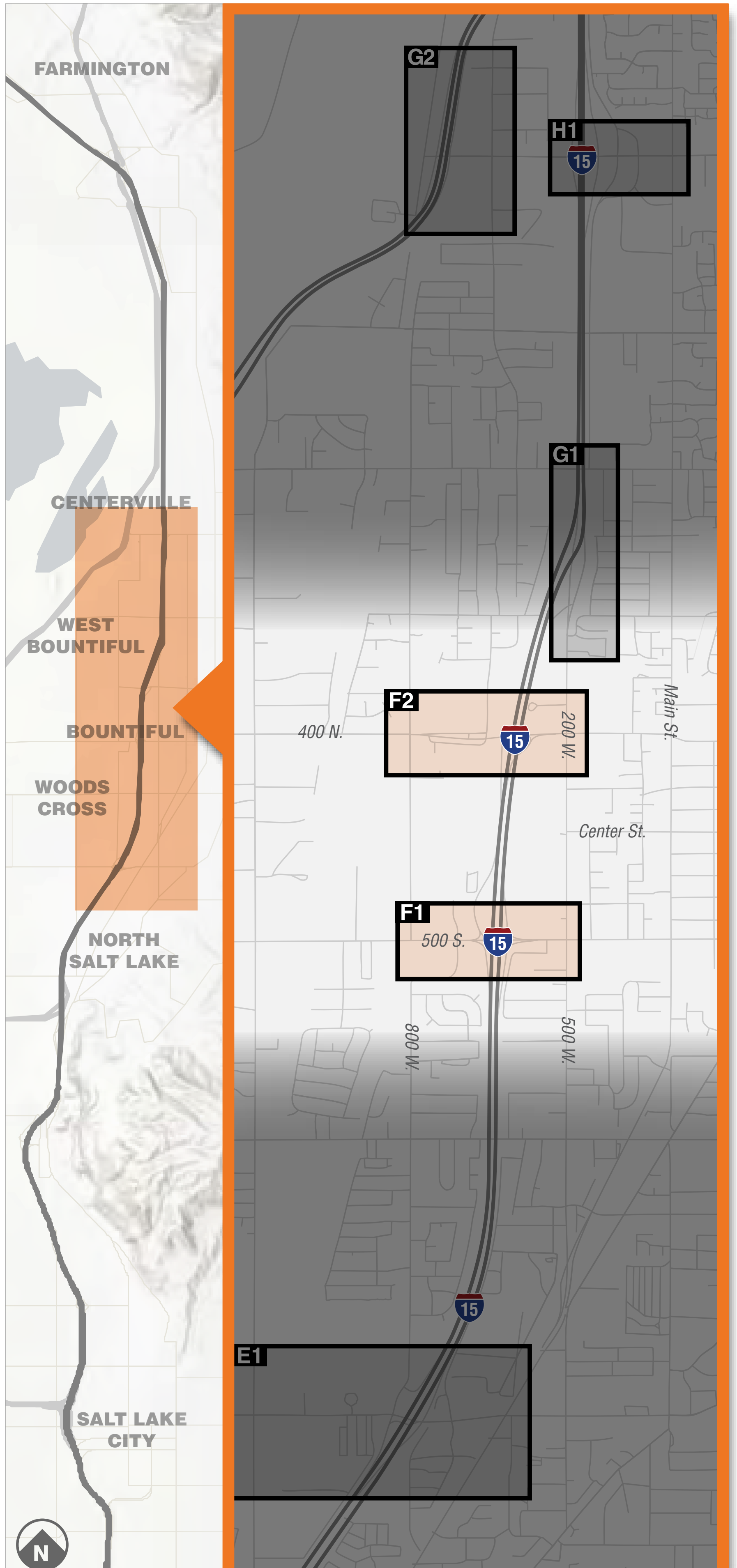


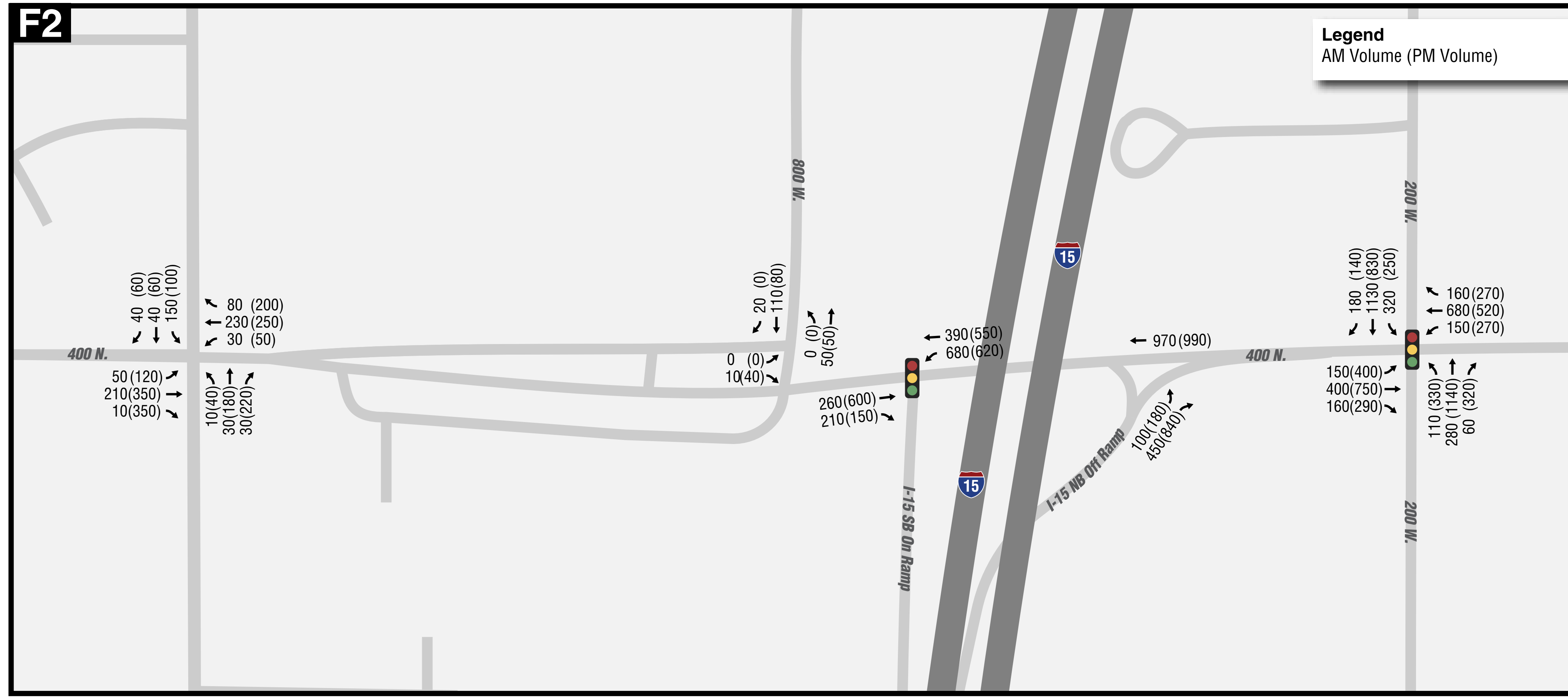
No-Action (2050) AM/PM Peak Hour Volumes

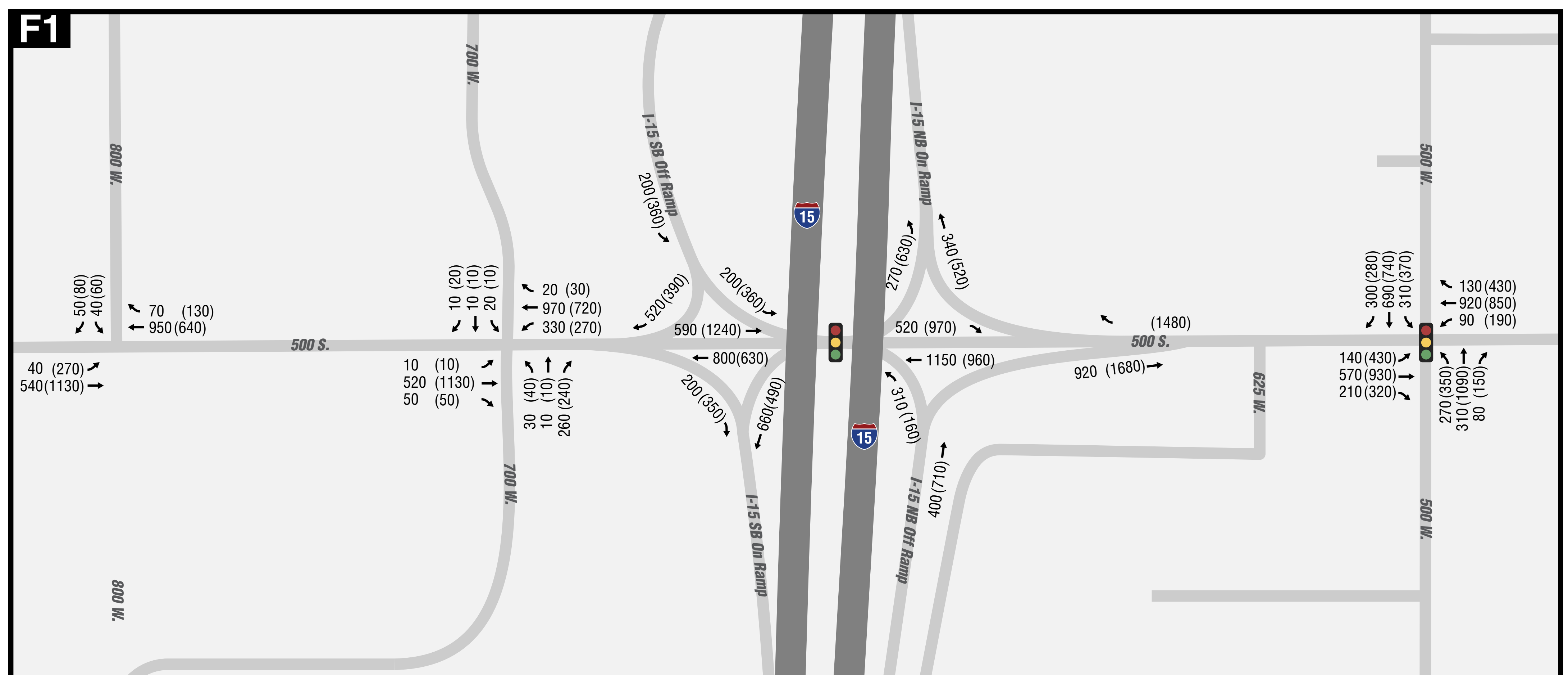
No-Action (2050) AM/PM Peak Hour Volumes



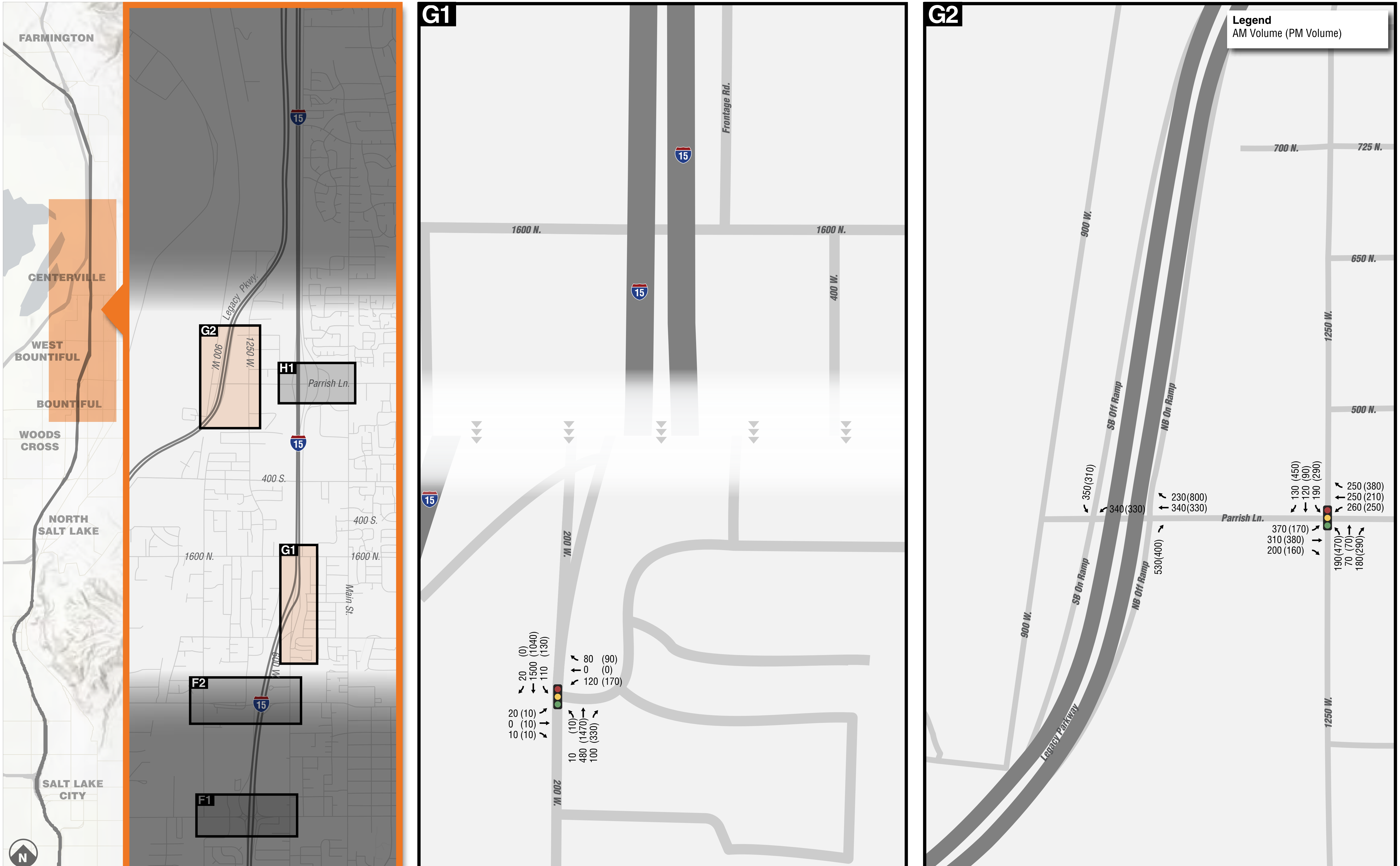
No-Action (2050) AM/PM Peak Hour Volumes



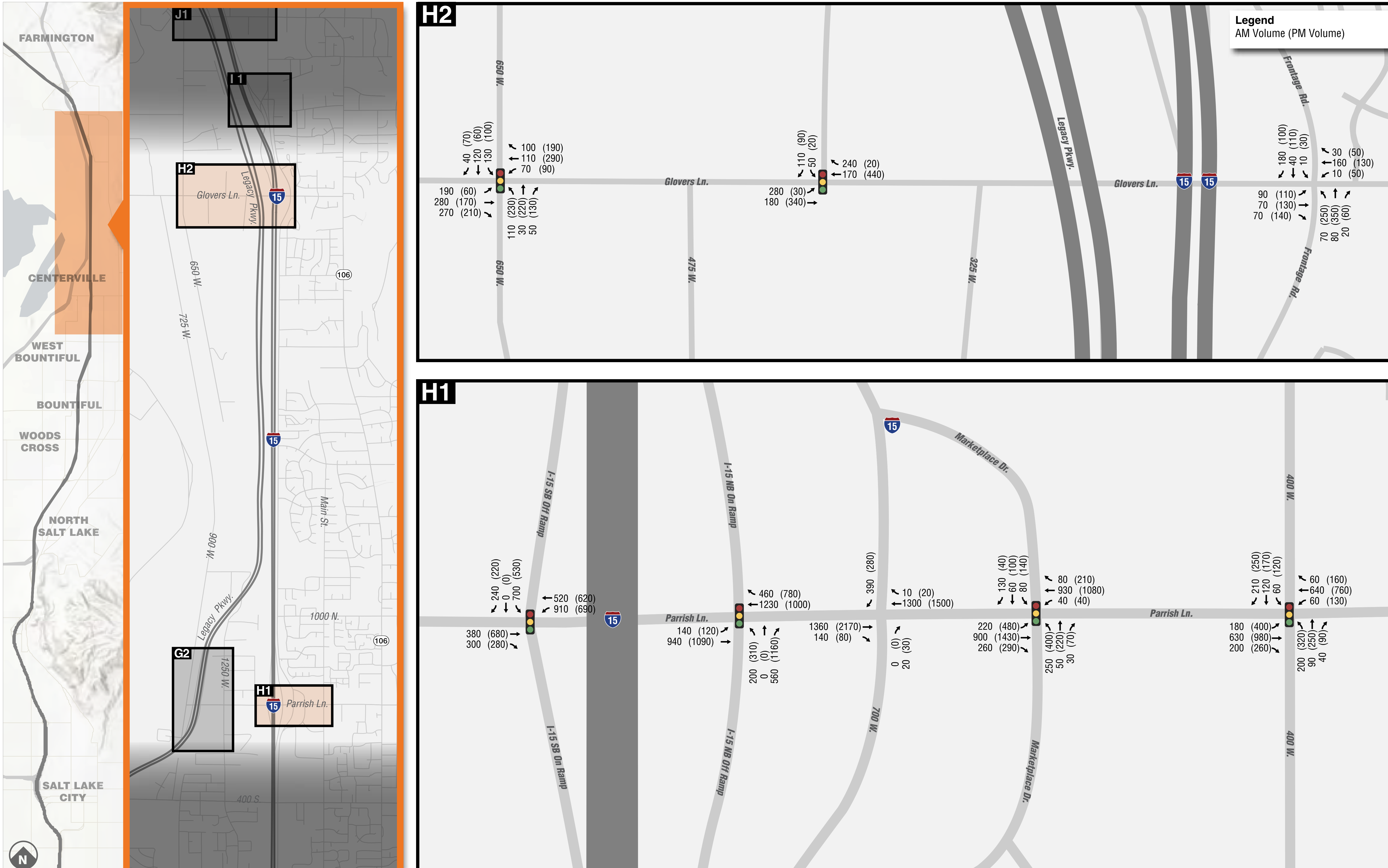




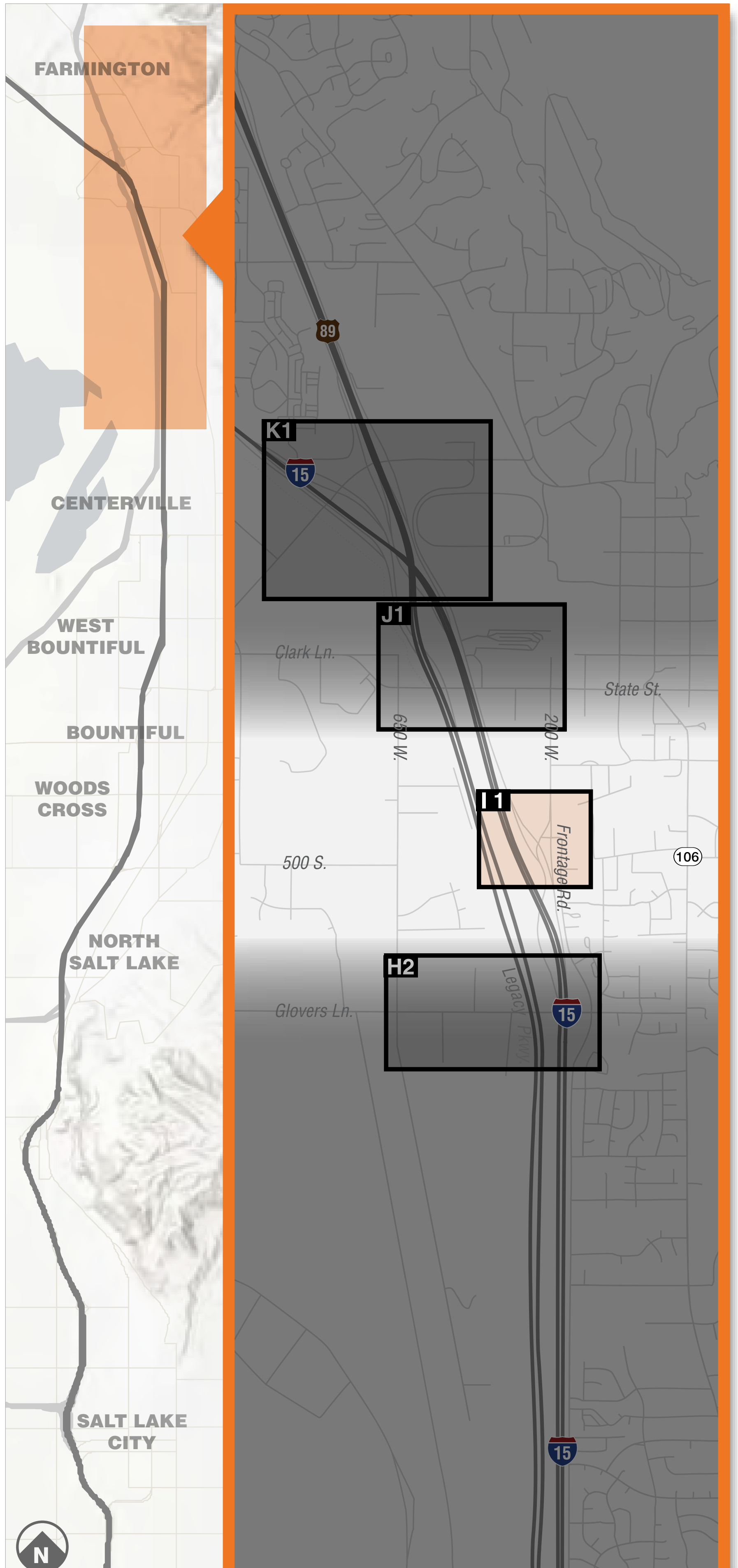
No-Action (2050) AM/PM Peak Hour Volumes

