PUBLIC HEARINGS NOTICE FOR TRANSPORTATION MASTER PLAN, IMPACT FEE FACILITIES PLAN, AND IMPACT FEE ANALYSIS

Notice is hereby given that South Weber will hold a public hearing before the City Council to receive public comment on the Transportation Master Plan, Impact Fee Facilities Plan (IFFP), and Impact Fee Analysis (IFA). A copy of the draft ordinance along with summaries of the IFFP and IFA are attached to this notice. For the full IFFP and IFA contact the deputy recorder or go to the city website southwebercity.com.

The hearing will be held in the Council Chambers at South Weber City Hall, 1600 E South Weber Drive, on 10-24-2023 at approximately 6:00 pm. The public is invited to attend in person or watch the proceedings www.YouTube.com/c/southwebercityut. For a copy of the public notice, to request special accommodations, or any additional inquiries contact Deputy Recorder Kimberli Guill at 801-479-3177, kguill@southwebercity.com

The undersigned hereby certifies that a copy of the foregoing notice was posted on (10/12/2023) at

- the City Office building,
- City Website http://southwebercity.com/, and
- Utah Public Notice website https://www.utah.gov/pmn/index.html

DEPUTY RECORDER: Kimberli Guill

CITY COUNCIL MEETING
STAFF REPORT

MEETING DATE

October 24, 2023

PREPARED BY

Brandon Jones

City Engineer

ITEM TYPE

Administrative & Legislative

ATTACHMENTS

Transportation Master Plan (TMP)

Impact Fee Facilities Plan (IFFP)

Impact Fee Analysis (IFA)

PRIOR DISCUSSION DATES

2700 East Sub-Area Plan

City Council Meetings

March 8, 2022

July 12, 2022

July 26, 2022

AGENDA ITEMS

Transportation Master Plan (TMP), Impact Fee Facilities Plan (IFFP), Impact Fee Analysis (IFA), and Consolidated Fee Schedule (CFS) Revision

PURPOSE

Adopt the TMP and IFFP as provided by the Wall Consultant Group (WCG). Adopt the IFA as provided by Zions Public Finance Inc. (ZPFI). Update the CFS based on the results of the IFA.

RECOMMENDATION

Staff recommends adoption of the TMP, IFFP, IFA, and revisions to the transportation impact fees in the CFS as presented in the IFA with a trip rate of $349.21 and associated ITE Land Use Trip Tables 2 and 3.

BACKGROUND

The current TMP, IFFP, and IFA were adopted on April 16, 2019. An update to the General Plan began in 2020. Much discussion was had about existing and future road locations and transportation planning in general. On November 10, 2020, a new General Plan was adopted, and many changes were made to the Vehicle Transportation Map.

As development has occurred, the changes to the Vehicle Transportation Map have been followed, but these changes from the previous TMP created the need for an updated TMP that incorporates these changes, along with revision of the associated impact fees.

In 2022 requests for proposals were sent out to select qualified transportation and finance consultants. WCG was selected to provide the TMP and IFFP. ZPFI was selected to provide the IFA.

As part of the TMP, a sub-area plan (a more detailed analysis of a specific area) was provided for 2700 East (between South Weber Drive and 7800 South). Multiple options were presented to the City Council, and a preferred option was adopted.

The remaining portion of the TMP was completed with the sub-area plan included. The IFFP and IFA were also completed. The staff have been involved in providing input and review throughout the process. All reports are in their final form and ready for adoption by the City Council.

ANALYSIS

TMP:

While the Vehicle Transportation Map in the General Plan provides direction for the types and location of new roads, the TMP analyzes the existing and future roadway network to assess how well it is currently performing and how it is anticipated to perform in the future based on the future roads identified on the Vehicle Transportation Map. A computer traffic model was used to provide this data. Information that went into the computer model was existing traffic counts for calibration, other relevant traffic studies previously performed, projected land use, population growth, and the functional classification of the roads in the city. With this information an existing level of service is established, and project needs to maintain that level of service in the future are identified. The results from the model established a level of service "C" for the city's existing roadway network.

Two future conditions were analyzed, one at 2032 and one at 2050. Each condition included an analysis of the future traffic with "No Build" and "Build" scenarios. A "No Build" scenario means no future projects are built; the roadway network remains the same, but the future traffic is applied. The level of service is then analyzed. For areas that fall below the existing level of service, projects are identified that will restore the existing level of service. This is the "Build" scenario.

In these scenarios, the capacity of both roadways and intersections were evaluated. A list of projects for both roadways and intersections were created that would maintain the existing level of service out to 2050. These lists are summarized in Tables 6 and 7. A total of 18 projects were identified; 7 roadway projects and 11 intersection projects. Cost estimates for each of these projects were provided and the impact fee eligible portion was identified.

As mentioned previously, this TMP includes a sub-area plan for 2700 East between South Weber Drive and 7800 South. Based on anticipated commercial development and likely future limited capacity, the city wanted to take a proactive approach to this section of 2700 East and determine what the future needs would be so those could be implemented as development occurred. As expected, the computer model identified future limited capacity. Three mitigation scenarios were evaluated. Scenario #3 was determined to be the preferred option for planning purposes. The City Council concurred with this recommendation and the associated cost estimates for the identified projects were included in the financial analysis.

The final portions of the TMP include information about and recommendations relative to transit, active transportation, traffic calming, access management, roadway maintenance, and traffic impact studies.

IFFP:

The IFFP is essentially a subset of the TMP. The IFFP looks at the next 6 – 10 year planning window. Only those projects anticipated to be needed are included. The amount of increased traffic over this same window is also identified.

The unit of demand for transportation impact is the vehicle trip. A vehicle trip is defined by the Institute of Transportation Engineers (ITE) as a "single or one-direction vehicle movement with either the origin or the destination (exiting or entering) inside a study site." The total traffic impact of a new development can be determined by the sum of the total number of vehicle trips generated by a development in a typical weekday. This trip generation number or impact can be estimated for an individual development using the ITE Trip Generation Manual, 11th ed. (2021). ITE's trip data is based on data collection at numerous sites over several decades.

The results of the IFFP can be summarized as follows:

- Maintain a LOS "C"
- 11 Projects, Total Cost of $24,664,381, with the impact fee eligible portion being $9,546,482
- Total increase in traffic from new development is 21,890 daily trips

State Code requires that a certification be included with an IFFP stating that the report was prepared in accordance with the Impact Fees Act.

IFA:

As its name suggests, the IFA provides the financial analysis that results in the determination of an impact fee that can legally be assessed to new development. The fees collected are then used by the city to build the projects identified in the IFFP.

The IFA uses the following information that was determined in the IFFP:

- Projected growth (measured in trips per day)
- Service Level (LOS C for South Weber)
- Excess capacity (none identified for South Weber)
- New construction (cost from the projects)
- Other costs (the cost of preparing the IFFP and IFA can be included)
- Credits for existing deficiencies

Each of these items is evaluated to produce a $/trip. The proportionate share analysis puts all these costs together to get a total cost per trip. This is shown in Table 1. The total cost per trip for South Weber in 2023 is $349.21. The trips from the ITE manual are then used to calculate the impact fee for a specific use. This can be seen in Table 2. Because of the reduction in credits each year, Table 3 shows how the impact changes over time for the specific uses included.

If a specific use is not identified in Table 2 or 3, the ITE Trip Generation Manual, 11th ed. (2021) can be used to determine the trip rate of other uses. Then, using the cost per trip, the impact fee can be manually calculated.

State Code also requires that a certification be included with an IFA stating that the report was prepared in accordance with the Impact Fees Act.

Adoption of Reports and Impact Fees:

Resolution 23-50 will adopt the TMP

Section 11-6-2 contains a list and dates of all the IFFP's and IFA's for each city system. Section 11-6-2.4 is Transportation. Ordinance 2023-14 will update this section to reflect adoption of the IFFP by WCG, dated October 10, 2023, and the IFA by ZPFI, dated October 10, 2023.

Resolution 23-51 will adopt the impact fee and update the CFS to reflect the new trip rate and ITE table.

SOUTH WEBER city

OCTOBER
2023

TRANSPORTATION MASTER PLAN

SOUTH WEBER

WCG
WALL CONSULTANT GROUP

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I. INTRODUCTION

A. OVERVIEW

South Weber City is a rapidly developing rural community located in Davis County, Utah about 30 minutes north of Salt Lake City. South Weber is bordered by Uintah to the north, Layton to the south, Hill Air Force Base to the west, and Weber Canyon to the east. South Weber City is located south of I-84 and West of US-89 and has a direct connection to both facilities.

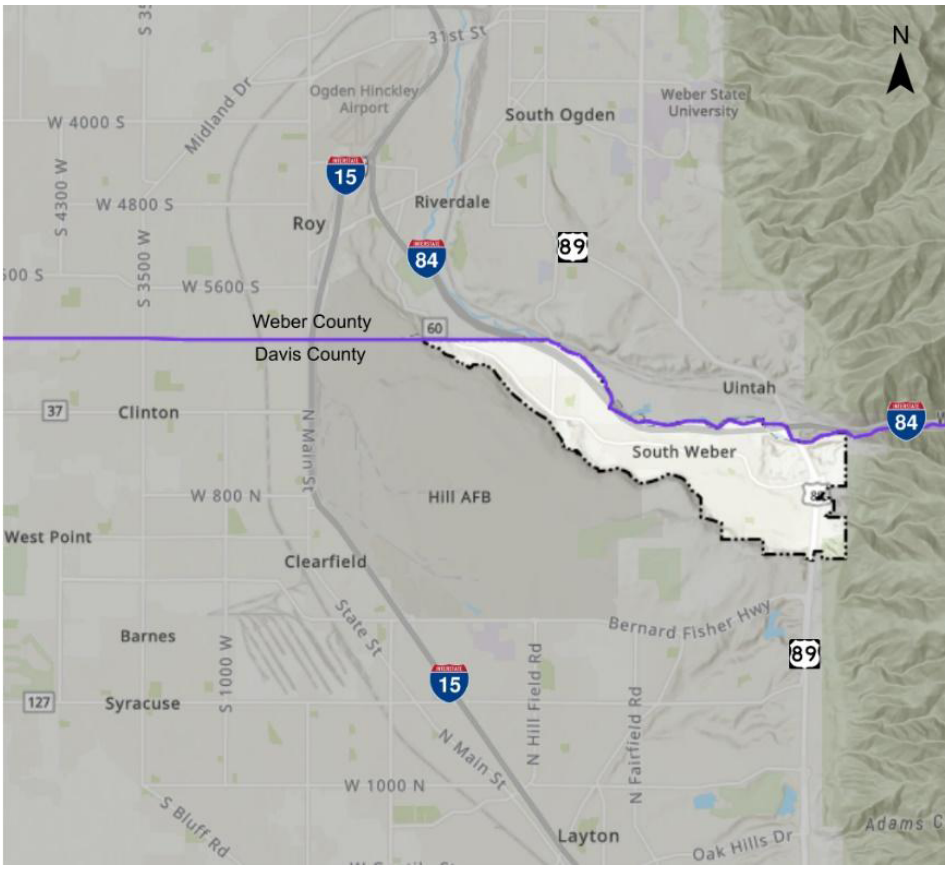
South Weber City has experienced steady growth historically. The most recent 2020 census shows that South Weber has a population of 7,867 and has experienced a population increase of approximately 1,800 since the previous 2010 census. South Weber is expected to continue being mostly a residential community; however, due to South Weber's proximity to I-84 and US-89, there is potential for greater commercial and industrial development above what exists currently, specifically near the South Weber Drive (SR-60) interchange with US-89.

This Transportation Master Plan (TMP) guides transportation infrastructure investments for the future by addressing several goals identified by South Weber City and the project team, such as:

- Improving safety
- Minimizing congestion
- Accommodating community and active transportation needs

Key to planning for South Weber City's transportation needs is an understanding of the roadway network's existing and future operation. Once existing conditions are established, roadway conditions are forecasted to future year 2032 and 2050 to identify deficiencies in the roadway network that may occur due to land development and the resulting population growth.

This TMP also covers city transportation management–related best practices, such as access management and alternative modes of transportation.



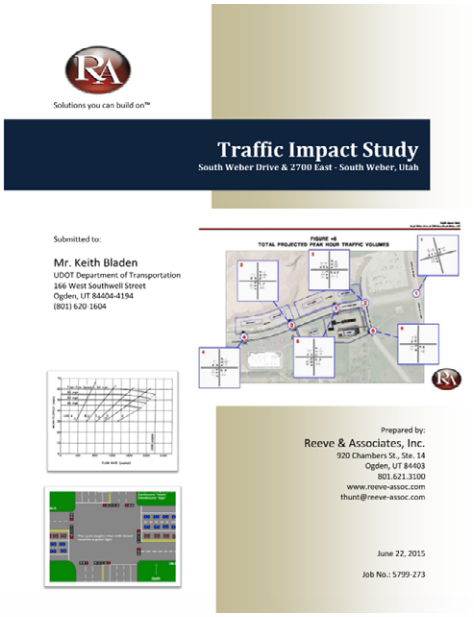
B. PREVIOUS STUDIES

The South Weber City General Plan Update 2020 set forth a plan to manage city growth as population increases. The General Plan established the existing land use, and environmental hazards in South Weber. It also provided future land use maps, as well as vehicle and active transportation maps. An annexation map is also included.

Several traffic impact studies have been conducted at various locations across South Weber. These studies were conducted by traffic engineers who were hired by developers as required by the city for their particular development. They are used in this report as an additional resource of information. These traffic impact studies outline the existing traffic and how it will be impacted by the trips generated from the proposed land use projects. Traffic impact studies have been conducted at the following locations:

- Lofts at Deer Run (7870 South / 2700 East)
- South Weber Gateway (South Weber Drive)
- South Weber Drive / 2700 East

South Weber City General Plan Update 2020



II. SOUTH WEBER LAND USE CHARACTERISTICS

A. OVERVIEW

This section discusses the existing and future land use in the city. Demographic data, including population forecasts, are analyzed and explained.

B. LAND USE

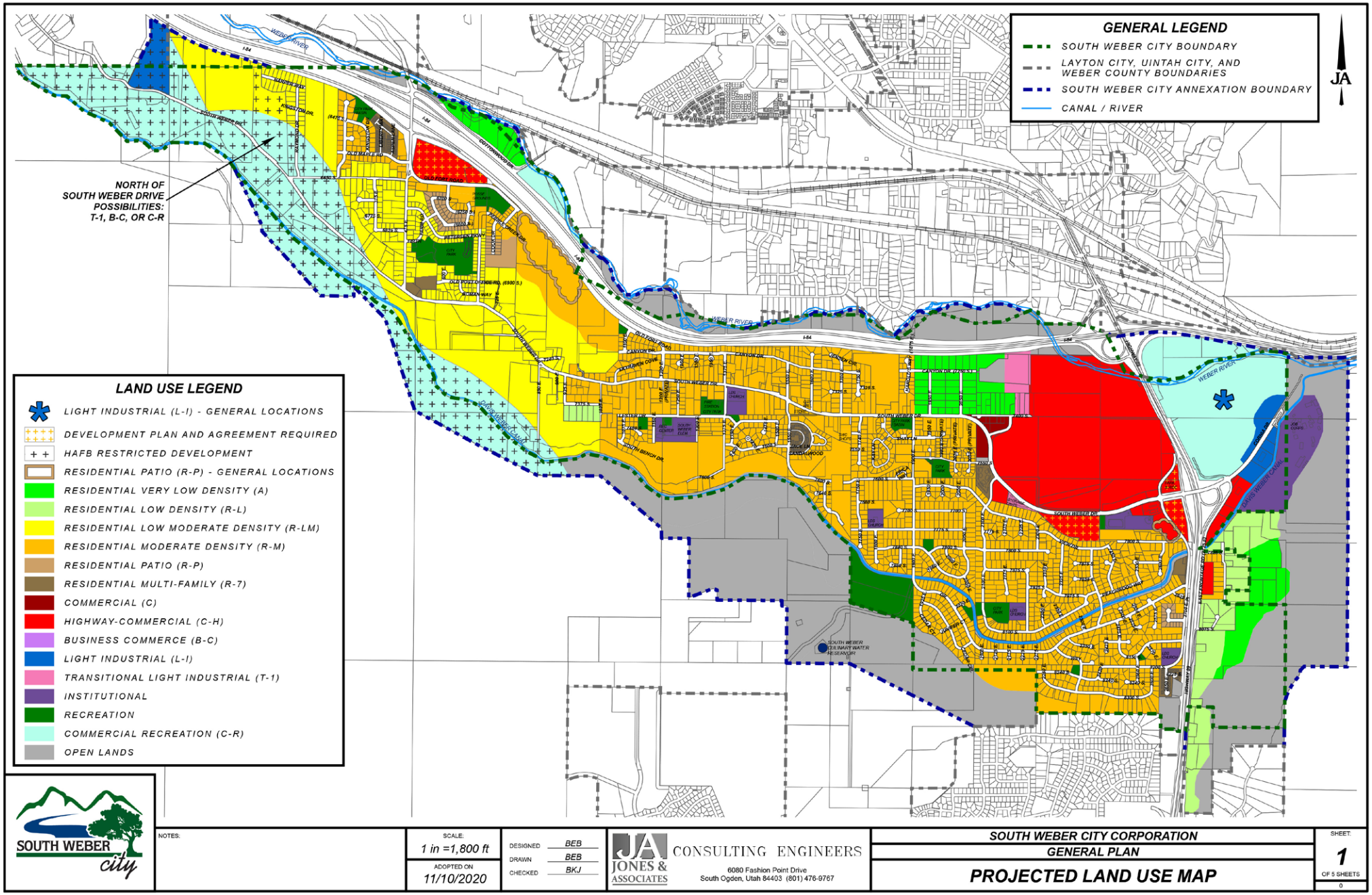
Historically an agricultural area, South Weber has transformed into a predominantly residential community. Agricultural land that once provided the rural small-town character is being developed, primarily into housing. The community is shifting away from preserving agricultural land to ensuring there is enough open space for adequate recreational opportunities.

South Weber has established a commercial area near the US-89 interchange, with small pockets elsewhere in the city. There is potential for additional commercial development in the 2700 East / South Weber Drive area near the US-89 interchange, which is why a sub-area plan was completed and a concept plan developed as part of this plan. These commercial enterprises provide much-needed services to residents. There are a few industrial type land uses, primarily the sand and gravel mining operations in the northeastern area of the City. A few construction companies, self-storage complexes, and one significant manufacturing business add to the South Weber economy.

South Weber City is also home to several institutional uses including four churches, a recreation center, an elementary school (comprised of two main buildings and multiple modular classrooms), a charter school, a fire station, and a city administration building. One institutional use that impacts the City is the Weber Basin Job Corp whose campus neighbors the City to the east just outside the City boundary. Five developed neighborhood style parks, an outdoor equestrian arena (known locally as the Posse Grounds), and a 4 ½ mile section of the Weber River Trail comprise the major developed recreational uses.

Future land use is key to understanding the needs of the future transportation systems. The size of future transportation facilities is directly tied to the density and types of future land uses within South Weber City. If South Weber were to stay mostly low-density, single-family residential, there would likely be little demand for future roadway widening projects; however, as commercial/industrial nodes and denser housing developments occur, greater transportation infrastructure will be needed. Figure 1 below shows the proposed future land use in South Weber (source: South Weber City General Plan Update 2020).

FIGURE 1: FUTURE LAND USE



SOUTH WEBER city

NOTES:

SCALE: 1 in =1,800 ft

ADOPTED ON 11/10/2020

DESIGNED BEB
DRAWN BEB
CHECKED BKJ

JA JONES & ASSOCIATES CONSULTING ENGINEERS
6080 Fashion Point Drive
South Ogden, Utah 84403 (801) 476-9767

SOUTH WEBER CITY CORPORATION
GENERAL PLAN
PROJECTED LAND USE MAP

SHEET: 1 OF 5 SHEETS

C. DEMOGRAPHICS

South Weber City has experienced steady population growth over the past 40 years as shown below in Table 1. The most recent 2020 census shows that South Weber has a population of 7,867 and has experienced a population increase of approximately 1,800 since the previous 2010 survey.

Table 1: Historic Population Growth		
Year	**Population**	**% Change**
1980	1,575	-
1990	2,863	82%
2000	4,260	49%
2010	6,051	42%
2020	7,867	30%

Future population projections were based on the recently completed General Plan. It assumed that South Weber is fully build out by 2040 with a population of 12,900. A consistent growth rate of 3% was assumed between 2020 and the 2040 build out. The projected population growth is shown below in Table 2.

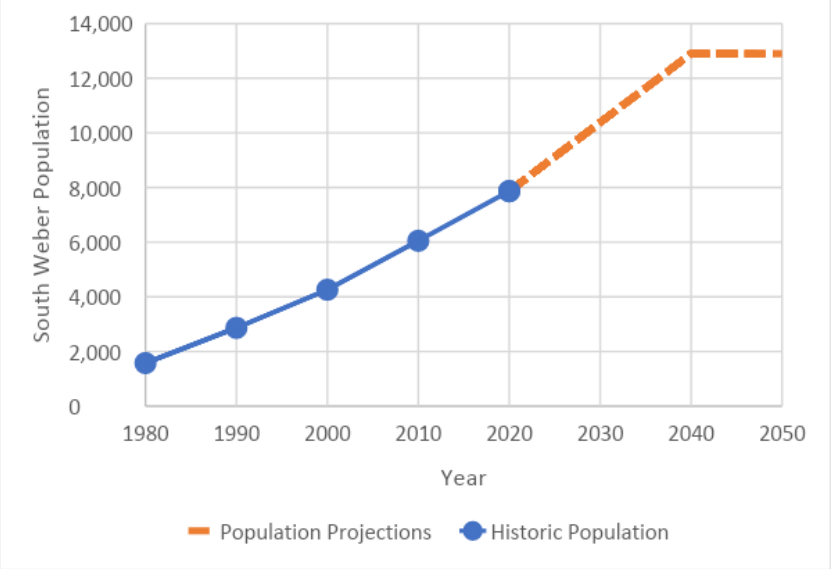


Table 2: Projected Population Growth		
Year	**Population**	**% Change**
2022	8,400	-
2030	10,400	24%
2040	12,900	24%
2050	12,900	0%

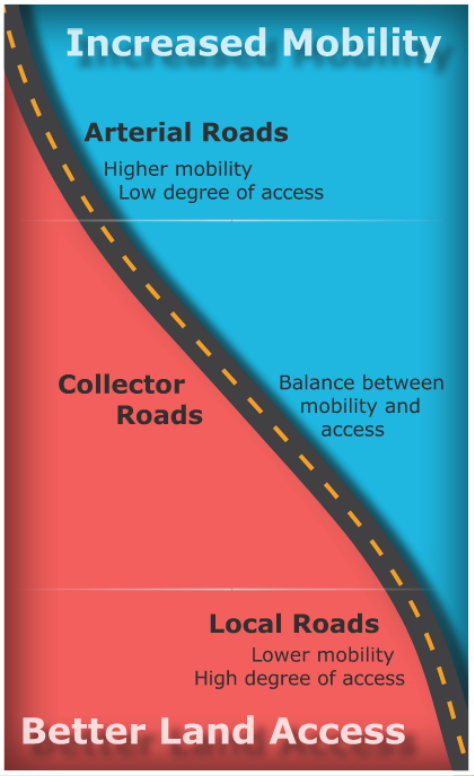
III. ROADWAY NETWORK

A. OVERVIEW

Key to planning for South Weber's transportation needs is an understanding of the roadway network's current conditions. Once existing conditions are established, roadway conditions are forecasted to future year 2032 and 2050 to identify deficiencies in the roadway network that may occur due to land development and the resulting population growth. A capital facilities plan with a phased list of improvements is provided to address roadway network deficiencies.

B. FUNCTIONAL CLASSIFICATION

The roadway system has a hierarchy to it based on roadway attributes such as speed and access. The higher a street classification, the more mobility it provides with limited access. Lower street classifications have less mobility, but more access.



The functional classification of a roadway indicates the road's role within the transportation system, which in turn helps determine when increased travel demand or change in the road's use could lead to negative impacts on its intended function in terms of speed, capacity, and relationship to existing and future land use (FHWA, 2013).

The four major classifications of South Weber roadways used in this TMP are Minor Arterial, Collector, Special Residential, and Local Residential:

- **Minor Arterial** (South Weber Drive / SR-60) – An arterial roadway is intended to have high mobility and little access. SR-60 varies in ROW widths between 66 to 104 feet and number of lanes from 2 to 5 depending on the location. SR-60 is a state road. The city is dependent on UDOT for any improvements or modifications to this roadway.
- **Collector** – A collector roadway is intended to provide both mobility and access. Collectors connect arterial and local roadways. In South Weber these roads vary in ROW widths between 60 to 78 feet and number of lanes from 2 to 3.
- **Special Residential** – A special residential roadway is intended to provide full access to adjacent land but allows for little mobility. Recent legislation limited local residential roadways to a pavement width of no larger than 32 feet, unless certain criteria was met. "Special" is a new designation that refers to a local residential roadway that meets the criteria allowing for the pavement width to be larger than 32 feet. Its ROW width is 70 feet, a pavement width of 36 feet, allowing for 2 travel lanes and on-street parking.
- **Local Residential** – A local residential roadway is intended to provide full access to adjacent land and provides very limited mobility. Its ROW with is 70 feet, a pavement width of 32 feet, allowing for only 1 travel lane with on-street parking.

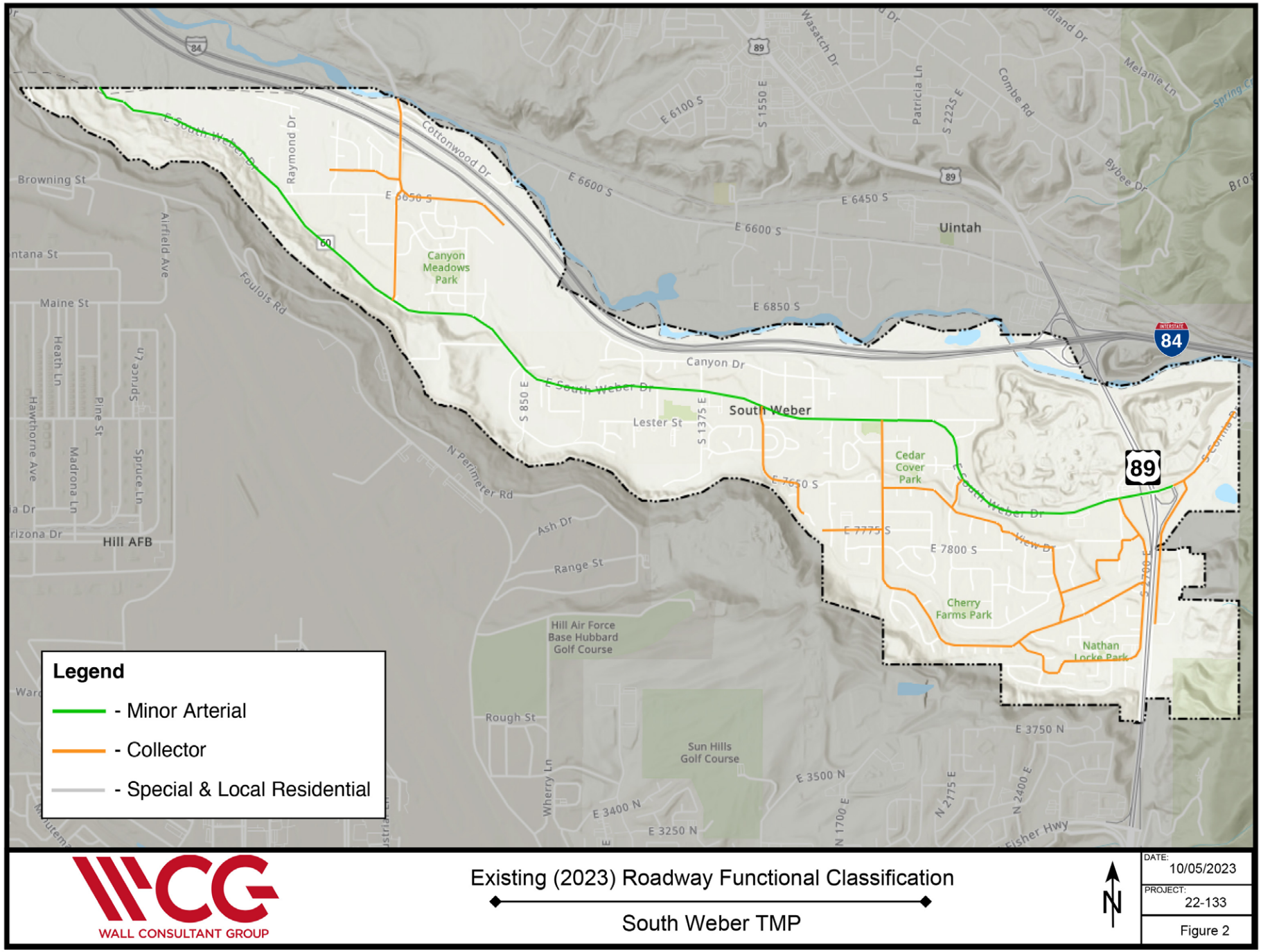
South Weber typical sections can be found in the most recent version of the **South Weber Development, Design, & Constructions Standards.**

The current functional classification map for South Weber is shown below in Figure 2. The cross sections for each functional classification are summarized in Table 3.

Table 3: South Weber Typical Cross Sections

Functional Classification	# of Lanes	ROW Width (ft)
Minor Arterial (SR-60)	5	104
Minor Arterial (SR-60)	3	80
Collector	2 or 3	78
Special Residential	2	70
Local Residential	1 or 2	70

FIGURE 2: EXISTING (2023) ROADWAY FUNCTIONAL CLASSIFICATION



C. LEVEL OF SERVICE ANALYSIS

Roadway traffic flow is measured based on the Level of Service (LOS). LOS is a planning term that describes the roadways operating performance. LOS is measured quantitatively and reported on a scale from A to F, with A representing free-flow conditions and F representing traffic congestion. Calculating a LOS for a roadway segment is based on volume-to-capacity ratios. The volume is the Average Daily Traffic (ADT) for the given roadway segment and the capacity is based on factors such as lane count, functional classification, and signal spacing. Level of service descriptions for each LOS letter designation and the accompanying range of volume-to-capacity ratios is shown below in Table 4 and 5.

Table 4: Suburban Collector LOS Capacity Criteria (veh per day)

Lanes	LOS A - B	LOS C	LOS D - F
2	≤9,000	9,000 - 10,500	≥ 10,500
3	≤ 10,000	10,000 - 11,500	≥ 11,500
5	≤ 19,000	19,000 - 22,000	≥ 22,000

Table 5: Suburban Arterial LOS Capacity Criteria (veh per day)

Lanes	LOS A - B	LOS C	LOS D - F
2	≤ 10,000	10,000 - 11,500	≥ 11,500
3	≤ 11,500	11,500 - 13,000	≥ 13,000
5	≤ 22,000	22,000 - 26,500	≥ 26,500

For the purposes of this study, a minimum overall roadway performance of LOS C is considered acceptable. If LOS D, E or F for a roadway is calculated, explanations and/or mitigation measures are presented.

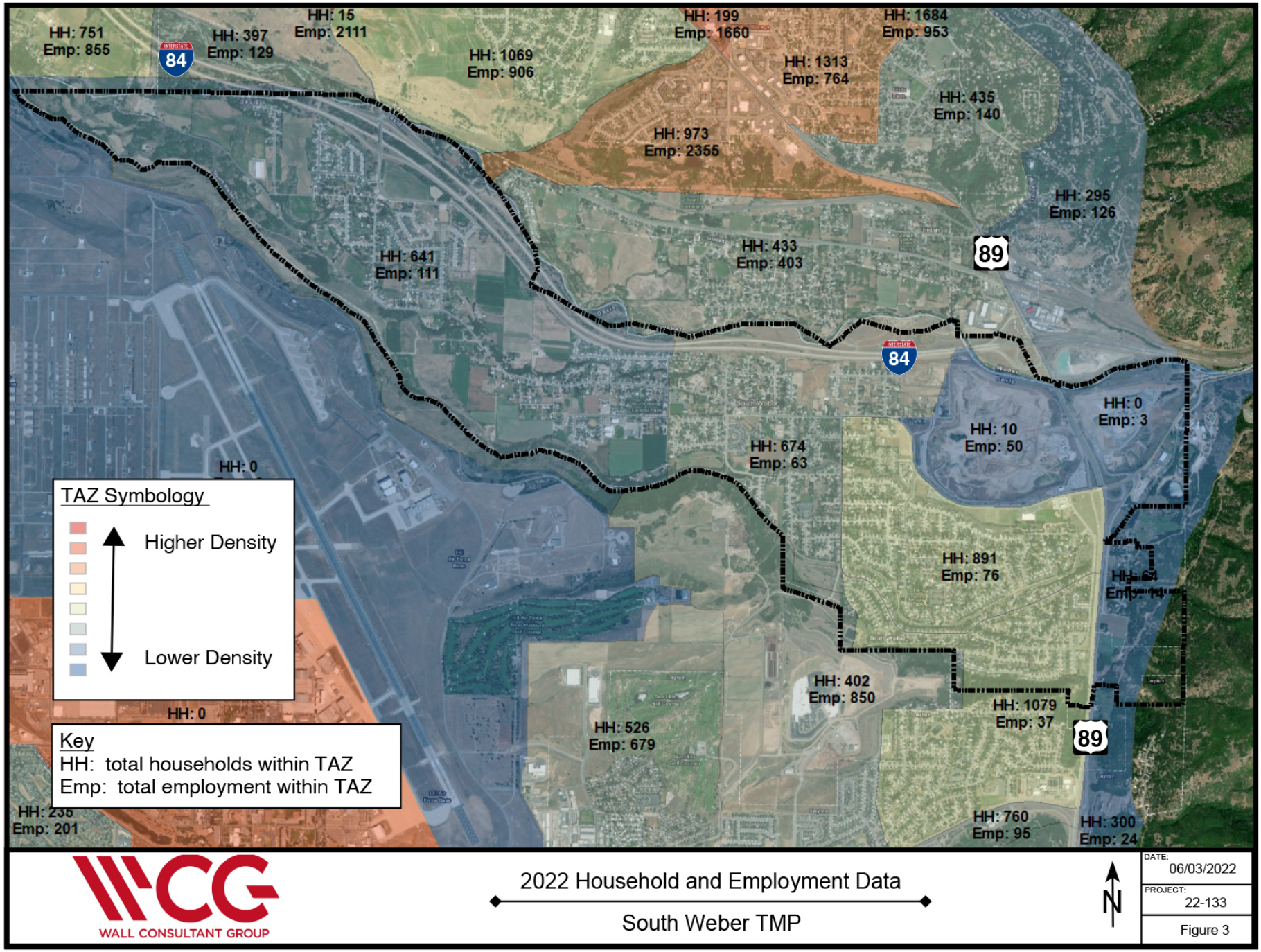
D. EXISTING (2022) CONDITIONS

An existing conditions level of service (LOS) analysis, based on existing land use, has been performed using various data sources explained below to produce existing Average Daily Traffic (ADT) estimates.

a. Existing Land Use

Base year (2022) household and employment estimates were developed by Wasatch Front Regional Council (WFRC) and then refined for this transportation master plan. Estimates were adjusted to match an estimated 2022 population of 8,400. As shown in the figures below household densities are fairly low in most of South Weber. Most employment is on the east side of South Weber near the US-89 interchange.

FIGURE 3: EXISTING (2022) HOUSEHOLD AND EMPLOYMENT DATA



b. Existing (2022) Volumes

Tube count data were collected at 7 locations in South Weber on Tuesday, February 1, 2022:

- 475 East (near I-84 interchange)
- Old Maple Road
- Old Fort Road
- 475 East (near South Weber Drive (SR-60))
- 1900 East
- 2100 East
- South Weber Drive (SR-60)

Weather was good for the duration of the tube counts. Results from the tube counts are presented below in Figure 4.

Peak hour intersection turning movement counts were collected at 3 locations on April 19, 2022:

- South Weber Dr. / 2700 East
- 7800 South / 2700 East
- Deer Run Dr. / 2700 East

Results from the intersection turning movement counts are displayed below in Figure 5.

c. Existing (2022) LOS

Existing (2022) Average Daily Traffic (ADT) is derived from the travel demand model. ADT values have been adjusted to best reflect data from the tube counts.

The existing (2022) LOS has been calculated using criteria from Table 4 and 5, results are shown below in Figure 6. As shown in Figure 6, all roadways in South Weber are currently operating at an acceptable LOS C or higher.

