## **2018 TRANSPORTATION** CAPITAL FACILITIES PLAN

## PRESENTED TO SOUTH WEBER CITY

Updated March 2019







South Weber City Capital Facilities Plan

## **Glossary of Terms**

AADT	Annual Average Daily Traffic
CFP	Capital Facilities Plan
GOPB	Governor's Office of Planning and Budget
HCM	Highway Capacity Manual
LOS	Level of Service
MPO	Metropolitan Planning Organization
SAA	Special Assessment Area
STIP	Statewide Transportation Improvement Program
STP	Surface Transportation Program
TAZ	Traffic Analysis Zone
TIP	Transportation Improvement Program
CFP	Transportation Capital Facilities Plan
TDM	Travel Demand Model
TRB	Transportation Research Board
UDOT	Utah Department of Transportation
UTA	Utah Transit Authority
WFRC	Wasatch Front Regional Council





South Weber City Capital Facilities Plan

## **Executive Summary**

South Weber City has experienced significant growth and development in recent years with growth of approximately 4,300 residents since 1990. With South Weber City committed to continued growth, it is projected that the population in 2040 will be above 14,000. A Transportation Capital Facilities Plan (CFP) has been implemented so the transportation system can accommodate the projected growth in the City for the year 2040.

As part of the plan, the current roadway network was assessed using current traffic volumes. Current traffic volumes were projected through the year 2040 using the current roadway network to find the capacity improvements necessary for the roadway network to positively contribute to the economic and community development in South Weber City. The following sections are included in the South Weber CFP.

## **Roadway Network Analysis**

Transportation planning in the region is a cooperative effort of state and local agencies. This section includes a general discussion on the traffic demand modeling process used for this CFP, functional classification of streets, and level of service of streets and intersections. Also included are the existing and future conditions for the 2040 scenarios.

#### Travel Demand Modeling

The existing traffic volumes were projected to 2040 using the Wasatch Front Regional Council (WFRC) travel demand model (TDM). The WFRC is a collaboration of local government and community members from Salt Lake, Weber, Tooele, Morgan and Box Elder counties in Utah to plan future growth. Other adjustments to the WFRC travel demand model were made based on socioeconomic data and South Weber City's land use plan. Projected 2040 traffic was first modeled for the no-build scenario. Typically, the no-build scenario acts as a guide for roadway capacity inefficiencies that will need to be improved by 2040. Using the no-build scenario as a base for roadway capacity improvements, the projected 2040 traffic was modeled using the WFRC TDM. Roadway segments which cannot sustain 2040 projected traffic volumes will be recommended to undergo capacity improvements.

#### Functional Classification

All trips include two distinct functions: mobility and land access. Mobility and land access share an inverse relationship, meaning as mobility increases land access decreases. Included in the document is a summary of the functional classification included in South Weber with an analysis of the typical cross-sections used.

#### Level of Service

The adequacy of an existing street system can be quantified by assigning Levels of Service (LOS) to major roadways and intersections. As defined in the Highway Capacity Manual (HCM), a document published by





the Transportation Research Board (TRB), LOS serves as the traditional form of measurement of a roadway's performance. Levels of service range from A (free flow where users are virtually unimpeded by other traffic on the roadway) to F (traffic exceeds the operating capacity of the roadway).

#### Existing Roadway Network Conditions

The Traffic Demand Model was calibrated to fit existing traffic conditions in South Weber City. The method used to calibrate the model was to use traffic counts throughout the City. Traffic counts were received from UDOT on State roads and include annual average daily traffic (AADT) volumes as defined in Traffic on Utah Highways. Additionally, traffic counts were obtained by installing temporary electronic counters on City roads. Based on the existing traffic data in the City, all roadways in South Weber function at adequate LOS.

#### Future Roadway Network Conditions

By calibrating the Traffic Demand Model to fit the existing traffic conditions in South Weber City, the model can project traffic volumes into the future. There are three future models used for this CFP. The first model used was to identify potential capacity deficiencies, called the No Build Model. The other models project traffic volumes into the future to create a 2040 Model.

From the analysis, the No Build Model showed future deficiencies on 475 East between South Weber Drive and the I-84 interchange and South Weber Drive around the US-89 interchange for the capital facilities plan Model if nothing was done to improve capacity.

#### Capital Project List

All deficiencies were documented and proposed improvements are included on the Capital Project List. New roadways and intersection improvements are also included on the project list to assist future growth in the City. South Bench Drive from the southern border to 475 East highlights a number of key improvements to the roadway network.