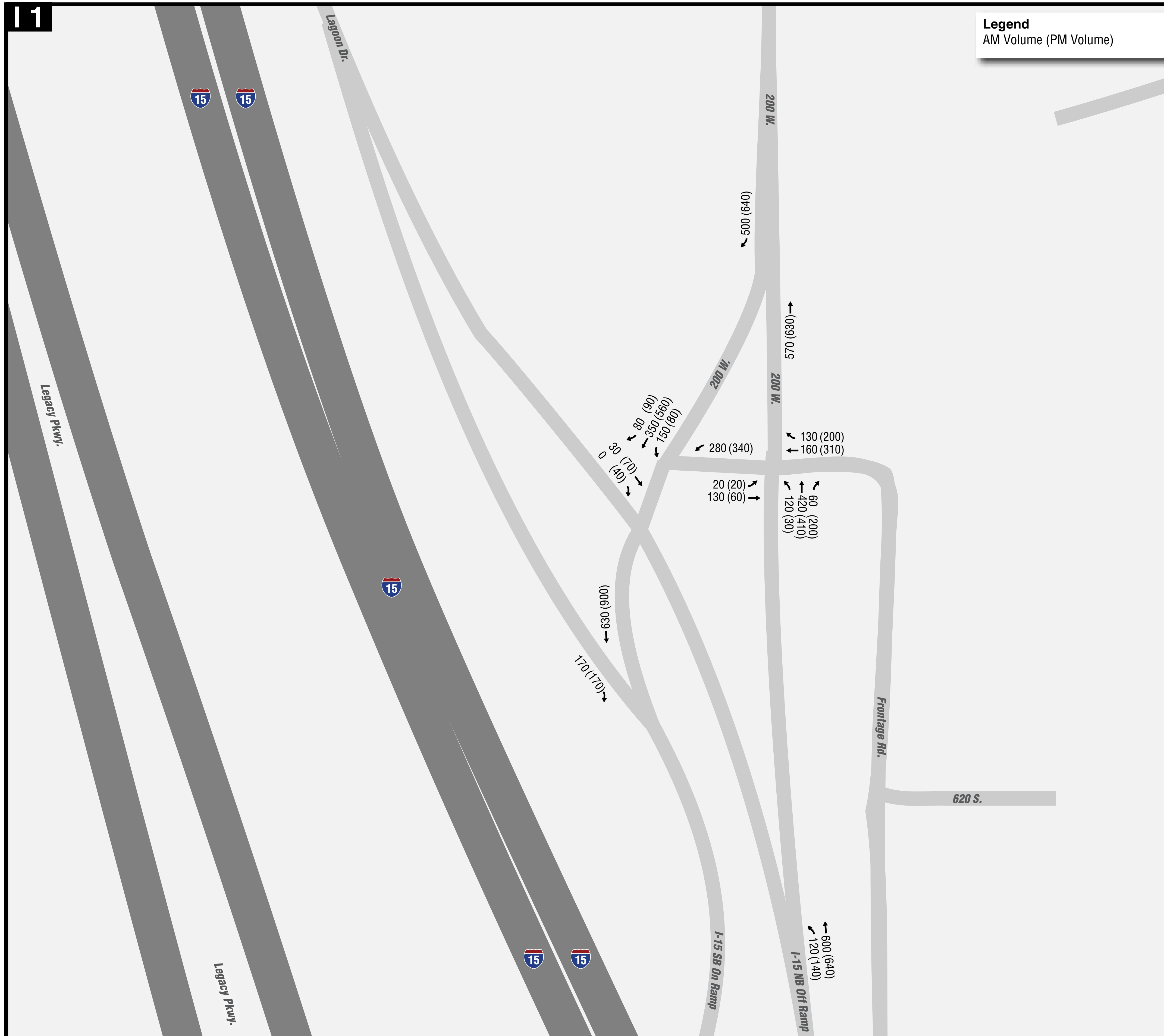


No-Action (2050) AM/PM Peak Hour Volumes

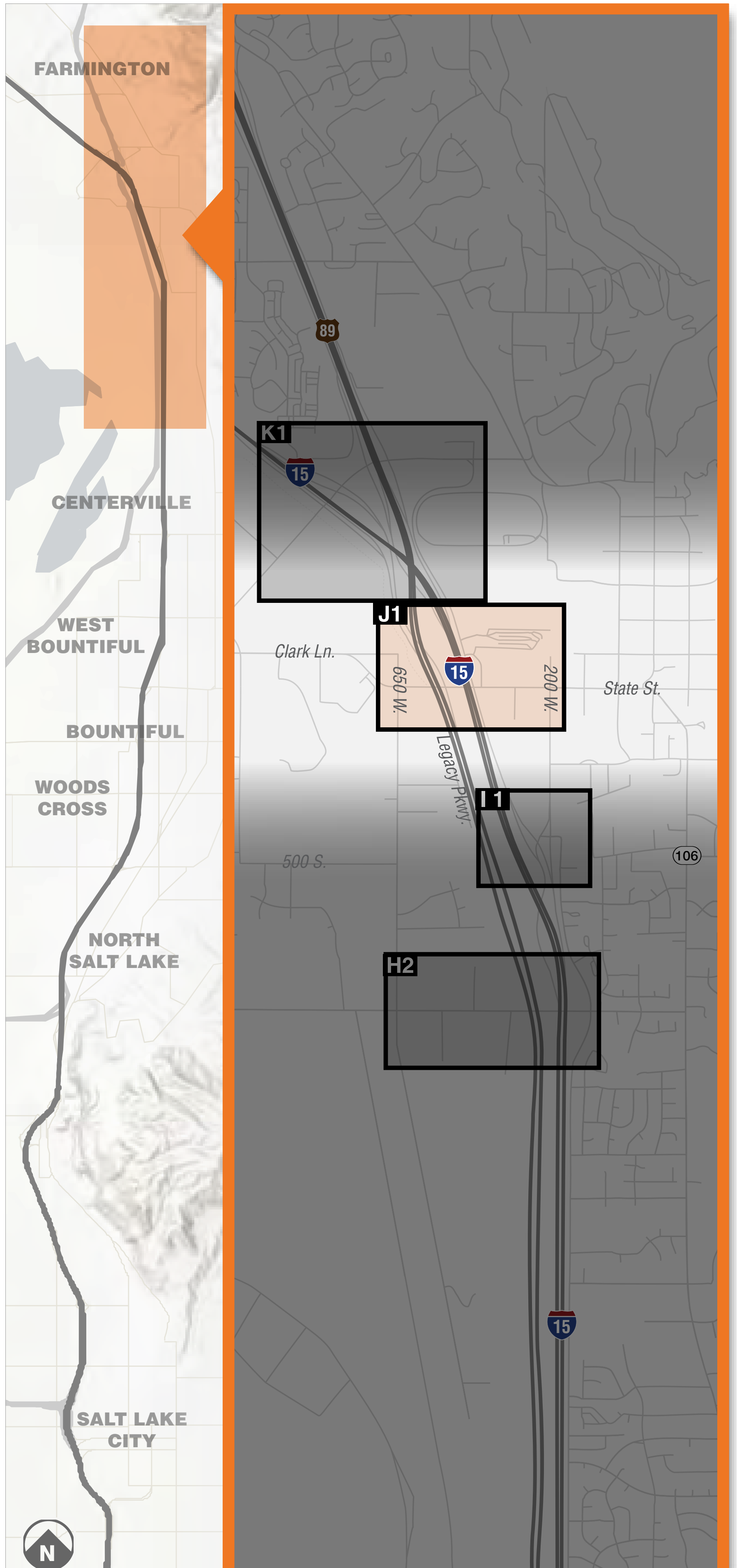


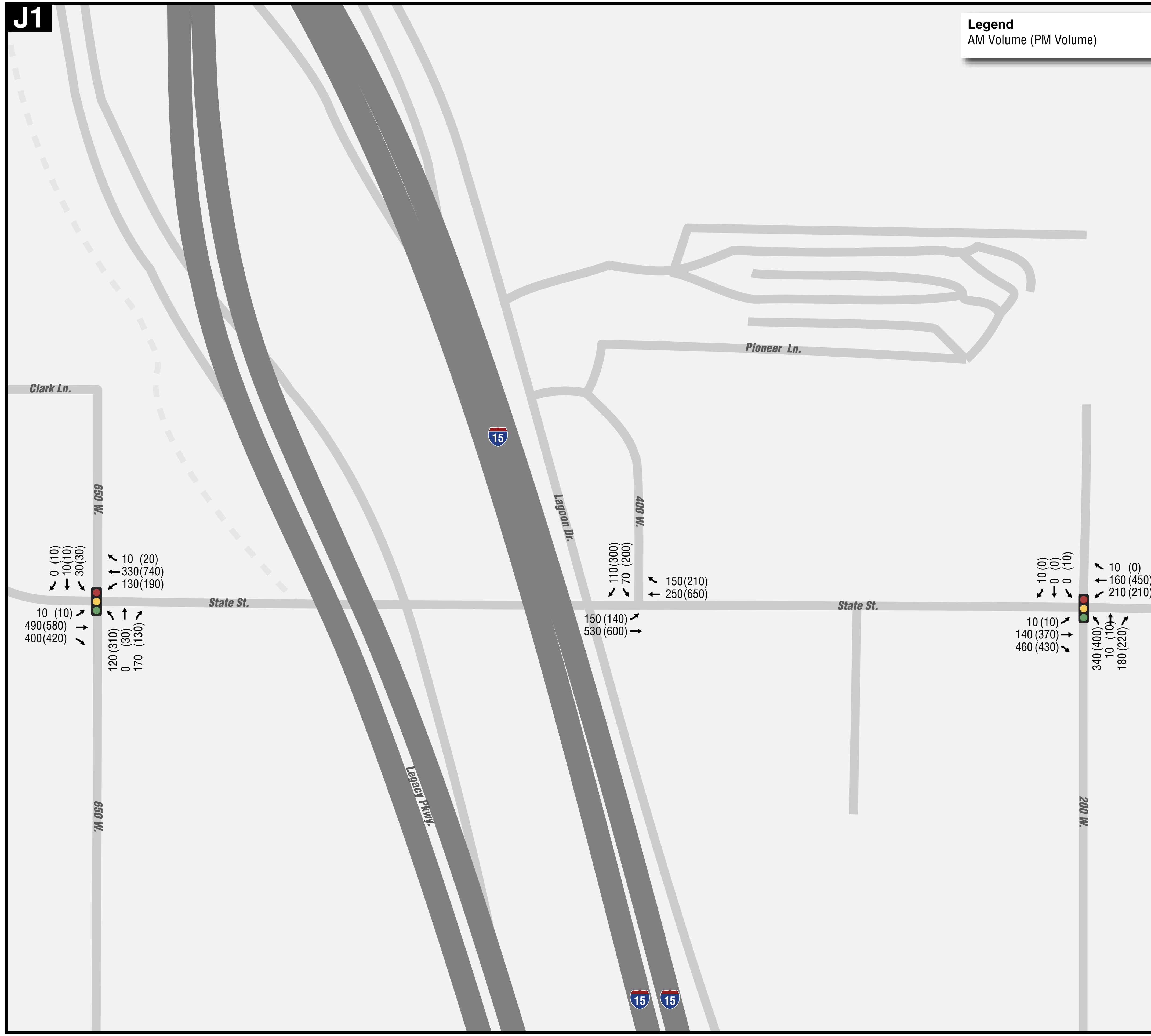
No-Action (2050) AM/PM Peak Hour Volumes



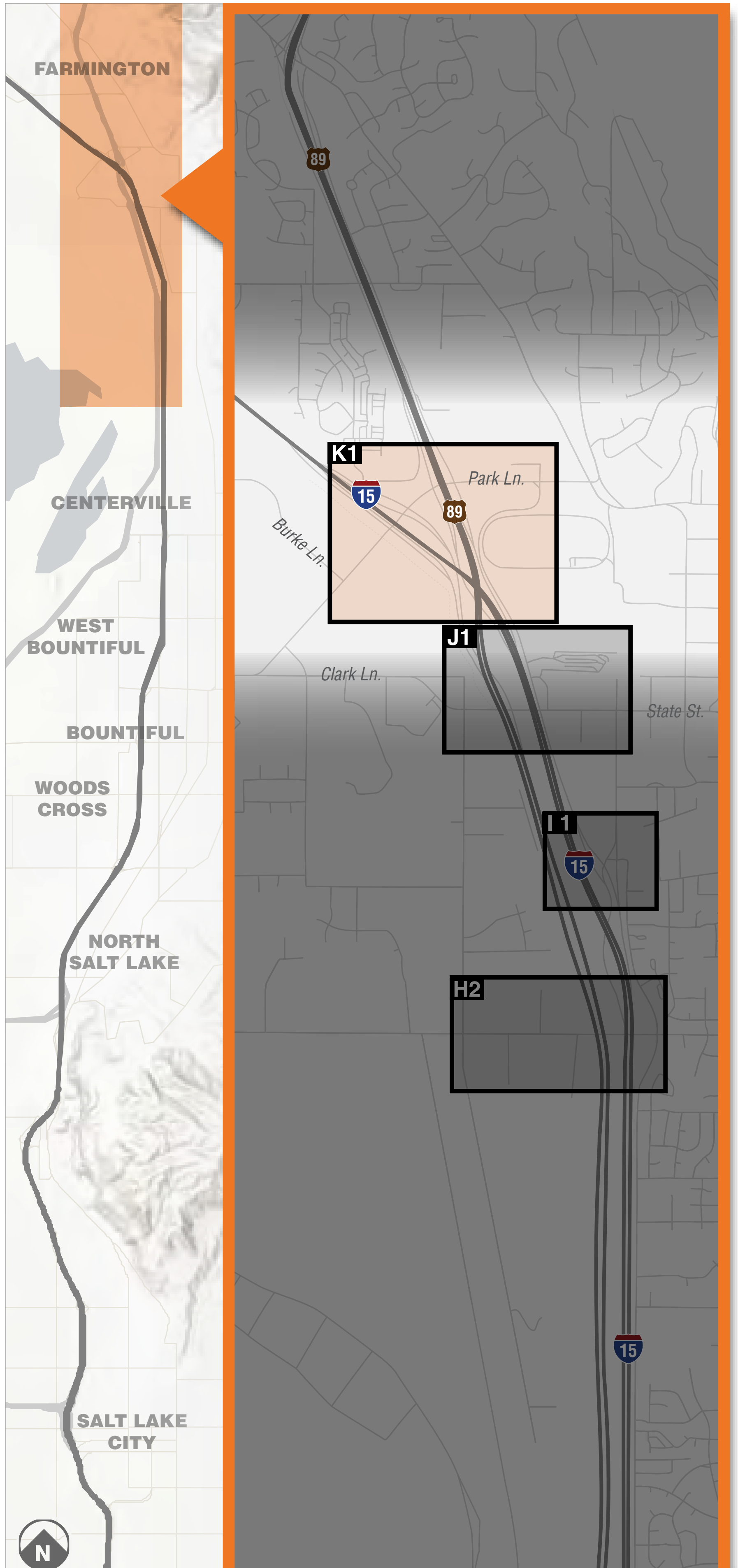


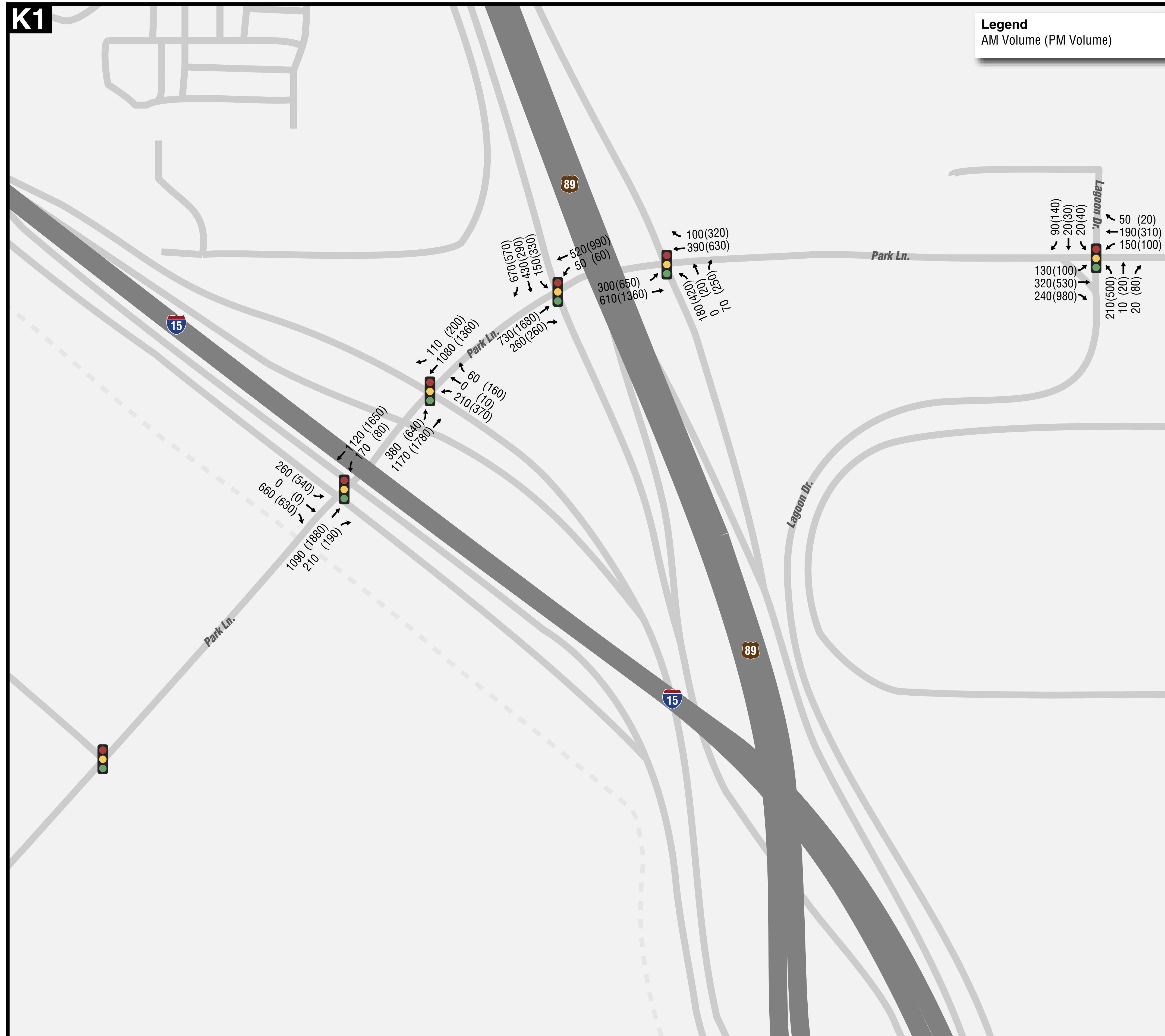
No-Action (2050) AM/PM Peak Hour Volumes





No-Action (2050) AM/PM Peak Hour Volumes





Appendix F Corridor Travel Time and Speed Results

Average Speed (mph)

Street	City	Begin Segment	End Segment	Year	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00
600 N EB	Salt Lake	1200 W	US-89	2019	24.8	18.9	19.4	17.6	20.9	19.3	18.9	20.1
				2050	20.6	**10.7**	**10.6**	**12.9**	19.3	17.2	**15.3**	**13.3**
600 N WB	Salt Lake	Wall St	800 W	2019	22.5	20.4	18.8	20.3	18.5	17.4	17.4	18.8
				2050	20.6	20.4	16.5	18.4	17.7	17.9	17.9	18.9
2600 S EB	N. Salt Lake	1250 W	US-89	2019	24	18.7	20.6	19.8	22.0	22.3	21.6	20.6
				2050	16.5	15.2	15.0	16.3	16.5	**10.4**	**9.3**	**9.8**
2600 S WB	N. Salt Lake	500 W	1100 W	2019	22.7	17.3	18	21.7	17.2	16.3	15.9	19.8
				2050	15.7	14.6	14.5	15.6	16.2	**9.1**	**7.4**	**7.7**
500 S EB	W. Bountiful	Howard St	500 W	2019	25.9	24.2	21.4	19	20	18.8	22.1	20.7
				2050	20.0	20.4	20.2	20.0	18.4	17.6	16.8	18.6
500 S WB	W. Bountiful	285 W	8th W	2019	28.8	27.4	26.6	23.8	20.6	19.8	16.3	18.5
				2050	23.3	14.1	**7.7**	**10.6**	16.3	**8.5**	**7.9**	**8.1**
400 N EB	W. Bountiful	900 W	500 W	2019	28.1	24.8	24.3	24.9	23.9	22.3	21.8	25.3
				2050	21.8	19.3	19.6	20.8	18.1	**12.6**	**13.2**	14.3
400 N WB	W. Bountiful	200 W	800 W	2019	26.7	26.1	21.5	22.5	22.6	23.7	21.7	22.8
				2050	24.5	21.7	17.2	21.3	16.0	**7.4**	**5.5**	**5.9**
Parrish Ln EB	Centerville	Legacy Pkwy	400 W	2019	23.9	20.8	19.5	21.1	20.6	20.3	21.4	18.8
				2050	18.8	**10.4**	**5.1**	**5.0**	**4.8**	**5.3**	**4.7**	**4.5**
Parrish Ln WB	Centerville	Main St	Legacy Pkwy	2019	25.2	23.1	17.8	17.5	16.9	15.9	17.5	16.5
				2050	24.7	19.2	16.8	16.8	**13.4**	**6.7**	**6.0**	**5.5**
I-15 NB	SLC to Farmington	600 S	Shepard Ln	2019	73.1	71.2	71.6	71.2	64.3	51.5	**44.9**	63.9
				2050	72.6	70.7	68.9	69.9	**28.0**	**16.4**	**13.6**	**12.6**
I-15 SB	Farmington to SLC	Shepard Ln	1300 S	2019	71.0	58.8	59.1	67.6	69.2	68.8	70.1	68.8
				2050	54.8	**27.1**	**16.3**	**12.7**	50.6	**31.5**	**22.6**	**18.7**

Legend
Light to Moderate Congestion
Moderate to Heavy Congestion
Heavy Congestion
Very Heavy Congestion

Travel Time (minutes)

Street	City	Begin Segment	End Segment	Year	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00
600 N EB	Salt Lake	1200 W	US-89	2019	3.8	5.0	4.9	5.4	4.6	4.9	5.0	4.7
				2050	4.6	8.9	9.0	7.4	5.0	5.6	6.2	7.2
600 N WB	Salt Lake	Wall St	800 W	2019	3.5	3.8	4.1	3.8	4.0	4.1	4.2	4.0
				2050	3.8	3.8	4.7	4.2	4.4	4.4	4.4	4.1
2600 S EB	N. Salt Lake	1250 W	US-89	2019	2.8	3.7	3.3	3.4	4.1	4.8	5.0	4.1
				2050	4.1	4.5	4.5	4.2	4.1	6.5	7.4	7.0
2600 S WB	N. Salt Lake	500 W	1100 W	2019	3.2	4.2	4.0	3.3	3.7	3.5	3.6	3.3
				2050	4.6	4.9	5.0	4.6	4.4	7.9	9.7	9.3
500 S EB	W. Bountiful	Howard St	500 W	2019	2.4	2.5	2.9	3.2	3.1	3.3	2.8	3.0
				2050	3.1	3.0	3.0	3.1	3.3	3.5	3.7	3.3
500 S WB	W. Bountiful	285 W	8th W	2019	1.8	1.9	1.9	2.2	2.5	2.6	3.2	2.8
				2050	2.2	3.7	6.8	4.9	3.2	6.1	6.6	6.4
400 N EB	W. Bountiful	900 W	500 W	2019	1.6	1.8	1.9	1.8	1.9	2.1	2.1	1.8
				2050	2.1	2.4	2.3	2.2	2.5	3.6	3.5	3.2
400 N WB	W. Bountiful	200 W	800 W	2019	1.9	2.0	2.4	2.3	2.3	2.2	2.4	2.3
				2050	2.1	2.4	3.0	2.4	3.2	7.0	9.3	8.7
Parrish Ln EB	Centerville	Legacy Pkwy	400 W	2019	2.0	2.3	2.4	2.2	2.3	2.3	2.2	2.5
				2050	2.5	4.5	9.1	9.4	9.7	8.8	9.9	10.5
Parrish Ln WB	Centerville	Main St	Legacy Pkwy	2019	2.6	2.9	3.7	3.8	3.9	4.2	3.8	4.0
				2050	2.7	3.5	4.0	4.0	5.0	10.0	11.1	12.0
I-15 NB	SLC to Farmington	600 S	Shepard Ln	2019	14.5	14.9	14.8	14.9	16.5	20.6	23.6	16.6
				2050	14.6	15.0	15.4	15.2	37.8	64.5	78.1	84.2
I-15 SB	Farmington to SLC	Shepard Ln	1300 S	2019	15.9	19.2	19.1	16.7	16.3	16.4	16.1	16.4
				2050	20.6	41.6	69.1	88.9	22.3	35.9	50.0	60.3

Appendix G VISSIM Intersection Analysis Results, Existing (2019)

I-15 EIS; Farmington to Salt Lake City
Vissim Intersection Analysis Results
Existing (2019)