FIGURE 4: TUBE COUNT DATA

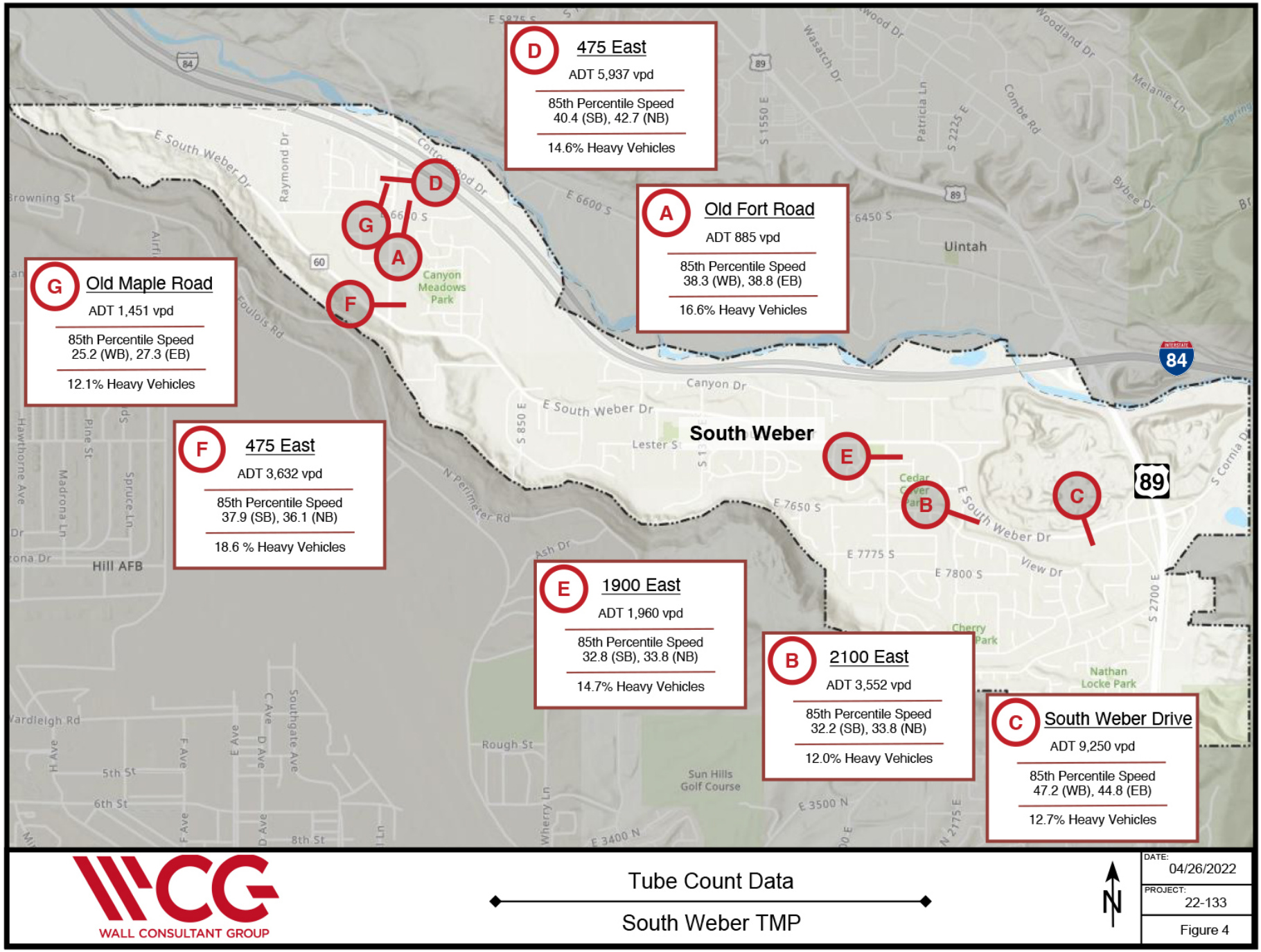


FIGURE 5: INTERSECTION TURNING MOVEMENT COUNTS

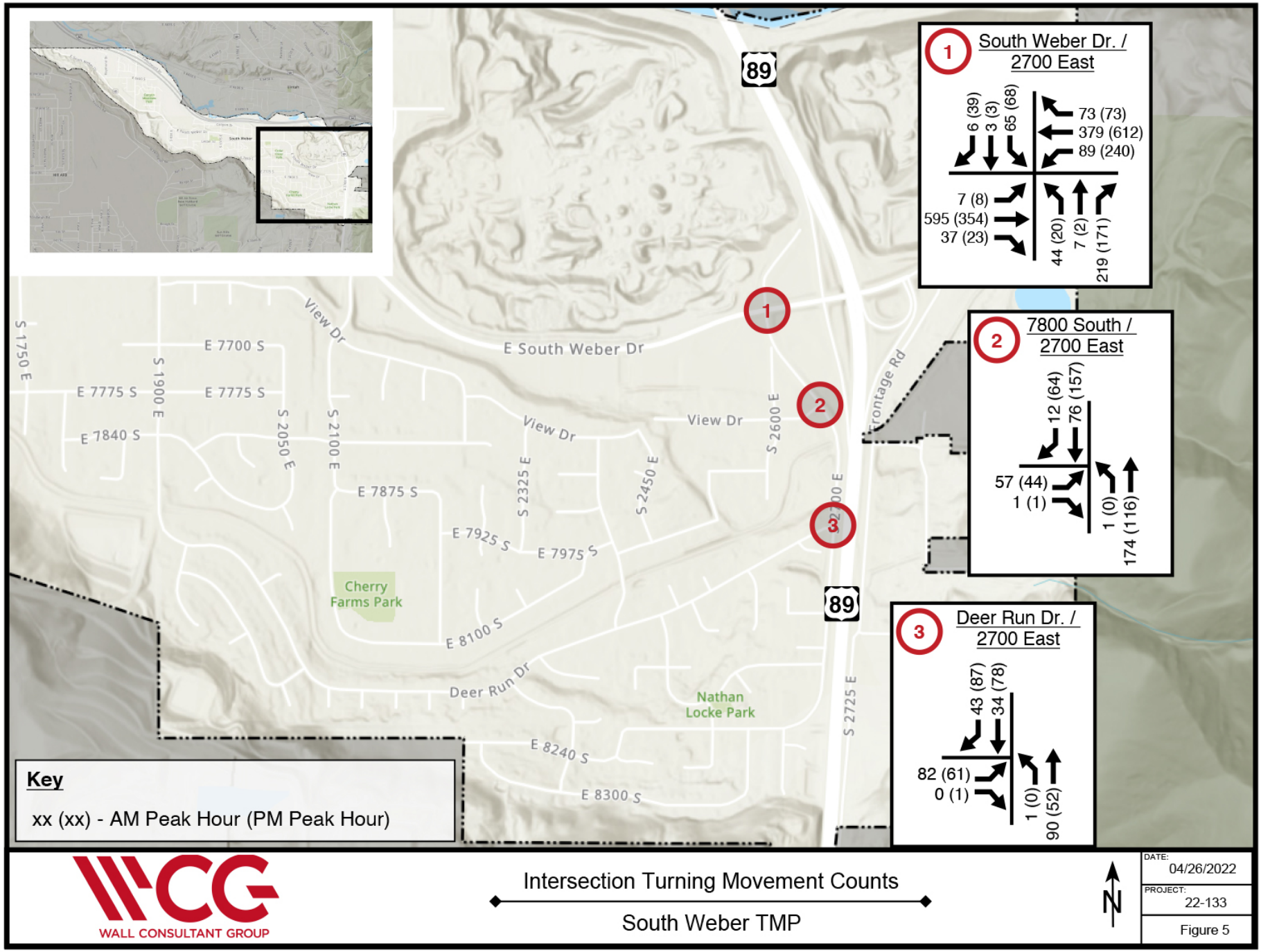
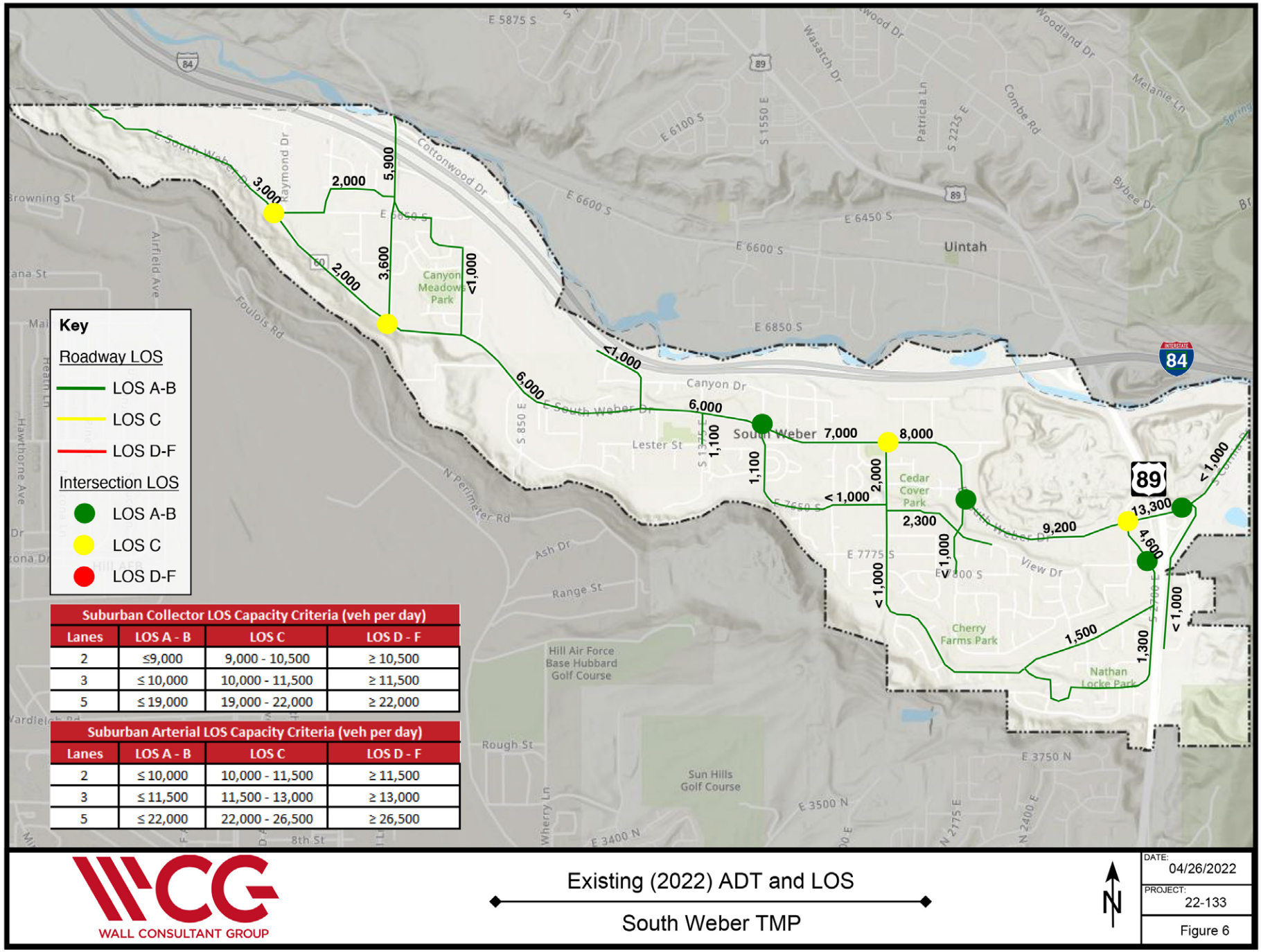


FIGURE 6: EXISTING (2022) ADT AND LOS



Suburban Collector LOS Capacity Criteria (veh per day)			
Lanes	LOS A - B	LOS C	LOS D - F
2	≤9,000	9,000 - 10,500	≥ 10,500
3	≤ 10,000	10,000 - 11,500	≥ 11,500
5	≤ 19,000	19,000 - 22,000	≥ 22,000

Suburban Arterial LOS Capacity Criteria (veh per day)			
Lanes	LOS A - B	LOS C	LOS D - F
2	≤ 10,000	10,000 - 11,500	≥ 11,500
3	≤ 11,500	11,500 - 13,000	≥ 13,000
5	≤ 22,000	22,000 - 26,500	≥ 26,500

WALL CONSULTANT GROUP

Existing (2022) ADT and LOS

South Weber TMP

N

DATE: 04/26/2022

PROJECT: 22-133

Figure 6

E. TRAVEL DEMAND MODEL

The travel demand modeling was performed using the latest version (v8.3.2, dated November 10, 2021) of the Wasatch Front Regional Council (WFRC) model. Edits were made to the roadway network, vehicle loading locations, and socio-economic data to best represent current and projected future conditions within South Weber. Travel demand modeling was performed in Bentley Cube version 6.5.0.

Details regarding modeling specifics such as roadway network, demographics, and scenario testing are described in later sections of the report.

F. FUTURE (2032) CONDITIONS

a. Future (2032) land use

South Weber population is projected to be 10,400 by 2032. Household projections were adjusted to match this population. Household distribution across TAZs were projected based on develop-able land and projected residential densities provided in the future land use plan. Commercial areas were projected to be partially developed by 2032.

b. Future (2032) Volumes and No-Build LOS

Traffic volumes from the 2032 no-build travel demand model have been compared to the LOS thresholds in Tables 4 and 5. LOS results from the analysis are shown below in Figure 8. As shown, all roadway segments are expected to operate at an acceptable level of service (LOS C or better) except for 2700 East from 7800 South to South Weber Drive (SR-60). In addition, due to the closely spaced intersections along 2700 East and complex vehicle movements, intersections are expected to operate at a lower LOS and thus improvements are recommended.

To accommodate future volumes and for the closely spaced intersections planned along 2700 East to operate at an acceptable LOS, it is recommended that 2700 East be widened from 2 lanes to 5 lanes. Specific details on this widening recommendation are provided in the Chapter 4: South Weber Drive (SR-60) & 2700 East Sub-Area Plan.

c. Future (2032) Build LOS

Due to the unacceptable intersection LOS and poor roadway LOS expected to occur in the 2032 No Build scenario, the following projects are recommended to increase roadway capacity:

- 2700 East; 7800 South to South Weber Drive (SR-60) – Widen from 2 lanes to 5 lanes

This project is shown in Figure 13 and Table 6 in the Roadway Projects section of the report. The 2032 build scenario LOS is shown below in Figure 9.

The intersection of 475 East & South Weber Drive is shown as failing in the no-build scenario. Once the Old Fort Road to South Weber Drive connection is made to the North, however, the intersection is expected to operate at an acceptable LOS C by 2032.

FIGURE 7: FUTURE (2032) HOUSEHOLD AND EMPLOYMENT DATA

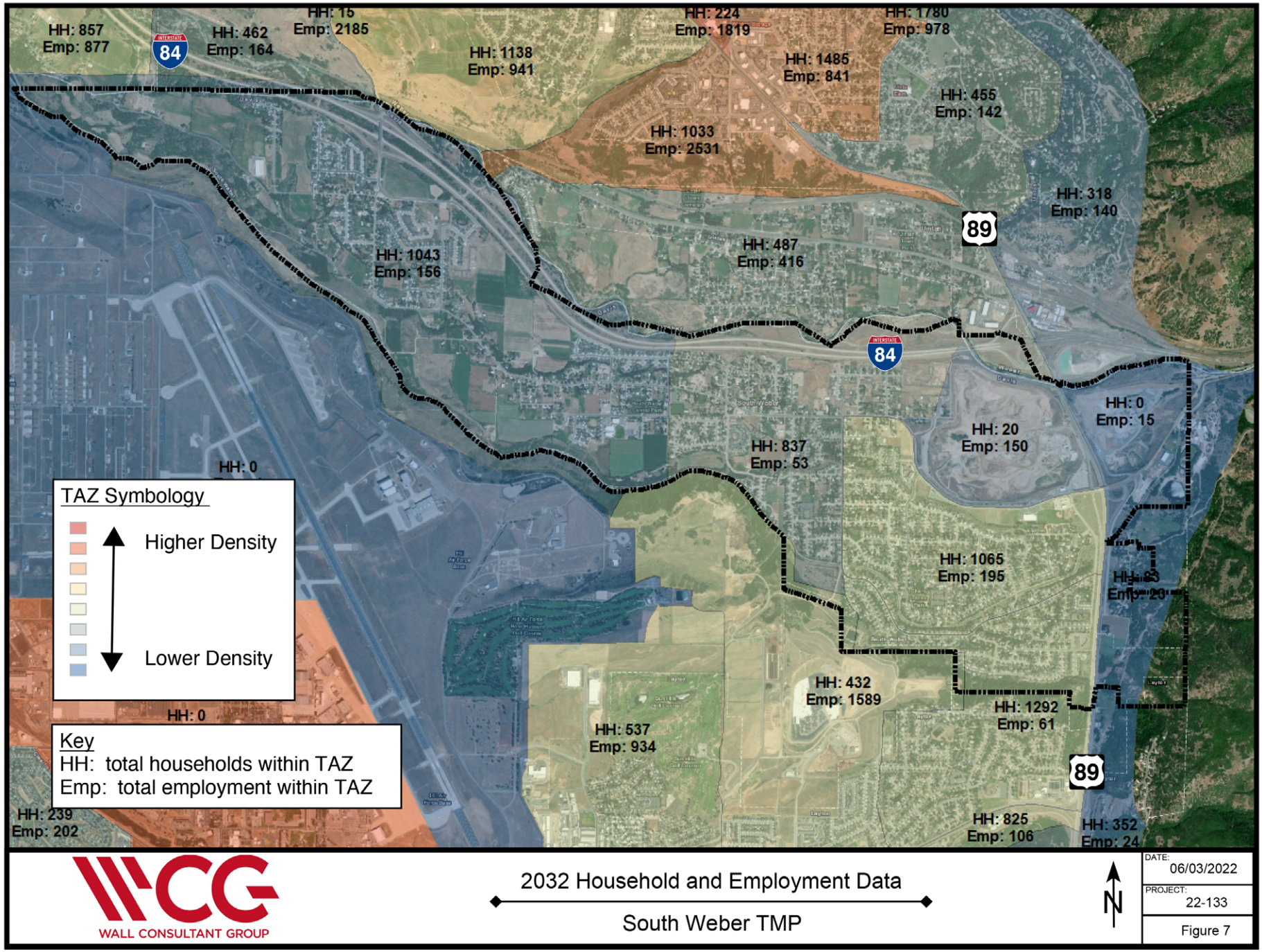
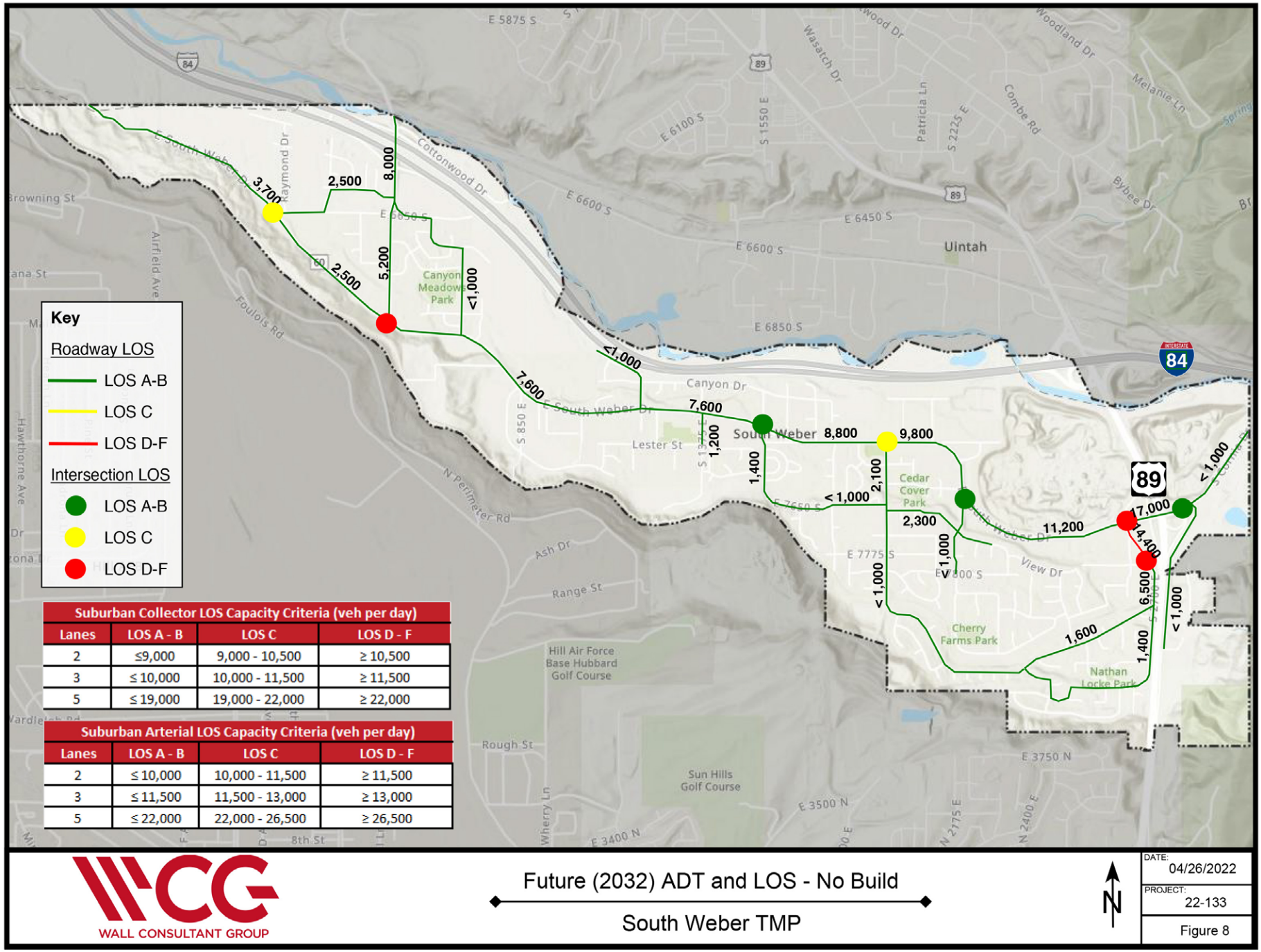


FIGURE 8: FUTURE (2032) ADT AND LOS - NO BUILD



Suburban Collector LOS Capacity Criteria (veh per day)			
Lanes	LOS A - B	LOS C	LOS D - F
2	≤9,000	9,000 - 10,500	≥ 10,500
3	≤ 10,000	10,000 - 11,500	≥ 11,500
5	≤ 19,000	19,000 - 22,000	≥ 22,000

Suburban Arterial LOS Capacity Criteria (veh per day)			
Lanes	LOS A - B	LOS C	LOS D - F
2	≤ 10,000	10,000 - 11,500	≥ 11,500
3	≤ 11,500	11,500 - 13,000	≥ 13,000
5	≤ 22,000	22,000 - 26,500	≥ 26,500

WALL CONSULTANT GROUP

Future (2032) ADT and LOS - No Build

South Weber TMP

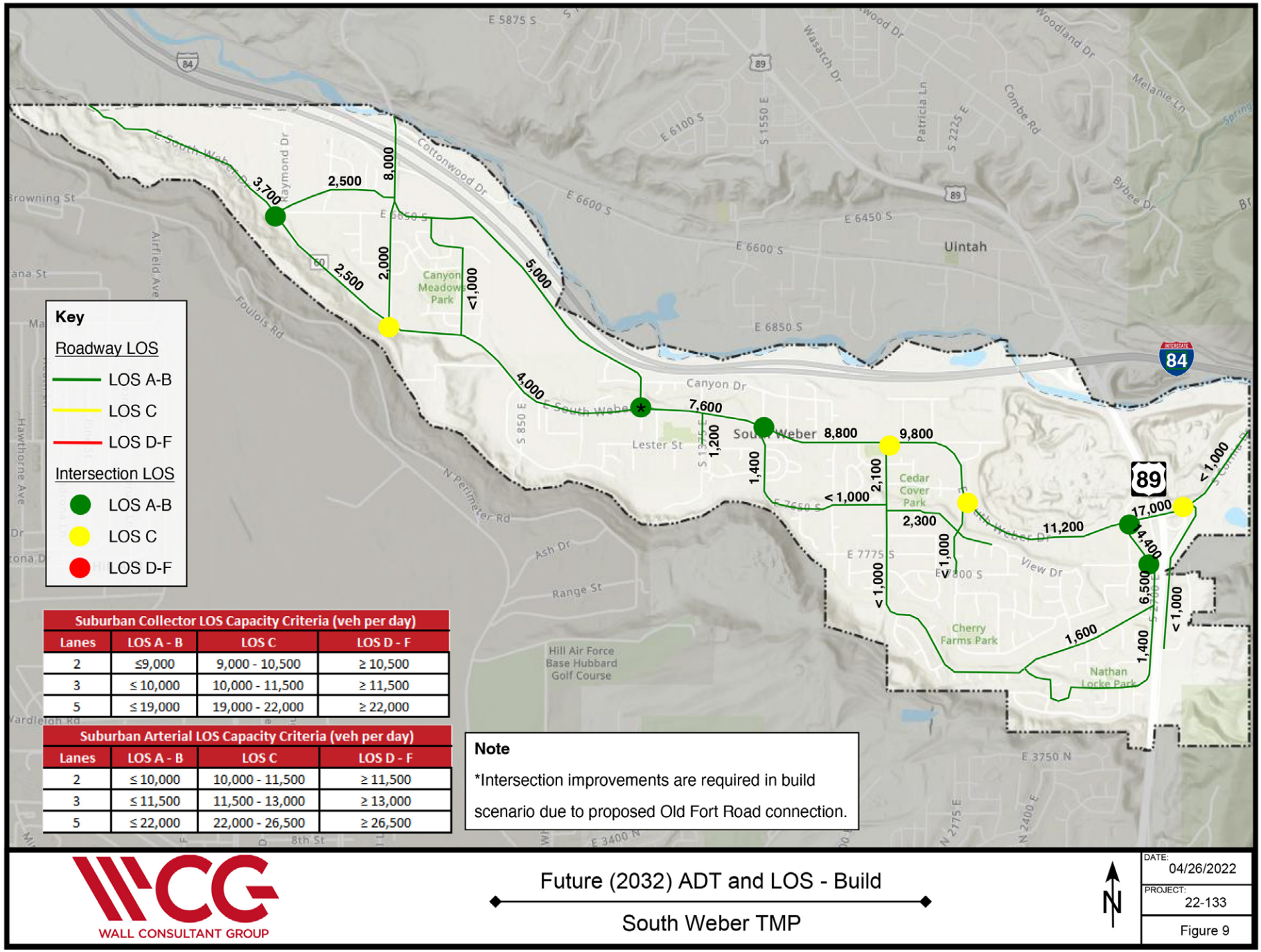
N

DATE: 04/26/2022

PROJECT: 22-133

Figure 8

FIGURE 9: FUTURE (2032) ADT AND LOS - BUILD



Suburban Collector LOS Capacity Criteria (veh per day)			
Lanes	LOS A - B	LOS C	LOS D - F
2	≤9,000	9,000 - 10,500	≥ 10,500
3	≤ 10,000	10,000 - 11,500	≥ 11,500
5	≤ 19,000	19,000 - 22,000	≥ 22,000

Suburban Arterial LOS Capacity Criteria (veh per day)			
Lanes	LOS A - B	LOS C	LOS D - F
2	≤ 10,000	10,000 - 11,500	≥ 11,500
3	≤ 11,500	11,500 - 13,000	≥ 13,000
5	≤ 22,000	22,000 - 26,500	≥ 26,500

Note

*Intersection improvements are required in build scenario due to proposed Old Fort Road connection.

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Future (2032) ADT and LOS - Build

South Weber TMP

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DATE: 04/26/2022

PROJECT: 22-133

Figure 9

G. FUTURE (2050) LAND USE

a. Future (2050) land use

South Weber population is projected to be 12,900 by 2050. Household projections were adjusted to match this population. Household distribution across TAZs were projected based on develop-able land and projected residential densities provided in the future land use plan. Commercial area densities were determined based on likely number of jobs that could be served by South Weber and surrounding city populations and input from South Weber City staff.

b. Future (2050) Volumes and No Build LOS

Traffic volumes from the 2050 No Build travel demand model have been compared to the LOS thresholds in Tables 4 and 5. LOS results from the analysis are shown below in Figure 11.

As shown in Figure 11, the following roadway segments are expected to operate at unacceptable levels of service (LOS D or worse):

- South Weber Drive (SR-60); 2100 East to 2700 East
- 2700 East; 7800 South to South Weber Drive (SR-60)

c. Future (2050) Build LOS

Due to the unacceptable LOS expected to occur in the 2050 No Build scenario on select roadways, the following projects are recommended before 2050:

- 2700 East; 7800 South to South Weber Drive (SR-60) – Widen from 2 lanes to 5 lanes (same as 2032 Build project)
- South Weber Drive (SR-60); 2100 East to 2700 East – Widen from 3 lanes to 5 lanes
- South Weber Drive (SR-60); 1900 East to 2100 East – Widen from 2 lanes to 3 lanes

These projects and their associated project numbers are summarized in Figure 13 and Table 6 in the South Weber TMP Roadway Projects section of the report. The 2050 build scenario LOS is shown below in Figure 12.

FIGURE 10: FUTURE (2050) HOUSEHOLD AND EMPLOYMENT DATA

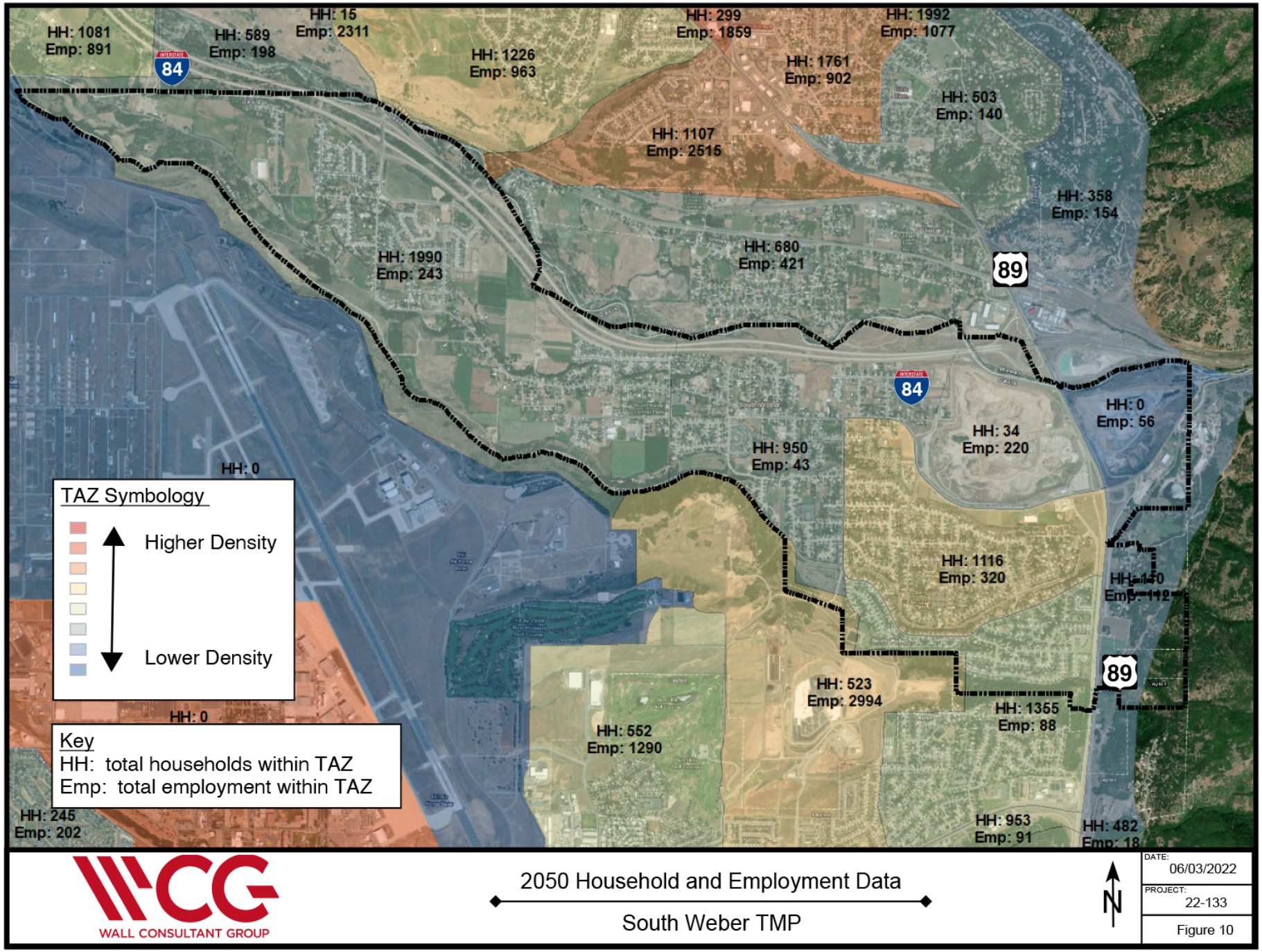
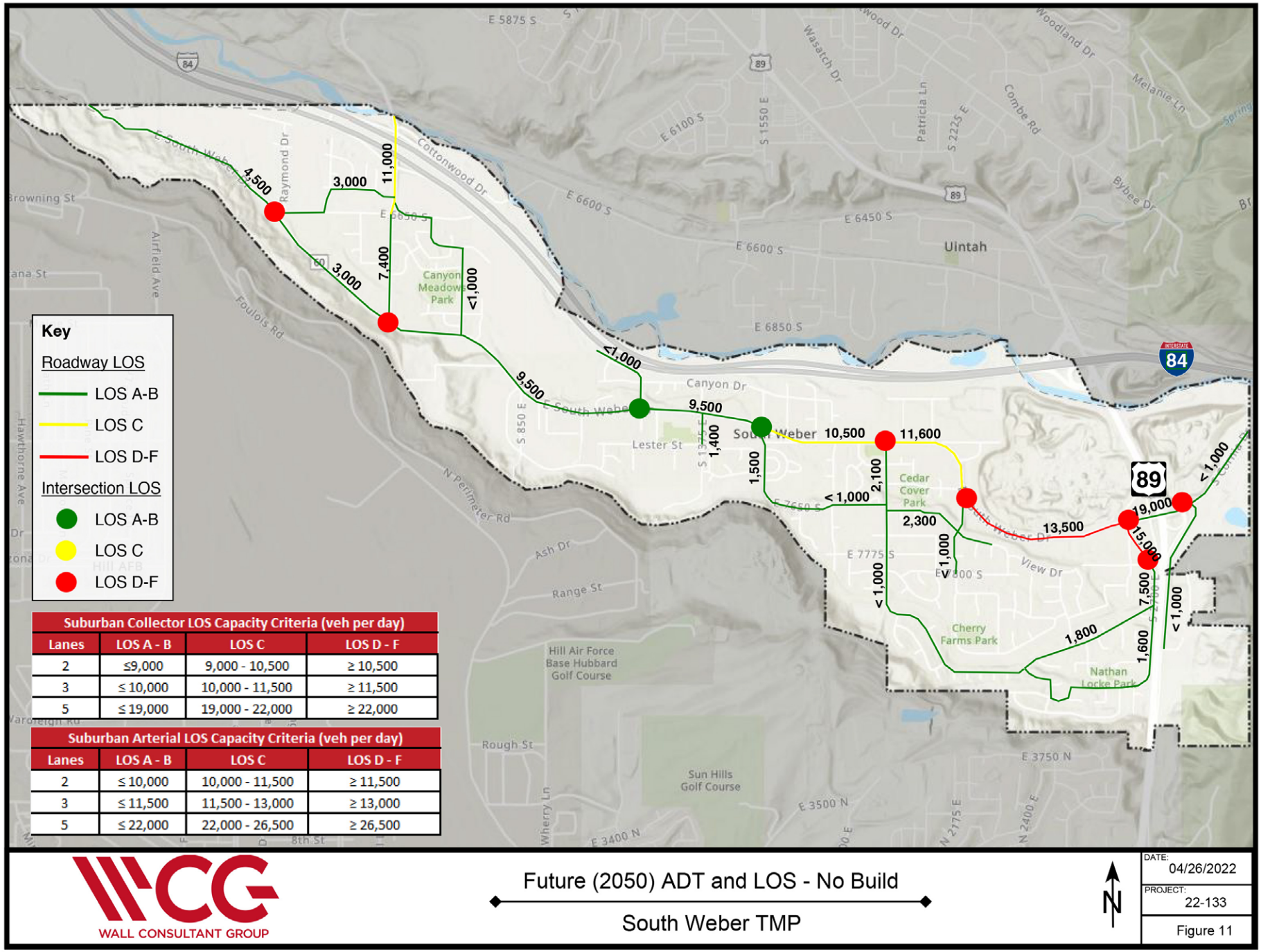


FIGURE 11: FUTURE (2050) ADT AND LOS - NO BUILD



Suburban Collector LOS Capacity Criteria (veh per day)			
Lanes	LOS A - B	LOS C	LOS D - F
2	≤9,000	9,000 - 10,500	≥ 10,500
3	≤ 10,000	10,000 - 11,500	≥ 11,500
5	≤ 19,000	19,000 - 22,000	≥ 22,000

Suburban Arterial LOS Capacity Criteria (veh per day)			
Lanes	LOS A - B	LOS C	LOS D - F
2	≤ 10,000	10,000 - 11,500	≥ 11,500
3	≤ 11,500	11,500 - 13,000	≥ 13,000
5	≤ 22,000	22,000 - 26,500	≥ 26,500

WALL CONSULTANT GROUP

Future (2050) ADT and LOS - No Build

South Weber TMP

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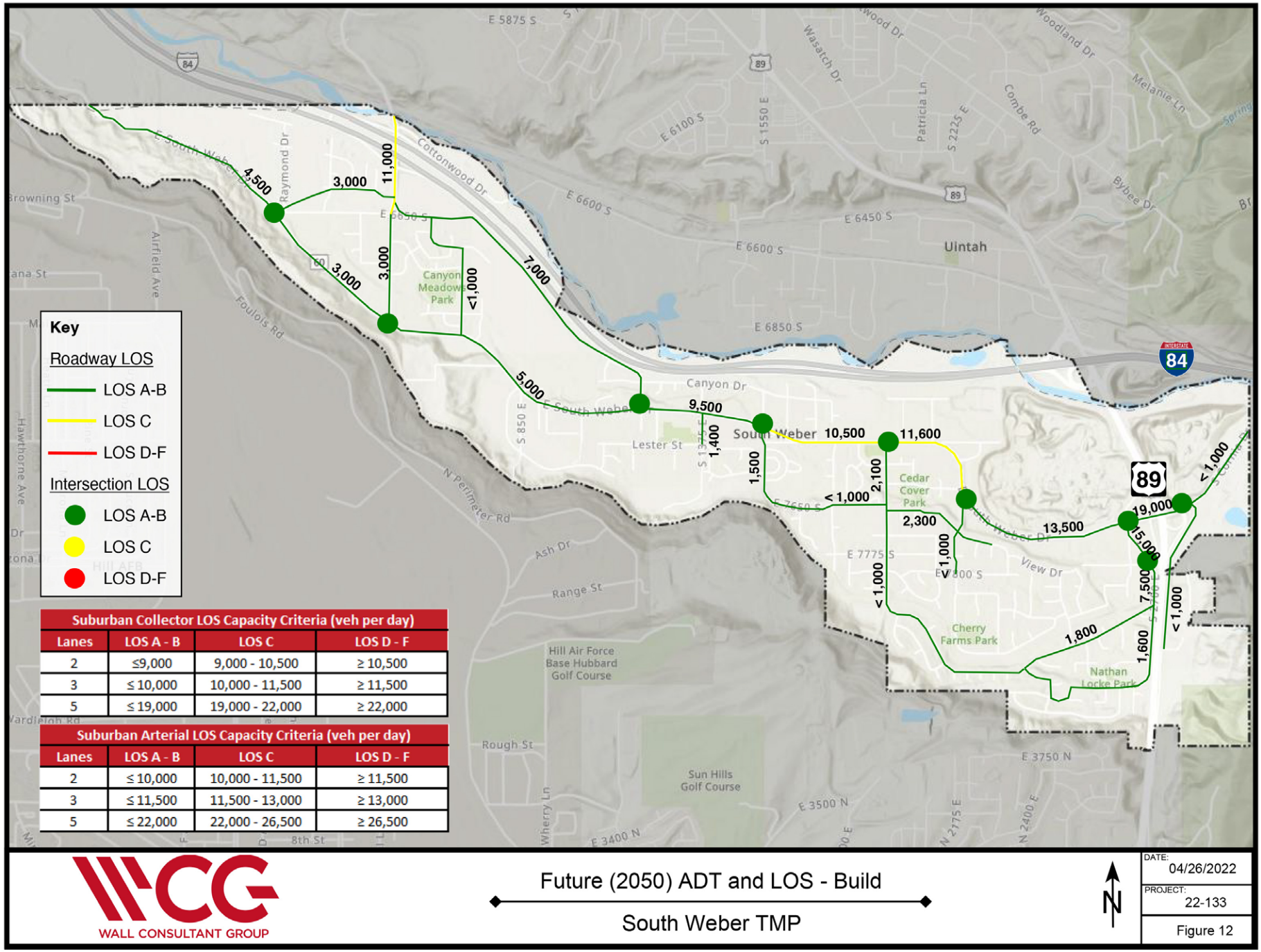
DATE: 04/26/2022

PROJECT: 22-133

Figure 11

FIGURE 12: FUTURE (2050) ADT AND LOS - BUILD



Suburban Collector LOS Capacity Criteria (veh per day)			
Lanes	LOS A - B	LOS C	LOS D - F
2	≤9,000	9,000 - 10,500	≥ 10,500
3	≤ 10,000	10,000 - 11,500	≥ 11,500
5	≤ 19,000	19,000 - 22,000	≥ 22,000

Suburban Arterial LOS Capacity Criteria (veh per day)			
Lanes	LOS A - B	LOS C	LOS D - F
2	≤ 10,000	10,000 - 11,500	≥ 11,500
3	≤ 11,500	11,500 - 13,000	≥ 13,000
5	≤ 22,000	22,000 - 26,500	≥ 26,500

WALL CONSULTANT GROUP

Future (2050) ADT and LOS - Build

South Weber TMP

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DATE: 04/26/2022

PROJECT: 22-133

Figure 12

H. RECOMMENDATIONS FOR FUTURE PROJECTS

WFRC Roadway Projects

The 2023 WFRC regional transportation plan lists the following roadway projects in their long-range plan for South Weber City:

- Old Fort Road; Harvest Park Lane to South Weber Drive - Old Fort Road New Construction from Harvest Park Lane to South Weber Drive, expected to occur between 2023 and 2032.
- South Weber Dr; SR-168 to 2100 East – An operational improvement project expected to occur between 2043 to 2050.

South Weber TMP Roadway Projects

It is recommended South Weber City begin planning for the proposed roadway improvements shown below in Table 6. Figure 13 below depicts the locations of the proposed roadway improvements. Figure 14 shows the future roadway network functional classification, including the future roadway project listed in Table 6.

Table 6: Future Roadway Projects

Project Number	Location	Responsibility	Estimated Future Project Year	Improvement Scope	# of Lanes		Total Project Cost
					2022	Proposed	
1	Old Fort Road: Connect current western section to 950 East*	South Weber / Developers	2022 - 2032	New Road (Collector)	N/A	3	$8,487,216.79
2	Old Maple Road: End of Existing to South Weber Drive*	South Weber / Developers	2022 - 2032	New Road (Collector)	N/A	2	$3,389,329.69
3	950 East: Old Fort Road to South Weber Drive*	South Weber	2022 - 2032	New Road (Collector)	N/A	3	$5,897,140.22
4	2700 East: SR-60 to 7800 South*	South Weber / Developers	2022 - 2032	Widening	2	5	$704,733.45
16	South Weber Drive (SR-60): 2100 East to 2700 East	South Weber / Developers / UDOT	2033 - 2050	Widening	2	3	$4,622,111.20
17	1650 East Connection	Developers	2033 - 2050	New Road (Collector)	N/A	2	$1,490,403.02
18	South Weber Drive (SR-60): 2100 East to 1900 East	UDOT	2033 - 2050	Widening	3	5	$2,441,319.18

* Impact Fee Eligible Project

South Weber TMP Intersection Projects

It is recommended the City begin planning for the proposed intersection improvements shown below in Table 7. Figure 13 depicts the locations of the proposed intersection improvements.

Table 7: Future Intersection Projects

Project Number	Location	Responsibility	Estimated Future Project Year	Improvement Scope	Total Project Cost
5	2700 East & 7800 South*	South Weber / Developers	2022 - 2032	Roundabout with right-turn bypass lanes	$1,023,360.88
6	75 West & South Weber Drive*	South Weber / UDOT	2022 - 2032	Eastbound left-turn lane	$833,340.69
7	850 East & Old Fort Road*	South Weber / Developers	2022 - 2032	Single lane roundabout	$885,982.89
8	950 East & Old Fort Road*	South Weber / Developers	2022 - 2032	Single lane roundabout	$885,982.89
9	Old Maple Road & South Weber Drive*	South Weber / UDOT	2022 - 2032	Single lane roundabout	$1,020,140.99
10	950 East & South Weber Drive	UDOT	2022 - 2032	Signal	$482,458
11	2700 East & South Weber Drive	UDOT	2022 - 2032	Westbound dual left-turn lanes	$1,054,694.62
12	1900 East & South Weber Drive	UDOT	2033 - 2050	Signal, widening for NBL and NBR turn-lanes	$642,274.60
13	2100 East & South Weber Drive	UDOT	2033 - 2050	Signal, widening for NBL and NBR turn-lanes	$589,019.80
14	475 East & South Weber Drive	UDOT	2033 - 2050	Eastbound left-turn lane	$1,394,525.49
15	South Weber Drive & US-89 Interchange Improvements	UDOT	2033 - 2050	Interchange Improvements	$50,000,000

* Impact Fee Eligible Project

FIGURE 13: FUTURE PROJECTS

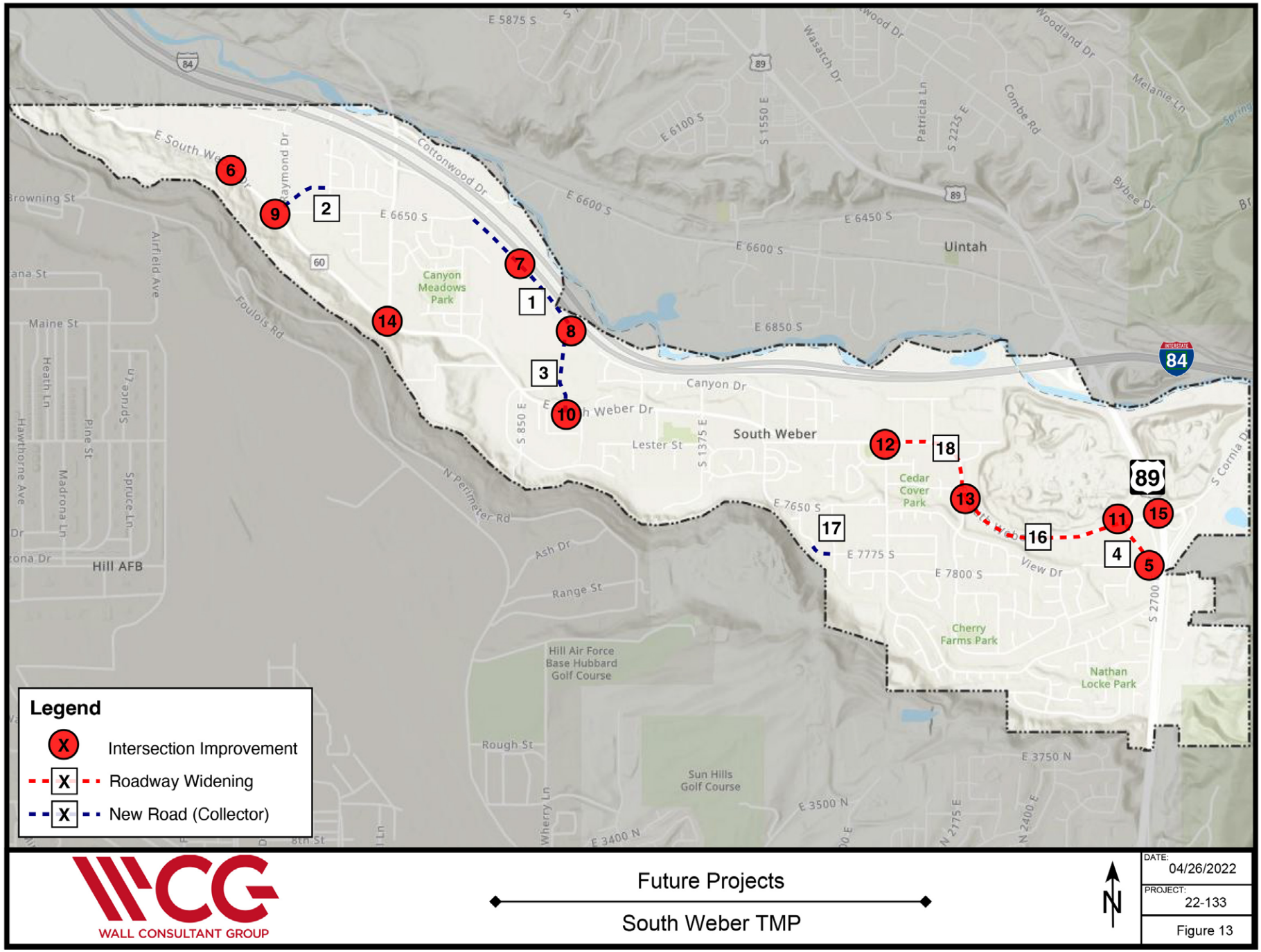
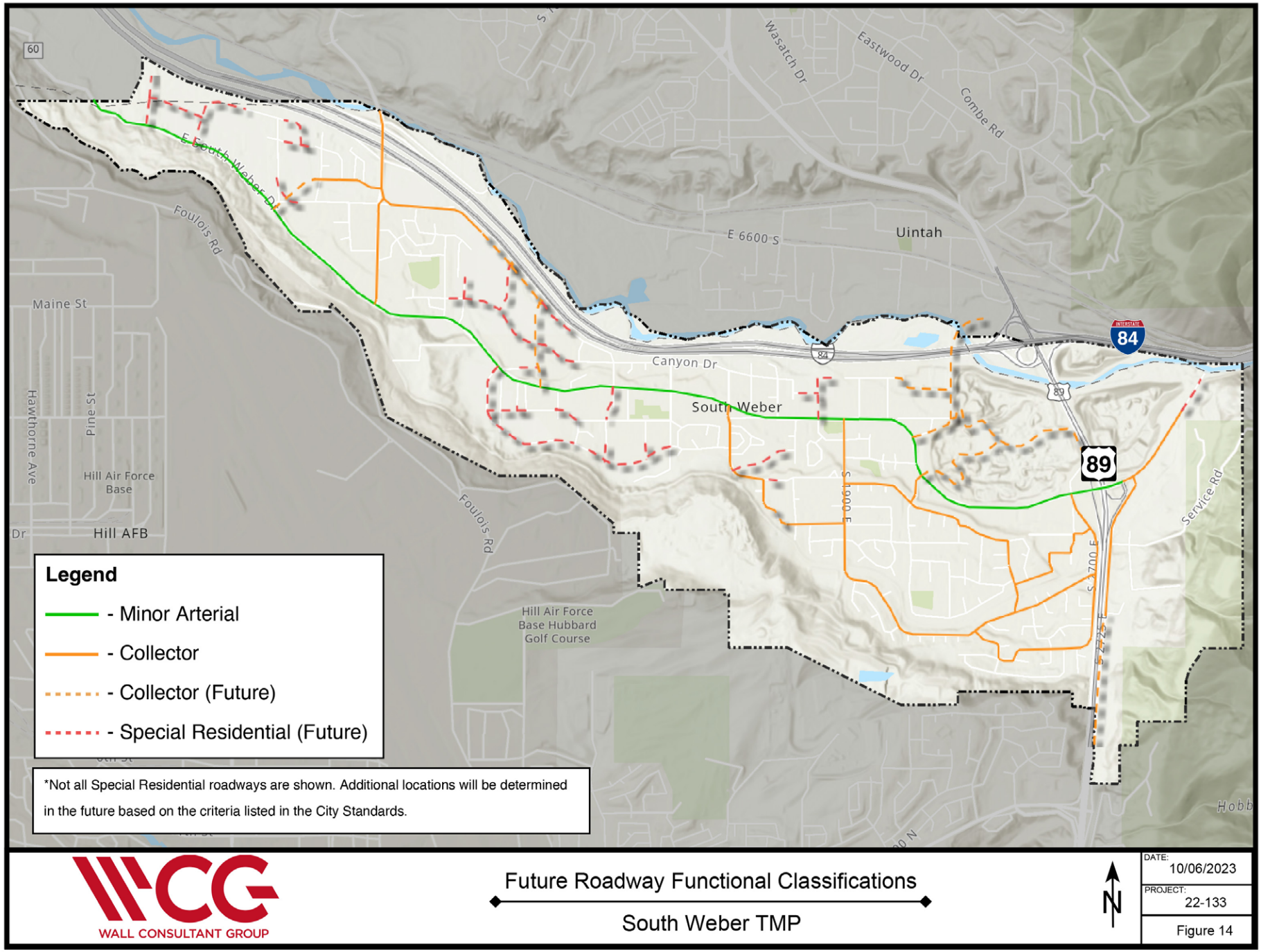


FIGURE 14: FUTURE ROADWAYS



IV. SOUTH WEBER DRIVE (SR-60) & 2700 EAST SUB-AREA PLAN

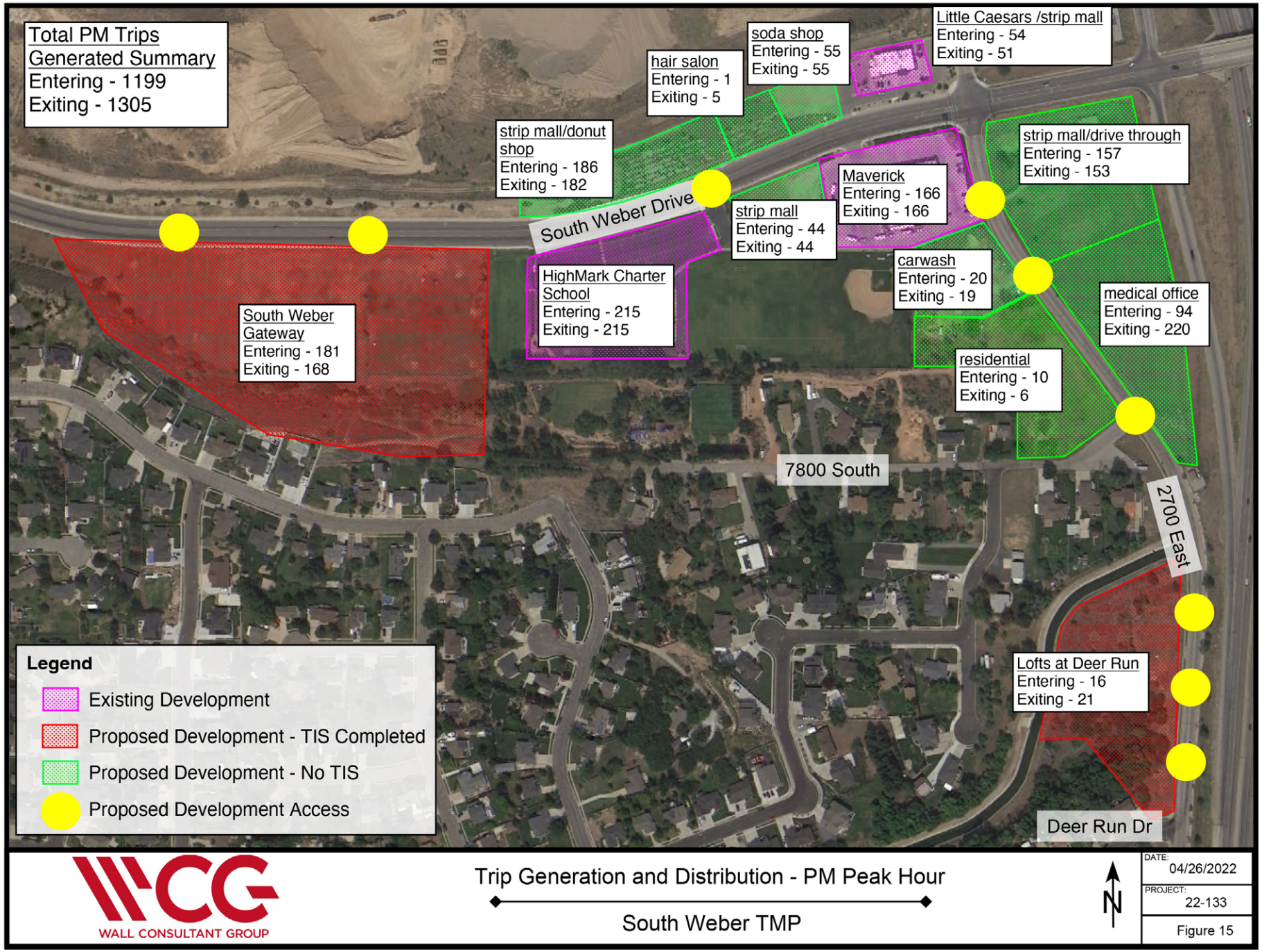
A. OVERVIEW

South Weber City has a unique opportunity to plan for commercial development and economic growth in a relatively undeveloped area. Thus, they can tailor this commercial area to fit the needs and desires of the community. South Weber Drive (SR-60) and 2700 East are two major roadways in the community and are critical to the mobility of all residents. These roadways are already experiencing congestion, with a busy signalized intersection, an adjacent interchange, and the existing land uses along both corridors. Residential and commercial development is proposed just west of the Charter School. Additional commercial development is also being considered in the vicinity of the 2700 East and South Weber Drive (SR-60) intersection. New development will generate additional traffic, as well as more accesses, conflict points, turning movements, and potential delays. Recommendations for access spacing and location, restricted movements, and capacity improvements are provided. The purpose of this sub-area plan is to develop a roadway concept that will create a successful economic hub, while also providing safe and efficient traffic operations.

B. TRIP GENERATION

Project trip generation estimates were developed using trip generation rates published in the Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition. Project traffic was distributed based on background traffic travel patterns along South Weber Drive (SR-60) and 2700 East. A summary of the expected land uses, trip generation, and trip distribution for the PM peak hour is shown below in Figure 15. Assumptions for future land use in undeveloped areas were made based on discussions with the city.

FIGURE 15: SUB AREA TRIP GENERATION AND DISTRIBUTION



C. FUTURE LOS – NO BUILD

The Highway Capacity Manual (HCM) 7th Edition, 2022 methodology was used in this analysis. For the signalized intersections in this analysis, the overall intersection LOS is reported. LOS is measured in seconds of delay per vehicle. Table 8 provides a brief description of each LOS letter designation and an accompanying average delay per vehicle thresholds for intersections.

Table 8: Level of Service Definition for Intersections

LOS	Signalized Delay (sec/vehicle)	Unsignalized Delay (sec/vehicle)	Description
A	≤10	≤10	Favorable progression
B	>10 and ≤20	>10 and ≤15	Good progression
C	>20 and ≤35	>15 and ≤25	Fair progression
D	>35 and ≤55	>25 and ≤35	Limit of acceptable delay
E	>55 and ≤80	>35 and ≤50	Unacceptable delay
F	>80	>50	Unacceptable delay

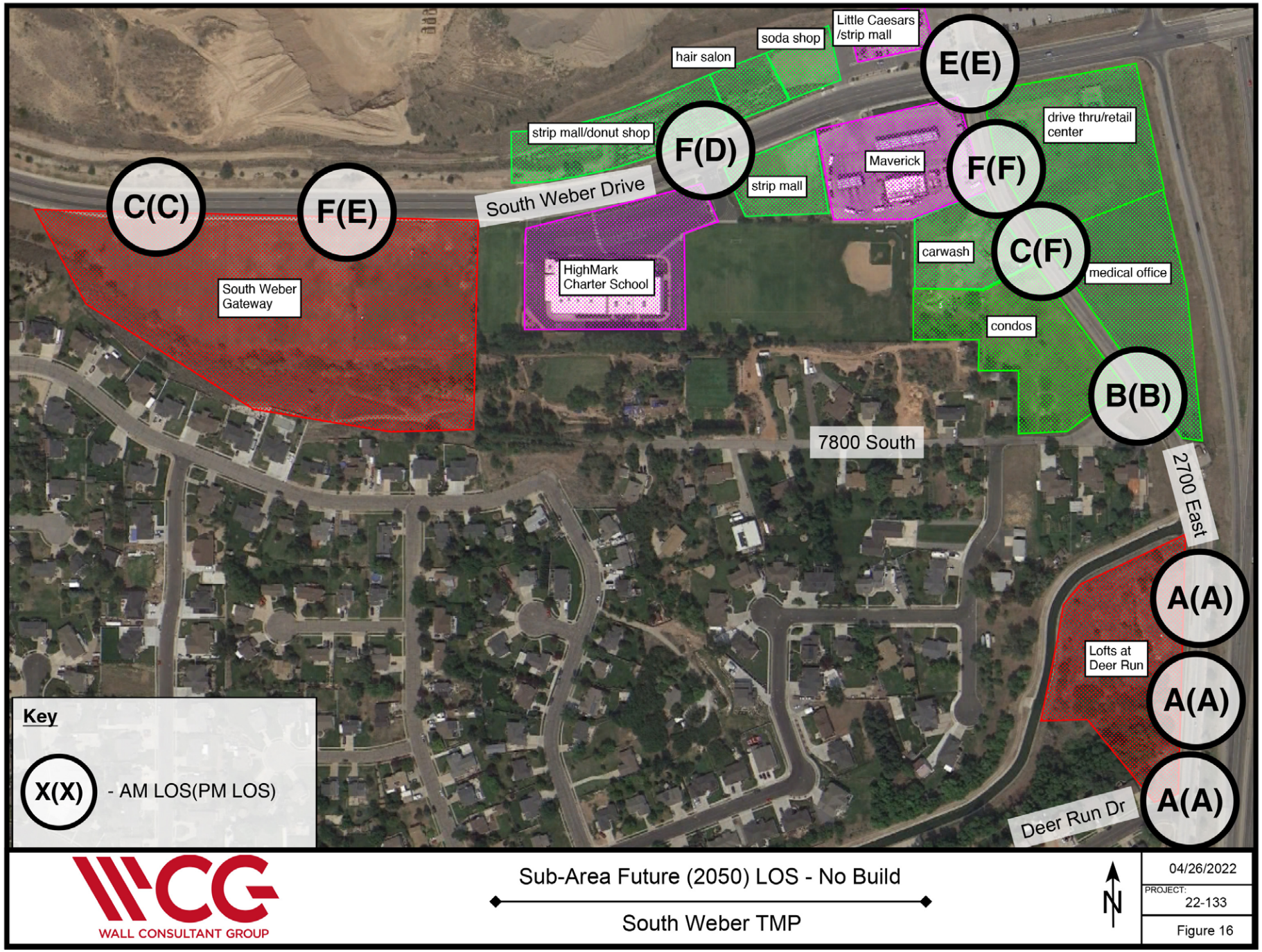
Source: Highway Capacity Manual, Transportation Research Board, 2022

For the purposes of this study, a minimum overall intersection performance for each of the study intersections was set at LOS C. If LOS D, E, or F for an individual movement at an intersection exists, explanation and/or mitigation measures are presented.

The Synchro/SimTraffic software program was used to evaluate the study intersections and obtain the Future (2050) No-Build LOS summarized in Figure 16 below. As shown in Figure 16, the following intersections are expected to operate at an unacceptable LOS in either the AM or PM peak hour in 2050:

- East access (South Weber Gateway) / South Weber Dr.
- East access (Highmark Charter School) / South Weber Dr.
- South Weber Dr / 2700 E
- Maverick / 2700 E
- Car Wash / 2700 E

FIGURE 16: SUB AREA FUTURE LOS – NO BUILD



D. FUTURE LOS – BUILD

The following mitigation scenarios have been studied to determine how best to improve traffic in the vicinity of South Weber Drive (SR-60) & 2700 East:

- Scenario #1 – South Weber Drive is widened to 5-lanes, 2700 East is widened to 5-lanes from South Weber Drive to 7800 South. Improvements at the South Weber Drive (SR-60) / 2700 East intersection include constructing westbound dual lefts and a northbound separate right-turn. The east approach at Maverick/2700 intersection is made into a ¾ access and the west approach a right-in right-out access. See Figure 17 for a summary of mitigation scenario #1.
- Scenario #2 – South Weber Drive is widened to 5-lanes, 2700 East is widened to 5-lanes from South Weber Drive to 7800 South. Improvements at the South Weber Drive (SR-60) / 2700 East intersection include constructing westbound dual lefts and a northbound separate right-turn. The Maverick/2700 intersection is made into a ¾ access, with a median barrier extending along 2700 East from South Weber Drive until 7800 South. The proposed car wash/shared access intersection along 2700 East would then become right-in right-out only. A roundabout would be constructed at 2700 East/7800 South to facilitate traffic movement. See Figure 18 for a summary of mitigation scenario #2.
- Scenario #3 – South Weber Drive is widened to 5-lanes, 2700 East is widened to 5-lanes from South Weber Drive to 7800 South. Improvements at the South Weber Drive (SR-60) / 2700 East intersection include constructing westbound dual lefts and a northbound separate right-turn. The eastbound approach at Maverick/2700 intersection is made into a ¾ access. A roundabout would be constructed at 2700 East/7800 South to facilitate traffic movement. See Figure 19 for a summary of mitigation scenario #3.

The Synchro/SimTraffic software program was used to evaluate the study intersections and obtain the Future (2050) Build LOS summarized in Figure 20 and Table 9 below. Scenario #3 is the ideal mitigation scenario because it operates at an acceptable level of service during both AM and PM peak hours and meets additional criteria necessary for favorable traffic operations.

AM Peak Hour						
Intersection	Control	Worst Movement	Delay (sec)	LOS	Overall Delay (sec)	LOS
West Access / South Weber Dr.	Stop	NBL	17.1	C	-	-
East Access / South Weber Dr.	Stop	NBL	20.9	C	-	-
East Highmark / South Weber Dr.	Stop	NBL	24.9	C	-	-
South Weber Dr / 2700 E	Signal	-	-	-	28.9	C
Maverick / 2700 E	Stop	WBR	11.3	B	-	-
Car Wash / 2700 E	Stop	EBT	14.4	B	-	-
7800 S / 2700 E	Stop	NBT	4.9	A	-	-
North Access / 2700 E	Stop	EBL	8.2	A	-	-
South Access / 2700 E	Stop	EBL	7.6	A	-	-
Deer Run Rd / 2700 E	Stop	EBL	6.8	A	-	-
PM Peak Hour						
West Access / South Weber Dr.	Stop	NBL	11.4	B	-	-
East Access / South Weber Dr.	Stop	NBL	23.6	C	-	-
East Highmark / South Weber Dr.	Stop	NBL	19	C	-	-
South Weber Dr / 2700 E	Signal	-	-	-	23.5	C
Maverick / 2700 E	Stop	WBR	8.1	A	-	-
Car Wash / 2700 E	Stop	WBT	17.4	C	-	-
7800 S / 2700 E	Stop	SBT	5.8	A	-	-
North Access / 2700 E	Stop	EBL	7.1	A	-	-
South Access / 2700 E	Stop	EBL	7.3	A	-	-
Deer Run Rd / 2700 E	Stop	EBL	7.8	A	-	-