Int #	Intersection Name	Control	Approach	Worst Case LOS		Delay (Sec)								95th Percentile Queue (Feet)								Volume Served								Volume Demand								Percent Served								GEH	
				AM	PM	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	AM	PM
108	W State St @ 400 W	U	SB	A	A	6.5	7.1	6.9	6.6	7.8	9.2	8.7	7.7	42	60	43	41	58	78	63	62	124	170	166	156	177	208	209	195	126	170	168	157	178	210	210	196	98	100	99	99	99	99	100	99	0.2	0.2
			IN	A	A	6.5	7.1	6.9	6.6	7.8	9.2	8.7	7.7																																		
109	Frontage Rd @ 200 W SB	U	WB	B	B	10.5	12.7	12.5	10.8	10.7	11.7	11.9	10.7	36	57	54	39	35	38	40	34	100	141	135	129	84	101	96	92	111	150	148	139	85	100	100	93	91	94	91	93	99	101	96	99	1.8	0.2
			IN	B	B	10.5	12.7	12.5	10.8	10.7	11.7	11.9	10.7																																		
110	(EB) Frontage Rd @ 200 W NB	U	EB	A	A	6.8	7.3	7.1	6.8	6.3	6.5	6.3	6.3	43	59	60	43	38	40	37	37	102	139	139	129	67	82	81	75	103	140	139	130	68	80	80	75	99	100	100	99	99	102	101	101	0.1	0.1
			WB	B	A	9.0	10.2	10.2	9.1	8.9	9.5	9.6	8.9	80	104	105	81	75	88	90	74	197	267	269	250	201	239	239	224	199	270	267	250	203	240	240	224	99	99	101	100	99	100	100	100	0.1	0.1
			IN	B	A	9.0	10.2	10.2	9.1	8.9	9.5	9.6	8.9																																		
111	W Glovers Ln @ Farmington Hig	U	SB	A	A	8.1	9.3	9.2	8.4	7.9	8.4	8.0	7.7	51	56	54	52	51	55	52	49	116	158	157	147	92	108	108	101	118	160	158	148	93	110	110	103	98	99	99	99	99	98	98	98	0.3	0.3
			IN	A	A	8.1	9.3	9.2	8.4	7.9	8.4	8.0	7.7																																		
112	W Glovers Ln @ Frontage Rd	U	EB	B	C	9.8	11.5	11.5	10.3	13.0	16.1	17.3	13.6	66	86	81	68	101	133	152	120	133	179	181	167	210	260	259	245	133	180	178	167	238	280	280	262	101	99	101	100	88	93	93	94	0.1	2.6
			WB	C	F	14.3	21.9	18.7	14.1	29.5	73.3	69.7	32.7	63	124	87	67	102	214	188	108	107	150	146	137	98	119	121	112	111	150	149	139	102	120	120	112	96	100	98	99	96	99	101	100	0.4	0.2
			NB	B	D	10.7	12.0	12.2	10.9	18.7	29.5	29.0	18.6	45	61	67	55	143	209	201	137	107	138	137	129	261	307	308	288	103	140	139	130	263	310	310	289	104	98	99	99	99	99	100	100	0.0	0.2
			SB	B	B	8.5	10.2	9.6	8.8	11.5	14.2	14.3	11.7	63	83	86	71	78	102	110	82	161	219	216	203	194	228	228	215	162	220	218	204	195	230	230	215	99	100	99	100	100	99	99	100	0.2	0.1
			IN	C	F	14.3	21.9	18.7	14.1	29.5	73.3	69.7	32.7																																		
113	Parrish Ln @ SR-67 SB Ramps	U	SB	B	A	10.6	13.0	13.2	10.6	9.0	9.6	9.6	9.1	64	97	93	74	43	60	61	56	167	229	227	214	124	147	148	138	170	230	227	213	127	150	150	140	99	99	100	100	97	98	99	99	0.1	0.4
			IN	B	A	10.6	13.0	13.2	10.6	9.0	9.6	9.6	9.1																																		
114	Parrish Ln @ SR-67 NB Ramps	U	NB	A	B	6.2	7.1	6.7	6.4	10.5	13.3	12.4	9.3	47	55	53	50	116	152	140	97	124	169	166	156	297	347	347	325	125	170	168	158	297	350	349	327	99	100	99	99	100	99	99	99	0.2	0.2
			IN	A	B	6.2	7.1	6.7	6.4	10.5	13.3	12.4	9.3																																		
115	Parrish Ln @ (NB) 700 W	U	NB	A	B	6.4	6.8	6.8	6.5	9.7	11.4	10.8	8.9	16	16	18	17	24	34	35	19	14	20	20	20	24	28	28	27	15	20	20	18	26	30	30	28	93	101	102	109	94	93	93	95	0.1	0.7
			SB	F	E	16.1	52.8	73.3	18.9	16.9	33.3	35.0	17.8	177	371	372	190	151	230	276	153	284	377	396	361	232	280	278	262	287	390	386	361	238	280	280	261	99	97	103	100	98	100	100	100	0.2	0.2
			IN	F	E	16.1	52.8	73.3	18.9	16.9	33.3	35.0	17.8																																		
201	400 N @ 800 W	U	EB	B	D	10.7	12.5	12.7	10.7	18.2	29.7	29.0	16.6	68	83	87	62	117	189	203	112	149	195	197	157	219	261	260	207	148	200	198	158	221	260	260	209	101	98	99	99	99	100	100	99	0.2	0.1
			WB	B	C	9.5	10.8	10.7	9.6	13.9	18.2	18.3	12.9	76	85	86	78	144	289	274	162	141	182	188	174	338	385	389	361	140	190	188	176	331	390	389	364	100	96	100	99	102	99	100	99	0.3	0.0
			NB	A	B	8.4	9.3	9.3	8.5	10.8	13.7	13.0	10.6	39	41	41	37	79	99	96	81	52	69	68	63	161	188	188	176	52	70	70	65	161	190	189	177	100	99	97	96	100	99	100	100	0.4	0.2
			SB	B	B	9.0	10.6	10.4	9.1	11.5	13.5	13.3	10.7	58	64	63	57	42	61	59	45	138	189	187	175	134	159	160	150	140	190	188	176	136	160	160	149	99	100	99	100	99	100	100	101	0.2	0.0
			IN	B	D	10.7	12.5	12.7	10.7	18.2	29.7	29.0	16.6																																		
202	400 N @ 660 W Access	U	SB	A	A	7.6	7.6	8.0	7.6	7.9	8.0	8.4	8.3	20	20	20	20	20	21	20	20	14	20	20	20	20	20	20	18	15	20	20	18	17	20	20	19	93	101	101	109	119	100	100	96	0.1	0.3
			NB	A	A	6.1	6.3	6.3	6.0	6.0	6.4	6.6	5.9	47	49	49	48	48	55	53	46	80	108	107	101	97	120	120	112	88	120	119	111	102	120	120	112	90	90	90	91	95	100	100	100	2.1	0.2
			IN	A	A	7.6	7.6	8.0	7.6	7.9	8.0	8.4	8.3																																		
205	400 N @ I-15 SB On Ramp	U	WB	D	D	12.4	27.4	24.6	13.4	14.5	24.0	25.1	12.8	340	691	582	360	335	423	433	276	636	860	854	804	743	870	891	823	641	870	860	805	746	880	878	822	99	99	99	100	100	99	101	100	0.4	0.0
			IN	D	D	12.4	27.4	24.6	13.4	14.5	24.0	25.1	12.8																																		
206	400 N @ I-15 NB Off Ramp	U	NB	C	D	15.7	17.3	17.6	14.3	21.3	29.4	30.5	21.1	82	82	82	82	134	195	177	124	313	429	426	398	744	878	875	821	317	430	425	398	746	880	878	821	99	100	100	100	100	100	100	100	0.1	0.1
			IN	D	D	15.7	27.4	24.6	14.3	21.3	29.4	30.5	21.1																																		
207	500 S @ 800 W	U	SB	A	A	6.2	6.2	6.4	6.3	6.3	6.3	6.6	6.2	42	53	55	39	40	37	48	37	55	79	81	74	50	60	60	55	59	80	80	74	51	60	60	56	94	99	102	99	99	101	101	98	0.2	0.0
			IN	A	A	6.2	6.2	6.4	6.3	6.3	6.3	6.6	6.2																																		
208	500 S @ (NB) 700 W	U	NB	A	A	5.9	6.8	6.7	6.1	6.2	6.9	6.8	6.2	56	66	64	58	58	63	62	56	183	251	249	231	200	240	239	224	185	250	248	232	204	240	240	224	99	101	101	100	98	100	100	100	0.0	0.1
			SB	A	A	9.3	9.4	9.2	9.3	9.7	9.6	9.7	9.5	24	25	24	24	29	24	24	27	22	28	28	26	24	28	28	27	22	30	30	28	26	30	30	28	99	94	93	92	93	94	93	95	0.6	0.7
			IN	A	A	9.3	9.4	9.2	9.3	9.7	9.6	9.7	9.5																																		
209	2600 S @ 1100 W	U	EB	C	E	13.2	18.7	17.4	13.8	20.9	34.5	40.4	18.5	107	154	140	116	160	282	298	167	311	427	428	399	549	643	646	606	317	430	426	398	551	650	648	606	98	99	101	100	100	99	100	100	0.2	0.2
			WB	C	C	15.4	23.0	22.4	15.7	17.5	24.3	21.9	16.4	193	893	1496	385	127	139	164	116	284	375	383	357	312	380	372	351	288	390	386	361	322	380	379	355	99	96	99	99	97	100	98	99	0.7	0.5
			NB	B	C	10.8	13.8	12.6	11.4	13.6	15.9	14.9	13.5	78	79	78	78	96	104	100	80	63	90	88	83	107	128	128	120	67	90	89	83	110	130	130	121	95	101	99	100	97	98	99	99	0.2	0.4
			SB	C	B	11.6	15.4	15.3	12.8	12.5	14.1	14.2	12.7	77	113	114	96	63	76	76	75	115	158	157	147	76	88	88	83	119	160	158	148	76	90	90	84	97	99	99	99	100	98	98	99	0.3	0.3
			IN	C	E	15.4	23.0	22.4	15.7	20.9	34.5	40.4	18.5																																		
210	2600 S @ Overland Rd	U	NB	A	A	7.2	8.6	8.8	7.8	7.7	8.6	8.7	8.1	78	78	79	77	23	23	37	34	22	28	29	27	25	30	28	28	22	30	30	28	26	30	30	28	99	94	97	97	99	99	93	98	0.4	0.3
			IN	A	A	7.2	8.6	8.8	7.8	7.7	8.6	8.7	8.1																																		
211	2600 S @ 400 E	U	NB	A	B	8.1	8.3	7.8	8.0	10.3	10.4	11.4	9.9	23	24	24	24	47	55	60	46	8	8	8	8	59	68	68	63	7	10	10	9	60	70	70	66	111	80	80	85	99	97	97	97	0.8	0.4
			IN	A	B	8.1	8.3	7.8	8.0	10.3	10.4	11.4	9.9																																		
301	Center St @ I-15 SB Off Ramp SE	U	SB	B	B	11.1	12.5	13.2	11.1	11.0	13.7	13.1	10.8	91	100	518	197	80	125	101	82	226	308	310	288	220	259	259	242	229	310	307	287	220	260	259	243	99	99	101	100	100	100	100	100	0.0	0.1
			IN	B	B	11.1	12.5	13.2	11.1	11.0	13.7	13.1	10.8																																		
302	Center St @ Main St	U	EB	B	C	8.8	12.5	12.7	9.4	11.3	17.8	17.0	10.4	124	192	390	184	195	368	367	165	333	455	458	426	493	591	584	549	339	460	455	426	501	590	589	551	98	99	101	100	98	100	99	100	0.2	0.3
			WB	B	B	10.6	13.7	12.7	11.1	10.2	13.1	12.8	10.2	103	133	214	137	93	117	105	87	155	218	211	203	144	172	173	159	162	220	218	204	144	170	170	159	95	99	97	99	100	101	102	100	0.6	0.2
			NB	B	C	8.4	10.2	10.2	8.7	13.5	21.3	24.0	15.9	59	64	73	46	112	185	208	144	107	137	138	129	244	288	290	270	103	140	139	130	246	290	289	271	103	98	100	99	99	99	100	100	0.0	0.1
			SB	A	B	7.5	9.9	9.7	8.2	10.4	13.4	12.9	11.1	45	63	86	67	49	68	67	62	82	110	105	100	87	99	100	93	81	110	109	102	85	100	100	93	101	100	97	98	102	99	101	99	0.2	0.0
			IN	B	C	10.6	13.7	12.7	11.1	13.5	21.3	24.0	15.9																																		
303	US-89 @ Main St	U	EB	A	A	3.8	4.5	4.5	3.8	6.0	7.5	7.1	5.0	77	93	109	92	120	146	138	98	149	196	196	183	259	308	309	288	148	200	198	185	263	310	309	289	101	98	99	99	98	99	100	100	0.2	0.2
			IN	A	A	3.8	4.5	4.5	3.8	6.0	7.5	7.1	5.0																																		
304	US-89 @ Eaglegate Dr	U	WB	A	A	7.9	8.1	7.9	7.7	8.0	8.3	8.4	7.8	63	65	64	60	64	64	64	58	52	69	68	63	51	60	60	55	52	70	69	65	51	60	60	56	100	99	99	97	101	100	100	98	0.2	0.0
			IN	A	A	7.9	8.1	7.9	7.7	8.0	8.3	8.4	7.8																																		
309	Warm Springs @ I-15 NB Ramps	U	EB	B	B	10.6	12.9	12.4	11.1	10.2	10.6	10.5	9.7	119	153	451	210	101	118	119	96	192	258	260	241	165	201	198	186	192	260	257	241	170	200	200	187	100	99	101	100	97	100	99	100	0.1	0.2
			IN	B	B	10.6	12.9	12.4	11.1	10.2	10.6	10.5	9.7																																		
310	(NB) Warm Springs @ 1800 N	U	NB	A	A	7.4	7.5	7.6	7.6	7.7	7.8	8.1	7.5	39	45	54	40	37	41	42	41	36	53	47	46	31	45	38	40	37	50	50	47	34	40	40	37	98	106	95	100	92	113	94	107	0.0	0.2
			SB	A	A	8.4	8.8	8.8	8.7	7.6	7.9	7.8	7.7	112	112	140	133	111	111	107	111	106	149	147	139	51	65	61	58	111	150	148	139	51	60	60	56	96	99	99	100	99	109	101	104	0.3	0.5
			IN	A	A	8.4	8.8	8.8	8.7	7.7	7.9	8.1	7.7																																		
311	N Chicago St @ 1800 N	U	EB	A	A	6.6	7.1	7.0	7.0	6.0	6.0	6.0	6.0	78	78	81	79	22	37	37	37	84	125	119	113	21	33	28	29	89	120	118	111	26	30	30	28	95	105	101	102	82	111	92	105	0.2	0.2
			IN	A	A	6.6	7.1	7.0	7.0	6.0	6.0	6.0	6.0																																		
312	900 N @ Warm Springs Connect	U	WB	A	A	6.5	7.1	7.2	7.0	7.5	8.3	7.9	7.5	45	58	99	80	71	131	94	83	35	44	50	45	100	107	111	101	37	50	50	47	93	110	110	103	96	87	100	96	107	98	101	98	0.7	0.2
			IN	A	A	6.5	7.1	7.2	7.0	7.5	8.3	7.9	7.5																																		
313	Warm Springs @ Warm Springs	U	EB	A	A	6.7	6.9	7.2	6.7	6.2	6.3	6.4	6.0	30	30	48	33	0	0	0	0	67	84	84	81	27	31	30	29	67	90	89	83	26	30	30	28	100	93	95	97	105	102	100	105	0.8	0.3
			IN	A	A	6.7	6.9	7.2	6.7	6.2	6.3	6.4	6.0																																		
314	900 N @ I-15	U	EB	A	B	8.2	8.3	8.1	8.1	9.7	11.5	11.4	10.5	75	76	110	112	101	145	136	115	88	119	116	109	200	241	239	224	88	120	119	111	204	240	240	224	100	99	98	98	98	101	100	100	0.3	0.1
			IN	A	B	8.2	8.3	8.1	8.1	9.7	11.5	11.4	10.5																																		
315	600 N @ (NB) 8th W	U	NB	A	A	6.8	8.7	8.2	7.0	6.2	6.0	6.3	6.1	85	103	132	96	71	72	74	71	124	169	166	155	92	108	108	101	125	170	168	158	93	110	110	103	100	99	99	99	99	98	98	98	0.2	0.3
			SB	A	A	5.6	6.0	5.9	5.8	5.7	5.8	5.6	5.4	33	38	35	34	31	31	30	30	34	48	48	45	8	8	8	8	37	50	50	47	9	10	10	9	92	96	96	97	91	80	80	85	0.6	1.0
			IN	A	A	6.8	8.7	8.2	7.0	6.2	6.0	6.3	6.1																																		
1003	600 N @ 900 W	S	EB	B	B	11.0	14.0	13.7	11.8	14.9	17.4	17.7	14.2	144	191	226	168	110	133	150	118	523	716	712	568	461	549	546	443	531	720	712	568	466	550	549	442	98	99	100	100	99	100	100	100	0.2	0.2
			WB	B	B	9.2	11.0	11.1	9.7	13.4	17.0	17.3	13.7	99	131	151	129	206	325	310	238	431	600	599	558	892	1045	1062	986	443	600	593	555	899	1060	1057	989	97	100	101	101	99	99	100	100	0.0	0.3
			NB	B	B	13.6	15.4	15.4	13.9	17.1	18.9	19.0	16.5	69	91	111	85	152	177	182	131	213	286	290	269	406	478	477	446	213	290	287	269	407	480	479	448	100	99	101	100	100	100	100	100	0.0	0.2
			SB	B	C	16.8	18.8	18.8	15.8	17.5	20.1	20.9	17.5	73	105	128	95	89	112	111	88	195	267	268	250	221	258	259	241	199	270	267	250	220	260	259	243	98	99	100	100	100	99	100	99	0.2	0.1
			IN	B	B	11.6	14.0	13.8	12.1	14.9	17.8	18.2	14.8																																		
5201	Park Ln @ US-89 SB Ramps	S	EB	B	B	10.4	14.6	14.6	11.1	7.8	9.9	10.1	6.8	105	154	137	113	239	288	288	220	553	755	754	704	1209	1396	1435	1330	560	760	751	703	1204	1420	1417	1325	99	99	100	100	100	98	101	100	0.1	0.1
			WB	B	B	13.3	15.4	15.0	13.7	16.9	18.9	18.3	16.1	84	108	103	85	81	87	87	80	287	386	387	360	558	651	662	611	287	390	386	361	560	660	658	616	100	99	100	100	100	99	101	99	0.1	0.2
			SB	C	C	24.8	29.2	29.3	25.4	25.2	27.6	27.3	24.9	447	685	743	503	270	325	306	239	801	1104	1083	1018	789	947	932	878	811	1100	1088	1018	797	940	938	878	99	100	100	100	99	101	99	100	0.2	0.1
			IN	C	B	18.9	22.8	22.8	19.5	15.8	18.1	17.8	15.1																																		
5202	Park Ln @ US-89 NB Ramps	S	EB	A	A	9.3	8.2	8.4	9.1	7.2	7.7	7.8	7.3	104	116	122	103	187	214	214	189	475	641	634	595	1182	1357	1396	1295	479	650	643	602	1179	1390	1387	1297	99	99	99	99	100	98	101	100	0.6	0.3
			WB	B	B	14.9	14.6	15.0	15.0	15.0	16.2	16.7	14.8	92	106	109	88	131	144	151	135	278	375	382	352	480	569	569	531	280	380	376	352	483	570	569	532	99	99	102	100	99	100	100	100	0.0	0.1
			NB	D	D	47.0	45.9	48.7	47.9	45.4	45.4	44.2	45.9	92	116	114	99	162	184	187	142	95	131	125	120	307	374	363	345	96	130	129	121	314	370	369	345	99	100	97	99	98	101	98	100	0.3	0.2
			IN	B	B	14.2	13.4	13.9	14.3	13.6	14.5	14.2	13.6																																		
5203	Park Ln @ I-15 SB Ramps	S	EB	C	C	15.4	20.1	20.5	16.6	17.5	19.8	26.3	22.7	84	112	114	104	153	175	314	308	624	841	841	786	1181	1384	1407	1306	626	850	841	787	1187	1400	1397	1307	100	99	100	100	100	99	101	100	0.2	0.2
			WB	B	A	13.9	13.9	13.7	13.4	5.3	5.3	5.5	5.2	184	255	230	186	139	153	163	148	618	835	854	789	1019	1205	1210	1127	626	850	840	787	1026	1210	1207	1129	99	98	102	100	99	100	100	100	0.1	0.2
			SB	D	E	39.1	37.1	36.4	38.3	40.3	49.0	56.6	40.0	278	314	290	252	716	1539	2271	557	539	758	734	693	893	1080	1065	1000	553	750	742	694	907	1070	1067	999	97	101	99	100	98	101	100	100	0.3	0.1
			IN	C	C	22.4	23.4	23.1	22.3	20.1	23.7	28.4	22.1																																		
5211	W State St @ 200 W	S	EB	A	B	7.3	9.1	8.9	7.5	9.4	10.3	10.6	9.8	121	175	171	110	171	223	230	143	329	458	445	416	488	573	563	533	339	460	455	426	475	560	559	523	97	100	98	98	103	102	101	102	0.8	0.9
			WB	C	B	15.0	21.0	20.3	14.5	15.5	18.7	18.2	15.0	113	185	199	121	116	142	142	115	239	327	326	304	327	388	387	362	243	330	326	306	331	390	389	364	98	99	100	100	99	100	99	100	0.2	0.2
			NB	B	B	11.1	14.1	14.8	10.9	13.4	16.6	16.4	12.7	114	178	187	116	216	277	277	200	326	450	445	416	537	641	638	597	332	450	445	417	543	640	639	597	98	100	100	100	99	100	100	100	0.1	0.1
			SB	B	A	11.7	11.5	13.0	12.9	5.7	6.4	6.4	5.6	24	27	24	24	0	0	0	0	22	28	28	26	8	8	8	8	22	30	30	28	9	10	10	9	102	93	93	92	92	79	81	86	0.6	1.0

I-15 EIS; Farmington to Salt Lake City
Vissim Intersection Analysis Results
Existing (2019)