FIGURE 17: MITIGATION SCENARIO #1

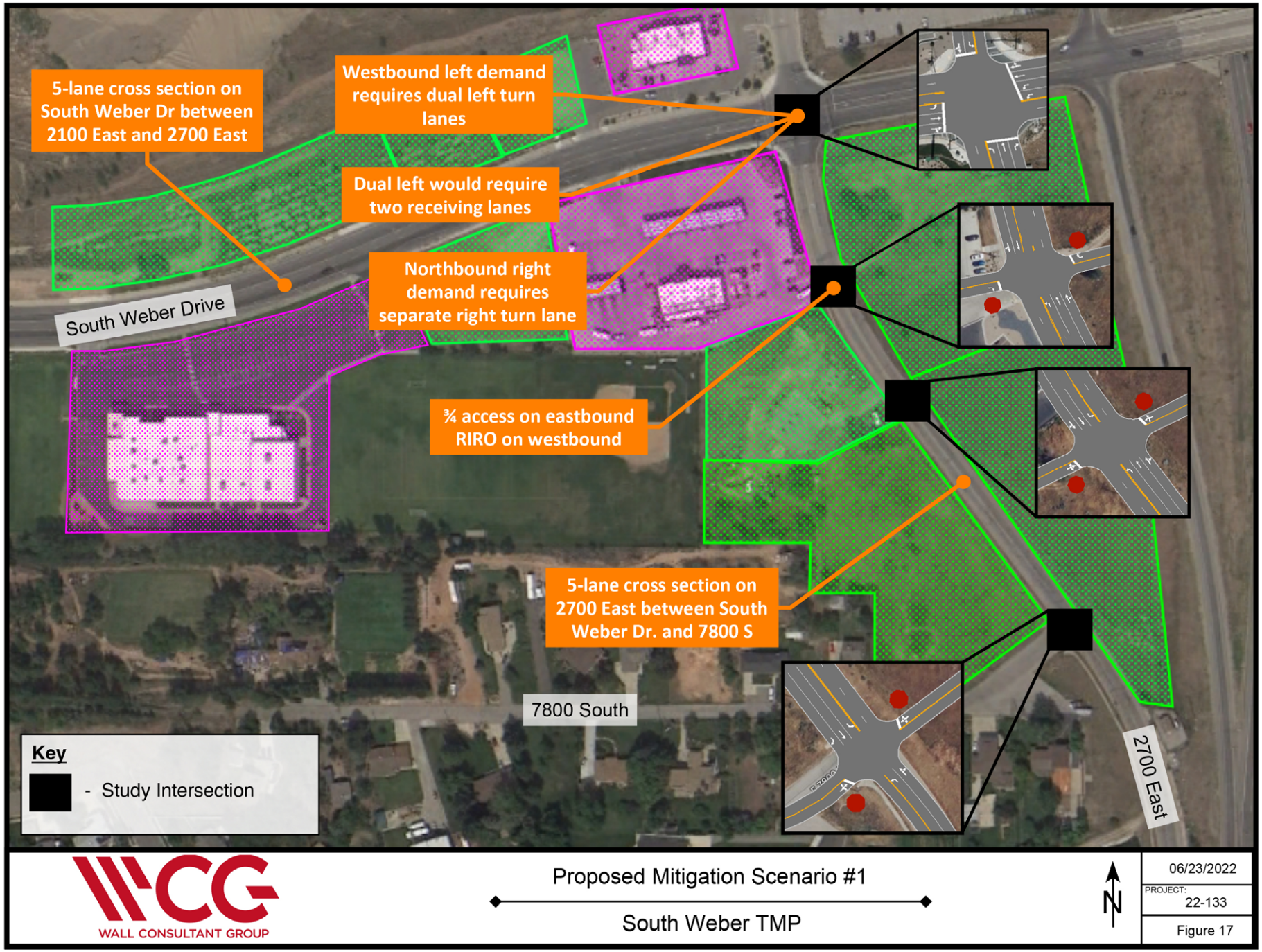


FIGURE 18: MITIGATION SCENARIO #2

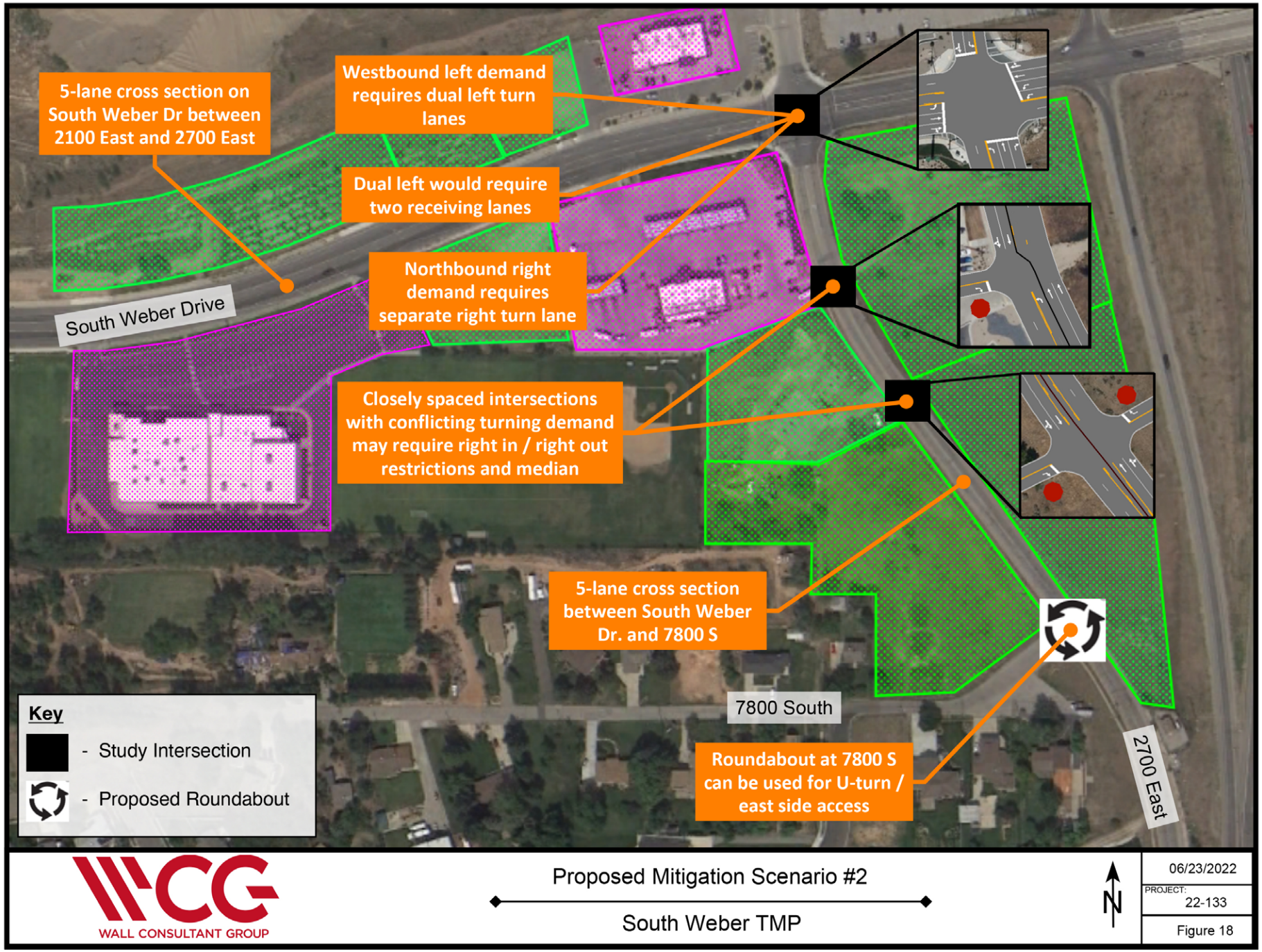


FIGURE 19: MITIGATION SCENARIO #3

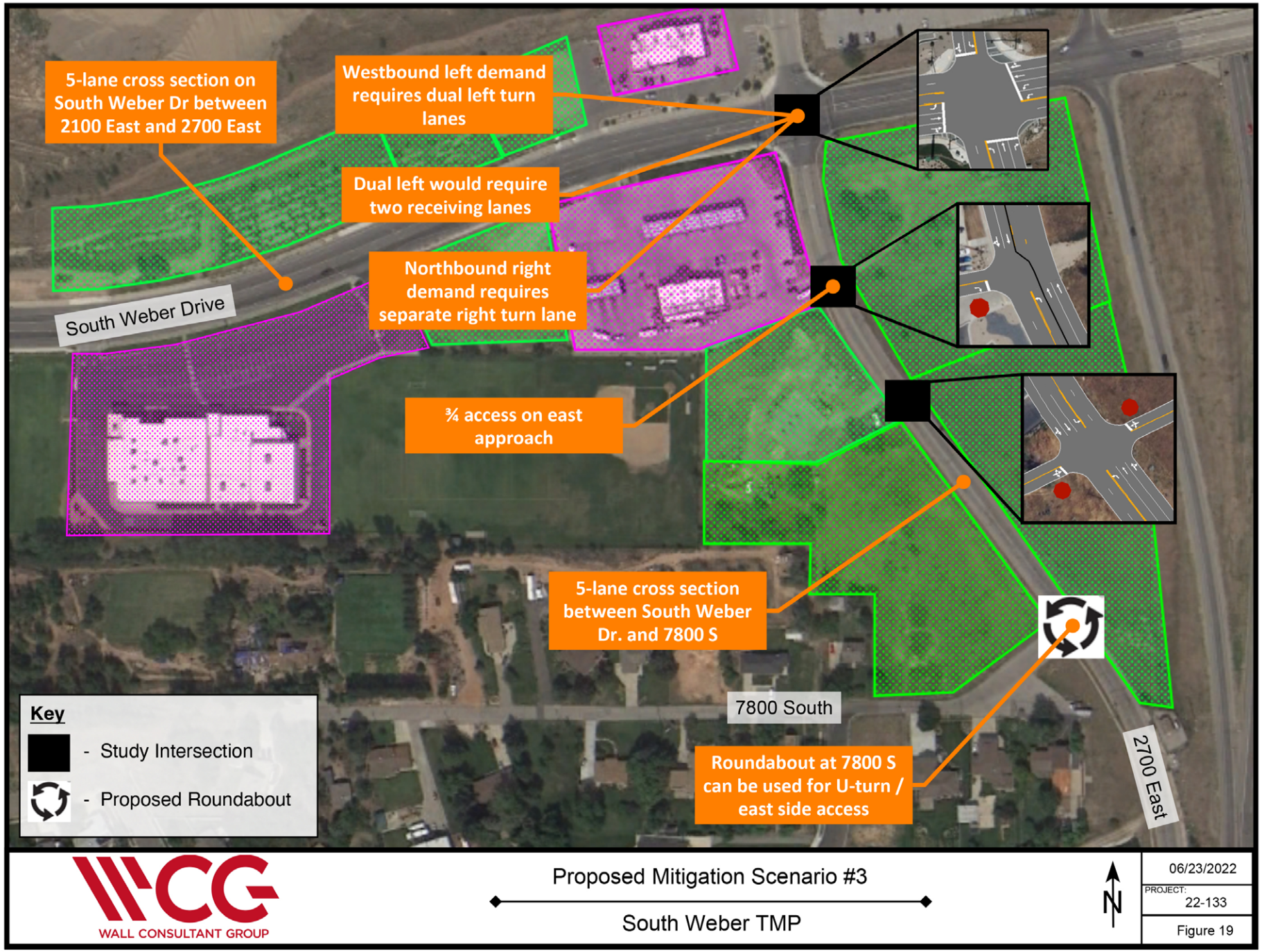
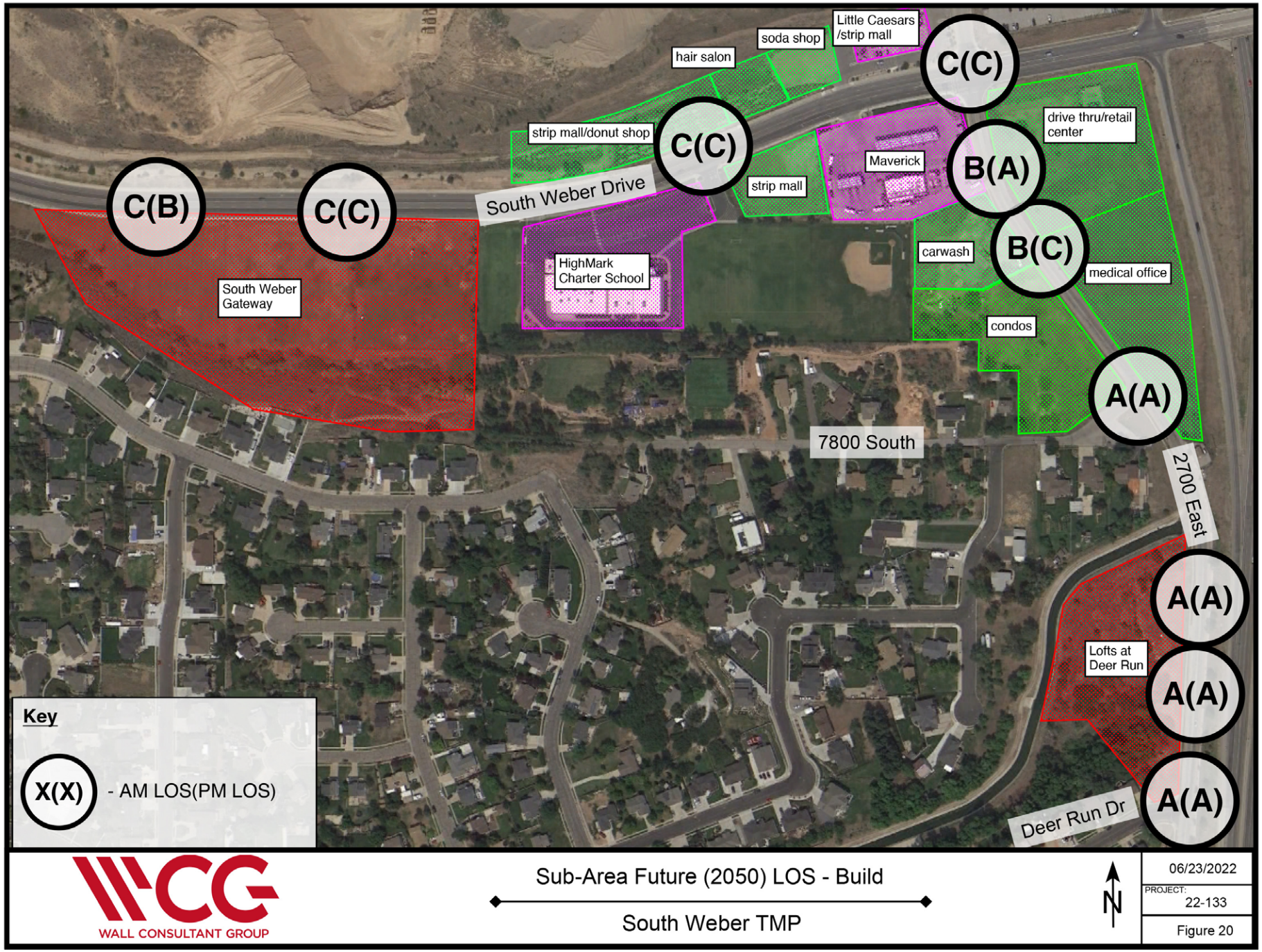


FIGURE 20: SUB AREA FUTURE LOS – BUILD



E. SUB-AREA PLAN SUMMARY

After extensive evaluation using Synchro/Simtraffic and after discussions with South Weber City, it has been determined that mitigation Scenario #3 will best meet the needs of the projected traffic growth. The roundabout planned at 7800 South and 2700 East will facilitate traffic flow along 2700 East and will accommodate U-Turning trucks leaving the Maverik east access. Figure 21 below shows the proposed South Weber Drive (SR-60) & 2700 East sub-area plan concept layout. Additional details, including the updated US-89 interchange striping are included in the appendix.

FIGURE 21: SUB AREA PLAN CONCEPT LAYOUT

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Sub Area Plan Concept Layout

South Weber TMP

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07/26/2022

PROJECT: 22-133

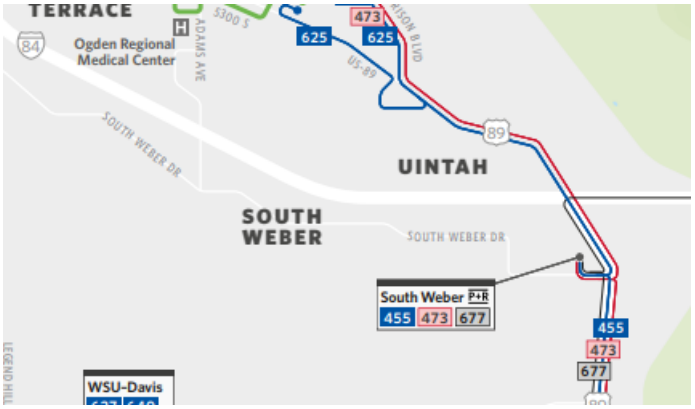
Figure 21

V. ALTERNATIVE MODES OF TRANSPORTATION

A. PUBLIC TRANSIT

Existing Transit Service

Public transit typically includes buses, light rail, and shuttle routes. Currently UTA bus Routes 455, and 473 are the only bus route that services South Weber City. Both start at Komas Dr and Wakara Way in Salt Lake City and run north through South Weber via SR-89. Route 455 stops at 17th St and Wall Ave in Ogden while Route 473 ends at Ogden Station.

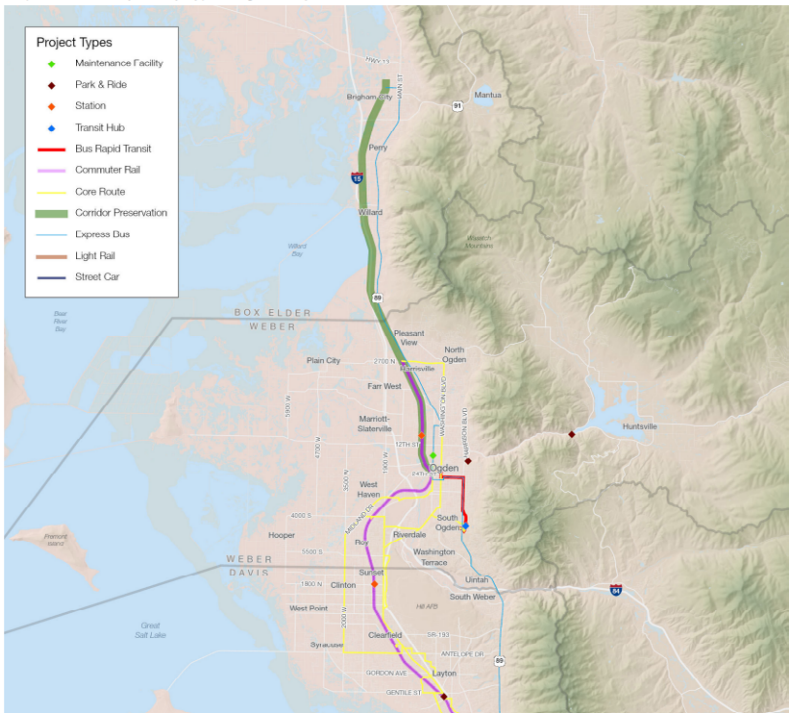


Future Transit Service

South Weber City should be actively involved in working with UTA, UDOT and the WFRC to support transit as a viable and efficient transportation mode in the City. Planning and lobbying efforts will help procure funds to support the development and maintenance of a sustainable transit system.

The Wasatch Front Regional Council (WFRC) regional transportation plan has transit improvements for the City's current bus route along SR-89 currently listed in their long-range plan. Improvements aren't expected to occur until between 2041 and 2050. Transit improvements below show the WFRC transit projects planned in South Weber city boundaries.

Map 9. Transit Projects by Type - Ogden-Layton Urbanized Area



B. ACTIVE TRANSPORTATION

Active transportation includes human-powered mobility such as biking and walking. Providing safe and convenient alternative transportation facilities is essential in providing active and equitable multimodal transportation. The Collector cross section may allow for the addition of bicycle lanes. Bicycle facilities are an essential part of a connected transportation network and should be implemented when feasible. Incomplete roadway segments (i.e. missing shoulders) pose a serious hazard to bicyclists, therefore roadways should be complete along the entire length of the bicycle lane.

The South Weber City General Plan lists the following trail improvement projects (See the General Plan for more information):

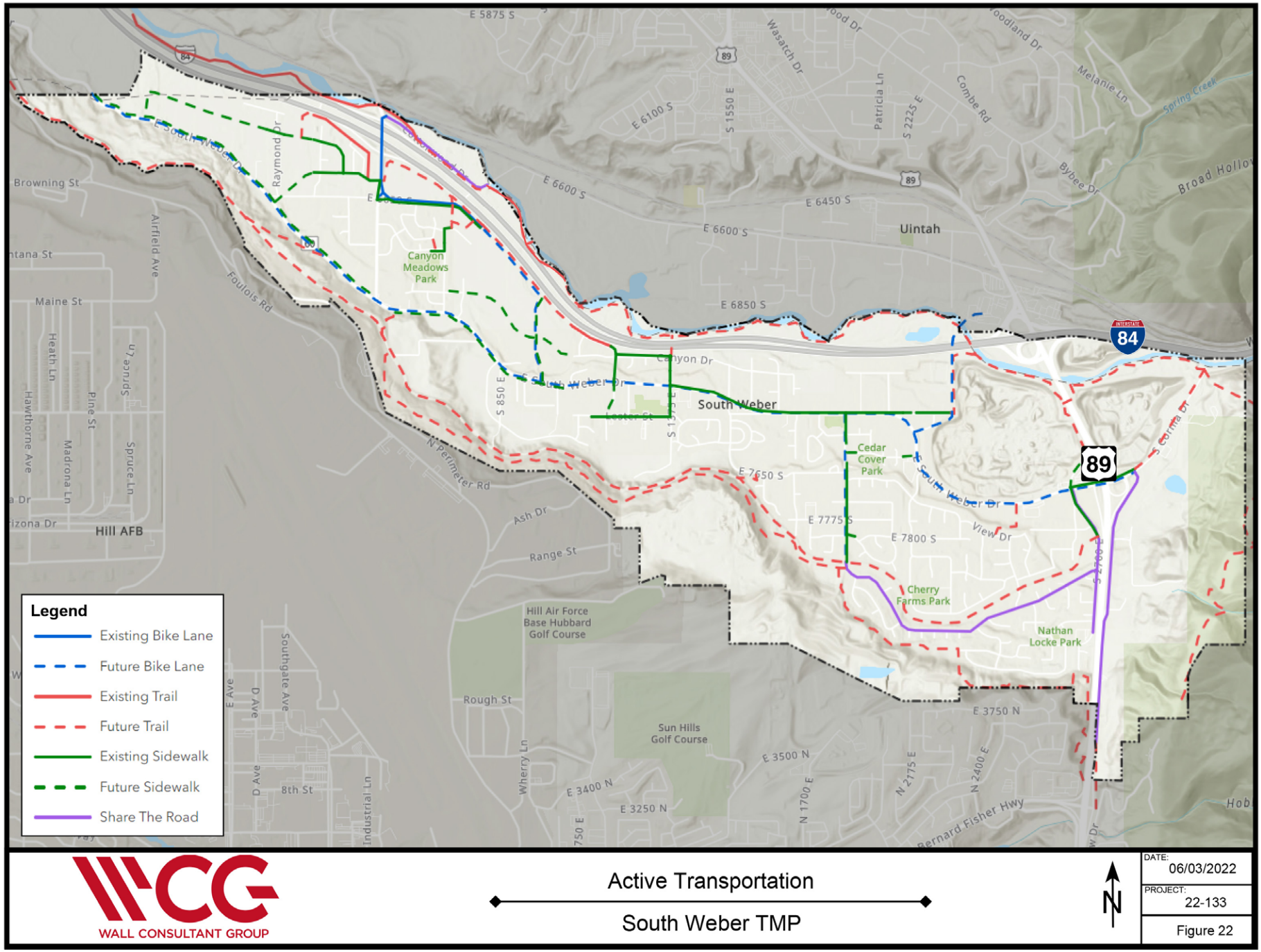
- Bonneville Shoreline Trail - The Bonneville Shoreline Trail (BST) is a regional trail based along the high-water level of ancient Lake Bonneville, conceptually traversing the entire Wasatch Front and extending into Cache County. A portion of this trail runs along the foothills east of the City at approximately 5,200 foot elevation. Although most of the trail is outside of City boundaries, it is a great asset to the residents of South Weber. The City could collaborate with Davis County and other stakeholders to complete the trail.
- Weber River Parkway Trail - The proposed Weber River Parkway Trail is an extension of an existing trail in Riverdale and South Weber that currently terminates just east of the Riverside RV Resort. Along Cottonwood Drive, the trail will run between Cottonwood Drive and I-84 due to the existing residential lots that back onto the river. From the bend where Cottonwood Drive crosses the river, the proposed trail will run along the south bank of the river between the river and I-84. Portions of this segment are complete and some portions still remain to be completed. This trail is planned to continue east under I-84 and US-89 and connect to the BST.
- Canal Trail - The Canal Trail is proposed to run adjacent to, or on top of, the Davis and Weber Counties Canal running the length of the City on the south side.
- View Drive Trail - This new trail is proposed to extend from View Drive to South Weber Drive (SR-60) near the west side of the Highmark charter school property.
- Old Fort Trail - This trail is intended to be a 10-foot-wide paved trail running from approximately 1200 East to near the west end of the City along the south side of I-84.
- South Hillside Trail - This proposed trail is intended to be a natural surface trail beginning at the Petersen Trailhead on the west, run south across the Canal Trail, turn eastward on the hillside, and run to the Pea Vinery Trailhead near 1900 East. From there it would continue eastward along the hillside behind (south of) the South Weber residences to near the Highway 89 right-of-way where it would turn southward making its way to top of the bluff near Weber Basin Water Conservancy District facilities.
- Other Trails - If the Staker-Parson Gravel Pit closes and becomes open to development, it is possible that a trail could be developed through the property connecting 7400 South to the commercial area at the intersection on South Weber Drive (SR-60) and 2700 East.

WFRC lists a phase one (2022-2030) South Weber Drive (SR-60) bike lane project from the Weber County Line to the US-89 interchange in their long-range plan.

It is recommended the City continue to work to fill in gaps to their existing sidewalk network. Constructing sidewalks in areas where network gaps currently exist is essential in providing a complete system of sidewalks that aid in pedestrian mobility and safety.

A summary of all active transportation improvements and existing active transportation infrastructure is shown below in Figure 22.

FIGURE 22: ACTIVE TRANSPORTATION PROJECTS



VI. CITY TRANSPORTATION MANAGEMENT

A. PURPOSE

The City Transportation Management section discusses best practices to ensure the City develop a safe and efficient transportation network. This section includes the following:

- Best practices for access management and how this applies to South Weber City
- Traffic calming resources
- Maintenance policy recommendations
- Recommendations for future traffic impact studies

B. TRANSPORTATION SYSTEM MANAGEMENT

Traffic Calming

Traffic calming is the use of physical design and other measures to improve safety for motorists, pedestrians and cyclists by reducing vehicle traffic and/or vehicle speeds. Traffic calming may be important in areas of the city where a high pedestrian presence is desired such as local roads in residential neighborhoods, in city centers, or school vicinities. For more information regarding traffic calming measures view the UDOT Speed Management Information Sheets which explain traffic calming treatments, advantages and disadvantages, typical costs, example locations, and other potentially useful information.

Tucson, Arizona operates a neighborhood traffic management program that emphasizes neighborhood participation to implement traffic calming measures shown in the image below. A similar program may benefit the City if implemented by City leadership.

Additional traffic calming resources include:

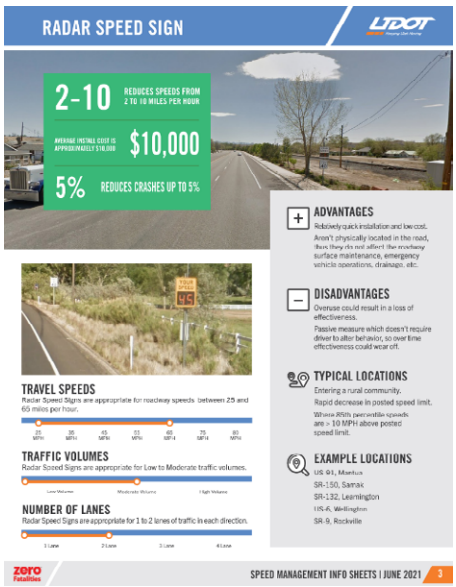
Seattle Traffic Calming

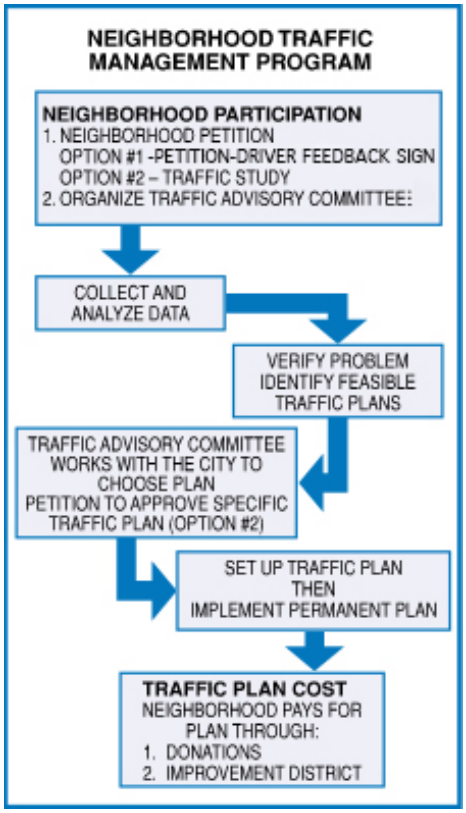
Salt Lake City Traffic Calming

FHWA

ITE

NACTO





C. ACCESS MANAGEMENT

The Federal Highway Administration (FHWA) defines access management as "proactive management of vehicular access points to land parcels adjacent to all manner of roadways."[1] It is proven that proper access management will increase roadway capacity, reduce crashes, and create a more efficient roadway network for motorists. In areas where there is a potential for land development, such as South Weber City, it is essential for the City to balance property access and the functional integrity of the roadway facility. Examples of access management techniques from the FHWA include:

- Intersection spacing: Increasing the distance between traffic signals, roundabouts, and other controlled intersections improves the flow of traffic.
- Driveway spacing: Fewer driveways spaced further apart allows for orderly merging of traffic and presents fewer points of conflict between drivers.
- Safe turning lanes: Dedicated left and right-turn lanes, or other turn management techniques such as roundabouts, indirect U-turns, or jughandle turns keep through-traffic flowing and reduce conflicts.
- Median treatments: Two-way left-turn lanes (TWLTL) and raised medians are effective means to regulate access and reduce crashes.
- Right-of-way management: ROW is required to allow for roadway widening along a corridor or at intersections, improves sight distance, and other access-related issues.

Arterial Roadways

The primary function of arterial roadways is to provide mobility throughout the network, therefore accesses and traffic interruptions along arterials should be minimized to maintain the roadway capacity. Arterials have the greatest minimum distance between traffic signals, intersections, and driveways, and auxiliary lanes, turning lanes and median treatments have the greatest potential to improve mobility.

All arterial roadways within South Weber are owned, maintained, and managed by UDOT and include I-84 with "interstate" functional classification, and US-89 with "other principal arterial" functional classification. Under Administration Rule R930-6 all state highways are assigned an access category between 1 and 10, with each access category requiring varying spacing requirements[2]. Both of these arterial roadways are assigned access category 1, the most restrictive access category where grade-separated interstate / freeway standards of access are applied.

South Weber Drive (SR-60) is also a state highway. Classified by UDOT as a major collector, the roadway functions locally as an arterial. The UDOT Access Management Category for South Weber Drive is Category 5: Regional Priority / Urban Importance from the US-89 interchange east to just beyond the 275 E intersection; and Category 8: Community – Urban Importance.

In general, traffic and speed management techniques and at-grade mid-block pedestrian crossings are not recommended nor appropriate along arterials.

Collectors

A collector roadway provides both mobility and access. With lower speeds, lower traffic volumes, and a greater demand for property access, access management standards are generally less restrictive along collectors than arterials.

Most collectors within South Weber are locally owned, maintained, and managed[3]. It is the responsibility of the City staff to ensure that accesses along collectors are properly managed by making changes to the existing roadway to address existing management issues and practicing good access management as new development occurs. Creating established corridor agreements and access management standards before new development occurs is critical to ensure the roadway network is efficient and safe. Corridor agreements assist developers in knowing ahead of time where and what type of accesses will be permitted.

In general, traffic and speed management techniques should match the design characteristics of the specific corridor, and at-grade mid-block pedestrian crossings may be pursued with appropriate visibility and protection enhancements.

1. https://ops.fhwa.dot.gov/access_mgmt/what_is_accsmgmt.htm
2. Utah Admin. Code 930-6-7
3. South Weber Drive / SR-60 is a state highway under UDOT jurisdiction, functionally classified by UDOT as a major collector.

Local Residential Streets

Local and minor local streets serve primarily local residential traffic demands, with low traffic volumes, low speeds, and frequent driveway accesses. Signalized intersections of two local residential streets are uncommon. Emphasis should be placed on designing local residential streets to encourage low speeds and livable pedestrian scale environments and discourage through traffic.

In general, traffic and speed management techniques are appropriate with consideration of emergency vehicle access, and at-grade mid-block pedestrian crossings are appropriate as needed for connectivity and where minimum sight distance can be provided.

Access Management Standards

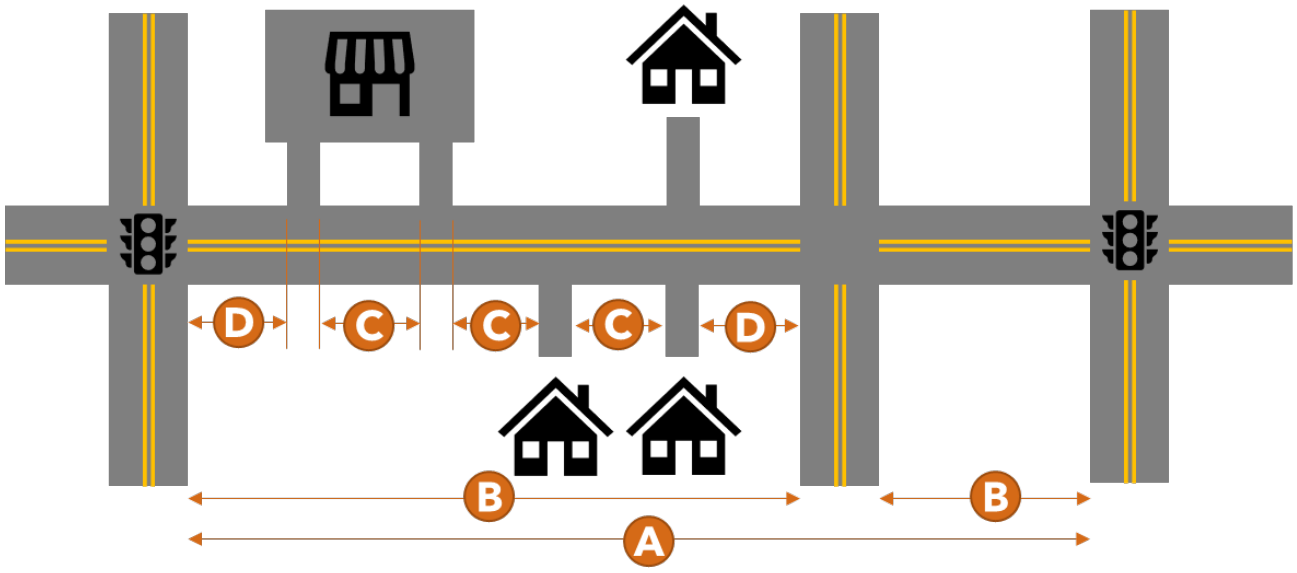


Table 10: Access Management Standards (Minimums)

Classification	Signal Spacing (A)	Street Spacing (B)	Driveway Spacing (C)	Driveway Spacing from Corner (D)
Arterial	2640 feet	660 feet	350 feet	350 feet
Collector	1320 feet	330 feet	150 feet	150 feet
Local Residential	N/A	250 feet	12 feet	50 feet

Several access management standards apply across functional classification, including:

- Driveway Width. Minimum and maximum driveway widths include:
  - Commercial / industrial / institutional / multifamily drive width (100+ trips per day): 24 feet minimum, 40 feet maximum
  - Residential drive width (<100 trips per day): 12 feet minimum, 24 feet maximum
- Turns into or out of driveways may require dedicated turn lanes or be restricted to right-in / right-out movements only to address safety or congestion concerns associated with the access. Concerns may include:
  - Documented crash history
  - Poor / limited sight distance
  - Congestion: LOS D or worse exiting the driveway
  - Congestion: left turn 95th percentile queuing from mainline interferes with through traffic progression on mainline or blocks other roadways / driveways

D. PRIVATE ROADS

Private Roads are roads not intended for use by the general public. Private roads typically occur in planned residential unit developments (PRUDs) and should not be intended to serve through traffic. Geometric and structural design standards for private roads are the same as those used for public roads, and private roads should generally include sidewalk, curb, and gutter on both sides of the road. Regulations providing for the use of private roads is found within the South Weber City Code, but general private road standards include:

- Maximum average annual daily traffic: 300 vehicles per day
- Maximum length: 600 feet
- Minimum Right of Way: 50 feet
- Maximum speed limit: 25 mph

The private road property and deed ROW shall be surveyed and recorded with the county. The private road should be owned, maintained, and managed by a private entity such as a homeowner's association. A means of perpetual maintenance should be demonstrated to the satisfaction of the planning and zoning commission before a private road may be approved. The managing entity should prepare and follow a maintenance plan that identifies, schedules and performs regular maintenance duties, as well as a time horizon for eventual roadway reconstruction. The cost of maintenance and reconstruction should be annualized and collected into an escrow account to ensure the roadway is maintained into perpetuity.

The requisite maintenance plan should identify a schedule of activities required to maintain a safe and well-functioning roadway, including but not limited to:

- Annual maintenance (every year), such as pothole patching, street sweeping, line striping, trash removal, landscape pruning, and other activities
- Semi-annual activities (every 2-5 years), such as crack sealing, catch basin sediment removal, culvert inspections, and other activities
- Medium-term activities (5-15 years), such as asphalt overlays, chip sealing, and surface milling and reconstruction
- Long-term activities (15+ years), including full depth reconstruction of roadway, concrete curb, gutter, and sidewalk reconstruction

The maintenance plan should include escalated costs associated with each activity and develop an amortized escrow saving plan to ensure roadway maintenance is funded through the expected roadway life cycle.

E. ROADWAY MAINTENANCE

Maintenance describes work that is performed to maintain the condition of the transportation system or to respond to specific conditions or events that restore the highway system to a functional state of operation. South Weber City is committed to maintaining their roadways by creating a maintenance plan that ensures the longevity and safety of the roadways in the City. It is the responsibility of the public works department and the city engineer to supervise the maintenance of the city streets and sidewalks.

F. TRAFFIC IMPACT STUDIES

As South Weber City continues to grow, traffic-related impacts due to development will need to be addressed by requiring future developments to complete a Traffic Impact Study (TIS) prior to be given approval to build. A TIS details how a development will impact traffic flow in the project area by assessing internal site circulation, access performance, impacts to adjacent roads and intersections, and mitigation measures. The scope of the TIS depends on the size and land use of the development, which in turn determines the quantity of trips that will be generated by the project. The size and scope of a TIS should be determined by the City Engineer on a case by case basis.

Each TIS will be conducted by a qualified Traffic Engineer chosen by the developer at their cost and approved by the City. A TIS should identify improvements to existing traffic issues that may be required due to poor levels of service caused by the addition of project traffic. The responsibility for the cost of these projects will depend upon whether the improvement resolves an existing deficiency, a need due to the additional impact from the development or both.

VII. CAPITAL FACILITIES PLAN

As shown in section 3 of this report, future growth due to new development requires South Weber to make improvements to their transportation network to provide residents with a safe and efficient transportation network and maintain an acceptable Level of Service. Specific intersection and roadway improvements are listed below in Table 11 and 12 and are shown in Figure 23. Each project cost estimate represents 2022 costs and are not adjusted for inflation, therefore estimates will need to be regularly updated by the City as project scopes may change as development occurs in the City. Only roadway improvements to arterials and collectors are identified, as local roads are typically built by future development. Details for each project cost estimate can be found in the Appendix.