Int #	Intersection Name	Control	Approach	Worst Case LOS		Delay (Sec)								95th Percentile Queue (Feet)								Volume Served								Volume Demand								Percent Served								GEH	
				AM	PM	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	AM	PM
			IN	**B**	**B**	**10.7**	**14.0**	**14.1**	**10.7**	**12.4**	**14.8**	**14.7**	**12.2**																																		
5212	Park Ln @ I-15 NB Ramps	S	EB	A	C	8.7	7.7	7.9	8.5	13.4	15.3	24.9	19.9	134	149	152	143	253	281	469	464	724	978	982	917	1530	1784	1815	1692	737	1000	989	926	1551	1830	1826	1708	98	98	99	99	99	97	99	99	0.8	1.1
			WB	B	B	11.9	12.7	13.3	12.3	11.0	11.7	12.0	10.7	149	169	169	149	198	206	205	186	621	850	850	796	925	1087	1101	1023	634	860	850	796	933	1100	1098	1027	98	99	100	100	99	99	100	100	0.4	0.3
			NB	D	D	47.0	46.4	45.3	45.7	48.2	51.7	50.4	46.9	147	160	169	133	312	385	388	297	105	140	136	129	318	380	376	353	103	140	139	130	322	380	379	355	102	100	98	99	99	100	99	100	0.1	0.2
			IN	**B**	**C**	**12.2**	**11.9**	**12.1**	**12.1**	**15.6**	**17.4**	**22.7**	**19.3**																																		
5270	US-89 @ 1000 N	S	EB	A	D	0.9	1.3	1.1	0.6	35.0	38.0	35.5	31.3	0	0	0	0	38	42	39	22	8	8	8	8	20	20	20	18	7	10	10	9	18	20	20	19	110	80	80	85	113	102	99	97	0.8	0.2
			WB	C	D	24.8	26.1	25.2	26.2	44.3	42.9	44.4	41.6	91	113	112	97	174	202	187	163	105	138	138	129	165	200	199	187	103	140	138	129	170	200	200	187	102	99	100	100	97	100	99	100	0.0	0.2
			NB	A	A	6.9	8.6	8.5	7.1	5.1	5.6	5.4	4.8	103	125	128	105	127	151	145	128	334	446	463	423	942	1132	1115	1052	339	460	455	426	958	1130	1127	1054	99	97	102	99	98	100	99	100	0.3	0.4
			SB	A	A	5.7	6.4	6.3	6.1	6.8	7.9	7.6	6.8	159	206	227	192	163	192	217	175	663	911	895	843	701	829	830	776	671	910	900	843	704	830	828	774	99	100	100	100	100	100	100	100	0.2	0.0
			IN	**A**	**B**	**7.8**	**8.8**	**8.7**	**8.3**	**9.7**	**10.2**	**10.1**	**9.2**																																		
53461	2600 S @ 800 W	S	EB	A	A	5.6	7.7	7.4	6.2	7.1	7.9	8.7	6.8	104	130	137	123	167	169	189	148	399	543	548	509	512	602	604	568	405	550	545	509	499	589	588	550	98	99	101	100	103	102	103	103	0.2	1.3
			WB	B	B	10.9	12.3	12.6	10.4	9.9	10.3	11.1	9.7	283	460	425	284	205	231	250	213	375	504	504	471	492	595	586	551	376	510	504	472	500	590	589	551	100	99	100	100	98	101	100	100	0.2	0.1
			SB	C	D	30.4	29.7	30.6	30.8	36.4	36.4	36.4	37.7	308	334	395	311	260	274	280	257	499	682	683	637	492	592	583	551	509	690	682	639	500	590	589	551	98	99	100	100	98	100	99	100	0.4	0.2
			IN	**B**	**B**	**16.9**	**17.8**	**18.0**	**17.1**	**17.6**	**18.2**	**18.6**	**18.0**																																		
53462	800 W @ I-15 SB Off Ramp	S	WB	B	B	9.8	10.6	10.7	9.7	10.2	11.3	11.2	10.0	138	160	152	142	135	144	144	127	351	474	475	443	355	419	416	391	354	480	475	444	356	420	419	392	99	99	100	100	100	100	99	100	0.2	0.1
			NB	B	B	9.7	10.6	10.6	10.1	9.3	10.5	9.9	9.5	107	130	126	106	131	172	149	114	87	124	115	113	222	265	260	243	88	120	119	111	238	280	280	261	99	104	97	102	94	95	93	93	0.1	2.1
			SB	B	B	11.3	12.2	12.4	11.4	9.9	11.3	10.2	10.1	111	140	142	108	114	132	119	107	174	238	240	222	186	219	220	205	177	240	237	222	186	220	220	205	98	99	101	100	100	100	100	100	0.1	0.0
			IN	**B**	**B**	**10.2**	**11.0**	**11.2**	**10.2**	**9.9**	**11.1**	**10.6**	**9.9**																																		
5347	2600 S @ I-15 NB Ramps	S	EB	D	D	43.6	43.5	43.8	43.1	36.7	35.3	36.5	38.9	210	295	281	222	449	451	452	448	441	608	620	574	685	822	819	772	457	620	613	574	687	810	808	756	97	98	101	100	100	101	101	102	0.4	0.7
			WB	B	B	9.5	12.5	12.5	9.9	10.1	10.3	11.1	9.2	219	323	316	228	203	234	239	198	1276	1748	1753	1630	1206	1444	1439	1348	1297	1760	1740	1629	1221	1440	1437	1344	98	99	101	100	99	100	100	100	0.2	0.1
			NB	C	C	19.7	21.4	21.8	19.7	19.5	21.3	21.2	19.2	128	189	174	139	267	358	325	265	564	766	761	712	1043	1241	1234	1158	567	770	761	713	1051	1240	1237	1157	99	99	100	100	99	100	100	100	0.2	0.1
			IN	**C**	**C**	**18.6**	**20.8**	**20.9**	**18.9**	**19.7**	**20.1**	**20.6**	**19.8**																																		
5348	2600 S @ Wildcat Way	S	EB	B	B	14.1	19.1	19.5	15.5	14.1	17.8	18.3	14.1	194	282	260	213	248	312	346	251	740	1022	1034	960	1298	1569	1551	1464	767	1040	1028	963	1322	1560	1556	1456	97	98	101	100	98	101	100	101	0.7	0.1
			WB	C	C	14.4	20.5	21.1	14.7	17.2	21.8	20.8	15.7	381	511	522	370	306	386	413	307	1207	1651	1652	1536	993	1182	1175	1103	1224	1660	1641	1537	1001	1180	1177	1101	99	99	101	100	99	100	100	100	0.2	0.1
			NB	D	D	40.5	38.0	39.9	39.3	40.0	42.7	43.7	39.9	130	172	161	139	171	222	209	169	167	228	226	213	231	269	268	251	169	230	228	213	229	270	269	252	99	99	99	100	101	99	99	100	0.2	0.1
			SB	C	C	29.0	31.0	31.1	29.8	25.6	26.4	26.1	25.0	132	176	196	167	168	220	205	179	194	267	270	250	260	308	309	288	199	270	267	250	263	310	309	289	98	99	101	100	99	99	100	100	0.1	0.2
			IN	**C**	**C**	**17.4**	**22.2**	**22.8**	**18.0**	**18.4**	**22.0**	**22.0**	**17.8**																																		
5349	2600 S @ US-89	S	EB	D	D	37.5	45.3	45.4	38.1	45.3	52.5	51.9	43.0	305	395	467	305	462	663	632	495	633	885	900	833	1102	1329	1319	1242	663	900	889	833	1119	1320	1317	1232	95	98	101	100	98	101	100	101	0.6	0.1
			WB	D	E	41.2	52.3	54.1	43.5	50.5	53.9	55.8	50.3	443	669	658	451	368	434	472	341	790	1079	1081	1008	669	792	807	749	803	1090	1078	1009	679	800	798	747	98	99	100	100	99	99	101	100	0.3	0.1
			NB	D	D	27.2	51.0	51.3	28.1	29.5	39.0	39.0	30.3	240	588	798	242	263	361	367	256	480	646	659	609	835	989	986	924	487	660	652	611	839	990	988	924	99	98	101	100	99	100	100	100	0.3	0.1
			SB	C	C	22.1	32.7	32.5	23.8	27.8	33.5	33.8	27.1	161	341	291	176	234	310	309	224	588	807	802	751	850	1010	1009	944	597	810	801	750	856	1010	1007	943	98	100	100	100	99	100	100	100	0.2	0.0
			IN	**D**	**D**	**33.1**	**45.6**	**46.4**	**34.6**	**38.2**	**44.9**	**45.2**	**37.5**																																		
5350	500 S @ I-15 DDI	S	EB	C	C	34.4	33.8	33.1	34.5	34.4	34.1	34.3	34.3	156	199	185	168	218	258	250	236	561	766	753	708	823	989	982	924	568	770	761	713	839	990	987	924	99	100	99	99	98	100	99	100	0.4	0.4
			WB	C	C	14.1	26.1	25.3	15.7	17.6	20.7	20.9	17.9	467	829	808	476	434	553	555	424	1418	1933	1949	1810	1571	1868	1846	1738	1437	1950	1928	1805	1586	1870	1865	1745	99	99	101	100	99	100	99	100	0.1	0.5
			NB	B	C	8.1	10.9	10.8	8.6	16.4	24.2	25.0	16.1	89	113	125	93	391	582	707	429	212	288	289	269	769	908	905	850	214	290	287	269	771	910	908	849	99	99	101	100	100	100	100	100	0.0	0.1
			SB	B	C	18.5	18.9	19.7	18.8	20.8	23.1	21.9	21.3	179	283	277	202	202	318	289	233	472	647	644	602	482	567	570	532	479	650	643	602	484	570	569	532	99	100	100	100	100	100	100	100	0.2	0.1
			IN	**C**	**C**	**18.9**	**24.6**	**24.2**	**19.9**	**21.1**	**24.6**	**24.8**	**21.3**																																		
5352	Parrish Ln @ I-15 SB Ramps	S	EB	C	C	30.9	31.7	31.4	30.9	32.1	32.1	30.9	31.8	157	184	191	158	284	322	308	270	292	412	418	385	663	803	787	742	302	410	405	379	670	790	788	737	97	101	103	101	99	102	100	101	0.3	0.2
			WB	B	C	15.2	17.3	17.0	16.0	29.7	33.4	33.7	29.0	187	236	238	198	206	233	252	213	887	1208	1216	1128	762	900	909	855	900	1220	1206	1129	780	920	918	859	99	99	101	100	98	98	99	100	0.2	0.9
			SB	D	D	31.8	38.6	40.3	33.6	34.5	36.7	35.8	34.0	189	243	245	194	206	241	243	209	495	675	669	629	571	680	677	635	501	680	672	629	577	680	678	635	99	99	100	100	99	100	100	100	0.3	0.1
			IN	**C**	**C**	**22.9**	**26.2**	**26.5**	**23.8**	**31.9**	**33.9**	**33.4**	**31.3**																																		
5353	Parrish Ln @ I-15 NB Ramps	S	EB	A	A	5.2	8.2	8.7	5.9	4.4	7.8	6.3	4.0	87	207	225	85	103	228	185	100	549	755	762	707	945	1128	1111	1045	560	761	751	704	949	1120	1118	1045	98	99	101	100	100	101	99	100	0.0	0.0
			WB	A	B	3.4	5.9	5.9	3.8	6.1	10.6	10.6	6.0	111	189	192	128	300	320	322	303	1081	1468	1492	1376	1215	1450	1441	1356	1098	1490	1473	1379	1237	1460	1456	1362	98	99	101	100	98	99	99	100	0.3	0.7
			NB	D	D	38.6	38.7	38.9	38.3	44.6	45.2	44.2	45.0	139	176	173	136	181	181	197	164	448	616	610	572	1026	1214	1213	1140	457	620	613	574	1035	1220	1217	1139	98	99	100	100	99	100	100	100	0.4	0.3
			IN	**A**	**B**	**6.5**	**8.9**	**9.1**	**6.8**	**7.8**	**11.5**	**11.0**	**7.7**																																		
5354	Parrish Ln @ Marketplace Dr	S	EB	B	C	7.5	11.2	10.6	7.9	17.1	27.2	24.4	15.8	110	195	167	120	325	340	341	274	743	1037	1041	971	1657	1977	1969	1846	766	1040	1028	963	1670	1970	1965	1839	97	100	101	101	99	100	100	100	0.1	0.1
			WB	B	C	8.4	11.4	11.4	8.9	19.2	23.0	23.3	19.2	158	218	221	174	266	338	345	282	714	972	968	903	885	1045	1045	983	722	980	969	907	899	1060	1057	989	99	99	100	100	98	99	99	99	0.3	0.7
			NB	C	C	27.5	26.8	26.3	27.7	25.8	27.4	26.3	26.4	124	174	156	134	224	299	248	214	184	250	251	231	462	549	544	511	185	250	247	232	467	550	549	513	100	100	101	100	99	100	99	100	0.1	0.3
			SB	C	C	24.7	24.0	25.2	26.5	32.5	31.8	32.1	32.0	68	88	89	73	112	118	119	97	132	178	177	166	210	247	249	232	132	180	178	167	212	250	250	234	100	99	100	99	99	99	100	99	0.2	0.2
			IN	**B**	**C**	**11.3**	**13.8**	**13.6**	**11.6**	**19.9**	**26.4**	**24.9**	**19.3**																																		
5355	Parrish Ln @ 400 W	S	EB	A	C	4.8	7.1	7.1	5.0	17.0	27.8	27.2	16.0	63	125	95	68	221	606	482	194	577	798	802	748	1304	1546	1554	1448	590	800	791	741	1314	1550	1546	1446	98	100	101	101	99	100	101	100	0.1	0.0
			WB	B	C	9.7	13.3	12.9	9.9	21.8	26.7	26.4	19.8	129	168	171	129	192	232	246	185	513	695	691	646	693	817	822	765	516	700	692	648	695	820	818	765	99	99	100	100	100	100	100	100	0.2	0.0
			NB	C	C	28.5	27.9	27.8	27.5	26.0	30.3	29.6	27.5	133	171	176	130	221	310	270	224	221	299	300	278	506	597	599	559	221	300	297	278	509	600	599	560	100	100	101	100	99	100	100	100	0.1	0.1
			SB	B	C	18.3	18.0	18.3	17.7	24.0	24.4	24.8	23.7	87	134	119	91	180	200	238	174	272	368	366	341	380	448	447	418	273	370	366	343	381	450	449	420	100	99	100	100	100	100	100	99	0.1	0.2
			IN	**B**	**C**	**12.0**	**13.8**	**13.8**	**11.8**	**20.7**	**27.6**	**27.2**	**20.0**																																		
5358	US-89 @ Eagle Ridge Dr	S	EB	A	C	0.0	0.0	0.0	0.0	34.3	32.5	32.3	32.1	0	0	99	95	44	59	49	43	0	0	0	0	20	20	20	18	0	0	0	0	18	20	20	19					115	101	99	96	#DIV/0!	0.2
			WB	C	C	25.7	25.1	25.2	25.5	25.2	26.2	26.6	25.8	232	354	618	371	141	162	165	138	597	815	809	759	485	568	564	531	604	820	811	759	484	570	569	532	99	99	100	100	100	100	99	100	0.2	0.2
			NB	A	A	6.4	8.5	8.0	7.2	7.5	9.1	9.1	7.0	107	126	221	174	235	332	322	224	388	532	537	500	1301	1564	1561	1468	398	540	534	500	1331	1570	1566	1465	98	98	101	100	98	100	100	100	0.3	0.5
			SB	A	B	7.6	9.6	9.0	8.2	12.3	12.9	13.1	10.9	95	131	281	198	115	129	134	104	487	678	667	627	598	716	710	668	501	680	672	629	611	720	718	672	97	100	99	100	98	99	99	99	0.5	0.6
			IN	**B**	**B**	**14.6**	**15.5**	**15.3**	**14.9**	**12.5**	**13.6**	**13.7**	**11.8**																																		
5359	Center St @ US-89	S	EB	C	C	26.3	23.0	24.1	24.7	23.6	22.6	22.3	23.8	170	191	214	200	150	172	158	148	210	301	295	278	269	313	312	291	229	310	306	287	272	320	319	299	92	97	97	97	99	98	98	97	1.4	0.7
			WB	C	C	26.2	26.8	26.8	26.6	22.7	23.6	23.8	22.2	135	194	201	160	130	132	140	112	167	229	224	213	165	200	199	186	170	230	228	213	170	200	200	187	99	100	99	100	98	100	99	100	0.2	0.2
			NB	B	B	12.8	18.6	17.6	14.9	10.5	12.0	12.6	10.7	102	129	172	150	249	281	263	218	195	271	282	259	664	810	828	768	207	280	277	259	687	810	808	756	94	97	102	100	97	100	103	102	0.5	0.2
			SB	B	B	8.4	11.2	10.9	8.9	10.3	12.1	11.8	10.4	105	143	269	195	93	112	111	106	365	498	494	462	399	467	467	438	369	500	495	463	399	470	469	439	99	100	100	100	100	99	100	100	0.1	0.1
			IN	**B**	**B**	**16.5**	**18.2**	**18.1**	**17.0**	**14.1**	**15.2**	**15.3**	**14.2**																																		
5362	500 S @ US-89	S	EB	C	C	15.4	20.8	20.3	17.2	25.1	32.4	31.3	24.4	186	241	239	206	364	468	478	359	654	939	926	867	1230	1485	1494	1399	686	930	919	861	1264	1490	1486	1390	95	101	101	101	97	100	101	101	0.2	0.3
			WB	C	D	18.8	28.5	27.6	20.6	32.8	39.6	38.4	31.5	313	453	429	322	399	541	520	379	719	996	974	916	942	1120	1115	1047	729	990	979	917	950	1120	1117	1045	99	101	99	100	99	100	100	100	0.2	0.1
			NB	C	D	25.1	25.0	25.3	23.0	42.4	49.2	48.0	42.7	214	266	248	180	379	459	463	355	431	582	586	545	971	1148	1145	1074	435	590	583	546	975	1150	1147	1073	99	99	101	100	100	100	100	100	0.2	0.1
			SB	C	E	23.2	22.7	22.8	22.3	43.1	54.5	55.5	42.7	138	182	168	149	360	489	496	343	466	636	627	591	873	1040	1036	972	472	640	633	592	882	1040	1038	971	99	99	99	100	99	100	100	100	0.3	0.1
			IN	**C**	**D**	**19.9**	**24.4**	**24.0**	**20.4**	**35.1**	**42.9**	**42.3**	**34.4**																																		
5363	400 N @ US-89	S	EB	C	D	24.4	25.4	25.3	24.4	29.3	34.6	35.5	29.2	148	181	179	156	353	447	453	355	393	540	542	503	903	1061	1071	1004	406	550	544	509	907	1070	1068	999	97	98	100	99	100	99	100	100	0.7	0.1
			WB	D	D	29.8	35.3	34.4	30.1	31.4	39.8	39.0	31.4	339	587	502	365	397	532	531	403	607	821	817	768	849	1008	1007	945	612	830	820	768	856	1010	1007	943	99	99	100	100	99	100	100	100	0.3	0.1
			NB	C	D	17.8	20.9	20.4	18.9	41.0	47.2	47.2	40.1	82	109	110	92	381	532	509	371	264	361	357	333	840	998	994	934	266	360	356	333	848	1000	998	933	99	100	100	100	99	100	100	100	0.0	0.2
			SB	B	D	15.7	19.0	19.6	16.4	41.6	47.9	48.8	41.0	207	276	281	217	268	343	430	272	664	925	911	854	711	851	858	798	678	920	910	852	721	850	848	793	98	101	100	100	99	100	101	101	0.1	0.2
			IN	**C**	**D**	**22.2**	**25.6**	**25.5**	**22.7**	**35.5**	**42.1**	**42.3**	**35.1**																																		
5389	Parrish Ln @ 1250 W	S	EB	B	B	9.4	11.7	12.8	9.9	14.3	16.2	16.4	14.4	64	74	72	64	97	122	111	102	291	396	395	369	419	492	498	463	295	400	396	370	424	500	499	467	99	99	100	100	99	98	100	99	0.3	0.4
			WB	B	B	8.3	10.2	10.8	9.1	13.8	16.7	17.3	14.3	119	187	189	144	163	199	216	182	489	672	669	622	427	515	515	485	494	670	662	620	441	520	519	485	99	100	101	100	97	99	99	100	0.1	0.5
			NB	B	C	13.2	15.0	15.1	14.0	15.4	19.6	21.4	16.0	111	115	121	110	176	224	264	177	254	348	347	324	485	568	567	531	258	350	346	324	483	570	569	532	99	100	100	100	100	100	100	100	0.1	0.1
			SB	B	C	16.7	19.1	19.5	16.3	19.6	24.8	24.8	18.0	94	116	101	94	167	210	209	146	106	149	147	138	303	359	358	335	111	150	149	139	305	360	359	336	95	100	99	99	99	100	100	100	0.4	0.2
			IN	**B**	**B**	**10.5**	**12.5**	**13.1**	**11.1**	**15.5**	**19.0**	**19.7**	**15.5**																																		
5853	W State St @ 650 W	S	EB	A	B	7.4	8.7	8.3	7.3	9.8	12.3	11.8	9.1	133	165	161	123	246	382	382	203	426	582	571	536	674	800	800	748	428	580	574	537	679	800	798	746	100	100	100	100	99	100	100	100	0.1	0.0
			WB	B	B	9.8	11.5	10.9	10.2	12.7	14.6	14.3	12.0	107	170	139	118	190	306	290	218	316	433	436	404	607	726	730	680	317	430	426	398	619	730	728	681	100	101	102	101	98	99	100	100	0.5	0.3
			NB	B	B	9.0	10.5	10.5	9.9	15.2	16.9	17.9	14.9	65	85	80	67	107	116	128	102	174	238	240	222	231	268	269	251	177	240	237	222	229	270	270	252	98	99	101	100	101	99	100	100	0.1	0.1
			SB	B	B	16.0	18.1	16.3	14.1	15.6	17.7	18.1	17.2	24	43	24	24	40	42	42	39	29	40	40	36	42	48	47	45	30	40	40	37	43	50	50	47	98	100	99	97	98	95	95	97	0.2	0.5
			IN	**B**	**B**	**8.8**	**10.3**	**9.8**	**9.0**	**11.9**	**14.0**	**13.8**	**11.3**																																		
5857	W Glovers Ln @ 650 W	S	EB	B	B	10.0	12.3	12.3	11.0	9.2	10.8	10.9	9.7	104	176	175	125	72	101	103	80	328	447	446	415	165	200	199	186	332	450	445	417	170	200	200	187	99	99	100	100	97	100	100	100	0.2	0.2
			WB	B	B	8.9	10.6	11.6	8.8	8.9	10.8	10.5	9.0	81	112	112	81	139	182	174	131	152	210	204	196	327	378	379	354	154	210	208	194	322	380	379	355	99	100	98	101	102	100	100	100	0.1	0.1
			NB	B	B	14.3	18.2	17.3	15.5	14.7	17.1	15.4	14.9	26	42	41	36	43	44	42	42	34	48	48	45	42	48	48	45	37	50	50	46	42	50	50	47	91	97	96	98	99	97	95	97	0.6	0.4
			SB	B	B	16.4	19.8	19.6	16.7	15.4	16.9	15.8	15.6	86	108	107	87	69	87	91	71	115	158	157	147	115	140	140	131	118	160	159	148	119	140	140	131	98	99	99	99	97	100	100	100	0.3	0.2
			IN	**B**	**B**	**11.1**	**13.6**	**13.8**	**11.7**	**10.5**	**12.4**	**11.9**	**10.8**																																		

I-15 EIS; Farmington to Salt Lake City
Vissim Intersection Analysis Results
Existing (2019)

Int #	Intersection Name	Control	Approach	Worst Case LOS AM	Worst Case LOS PM	Delay (Sec) 6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00
7068	900 W @ 1000 N	S	EB	B	C	12.6	17.9	17.2	12.7	17.9	20.0	20.2	16.4
			NB	B	C	13.7	20.0	19.5	14.7	18.4	32.5	30.2	17.0
			SB	A	A	6.1	7.4	6.9	6.3	6.5	6.8	7.2	6.3
			IN	**B**	**C**	**12.1**	**17.2**	**16.6**	**12.5**	**15.3**	**22.2**	**21.4**	**14.3**
7122	600 N @ 300 W	S	EB	C	B	16.3	21.4	22.7	17.9	14.3	15.5	15.5	14.6
			WB	C	C	28.1	26.4	28.2	28.0	29.5	28.7	29.5	29.6
			NB	C	F	18.1	30.2	31.8	18.4	19.6	56.8	92.2	35.3
			SB	C	C	18.3	25.0	24.9	19.6	22.9	26.1	25.0	21.9
			IN	**C**	**E**	**18.6**	**24.8**	**25.7**	**19.6**	**19.9**	**39.2**	**56.9**	**28.2**
7372	600 N @ 400 W	S	EB	C	B	15.2	22.8	21.9	16.4	15.8	18.4	17.6	15.4
			WB	C	C	16.0	21.4	20.0	17.6	17.8	19.8	21.2	18.2
			NB	D	D	30.3	34.8	36.1	31.4	47.9	54.5	51.2	43.6
			SB	B	D	15.2	19.9	19.2	15.5	23.0	36.6	49.9	29.7
			IN	**C**	**C**	**17.1**	**23.7**	**23.0**	**18.3**	**23.6**	**28.1**	**29.6**	**23.6**
7501	Beck St @ N Chicago St	S	EB	D	D	34.2	37.6	38.0	34.0	31.9	34.2	34.8	36.6
			NB	B	A	10.1	13.5	13.5	10.6	5.8	6.5	6.9	5.4
			SB	B	A	9.4	13.1	13.6	10.5	5.9	6.1	6.3	5.6
			IN	**B**	**A**	**10.9**	**14.5**	**15.0**	**11.8**	**7.1**	**7.7**	**8.0**	**6.7**
7619	600 N @ I-15 SPUI	S	EB	D	D	33.6	40.5	40.5	36.0	40.8	45.6	46.4	42.7
			WB	C	C	25.6	29.9	30.5	26.6	29.0	34.5	33.9	28.9
			NB	C	D	28.4	32.1	32.9	29.3	34.5	37.8	37.5	34.0
			SB	C	C	27.1	32.0	31.7	28.7	24.0	27.0	25.9	24.5
			IN	**C**	**D**	**28.0**	**32.8**	**33.1**	**29.4**	**30.8**	**35.2**	**34.8**	**30.9**

Int #	Approach	95th Percentile Queue (Feet) 6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	Volume Served 6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00
7068	EB	264	487	521	331	185	228	243	175	545	746	740	693	398	467	468	438
	NB	156	252	520	283	262	556	484	244	349	477	473	443	520	617	618	580
	SB	57	81	84	80	82	106	104	102	109	145	146	136	272	320	322	299
	IN																
7122	EB	372	576	755	672	174	222	212	195	784	1076	1080	1009	483	612	580	556
	WB	208	254	396	303	193	221	247	196	228	308	310	288	219	260	257	242
	NB	200	370	1441	1618	543	991	1321	854	394	532	535	498	1022	1200	1189	1129
	SB	190	236	242	211	159	184	169	168	630	857	850	795	276	328	328	307
	IN																
7372	EB	472	765	1829	1824	242	272	258	212	1261	1719	1725	1613	803	975	953	900
	WB	193	260	333	303	321	381	414	337	468	644	649	601	856	1016	1015	964
	NB	135	164	246	200	349	458	380	241	240	325	327	304	470	560	552	522
	SB	97	147	130	114	230	314	485	346	116	158	157	146	328	387	386	362
	IN																
7501	EB	62	89	118	87	38	63	46	39	51	71	72	67	25	31	27	28
	NB	90	117	165	133	177	206	216	170	388	527	523	490	1254	1469	1481	1381
	SB	251	368	480	318	91	107	102	83	1437	1985	1989	1856	378	453	458	426
	IN																
7619	EB	137	256	496	336	107	119	127	102	736	1009	1005	942	507	591	606	560
	WB	216	266	372	311	310	405	393	333	756	1033	1047	970	1530	1845	1812	1731
	NB	139	175	1626	666	287	321	325	258	825	1126	1119	1046	932	1097	1098	1026
	SB	200	282	360	269	153	181	179	156	442	601	602	562	376	449	451	419
	IN																