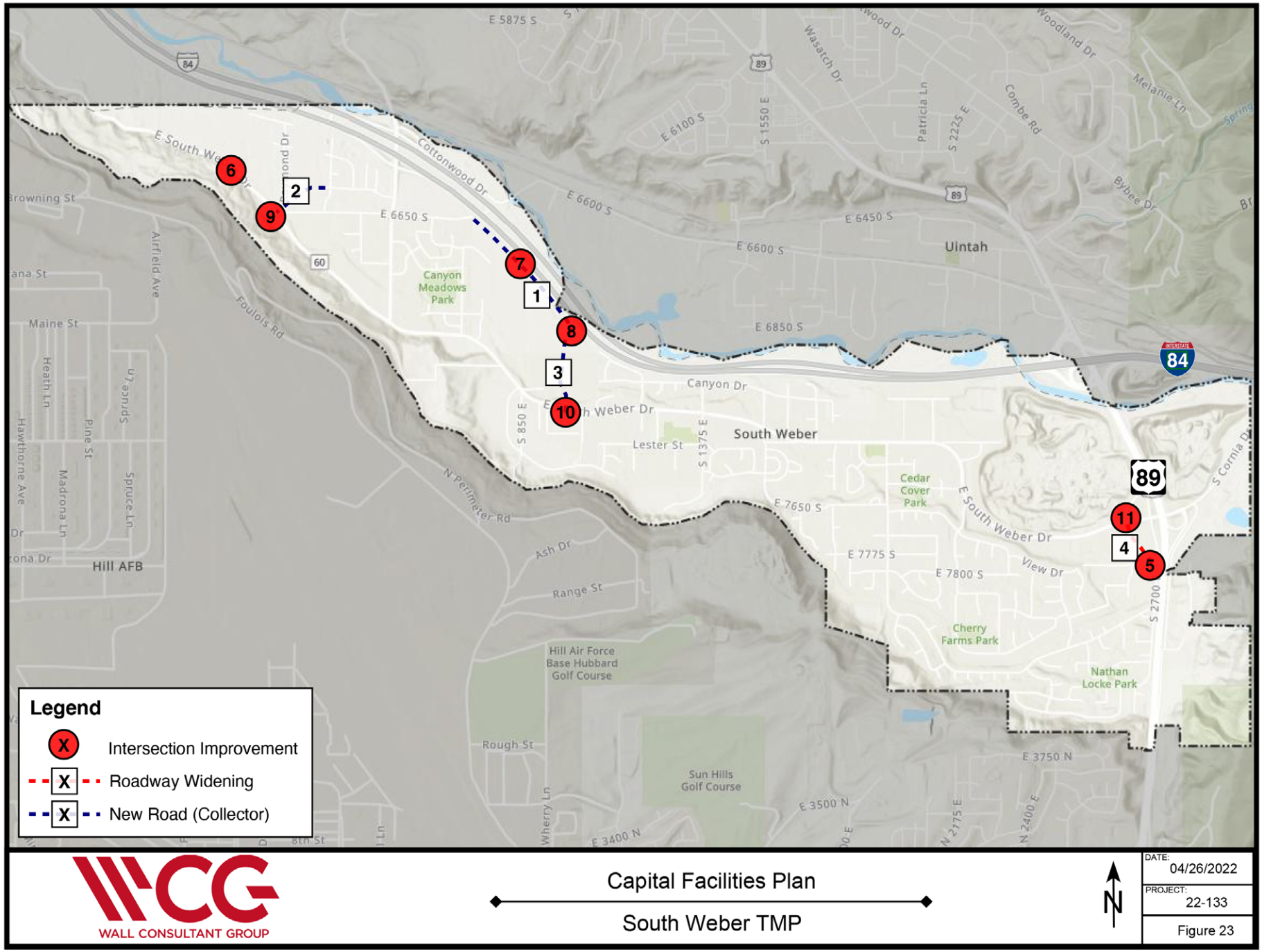
Table 11: Impact Fee Eligible Roadway Projects

Project Number	Location	Responsibility	Estimated Future Project Year	Improvement Scope	Total Project Cost
1	Old Fort Road: Connect current western section to 950 East*	South Weber / Developers	2022 - 2032	New Road (Collector)	$8,487,217
2	Old Maple Road: End of Existing to South Weber Drive*	South Weber / UDOT	2022 - 2032	New Road (Collector)	$3,389,330
3	950 East: Old Fort Road to South Weber Drive*	South Weber	2022 - 2032	New Road (Collector)	$5,897,140
4	2700 East: SR-60 too 7600 South	South Weber / Developers	2022 - 2032	Widening	$704,733

Table 12: Impact Fee Eligible Intersection Projects

Project Number	Location	Responsibility	Estimated Future Project Year	Improvement Scope	Total Prroject Cost
5	2700 East & 7800 South	South Weber / Developers	2022 - 2032	Roundabout with right-turn bypass lanes	$1,023,361
6	75 West & South Weber Drive	South Weber / UDOT	2022 - 2032	Eastbound left-turn lane	$833,341
7	850 East & Old Fort Road	South Weber / Developers	2022 - 2032	Single lane roundabout	$885,983
8	950 East & Old Fort Road	South Weber / Developers	2022 - 2032	Single lane roundabout	$885,983
9	Old Maple Road & South Weber Drive	South Weber / UDOT	2022 - 2032	Single lane roundabout	$1,020,141
10	950 East & South Weber Drive	UDOT	2022-2032	Signal	$482,458
11	2700 East & South Weber Drive	UDOT	2022-2032	Westbound dual left-turn lanes	$1,054,695

FIGURE 23: CAPITAL FACILITIES PLAN

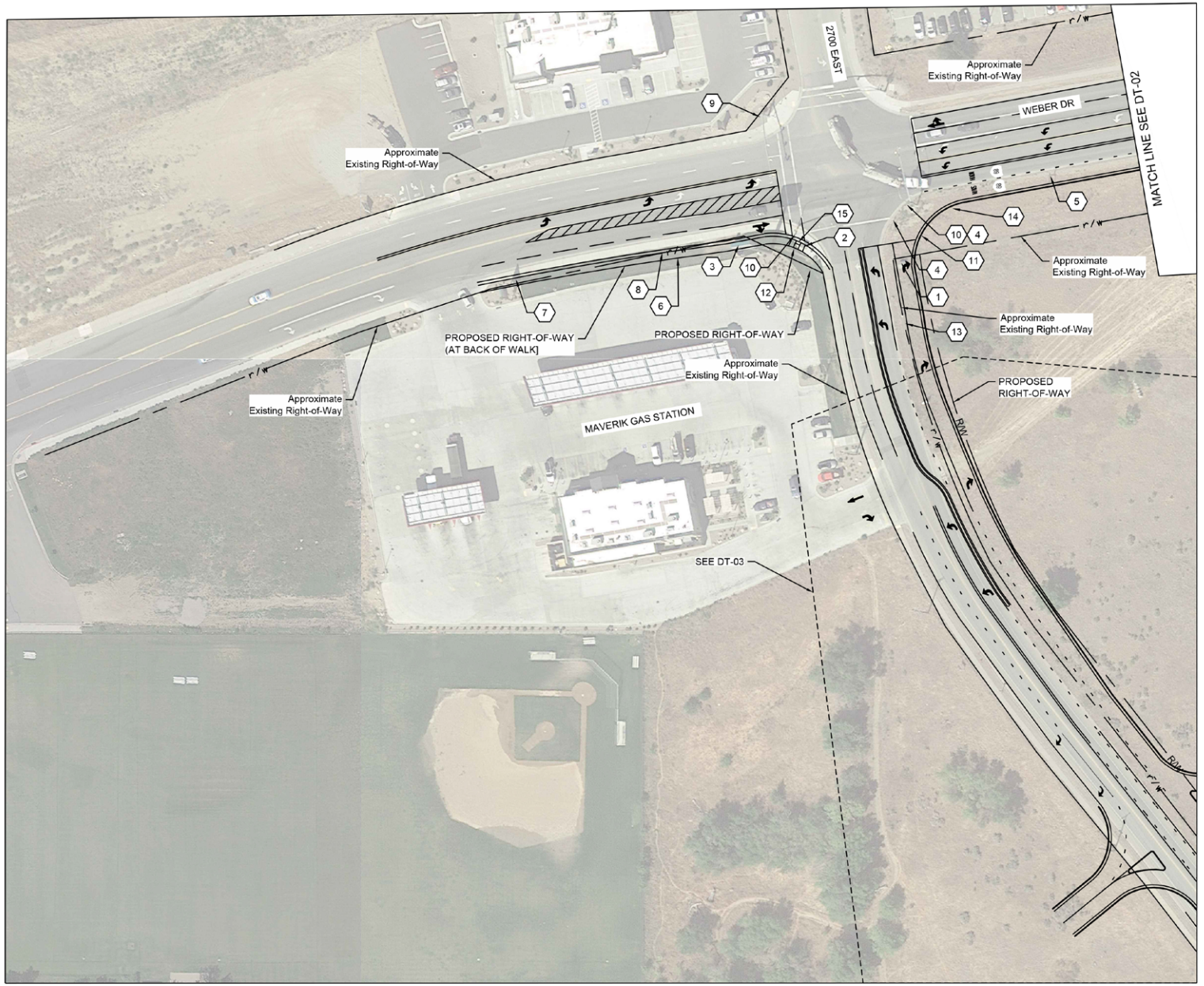


VIII. CONCLUSION

A. OVERVIEW

The purpose of the South Weber TMP is to plan the future transportation needs of South Weber City. The following tasks were completed as part of this TMP:

- Traffic data was collected, including daily traffic volumes, vehicle classification, and speed, to help establish existing conditions in the City.
- Future traffic volumes were developed to future planning years 2032 and 2050.
- A travel demand analysis based on existing and future land use was performed.
- A list of future roadway and intersection projects was created.
- City street functional classifications and cross sections were updated.
- A sub-area plan for the 2700 East / South Weber Drive area was completed.
- Access management standards were developed.
- Recommendations for future active transportation and transit facilities were provided.



IMPACTS

1. RELOCATE TRANSFORMER.
2. RELOCATE SIGNAL EQUIPMENT INCLUDING CABINET, AND USP BEHIND NEW SIDEWALK.
3. REMOVE BUSINESS SIGN.
4. RELOCATE EXISTING R9-3 AND R9-3bP (NO PEDESTRIAN CROSSING USE NEXT CROSSWALK).
5. RELOCATE WAYFINDING SIGNS .
6. RIGHT-OF-WAY IMPACT.
7. RELOCATE BUSINESS SIGN (MAVERIK).
8. RELOCATE FIRE HYDRANT.
9. REPLACE WITH 65' MAST ARM. REPLACE LEFT-TURN SIGNAL HEAD WITH TYPE III SIGNAL HEADS.
10. REMOVE EXISTING SIGNAL POLE AND JUNCTION BOX.
11. INSTALL SIGNAL POLE WITH 65' MAST ARM.
12. INSTALL SIGNAL POLE WITH 50' MAST ARM AND TYPE C JUNCTION BOX.
13. RELOCATE FENCE.
14. INSTALL RIGHT-TURN MUST TURN RIGHT SIGN.
15. INSTALL PEDESTRIAN ACCESS RAMP.

DESIGN NOTES

A. DUAL LEFT TURNS ADDED TO WESTBOUND MOVEMENT AT THE WEBER DR AND 2700 E INTERSECTION.
B. ALL LANES ARE 12' WIDE.
C. SHEETS DISPLAY CONCEPT DESIGN ONLY. FINAL DESIGN TO BE COMPLETED BY OTHERS.

CONCEPT DESIGN
NOT FOR CONSTRUCTION

SOUTH WEBER CITY
1600 E. SOUTH WEBER DRIVE
SOUTH WEBER, UT 84405
PHONE: 801-476-9767

WALL CONSULTANT GROUP
2020 SOUTH 900 EAST
SALT LAKE CITY, UT 84119
PHONE: 801-486-3847

APPROVED
PROFESSIONAL ENGINEER

SCALE: 80:1 | DATE: 07/20/22 | DESIGNED BY: CR | CHECKED BY: P-P

PROJECT: SOUTH WEBER 2700 E
ALT 2 EB TH/RT AT INT
PROJECT NUMBER: 22-133
DETAIL

SHEET NO. DT-01

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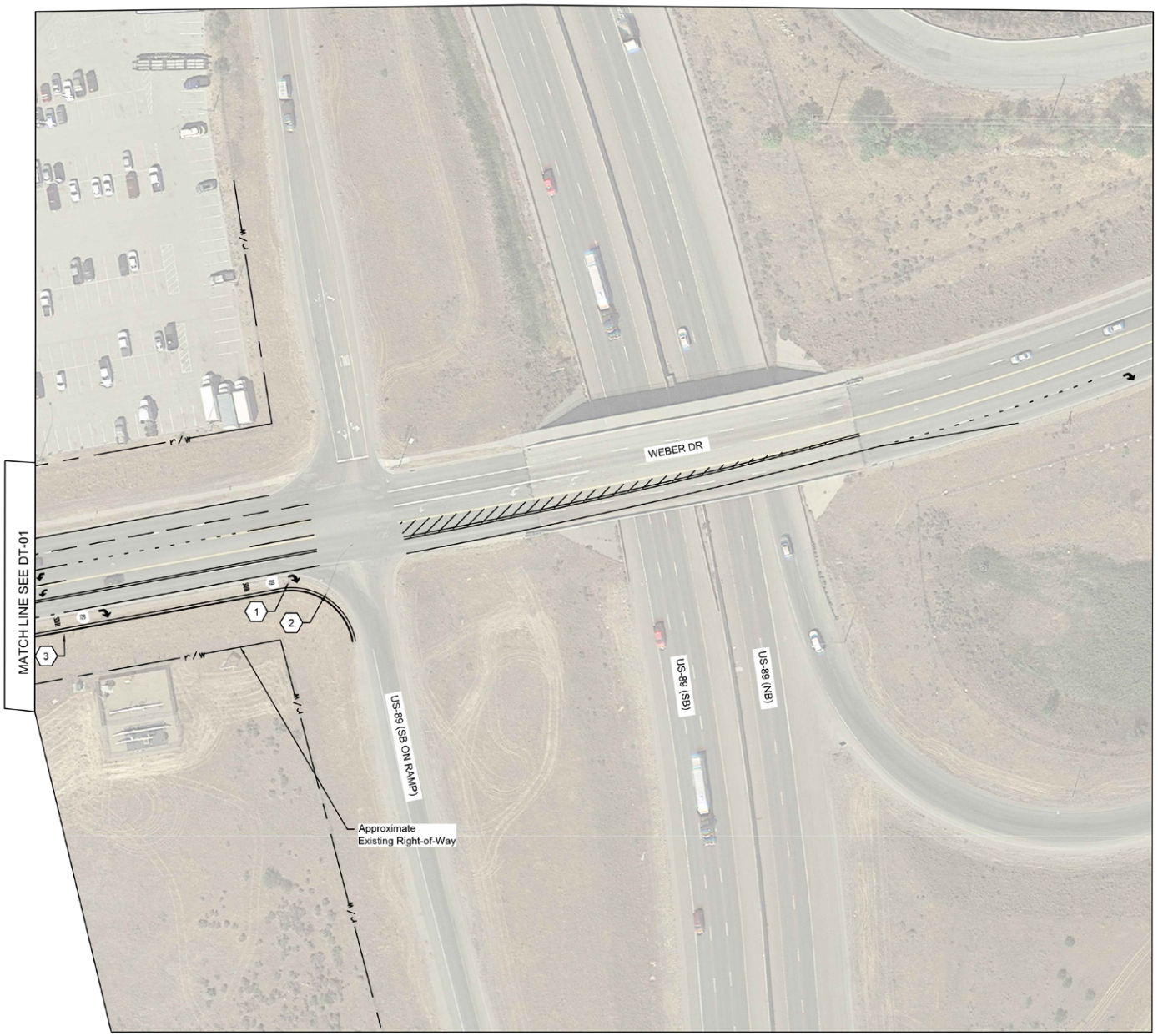

IMPACTS

1. RELOCATE WAYFINDING SIGNS .
2. RELOCATE LUMINAIRE.
3. INSTALL RIGHT-TURN MUST TURN RIGHT SIGN.

DESIGN NOTES

A. SINGLE EASTBOUND THROUGH LANE, AFTER BRIDGE THERE IS A RIGHT-TURN POCKET FOR THE US-89 NORTHBOUND ON-RAMP.

D. SHEETS DISPLAY CONCEPT DESIGN ONLY. FINAL DESIGN TO BE COMPLETED BY OTHERS.

CONCEPT DESIGN
NOT FOR CONSTRUCTION

SOUTH WEBER CITY
1600 E SOUTH WEBER DRIVE
SOUTH WEBER, UT 84405
PHONE: 801-476-9767

SCALE: 100:1 | DATE: 07/28/22 | DESIGNED BY: CR | CHECKED BY: PLP

WALL CONSULTANT GROUP
2000 S. 900 W., SUITE 500
SALT LAKE CITY, UT 84115
PHONE: 801-486-3847

APPROVED
PROFESSIONAL ENGINEER

PROJECT: SOUTH WEBER 2700 E
ALT 2 EB TH/RT AT INT
PROJECT NUMBER: 22-133
DETAIL

SHEET NO. DT-02

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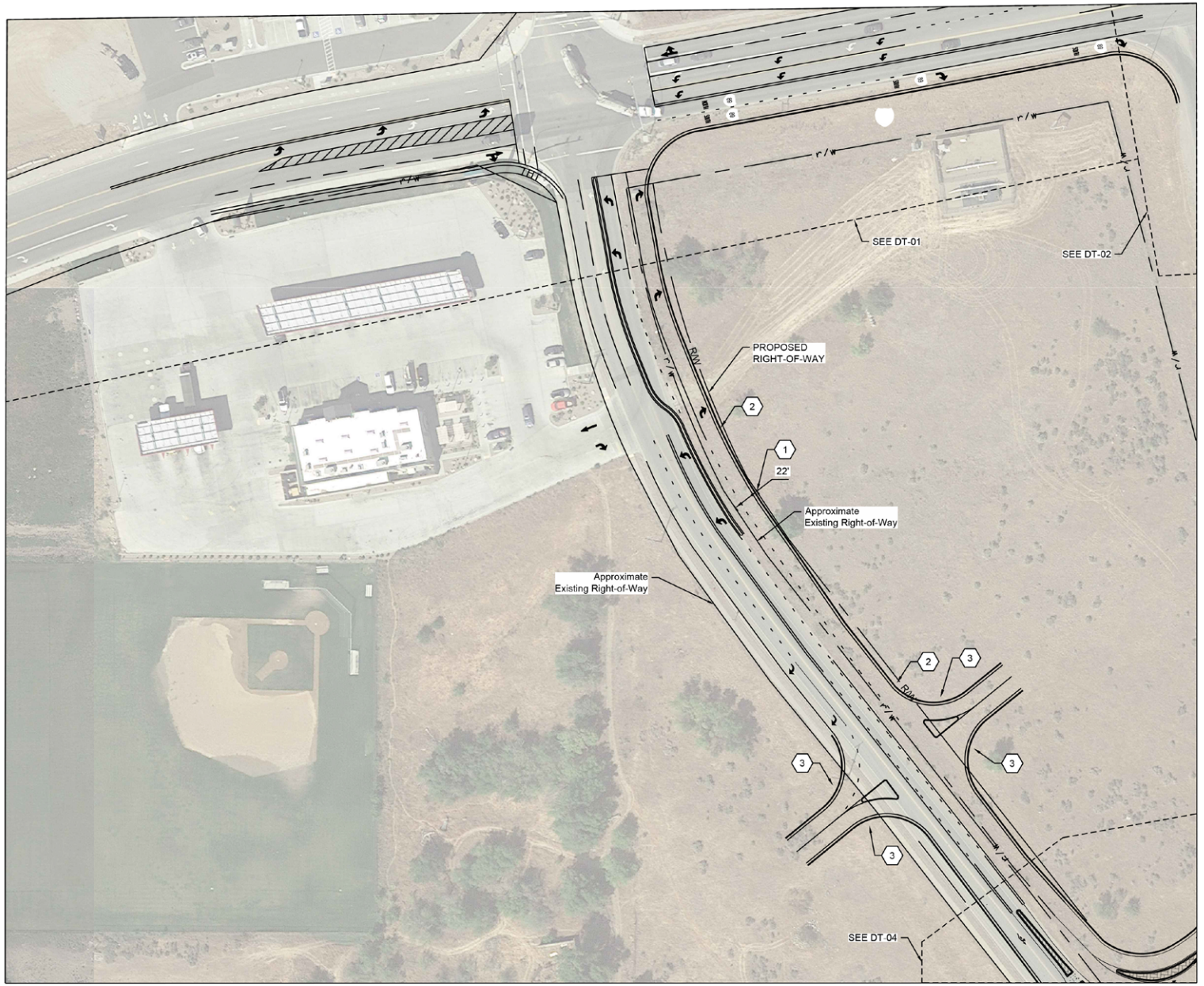

IMPACTS

1. RIGHT-OF-WAY IMPACT.
2. INSTALL RIGHT-TURN MUST TURN RIGHT SIGN.
3. INSTALL PEDESTRIAN ACCESS RAMP.

DESIGN NOTES

A. EAST MAVERIK ACCESS TURNED TO A a/k/a ACCESS (NO LEFT-TURN OUT).
B. NEW ACCESSES ADDED ON EITHER SIDE OF ROADWAY BETWEEN MAVERIK ACCESS AND THE ROUNDABOUT.
C. ALL LANES ARE 12' WIDE.
D. SHEETS DISPLAY CONCEPT DESIGN ONLY. FINAL DESIGN TO BE COMPLETED BY OTHERS.

CONCEPT DESIGN
NOT FOR CONSTRUCTION

SOUTH WEBER CITY
1600 E. SOUTH WEBER DRIVE
SOUTH WEBER, UT 84405
PHONE: 801-476-9767

DESIGNED BY: CR
CHECKED BY: P-P
DATE: 07/2022
SCALE: 80:1

WALL CONSULTANT GROUP
2020 SOUTH 900 WEST
SALT LAKE CITY, UT 84119
PHONE: 801-456-3947

APPROVED
PROFESSIONAL ENGINEER

PROJECT: SOUTH WEBER 2700 E
ALT 2 EB TH/RT AT INT
PROJECT NUMBER: 22-133
DETAIL

SHEET NO. DT-03

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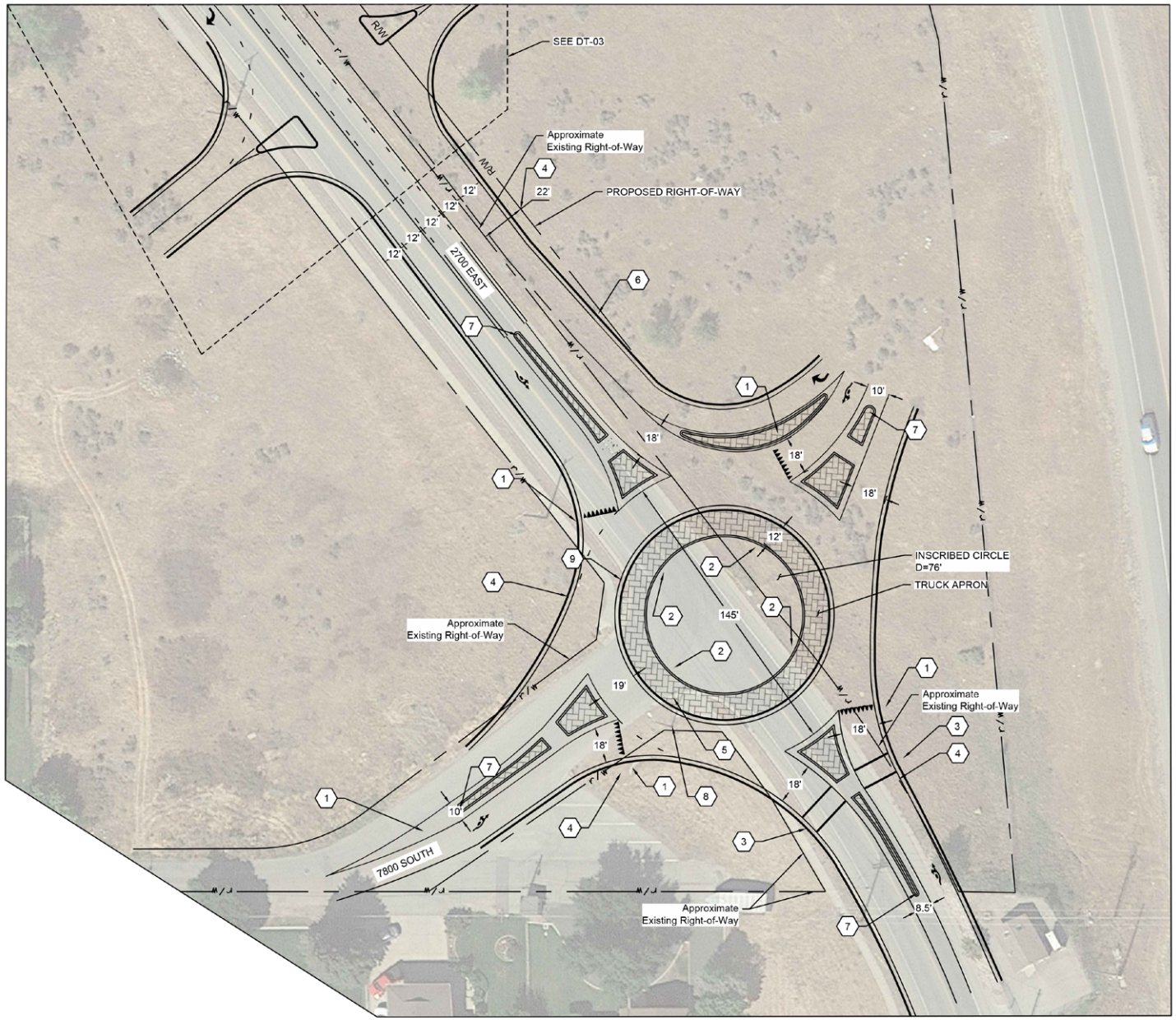

IMPACT

1. INSTALL YIELD SIGN.
2. INSTALL ROUNDABOUT DIRECTIONAL SIGN R6-4.
3. INSTALL PEDESTRIAN ACCESS RAMP.
4. RIGHT-OF-WAY IMPACT.
5. REMOVE SIGN
6. INSTALL ADDED LANE SIGN W4-3.
7. INSTALL OM3-L OBJECT MARKER SIGN.
8. RELOCATE POWER POLE.
9. RELOCATE FIRE HYDRANT.

DESIGN NOTES

A. SINGLE-LANE ROUNDABOUT PROPOSED AT THE 2700 E AND 7800 S INTERSECTION.
B. RIGHT-TURN BYPASS LANE INCLUDED FOR THE WESTBOUND RIGHT-TURN MOVEMENT.
C. CROSSWALKS INCLUDED IN THE WEST, SOUTH AND EAST LEGS.
D. SHEETS DISPLAY CONCEPT DESIGN ONLY. FINAL DESIGN TO BE COMPLETED BY OTHERS.

CONCEPT DESIGN
NOT FOR CONSTRUCTION

SOUTH WEBER CITY
1600 EAST SOUTH WEBER DRIVE
SOUTH WEBER, UT 84405
PHONE: 801-476-9767

SCALE: 40:1 | DATE: 07/26/22 | DESIGNED BY: CR | CHECKED BY: PLP

WALL CONSULTANT GROUP
2020 SOUTH 1100 EAST, SUITE 100
SALT LAKE CITY, UT 84115
PHONE: 801.456.3847

APPROVED
PROFESSIONAL ENGINEER

PROJECT: SOUTH WEBER 2700 E
ALT 2 EB TH/RT AT INT
PROJECT NUMBER: 22-133
DETAIL

SHEET NO. DT-04

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ROADWAY PROJECTS SUMMARY

2022 City Improvements		
Project Number	**Description**	**Total Project Cost**
1	Old Fort Road: Connect current western section to 950 East	$8,487,217
2	Old Maple Road: End of Existing to South Weber Drive	$3,389,330
3	950 East: Old Fort Road to South Weber Drive	$5,897,140
4	2700 East: SR-60 to 7800 South	$704,733
16	South Weber Drive (SR-60): 2100 East through 2700 East	$4,622,111
17	1650 East Connection	$1,490,403
18	South Weber Drive (SR-60): 2100 East to 1900 East	$2,441,319
	TOTAL:	$27,032,254

2028 City Improvements		
Project Number	**Description**	**Total Project Cost**
1	Old Fort Road: Connect current western section to 950 East	$9,839,010
2	Old Maple Road: End of Existing to South Weber Drive	$3,929,162
3	950 East: Old Fort Road to South Weber Drive	$6,836,402
4	2700 East: SR-60 to 7800 South	$816,979
16	South Weber Drive (SR-60): 2100 East through 2700 East	$5,358,294
17	1650 East Connection	$1,727,786
18	South Weber Drive (SR-60): 2100 East to 1900 East	$2,830,158
	TOTAL:	$31,337,791

ENGINEER'S ESTIMATE (2022 COSTS)				
Old Fort Road: Connect current western section to 950 East				
Roadway Project #1				
BID ITEMS				
GENERAL				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Mobilization	1	lump	9.50%	$239,600.00
Public Information Services	1	lump	1.00%	$25,300.00
Traffic Control	1	lump	2.00%	$50,500.00
Survey	1	lump	2.00%	$50,500.00
				$365,900.00
ROADWAY				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Remove Concrete Curb and Gutter	0	ft	$ 12.00	$0.00
Remove Concrete Sidewalk	0	sq yd	$ 28.00	$0.00
Roadway Excavation (Plan Quantity)	4,213	cu yd	$ 24.00	$101,111.11
Granular Borrow (Plan Quantity)	0	cu yd	$ 35.00	$0.00
Untreated Base Course	9,425	Ton	$ 40.00	$377,000.00
Remove Concrete Driveway	0	sq yd	$ 28.00	$0.00
HMA - 1/2 inch	5,180	Ton	$ 130.00	$673,359.38
Pavement Marking Paint	75	gal	$ 80.00	$6,000.00
Pavement Message (Preformed Thermoplastic)	8	Each	$ 250.00	$2,000.00
Concrete Curb and Gutter Type B1	6,500	ft	$ 35.00	$227,500.00
Perpendicular/Parallel Pedestrian Access Ramp	8	Each	$ 4,000.00	$32,000.00
Concrete Sidewalk	19,500	sq ft	$ 9.00	$175,500.00
				$1,594,470.49
DRAINAGE & IRRIGATION				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
24 Inch Irrigation RCP Pipe	3521	ft	$ 200.00	$704,200.00
Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9	11	Each	$ 5,000.00	$55,000.00
Rectangular Grate And Frame (Bicycle Safe Grating) - GF 3	11	Each	$ 2,000.00	$22,000.00
				$781,200.00
SIGNAL SYSTEM				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
None		lump		$0.00
				$0.00
UTILITIES				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Utility Contingency (assume minimal utiities since it is a green field road)	1	lump	$5,000.00	$5,000.00
Street Lighting (spaced every 200')	17	Each	$8,000.00	$136,000.00
				$141,000.00

LANDSCAPING				
Description	Quantity	Unit	Unit Price	Amount
Landscaping	1	Lump	$5,000.00	$5,000.00
				$5,000.00

Structures				
Description	Quantity	Unit	Unit Price	Amount
		Lump	$200,000.00	$0.00
				$0.00
			BID ITEMS $	**$2,887,570.49**
			Contingency (30%) $	**$866,271.15**
			BID ITEMS TOTAL $	**$3,753,841.63**

NON-BID ITEMS				
Description	Quantity	Unit	Unit Price	Amount
Right of Way (assuming full ROW area according to the South Weber City cross section)	253,500	sq ft	$15.00	$3,802,500.00
Assuming 5' wide construction easement required for length of project	35,010	sq ft	$3.00	$105,030.00
				$3,907,530.00

Description	Quantity	Unit	Unit Price	Amount
Design Engineering (12% of Bid Items)	1	lump	$450,461.00	$450,461.00
				$450,461.00

Description	Quantity	Unit	Unit Price	Amount
Construction Management (10% of Bid Items)	1	lump	$375,384.16	$375,384.16
				$375,384.16
			BID ITEMS TOTAL $	**$3,753,841.63**
			NON-BID ITEMS TOTAL $	**$4,733,375.16**
			GRAND TOTAL $	**$8,487,216.79**

ENGINEER'S ESTIMATE (2022 COSTS)				
Old Maple Road: End of Existing to South Weber Drive				
Roadway Project #2				
BID ITEMS				
GENERAL				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Mobilization	1	lump	9.50%	$101,100.00
Public Information Services	1	lump	1.00%	$10,700.00
Traffic Control	1	lump	2.00%	$21,300.00
Survey	1	lump	2.00%	$21,300.00
				$154,400.00
ROADWAY				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Remove Concrete Curb and Gutter	0	ft	$ 12.00	$0.00
Remove Concrete Sidewalk	0	sq yd	$ 28.00	$0.00
Roadway Excavation (Plan Quantity)	2,042	cu yd	$ 24.00	$49,000.00
Granular Borrow (Plan Quantity)	0	cu yd	$ 35.00	$0.00
Untreated Base Course	2,936	Ton	$ 40.00	$117,450.00
Remove Concrete Driveway	0	sq yd	$ 28.00	$0.00
HMA - 1/2 inch	1,549	Ton	$ 130.00	$201,386.25
Pavement Marking Paint	50	gal	$ 80.00	$4,000.00
Pavement Message (Preformed Thermoplastic)	16	Each	$ 250.00	$4,000.00
Concrete Curb and Gutter Type B1	2,700	ft	$ 35.00	$94,500.00
Perpendicular/Parallel Pedestrian Access Ramp	6	Each	$ 4,000.00	$24,000.00
Concrete Sidewalk	16,200	sq ft	$ 9.00	$145,800.00
				$640,136.25
DRAINAGE & IRRIGATION				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
24 Inch Irrigation RCP Pipe	1431	ft	$ 200.00	$286,200.00
Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9	5	Each	$ 5,000.00	$25,000.00
Rectangular Grate And Frame (Bicycle Safe Grating) - GF 3	5	Each	$ 2,000.00	$10,000.00
				$321,200.00
SIGNAL SYSTEM				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
None		lump		$0.00
				$0.00
UTILITIES				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Utility Contingency (assume minimal utiities since it is a green field road)	1	lump	$5,000.00	$5,000.00
Street Lighting (spaced every 200')	9	Each	$8,000.00	$72,000.00
				$77,000.00

LANDSCAPING				
Description	Quantity	Unit	Unit Price	Amount
Landscaping - Sod/irrigation system	1	Lump	$25,000.00	$25,000.00
				$25,000.00

Structures				
Description	Quantity	Unit	Unit Price	Amount
		Lump	$200,000.00	$0.00
				$0.00

BID ITEMS $	**$1,217,736.25**
Contingency (30%) $	**$365,320.88**
BID ITEMS TOTAL $	**$1,583,057.13**

NON-BID ITEMS

Description	Quantity	Unit	Unit Price	Amount
Right of Way (assuming full ROW area according to the South Weber City cross section)	94,500	sq ft	$15.00	$1,417,500.00
Assuming 5' wide construction easement required for length of project	13,500	sq ft	$3.00	$40,500.00
				$1,458,000.00

Description	Quantity	Unit	Unit Price	Amount
Design Engineering (12% of Bid Items)	1	lump	$189,966.86	$189,966.86
				$189,966.86

Description	Quantity	Unit	Unit Price	Amount
Construction Management (10% of Bid Items)	1	lump	$158,305.71	$158,305.71
				$158,305.71

BID ITEMS TOTAL $	**$1,583,057.13**
NON-BID ITEMS TOTAL $	**$1,806,272.57**
GRAND TOTAL $	**$3,389,329.69**

ENGINEER'S ESTIMATE (2022 COSTS) 950 East: Old Fort Road to South Weber Drive Roadway Project #3				
BID ITEMS				
GENERAL				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Mobilization	1	lump	9.50%	$158,700.00
Public Information Services	1	lump	1.00%	$16,800.00
Traffic Control	1	lump	2.00%	$33,500.00
Survey	1	lump	2.00%	$33,500.00
				$242,500.00
ROADWAY				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Remove Concrete Curb and Gutter	0	ft	$ 12.00	$0.00
Remove Concrete Sidewalk	0	sq yd	$ 28.00	$0.00
Roadway Excavation (Plan Quantity)	2,709	cu yd	$ 24.00	$65,022.22
Granular Borrow (Plan Quantity)	0	cu yd	$ 35.00	$0.00
Untreated Base Course	5,740	Ton	$ 40.00	$229,583.33
Remove Concrete Driveway	0	sq yd	$ 28.00	$0.00
HMA - 1/2 inch	3,028	Ton	$ 130.00	$393,656.25
Pavement Marking Paint	75	gal	$ 80.00	$6,000.00
Pavement Message (Preformed Thermoplastic)	16	Each	$ 250.00	$4,000.00
Concrete Curb and Gutter Type B1	3,800	ft	$ 35.00	$133,000.00
Perpendicular/Parallel Pedestrian Access Ramp	6	Each	$ 4,000.00	$24,000.00
Concrete Sidewalk	22,800	sq ft	$ 9.00	$205,200.00
				$1,060,461.81
DRAINAGE & IRRIGATION				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
24 Inch Irrigation RCP Pipe	2059	ft	$ 200.00	$411,800.00
Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9	7	Each	$ 5,000.00	$35,000.00
Rectangular Grate And Frame (Bicycle Safe Grating) - GF 3	7	Each	$ 2,000.00	$14,000.00
				$460,800.00
SIGNAL SYSTEM				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
None		lump		$0.00
				$0.00
UTILITIES				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Utility Contingency (assume minimal utiities since it is a green field road with some relocations at the intersection with South Weber Drive)	1	lump	$20,000.00	$20,000.00
Street Lighting (spaced every 200')	13	Each	$8,000.00	$104,000.00
				$124,000.00

LANDSCAPING				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Landscaping - Sod/irrigation system	1	Lump	$25,000.00	$25,000.00
				$25,000.00
Structures				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
		Lump	$200,000.00	$0.00
				$0.00
			BID ITEMS $	**$1,912,761.81**
			Contingency (30%) $	**$573,828.54**
			BID ITEMS TOTAL $	**$2,486,590.35**
NON-BID ITEMS				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Right of Way (assuming full ROW area according to the South Weber City cross section)	148,200	sq ft	$15.00	$2,223,000.00
Full property take at the intersection with South Weber Drive	1	Lump	$600,000.00	$600,000.00
Assuming 5' wide construction easement required for length of project	13,500	sq ft	$3.00	$40,500.00
				$2,863,500.00
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Design Engineering (12% of Bid Items)	1	lump	$298,390.84	$298,390.84
				$298,390.84
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Construction Management (10% of Bid Items)	1	lump	$248,659.03	$248,659.03
				$248,659.03
			BID ITEMS TOTAL $	**$2,486,590.35**
			NON-BID ITEMS TOTAL $	**$3,410,549.88**
			GRAND TOTAL $	**$5,897,140.22**

ENGINEER'S ESTIMATE (2022 COSTS) 2700 East: SR-60 to 7800 South Roadway Project #4				
BID ITEMS				
GENERAL				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Mobilization	1	lump	9.50%	$30,600.00
Public Information Services	1	lump	1.00%	$3,300.00
Traffic Control	1	lump	8.00%	$25,800.00
Survey	1	lump	2.00%	$6,500.00
				$66,200.00
ROADWAY				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Roadway Excavation (Plan Quantity)	422	cu yd	$ 24.00	$10,133.33
Granular Borrow (Plan Quantity)		cu yd	$ 35.00	$0.00
Untreated Base Course	689	Ton	$ 40.00	$27,550.00
Remove Concrete Driveway		sq yd	$ 28.00	$0.00
HMA - 1/2 inch	363	Ton	$ 110.00	$39,971.25
Pavement Marking Paint	35	gal	$ 80.00	$2,800.00
Pavement Message (Preformed Thermoplastic)	3	Each	$ 250.00	$750.00
Remove Concrete Curb and Gutter	450	ft	$ 12.00	$5,400.00
Concrete Curb and Gutter Type B1	450	ft	$ 35.00	$15,750.00
Perpendicular/Parallel Pedestrian Access Ramp	0	Each	$ 4,000.00	$0.00
Remove Concrete Sidewalk	0	sq yd	$ 28.00	$0.00
Concrete Sidewalk	0	sq ft	$ 9.00	$0.00
Relocate Business Sign	0.00	Each	$ 3,000.00	$0.00
Remove City Sign	0.00	Each	$ 2,500.00	$0.00
Remove Sign Less Than 20 Square Feet	0.00	Each	$ 97.00	$0.00
Relocate Sign Less Than 20 Square Feet	0.00	Each	$ 188.00	$0.00
Relocate Sign Greater Than or Equal to 20 Square Feet	0.00	Each	$ 205.00	$0.00
Remove Fence	0.00	ft	$ 5.00	$0.00
Signs	2.00	Each	$ 250.00	$500.00
Concrete Curb Type B5	650.00	ft	$ 27.00	$17,550.00
Concrete Flatwork, 4 inch thick	0.00	sq ft	$ 9.00	$0.00
Concrete Flatwork, 6 inch Thick	0.00	sq ft	$ 12.00	$0.00
				$120,404.58
DRAINAGE & IRRIGATION				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
24 Inch Irrigation RCP Pipe	800	ft	$ 200.00	$160,000.00
Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9	3	Each	$ 5,000.00	$15,000.00
Rectangular Grate And Frame (Bicycle Safe Grating) - GF 3	3	Each	$ 2,000.00	$6,000.00
				$181,000.00
SIGNAL SYSTEM				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Signal Changes	0	lump	$175,000.00	$0.00
				$0.00
UTILITIES				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**

Utility Contingency (potential need to relocate utilities for signal foundations)	1	lump	$20,000.00	$20,000.00
Relocate utility pole	0	Each	$15,000.00	$0.00
Relocate luminaire pole	0	Each	$7,500.00	$0.00
Relocate transformer	0	Each	$50,000.00	$0.00
Relocate Fire hydrant	0	Each	$5,000.00	$0.00
				$20,000.00

LANDSCAPING				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Misc. Landscaping West leg	0	Lump	$10,000.00	$0.00
				$0.00

Structures				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Retaining Wall	0	Sq Ft	$175.00	$0.00
				$0.00

BID ITEMS $	**$387,604.58**
Contingency (10%) $	**$38,760.46**
BID ITEMS TOTAL $	**$426,365.04**

NON-BID ITEMS

Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Assuming 24' widening from RT pocket to sidewalk changes on north leg of roundabout	14,010	sq ft	$15.00	$210,150.00
Construction easement along west leg	0	sq ft	$3.00	$0.00
				$210,150.00

Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Design Engineering (10% of Bid Items)	1	lump	$42,636.50	$42,636.50
				$42,636.50

Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Construction Management (6% of Bid Items)	1	lump	$25,581.90	$25,581.90
				$25,581.90

BID ITEMS TOTAL $	**$426,365.04**
NON-BID ITEMS TOTAL $	**$278,368.41**
GRAND TOTAL $	**$704,733.45**

ENGINEER'S ESTIMATE (2022 COSTS)				
South Weber Drive (SR-60): 2100 East through 2700 East				
Roadway Project #16				
BID ITEMS				
GENERAL				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Mobilization	1	lump	9.50%	$161,000.00
Public Information Services	1	lump	2.00%	$33,900.00
Traffic Control	1	lump	8.00%	$135,600.00
Survey	1	lump	5.00%	$84,800.00
				$415,300.00
ROADWAY				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Remove Concrete Curb and Gutter	0	ft	$ 12.00	$0.00
Remove Concrete Sidewalk	2,467	sq yd	$ 28.00	$69,066.67
Roadway Excavation (Plan Quantity)	640	cu yd	$ 24.00	$15,348.15
Granular Borrow (Plan Quantity)	2,146	cu yd	$ 35.00	$75,110.00
Untreated Base Course	1,073	Ton	$ 40.00	$42,920.00
Remove Concrete Driveway		sq yd	$ 28.00	$0.00
HMA - 1/2 inch	3,774	Ton	$ 130.00	$490,620.00
Pavement Marking Paint	100	gal	$ 80.00	$8,000.00
Pavement Message (Preformed Thermoplastic)	16	Each	$ 250.00	$4,000.00
Concrete Curb and Gutter Type B1	3,700	ft	$ 35.00	$129,500.00
Perpendicular/Parallel Pedestrian Access Ramp	6	Each	$ 4,000.00	$24,000.00
Concrete Sidewalk	44,400	sq ft	$ 9.00	$399,600.00
				$1,258,164.81
DRAINAGE & IRRIGATION				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
24 Inch Irrigation RCP Pipe	80	ft	$ 200.00	$16,000.00
Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9	10	Each	$ 5,000.00	$50,000.00
Rectangular Grate And Frame (Bicycle Safe Grating) - GF 3	10	Each	$ 2,000.00	$20,000.00
				$86,000.00
SIGNAL SYSTEM				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
None		lump		$0.00
				$0.00
UTILITIES				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Utility Contingency (potential utility relocations on widened section of road)	1	lump	$125,000.00	$125,000.00
Street Lighting (spaced every 200')	25	Each	$8,000.00	$200,000.00
				$325,000.00

LANDSCAPING				
Description	Quantity	Unit	Unit Price	Amount
Landscaping - Sod/irrigation system	1	Lump	$25,000.00	$25,000.00
				$25,000.00

Structures				
Description	Quantity	Unit	Unit Price	Amount
		Lump	$200,000.00	$0.00
				$0.00

BID ITEMS $	**$2,109,464.81**
Contingency (30%) $	**$632,839.44**
BID ITEMS TOTAL $	**$2,742,304.26**

NON-BID ITEMS

Description	Quantity	Unit	Unit Price	Amount
Right of Way (assuming full roadway area to 1' behind walk)	77,700	sq ft	$15.00	$1,165,500.00
Assuming 5' wide construction easement required for length of project	37,000	sq ft	$3.00	$111,000.00
				$1,276,500.00

Description	Quantity	Unit	Unit Price	Amount
Design Engineering (12% of Bid Items)	1	lump	$329,076.51	$329,076.51
				$329,076.51

Description	Quantity	Unit	Unit Price	Amount
Construction Management (10% of Bid Items)	1	lump	$274,230.43	$274,230.43
				$274,230.43

BID ITEMS TOTAL $	**$2,742,304.26**
NON-BID ITEMS TOTAL $	**$1,879,806.94**
GRAND TOTAL $	**$4,622,111.20**

ENGINEER'S ESTIMATE (2022 COSTS) 1650 East Connection Roadway Project #17				
BID ITEMS				
GENERAL				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Mobilization	1	lump	9.50%	$44,100.00
Public Information Services	1	lump	1.00%	$4,700.00
Traffic Control	1	lump	2.00%	$9,300.00
Survey	1	lump	2.00%	$9,300.00
				$67,400.00
ROADWAY				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Remove Concrete Curb and Gutter	0	ft	$ 12.00	$0.00
Remove Concrete Sidewalk	0	sq yd	$ 28.00	$0.00
Roadway Excavation (Plan Quantity)	752	cu yd	$ 24.00	$18,044.44
Granular Borrow (Plan Quantity)	0	cu yd	$ 35.00	$0.00
Untreated Base Course	1,305	Ton	$ 40.00	$52,200.00
Remove Concrete Driveway	0	sq yd	$ 28.00	$0.00
HMA - 1/2 inch	689	Ton	$ 130.00	$89,505.00
Pavement Marking Paint	0	gal	$ 80.00	$0.00
Pavement Message (Preformed Thermoplastic)	0	Each	$ 250.00	$0.00
Concrete Curb and Gutter Type B1	1,200	ft	$ 35.00	$42,000.00
Perpendicular/Parallel Pedestrian Access Ramp	4	Each	$ 4,000.00	$16,000.00
Concrete Sidewalk	4,800	sq ft	$ 9.00	$43,200.00
				$260,949.44
DRAINAGE & IRRIGATION				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
24 Inch Irrigation RCP Pipe	634	ft	$ 200.00	$126,800.00
Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9	2	Each	$ 5,000.00	$10,000.00
Rectangular Grate And Frame (Bicycle Safe Grating) - GF 3	2	Each	$ 2,000.00	$4,000.00
				$140,800.00
SIGNAL SYSTEM				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
None		lump		$0.00
				$0.00
UTILITIES				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Utility Contingency (assume minimal utiities since it is a green field road)	1	lump	$5,000.00	$5,000.00
Street Lighting (spaced every 200')	4	Each	$8,000.00	$32,000.00
				$37,000.00

LANDSCAPING				
Description	Quantity	Unit	Unit Price	Amount
Landscaping - Sod/irrigation system	1	Lump	$25,000.00	$25,000.00
				$25,000.00

Structures				
Description	Quantity	Unit	Unit Price	Amount
		Lump	$200,000.00	$0.00
				$0.00

BID ITEMS $	**$531,149.44**
Contingency (30%) $	**$159,344.83**
BID ITEMS TOTAL $	**$690,494.28**

NON-BID ITEMS

Description	Quantity	Unit	Unit Price	Amount
Right of Way (assuming full roadway area to 1' behind walk)	42,000	sq ft	$15.00	$630,000.00
Assuming 5' wide construction easement required for length of project	6,000	sq ft	$3.00	$18,000.00
				$648,000.00

Description	Quantity	Unit	Unit Price	Amount
Design Engineering (12% of Bid Items)	1	lump	$82,859.31	$82,859.31
				$82,859.31

Description	Quantity	Unit	Unit Price	Amount
Construction Management (10% of Bid Items)	1	lump	$69,049.43	$69,049.43
				$69,049.43

BID ITEMS TOTAL $	**$690,494.28**
NON-BID ITEMS TOTAL $	**$799,908.74**
GRAND TOTAL $	**$1,490,403.02**

ENGINEER'S ESTIMATE (2022 COSTS) South Weber Drive (SR-60): 2100 East to 1900 East Roadway Project #18				
BID ITEMS				
GENERAL				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Mobilization	1	lump	9.50%	$111,200.00
Public Information Services	1	lump	2.00%	$23,500.00
Traffic Control	1	lump	8.00%	$93,700.00
Survey	1	lump	5.00%	$58,600.00
				$287,000.00
ROADWAY				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Remove Concrete Curb and Gutter	0	ft	$ 12.00	$0.00
Remove Concrete Sidewalk	0	sq yd	$ 28.00	$0.00
Roadway Excavation (Plan Quantity)	1,722	cu yd	$ 24.00	$41,333.33
Granular Borrow (Plan Quantity)		cu yd	$ 35.00	$0.00
Untreated Base Course	2,248	Ton	$ 40.00	$89,900.00
Remove Concrete Driveway		sq yd	$ 28.00	$0.00
HMA - 1/2 inch	3,022	Ton	$ 130.00	$392,827.50
Pavement Marking Paint	75	gal	$ 80.00	$6,000.00
Pavement Message (Preformed Thermoplastic)	16	Each	$ 250.00	$4,000.00
Concrete Curb and Gutter Type B1	1,550	ft	$ 35.00	$54,250.00
Perpendicular/Parallel Pedestrian Access Ramp	6	Each	$ 4,000.00	$24,000.00
Concrete Sidewalk	9,300	sq ft	$ 9.00	$83,700.00
Concrete Driveway Flared, 6 inch Thick	2,000.00	sq ft	$ 15.00	$30,000.00
				$726,010.83
DRAINAGE & IRRIGATION				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
24 Inch Irrigation RCP Pipe	400	ft	$ 200.00	$80,000.00
Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9	8	Each	$ 5,000.00	$40,000.00
Rectangular Grate And Frame (Bicycle Safe Grating) - GF 3	8	Each	$ 2,000.00	$16,000.00
				$136,000.00
SIGNAL SYSTEM				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
None		lump		$0.00
				$0.00
UTILITIES				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Utility Contingency (potential utility relocations on widened section of road)	1	lump	$75,000.00	$75,000.00
Street Lighting (spaced every 200')	11	Each	$8,000.00	$88,000.00
Relocate 8 utility poles	8	Each	$15,000.00	$120,000.00
				$283,000.00

LANDSCAPING				
Description	Quantity	Unit	Unit Price	Amount
Landscaping - Sod/irrigation system	1	Lump	$25,000.00	$25,000.00
				$25,000.00

Structures				
Description	Quantity	Unit	Unit Price	Amount
		Lump	$200,000.00	$0.00
				$0.00

BID ITEMS $	**$1,457,010.83**
Contingency (30%) $	**$437,103.25**
BID ITEMS TOTAL $	**$1,894,114.08**

NON-BID ITEMS

Description	Quantity	Unit	Unit Price	Amount
Right of Way (assuming full roadway area to 1' behind walk)	6,300	sq ft	$15.00	$94,500.00
Assuming 5' wide construction easement required for length of project	12,000	sq ft	$3.00	$36,000.00
				$130,500.00

Description	Quantity	Unit	Unit Price	Amount
Design Engineering (12% of Bid Items)	1	lump	$227,293.69	$227,293.69
				$227,293.69

Description	Quantity	Unit	Unit Price	Amount
Construction Management (10% of Bid Items)	1	lump	$189,411.41	$189,411.41
				$189,411.41

BID ITEMS TOTAL $	**$1,894,114.08**
NON-BID ITEMS TOTAL $	**$547,205.10**
GRAND TOTAL $	**$2,441,319.18**

INTERSECTION PROJECTS SUMMARY

2022 City Improvements		
Project Number	**Description**	**Total Project Cost**
5	2700 East & 7800 South	$1,023,361
6	75 West & South Weber Drive	$833,341
7	850 East & Old Fort Road	$885,983
8	950 East & Old Fort Road	$885,983
9	Old Maple Road & South Weber Drive	$1,020,141
10	950 East & South Weber Drive	$482,458
11	2700 East & South Weber Drive	$1,054,695
12	1900 East & South Weber Drive	$642,275
13	2100 East & South Weber Drive	$589,020
14	475 East & South Weber Drive	$1,394,525
15	South Weber Drive & US-89 Interchange Improvements	$50,000,000
	TOTAL:	$58,811,781

2028 City Improvements		
Project Number	**Description**	**Total Project Cost**
5	2700 East & 7800 South	$1,186,356
6	75 West & South Weber Drive	$966,070
7	850 East & Old Fort Road	$1,027,097
8	950 East & Old Fort Road	$1,027,097
9	Old Maple Road & South Weber Drive	$1,182,623
10	950 East & South Weber Drive	$559,302
11	2700 East & South Weber Drive	$1,222,680
12	1900 East & South Weber Drive	$744,572
13	2100 East & South Weber Drive	$682,835
14	475 East & South Weber Drive	$1,616,637
15	South Weber Drive & US-89 Interchange Improvements	$57,963,704
	TOTAL:	$68,178,973

ENGINEER'S ESTIMATE (2022 COSTS) 2700 East & 7800 South Intersection Project #5 - Roundabout				
BID ITEMS				
GENERAL				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Mobilization	1	lump	9.50%	$37,000.00
Public Information Services	1	lump	1.00%	$3,900.00
Traffic Control	1	lump	8.00%	$31,100.00
Survey	1	lump	2.00%	$7,800.00
				$79,800.00
ROADWAY				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Roadway Excavation (Plan Quantity)	406	cu yd	$ 24.00	$9,733.33
Granular Borrow (Plan Quantity)		cu yd	$ 35.00	$0.00
Untreated Base Course	662	Ton	$ 40.00	$26,462.50
Remove Concrete Driveway		sq yd	$ 28.00	$0.00
HMA - 1/2 inch	349	Ton	$ 110.00	$38,393.44
Pavement Marking Paint	30	gal	$ 80.00	$2,400.00
Pavement Message (Preformed Thermoplastic)	24	Each	$ 250.00	$6,000.00
Remove Concrete Curb and Gutter	250	ft	$ 12.00	$3,000.00
Concrete Curb and Gutter Type B1	990	ft	$ 35.00	$34,650.00
Mountable Curb	170	ft	$ 50.00	$8,500.00
Perpendicular/Parallel Pedestrian Access Ramp	6	Each	$ 4,000.00	$24,000.00
Remove Concrete Sidewalk	115	sq yd	$ 28.00	$3,220.00
Concrete Sidewalk	1800	sq ft	$ 9.00	$16,200.00
Relocate Business Sign	0.00	Each	$ 3,000.00	$0.00
Remove City Sign	0.00	Each	$ 2,500.00	$0.00
Remove Sign Less Than 20 Square Feet	1.00	Each	$ 97.00	$97.00
Relocate Sign Less Than 20 Square Feet	0.00	Each	$ 188.00	$0.00
Relocate Sign Greater Than or Equal to 20 Square Feet	0.00	Each	$ 205.00	$0.00
Remove Fence	0.00	ft	$ 5.00	$0.00
Signs	15.00	Each	$ 250.00	$3,750.00
Concrete Curb Type B5	0.00	ft	$ 27.00	$0.00
Concrete Flatwork, 4 inch thick	2,300.00	sq ft	$ 9.00	$20,700.00
Concrete Flatwork, 6 inch Thick	2,290.00	sq ft	$ 12.00	$27,480.00
				$224,586.27
DRAINAGE & IRRIGATION				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
24 Inch Irrigation RCP Pipe	200	ft	$ 200.00	$40,000.00
Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9	8	Each	$ 5,000.00	$40,000.00
Rectangular Grate And Frame (Bicycle Safe Grating) - GF 3	8	Each	$ 2,000.00	$16,000.00
				$96,000.00
SIGNAL SYSTEM				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Signal Changes	0	lump	$175,000.00	$0.00
				$0.00
UTILITIES				

Description	Quantity	Unit	Unit Price	Amount
Utility Contingency (potential need to relocate utilities for signal foundations)	1	lump	$20,000.00	$20,000.00
Relocate utility pole	2	Each	$15,000.00	$30,000.00
Relocate luminaire pole	0	Each	$7,500.00	$0.00
Relocate transformer	0	Each	$50,000.00	$0.00
Relocate Fire hydrant	1	Each	$3,000.00	$3,000.00
				$53,000.00

LANDSCAPING				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Misc. Landscaping	1	Lump	$15,000.00	$15,000.00
				$15,000.00

Structures				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Retaining Wall	0	Sq Ft	$175.00	$0.00
				$0.00

BID ITEMS $	**$468,386.27**
Contingency (10%) $	**$46,838.63**
BID ITEMS TOTAL $	**$515,224.90**

NON-BID ITEMS

Description	Quantity	Unit	Unit Price	Amount
Assuming Right of Way	28,380	sq ft	$15.00	$425,700.00
Construction easement along west leg	0	sq ft	$3.00	$0.00
				$425,700.00

Description	Quantity	Unit	Unit Price	Amount
Design Engineering (10% of Bid Items)	1	lump	$51,522.49	$51,522.49
				$51,522.49

Description	Quantity	Unit	Unit Price	Amount
Construction Management (6% of Bid Items)	1	lump	$30,913.49	$30,913.49
				$30,913.49

BID ITEMS TOTAL $	**$515,224.90**
NON-BID ITEMS TOTAL $	**$508,135.98**
GRAND TOTAL $	**$1,023,360.88**

ENGINEER'S ESTIMATE (2022 COSTS) 75 West & South Weber Drive Intersection Project #6 - Eastbound Left-Turn Lane				
BID ITEMS				
GENERAL				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Mobilization	1	lump	9.50%	$43,900.00
Public Information Services	1	lump	1.00%	$4,700.00
Traffic Control	1	lump	8.00%	$37,000.00
Survey	1	lump	2.00%	$9,300.00
				$94,900.00
ROADWAY				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Remove Concrete Curb and Gutter	0	ft	$ 12.00	$0.00
Remove Concrete Sidewalk	0	sq yd	$ 28.00	$0.00
Roadway Excavation (Plan Quantity)	356	cu yd	$ 24.00	$8,533.33
Granular Borrow (Plan Quantity)		cu yd	$ 35.00	$0.00
Untreated Base Course	580	Ton	$ 40.00	$23,200.00
Remove Concrete Driveway		sq yd	$ 28.00	$0.00
HMA - 1/2 inch	306	Ton	$ 110.00	$33,660.00
Pavement Marking Paint	30	gal	$ 80.00	$2,400.00
Pavement Message (Preformed Thermoplastic)	4	Each	$ 250.00	$1,000.00
Concrete Curb and Gutter Type B1	1600	ft	$ 35.00	$56,000.00
Perpendicular/Parallel Pedestrian Access Ramp	2	Each	$ 4,000.00	$8,000.00
Concrete Sidewalk	8000	sq ft	$ 9.00	$72,000.00
				$204,793.33
DRAINAGE & IRRIGATION				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
24 Inch Irrigation RCP Pipe	800	ft	$ 200.00	$160,000.00
Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9	1	Each	$ 5,000.00	$5,000.00
Rectangular Grate And Frame (Bicycle Safe Grating) - GF 3	1	Each	$ 2,000.00	$2,000.00
				$167,000.00
SIGNAL SYSTEM				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
New Signal		lump	$275,000.00	$0.00
				$0.00
UTILITIES				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Utility Contingency (potential need to relocate utilities for signa foundations)	1	lump	$25,000.00	$25,000.00
Relocate utility pole	4	Each	$15,000.00	$60,000.00

				$85,000.00

LANDSCAPING				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Misc. Landscaping	1	Lump	$5,000.00	$5,000.00
				$5,000.00

Structures				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Retaining Wall		Sq Ft	$175.00	$0.00
				$0.00

BID ITEMS $	**$556,693.33**
Contingency (10%) $	**$55,669.33**
BID ITEMS TOTAL $	**$612,362.67**

NON-BID ITEMS

Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Assuming Right of Way on south side	8,000	sq ft	$15.00	$120,000.00
Construction easement along southwest corner	1,000	sq ft	$3.00	$3,000.00
				$123,000.00

Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Design Engineering (10% of Bid Items)	1	lump	$61,236.27	$61,236.27
				$61,236.27

Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Construction Management (6% of Bid Items)	1	lump	$36,741.76	$36,741.76
				$36,741.76

BID ITEMS TOTAL $	**$612,362.67**
NON-BID ITEMS TOTAL $	**$220,978.03**
GRAND TOTAL $	**$833,340.69**

ENGINEER'S ESTIMATE (2022 COSTS) 850 East & Old Fort Road Intersection Project #7 - Roundabout				
BID ITEMS				
GENERAL				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Mobilization	1	lump	9.50%	$38,500.00
Public Information Services	1	lump	1.00%	$4,100.00
Traffic Control	1	lump	8.00%	$32,400.00
Survey	1	lump	5.00%	$20,300.00
				$95,300.00
ROADWAY				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Remove Concrete Curb and Gutter	0	ft	$ 12.00	$0.00
Remove Concrete Sidewalk	0	sq yd	$ 28.00	$0.00
Roadway Excavation (Plan Quantity)	194	cu yd	$ 24.00	$4,644.41
Granular Borrow (Plan Quantity)		cu yd	$ 35.00	$0.00
Untreated Base Course	316	Ton	$ 40.00	$12,626.99
Remove Concrete Driveway	0	sq yd	$ 28.00	$0.00
HMA - 1/2 inch	453	Ton	$ 150.00	$68,013.09
Pavement Marking Paint	60	gal	$ 80.00	$4,800.00
Pavement Message (Preformed Thermoplastic)	12	Each	$ 250.00	$3,000.00
Concrete Curb and Gutter Type B1	800	ft	$ 35.00	$28,000.00
Perpendicular/Parallel Pedestrian Access Ramp	8	Each	$ 4,000.00	$32,000.00
Concrete Sidewalk	3,000	sq ft	$ 9.00	$27,000.00
Concrete Curb and Gutter Type M1	396.32	ft	$ 25.00	$9,908.00
Concrete Flatwork, 6 inch Thick	3,000.00	ft	$ 10.00	$30,000.00
				$219,992.49
DRAINAGE & IRRIGATION				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
24 Inch Irrigation RCP Pipe	200	ft	$ 200.00	$40,000.00
Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9	8	Each	$ 5,000.00	$40,000.00
Rectangular Grate And Frame (Bicycle Safe Grating) - GF 3	8	Each	$ 2,000.00	$16,000.00
				$96,000.00
SIGNAL SYSTEM				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
None		lump		$0.00
				$0.00
UTILITIES				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Misc utility relocate	1	lump	$10,000.00	$10,000.00
Lighting at roundabout (assume 8 lights)	8	Each	$8,000.00	$64,000.00
				$74,000.00

LANDSCAPING				
Description	Quantity	Unit	Unit Price	Amount
Landscaping (assume higher price to landscape medians)	1	Lump	$15,000.00	$15,000.00
				$15,000.00

Structures				
Description	Quantity	Unit	Unit Price	Amount
				$0.00

BID ITEMS $	**$500,292.49**
Contingency (30%) $	**$150,087.75**
BID ITEMS TOTAL $	**$650,380.23**

NON-BID ITEMS

Description	Quantity	Unit	Unit Price	Amount
Assuming right of way outside of regular 70' "T" Intersection	3,800	sq ft	$15.00	$57,000.00
Assuming 5' wide construction easement	1,000	sq ft	$3.00	$3,000.00
				$60,000.00

Description	Quantity	Unit	Unit Price	Amount
Design Engineering (15% of Bid Items)	1	lump	$97,557.03	$97,557.03
				$97,557.03

Description	Quantity	Unit	Unit Price	Amount
Construction Management (12% of Bid Items)	1	lump	$78,045.63	$78,045.63
				$78,045.63

BID ITEMS TOTAL $	**$650,380.23**
NON-BID ITEMS TOTAL $	**$235,602.66**
GRAND TOTAL $	**$885,982.89**

ENGINEER'S ESTIMATE (2022 COSTS) 950 East & Old Fort Road Intersection Project #3 - Roundabout				
BID ITEMS				
GENERAL				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Mobilization	1	lump	9.50%	$38,500.00
Public Information Services	1	lump	1.00%	$4,100.00
Traffic Control	1	lump	8.00%	$32,400.00
Survey	1	lump	5.00%	$20,300.00
				$95,300.00
ROADWAY				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Remove Concrete Curb and Gutter	0	ft	$ 12.00	$0.00
Remove Concrete Sidewalk	0	sq yd	$ 28.00	$0.00
Roadway Excavation (Plan Quantity)	194	cu yd	$ 24.00	$4,644.41
Granular Borrow (Plan Quantity)		cu yd	$ 35.00	$0.00
Untreated Base Course	316	Ton	$ 40.00	$12,626.99
Remove Concrete Driveway	0	sq yd	$ 28.00	$0.00
HMA - 1/2 inch	453	Ton	$ 150.00	$68,013.09
Pavement Marking Paint	60	gal	$ 80.00	$4,800.00
Pavement Message (Preformed Thermoplastic)	12	Each	$ 250.00	$3,000.00
Concrete Curb and Gutter Type B1	800	ft	$ 35.00	$28,000.00
Perpendicular/Parallel Pedestrian Access Ramp	8	Each	$ 4,000.00	$32,000.00
Concrete Sidewalk	3,000	sq ft	$ 9.00	$27,000.00
Concrete Curb and Gutter Type M1	396.32	ft	$ 25.00	$9,908.00
Concrete Flatwork, 6 inch Thick	3,000.00	ft	$ 10.00	$30,000.00
				$219,992.49
DRAINAGE & IRRIGATION				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
24 Inch Irrigation RCP Pipe	200	ft	$ 200.00	$40,000.00
Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9	8	Each	$ 5,000.00	$40,000.00
Rectangular Grate And Frame (Bicycle Safe Grating) - GF 3	8	Each	$ 2,000.00	$16,000.00
				$96,000.00
SIGNAL SYSTEM				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
None		lump		$0.00
				$0.00
UTILITIES				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Misc utility relocate	1	lump	$10,000.00	$10,000.00
Lighting at roundabout (assume 8 lights)	8	Each	$8,000.00	$64,000.00
				$74,000.00

LANDSCAPING				
Description	Quantity	Unit	Unit Price	Amount
Landscaping (assume higher price to landscape medians)	1	Lump	$15,000.00	$15,000.00
				$15,000.00

Structures				
Description	Quantity	Unit	Unit Price	Amount
				$0.00

BID ITEMS $	**$500,292.49**
Contingency (30%) $	**$150,087.75**
BID ITEMS TOTAL $	**$650,380.23**

NON-BID ITEMS

Description	Quantity	Unit	Unit Price	Amount
Assuming right of way outside of regular 70' "T" Intersection	3,800	sq ft	$15.00	$57,000.00
Assuming 5' wide construction easement	1,000	sq ft	$3.00	$3,000.00
				$60,000.00

Description	Quantity	Unit	Unit Price	Amount
Design Engineering (15% of Bid Items)	1	lump	$97,557.03	$97,557.03
				$97,557.03

Description	Quantity	Unit	Unit Price	Amount
Construction Management (12% of Bid Items)	1	lump	$78,045.63	$78,045.63
				$78,045.63

BID ITEMS TOTAL $	**$650,380.23**
NON-BID ITEMS TOTAL $	**$235,602.66**
GRAND TOTAL $	**$885,982.89**

ENGINEER'S ESTIMATE (2022 COSTS) Old Maple Road & South Weber Drive Intersection Project #9 - Roundabout				
BID ITEMS				
GENERAL				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Mobilization	1	lump	9.50%	$41,800.00
Public Information Services	1	lump	1.00%	$4,400.00
Traffic Control	1	lump	8.00%	$35,200.00
Survey	1	lump	5.00%	$22,000.00
				$103,400.00
ROADWAY				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Remove Concrete Curb and Gutter	0	ft	$ 12.00	$0.00
Remove Concrete Sidewalk	0	sq yd	$ 28.00	$0.00
Roadway Excavation (Plan Quantity)	194	cu yd	$ 24.00	$4,644.41
Granular Borrow (Plan Quantity)		cu yd	$ 35.00	$0.00
Untreated Base Course	316	Ton	$ 40.00	$12,626.99
Remove Concrete Driveway	0	sq yd	$ 28.00	$0.00
HMA - 1/2 inch	453	Ton	$ 150.00	$68,013.09
Pavement Marking Paint	60	gal	$ 80.00	$4,800.00
Pavement Message (Preformed Thermoplastic)	12	Each	$ 250.00	$3,000.00
Concrete Curb and Gutter Type B1	800	ft	$ 35.00	$28,000.00
Perpendicular/Parallel Pedestrian Access Ramp	8	Each	$ 4,000.00	$32,000.00
Concrete Sidewalk	3,000	sq ft	$ 9.00	$27,000.00
Concrete Curb and Gutter Type M1	396.32	ft	$ 25.00	$9,908.00
Concrete Flatwork, 6 inch Thick	3,000.00	ft	$ 10.00	$30,000.00
				$219,992.49
DRAINAGE & IRRIGATION				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
24 Inch Irrigation RCP Pipe	200	ft	$ 200.00	$40,000.00
Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9	8	Each	$ 5,000.00	$40,000.00
Rectangular Grate And Frame (Bicycle Safe Grating) - GF 3	8	Each	$ 2,000.00	$16,000.00
				$96,000.00
SIGNAL SYSTEM				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
None		lump		$0.00
				$0.00
UTILITIES				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Power Pole relocations	1	lump	$25,000.00	$25,000.00
Lighting at roundabout (assume 8 lights)	8	Each	$8,000.00	$64,000.00
Relocate irrigation box	1	lump	$10,000.00	$10,000.00
Misc utility relocate	1	lump	$10,000.00	$10,000.00
				$109,000.00

LANDSCAPING				
Description	Quantity	Unit	Unit Price	Amount
Landscaping (assume higher price to landscape medians)	1	Lump	$15,000.00	$15,000.00
				$15,000.00

Structures				
Description	Quantity	Unit	Unit Price	Amount
				$0.00

BID ITEMS $	**$543,392.49**
Contingency (30%) $	**$163,017.75**
BID ITEMS TOTAL $	**$706,410.23**

NON-BID ITEMS

Description	Quantity	Unit	Unit Price	Amount
Right of Way (assuming corner clips to allow room for roundabout)	8,000	sq ft	$15.00	$120,000.00
Assuming 5' wide construction easement	1,000	sq ft	$3.00	$3,000.00
				$123,000.00

Description	Quantity	Unit	Unit Price	Amount
Design Engineering (15% of Bid Items)	1	lump	$105,961.53	$105,961.53
				$105,961.53

Description	Quantity	Unit	Unit Price	Amount
Construction Management (12% of Bid Items)	1	lump	$84,769.23	$84,769.23
				$84,769.23

BID ITEMS TOTAL $	**$706,410.23**
NON-BID ITEMS TOTAL $	**$313,730.76**
GRAND TOTAL $	**$1,020,140.99**

ENGINEER'S ESTIMATE (2022 COSTS)				
950 East & South Weber Drive				
Intersection Project #10 - Signal				
BID ITEMS				
GENERAL				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Mobilization	1	lump	5.00%	$17,000.00
Public Information Services	1	lump	1.00%	$3,400.00
Traffic Control	1	lump	2.00%	$6,800.00
Survey	1	lump	2.00%	$6,800.00
				$34,000.00
ROADWAY				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Remove Concrete Curb and Gutter		ft	$ 12.00	$0.00
Remove Concrete Sidewalk		sq yd	$ 28.00	$0.00
Roadway Excavation (Plan Quantity)		cu yd	$ 24.00	$0.00
Granular Borrow (Plan Quantity)		cu yd	$ 35.00	$0.00
Untreated Base Course		Ton	$ 40.00	$0.00
Remove Concrete Driveway		sq yd	$ 28.00	$0.00
HMA - 1/2 inch		Ton	$ 110.00	$0.00
Pavement Marking Paint	30	gal	$ 80.00	$2,400.00
Pavement Message (Preformed Thermoplastic)	16	Each	$ 250.00	$4,000.00
Concrete Curb and Gutter Type B1		ft	$ 35.00	$0.00
Perpendicular/Parallel Pedestrian Access Ramp	2	Each	$ 4,000.00	$8,000.00
Concrete Sidewalk		sq ft	$ 9.00	$0.00
				$14,400.00
DRAINAGE & IRRIGATION				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
24 Inch Irrigation RCP Pipe		ft	$ 200.00	$0.00
Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9		Each	$ 5,000.00	$0.00
Rectangular Grate And Frame (Bicycle Safe Grating) - GF 3		Each	$ 2,000.00	$0.00
				$0.00
SIGNAL SYSTEM				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
New Signal	1	lump	$300,000.00	$300,000.00
				$300,000.00
UTILITIES				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Utility Contingency (potential need to relocate utilities for signa foundations)	1	lump	$10,000.00	$10,000.00

				$10,000.00
LANDSCAPING				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Misc. Landscaping		Lump		$0.00
				$0.00
ATMS				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
ATMS integration (Tie into fiber network via cell reception, no fiber in the area)	1	Lump	$15,000.00	$15,000.00
				$15,000.00
			BID ITEMS $	**$373,400.00**
			Contingency (10%) $	**$37,340.00**
			BID ITEMS TOTAL $	**$410,740.00**
NON-BID ITEMS				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Assuming Right of Way corner clips on north corners	400	sq ft	$15.00	$6,000.00
				$6,000.00
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Design Engineering (10% of Bid Items)	1	lump	$41,074.00	$41,074.00
				$41,074.00
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Construction Management (6% of Bid Items)	1	lump	$24,644.40	$24,644.40
				$24,644.40
			BID ITEMS TOTAL $	**$410,740.00**
			NON-BID ITEMS TOTAL $	**$71,718.40**
			GRAND TOTAL $	**$482,458.40**

ENGINEER'S ESTIMATE (2022 COSTS) 2700 East & South Weber Drive Intersection Project #11 - Westbound Dual Left-Turn Lanes				
BID ITEMS				
GENERAL				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Mobilization	1	lump	9.50%	$57,800.00
Public Information Services	1	lump	1.00%	$6,100.00
Traffic Control	1	lump	8.00%	$48,700.00
Survey	1	lump	2.00%	$12,200.00
				$124,800.00
ROADWAY				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Roadway Excavation (Plan Quantity)	311	cu yd	$ 24.00	$7,466.67
Granular Borrow (Plan Quantity)		cu yd	$ 35.00	$0.00
Untreated Base Course	508	Ton	$ 40.00	$20,300.00
Remove Concrete Driveway		sq yd	$ 28.00	$0.00
HMA - 1/2 inch	268	Ton	$ 110.00	$29,452.50
Pavement Marking Paint	95	gal	$ 80.00	$7,600.00
Pavement Message (Preformed Thermoplastic)	29	Each	$ 250.00	$7,250.00
Remove Concrete Curb and Gutter	405	ft	$ 12.00	$4,860.00
Concrete Curb and Gutter Type B1	1100	ft	$ 35.00	$38,500.00
Perpendicular/Parallel Pedestrian Access Ramp	1	Each	$ 4,000.00	$4,000.00
Remove Concrete Sidewalk	246	sq yd	$ 28.00	$6,888.00
Concrete Sidewalk	2158	sq ft	$ 9.00	$19,422.00
Relocate Business Sign	1.00	Each	$ 20,000.00	$20,000.00
Remove City Sign	1.00	Each	$ 20,000.00	$20,000.00
Remove Sign Less Than 20 Square Feet	0.00	Each	$ 97.00	$0.00
Relocate Sign Less Than 20 Square Feet	2.00	Each	$ 188.00	$376.00
Relocate Sign Greater Than or Equal to 20 Square Feet	2.00	Each	$ 205.00	$410.00
Remove Fence	120.00	ft	$ 5.00	$600.00
Signs	2.00	Each	$ 250.00	$500.00
Concrete Curb Type B5	0.00	ft	$ 27.00	$0.00
Concrete Flatwork, 4 inch thick	0.00	sq ft	$ 9.00	$0.00
Concrete Flatwork, 6 inch Thick	0.00	sq ft	$ 12.00	$0.00
				$187,625.17
DRAINAGE & IRRIGATION				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
24 Inch Irrigation RCP Pipe	250	ft	$ 200.00	$50,000.00
Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9	5	Each	$ 5,000.00	$25,000.00
Rectangular Grate And Frame (Bicycle Safe Grating) - GF 3	5	Each	$ 2,000.00	$10,000.00
				$85,000.00
SIGNAL SYSTEM				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Signal Changes	1	lump	$250,000.00	$250,000.00
				$250,000.00
UTILITIES				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**