Int #	Approach	Volume Demand 6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	Percent Served 6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	GEH AM	GEH PM
7068	EB	553	750	742	695	398	470	469	439	99	99	100	100	100	99	100	100	0.3	0.1
	NB	354	480	475	444	525	620	619	579	99	99	100	100	99	100	100	100	0.2	0.1
	SB	111	150	148	139	272	320	319	299	98	97	99	98	100	100	101	100	0.5	0.1
	IN																		
7122	EB	803	1090	1078	1009	500	590	589	551	98	99	100	100	97	104	99	101	0.5	0.0
	WB	229	310	307	287	221	260	260	243	100	99	101	100	99	100	99	100	0.0	0.1
	NB	398	540	534	500	1026	1210	1207	1129	99	99	100	100	100	99	99	100	0.3	0.5
	SB	634	860	850	796	280	330	329	308	99	100	100	100	99	99	100	100	0.1	0.2
	IN																		
7372	EB	1290	1750	1730	1620	814	960	958	896	98	98	100	100	99	102	100	100	0.9	0.1
	WB	479	650	643	602	874	1030	1027	961	98	99	101	100	98	99	99	100	0.2	0.7
	NB	243	330	327	306	475	560	559	523	98	98	100	99	99	100	99	100	0.3	0.3
	SB	118	160	159	148	331	390	389	364	99	98	99	99	99	99	99	99	0.3	0.3
	IN																		
7501	EB	52	70	70	65	26	30	30	28	97	102	103	103	95	103	89	100	0.2	0.4
	NB	391	530	525	491	1255	1480	1476	1381	99	100	100	100	100	99	100	100	0.2	0.1
	SB	1474	2000	1977	1851	391	460	459	429	97	99	101	100	97	98	100	99	0.4	0.6
	IN																		
7619	EB	752	1020	1009	944	509	600	598	560	98	99	100	100	100	99	101	100	0.5	0.1
	WB	774	1050	1038	972	1568	1850	1845	1726	98	98	101	100	98	100	98	100	0.4	0.8
	NB	833	1130	1117	1046	932	1100	1097	1027	99	100	100	100	100	100	100	100	0.2	0.0
	SB	450	610	603	565	382	450	449	420	98	99	100	100	99	100	100	100	0.4	0.1
	IN																		

Appendix H VISSIM Intersection Analysis Results, 2050 No-Action

I-15 EIS; Farmington to Salt Lake City
Vissim Intersection Analysis Results
2050 No-Action

				Worst Case LOS		Delay (Sec)								95th Percentile Queue (Feet)							
Int #	Intersection Name	Control	Approach	AM	PM	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00
108	W State St @ 400 W	S	EB	B	F	8.8	16.6	15.6	9.3	27.2	69.8	91.8	42.8	196	426	470	210	690	1601	1689	1519
			WB	B	F	8.1	10.2	10.6	8.8	23.0	74.6	97.3	46.0	0	0	0	0	67	209	415	186
			SB	B	C	12.6	13.4	13.9	12.4	21.2	29.7	28.8	24.2	40	56	58	40	196	659	660	658
			IN	**B**	**E**	**9.0**	**13.8**	**13.5**	**9.5**	**24.0**	**62.1**	**78.9**	**40.2**								
109	Frontage Rd @ 200 W SB	U	WB	B	D	11.1	13.8	13.2	11.3	18.8	27.4	28.4	18.8	51	73	59	54	178	180	180	179
			SB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
			IN	**B**	**D**	**11.1**	**13.8**	**13.2**	**11.3**	**18.8**	**27.4**	**28.4**	**18.8**								
110	(EB) Frontage Rd @ 200 W NB	U	EB	A	A	6.9	7.4	7.4	6.8	6.9	6.9	6.9	6.8	43	62	59	43	38	40	40	40
			WB	B	F	9.2	10.7	10.8	9.4	22.9	81.3	120.7	53.9	86	110	115	91	315	520	523	520
			NB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
			IN	**B**	**F**	**9.2**	**10.7**	**10.8**	**9.4**	**22.9**	**81.3**	**120.7**	**53.9**								
111	W Glovers Ln @ Farmington Hig	U	EB	-	-	-	-	-	-	-	-	-	-	59	111	111	65	0	0	0	0
			WB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
			SB	A	A	8.7	9.9	9.6	8.7	8.6	9.8	8.9	8.3	51	62	59	53	51	55	52	49
			IN	**A**	**A**	**8.7**	**9.9**	**9.6**	**8.7**	**8.6**	**9.8**	**8.9**	**8.3**								
112	W Glovers Ln @ Frontage Rd	S	EB	B	D	10.2	13.3	13.2	10.4	29.3	49.6	51.6	27.9	84	107	114	94	229	596	528	276
			WB	B	C	8.3	10.1	9.4	8.9	21.3	28.3	31.5	19.7	99	254	224	110	1578	1579	1578	1579
			NB	B	D	11.6	13.4	13.4	12.3	22.6	39.0	35.1	21.7	63	76	80	62	1047	1053	1047	1047
			SB	A	C	7.2	8.1	7.7	7.5	14.0	21.6	24.0	13.8	63	94	86	76	96	126	125	99
			IN	**B**	**D**	**9.2**	**11.1**	**10.8**	**9.6**	**22.7**	**37.2**	**37.1**	**21.7**								
113	Parrish Ln @ SR-67 SB Ramps	U	WB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
			SB	C	C	13.7	23.4	23.1	14.4	13.3	15.1	15.9	12.8	121	218	220	118	117	142	146	105
			IN	**C**	**C**	**13.7**	**23.4**	**23.1**	**14.4**	**13.3**	**15.1**	**15.9**	**12.8**								
114	Parrish Ln @ SR-67 NB Ramps	U	EB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
			WB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
			NB	F	D	27.3	225.8	526.8	521.0	14.8	25.1	21.5	12.9	359	2030	2033	2032	159	284	222	158
			IN	**F**	**D**	**27.3**	**225.8**	**526.8**	**521.0**	**14.8**	**25.1**	**21.5**	**12.9**								
115	Parrish Ln @ (NB) 700 W	U	EB	-	-	-	-	-	-	-	-	-	-	95	136	144	107	369	374	373	373
			WB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	41	138	185	78
			NB	A	F	7.0	7.6	7.4	6.9	13.6	44.2	103.5	27.5	16	17	18	17	35	53	99	38
			SB	F	F	19.3	67.1	116.5	40.2	41.4	235.6	272.1	160.8	228	372	375	371	367	372	372	375
			IN	**F**	**F**	**19.3**	**67.1**	**116.5**	**40.2**	**41.4**	**235.6**	**272.1**	**160.8**								
201	400 N @ 800 W	S	EB	A	B	6.5	7.7	7.5	6.7	11.8	14.5	15.2	11.8	67	103	90	83	329	427	446	315
			WB	A	A	1.2	1.4	1.4	1.5	3.3	5.0	4.3	3.3	12	17	16	0	82	110	101	82
			NB	B	D	15.0	17.2	16.7	16.5	27.6	48.0	40.6	27.9	42	44	43	42	304	489	466	264
			SB	C	C	20.6	21.3	20.6	20.2	21.6	29.7	29.5	23.5	102	116	108	100	84	122	113	89
			IN	**A**	**C**	**8.8**	**9.5**	**9.2**	**8.8**	**14.3**	**21.8**	**20.2**	**14.5**								
202	400 N @ 660 W Access	U	EB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
			WB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
			SB	A	A	7.6	7.6	7.6	7.7	7.8	7.7	7.8	8.1	20	20	20	20	20	20	20	19
			NB	A	A	6.0	6.4	6.3	6.0	6.6	7.8	7.4	6.4	47	49	49	48	48	67	49	47
			IN	**A**	**A**	**7.6**	**7.6**	**7.6**	**7.7**	**7.8**	**7.8**	**7.8**	**8.1**								
204	400 N @ 660 W	U	EB	A	A	0.0	0.0	0.0	0.0	5.8	6.0	6.0	6.0	0	0	0	0	26	27	27	26
			NB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
			SB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
			IN	**A**	**A**	**0.0**	**0.0**	**0.0**	**0.0**	**5.8**	**6.0**	**6.0**	**6.0**								
205	400 N @ I-15 SB On Ramp	S	EB	B	C	8.8	12.6	12.5	9.9	16.2	24.8	29.7	17.9	174	244	242	196	338	859	589	322
			WB	B	F	7.0	11.5	11.7	8.0	12.2	17.4	19.8	85.0	341	492	485	372	460	642	675	474
			IN	**B**	**F**	**8.0**	**12.3**	**12.4**	**9.1**	**14.5**	**22.7**	**27.7**	**89.7**								
206	400 N @ I-15 NB Off Ramp	S	EB	B	C	8.8	12.6	12.5	9.9	16.2	24.8	29.7	17.9	174	244	242	196	338	859	589	322
			WB	B	F	7.0	11.5	11.7	8.0	12.2	17.4	19.8	85.0	341	492	485	372	460	642	675	474
			NB	C	F	20.4	22.9	23.3	22.8	26.9	54.8	81.1	37.6	82	113	112	83	1700	2439	2444	2449
			IN	**B**	**F**	**8.0**	**12.3**	**12.4**	**9.1**	**14.5**	**22.7**	**27.7**	**89.7**								
207	500 S @ 800 W	U	EB	-	-	-	-	-	-	-	-	-	-	0	24	0	0	108	2612	2638	2635
			WB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	63	84	86
			SB	A	F	6.9	7.4	7.5	7.0	7.9	18.3	219.4	26.8	42	76	55	40	77	1154	1179	1165
			IN	**A**	**F**	**6.9**	**7.4**	**7.5**	**7.0**	**7.9**	**18.3**	**219.4**	**26.8**								
208	500 S @ (NB) 700 W	U	EB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	442	869	869	869
			WB	-	-	-	-	-	-	-	-	-	-	88	135	179	88	220	416	413	441
			NB	A	F	6.4	7.7	7.6	6.6	17.4	316.0	466.1	294.7	68	84	79	65	252	1207	1204	1204
			SB	B	D	10.4	11.2	10.5	10.0	13.0	25.3	23.5	20.7	31	39	37	32	39	54	51	44
			IN	**B**	**F**	**10.4**	**11.2**	**10.5**	**10.0**	**17.4**	**316.0**	**466.1**	**294.7**								
209	2600 S @ 1100 W	S	EB	B	B	8.7	9.9	10.4	9.0	13.6	17.1	15.7	13.0	103	119	120	102	201	244	1480	1480
			WB	B	B	9.8	11.5	11.5	9.9	10.6	11.5	11.7	10.5	129	146	161	136	118	127	1919	2077
			NB	C	F	22.8	25.8	25.1	23.5	38.0	73.6	93.0	54.5	112	151	138	118	302	466	1008	1008
			SB	C	F	25.0	33.4	31.2	23.8	63.1	255.1	393.7	303.6	178	210	222	152	418	1039	1078	1060
			IN	**B**	**F**	**13.5**	**16.4**	**16.0**	**13.4**	**24.6**	**60.7**	**82.9**	**69.1**								
210	2600 S @ Overland Rd	U	EB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
			WB	-	-	-	-	-	-	-	-	-	-	77	126	116	78	44	93	62	386
			NB	A	B	7.3	9.1	9.8	7.9	9.4	10.5	11.7	9.5	78	78	80	78	39	44	61	37
			IN	**A**	**B**	**7.3**	**9.1**	**9.8**	**7.9**	**9.4**	**10.5**	**11.7**	**9.5**								
211	2600 S @ 400 E	U	EB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	118	314	316	295
			NB	A	F	7.8	8.1	8.6	7.9	12.0	37.1	67.9	57.7	23	24	24	24	56	89	147	110
			IN	**A**	**F**	**7.8**	**8.1**	**8.6**	**7.9**	**12.0**	**37.1**	**67.9**	**57.7**								
301	Center St @ I-15 SB Off Ramp SE	U	EB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
			WB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
			SB	F	C	23.5	98.4	379.9	230.1	13.6	17.7	18.4	14.0	313	1472	3133	2955	129	213	239	127
			IN	**F**	**C**	**23.5**	**98.4**	**379.9**	**230.1**	**13.6**	**17.7**	**18.4**	**14.0**								
302	Center St @ Main St	S	EB	B	B	8.6	12.2	11.8	9.3	12.3	14.9	15.9	11.8	147	215	216	172	312	402	469	297
			WB	B	C	9.1	13.5	12.0	10.3	15.7	21.8	25.6	14.9	139	230	184	168	142	191	212	131
			NB	D	D	33.1	38.0	38.2	36.0	37.0	41.8	40.1	35.7	208	296	308	241	301	370	340	262
			SB	C	C	21.0	19.3	19.9	21.3	20.0	21.6	22.0	23.2	87	117	108	108	88	111	131	104
			IN	**C**	**C**	**16.7**	**20.2**	**19.8**	**17.9**	**19.7**	**23.3**	**23.7**	**19.0**								
303	US-89 @ Main St	S	EB	D	D	38.3	36.3	37.0	37.9	37.1	39.5	38.4	34.2	196	226	239	180	328	414	395	275
			NB	A	A	3.2	4.5	4.4	3.2	3.0	3.8	3.1	2.2	112	175	161	113	134	219	165	78
			SB	A	B	4.3	5.1	4.8	4.5	8.7	10.5	10.6	8.5	122	182	156	127	132	149	175	134
			IN	**A**	**B**	**8.0**	**8.7**	**8.5**	**7.9**	**10.1**	**11.4**	**11.2**	**9.4**								
304	US-89 @ Eaglegate Dr	U	WB	A	B	8.5	8.9	8.9	8.2	8.9	14.2	10.9	8.0	63	66	65	62	63	66	64	58
			NB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	330	0	0
			SB	-	-	-	-	-	-	-	-	-	-	15	406	266	18	0	17	0	0
			IN	**A**	**B**	**8.5**	**8.9**	**8.9**	**8.2**	**8.9**	**14.2**	**10.9**	**8.0**								
309	Warm Springs @ I-15 NB Ramps	U	EB	E	C	16.3	35.4	38.0	17.4	12.8	16.5	16.3	13.4	203	446	452	216	141	192	195	155
			NB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
			SB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
			IN	**E**	**C**	**16.3**	**35.4**	**38.0**	**17.4**	**12.8**	**16.5**	**16.3**	**13.4**								
310	(NB) Warm Springs @ 1800 N	U	WB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
			NB	A	B	7.4	7.7	7.7	7.2	9.4	10.4	9.5	9.0	39	42	42	35	77	88	83	77
			SB	A	B	8.8	9.3	9.0	8.7	11.7	12.9	13.2	11.1	113	134	132	130	173	179	196	151
			IN	**A**	**B**	**8.8**	**9.3**	**9.0**	**8.7**	**11.7**	**12.9**	**13.2**	**11.1**								

		Volume Served								Volume Demand								Percent Served								GEH	
Int #	Approach	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	AM	PM
108	EB	508	690	681	638	626	732	740	696	501	680	672	630	627	740	738	691	101.5	101.5	101.3	101.3	99.8	98.9	100.3	100.8	0.7	0.0
	WB	375	506	510	472	716	836	823	804	369	500	494	463	729	860	859	803	101.7	101.1	103.2	102.1	98.2	97.2	95.9	100.1	0.9	1.3
	SB	131	179	177	166	423	498	495	466	133	180	178	167	424	500	499	467	98.3	99.4	99.4	99.6	99.9	99.7	99.3	99.9	0.2	0.1
	IN																										
109	WB	119	160	154	146	260	290	302	287	207	280	277	259	288	340	339	317	57.5	57.3	55.7	56.5	90.4	85.3	89.0	90.4	15.6	4.2
	SB	365	497	493	461	540	638	635	595	369	500	494	463	542	640	639	597	99.0	99.5	99.7	99.6	99.6	99.7	99.5	99.6	0.2	0.2
	IN																										
110	EB	108	150	148	138	69	81	80	75	111	150	149	139	68	80	80	75	97.4	100.2	99.9	99.2	102.4	100.7	100.0	100.5	0.2	0.1
	WB	215	287	289	269	429	489	494	475	214	290	287	268	433	510	509	476	100.5	98.9	100.8	100.2	99.2	95.9	97.1	99.8	0.0	0.9
	NB	0	0	0	0	0	0	0	0	443	600	593	555	543	640	638	597	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.2	69.5
	IN																										
111	EB	332	470	453	429	339	400	403	373	339	460	455	426	314	370	369	345	98.0	102.3	99.5	100.7	107.9	108.1	109.3	108.0	0.1	3.0
	WB	303	404	403	378	410	481	472	446	302	410	406	380	390	460	459	429	100.4	98.6	99.4	99.4	105.2	104.6	102.8	103.9	0.2	1.7
	SB	116	158	157	147	92	108	108	101	118	160	158	148	93	110	110	103	98.3	98.5	99.4	99.0	98.8	98.0	98.5	98.3	0.3	0.3
	IN																										
112	EB	167	229	224	211	322	388	391	364	170	230	227	213	322	380	379	355	98.1	99.4	98.8	98.9	99.9	102.2	103.0	102.5	0.3	0.7
	WB	148	196	196	183	196	228	226	214	148	200	198	185	195	230	229	215	100.3	98.2	99.1	98.8	100.2	99.0	98.7	99.6	0.3	0.2
	NB	124	169	165	155	557	658	657	615	126	170	168	157	560	660	659	616	99.1	99.8	98.3	98.9	99.5	99.7	99.8	99.9	0.2	0.1
	SB	169	229	225	213	200	241	239	224	170	230	228	213	203	240	240	224	99.5	99.6	99.0	100.1	98.3	100.2	99.6	100.1	0.1	0.1
	IN																										
113	WB	240	330	330	310	239	239	238	240	251	340	336	315	280	330	329	308	95.8	97.1	98.2	98.6	85.4	72.4	72.4	78.1	0.9	8.7
	SB	253	348	348	324	268	321	320	299	258	350	346	324	272	320	319	299	97.9	99.4	100.5	100.1	98.6	100.3	100.1	100.2	0.1	0.1
	IN																										
114	EB	253	348	348	324	261	311	310	289	0	0	0	0	0	0	0	0									50.5	48.4
	WB	240	330	329	310	239	239	238	240	0	0	0	0	0	0	0	0									49.2	43.7
	NB	379	461	464	466	338	399	397	372	391	530	524	491	339	400	399	373	96.9	87.0	88.5	94.9	99.7	99.9	99.4	99.7	3.9	0.1
	IN																										
115	EB	1075	1374	1386	1333	1819	1858	1882	1931	2108	2860	2827	2648	3747	4420	4410	4125	51.0	48.0	49.0	50.3	48.5	42.0	42.7	46.8	59.7	83.8
	WB	952	1296	1294	1205	1263	1505	1506	1414	965	1310	1295	1213	1289	1520	1516	1418	98.7	98.9	99.9	99.4	98.0	99.0	99.3	99.7	0.5	0.7
	NB	14	20	20	20	24	28	28	27	15	20	20	18	26	30	30	28	92.8	100.8	101.8	108.7	93.3	92.3	93.5	95.1	0.1	0.7
	SB	283	364	387	361	223	208	200	237	287	390	386	361	238	280	280	261	98.5	93.4	100.2	100.1	93.8	74.2	71.5	90.9	0.8	6.1
	IN																										
201	EB	197	268	269	214	691	819	777	596	199	270	267	214	696	820	818	658	98.8	99.2	100.9	100.0	99.4	99.9	95.0	90.5	0.1	2.0
	WB	246	337	333	317	416	443	421	413	251	340	336	315	424	500	499	467	98.0	99.0	99.0	100.6	98.1	88.7	84.5	88.4	0.3	4.6
	NB	51	69	68	63	370	439	418	392	52	70	70	65	373	440	439	411	99.1	99.0	96.7	96.2	99.2	99.8	95.3	95.5	0.4	1.1
	SB	168	228	225	213	187	218	210	196	170	230	228	213	186	220	220	205	99.4	99.3	98.9	100.1	100.5	99.2	95.6	95.6	0.2	0.7
	IN																										
202	EB	285	387	387	362	572	672	639	598	288	390	386	361	568	670	669	625	98.9	99.3	100.2	100.3	100.8	100.3	95.5	95.6	0.1	1.0
	WB	281	386	385	364	450	488	463	456	288	390	386	361	467	550	549	513	97.9	98.9	99.7	100.7	96.4	88.6	84.5	88.8	0.2	5.0
	SB	14	20	20	20	20	20	19	17	15	20	20	18	17	20	20	19	93.3	101.3	101.3	108.6	119.4	100.0	94.5	92.0	0.1	0.1
	NB	80	108	107	101	97	120	115	107	88	120	119	111	102	120	120	112	90.2	90.3	89.8	90.8	95.1	99.8	95.7	95.6	2.1	0.7
	IN																										
204	EB	0	0	0	0	31	40	40	36	0	0	0	0	34	40	40	37					90.9	100.3	99.9	96.8	#DIV/0!	0.3
	NB	33	46	52	47	39	46	45	43	37	50	50	46	43	50	50	47	88.4	91.8	104.2	100.9	92.0	92.2	90.1	91.4	0.4	1.2
	SB	96	130	126	119	67	80	80	73	96	130	129	120	68	80	80	75	99.8	100.1	98.1	99.2	98.7	99.8	100.1	97.0	0.2	0.2
	IN																										
205	EB	517	706	708	664	1134	1353	1291	1209	538	729	722	676	1144	1350	1346	1260	96.2	96.9	98.1	98.3	99.1	100.2	95.9	95.9	1.3	1.6
	WB	776	1051	1063	992	946	1002	985	957	789	1070	1058	990	992	1170	1167	1092	98.4	98.2	100.5	100.2	95.4	85.7	84.4	87.6	0.4	8.2
	IN																										
206	EB	517	706	708	664	1134	1353	1291	1209	538	729	722	676	1144	1350	1346	1260	96.2	96.9	98.1	98.3	99.1	100.2	95.9	95.9	1.3	1.6
	WB	776	1051	1063	992	946	1002	985	957	789	1070	1058	990	992	1170	1167	1092	98.4	98.2	100.5	100.2	95.4	85.7	84.4	87.6	0.4	8.2
	NB	406	547	542	508	859	990	981	910	405	550	544	509	865	1020	1018	952	100.2	99.6	99.7	99.9	99.4	97.1	96.5	95.6	0.1	1.8
	IN																										
207	EB	425	580	570	536	1181	1391	1399	1306	428	580	574	537	1187	1400	1396	1307	99.3	100.0	99.3	99.8	99.5	99.3	100.2	100.0	0.2	0.2
	WB	736	998	1015	945	624	664	670	676	752	1020	1008	944	653	770	768	719	97.8	97.9	100.7	100.1	95.7	86.2	87.2	94.0	0.5	5.2
	SB	63	90	89	83	115	139	137	131	66	90	89	83	119	140	140	131	95.3	99.6	99.6	99.6	97.1	99.2	97.8	100.2	0.2	0.3
	IN																										
208	EB	421	577	569	537	992	1154	1210	1118	427	580	574	537	1009	1190	1187	1111	98.5	99.4	99.1	99.9	98.3	96.9	101.9	100.7	0.3	0.3
	WB	949	1296	1320	1223	832	881	901	896	973	1320	1305	1222	865	1020	1018	952	97.6	98.2	101.2	100.1	96.2	86.4	88.5	94.1	0.4	5.7
	NB	219	300	299	279	401	375	349	410	221	300	297	278	416	490	489	457	99.3	100.1	100.8	100.3	96.6	76.6	71.5	89.7	0.1	7.7
	SB	28	41	40	36	30	40	40	37	30	40	40	37	34	40	40	37	95.6	101.9	100.1	97.2	88.2	100.7	99.0	99.4	0.1	0.4
	IN																										
209	EB	312	428	425	398	690	821	815	766	317	430	425	398	695	820	818	765	98.5	99.7	100.0	100.1	99.4	100.1	99.6	100.1	0.1	0.1
	WB	371	479	496	468	342	390	375	371	376	510	504	472	348	410	409	383	98.5	93.9	98.4	99.3	98.3	95.2	91.7	97.0	1.1	1.8
	NB	106	150	145	137	252	296	300	281	111	150	148	139	255	300	299	280	95.2	100.3	98.5	99.2	98.9	98.8	100.3	100.5	0.4	0.1
	SB	160	218	218	203	237	267	274	271	162	220	217	203	246	290	289	271	99.0	99.0	100.4	100.0	96.5	91.9	94.8	100.3	0.1	1.4
	IN																										
210	EB	331	457	454	425	694	809	818	775	339	460	455	426	704	830	828	775	97.6	99.4	99.9	99.8	98.6	97.5	98.7	100.1	0.3	0.7
	WB	607	786	804	762	444	501	490	482	612	830	821	768	449	530	529	495	99.2	94.7	98.0	99.2	98.9	94.5	92.6	97.5	1.3	1.9
	NB	20	28	31	27	36	40	37	36	22	30	30	28	34	40	40	37	91.7	92.7	103.0	97.4	105.9	99.4	93.9	97.8	0.4	0.1
	IN																										
211	EB	871	1227	1217	1138	1616	1717	1651	1704	907	1230	1216	1139	1645	1940	1935	1811	96.1	99.7	100.1	100.0	98.2	88.5	85.3	94.1	0.6	7.7
	NB	8	8	8	8	59	68	67	63	7	10	10	9	60	70	70	66	110.7	80.0	80.0	84.6	98.5	96.7	96.4	96.8	0.8	0.5
	IN																										
301	EB	246	337	337	314	569	668	666	623	251	340	336	315	568	670	668	625	98.2	99.1	100.1	99.7	100.1	99.7	99.7	99.7	0.2	0.1
	WB	345	491	484	455	299	350	330	317	362	490	485	454	297	350	349	327	95.5	100.2	100.0	100.4	100.7	100.1	94.6	97.1	0.3	0.7
	SB	383	486	503	491	318	379	396	366	390	530	524	491	322	380	379	355	98.3	91.7	96.0	100.0	98.8	99.7	104.5	103.1	1.7	0.6
	IN																										
302	EB	329	449	453	425	667	783	789	739	339	460	455	426	670	790	788	737	97.0	97.6	99.5	99.8	99.6	99.1	100.1	100.2	0.6	0.1
	WB	225	318	310	294	176	208	210	195	236	320	317	296	178	210	209	196	95.2	99.4	97.8	99.0	98.7	98.9	100.4	99.8	0.7	0.2
	NB	241	327	326	305	319	380	357	342	243	330	326	305	322	380	379	355	99.1	99.3	100.0	99.7	99.0	100.0	94.3	96.4	0.2	1.0
	SB	107	150	145	137	115	140	140	131	111	150	148	139	119	140	140	131	96.7	99.9	97.8	99.0	97.2	99.9	100.1	100.1	0.4	0.1
	IN																										
303	EB	182	251	249	232	336	400	396	372	184	250	247	231	339	400	399	373	98.8	100.4	100.7	100.1	99.0	100.0	99.3	99.7	0.0	0.2
	NB	638	881	892	834	1161	1387	1286	1234	663	900	890	833	1179	1390	1387	1297	96.2	97.9	100.3	100.2	98.5	99.8	92.7	95.2	0.7	2.6
	SB	669	914	916	853	589	700	693	654	678	920	910	852	594	700	698	653	98.7	99.3	100.8	100.2	99.2	100.0	99.3	100.1	0.1	0.2
	IN																										
304	WB	52	69	68	63	51	60	61	55	52	70	69	65	51	60	60	56	99.7	99.2	98.7	96.8	100.0	99.7	101.1	97.7	0.2	0.1
	NB	753	1031	1055	976	2018	2404	2165	2102	774	1050	1038	972	2043	2410	2404	2249	97.3	98.2	101.6	100.4	98.8	99.7	90.0	93.5	0.3	4.4
	SB	1484	2040	2050	1911	1183	1412	1345	1284	1518	2060	2037	1907	1204	1420	1417	1325	97.8	99.0	100.7	100.2	98.2	99.4	95.0	96.9	0.4	2.0
	IN																										
309	EB	320	433	440	408	261	307	299	283	324	440	435	407	263	310	309	289	98.7	98.4	101.2	100.2	99.2	99.0	96.8	98.0	0.1	0.6
	NB	38	46	45	43	52	60	51	51	37	50	50	46	51	60	60	56	101.7	92.5	90.2	91.8	101.8	99.3	84.3	91.2	0.9	0.9
	SB	14	20	20	20	259	308	300	284	15	20	20	19	263	310	309	289	95.2	100.0	100.0	106.4	98.7	99.3	97.1	98.0	0.1	0.6
	IN																										
310	WB	39	46	46	43	77	90	74	75	37	50	50	47	77	90	90	84	104.8	92.4	93.3	92.9	100.3	100.0	82.7	89.5	0.7	1.3
	NB	36	54	51	48	120	136	123	119	37	50	50	47	119	140	140	131	99.1	108.2	102.5	103.2	101.5	97.1	88.3	91.4	0.5	1.3
	SB	137	186	189	176	228	266	265	247	140	190	188	176	229	270	269	252	97.8	97.7	100.8	100.2	99.6	98.5	98.4	98.2	0.2	0.4
	IN																										