Utility Contingency (potential need to relocate utilities for signal foundations)	1	lump	$50,000.00	$50,000.00
Relocate utility pole	0	Each	$15,000.00	$0.00
Relocate luminaire pole	1	Each	$10,000.00	$10,000.00
Relocate transformer	1	Each	$10,000.00	$10,000.00
Relocate Fire hydrant	1	Each	$5,000.00	$5,000.00
				$75,000.00

LANDSCAPING				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Misc. Landscaping West leg	1	Lump	$10,000.00	$10,000.00
				$10,000.00

Structures				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Retaining Wall	0	Sq Ft	$175.00	$0.00
				$0.00

BID ITEMS $	**$732,425.17**
Contingency (15%) $	**$109,863.78**
BID ITEMS TOTAL $	**$842,288.94**

NON-BID ITEMS

Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Assuming Right of Way on west leg	1,145	sq ft	$25.00	$28,625.00
Construction easement along west leg	1,150	sq ft	$6.00	$6,900.00
				$35,525.00

Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Design Engineering (15% of Bid Items)	1	lump	$126,343.34	$126,343.34
				$126,343.34

Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Construction Management (6% of Bid Items)	1	lump	$50,537.34	$50,537.34
				$50,537.34

BID ITEMS TOTAL $	**$842,288.94**
NON-BID ITEMS TOTAL $	**$212,405.68**
GRAND TOTAL $	**$1,054,694.62**

ENGINEER'S ESTIMATE (2022 COSTS)				
1900 East & South Weber Drive				
Intersection Project #12 - Signal and Widening				
BID ITEMS				
GENERAL				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Mobilization	1	lump	9.50%	$39,700.00
Public Information Services	1	lump	1.00%	$4,200.00
Traffic Control	1	lump	8.00%	$33,500.00
Survey	1	lump	2.00%	$8,400.00
				$85,800.00
ROADWAY				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Remove Concrete Curb and Gutter	220	ft	$ 12.00	$2,640.00
Remove Concrete Sidewalk	111	sq yd	$ 28.00	$3,111.11
Roadway Excavation (Plan Quantity)	59	cu yd	$ 24.00	$1,422.22
Granular Borrow (Plan Quantity)		cu yd	$ 35.00	$0.00
Untreated Base Course	97	Ton	$ 40.00	$3,866.67
Remove Concrete Driveway		sq yd	$ 28.00	$0.00
HMA - 1/2 inch	51	Ton	$ 110.00	$5,610.00
Pavement Marking Paint	15	gal	$ 80.00	$1,200.00
Pavement Message (Preformed Thermoplastic)	4	Each	$ 250.00	$1,000.00
Concrete Curb and Gutter Type B1	220	ft	$ 35.00	$7,700.00
Perpendicular/Parallel Pedestrian Access Ramp	2	Each	$ 4,000.00	$8,000.00
Concrete Sidewalk	1000	sq ft	$ 9.00	$9,000.00
				$43,550.00
DRAINAGE & IRRIGATION				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
24 Inch Irrigation RCP Pipe	10	ft	$ 200.00	$2,000.00
Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9	1	Each	$ 5,000.00	$5,000.00
Rectangular Grate And Frame (Bicycle Safe Grating) - GF 3	1	Each	$ 2,000.00	$2,000.00
				$9,000.00
SIGNAL SYSTEM				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
New Signal	1	lump	$275,000.00	$275,000.00
				$275,000.00
UTILITIES				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Utility Contingency (potential need to relocate utilities for signa foundations)	1	lump	$10,000.00	$10,000.00
Relocate utility poles (appears to be RMP on the southwest side of intersection)	3	each	$15,000.00	$45,000.00
relocate transformer on southwest corner	1	each	$15,000.00	$15,000.00

				$70,000.00
LANDSCAPING				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Misc. Landscaping	1	Lump	$5,000.00	$5,000.00
				$5,000.00
ATMS				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
ATMS integration (Tie into fiber network via cell reception, no fiber in the area)	1	Lump	$15,000.00	$15,000.00
				$15,000.00
			BID ITEMS $	**$503,350.00**
			Contingency (10%) $	**$50,335.00**
			BID ITEMS TOTAL $	**$553,685.00**
NON-BID ITEMS				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Assuming Right of Way is not required, as wideneing happens on city property		sq ft	$15.00	$0.00
				$0.00
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Design Engineering (10% of Bid Items)	1	lump	$55,368.50	$55,368.50
				$55,368.50
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Construction Management (6% of Bid Items)	1	lump	$33,221.10	$33,221.10
				$33,221.10
			BID ITEMS TOTAL $	**$553,685.00**
			NON-BID ITEMS TOTAL $	**$88,589.60**
			GRAND TOTAL $	**$642,274.60**

ENGINEER'S ESTIMATE (2022 COSTS)
2100 East & South Weber Drive
Intersection Project #13 - Signal and Widening

BID ITEMS

GENERAL

Description	Quantity	Unit	Unit Price	Amount
Mobilization	1	lump	9.50%	$34,000.00
Public Information Services	1	lump	1.00%	$3,600.00
Traffic Control	1	lump	8.00%	$28,700.00
Survey	1	lump	2.00%	$7,200.00
				$73,500.00

ROADWAY

Description	Quantity	Unit	Unit Price	Amount
Remove Concrete Curb and Gutter	220	ft	$ 12.00	$2,640.00
Remove Concrete Sidewalk	111	sq yd	$ 28.00	$3,111.11
Roadway Excavation (Plan Quantity)	59	cu yd	$ 24.00	$1,422.22
Granular Borrow (Plan Quantity)		cu yd	$ 35.00	$0.00
Untreated Base Course	97	Ton	$ 40.00	$3,866.67
Remove Concrete Driveway		sq yd	$ 28.00	$0.00
HMA - 1/2 inch	51	Ton	$ 110.00	$5,610.00
Pavement Marking Paint	15	gal	$ 80.00	$1,200.00
Pavement Message (Preformed Thermoplastic)	4	Each	$ 250.00	$1,000.00
Concrete Curb and Gutter Type B1	220	ft	$ 35.00	$7,700.00
Perpendicular/Parallel Pedestrian Access Ramp	2	Each	$ 4,000.00	$8,000.00
Concrete Sidewalk	1000	sq ft	$ 9.00	$9,000.00
				$43,550.00

DRAINAGE & IRRIGATION

Description	Quantity	Unit	Unit Price	Amount
24 Inch Irrigation RCP Pipe	10	ft	$ 200.00	$2,000.00
Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9	1	Each	$ 5,000.00	$5,000.00
Rectangular Grate And Frame (Bicycle Safe Grating) - GF 3	1	Each	$ 2,000.00	$2,000.00
				$9,000.00

SIGNAL SYSTEM

Description	Quantity	Unit	Unit Price	Amount
New Signal	1	lump	$275,000.00	$275,000.00
				$275,000.00

UTILITIES

Description	Quantity	Unit	Unit Price	Amount
Utility Contingency (potential need to relocate utilities for signa foundations)	1	lump	$10,000.00	$10,000.00

				$10,000.00
LANDSCAPING				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Misc. Landscaping	1	Lump	$5,000.00	$5,000.00
				$5,000.00
ATMS				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
ATMS integration (Tie into fiber network via cell reception, no fiber in the area)	1	Lump	$15,000.00	$15,000.00
				$15,000.00
			BID ITEMS $	**$431,050.00**
			Contingency (10%) $	**$43,105.00**
			BID ITEMS TOTAL $	**$474,155.00**
NON-BID ITEMS				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Assuming Right of Way on southeast corner	2,400	sq ft	$15.00	$36,000.00
Construction easement along southeast corner	1,000	sq ft	$3.00	$3,000.00
				$39,000.00
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Design Engineering (10% of Bid Items)	1	lump	$47,415.50	$47,415.50
				$47,415.50
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Construction Management (6% of Bid Items)	1	lump	$28,449.30	$28,449.30
				$28,449.30
			BID ITEMS TOTAL $	**$474,155.00**
			NON-BID ITEMS TOTAL $	**$114,864.80**
			GRAND TOTAL $	**$589,019.80**

ENGINEER'S ESTIMATE (2022 COSTS) 475 East & South Weber Drive Intersection Project #14 - Eastbound Left-Turn Lane				
BID ITEMS				
GENERAL				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Mobilization	1	lump	9.50%	$78,600.00
Public Information Services	1	lump	1.00%	$8,300.00
Traffic Control	1	lump	8.00%	$66,200.00
Survey	1	lump	2.00%	$16,600.00
				$169,700.00
ROADWAY				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Remove Concrete Curb and Gutter	0	ft	$ 12.00	$0.00
Remove Concrete Sidewalk	0	sq yd	$ 28.00	$0.00
Roadway Excavation (Plan Quantity)	356	cu yd	$ 24.00	$8,533.33
Granular Borrow (Plan Quantity)		cu yd	$ 35.00	$0.00
Untreated Base Course	580	Ton	$ 40.00	$23,200.00
Remove Concrete Driveway		sq yd	$ 28.00	$0.00
HMA - 1/2 inch	306	Ton	$ 110.00	$33,660.00
Pavement Marking Paint	30	gal	$ 80.00	$2,400.00
Pavement Message (Preformed Thermoplastic)	4	Each	$ 250.00	$1,000.00
Concrete Curb and Gutter Type B1	1600	ft	$ 35.00	$56,000.00
Perpendicular/Parallel Pedestrian Access Ramp	2	Each	$ 4,000.00	$8,000.00
Concrete Sidewalk	8000	sq ft	$ 9.00	$72,000.00
				$204,793.33
DRAINAGE & IRRIGATION				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
24 Inch Irrigation RCP Pipe	800	ft	$ 200.00	$160,000.00
Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9	1	Each	$ 5,000.00	$5,000.00
Rectangular Grate And Frame (Bicycle Safe Grating) - GF 3	1	Each	$ 2,000.00	$2,000.00
				$167,000.00
SIGNAL SYSTEM				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
New Signal		lump	$275,000.00	$0.00
				$0.00
UTILITIES				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Utility Contingency (potential need to relocate utilities for signal foundations)	1	lump	$10,000.00	$10,000.00
Relocate utility pole	6	Each	$15,000.00	$90,000.00

				$100,000.00
LANDSCAPING				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Misc. Landscaping	1	Lump	$5,000.00	$5,000.00
				$5,000.00
Structures				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Retaining Wall	2000	Sq Ft	$175.00	$350,000.00
				$350,000.00
			BID ITEMS $	**$996,493.33**
			Contingency (10%) $	**$99,649.33**
			BID ITEMS TOTAL $	**$1,096,142.67**
NON-BID ITEMS				
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Assuming Right of Way on south side	8,000	sq ft	$15.00	$120,000.00
Construction easement along southwest corner	1,000	sq ft	$3.00	$3,000.00
				$123,000.00
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Design Engineering (10% of Bid Items)	1	lump	$109,614.27	$109,614.27
				$109,614.27
Description	**Quantity**	**Unit**	**Unit Price**	**Amount**
Construction Management (6% of Bid Items)	1	lump	$65,768.56	$65,768.56
				$65,768.56
			BID ITEMS TOTAL $	**$1,096,142.67**
			NON-BID ITEMS TOTAL $	**$298,382.83**
			GRAND TOTAL $	**$1,394,525.49**

SOUTH WEBER city

OCTOBER
2023

IMPACT FEE FACILITIES PLAN

SOUTH WEBER

WCG
WALL CONSULTANT GROUP

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I. INTRODUCTION

A. OVERVIEW

The purpose of the South Weber City Transportation Impact Fee Facilities Plan (IFFP) is to identify public roadway improvements that are needed to accommodate anticipated development and to evaluate the amount that is impact fee eligible. Utah law requires cities to prepare an IFFP prior to preparing an impact fee analysis (IFA) and establishing an impact fee. According to Utah State Code Title 11, Chapter 36a, Section 302, the IFFP is required to accomplish the following:

- Identify the existing level of service (LOS)
- Establish a proposed LOS
- Identify any excess capacity to accommodate future growth at the proposed LOS
- Identify demands placed upon existing public facilities by new development activity at the proposed LOS
- Identify the means by which the political entity will meet those growth demands
- Include a general consideration of all potential revenue sources to finance system improvements

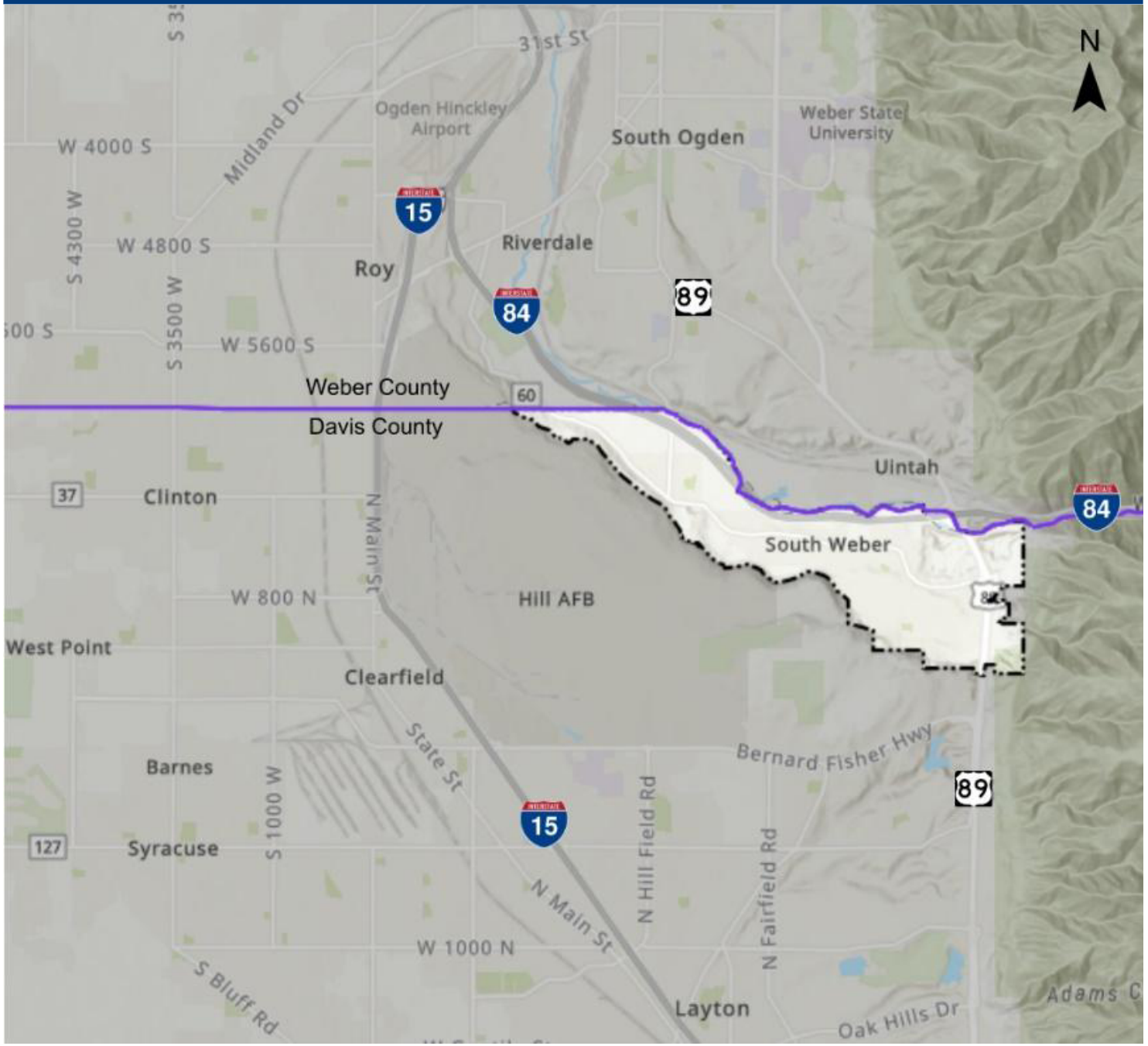
This analysis incorporates information from the South Weber Transportation Master Plan (TMP) (2023), which was completed by Wall Consultant Group (WCG). The TMP includes information regarding the existing and future demands on the transportation infrastructure and the proposed improvements to provide acceptable levels of service. The TMP provides additional detail regarding the methodology used to determine future travel demand.

This document focuses on the improvements that will be needed over the next six years. Utah law requires that any impact fees collected for these improvements be spent within six years of being collected. Only capital improvements are included in this plan; all other maintenance and operation costs are assumed to be covered through the City's General Fund as tax revenues increase due to additional development. The city council may choose to adopt a fee lower than the maximum impact fee identified, but not higher.

B. SERVICE AREA

The service area for the transportation impact fee is the entire city of South Weber. Figure 1 shows the current municipal boundaries of South Weber City, which function as the service area for the impact fee analysis.

FIGURE 1: SERVICE AREA – SOUTH WEBER CITY



II. ANALYSIS METHODOLOGY

A. PURPOSE

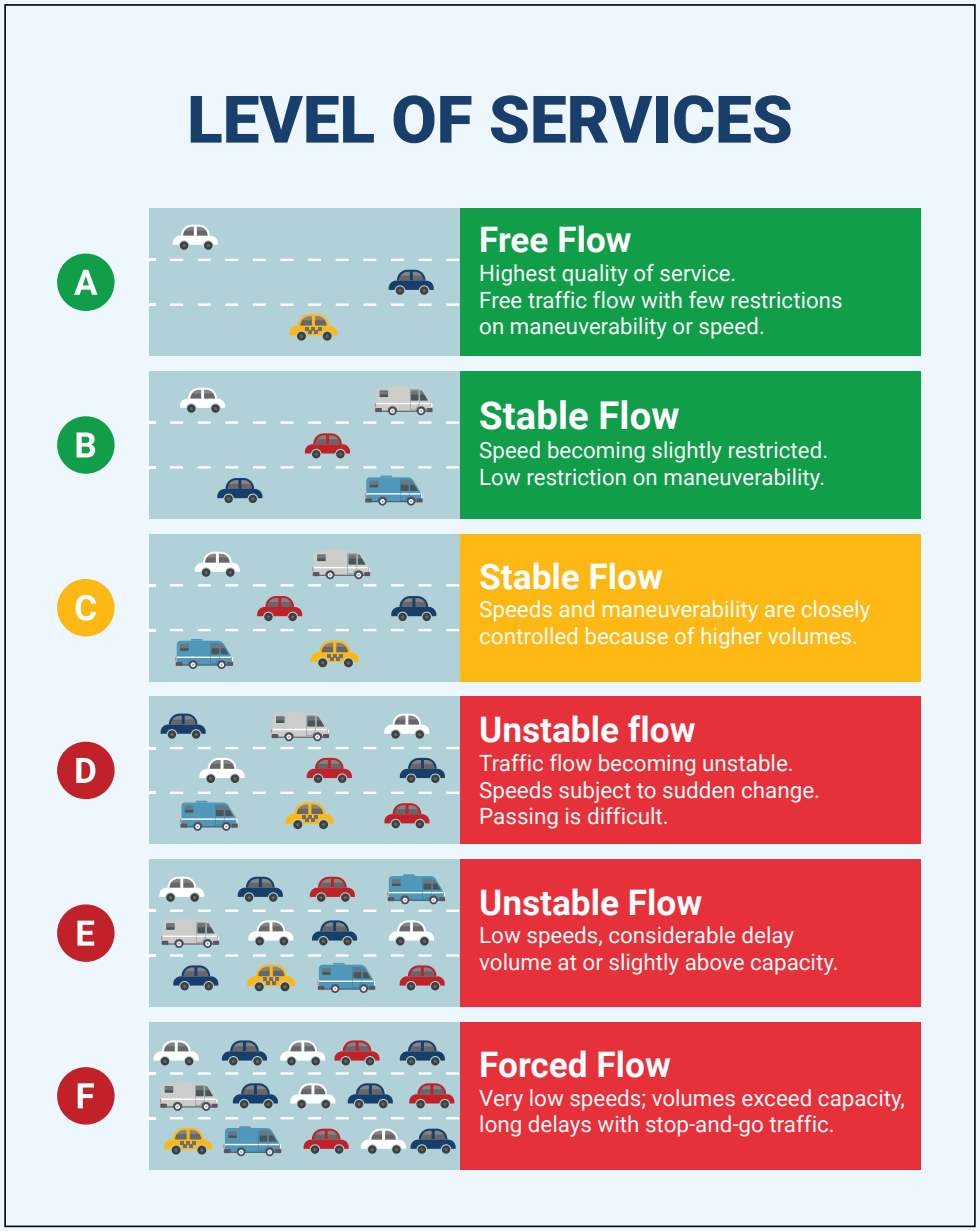
The purpose of this chapter is to discuss the Level of Service (LOS) methodology and the proposed LOS threshold for South Weber City roadways. According to Utah State Code Title 11, Chapter 36a, Section 102, LOS is defined as "the defined performance standard or unit of demand for each capital component of a public facility within a service area." The LOS of a roadway segment or intersection is used to determine if capacity improvements are necessary. LOS is measured on a roadway segment using its daily traffic volume and at an intersection based on a high level analysis of the intersection.

B. PROPOSED LOS

Level of Service (LOS) is a term that describes the operating performance of an intersection or roadway. LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst. A visual representation of each LOS is shown in Figure 2.

The Highway Capacity Manual (HCM), 7th ed. (2022) methodology was used in this analysis to remain consistent with "state of the practice" professional standards. The capacity of roadway segments is determined based on the number of lanes and/or functional classification of the roadway. The roadway LOS is then determined by comparing the actual traffic volumes with the capacity. South Weber City determined that LOS A – C is acceptable for roadway segments within the City. LOS D – F are considered failing and are evaluated for mitigation measures to bring the level of service up to an acceptable level. Table 1 and Table 2 summarizes the maximum acceptable daily capacities (LOS C) for arterial and collector roadway segments used in the South Weber TMP (2023).

FIGURE 2: LEVEL OF SERVICE (LOS) CATEGORIES



B. PROPOSED LOS CONTINUED

Table 1: Arterial Daily Maximum Capacities (Two Way Daily Trips)			
Lanes	LOS A - B	LOS C	LOS D - F
2	≤ 10,000	10,000 - 11,500	≥ 11,500
3	≤ 11,500	11,500 - 13,000	≥ 13,000
5	≤ 22,000	22,000 - 26,500	≥ 26,500

Table 2: Collector Daily Maximum Capacities (Two Way Daily Trips)			
Lanes	LOS A - B	LOS C	LOS D - F
2	≤9,000	9,000 - 10,500	≥ 10,500
3	≤ 10,000	10,000 - 11,500	≥ 11,500
5	≤ 19,000	19,000 - 22,000	≥ 22,000

The proposed LOS provides a standard of evaluation for roadway conditions. This standard will determine whether or not a roadway will need improvements.

According to Utah State Code Title 11, Chapter 36a, Section 302:

> (b) A proposed level of service may diminish or equal the existing level of service.
>
> (c) A proposed level of service may:
>
> (i) exceed the existing level of service if, independent of the use of impact fees, the political subdivision or private entity provides, implements, and maintains the means to increase the existing level of service for existing demand within six years of the date on which new growth is charged for the proposed level of service; or
>
> (ii) establish a new public facility if, independent of the use of impact fees, the political subdivision or private entity provides, implements, and maintains the means to increase the existing level of service for existing demand within six years of the date on which new growth is charged for the proposed level of service.

As noted in the South Weber TMP (2023), the proposed LOS threshold for South Weber is LOS C. Therefore, improvements are recommended and eligible for impact fees for roadways that are projected to operate at LOS D, E or F in the future.

C. EXCESS CAPACITY

An important element of the IFFP is the determination of excess capacity on the roadway network. Excess capacity is defined as the amount of available capacity on any given street in the roadway network under existing conditions. This capacity is available for new development in the City before additional infrastructure will be needed. This represents a buy-in component from the City if the existing residents and businesses have already paid for these improvements.

New roads do not have any existing excess capacity, and roads that are not under city jurisdiction have their capacity information removed from the calculations. The excess capacity for roadways that are identified as needing improvements in the IFFP was calculated and accounted for in the impact fee calculations.

D. TRIPS

The unit of demand for transportation impact is the vehicle trip. A vehicle trip is defined by the Institute of Transportation Engineers (ITE) as a "single or one-direction vehicle movement with either the origin or the destination (exiting or entering) inside a study site". The total traffic impact of a new development can be determined by the sum of the total number of vehicle trips generated by a development in a typical weekday. This trip generation number or impact can be estimated for an individual development using the ITE Trip Generation Manual, 11th ed. (2021). ITE's trip data is based on data collection at numerous sites over several decades.

An additional consideration is that certain developments generate pass-by trips. Pass-by trips are trips taken on the way from one development to another. An example of this is someone stopping at a gas station on the way home from work. The pass-by trip is still counted at the gas station access. However, the pass-by trip was completed by a vehicle already on the road due to other developments.

Pass-by trips do not add additional traffic to the roadway and, therefore, do not create additional impact. Many land-use types in the ITE Trip Generation Manual have a suggested reduction for pass-by trips where applicable. In each case, the trip reduction rate will be applied to the trip generation rate used in the IFA.

E. CUT-THROUGH TRIPS

Trips that do not have an origin or destination within South Weber City need to be removed from the impact fee calculation. For example, if a vehicle starts a trip in Riverdale, travels through South Weber City, and ends that trip in Layton, this trip adds traffic to a South Weber roadway. However, the cost of the incremental congestion it adds to South Weber City roadways cannot be recovered through impact fees. The details behind these calculations are described in Chapter 4 of this document.

The travel demand model developed specifically for the South Weber Transportation Master Plan was utilized to determine cut-through percentages on South Weber City roadways. A "select link" analysis was performed to determine cut-through percentages. This analysis examines a specific roadway link and traces the origins and destinations of every vehicle trip on that link. All vehicle trips that had both an origin and destination outside of South Weber City were totaled, then divided by the total link volume to obtain the cut-through percentage. This analysis was performed on all major roadways within South Weber City that had the potential for cut-through vehicle trips.

Given South Weber's location on the northeast side of Davis County cut-through trips are generally minimal. Most roadways within South Weber City were found to have cut-through rates of 5% or less, with many roadways having no cut-through vehicles. Roadways that connect adjacent municipalities, such as South Weber Drive (SR-60), had higher cut-through rates due to connectivity to other jurisdictions.

F. RE-ROUTED EXISTING TRIPS

New roadways may result in existing trips being re-routed from existing roadways to the new road. Therefore, the future volume on the roadway may not represent only trips from new development. Therefore, the amount of existing trips that will be re-routed to the new road is estimated and accounted for in the impact fee eligible calculations. These trips are removed from the new capacity used calculation, thus reducing the percent of the project cost that is impact fee eligible.

G. INTERSECTION PROJECTS

If trips resulting from new growth require an intersection to be upgraded, the full cost of the intersection is impact fee eligible. If it weren't for new development, the existing intersection configuration would be adequate. Thus, cut-through and excess capacity are not accounted for with intersection projects.

H. SYSTEM AND PROJECT IMPROVEMENT

There are three primary classifications of roads defined in the South Weber TMP: Minor Arterials, Collectors, and local streets (Special and Local Residential). These are defined in the roadway classification map in the South Weber TMP.

Improvements made to collectors and arterials are considered system improvements as defined in the Utah Impact Fee Law, as these streets serve users from multiple developments. All intersection improvements on existing and future collectors and arterials are also considered system improvements. System improvements may include anything within the roadway, such as curb and gutter, asphalt, road base, sidewalks/trails, lighting, and signing for collectors and arterials. These projects are eligible to be funded with impact fees and are included in this IFFP.

III. TRANSPORTATION DEMANDS

A. PURPOSE

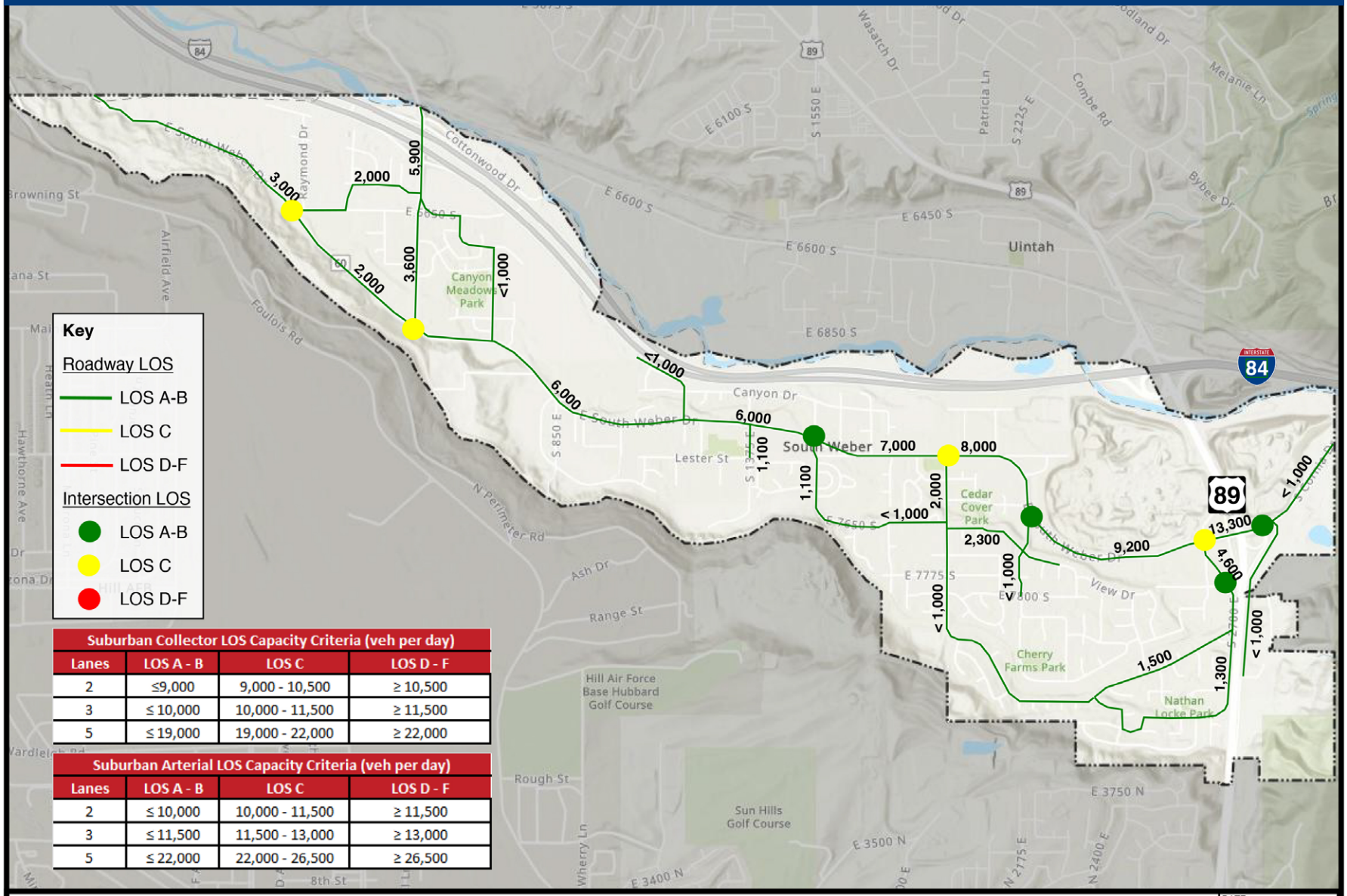
The purpose of this chapter is to identify the existing and future transportation demands on South Weber roadway facilities. Future transportation demands are based on new development in the City. Once defined, the transportation demands help identify roadways that have excess capacity and those that require additional capacity due to high transportation demands.

B. EXISTING ROADWAY CONDITIONS

Existing roadway conditions were determined by collecting traffic data on major roadways in the City, as well as from a variety of traffic data sources. These additional sources include data collected by South Weber City, the Utah Department of Transportation (UDOT), and the previous TMP. The traffic volumes were compared with each roadway capacity to identify the LOS of each segment.

The existing LOS of major roadways in South Weber City is shown in Figure 3. As shown, all of the major City roadways are currently operating at an acceptable LOS (C or better).

FIGURE 3: EXISTING LOS



Suburban Collector LOS Capacity Criteria (veh per day)			
Lanes	LOS A - B	LOS C	LOS D - F
2	≤9,000	9,000 - 10,500	≥ 10,500
3	≤ 10,000	10,000 - 11,500	≥ 11,500
5	≤ 19,000	19,000 - 22,000	≥ 22,000

Suburban Arterial LOS Capacity Criteria (veh per day)			
Lanes	LOS A - B	LOS C	LOS D - F
2	≤ 10,000	10,000 - 11,500	≥ 11,500
3	≤ 11,500	11,500 - 13,000	≥ 13,000
5	≤ 22,000	22,000 - 26,500	≥ 26,500

WALL CONSULTANT GROUP

Existing (2022) ADT and LOS

South Weber IFFP

N

DATE: 09/20/2022

PROJECT: 22-133

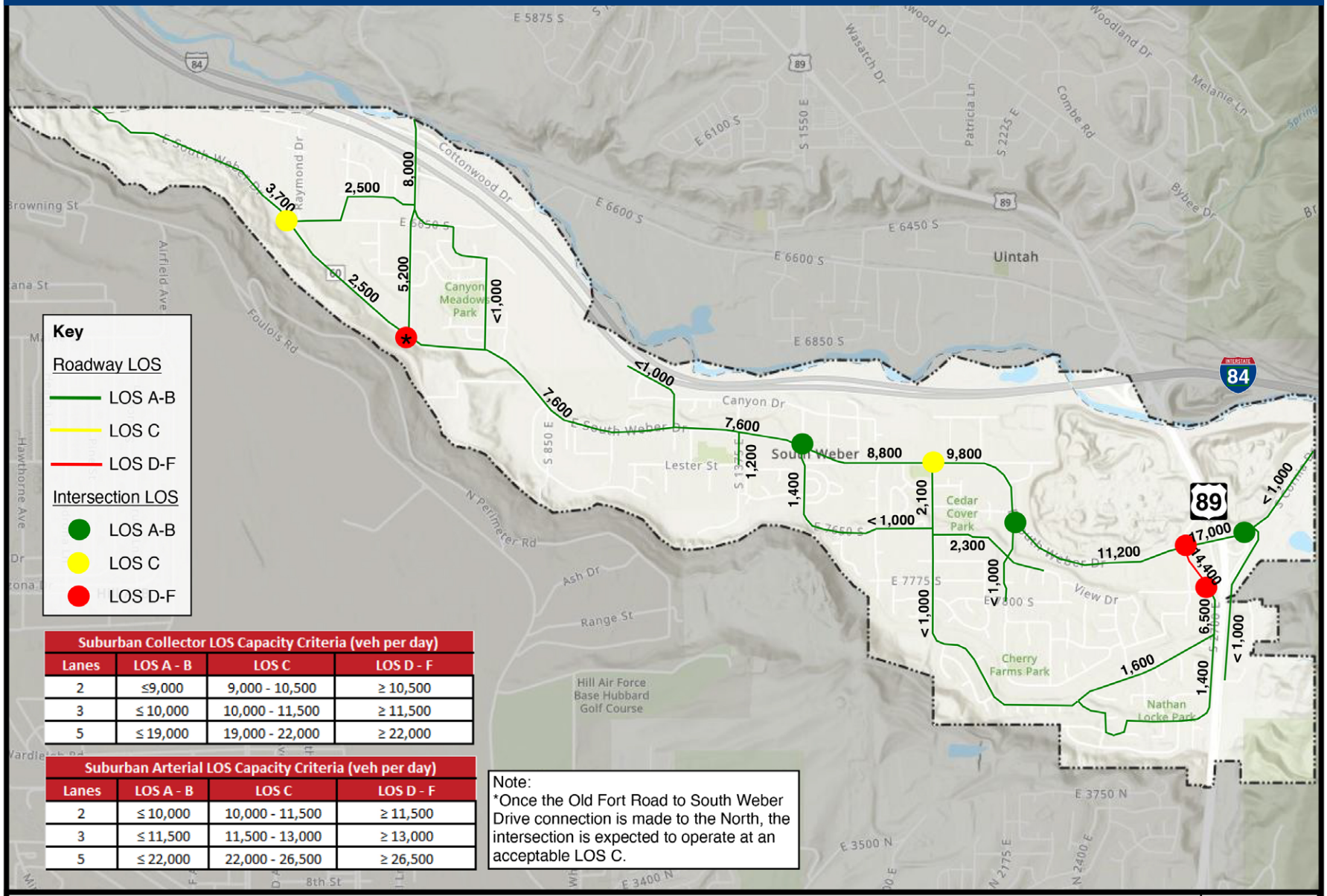
Figure 3

C. FUTURE ROADWAY CONDITIONS

Future traffic volumes were projected using the travel demand model. WCG used the latest model from Wasatch Front Regional Council (WFRC), which is the local metropolitan planning organization (MPO), and refined it to better reflect conditions in South Weber and the surrounding areas. The existing traffic volumes and data from planned developments and land uses were used to adjust the model to estimate future traffic volumes. The model was developed to estimate future volumes in 2032, assuming a no-build condition, meaning that no City roadway improvements were assumed. A no-build scenario is intended to show what the roadway network would be like in the future if no action is taken to improve the City roadway network. The future (2032) no-build LOS is shown in Figure 4. As shown, there are a number of roadways that are anticipated to deteriorate to LOS D, E or F. In addition, there are several new roads that will be needed to accommodate future development.

Based on the analysis in the South Weber TMP, the anticipated growth resulting from new development in South Weber City from 2022 to 2032 is **21,890** daily trips.

FIGURE 4: FUTURE (2032) — NO BUILD LOS



Suburban Collector LOS Capacity Criteria (veh per day)			
Lanes	LOS A - B	LOS C	LOS D - F
2	≤9,000	9,000 - 10,500	≥ 10,500
3	≤ 10,000	10,000 - 11,500	≥ 11,500
5	≤ 19,000	19,000 - 22,000	≥ 22,000

Suburban Arterial LOS Capacity Criteria (veh per day)			
Lanes	LOS A - B	LOS C	LOS D - F
2	≤ 10,000	10,000 - 11,500	≥ 11,500
3	≤ 11,500	11,500 - 13,000	≥ 13,000
5	≤ 22,000	22,000 - 26,500	≥ 26,500

Note:
*Once the Old Fort Road to South Weber Drive connection is made to the North, the intersection is expected to operate at an acceptable LOS C.

WALL CONSULTANT GROUP

Future (2032) ADT and LOS - No Build

South Weber IFFP

N

DATE: 09/20/2022
PROJECT: 22-133
Figure 4

IV. MITIGATION PROJECTS

A. PURPOSE

The purpose of this chapter is to discuss the recommended improvements and new roadways that will mitigate capacity deficiencies on City roadways, as well as the cost of those improvements. The cost of the recommended improvements is critical in the calculation of the impact fees.

B. FUTURE PROJECTS

Poor levels of service on roadways are generally mitigated by building new roads or adding travel lanes. In some cases, additional lanes can be gained by re-striping the existing pavement width. This can be accomplished by eliminating on-street parking, creating narrower travel lanes, or adding two-way left-turn lanes where they don't currently exist. Improvements can also be made at intersections to improve LOS by adding turn lanes or by changing the intersection type or the intersection control. At signalized intersections, methods to improve intersection LOS include additional left- and right-turn lanes and signal-timing improvements.

The existing and future (2032) no-build scenarios were used as a basis to predict the necessary projects to include in the IFFP. For the purposes of this IFFP, only projects that are planned to be completed by 2032 will be considered. Table 3 shows all City projects expected to be constructed by 2032 to meet the demands placed on the roadway network by new development. These projects are included in the IFFP analysis. UDOT projects will be funded entirely with state funds and are therefore not eligible for impact fee expenditure and are not included in this analysis.

The Impact Fees Act allows for the inclusion of a time price differential to ensure the future value of costs incurred at a later date are accurately calculated to include the costs of construction inflation. This analysis includes an inflation component to reflect the future cost of facilities. The impact fee analysis should be updated regularly to account for changes in cost estimates over time.

Table 3: South Weber City 2032 Project List

Project Number	Location	Responsibility	Estimated Future Project Year	Project Type	Improvement Scope
1	Old Fort Road: Connect current western section to 950 East	South Weber / Developers	2022 - 2032	Roadway	New Road (Collector)
2	Old Maple Road: End of Existing to South Weber Drive	South Weber / Developers	2022 - 2032	Roadway	New Road (Collector)
3	950 East: Old Fort Road to South Weber Drive	South Weber	2022 - 2032	Roadway	New Road (Collector)
4	2700 East: SR-60 to 7800 South	South Weber / Developers	2022 - 2032	Roadway	Widening
5	2700 East & 7800 South	South Weber / Developers	2022 - 2032	Intersection	Roundabout with right-turn bypass lanes
6	75 West & South Weber Drive	South Weber / UDOT	2022 - 2032	Intersection	Eastbound left-turn lane
7	850 East & Old Fort Road	South Weber / Developers	2022 - 2032	Intersection	Single-lane roundabout
8	950 East & Old Fort Road	South Weber / Developers	2022 - 2032	Intersection	Single-lane roundabout
9	Old Maple Road & South Weber Drive	South Weber / UDOT	2022 - 2032	Intersection	Single-lane roundabout
10	950 East & South Weber Drive	UDOT	2022 - 2032	New Intersection	Signal
11	2700 East & South Weber Drive	UDOT	2022 - 2032	Capacity	Westbound dual left-turn lanes

C. PROJECT COSTS ATTRIBUTABLE TO FUTURE GROWTH

Table 4 represents all projects expected to be constructed by 2032 based on the analysis in the TMP. The total cost for all projects is estimated to be **$24,664,381**. Only a portion of the total cost is impact fee eligible. Some projects are expected to be partially or fully funded by developers. Funding for regional projects can also come through other sources, such as the local metropolitan planning organization, UDOT, or the County. The City will need to find funding to cover the portion of the projects that are not impact fee eligible, and are not fully funded by developers or outside sources. The cost due to future growth can be shared by new development through the assessment of transportation impact fees.

The amount of each project to be funded by impact fees varies depending on the cut-through traffic, projected traffic volumes, and capacity of each roadway. A vehicle trip is considered cut-through when the origin and the destination for a specific trip occurs outside the city limits. A cut-through traffic analysis was completed on key roadways where projects are planned in the city using a select-link analysis within the travel demand model. Specific cut-through values were assigned to each project roadway based on this analysis. The select-link analysis is described in the cut-through section in Chapter 2.

The impact fee eligibility of each project was calculated by dividing the total new development-related traffic volume of the future (2032) traffic volume by roadway capacity added by the proposed project. This eligibility percentage was then multiplied by the project cost to calculate the impact fee eligible cost for each project. The following formulas outline how the impact fee eligible cost was calculated.

$$\textit{2032 ADT in Excess of 2022 Capacity} = \textit{2032 ADT} - \textit{2022 Capacity} - \textit{Existing Trips shifted to New Road}$$

[1] *If 2032 ADT is greater than 2032 capacity, then use 2032 capacity*

$$\textit{\% Impact Fee Eligible} = \frac{\textit{(2032 ADT in Excess of 2022 Capacity)}}{\textit{(New Capacity)}} \times \textit{(1 - \% cut through)}$$

$$\textit{Impact Fee Eligible Cost} = \textit{\% Impact Fee Eligible} \times \textit{Total Project Cost}$$

A summary of the costs and impact fee eligibility of each project is shown in Table 4. As shown, the total impact fee eligible cost for planned South Weber City projects expected to be completed by 2032 is **$9,546,482**.

Table 4: South Weber City 2032 Project Impact Fee Eligible Cost Summary												
#	Location	From	To	Type[2]	Functional Class	Cost	Outside Funding Sources[1]	Reduction % for Cut-through	Reduction % for Rerouted Existing	Reduction % for Excess Capacity	% Impact Fee Eligible	Impact Fee Eligible Cost
Phase 1 (2022-2023)												
1	Old Fort Road	End of western section	950 East	New	Collector	$8,487,217	-	0%	23%	56%	21%	$1,773,829
2	Old Maple Road	End of existing	South Weber Drive	New	Collector	$3,389,330	-	1%	17%	78%	4%	$149,131
3	950 East	Old Fort Road	South Weber Drive	New	Collector	$5,897,140	-	0%	23%	56%	21%	$1,232,503
4	2700 East	South Weber Drive	7800 South	Widening	Collector	$704,733	-	0%	0%	66%	34%	$238,997
5	2700 East & 7800 South			Intersection	Collector	$1,023,361	-	1%	N/A	N/A	99%	$1,013,127
6	75 West & South Weber Drive			Intersection	Collector	$833,341	-	1%	N/A	N/A	99%	$825,007
7	850 East & Old Fort Road			Intersection	Collector	$885,983	-	0%	N/A	N/A	100%	$885,983
8	950 East & Old Fort Road			Intersection	Collector	$885,983	-	0%	N/A	N/A	100%	$885,983
9	Old Maple Road & South Weber Drive			Intersection	Collector	$1,020,141	-	0%	N/A	N/A	100%	$1,020,141
10	950 East & South Weber Drive			Intersection	Collector	$482,458	-	1%	N/A	N/A	99%	$477,633
11	2700 East & South Weber Drive			Intersection	Collector	$1,054,695	-	1%	N/A	N/A	99%	$1,044,148
					TOTAL	**$24,664,381**						**$9,546,482**

1. WFRC STIP (State Transportation Improvement Program), UDOT, adjacent cities, or other external funding sources

2. Widening costs estimates represent the cost of widening for new growth.

V. FUNDING SOURCES

A. PURPOSE

The purpose of this chapter is to identify the funding sources that are available for roadway improvement projects. All possible revenue sources have been considered as a means of financing transportation capital improvements needed as a result of new growth. Funding sources for transportation are essential to enable the recommended improvements in South Weber City to be built. This chapter discusses the potential revenue sources that could be used to fund transportation needs.

Transportation routes often span multiple jurisdictions and provide regional significance to the transportation network. As a result, other government jurisdictions or agencies often help pay for such regional benefits. Those jurisdictions and agencies could include the Federal Government, the State (UDOT), the County, and the local MPO (WFRC). The City will need to continue to partner and work with these other jurisdictions to ensure adequate funds are available for the specific improvements necessary to maintain an acceptable LOS. The City will also need to partner with adjacent communities to ensure corridor continuity across jurisdictional boundaries (i.e., arterials connect with arterials, collectors connect with collectors, etc.).

B. FEDERAL FUNDING

Federal money is available to cities and counties through the federal-aid program. In Utah, UDOT administers these funds. To be eligible, a project must be listed on the five-year Statewide Transportation Improvement Program (STIP).

The Surface Transportation Program (STP) funds projects for any roadway with a functional classification of a collector street or higher as established on the Statewide Functional Classification Map. STP funds can be used for both rehabilitation and new construction. The Joint Highway Committee programs a portion of the STP funds for projects around the state in urban areas. Another portion of the STP funds can be used for projects in any area of the state at the discretion of the State Transportation Commission. Transportation Enhancement funds are allocated based on a competitive application process. The Transportation Enhancement Committee reviews all applications and then a portion of the applications are passed to the State Transportation Commission. Transportation enhancements include twelve categories ranging from historic preservation, bicycle and pedestrian facilities, and water runoff mitigation.

WFRC accepts applications for federal funds from local and regional government jurisdictions. The WFRC Technical Advisory and Regional Planning Committees select projects for funding every two years. The selected projects form the Transportation Improvement Program (TIP). In order to receive funding, projects should include one or more of the following aspects:

- **Congestion relief:** spot improvement and corridor improvement projects intended to improve levels of service and/or reduce average delay along those corridors identified in the Regional Transportation Plan as high-congestion areas
- **Mode choice:** projects improving the diversity and/or usefulness of travel modes other than single-occupant vehicles
- **Air quality improvements:** projects showing demonstrable air quality benefits
- **Safety:** improvements to vehicular, pedestrian, and bicyclist safety

C. STATE / COUNTY FUNDING

The distribution of State Class B and C program funds is established by State Legislation and is administered by UDOT. Revenues for the program are derived from State fuel taxes, registration fees, driver license fees, inspection fees, and transportation permits. Seventy-five percent of these funds are kept by UDOT for their construction and maintenance programs. The rest is made available to counties and cities. As some of the roads in South Weber fall under UDOT jurisdiction, it is in the interest of the City that staff are aware of the procedures used by UDOT to allocate those funds and to be active in requesting the funds be made available for UDOT-owned roadways in the City.

Class B and C funds are allocated to each city and county based on the following formula: 50 percent based on the percentage that the population of the county or municipality bears to the total population of the state, and 50 percent based on the percentage that the B and C road weighted mileage of the county or municipality bears to the total Class B and Class C road total weighted mileage. Class B and C funds can be used for maintenance and construction projects.

D. CITY FUNDING

Some cities utilize general fund revenues for their transportation programs. Another option for transportation funding is to create special improvement districts. These districts are organized for the purpose of funding a single specific project that benefits an identifiable group of properties. Another source of funding used by cities is revenue bonding for projects intended to benefit the entire community.

Private interests often provide resources for transportation improvements. Developers construct the local streets within subdivisions and often dedicate right-of-way and participate in the construction of collector/arterial streets adjacent to their developments. Developers can also be considered a possible source of funds for projects through the use of impact fees. These fees are assessed as a result of the impacts a particular development will have on the surrounding roadway system, such as the need for traffic signals or street widening.

General fund revenues are typically reserved for operation and maintenance purposes as they relate to transportation. However, general funds can be used, if available, to fund the expansion or introduction of specific services. Providing a line item in the City budgeted general funds to address roadway improvements that are not impact fee eligible is a recommended practice to fund transportation projects, should other funding options fall short of the needed amount.

General obligation bonds are debt paid for or backed by the City's taxing power. In general, facilities paid for through this revenue stream are in high demand amongst the community. Typically, general obligation bonds are not used to fund facilities that are needed as a result of new growth because existing residents would be paying for the impacts of new growth. As a result, general obligation bonds are not considered a fair means of financing future facilities needed as a result of new growth. They may be considered as a reasonable method to address existing deficiencies.

Certain areas might have different needs or require different methods of funding than traditional revenue sources. A Special Assessment Area (SAA) can be created for infrastructure needs that benefit or encompass specific areas of the City. The municipality can create an SAA through a resolution declaring that public health, convenience, and necessity require the creation of an SAA. The boundaries and services provided by the district must be specified and a public hearing must be held before the SAA is created. Once the SAA is created, funding can be obtained from tax levies, bonds, and fees when approved by the majority of the qualified electors of the SAA. These funding mechanisms allow the costs to be spread out over time. Through the SAA, tax levies and bonding can apply to specific areas in the City needing to benefit from the improvements.

E. INTERFUND LOANS

Since infrastructure generally must be built ahead of growth, it is sometimes funded before expected impact fees are collected. Bonds are the solution to this problem in some cases. In other cases, funds from existing user rate revenue will be loaned to the impact fee fund to complete initial construction of the project. As impact fees are received, they will be reimbursed. Consideration of these loans will be included in the impact fee analysis and should be considered in subsequent accounting of impact fee expenditures.

F. DEVELOPER DEDICATIONS AND EXACTIONS

Developer dedications and exactions can both be credited against the developer's impact fee analysis. If the value of the developer's dedications and/or extractions are less than the developer's impact fee liability, the developer will owe the balance of the liability to the City. If the dedications and/or extractions of the developer are greater than the impact fee liability, the City may reimburse the developer the difference.

G. DEVELOPER IMPACT FEES

Impact fees are a way for a community to obtain funds to assist in the construction of infrastructure improvements resulting from and needed to serve new growth. The premise behind impact fees is that if no new development occurred, the existing infrastructure would be adequate. Therefore, new development should pay for the portion of required improvements that result from new growth. Impact fees are assessed for many types of infrastructure and facilities that are provided by a community, such as roadways. According to state law, impact fees can only be used to fund growth-related system improvements.

According to State statute, impact fees must only be used to fund projects that will serve needs caused by future development. They are not to be used to address present deficiencies. Only project costs that address future needs are included in this IFFP. This ensures a fair fee since developers will not be expected to address present deficiencies.

Legislation requires that impact fees should be spent or encumbered within six years after each impact fee is paid. Impact fees collected in the next six years should be spent on those projects outlined in the IFFP as growth related costs to maintain the City established LOS. Impact fees collected as buy-in to existing facilities can be allocated to the General Fund to repay the City for historic investment.

VI. IMPACT FEE CERTIFICATION

A. OVERVIEW

This report has been prepared in accordance with Utah Code Title 11, Chapter 36a, "Impact Fees Act." This report (including its results and projections) relies upon the planning, engineering, land use, and other source data provided in the South Weber City TMP (2022).

In accordance with Utah Code Annotate, 11-36a-306(1), WCG certifies that this impact fee facilities plan:

1. Includes only the cost of public facilities that are:
    a. allowed under the Impact Fees Act; and
    b. actually incurred; or
    c. are projected to be incurred or encumbered within six years of the day on which each impact fee is paid;
2. Does not include:
    a. costs of operation and maintenance of public facilities; or
    b. costs for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the LOS supported by existing residents; and
3. Complies in each and every relevant respect with the Impact Fees Act.

This certification is made with the following limitations:

- All of the recommendations for implementing this IFFP and IFA are followed in their entirety by the City.
- If any portion of the IFFP is modified or amended in any way, this certification is no longer valid.

All information presented and used in the creation of this IFFP is assumed to be complete and correct, including any information received from the City or other outside sources.

South Weber City

Transportation Impact Fee Analysis

Zions Public Finance, Inc.
October 2023

Transportation Impact Fee Analysis

Summary

This Impact Fee Analysis (IFA) is based on the information provided in the South Weber Transportation Impact Fee Facilities Plan ("IFFP") dated October 2023 and prepared by Wall Consultant Group (WCG).

Projected Growth. The IFFP projects that new development in South Weber will grow by 21,890 average daily trips (ADTs) between 2022 and 2032 – from 29,846 ADTs in 2022 to 51,736 ADTs in 2032 (IFFP, p. 12). This growth will require the construction of new transportation improvements to maintain the existing levels of service.

Service Levels. The IFFP states that the current level of service (LOS) is LOS C (IFFP, p. 10) and that the proposed service level will remain at LOS C (IFFP, p. 7).

Service Areas. South Weber ("City") includes one roadway service area that corresponds to existing City boundaries (IFFP, p. 3).

Excess Capacity. The IFFP does not identify any existing, excess capacity in the current roadway system.

New Construction. The IFFP identifies a total of 11 projects necessitated by new development at a total cost of $24,664,382. However, new development is not responsible for the portion of these projects that will benefit existing development or that provide capacity for pass-through traffic. Therefore, the total cost attributable to new development over the next ten years is $9,546,482.

Other Costs. Other eligible costs include the cost of preparing the Transportation IFFP and IFA.

Credits for Existing Deficiencies. The IFFP identifies three projects in the amount of $3,841,564 that will benefit existing development. Therefore, a credit must be made so that new development does not pay twice – once in the form of impact fees and then again through higher taxes over time to pay for the portion of the roads that benefit existing development.

Proportionate Share Analysis. A summary of the proportionate share analysis for 2023 is as follows:

TABLE 1: PROPORTIONATE SHARE ANALYSIS FOR 2023 – COST PER TRIP

Summary of Cost per Trip	Cost per ADT
New construction	$436.11
Consultant fees	$1.16
Fund balance	($12.07)
Credits for benefits to existing traffic	($76.00)
Total Cost per Trip	**$349.21**

The 2023 cost per trip is $349.21. The cost per trip is then applied to standards set by the Institute of Transportation Engineers (ITE) to evaluate the number of ADTs per development type. Table 2 below shows basic categories from the ITE manual, 11th edition for which the City can charge impact fees and illustrates

how fees are calculated based on the number of trips generated by land use type and trips per unit. For a land use type that does not fit easily into the categories in Table 2, the City may choose, at its discretion, to refer to additional land use categories as found in the ITE manual, 11th edition.

TABLE 2: RECOMMENDED MAXIMUM TRANSPORTATION IMPACT FEES INTO MAJOR GROUPINGS IN 2023

ITE Code	ITE Land Use	Unit	ITE Daily Trip Rate	Pass-By	Adjusted Trip Rate	2023 Max Fee
130	Industrial Park 130	1000 Sq. Feet Gross Floor Area	3.37	0%	3.37	$1,177
151	Mini-Warehouse	Storage Units (100s)	17.96	0%	17.96	$6,272
210	Single-Family Detached Housing	Dwelling Unit	9.43	0%	9.43	$3,293
215	Single-Family Attached Housing	Dwelling Unit	7.20	0%	7.20	$2,514
220	Multifamily Housing (Low-Rise) - Not Close to Rail Transit	Dwelling Unit	6.74	0%	6.74	$2,354
240	Mobile Home Park	Occupied Dwelling Unit	7.12	0%	7.12	$2,486
310	Hotel	Room	7.99	0%	7.99	$2,790
445	Movie Theater	1000 Sq. Feet Gross Floor Area	78.09	0%	78.09	$27,270
520	Elementary School	Students	2.27	0%	2.27	$793
522	Middle School / Junior High School	Students	2.10	0%	2.10	$733
525	High School	Students	1.94	0%	1.94	$677
560	Church	1000 Sq. Feet Gross Floor Area	31.46	0%	31.46	$10,986
610	Hospital	1000 Sq. Feet Gross Floor Area	10.77	0%	10.77	$3,761
710	General Office Building	1000 Sq. Feet Gross Floor Area	10.84	0%	10.84	$3,785
851	Retail Strip Mall	1000 Sq. Feet Gross Leasable Area	54.45	40%	32.67	$11,409

Because the cost per trip increases slightly each year (due to reduced credits over time), the maximum fee per year is shown as follows:

TABLE 3: RECOMMENDED MAXIMUM TRANSPORTATION IMPACT FEES INTO MAJOR GROUPINGS IN 2023

ITE Code	Land Use	Unit	2023	2024	2025	2026	2027	2028	2029	2030
130	Industrial Park 130	1000 Sq. Feet Gross Floor Area	$1,177	$1,205	$1,233	$1,259	$1,285	$1,311	$1,336	$1,361
151	Mini-Warehouse	Storage Units (100s)	$6,272	$6,422	$6,569	$6,711	$6,851	$6,987	$7,120	$7,252
210	Single-Family Detached Housing	Dwelling Unit	$3,293	$3,372	$3,449	$3,524	$3,597	$3,668	$3,739	$3,808
215	Single-Family Attached Housing	Dwelling Unit	$2,514	$2,575	$2,633	$2,690	$2,746	$2,801	$2,855	$2,907
220	Multifamily Housing (Low-Rise) - Not Close to Rail Transit	Dwelling Unit	$2,354	$2,410	$2,465	$2,519	$2,571	$2,622	$2,672	$2,722
240	Mobile Home Park	Occupied Dwelling Unit	$2,486	$2,546	$2,604	$2,661	$2,716	$2,770	$2,823	$2,875
310	Hotel	Room	$2,790	$2,857	$2,922	$2,986	$3,048	$3,108	$3,168	$3,226
445	Movie Theater	1000 Sq. Feet Gross Floor Area	$27,270	$27,924	$28,561	$29,181	$29,786	$30,379	$30,960	$31,532

ITE Code	Land Use	Unit	2023	2024	2025	2026	2027	2028	2029	2030
520	Elementary School	Students	$793	$812	$830	$848	$866	$883	$900	$917
522	Middle School / Junior High School	Students	$733	$751	$768	$785	$801	$817	$833	$848
525	High School	Students	$677	$694	$710	$725	$740	$755	$769	$783
560	Church	1000 Sq. Feet Gross Floor Area	$10,986	$11,250	$11,506	$11,756	$12,000	$12,239	$12,473	$12,703
610	Hospital	1000 Sq. Feet Gross Floor Area	$3,761	$3,851	$3,939	$4,025	$4,108	$4,190	$4,270	$4,349
710	General Office Building	1000 Sq. Feet Gross Floor Area	$3,785	$3,876	$3,965	$4,051	$4,135	$4,217	$4,298	$4,377
851	Retail Strip Mall	1000 Sq. Feet Gross Leasable Area	$11,409	$11,683	$11,949	$12,208	$12,461	$12,709	$12,952	$13,192

Utah Code Legal Requirements

Utah law requires that communities prepare an Impact Fee Analysis (IFA) before enacting an impact fee. Utah law also requires that communities give notice of their intent to prepare and adopt an IFA. This IFA follows all legal requirements as outlined below. The City has retained Zions Public Finance Inc., to prepare this Impact Fee Analysis in accordance with legal requirements.

Notice of Intent to Prepare Impact Fee Analysis

A local political subdivision must provide written notice of its intent to prepare an IFA before preparing the Plan (Utah Code §11-36a-503). This notice must be posted on the Utah Public Notice website. The City has complied with this noticing requirement for the IFA.

Preparation of Impact Fee Analysis

Utah Code requires that each local political subdivision, before imposing an impact fee, prepare an impact fee analysis. (Utah Code 11-36a-304).

Section 11-36a-304 of the Utah Code outlines the requirements of an impact fee analysis as follows:

(1) An impact fee analysis shall:

(a) identify the anticipated impact on or consumption of any existing capacity of a public facility by the anticipated development activity;

(b) identify the anticipated impact on system improvements required by the anticipated development activity to maintain the established level of service for each public facility;

(c) demonstrate how the anticipated impacts described in Subsections (1)(a) and (b) are reasonably related to the anticipated development activity;

(d) estimate the proportionate share of:
(i) the costs for existing capacity that will be recouped; and

(ii) the costs of impacts on system improvements that are reasonably related to the new development activity; and

(e) identify how the impact fee was calculated.

(2) In analyzing whether or not the proportionate share of the costs of public facilities are reasonably related to the new development activity, the local political subdivision or private entity, as the case may be, shall identify, if applicable:

(a) the cost of each existing public facility that has excess capacity to serve the anticipated development resulting from the new development activity;

(b) the cost of system improvements for each public facility;

(c) other than impact fees, the manner of financing for each public facility, such as user charges, special assessments, bonded indebtedness, general taxes, or federal grants;

(d) the relative extent to which development activity will contribute to financing the excess capacity of and system improvements for each existing public facility, by such means as user charges, special assessments, or payment from the proceeds of general taxes;

(e) the relative extent to which development activity will contribute to the cost of existing public facilities and system improvements in the future;

(f) the extent to which the development activity is entitled to a credit against impact fees because the development activity will dedicate system improvements or public facilities that will offset the demand for system improvements, inside or outside the proposed development;

(g) extraordinary costs, if any, in servicing the newly-developed properties; and

(h) the time-price differential inherent in fair comparisons of amounts paid at different times.

Certification of Impact Fee Analysis

Utah Code states that an Impact Fee Analysis shall include a written certification from the person or entity that prepares the Impact Fee Analysis. This certification is included at the conclusion of this analysis.

Anticipated Impact on or Consumption of Any Existing Capacity of a Public Facility by the Anticipated Development Activity

Utah Code 11-36a-304(1)(a)

Consumption of Existing Capacity

Development activity in South Weber City is based on both residential and nonresidential growth. Growth projections are then used by the City's engineers as inputs in the WFRC Travel Demand Model to forecast trip generation. Growth projections are as follows:

TABLE 4: GROWTH PROJECTIONS – ADTS

	ADTs
ADTs 2022	29,846
ADTs 2032	51,736
Growth in Trips, 2022-2032	**21,890**

The engineers have not identified any excess capacity in the existing City-owned roads for which impact fees should be charged as a "buy-in" component.

Identify the Anticipated Impact on System Improvements Required by the Anticipated Development Activity to Maintain the Established Level of Service for Each Public Facility and Demonstrate How the Anticipated Impacts are Reasonably Related to the New Development Activity

Utah Code 11-36a-304(1)(b)(c)

In order to maintain a LOS C, South Weber's IFFP identifies a total of 11 projects necessitated by new development at a total cost of $24,664,382. There are no outside funding sources for these projects; all are the responsibility of the City. However, new development is not responsible for the portion of the new projects that will benefit existing development or that provide capacity for pass-through traffic. Therefore, the total cost attributable to new development over the next ten years is $9,546,482.

TABLE 5: NEW CONSTRUCTION COSTS

#	Location	Cost	Reduction % for Pass-through	Reduction % for Rerouted Existing	Reduction % for Excess Capacity	% Impact Fee Eligible	Impact Fee Eligible Cost
1	Old Fort Road	$8,487,217	0%	23%	56%	21%	$1,773,829
2	Old Maple Road	$3,389,330	1%	17%	78%	4%	$149,131
3	950 East	$5,897,140	0%	23%	56%	21%	$1,232,503
4	2700 East	$704,733	0%	0%	66%	34%	$238,997
5	2700 East & 7800 South	$1,023,361	1%	N/A	N/A	99%	$1,013,127
6	75 West & South Weber Drive	$833,341	1%	N/A	N/A	99%	$825,007
7	850 East & Old Fort Road	$885,983	0%	N/A	N/A	100%	$885,983
8	950 East & Old Fort Road	$885,983	0%	N/A	N/A	100%	$885,983

#	Location	Cost	Reduction % for Pass-through	Reduction % for Rerouted Existing	Reduction % for Excess Capacity	% Impact Fee Eligible	Impact Fee Eligible Cost
9	Old Maple Road & South Weber Drive	$1,020,141	0%	N/A	N/A	100%	$1,020,141
10	950 East & South Weber Drive	$482,458	1%	N/A	N/A	99%	$477,633
11	2700 East & South Weber Drive	$1,054,695	1%	N/A	N/A	99%	$1,044,148
TOTAL		**$24,664,382**					**$9,546,482**

The total cost of $9,546,482 attributable to new development between 2022 and 2032 must be shared proportionately between the additional ADTs projected for that time period. ADTs citywide are projected to grow from 29,846 ADTs in 2022 to 51,736 ADTs in 2032 – an increase of 21,890 ADTs over the 10-year period. While volume on some existing roads may actually decrease, volume will increase on new roads constructed. Therefore, the increased volume and capacity impacts need to be viewed as part of an overall system of roads.

Estimate the Proportionate Share of (i) the Costs for Existing Capacity That Will Be Recouped; and (ii) The Costs of Impacts on System Improvements That Are Reasonably Related to the New Development Activity; and Identify How the Impact Fee was Calculated

Utah Code 11-36a-304(1)(d)(e)

The proportionate share analysis can legally include the proportionate share of any buy-in costs associated with the excess capacity in the existing system that will be consumed as a result of new development activity, as well as the proportionate share of new construction costs necessitated by new development. The IFFP does not identify any existing excess capacity for which buy-in costs can be calculated but it does identify 11 projects for new construction as shown in Table 5.

New Construction Cost Calculation

In order to maintain its LOS C, South Weber will need to construct additional facilities, as identified previously. New construction costs are calculated as follows:

TABLE 6: PROPORTIONATE SHARE CALCULATION – NEW CONSTRUCTED COST

New Construction	Amount
Total project costs	$24,664,382
10-Year impact-fee eligible project costs	$9,546,482
Growth in ADTs, 2022-2032	21,890
Cost per ADT	**$436.11**

Other Cost Calculations

Utah law allows for the cost of developing the Impact Fee Facility Plan and Impact Fee Analysis to be included in the calculation of impact fees. These costs are then shared proportionately among the additional trips generated between 2022 and 2032.

TABLE 7: PROPORTIONATE SHARE CALCULATION – CONSULTING COSTS

Description	Amount
Consultant costs	$25,500
Growth in ADTs, 2022-2032	21,890
Cost per ADT	**$1.16**

South Weber has a balance of $264,166 in its transportation impact fee fund.[1] Therefore, the following credit needs to be made against the impact fee fund balance.

TABLE 8: IMPACT FEE FUND BALANCE CALCULATION

Description	Amount
Impact fee fund balance	$264,166
Growth in ADTs, 2022-2032	21,890
Credit per ADT	**$12.07**

Calculation of Credits

The City does not have any outstanding road bonds and does not anticipate issuing any within the timeframe of this analysis. Therefore, no credits need to be made for bonding. The IFFP, however, identifies 3 of the new improvement projects as partially benefitting new development. Therefore, a credit must be made for these projects so that new development does not pay twice – once through the collection of an impact fee and then again later through increased taxes to offset the portion benefitting existing development. The total amount of projects benefitting existing development is $3,841,564.

TABLE 9: CREDIT CALCULATION FOR EXISTING DEFICIENCIES

#	Location	Cost	Reduction % for Rerouted Existing	Impact Fee Eligible Cost	Cost Benefitting Existing Development
1	Old Fort Road	$8,487,217	23%	$1,773,829	$1,918,849
2	Old Maple Road	$3,389,330	17%	$149,131	$589,449
3	950 East	$5,897,140	23%	$1,232,503	$1,333,266
4	2700 East	$704,733	0%	$238,997	
5	2700 East & 7800 South	$1,023,361	N/A	$1,013,127	
6	75 West & South Weber Drive	$833,341	N/A	$825,007	
7	850 East & Old Fort Road	$885,983	N/A	$885,983	
8	950 East & Old Fort Road	$885,983	N/A	$885,983	
9	Old Maple Road & South Weber Drive	$1,020,141	N/A	$1,020,141	
10	South Bench Drive & South Weber Drive	$482,458	N/A	$477,633	

[1] Source: South Weber City, October 6, 2023

#	Location	Cost	Reduction % for Rerouted Existing	Impact Fee Eligible Cost	Cost Benefitting Existing Development
11	2700 East & South Weber Drive	$1,054,695	N/A	$1,044,148	
TOTAL		**$21,772,469**		**$9,546,482**	**$3,841,564**

These costs are spread across 10 years in the following analysis so that credits can be made.

TABLE 10: CREDIT CALCULATION FOR EXISTING DEFICIENCIES

Year	ADTs	Payment per Year	NPV*
2023	31,534	$12.18	$76.00
2024	33,317	$11.53	$67.62
2025	35,201	$10.91	$59.47
2026	37,192	$10.33	$51.53
2027	39,295	$9.78	$43.78
2028	41,517	$9.25	$36.19
2029	43,865	$8.76	$28.74
2030	46,346	$8.29	$21.42
2031	48,967	$7.85	$14.21
2032	51,736	$7.43	$7.07

*NPV = net present value discounted at a rate of 5 percent

Summary of Impact Fees

TABLE 11: SUMMARY OF COST PER TRIP - 2023

Summary of Cost per Trip - 2023	Cost per ADT
New construction	$436.11
Consultant fees	$1.16
Fund balance	($12.07)
Gross cost per trip before credit for existing deficiencies	$425.21
Credits for existing deficiencies	($76.00)
Total Cost per Trip	**$349.21**

The cost per trip is $349.21 in 2023. The cost per trip changes each year as shown in the table below to account for the credits due from the remaining bond payments.

TABLE 12: SUMMARY OF COST PER TRIP – 2023 BY YEAR

Maximum Cost per Trip by Year	Gross Cost per Trip	Credit Amount	Maximum Cost per Trip
2023	$425.21	$76.00	$349.21
2024	$425.21	$67.62	$357.59
2025	$425.21	$59.47	$365.74
2026	$425.21	$51.53	$373.68

Maximum Cost per Trip by Year	Gross Cost per Trip	Credit Amount	Maximum Cost per Trip
2027	$425.21	$43.78	$381.43
2028	$425.21	$36.19	$389.02
2029	$425.21	$28.74	$396.46
2030	$425.21	$21.42	$403.78
2031	$425.21	$14.21	$411.00
2032	$425.21	$7.07	$418.14
2033	$425.21		$425.21

The cost per trip is then applied to standards set by the Institute of Transportation Engineers (ITE) to evaluate the number ADTs per development type. Table 13 below shows basic categories from the ITE manual, 11th edition for which the City can charge impact fees and illustrates how fees are calculated based on the number of trips generated by land use type and trips per unit. For a land use type that does not fit easily into the categories in Table 13, the City may choose, at its discretion, to refer to additional land use categories as found in the ITE manual, 11th edition.

TABLE 13: SUMMARY OF MAXIMUM ALLOWABLE IMPACT FEES

ITE Code	Land Use	Unit	2023	2024	2025	2026	2027	2028	2029	2030
130	Industrial Park 130	1000 Sq. Feet Gross Floor Area	$1,177	$1,205	$1,233	$1,259	$1,285	$1,311	$1,336	$1,361
151	Mini-Warehouse	Storage Units (100s)	$6,272	$6,422	$6,569	$6,711	$6,851	$6,987	$7,120	$7,252
210	Single-Family Detached Housing	Dwelling Unit	$3,293	$3,372	$3,449	$3,524	$3,597	$3,668	$3,739	$3,808
215	Single-Family Attached Housing	Dwelling Unit	$2,514	$2,575	$2,633	$2,690	$2,746	$2,801	$2,855	$2,907
220	Multifamily Housing (Low-Rise) - Not Close to Rail Transit	Dwelling Unit	$2,354	$2,410	$2,465	$2,519	$2,571	$2,622	$2,672	$2,722
240	Mobile Home Park	Occupied Dwelling Unit	$2,486	$2,546	$2,604	$2,661	$2,716	$2,770	$2,823	$2,875
310	Hotel	Room	$2,790	$2,857	$2,922	$2,986	$3,048	$3,108	$3,168	$3,226
445	Movie Theater	1000 Sq. Feet Gross Floor Area	$27,270	$27,924	$28,561	$29,181	$29,786	$30,379	$30,960	$31,532
520	Elementary School	Students	$793	$812	$830	$848	$866	$883	$900	$917
522	Middle School / Junior High School	Students	$733	$751	$768	$785	$801	$817	$833	$848
525	High School	Students	$677	$694	$710	$725	$740	$755	$769	$783
560	Church	1000 Sq. Feet Gross Floor Area	$10,986	$11,250	$11,506	$11,756	$12,000	$12,239	$12,473	$12,703
610	Hospital	1000 Sq. Feet Gross Floor Area	$3,761	$3,851	$3,939	$4,025	$4,108	$4,190	$4,270	$4,349
710	General Office Building	1000 Sq. Feet Gross Floor Area	$3,785	$3,876	$3,965	$4,051	$4,135	$4,217	$4,298	$4,377
851	Retail Strip Mall	1000 Sq. Feet Gross Leasable Area	$11,409	$11,683	$11,949	$12,208	$12,461	$12,709	$12,952	$13,192

Certification

Zions Public Finance, Inc. certifies that the attached impact fee analysis:

1. includes only the cost of public facilities that are:
    a. allowed under the Impact Fees Act; and
    b. actually incurred; or
    c. projected to be incurred or encumbered within six years after the day on which each impact fee is paid;

2. does not include:
    a. costs of operation and maintenance of public facilities; or
    b. cost for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents;

3. offset costs with grants or other alternate sources of payment; and

4. complies in each and every relevant respect with the Impact Fees Act.