I-15 EIS; Farmington to Salt Lake City
Vissim Intersection Analysis Results
2050 No-Action

				Worst Case LOS		Delay (Sec)								95th Percentile Queue (Feet)								Volume Served								Volume Demand								Percent Served								GEH	
Int #	Intersection Name	Control	Approach	AM	PM	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	AM	PM
311	N Chicago St @ 1800 N	U	EB	A	A	7.1	7.3	7.3	6.9	8.1	9.0	8.8	8.1	78	80	79	78	86	100	99	83	102	144	142	134	206	236	223	213	104	140	138	130	204	240	240	224	98.3	102.7	103.1	103.4	101.1	98.3	93.0	94.9	0.5	1.0
			NB	A	A	0.3	0.5	0.5	0.8	0.6	1.1	0.8	0.9	0	0	0	0	0	0	0	0	22	28	28	26	31	40	40	37	22	30	30	28	34	40	40	37	98.4	94.1	93.8	93.4	90.5	99.3	100.3	98.9	0.6	0.3
			SB	A	A	0.3	0.3	0.2	0.1	0.5	0.6	0.5	0.3	0	0	0	0	0	0	0	0	37	49	49	45	77	94	74	76	37	50	50	47	77	90	90	84	99.9	98.6	97.9	97.1	100.3	104.6	81.8	90.5	0.2	1.1
			IN	**A**	**A**	**7.1**	**7.3**	**7.3**	**6.9**	**8.1**	**9.0**	**8.8**	**8.1**																																		
312	900 N @ Warm Springs Connect	U	WB	A	C	7.0	8.0	8.0	7.0	12.6	16.8	15.4	12.6	56	82	84	71	148	174	180	166	99	130	142	127	231	275	252	243	60	80	79	74	195	230	229	215	166.3	163.4	179.9	172.3	118.4	119.6	109.7	113.4	10.4	4.3
			NB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	178	235	240	223	274	288	317	298	177	240	237	222	288	340	339	317	100.7	97.6	101.0	100.1	95.1	84.8	93.4	93.9	0.1	3.1
			IN	**A**	**C**	**7.0**	**8.0**	**8.0**	**7.0**	**12.6**	**16.8**	**15.4**	**12.6**																																		
313	Warm Springs @ Warm Springs	U	EB	A	A	7.1	7.1	7.3	6.8	7.2	7.6	7.8	7.4	30	32	32	29	31	29	30	31	68	87	89	82	67	69	71	67	67	90	89	83	68	80	80	75	101.7	96.5	100.5	98.0	98.7	86.6	89.2	90.6	0.2	1.6
			NB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	21	49	41	0	41	60	60	56	151	179	149	149	45	60	60	56	152	180	180	168	91.7	100.1	101.3	101.0	99.5	99.4	82.6	88.5	0.2	2.1
			SB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	51	39	0	72	94	100	91	165	197	188	179	74	100	99	93	170	200	200	187	97.0	94.3	101.7	98.0	97.1	98.4	94.4	95.7	0.4	1.0
			IN	**A**	**A**	**7.1**	**7.1**	**7.3**	**6.8**	**7.2**	**7.6**	**7.8**	**7.4**																																		
314	900 N @ I-15	U	EB	B	C	9.5	11.1	10.6	9.5	15.8	23.5	10.3	8.9	102	120	113	104	246	318	104	77	167	230	226	214	363	428	180	250	170	230	228	213	365	430	429	402	98.7	100.0	99.0	100.3	99.6	99.5	42.0	62.3	0.1	10.7
			NB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	172	226	227	213	211	224	288	259	170	230	227	213	229	270	269	252	101.2	98.1	99.9	100.0	92.3	83.0	107.0	102.7	0.1	1.2
			SB	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	74	97	107	96	200	239	213	210	45	60	59	55	170	200	199	187	166.3	162.7	180.8	172.5	118.2	119.3	107.1	112.5	9.0	3.8
			IN	**B**	**C**	**9.5**	**11.1**	**10.6**	**9.5**	**15.8**	**23.5**	**10.3**	**8.9**																																		
315	600 N @ (NB) 8th W	U	EB	-	-	-	-	-	-	-	-	-	-	16	20	20	16	16	16	18	0	718	987	978	914	752	907	905	844	729	990	979	917	763	900	898	840	98.5	99.7	99.9	99.8	98.5	100.9	100.8	100.5	0.3	0.1
			WB	-	-	-	-	-	-	-	-	-	-	26	70	66	51	79	71	83	65	702	843	806	831	1352	1580	1471	1428	722	980	969	907	1357	1600	1596	1493	97.2	86.0	83.1	91.6	99.6	98.8	92.2	95.7	6.8	2.8
			NB	B	A	8.0	10.1	10.1	7.8	6.3	6.3	6.4	6.3	94	121	122	95	71	72	73	70	151	208	206	193	92	108	108	101	155	210	208	195	93	110	110	103	97.9	98.7	99.2	99.1	98.5	98.3	98.1	98.4	0.3	0.3
			SB	A	A	5.9	6.1	5.8	5.9	5.7	5.8	5.7	5.6	33	39	34	34	31	31	30	30	34	48	48	45	8	8	8	8	37	50	50	47	9	10	10	9	92.5	95.7	95.8	97.0	91.4	79.0	80.6	85.4	0.6	1.0
			IN	**B**	**A**	**8.0**	**10.1**	**10.1**	**7.8**	**6.3**	**6.3**	**6.4**	**6.3**																																		
1003	600 N @ 900 W	S	EB	B	C	12.3	16.4	16.0	13.3	20.5	25.6	24.8	19.2	162	232	219	155	207	261	274	212	568	774	773	615	716	851	846	686	575	780	771	616	720	850	849	682	98.8	99.3	100.3	99.9	99.4	100.1	99.6	100.7	0.2	0.0
			WB	B	C	10.3	13.1	13.2	11.2	19.0	29.2	24.2	17.7	142	173	173	155	413	695	515	374	628	760	732	750	1198	1401	1310	1271	649	880	870	814	1204	1420	1417	1325	96.9	86.4	84.1	92.1	99.5	98.7	92.5	95.9	6.2	2.6
			NB	B	C	14.6	16.1	15.9	14.8	21.5	24.4	22.8	20.5	74	109	106	74	173	232	206	168	238	328	325	305	428	509	506	473	243	330	326	305	432	510	509	476	98.1	99.6	99.7	99.7	98.9	99.7	99.5	99.5	0.2	0.2
			SB	B	C	17.3	18.9	19.6	17.1	21.2	24.4	23.2	21.0	109	140	133	97	129	155	136	116	238	326	325	304	336	398	397	372	243	330	327	306	339	400	399	373	98.0	98.8	99.4	99.6	99.0	99.6	99.6	99.7	0.3	0.2
			IN	**B**	**C**	**12.6**	**15.6**	**15.6**	**13.2**	**20.1**	**26.8**	**24.0**	**19.0**																																		
5201	Park Ln @ US-89 SB Ramps	S	EB	B	D	10.8	18.8	19.1	12.3	18.9	42.2	46.4	29.6	145	234	229	167	391	547	516	414	755	1017	1021	957	1620	1834	1807	1775	759	1030	1018	954	1644	1940	1935	1810	99.5	98.8	100.3	100.3	98.5	94.6	93.4	98.1	0.2	3.5
			WB	B	C	11.3	14.0	14.5	12.0	20.2	21.3	20.4	19.9	89	99	108	89	107	107	100	98	458	614	618	573	928	1090	1117	1036	457	620	613	574	941	1110	1107	1036	100.4	99.0	100.7	99.9	98.6	98.2	100.9	100.1	0.0	0.4
			SB	F	D	29.7	73.3	189.5	70.8	27.9	35.7	36.9	29.1	599	1844	1969	1809	313	607	694	337	910	1212	1227	1159	997	1199	1178	1112	921	1250	1236	1157	1009	1190	1187	1110	98.8	96.9	99.4	100.2	98.8	100.8	99.2	100.1	0.8	0.2
			IN	**F**	**D**	**20.1**	**43.7**	**97.2**	**41.0**	**22.0**	**34.5**	**36.2**	**27.0**																																		
5202	Park Ln @ US-89 NB Ramps	S	EB	A	B	9.3	8.6	8.0	8.9	9.1	10.8	11.3	9.5	134	159	138	139	236	302	296	255	672	895	898	847	1671	1899	1901	1844	678	920	910	852	1704	2010	2005	1876	99.1	97.4	98.7	99.4	98.1	94.5	94.8	98.3	0.8	3.2
			WB	B	C	15.8	16.5	16.8	16.1	23.1	29.1	30.3	22.9	113	137	124	124	197	247	247	201	324	434	440	406	743	885	900	833	324	440	435	407	755	890	888	830	99.9	98.8	101.3	99.8	98.5	99.4	101.5	100.3	0.0	0.0
			NB	D	D	46.7	45.1	45.5	45.2	42.8	43.8	43.0	43.0	125	149	135	126	239	299	289	241	182	252	248	231	575	699	681	645	185	250	247	231	585	690	688	644	98.4	100.9	100.5	99.9	98.4	101.4	98.9	100.2	0.0	0.1
			IN	**B**	**C**	**15.5**	**15.3**	**15.1**	**15.0**	**17.4**	**20.5**	**21.0**	**17.3**																																		
5203	Park Ln @ I-15 SB Ramps	S	EB	C	D	18.8	24.9	25.0	21.1	22.8	46.2	50.7	37.3	119	153	154	139	250	1157	1157	1162	956	1284	1281	1202	1746	2018	2056	1931	958	1300	1285	1204	1755	2070	2065	1932	99.8	98.8	99.7	99.9	99.5	97.5	99.6	100.0	0.3	0.8
			WB	B	A	11.6	12.3	12.8	12.0	5.6	5.5	5.6	6.0	207	254	274	215	161	170	171	168	937	1258	1288	1198	1455	1689	1713	1614	951	1290	1275	1194	1467	1730	1726	1615	98.6	97.5	101.0	100.3	99.2	97.6	99.2	100.0	0.4	0.8
			SB	D	F	37.5	36.6	35.9	37.1	62.9	146.0	162.9	160.2	275	323	340	268	1097	2611	2634	2605	662	929	907	851	948	1041	979	1010	678	920	910	852	992	1170	1167	1092	97.7	101.0	99.7	99.9	95.5	88.9	83.8	92.5	0.2	6.9
			IN	**C**	**E**	**21.2**	**23.4**	**23.2**	**21.8**	**26.0**	**53.6**	**57.9**	**57.1**																																		
5211	W State St @ 200 W	S	EB	C	C	12.6	21.0	19.1	12.4	16.2	24.6	26.1	17.5	178	273	257	178	313	552	581	484	447	614	599	563	679	793	798	755	450	610	603	565	679	800	798	747	99.5	100.7	99.4	99.8	100.0	99.2	100.0	101.1	0.1	0.0
			WB	B	F	13.7	17.1	16.9	13.5	14.9	41.7	82.7	33.2	145	584	441	135	731	1099	1107	1092	277	378	377	352	556	656	646	616	280	380	376	352	560	660	659	616	99.0	99.6	100.4	100.0	99.3	99.3	98.1	99.9	0.1	0.4
			NB	B	F	12.8	16.4	16.4	12.8	17.9	54.5	107.0	56.8	153	254	234	165	231	359	321	221	388	527	526	490	528	615	600	588	391	530	524	491	534	630	629	588	99.3	99.4	100.4	99.8	98.9	97.6	95.4	100.1	0.1	1.0
			SB	B	D	11.4	14.2	13.2	12.8	6.7	22.2	46.1	11.3	36	40	39	24	0	0	0	0	22	28	28	26	8	8	8	8	22	30	30	28	9	10	10	9	101.6	92.7	92.9	91.9	92.5	79.0	81.0	85.7	0.6	1.0
			IN	**B**	**E**	**12.9**	**18.4**	**17.6**	**12.8**	**16.3**	**38.8**	**66.2**	**34.9**																																		
5212	Park Ln @ I-15 NB Ramps	S	EB	A	C	8.5	7.9	8.0	8.2	13.5	22.4	24.3	19.2	155	197	184	183	468	515	507	509	991	1334	1331	1251	2025	2301	2304	2220	1084	1470	1454	1361	2136	2520	2514	2352	91.4	90.7	91.6	91.9	94.8	91.3	91.7	94.4	6.4	7.0
			WB	B	B	13.5	16.7	17.0	14.6	10.9	15.2	14.4	11.0	190	263	278	208	241	551	360	256	871	1160	1171	1101	1309	1537	1553	1456	752	1020	1008	944	1255	1480	1476	1381	115.9	113.7	116.1	116.6	104.4	103.8	105.2	105.4	9.1	3.5
			NB	D	F	46.2	46.4	45.6	44.0	63.4	165.7	279.2	189.8	237	286	301	215	471	1650	2153	2145	193	272	267	250	436	511	513	495	200	270	267	250	449	530	529	495	96.8	100.9	100.2	100.1	97.1	96.5	97.1	100.2	0.1	1.0
			IN	**B**	**D**	**13.5**	**14.7**	**14.8**	**13.6**	**16.8**	**32.2**	**42.8**	**31.8**																																		
5270	US-89 @ 1000 N	S	EB	D	E	31.8	35.8	41.7	32.8	43.3	45.0	49.5	58.5	40	42	43	42	45	58	58	43	22	28	28	26	24	28	27	27	22	30	30	28	26	30	30	28	97.5	94.5	94.5	93.7	90.3	94.3	91.3	95.2	0.5	0.8
			WB	C	F	26.8	28.2	30.6	27.2	46.3	58.8	187.4	231.7	119	151	155	127	221	432	1236	1234	147	195	198	183	220	254	249	239	147	200	198	185	221	260	260	243	100.3	97.3	100.1	99.1	99.5	97.5	96.0	98.4	0.2	0.7
			NB	B	A	8.8	10.9	11.9	9.6	5.3	6.9	7.2	6.1	122	155	157	128	161	198	196	185	422	582	579	542	1453	1537	1519	1481	435	590	583	546	1535	1810	1806	1689	97.2	98.6	99.2	99.3	94.6	84.9	84.1	87.7	0.6	10.6
			SB	E	F	8.0	19.8	71.1	20.2	9.5	17.4	93.8	163.8	319	1478	2644	2247	224	493	2636	2645	1198	1596	1588	1508	986	1157	1091	1061	1202	1630	1611	1509	992	1170	1167	1092	99.7	97.9	98.5	100.0	99.4	98.9	93.5	97.2	0.8	1.9
			IN	**D**	**F**	**10.0**	**18.5**	**53.0**	**18.5**	**10.6**	**15.7**	**54.6**	**103.1**																																		
53461	2600 S @ 800 W	S	EB	A	B	6.1	7.8	7.7	6.4	7.5	12.1	19.2	9.7	108	143	150	122	179	255	269	187	391	552	542	510	698	822	829	786	405	550	545	509	712	840	838	784	96.6	100.5	99.6	100.1	98.0	97.8	98.9	100.3	0.3	0.7
			WB	B	A	11.4	14.1	13.4	11.1	7.0	8.1	8.4	7.4	283	354	372	323	218	228	312	587	495	625	646	613	661	737	715	714	494	670	663	620	670	790	788	737	100.3	93.3	97.4	98.8	98.7	93.3	90.7	96.9	1.4	2.9
			SB	C	E	31.1	31.3	32.0	31.2	36.6	41.3	58.9	40.9	291	329	338	288	273	342	495	526	497	682	682	637	516	615	614	578	509	690	682	639	526	620	619	579	97.7	98.9	100.1	99.8	98.0	99.2	99.3	99.9	0.4	0.4
			IN	**B**	**C**	**17.0**	**18.5**	**18.6**	**16.9**	**15.4**	**19.0**	**26.9**	**17.2**																																		
53462	800 W @ I-15 SB Off Ramp	S	WB	B	B	9.5	11.0	10.9	10.1	12.2	13.0	17.9	12.6	134	148	166	129	144	142	168	3030	341	465	466	435	361	428	427	401	347	470	465	435	365	430	429	401	98.3	99.0	100.3	99.9	99.2	99.5	99.5	99.8	0.2	0.2
			NB	B	B	9.5	10.7	10.8	9.9	10.1	11.5	12.7	9.8	66	86	86	78	197	241	240	197	87	115	119	111	367	414	403	400	88	120	119	111	373	440	439	411	98.5	95.8	100.1	100.2	98.4	94.1	91.8	97.4	0.3	1.9
			SB	B	C	11.4	12.4	12.2	11.5	9.7	11.2	22.4	10.7	117	143	133	115	126	132	150	531	174	238	240	222	201	239	239	224	177	240	237	222	203	240	240	224	98.3	99.0	101.0	99.7	99.1	99.7	99.8	99.9	0.1	0.1
			IN	**B**	**B**	**10.1**	**11.3**	**11.2**	**10.5**	**10.8**	**12.0**	**16.9**	**11.1**																																		
5347	2600 S @ I-15 NB Ramps	S	EB	D	E	44.6	44.4	45.1	44.7	40.3	64.5	79.1	64.6	218	292	301	238	450	485	502	469	434	612	619	575	789	927	936	888	457	620	613	574	805	950	948	887	95.1	98.7	101.0	100.1	97.9	97.5	98.8	100.2	0.5	0.8
			WB	B	B	9.8	14.3	13.5	11.4	10.7	13.7	14.1	11.7	257	339	369	280	281	341	461	1757	1507	1967	1965	1907	1632	1894	1888	1812	1541	2090	2066	1935	1662	1960	1955	1829	97.8	94.1	95.1	98.5	98.2	96.6	96.6	99.0	3.3	2.1
			NB	C	F	20.8	23.1	23.5	21.0	20.6	193.3	339.7	272.0	157	228	213	169	382	4018	4049	4051	700	956	949	889	1288	1290	1197	1298	707	960	949	889	1297	1530	1526	1428	98.9	99.5	100.0	100.0	99.3	84.3	78.5	90.9	0.2	9.6
			IN	**C**	**F**	**18.4**	**21.9**	**21.7**	**19.2**	**20.5**	**81.3**	**125.2**	**117.2**																																		
5348	2600 S @ Wildcat Way	S	EB	B	E	16.0	19.2	18.7	19.0	20.9	67.0	76.4	69.2	200	340	289	259	424	467	468	465	768	1077	1082	1008	1620	1727	1674	1719	803	1090	1078	1009	1662	1960	1955	1829	95.6	98.8	100.5	99.9	97.5	88.1	85.6	94.0	0.7	7.9
			WB	C	C	16.1	22.7	23.7	18.6	23.6	30.5	28.9	27.8	413	550	546	464	383	481	492	927	1449	1875	1868	1823	1261	1451	1444	1391	1474	2000	1977	1851	1280	1510	1506	1409	98.3	93.7	94.5	98.4	98.5	96.1	95.8	98.7	3.4	2.1
			NB	D	F	40.5	37.9	39.8	39.0	67.7	162.7	195.4	116.1	129	172	161	139	509	533	535	533	167	228	226	213	305	345	360	346	169	230	228	213	313	370	369	345	98.8	99.3	99.2	100.2	97.5	93.2	97.7	100.3	0.2	1.1
			SB	C	C	29.5	31.2	31.7	30.3	24.9	32.1	30.7	28.4	132	177	187	166	221	300	327	1203	194	267	271	250	338	400	397	372	199	270	267	250	339	400	399	373	97.6	98.8	101.4	100.2	99.6	99.9	99.4	99.7	0.1	0.1
			IN	**C**	**E**	**18.6**	**23.3**	**23.8**	**20.8**	**26.3**	**58.1**	**64.3**	**55.5**																																		
5349	2600 S @ US-89	S	EB	D	F	43.7	49.9	49.1	49.2	64.3	126.5	131.9	127.3	348	428	444	372	835	1288	1290	1283	672	934	944	878	1355	1443	1415	1442	700	950	939	879	1408	1660	1656	1549	96.0	98.3	100.6	99.9	96.3	86.9	85.4	93.1	0.7	8.0
			WB	E	E	48.2	58.6	58.9	54.6	58.3	60.8	61.1	60.7	495	736	721	503	438	527	589	1480	818	1116	1102	1036	737	860	874	811	825	1120	1107	1037	737	870	868	812	99.2	99.7	99.5	99.9	100.0	98.9	100.7	99.9	0.3	0.1
			NB	F	F	39.1	190.9	618.1	577.0	47.6	189.3	341.0	285.3	370	1869	1989	1986	605	1966	2002	2001	511	632	592	631	1182	1286	1171	1274	531	720	712	667	1204	1420	1417	1325	96.4	87.8	83.2	94.6	98.2	90.6	82.6	96.1	5.3	6.3
			SB	F	D	33.5	130.3	294.8	198.3	35.7	46.6	45.6	35.8	611	1912	1957	1933	310	525	529	1908	978	1246	1274	1264	1121	1340	1340	1255	1002	1360	1345	1259	1136	1340	1337	1251	97.5	91.6	94.8	100.4	98.7	100.0	100.3	100.4	2.9	0.1
			IN	**F**	**F**	**40.8**	**100.1**	**208.4**	**192.9**	**51.6**	**108.9**	**140.0**	**137.0**																																		

I-15 EIS; Farmington to Salt Lake City
Vissim Intersection Analysis Results
2050 No-Action

				Worst Case LOS		Delay (Sec)								95th Percentile Queue (Feet)								Volume Served								Volume Demand								Percent Served								GEH	
Int #	Intersection Name	Control	Approach	AM	PM	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	6:00	7:00	8:00	9:00	15:00	16:00	17:00	18:00	AM	PM
5350	500 S @ I-15 DDI	S	EB	C	E	29.8	23.5	22.7	28.2	39.9	62.8	61.8	57.2	254	296	265	264	426	452	455	449	780	1054	1039	979	1820	2013	2074	2025	781	1061	1048	981	1883	2220	2215	2072	99.9	99.4	99.1	99.7	96.7	90.7	93.6	97.7	0.3	5.1
			WB	C	D	10.1	20.4	19.7	11.4	22.5	27.7	36.8	28.7	434	943	792	433	483	663	1057	1005	1565	2121	2176	1994	1613	1744	1740	1746	1585	2150	2125	1990	1670	1970	1965	1838	98.8	98.7	102.4	100.2	96.6	88.5	88.5	95.0	0.1	7.1
			NB	C	E	19.6	30.6	31.1	21.5	19.9	40.3	59.7	29.8	131	194	211	150	465	3981	3985	3984	514	706	700	656	734	863	864	813	523	710	702	657	737	870	868	812	98.3	99.5	99.7	99.8	99.6	99.2	99.6	100.1	0.3	0.2
			SB	C	F	24.7	29.5	29.5	25.4	32.2	260.2	347.2	309.8	235	328	352	244	730	3512	3523	3520	523	717	714	667	617	586	633	629	531	720	712	667	636	750	748	700	98.5	99.6	100.3	100.1	96.9	78.2	84.6	89.9	0.2	7.2
			IN	**C**	**F**	**19.0**	**24.9**	**24.4**	**19.7**	**29.4**	**74.5**	**95.7**	**84.0**																																		
5352	Parrish Ln @ I-15 SB Ramps	S	EB	C	F	29.8	32.9	34.4	30.6	36.6	122.6	264.9	209.1	222	262	283	240	393	1072	1470	1460	491	655	661	624	744	762	745	759	501	680	672	630	814	960	958	896	97.9	96.3	98.4	99.1	91.4	79.4	77.8	84.8	1.1	10.7
			WB	B	D	17.6	18.5	18.9	18.5	33.8	39.2	39.6	37.7	228	275	287	252	277	288	296	290	1032	1400	1413	1321	1071	1195	1188	1186	1054	1430	1414	1324	1110	1310	1307	1223	98.0	97.9	99.9	99.8	96.5	91.2	90.9	97.0	0.8	4.5
			SB	F	F	47.5	213.8	299.0	292.9	36.0	175.1	274.0	188.9	380	3436	3437	3438	238	2995	3436	3434	670	794	798	799	633	712	728	708	692	940	929	870	644	760	758	709	96.8	84.5	85.9	91.9	98.2	93.7	96.1	99.9	6.5	1.7
			IN	**F**	**F**	**29.5**	**76.3**	**100.3**	**109.1**	**35.2**	**99.1**	**165.0**	**130.6**																																
5353	Parrish Ln @ I-15 NB Ramps	S	EB	B	D	7.4	11.4	11.1	8.3	11.8	44.5	45.2	35.7	219	276	282	230	315	385	385	385	766	956	959	941	964	1021	1029	1027	796	1080	1068	1000	1026	1210	1207	1129	96.2	88.5	89.8	94.2	94.0	84.4	85.3	91.0	5.2	8.1
			WB	A	C	4.4	8.9	9.3	5.4	14.7	23.4	24.9	19.0	144	300	301	164	351	357	357	354	1224	1645	1675	1558	1464	1692	1683	1635	1246	1690	1671	1564	1509	1780	1776	1661	98.2	97.3	100.3	99.6	97.0	95.0	94.8	98.4	0.9	3.1
			NB	D	F	40.0	39.7	38.4	38.3	53.8	256.8	344.6	298.2	157	196	191	167	752	3882	3883	3883	552	754	752	703	1215	1192	1195	1269	560	760	752	704	1255	1480	1476	1381	98.5	99.3	100.1	100.0	96.8	80.5	81.0	91.9	0.3	10.0
			IN	**B**	**E**	**7.9**	**12.0**	**11.9**	**8.7**	**17.5**	**50.8**	**59.1**	**54.9**																																
5354	Parrish Ln @ Marketplace Dr	S	EB	B	E	8.2	12.0	11.7	8.9	30.7	63.0	65.8	49.5	143	203	197	151	342	344	344	344	981	1274	1281	1234	1764	1820	1847	1891	1017	1380	1365	1278	1865	2200	2194	2053	96.4	92.3	93.8	96.6	94.6	82.7	84.2	92.1	3.8	11.2
			WB	B	D	10.6	13.2	13.2	11.0	25.6	39.6	44.6	29.2	180	237	229	187	470	638	640	570	763	1039	1037	967	1109	1304	1326	1238	774	1050	1038	972	1128	1330	1327	1241	98.6	98.9	99.9	99.5	98.3	98.0	99.9	99.7	0.4	0.7
			NB	C	C	26.1	27.5	27.0	27.0	27.8	33.8	34.0	28.0	154	201	197	166	302	434	398	269	240	327	327	304	580	688	688	644	243	330	327	306	585	690	689	644	98.8	99.1	100.3	99.5	99.1	99.7	99.9	100.0	0.2	0.2
			SB	C	D	21.3	21.7	21.5	21.5	32.4	38.4	41.1	33.9	83	92	95	87	112	133	135	117	197	268	270	250	231	279	279	261	199	270	267	250	237	280	280	261	98.8	99.3	101.1	100.0	97.5	99.8	99.9	100.0	0.0	0.2
			IN	**B**	**D**	**12.2**	**15.1**	**14.9**	**12.6**	**28.9**	**49.0**	**52.0**	**39.9**																																
5355	Parrish Ln @ 400 W	S	EB	A	E	4.5	7.5	8.1	5.2	27.4	55.3	62.0	38.1	63	112	126	84	644	650	650	648	715	943	958	913	1309	1392	1407	1428	745	1010	999	935	1390	1640	1636	1530	96.0	93.4	95.9	97.7	94.1	84.9	86.0	93.3	2.6	8.6
			WB	B	D	10.8	15.0	15.6	11.0	29.7	36.1	38.3	29.9	141	199	190	143	307	362	407	305	555	751	756	702	886	1047	1050	979	561	760	751	703	890	1050	1047	980	99.0	98.8	100.7	99.8	99.5	99.8	100.3	100.0	0.2	0.1
			NB	C	E	26.9	26.9	27.2	25.9	27.4	43.1	63.7	38.7	131	176	180	136	244	748	823	794	241	327	327	304	554	657	649	617	243	330	327	306	560	660	658	616	99.0	98.9	100.1	99.6	98.9	99.6	98.6	100.1	0.2	0.3
			SB	B	C	18.6	19.2	18.8	18.8	23.7	27.5	28.2	24.5	107	130	120	97	186	328	322	232	286	389	385	361	453	539	532	503	288	390	385	361	458	540	539	504	99.4	99.8	100.0	99.9	99.0	99.8	98.8	99.8	0.1	0.3
			IN	**B**	**D**	**11.7**	**14.4**	**14.7**	**11.7**	**27.5**	**43.6**	**50.4**	**34.4**																																
5358	US-89 @ Eagle Ridge Dr	S	EB	F	C	42.0	87.3	99.4	46.7	21.9	22.4	25.2	19.8	185	261	250	208	117	124	46	36	124	165	168	156	76	88	21	41	125	170	168	157	77	90	90	84	98.8	97.1	100.1	99.0	98.3	97.8	22.9	48.6	0.3	6.9
			WB	D	C	26.9	35.5	35.5	27.2	29.1	31.1	30.7	28.4	406	790	774	416	208	267	237	167	782	1061	1062	991	599	708	709	662	789	1070	1058	990	603	710	709	663	99.2	99.2	100.4	100.1	99.5	99.7	100.1	99.9	0.2	0.1
			NB	B	C	13.5	17.4	17.1	14.9	12.9	25.4	14.8	8.2	230	324	324	240	467	897	550	318	749	1029	1056	977	1829	2178	1978	1915	774	1050	1038	972	1857	2190	2184	2043	96.8	98.1	101.7	100.5	98.5	99.5	90.6	93.7	0.4	4.2
			SB	B	B	14.6	18.4	17.9	16.1	10.1	12.9	9.9	6.8	278	393	382	307	169	207	180	138	838	1149	1155	1076	916	1092	1077	1018	855	1160	1147	1074	924	1090	1088	1017	98.0	99.1	100.8	100.2	99.1	100.2	99.0	100.1	0.3	0.3
			IN	**C**	**C**	**19.5**	**26.7**	**26.9**	**20.7**	**15.2**	**23.0**	**16.5**	**11.6**																																
5359	Center St @ US-89	S	EB	C	C	21.1	21.1	20.1	20.9	22.2	21.9	22.5	22.8	148	216	199	166	272	309	307	243	244	342	347	323	424	505	496	473	258	350	346	324	432	510	509	476	94.8	97.9	100.2	99.7	98.1	99.1	97.4	99.3	0.6	0.7
			WB	C	C	26.4	25.8	26.7	28.1	22.8	22.8	22.7	22.9	133	193	200	148	162	177	181	153	182	250	248	231	231	268	270	251	185	250	247	231	229	270	270	252	98.6	100.1	100.7	99.8	101.0	99.2	100.0	99.4	0.0	0.1
			NB	B	C	14.7	17.8	16.8	14.8	16.5	24.9	23.9	18.2	194	233	236	194	347	521	419	336	408	568	581	540	841	1012	956	910	427	580	574	537	865	1020	1017	952	95.6	98.0	101.2	100.6	97.2	99.2	93.9	95.7	0.4	2.2
			SB	B	B	11.7	17.0	16.4	11.6	16.7	19.5	19.2	15.6	194	294	277	196	185	218	218	179	728	988	977	915	692	819	818	766	730	990	978	916	695	820	818	765	99.7	99.8	99.9	99.9	99.5	99.8	100.0	100.2	0.1	0.1
			IN	**B**	**C**	**15.7**	**18.9**	**18.3**	**15.8**	**18.3**	**22.4**	**22.0**	**18.8**																																
5362	500 S @ US-89	S	EB	B	E	12.5	17.0	17.2	14.0	36.6	69.9	62.6	51.9	151	214	240	177	956	1440	1453	1439	649	931	919	857	1363	1545	1566	1519	678	920	909	852	1425	1680	1676	1568	95.7	101.3	101.0	100.6	95.6	92.0	93.5	96.9	0.1	4.5
			WB	C	F	22.3	31.4	29.9	23.6	61.0	221.4	257.9	249.4	340	505	460	355	751	1265	1647	651	827	1145	1123	1055	1205	1332	1326	1337	840	1140	1127	1055	1247	1470	1466	1372	98.4	100.5	99.6	100.0	96.6	90.6	90.5	97.5	0.2	4.8
			NB	D	F	27.7	42.8	49.3	27.2	103.0	211.7	213.5	212.5	231	540	585	212	1267	1285	1306	1294	482	644	657	609	1253	1267	1267	1269	486	660	652	611	1348	1590	1586	1484	99.2	97.5	100.7	99.7	93.0	79.7	79.9	85.5	0.4	12.8
			SB	C	F	23.7	28.3	27.6	23.7	65.2	170.2	214.6	210.5	239	357	306	251	1276	1300	1295	1305	951	1285	1285	1203	1147	1306	1270	1280	958	1300	1285	1203	1179	1390	1387	1297	99.3	98.8	100.0	100.0	97.3	94.0	91.6	98.6	0.3	3.5
			IN	**C**	**F**	**21.5**	**28.9**	**29.5**	**22.1**	**65.8**	**161.2**	**176.8**	**173.8**																																
5363	400 N @ US-89	S	EB	C	E	24.8	27.8	27.3	25.1	41.7	53.2	58.2	43.5	172	213	203	170	926	1207	1206	1041	516	694	692	652	1205	1410	1387	1290	523	710	702	657	1221	1440	1436	1344	98.5	97.8	98.6	99.3	98.7	97.9	96.6	96.0	0.7	2.0
			WB	D	F	31.2	43.2	43.2	32.1	98.5	417.6	488.7	655.0	361	586	582	410	638	1763	1788	1793	724	977	976	916	844	848	827	827	730	990	978	916	898	1060	1057	989	99.2	98.6	99.7	100.0	93.9	80.0	78.3	83.6	0.4	10.8
			NB	C	F	21.5	24.5	24.6	22.4	83.4	250.6	254.9	323.2	108	139	137	109	2079	2802	2824	2824	325	453	443	416	1436	1474	1471	1444	332	450	445	416	1518	1790	1785	1670	97.9	100.7	99.7	99.8	94.6	82.3	82.4	86.5	0.1	11.8
			SB	F	F	22.7	74.6	145.8	62.4	51.5	138.1	215.6	246.7	484	1716	1751	1704	558	1726	1760	1758	1174	1558	1611	1518	1009	1176	1118	1101	1201	1630	1612	1509	1034	1220	1217	1139	97.8	95.6	100.0	100.6	97.7	96.3	91.9	96.7	1.2	3.1
			IN	**F**	**F**	**25.3**	**51.3**	**82.4**	**43.4**	**68.0**	**192.0**	**223.2**	**281.4**																																
5389	Parrish Ln @ 1250 W	S	EB	B	C	13.6	16.9	16.9	15.2	21.4	21.7	26.5	25.2	167	188	206	178	126	149	154	128	627	808	811	790	598	710	706	661	649	880	870	815	602	710	708	663	96.8	91.9	93.2	97.0	99.3	100.0	99.7	99.7	3.1	0.2
			WB	C	C	15.1	21.3	21.1	17.5	23.5	23.6	25.6	20.5	167	223	198	187	274	274	277	269	541	727	716	689	694	762	742	754	560	760	751	703	712	840	838	784	96.6	95.6	95.4	98.0	97.5	90.7	88.5	96.2	1.9	4.0
			NB	C	F	21.2	33.4	34.5	23.6	87.1	140.3	130.7	95.4	157	294	303	156	307	307	307	307	319	436	440	408	486	316	361	386	325	440	435	407	704	830	828	775	98.2	99.1	101.2	100.2	69.1	38.1	43.6	49.8	0.1	32.8
			SB	D	D	22.7	36.3	33.9	27.7	20.6	23.4	37.3	39.2	184	336	261	191	372	384	387	387	319	435	441	407	699	827	767	766	324	440	435	407	704	830	828	775	98.6	98.8	101.2	100.0	99.3	99.6	92.6	99.0	0.1	1.4
			IN	**C**	**D**	**17.0**	**24.7**	**24.5**	**19.4**	**34.4**	**35.6**	**42.0**	**39.9**																																
5853	W State St @ 650 W	S	EB	B	C	8.3	10.9	10.6	8.5	12.2	20.2	23.8	12.9	211	422	389	202	474	504	522	494	660	902	888	834	849	1010	1006	945	664	900	890	833	856	1010	1008	943	99.4	100.2	99.8	100.1	99.1	100.0	99.9	100.2	0.1	0.1
			WB	B	C	10.5	14.0	13.3	11.7	15.7	19.6	20.1	16.7	130	181	175	133	446	1074	1413	1153	339	460	459	430	793	925	924	886	346	470	465	435	805	950	947	887	97.9	98.0	98.7	98.8	98.5	97.4	97.6	99.9	0.7	1.0
			NB	B	C	10.3	12.7	13.4	10.8	21.5	26.0	28.5	21.6	66	93	90	82	202	266	277	221	215	287	290	269	398	466	468	438	214	290	287	269	399	470	469	439	100.5	98.9	100.9	100.1	99.9	99.2	99.9	99.9	0.0	0.1
			SB	C	C	17.0	20.2	19.7	18.2	20.0	22.6	23.9	18.8	24	42	41	24	35	42	40	39	29	40	40	36	42	48	48	45	30	40	40	37	43	50	50	47	98.0	99.7	99.8	96.6	97.7	95.5	95.0	96.8	0.2	0.5
			IN	**B**	**C**	**9.5**	**12.3**	**12.1**	**10.0**	**15.5**	**21.1**	**23.3**	**16.1**																																
5857	W Glovers Ln @ 650 W	S	EB	C	C	17.7	30.1	31.4	18.4	21.6	27.8	27.0	18.6	294	806	736	347	218	310	265	219	540	730	736	684	371	437	438	409	545	740	732	685	373	440	439	411	99.1	98.5	100.5	99.9	99.4	99.2	99.8	99.6	0.3	0.2
			WB	C	D	15.0	20.0	20.3	15.9	24.9	35.3	31.0	23.1	110	155	160	116	218	194	195	178	201	277	278	260	468	545	541	509	206	280	277	259	484	570	568	532	97.6	99.0	100.6	100.5	96.8	95.6	95.2	95.7	0.1	2.0
			NB	C	C	22.7	26.4	28.4	24.4	26.4	30.1	29.6	24.9	88	115	113	90	257	347	298	215	139	189	186	175	489	580	577	541	140	190	188	176	492	580	579	541	99.2	99.5	98.8	99.4	99.5	100.0	99.7	100.0	0.2	0.1
			SB	C	C	24.5	29.1	29.8	25.9	28.1	30.2	30.2	26.1	116	145	139	110	107	115	113	105	214	287	289	269	194	227	229	214	214	290	287	269	195	230	230	215	100.2	99.1	100.5	100.0	99.7	98.6	99.7	99.8	0.0	0.2
			IN	**C**	**C**	**19.2**	**27.5**	**28.6**	**20.2**	**25.0**	**31.2**	**29.5**	**23.0**																																

I-15 EIS; Farmington to Salt Lake City
Vissim Intersection Analysis Results
2050 No-Action

Int #	Intersection Name	Control	Approach	Worst Case LOS AM	Worst Case LOS PM	Delay (Sec) 6:00	Delay 7:00	Delay 8:00	Delay 9:00	Delay 15:00	Delay 16:00	Delay 17:00	Delay 18:00	95th Percentile Queue (Feet) 6:00	Queue 7:00	Queue 8:00	Queue 9:00	Queue 15:00	Queue 16:00	Queue 17:00	Queue 18:00
7068	900 W @ 1000 N	S	EB	C	C	14.2	22.9	21.8	15.1	21.7	22.1	22.6	20.4	265	542	488	279	281	328	364	271
			NB	C	F	15.2	30.3	25.9	16.7	69.8	353.9	206.2	118.9	206	416	321	178	1404	1703	1703	1703
			SB	A	A	7.5	8.2	8.6	7.0	8.1	9.1	9.5	8.2	85	104	110	97	136	162	127	99
			IN	**C**	**F**	**13.2**	**22.6**	**20.6**	**14.0**	**35.1**	**114.1**	**99.5**	**66.5**								
7122	600 N @ 300 W	S	EB	C	C	20.6	29.4	29.4	29.5	22.8	25.1	26.3	22.2	570	786	783	787	373	389	392	348
			WB	C	E	27.2	27.9	28.4	26.0	38.4	57.6	55.8	46.0	292	370	352	296	295	493	447	385
			NB	F	F	54.5	497.5	1164.2	1052.8	19.6	77.3	177.2	88.8	888	1943	1978	1973	620	1463	1944	1909
			SB	C	C	23.5	27.1	27.3	26.1	24.2	26.8	26.1	22.9	202	247	245	201	168	196	190	151
			IN	**F**	**F**	**29.2**	**111.3**	**192.3**	**194.2**	**23.1**	**53.5**	**100.2**	**58.5**								
7372	600 N @ 400 W	S	EB	F	C	28.1	168.2	195.9	160.0	22.4	26.6	25.9	21.8	1279	1930	1955	1884	436	533	498	444
			WB	C	C	19.5	26.8	25.4	23.1	25.9	33.5	33.2	27.2	285	339	317	312	410	499	491	426
			NB	D	E	34.2	39.9	39.5	37.3	45.4	66.9	64.2	44.9	193	308	263	200	618	853	836	539
			SB	C	F	18.6	22.3	23.1	19.4	33.5	69.5	91.4	60.9	106	138	130	108	355	484	530	519
			IN	**F**	**D**	**26.4**	**108.1**	**123.2**	**107.8**	**29.6**	**42.0**	**44.0**	**32.9**								
7501	Beck St @ N Chicago St	S	EB	D	C	36.1	35.6	36.4	36.0	29.3	31.7	31.2	30.3	95	103	108	89	144	186	201	147
			NB	B	B	10.8	14.1	14.4	11.9	9.9	11.6	11.2	9.3	127	182	177	141	258	298	287	236
			SB	B	A	10.0	13.7	13.8	11.0	8.4	9.6	9.5	7.9	285	417	405	282	129	150	127	102
			IN	**B**	**B**	**11.6**	**15.0**	**15.2**	**12.7**	**11.7**	**13.3**	**13.1**	**11.4**								
7619	600 N @ I-15 SPUI	S	EB	D	D	37.5	44.9	44.9	40.8	46.3	50.0	49.3	44.9	196	277	270	211	201	273	250	204
			WB	D	D	29.2	36.5	36.1	32.0	34.4	42.7	41.6	34.2	255	319	313	257	344	568	494	383
			NB	F	D	31.3	120.1	197.5	110.0	38.7	47.0	43.5	37.7	166	3550	3575	3554	339	552	405	309
			SB	D	C	30.4	36.0	36.1	32.0	30.0	33.4	33.8	30.2	280	357	361	266	231	281	298	220
			IN	**D**	**D**	**31.7**	**46.9**	**53.2**	**45.5**	**36.3**	**42.9**	**41.6**	**35.8**								

Int #	Approach	Volume Served 6:00	Served 7:00	Served 8:00	Served 9:00	Served 15:00	Served 16:00	Served 17:00	Served 18:00	Volume Demand 6:00	Demand 7:00	Demand 8:00	Demand 9:00	Demand 15:00	Demand 16:00	Demand 17:00	Demand 18:00	Percent Served 6:00	Percent 7:00	Percent 8:00	Percent 9:00	Percent 15:00	Percent 16:00	Percent 17:00	Percent 18:00	GEH AM	GEH PM
7068	EB	550	758	750	704	506	596	610	565	560	760	751	704	509	600	599	560	98.3	99.8	99.8	100.0	99.5	99.3	101.9	100.9	0.2	0.2
	NB	401	548	541	510	588	532	792	703	405	550	544	509	627	740	738	691	99.1	99.8	99.5	100.1	93.8	71.9	107.3	101.8	0.2	3.5
	SB	233	318	320	300	500	601	367	422	206	280	277	259	475	560	558	522	113.0	113.6	115.3	115.8	105.3	107.3	65.7	80.7	4.5	5.1
	IN																										
7122	EB	1010	1208	1214	1228	761	926	880	838	1062	1440	1424	1333	780	920	917	858	95.1	83.9	85.3	92.1	97.6	100.6	95.9	97.6	8.5	1.2
	WB	310	416	419	389	285	339	337	318	310	420	416	389	288	340	339	317	100.1	99.1	100.8	100.1	98.8	99.6	99.3	100.2	0.0	0.2
	NB	516	538	537	561	1348	1559	1543	1494	546	740	732	685	1357	1600	1596	1493	94.6	72.7	73.4	81.8	99.4	97.5	96.7	100.1	11.2	1.3
	SB	637	865	860	804	378	447	447	418	641	870	860	805	382	450	449	420	99.3	99.5	100.0	99.9	99.0	99.4	99.6	99.4	0.2	0.3
	IN																										
7372	EB	1594	1892	1889	1919	1272	1519	1434	1373	1666	2260	2235	2092	1289	1520	1517	1418	95.7	83.7	84.5	91.7	98.7	99.9	94.6	96.8	10.9	1.9
	WB	662	818	812	796	903	1071	1070	1024	700	950	939	879	924	1090	1087	1017	94.5	86.1	86.5	90.6	97.7	98.3	98.4	100.7	6.6	0.8
	NB	363	492	498	462	689	815	816	767	369	500	495	463	695	820	818	765	98.6	98.5	100.7	99.8	99.2	99.4	99.8	100.3	0.2	0.2
	SB	116	157	157	146	376	442	442	415	118	160	159	148	382	450	449	420	98.6	97.9	99.1	98.7	98.5	98.2	98.4	98.7	0.3	0.6
	IN																										
7501	EB	66	91	88	84	201	239	229	216	67	90	90	83	203	240	240	224	99.1	101.7	98.8	101.1	99.2	99.4	95.7	96.6	0.0	0.7
	NB	590	806	800	749	1398	1642	1705	1561	597	810	801	750	1400	1650	1646	1540	98.8	99.5	99.8	99.8	99.9	99.5	103.6	101.4	0.3	0.9
	SB	1526	2100	2101	1965	654	768	594	612	1562	2120	2096	1963	662	780	778	728	97.7	99.1	100.2	100.1	98.9	98.4	76.4	84.1	0.6	6.0
	IN																										
7619	EB	851	1177	1174	1100	806	969	977	909	877	1190	1177	1102	822	970	968	905	97.1	98.9	99.8	99.8	98.0	99.9	101.0	100.4	0.7	0.1
	WB	1070	1373	1382	1322	1756	2071	2080	1977	1121	1520	1503	1407	1789	2110	2104	1969	95.5	90.3	92.0	93.9	98.2	98.1	98.8	100.4	5.5	1.0
	NB	1046	1035	953	1120	1122	1330	1125	1126	1054	1430	1414	1324	1128	1330	1327	1241	99.3	72.4	67.4	84.6	99.6	100.0	84.8	90.7	15.6	4.6
	SB	566	761	764	713	606	719	721	673	568	770	761	713	610	720	718	672	99.7	98.8	100.4	100.0	99.2	99.9	100.4	100.2	0.2	0.0
	IN																										

Appendix I: Active Transportation and Community I-15 Purpose and Need Scoping Memorandum

Active Transportation & Community
I-15 Purpose and Need Scoping
Utah Department of Transportation
Salt Lake City, Utah

Prepared by Smart Growth America
December 2021

Executive Summary

Smart Growth America, in partnership with Horrocks Engineers Inc. (Horrocks), is supporting the Utah Department of Transportation (UDOT) for community-driven scoping of a purpose and need statement for the I-15 Environmental Impact Statement from Farmington to Salt Lake City. This purpose and need statement process is framed under a vision of scoping, promoting, designing, and implementing a project that connects communities and incorporates activity-friendly routes to everyday destinations.

As part of this work, Smart Growth America (SGA), Horrocks, and The Langdon Group developed a public involvement plan to engage key local and regional community stakeholders on the I-15 corridor from Salt Lake City to Farmington. Stakeholders represented various community interests, ranging from active transportation advocates, business interest groups, advocates for marginalized communities, transit agencies, municipal and regional transportation, and economic development officials and staff. The stakeholder engagement focused on a series of community centric workshops, which involved a community walk audit at one of the intersections with I-15 in each community involved. The audits were followed by a virtual roundtable discussion meant to tease out the barriers to multimodal community connectivity as well as the opportunities and aspirations for a reimagined I-15 corridor to facilitate activity-friendly community connections.

From those community roundtable discussions, SGA and Horrocks have synthesized the major points raised regarding the barriers and opportunities for this I-15 project to facilitate community connections and have developed recommendations on how to frame the I-15 National Environmental Policy Act (NEPA) Purpose and Need Statement.

Contextualizing I-15 in the Salt Lake and South Davis County region

The I-15 corridor is a vital mainline highway for the movement of people and goods along the Wasatch Front and of critical importance in the western United States. As the “Crossroads of the West”, Salt Lake City and the communities of North Salt Lake, Woods Cross, West Bountiful, Bountiful, Centerville, and Farmington have been intricately shaped by and influenced the development of the I-15 corridor. With the changing demographics land uses, and mobility needs in and around the I-15 corridor, UDOT sought assistance to help scope out solutions for enhancing the I-15 corridor to promote mobility, economic vitality, and foster community connections.

Project Boundaries and Corridor Context

As envisioned by UDOT, the focus of the I-15 NEPA scoping work involves approximately 16 miles of the mainline I-15 corridor, from where I-15 intersects 600 North in Salt Lake City to where the corridor intersects with Shepard Lane in Farmington (project corridor). At both ends of the project corridor, the I-15 mainline consists of one high occupancy vehicle (HOV) lane adjoined with three general purpose travel lanes. Within the project corridor from North Salt Lake through Centerville, the I-15 mainline adds a 4th general purpose travel lane. Vehicular traffic on the I-15 mainline varies by time of day and community context, but traffic volumes range from 4,000 to 9,200 vehicles traversing the corridor per hour at peak periods. With the I-15 mainline serving as a major intercontinental artery between Los Angeles and Calgary plus major distribution centers located within the Salt Lake City region, the I-15 mainline sees quite a variety of vehicular traffic between freight and passenger traffic.

Community Context

The project corridor traverses a unique quilt of communities that comprise part of the Salt Lake region. Starting in the southern portion of the project corridor, in the center of Salt Lake City and the region's core, the project corridor demarcates downtown Salt Lake City, a major quarry and freight rail terminal and its residential neighborhoods of Rose Park and Fairpark. As the project corridor continues north towards Davis County, it traverses through the suburban communities of North Salt Lake, Woods Cross, Bountiful, West Bountiful, Centerville, and Farmington. The topography of the corridor through these communities is a very narrow plain between the Great Salt Lake and the Wasatch Mountains.

The communities along the project corridor north of Salt Lake City were primarily rural communities until the 1950s. Then, rapid development of I-15 and the rest of the US Interstate Highway system, plus the establishment of Hill Air Force Base and the reimagined Lagoon amusement park in Davis County spurred suburbanization of the corridor. This suburbanization changed the demands and context of the project corridor to support bilateral mobility between the major activity centers in Salt Lake City and at Hill Air Force Base. As the communities grew, matured, and established their own local activities in commerce, community identity, and recreation, so did the mobility needs towards fostering multimodal and community connections.

There is varied diversity throughout the project corridor, ranging in income, racial identity, age, and multimodal accessibility. The corridor has a sizable Hispanic population, ranging from 7-25 percent depending on the community. In terms of modal splits, there is varied active transportation use traversing within the corridor, ranging from 4-13 percent of modal trips by cyclists and 6-17 percent of modal trips by pedestrians. The level of cyclists and pedestrians has increased dramatically in the past few decades and coincides with increasing community growth and enhanced regional transit investments—specifically the opening and subsequent expansions of the Utah Transportation Authority (UTA) FrontRunner commuter rail line. The increasing active transportation demands within the project corridor has raised safety and livability concerns for UDOT and the local communities as it pertains to those travelling outside of cars intermingling with automobile traffic inbound and outbound from I-15.

Connecting Communities: Reimagining the NEPA development process

Increasing mobility demands, aging I-15 infrastructure, a rapidly growing population, and intensifying development within the project corridor has prompted UDOT to start evaluating an approach to maintain a safe, equitable, reliable, and vibrant project corridor into the future. Acknowledging that the status quo process of scoping out the purpose and need for interventions to the project corridor will not meet the complex community needs, UDOT charged Horrocks and SGA with developing a holistic community-driven feedback process to inform the development of the purpose and need for the project corridor.

A typical process employed by state and local transportation agencies involves planners and engineers, with input from communities in the study area, scoping out the purpose and need of a project by looking at the corridor alone. A study would include identifying community impacts and addressing them. However, it would not consider connections to, over, or under that corridor, much less make that connectivity fundamental to the project. Particularly in a highway project, the needs of drivers would be paramount.

For this project, UDOT wanted to take a new approach and tasked Horrocks and SGA to solicit input from local and regional stakeholders on how I-15 impacts east-west connections across the corridor, particularly for non-drivers. Those stakeholders were engaged to help identify the barriers to connections across I-19 as well as set aspirational goals and a vision for how the project corridor could be better integrated and more functional for the growing multimodal mobility in their communities.

Reconnecting Communities

To gain the perspective and knowledge of the corridor and the context in each community, stakeholders were invited to a community focused walking audit. The walking audit, oriented around the intersection of the project corridor with the community and its local transportation network, focused on the needs of multimodal users of the I-15 crossings and the connection of those crossings into the community. That meant looking at those corridors from the perspective of a pedestrian, bicyclist, and transit rider, as well as how the circulation of vehicles interacted with those outside of a car. Lastly, it provided context of how members of each community can reasonably access jobs and essential services within their community on foot, bike, transit, or in a vehicle with the added context of the intersecting project corridor.

Within 24-48 hours of the respective community walk audits, stakeholders joined a virtual conversation about their experiences on the walk audit, the barriers within their community, and goals as they relate to the project corridor. The virtual conversation was broken into three parts, with the initial portion focused on reengaging and reacting to visuals from the stakeholders' experience on the walk audits. Facilitated breakout group discussions targeted questions pertaining to the role of the project corridor in their personal and professional travel, the impact the project corridor has to mobility and local community development, and key barriers and perceptions from the walk audit that could translate into changes along in the project area. The second portion of the workshop served as a knowledge exchange, highlighting key principles on complete streets design, how such design can interface with major thoroughfares such as the project corridor, and examples of best practices from across the country. The final portion of the workshop was a full stakeholder roundtable discussion on tangible and/or aspirational solutions and goals to the barriers and challenges identified at the beginning of the workshop.

Community Stakeholder Context to the Purpose and Need

From the two-part workshop series with the communities along the project corridor, SGA has synthesized the community stakeholder conversations to contextualize the barriers and aspirations for the project corridor.

Across All Communities

The workshop participants in each of the five communities were eager and enthusiastic to engage in this process. They clearly understood the issues at hand and had many ideas of how to solve them. Many, however, were wary about the extent to which their suggestions would make their way into the final project, especially those who had been told 'no' by UDOT in the past.

Participants often started by discussing both the terrain and the unpleasant nature of the walk audit. They discussed the width of the valley and how that impacted transportation connections as well as the critical transportation infrastructure that serves their community. They framed their discussions based on their experiences in the walk audits they had just completed, which they found to be difficult, unpleasant, and indicative of an unsafe bike and pedestrian experience.

Several key priority areas arose in every group, taking slightly different forms but with consistent themes and conclusions.

1. Crossings: All the communities agreed that I-15 crossings needed to have more substantial facilities for bicyclists and pedestrians, but they did not agree across all communities as to whether those facilities needed to be new (or exclusively bike/pedestrian-use) or whether existing facilities should be expanded. Participants in Salt Lake City and Centerville favored new crossings as well as improved existing crossings. Those in Bountiful, West Bountiful, and Farmington mostly preferred improved existing crossings with expanded facilities for bicyclists and pedestrians. North Salt Lake and Woods Cross had opinions on both sides. Worth noting in the communities that support separate crossings is that some participants, especially women, expressed concerns about safety in long active transportation-only crossings due to isolation when using them.
2. Lack of transition to community context: A common point of agreement was that as drivers exit I-15 onto local roads, they have few indications that they are entering communities where people are walking, biking, and living. As a result, they barrel into communities as if they are still driving on a highway. Participants up and down I-15 identified the need for exits to indicate to drivers that they are entering a community, using solutions like traffic calming road design, signage, and creative placemaking to match the context of the communities that drivers wish to enter. They suggested these indicators begin on the exit ramps themselves. Additionally, the crossings of I-15 were designed as if they were a part of the Interstate itself and not a connector between two communities. This encouraged drivers to speed up on the crossing and then drive too fast when they returned to a neighborhood on the other side. Participants thought it made more sense for crossing designs to match the context of the communities they are connecting. With long entrance ramps, drivers have plenty of time to get up to highway speed without starting on the crossings near pedestrians.
3. Diverging diamonds: Diverging diamonds were described as intimidating to drivers, bicyclists, and pedestrians alike, and avoided by many residents. This flaw seems to be related to the compactness of space available for all users. Participants also did not believe they reduced congestion. Participants desired alternate options.
4. Visibility: Pedestrians and bicyclists reported struggling to be visible when crossing I-15. Some underpasses are too dark for pedestrians to feel safe crossing. Some crossings have space for pedestrians, but they might be only on one side and a few end half way across. Some on and off ramps to/from I-15 provide drivers poor or no visibility of pedestrians, especially at the higher speeds encouraged, posing immense safety risks. Further, where bicyclists ought to go is often

impossible to determine. Participants talked about biking far out of their way to find safer crossings or having to walk their bike across if they used the less comfortable ones. Even at low biking speeds, there is limited time to figure out where you belong.

5. Maintenance: Participants who experienced poorly maintained facilities (such as debris-ridden bike lanes) were concerned about UDOT constructing facilities and then leaving the maintenance responsibilities to local governments with limited resources. They sought clear jurisdictional responsibilities and built-in plans for maintenance, including a specific call for UDOT to participate actively.

Several other important issues came up consistently but reached fewer across-the-board conclusions.

1. Adjacent roads: Participants appreciated the focus on critical I-15 crossings but emphasized that facilities on adjacent roads could not be ignored if these links were going to be truly functional. If the crossing is great but puts a traveler onto a road with no place for them after crossing I-15, it doesn't help much. They pushed for better facilities and traffic calming on parallel north-south routes through their communities such as US-89. They also saw the need for better bike/pedestrian access to the network of north-south trails like the Legacy Parkway Trail.
2. Transit access: UTA's FrontRunner buses provide a critical connection through the region but are often difficult to access by foot or bicycle. This came up frequently, though not explicitly in every engagement. UTA seems to be focusing on improving "on-demand" services (like Uber or Lyft) to connect riders to their service, not necessarily by more effectively connecting people to existing stops. This was not seen as a sufficient solution to participants.
3. Freight Traffic: The substantial presence of heavy industry like the gravel pits and refineries along the I-15 corridor makes trucks ever-present on I-15 and local roads. Participants expressed concern about their presence and sought solutions that would separate truck traffic from communities or at least reduce their speeds.

Salt Lake City

The conversation among participants from Salt Lake City focused on several challenges, starting with the insufficient crossings across I-15. They suggested (1) a new bridge over the railroad at 1800 North; (2) additional facilities for pedestrians and cyclists at 600 North; and (3) additional non-interchange crossings at 400 North or 500 North. The crossing at 600 is wide, high speed, and intimidating outside of a car. Even inside of a car, the crossing is confusing to those unfamiliar with the area. The active transportation route crosses traffic several times with very wide turns that allow drivers to go at high speeds. The crossings are so long that it can be hard for a pedestrian to determine what they are crossing to, especially in dim light. As a bicyclist, there is no way to safely navigate this system unless you walk your bike and there are some parts where the path is a too narrow for a person to walk with a bike. Participants also pointed to an opportunity to tie the crossing at 600 into broader redesigns in the area, namely converting 600 North and 700 North into boulevards and connections to US-89.

In addition to the crossing needs, improvements in connectivity to neighborhoods—including safe transitions off of I-15—are high priorities. The context clues and road designs should communicate to drivers coming off I-15 that they are entering a neighborhood and should adjust their speeds accordingly. Well-designed transition zones should begin on the exits and continue on the crossing itself. Because the crossing is designed more like the highway than the communities it connects, it encourages drivers to speed up to highway speeds just crossing I-15 and then drivers continue at unsafe speeds when they return to grade level on the other side. Aligning the crossing with the community context will help drivers maintain safe speeds. Linking the pedestrian facilities into the neighborhood paths to create better connectivity for neighborhoods like Guadalupe and Fairpark could also have big impacts.

Another focus of conversation was around quality of life for those living near I-15. The Capitol Hill neighborhood has significant noise issues, and the maintenance of facilities adjacent to I-15 should be improved. There are major opportunities for beautification to create neighborhood pride—things like landscaping, art, and attractive sound barriers could be low cost but high reward for the region and neighborhoods.

Finally, commercial travel to and from the gravel pits continues to be a challenge. Improved maintenance and debris removal on the heavily trafficked roads are needed.

North Salt Lake / Woods Cross

These communities focused on how unsafe it feels to be a pedestrian not only while crossing I-15, but also on US-89. They said that the exits off I-15, particularly the northbound going west on 2600 feels like a race car track with little indication you're entering a community and poor visibility to see pedestrians or other drivers. They shared reports from residents of a nearby trailer park that "it feels safer to jay walk than to cross at the confusing intersection." The group was conclusive in the need for better protected and/or separate bike/pedestrian facilities, better traffic calming design, and exits off I-15 that indicate you are entering a community. Also, I-15 underpasses should have more sufficient lighting, as they are currently quite dark.

Participants brainstormed several alternatives to US-89 for north-south bike/pedestrian travel. One option was creating bike/pedestrian facilities through the local industrial park, as trucks move through there but do so slowly. Another option was taking advantage of the roughly 30 feet of right of way next to the railroad tracks. Others suggested improving US-89.

Participants identified the need to overcome mistrust with UDOT. In the past, UDOT had been a barrier in improving their communities, but said that UDOT could earn their trust again by committing to improving walkability and bikeability through this process.

There was also a conversation about the new rail crossing bridge project, and how it would impact volume on 1100 and 2600 as well as the prospect of accompanying bike/pedestrian facilities.

Bountiful/West Bountiful

The communities of Bountiful and West Bountiful were in agreement that improvements to the existing crossings—at 400 North and 1500 South—are a high priority. There are high traffic volumes and where most pedestrians and bicyclists would prefer to cross, there are concerns about visibility and vehicle speed. North and South travel is lacking for active transportation options. This is evident on US-89 and 200 West, where participants agreed that travel outside of a car is too dangerous. In addition to the I-15 crossings, there is poor connectivity to the trail network, specifically getting to Legacy Parkway Trail from side streets as well as lacking signage. Overall, participants agreed that there are two contexts in their community: comfortable, welcoming town centers, and the connections in-between that are unsafe and car-centric.

Participants suggested decoupling active transportation options from some of the busier roads with the most safety concerns. Rather than trying to fit all users into a limited space, prioritizing different modes on different routes could better support active transportation and safety. This is in line with a discussion about how recreational travel is important to the communities and could serve as an opportunity to begin conversations about improvements. Wayfinding and improvements to create a more welcoming and comfortable environment were the focus of other solutions.

Centerville

More than in other communities, Centerville discussed both its regional economic role and its existing land use, tying them together. Participants noted that most of the economic activity in Centerville comes from pass-through traffic stopping for food or errands. Thus, the massive shopping centers and the services therein are buttressed by I-15 on one side and parking surrounding the rest. Aside from the general lack of bike/walkability to the shopping center, I-15 serves as a significant barrier between relatively dense housing on the west and stores like Walmart and Home Depot on the east. If Centerville wants to keep growing West of I-15, participants emphasized the need for better connectivity, especially for emergency services.

Like in other workshops, the Centerville group pointed to the need for better connectivity to trails like Bonneville Shoreline, Denver and Rio Grande Western Rail Trail, and Legacy Parkway. They said that access points via Pages Lane, Parrish Lane, or Jenny's Lane could help. Relatedly, some participants were involved in the branding of the Legacy Parkway Trail and thought that creative placemaking on I-15 crossings could follow a similar process, involving artists and history groups in the process. Some even suggested that Community Park could feasibly be expanded to cross I-15, creating a bike/pedestrian-friendly green space.

Pedestrian signals were also a main topic of conversation. Participants observed that pedestrian signals were only timed for people that could walk quickly. Many able-bodied people have difficulty crossing in time, let alone people with disabilities or older residents. In addition, sloped crossing bridges, however separated, are difficult to cross for disabled people. They are quite long as well, so places to rest are needed. This is likely true in other communities, but those convenings did not include mobility impaired people and so the conversation did not reach this level of specificity.

Farmington

Much of the focus among Farmington community members was the State Street overpass, as it is the critical connection for bikes and pedestrians to cross I-15, including Farmington Junior High School one block away. Residents often face unbearable noise from I-15, insufficient lighting, and steep climbs. Many participants requested expansion and improvements of the overpass. There is a crossing on the north side available only halfway across. If you pick that sidewalk, you have to cross in the middle of traffic going at high speed or walk all the way back down, cross and start over. Participants also noted the need to improve other nearby I-15 crossings such as Shepherd Lane, Glovers Lane, and Park Lane.

They identified a need for the expansion of bike/pedestrian facilities on Shepherd Lane and Glovers Lane, as they are currently too narrow. They saw existing projects at the Park Lane crossing as an opportunity for creative placemaking, including culturally significant art. UDOT representatives noted that the Governor's quality of life initiatives could open up funding for these kinds of projects.

Lagoon, the city's large amusement park, was a main topic of discussion. Participants highlighted that many of the park's employees are minors who are unable to drive and need safe ways to get to and from work. Currently, they do not have a safe way to cross I-15. Even if they do cross, the service road entrance has no space for pedestrians and also has high speed vehicle traffic. Also, residents said that the great trail networks near Farmington are difficult to access without a car. To solve this issue, they prescribed a better network of bike/pedestrian facilities as well as better wayfinding resources so bicyclists and pedestrians can get to trailheads.

Next Steps

The project corridor as currently designed, and operating is focused on regional north-south traffic to the detriment of east-west and local travel. It can be challenging for drivers, but it is extremely dangerous at most crossings for those outside of a car. This project corridor environment is prompting UDOT to look at solutions to mitigate these challenges. This opportunity to reimagine I-15 would allow UDOT and David County to design I-15 in a way that not only addresses regional travel needs but also integrates within the communities it traverses to improve local connections.

Observations on Barriers and User Perceptions

Through community walk audits, UDOT and community stakeholders highlighted key observations to help identify barriers and user perceptions. Heard frequently, stakeholders highlighted the hostile street environment for pedestrians and cyclists looking to traverse across the project corridor within their community. This takes on an additional level of hostility for persons with limited mobility or other mobility disabilities looking to travel the streets that cross the project corridor. This hostility towards pedestrians and cyclists stems from a street design that emphasizes motor vehicle speed and prioritizes the context of the project corridor over the community that it serves. Even within the street design, stakeholders observed that the design is so complex and oversized, that motor vehicle operators are also overwhelmed and unsure what to expect on the roadway while traversing across or transitioning into or out of the project corridor.

Delving into the barriers that were observed during the community walk audits and subsequent workshop discussions, key themes emerged that UDOT will need to consider in mitigating in subsequent design and engineering considerations of a reimagined project corridor. The hostility in street design for pedestrians and cyclists stemmed from either absent or inadequate sidewalks and paths incorporated adjacent to the street or on a dedicated parallel facility. Even when there were pedestrian and cyclist accommodations, inconsistent maintenance left facilities in a state of disrepair or creating unsafe perceptions, making it unreliable for use. Another challenge raised by stakeholders referred to visibility challenges for the pedestrian and cyclist facilities and how they are incorporated and circulate within the street design. Whether by signs, overgrowth, limited or no lighting, or other obstruction, the pedestrian and cyclist facility intersections across the streets crossing the project corridor had vehicle lines of sight impeded, creating a lack of consistent expectation for pedestrians and cyclists by vehicles. Additionally, stakeholders noted the incumbent street design across the corridor lacked local context and emphasized speed over user experience. Stakeholders noted how in their walk audit, vehicle operators are not prompted by the street design to slow down as they exit the project corridor into their community, risking the safety of other vehicles, pedestrians, and cyclists. Furthermore, diverging diamonds on several project corridor crossings, designed to reduce turning conflicts, create a lack of user experience consistency for all users alike, increases congestion, and exposes pedestrians and cyclists to higher speed vehicles.

Stakeholder Perspective on the Project Corridor's Purpose and Need

In thinking about an improved project corridor, stakeholders had vibrant perspectives on how to conceptualize design and future corridor operations. Even within the diverse ideas, common themes on goals and opportunities did emerge from stakeholder workshops.

Emphasized heavily as a barrier, stakeholders were adamant that any project corridor design has to address community context. Within some communities, there is a desire to incorporate traffic calming and redesigning streetscape crossings on the project corridor that are scaled to the community and its diverse users. Delving further into streetscape design, stakeholders are looking for design that improves the user experience via noise reduction, street operations cognizant of all users (accessibility for mobility impaired, user appropriate crossing signal timing) and destination making via streetscape beautification (art, landscaping, wayfinding). Stakeholders in several communities highlighted it may not be possible to incorporate all modes of transportation on each project corridor crossing, thus are flexible in various communities to look at modal priorities by crossing, so there are reliable, safe, and attractive modal crossing options for all users.

A final thematic issue that emerged in stakeholder discussions was the relationship that communities have with UDOT. Several communities expressed a history of distrust and lowered expectations of UDOT due to obstructive guidance or not following through on various community asks. With this project corridor, UDOT has laid a stake in the ground in resetting their relationship with the communities in the project corridor via this stakeholder engagement process to define the purpose and need of the project corridor. There are also opportunities for UDOT and the communities to not only conceptualize the purpose and need of the corridor or the design of the final project, but also think about the coordination on the maintenance of the project corridor and street crossings. Additionally, UDOT can build goodwill with the communities by facilitating information and tools access for communities to better understand the multimodal operations of their transportation network and how it interfaces with the project corridor (to advocate for local, regional, and state resources for their respective transportation system).

Looking ahead, the information provided in this memorandum serves as a tool for UDOT, a synthesized compendium of stakeholder thoughts on the barriers and opportunities on the project corridor and how it interfaces across various communities in the Salt Lake City region. Community stakeholders have appreciated being engaged in scoping out the project's purpose and need alongside UDOT. It will be incumbent on UDOT in threading these stakeholder perspectives towards a formalized purpose and need statement that will guide the rest of the NEPA process towards conceptualizing a design solution for the I-15 project corridor.