South Weber City Capital Facilities Plan

## **Table of Contents**

Introduction1
History2
Roadway Network Analysis
Traffic Demand Modelling3
Land Use Planning
Socioeconomic Conditions
Trip Generation
Travel Demand Model Precautions
Functional Classification6
Level of Service9
Roadway Level of Service
Intersection Level of Service
Existing Roadway Network Conditions11
Travel Demand Model Calibration
Existing Functional Classification and Level of Service
Future Roadway Network Conditions15
No Build Level of Service
Build Out Roadway Network Conditions17
Capital Facilities Plan
Transportation Needs as a Result of New Development21
Proposed Means to Meet Demands of New Development25
Federal Funding
State/County Funding
City Funding
Interfund Loans
Developer Dedications and Exactions
Developer Impact Fees
Appendix A: Cost Estimates





## List of Figures

1
5
6
9
12
13
14
16
18
19
20
23

## List of Tables

Table 1: Typical Cross-Sections	7
Table 2 Street Functional Classification	8
Table 3 Suburban Arterial and Collector LOS Capacity Criteria in Vehicles per Day	9
Table 4: Intersection Level of Service	10
Table 5: Capital Facilities Plan - South Weber City Responsibility	24





South Weber City Capital Facilities Plan

## Introduction

South Weber City has seen rapid growth in recent years. Located in the northeastern portion of the Davis County, South Weber City is bordered to the north by Uintah, South Ogden and Riverdale; to the south by Layton; to the east by the Wasatch Mountain Range and on the west by Hill Air Force Base. Within the city there is a mix of residential, commercial, and industrial development as well as undeveloped land, particularly in the western portion of the city.

South Weber City and the surrounding communities have recently experienced significant growth and development, which is expected to continue in the future, as shown in the Figure 1. South Weber City's population growth from 2000 to 2010 was 1,791 (42.0%). The current population (2017) is slightly above 7,200 according to the U.S. Census Bureau. By the year 2020 the population is projected to be around 7,600 and up to 14,600 by the year 2040. To keep pace with projected growth, a comprehensive transportation plan must be developed and regularly maintained. This plan must incorporate the goals of South Weber City regarding the transportation systems within their jurisdiction as well as those regional facilities maintained by UDOT, UTA, Davis County, Weber County, and neighboring communities.



#### Figure 1: South Weber City Population

This Transportation Capital Facilities Plan (CFP) contains an analysis of the existing transportation network and conditions. Any major deficiencies are itemized and possible improvement or mitigation alternatives



are discussed. An analysis of the future transportation network is also included for the horizon year 2040. Any major UDOT projects and improvements in the surrounding area which would affect traffic flow patterns, such as the US-89 freeway project, are reflected in the future network. Any deficiencies in the future transportation network that are expected to exist and would not be accommodated by projects that are currently planned will be discussed. A list of recommended improvements and projects will then be given to aid South Weber City in planning for future transportation projects as well as in working with other agencies such as UDOT or neighboring cities. This Transportation Capital Facilities Plan is intended to be a useful tool to aid South Weber City in taking a proactive effort in planning and maintaining the overall transportation network within their city.

## History

South Weber began in 1851 when the Watts and Bybee families arrived in the valley. Originally, it was in Weber County. At first, the only town at the mouth of Weber Canyon was East Weber or Easton, and it included the areas on both the north and south sides of the river. In 1855, the Territorial Legislature divided Easton in two and gave the area on the north side of the river the designation Uintah. The area on the south side was named South Weber. At the same time, the Weber River was designated as the dividing line between Weber and Davis Counties and South Weber was put in Davis County. The Town of South Weber was incorporated in 1938, and on 16 March 1971, with the population of 1,073, became a Third Class City. Joseph Staples was the President of the Town Board when South Weber was incorporated and LeRoy Poll became the first Mayor when the City was granted Third Class status.





South Weber City Capital Facilities Plan

## **Roadway Network Analysis**

Transportation planning in the region is a cooperative effort of state and local agencies. The Wasatch Front Regional Council (WFRC or Regional Council) is responsible for coordinating this transportation planning process in the Ogden/South Weber and Salt Lake urbanized areas as the designated Metropolitan Planning Organization (MPO). Metropolitan Planning Organizations are agencies responsible for transportation planning in urbanized areas throughout the United States. The Governor designated the Wasatch Front Regional Council as the Metropolitan Planning Organization for the Salt Lake and Ogden Areas in 1973. This section includes a general discussion on the travel demand modeling process used for this CFP, functional classification of streets, and level of service of streets and intersections. Also included are the existing and future conditions for 2018 and capital facilities plan respectively.

## **Travel Demand Modelling**

Traffic Demand Modelling was used to project existing traffic conditions into the future. South Weber City's land use plan, socioeconomic data as well as additional data obtained from the City and the Wasatch Front Regional Council (WFRC) serve as valuable input into the travel demand model. The WFRC has a regional travel demand model which was used for this CFP. This section discusses the socioeconomic data, land use, vehicle trip generation as well as the precautions of using the WFRC Travel Demand Model.

#### Land Use Planning

The majority of the socioeconomic data used in this study is based on the best available statewide data provided by the Governor's Office of Planning and Budget (GOPB). This data was supplemented and verified using the data provided by the City in the form of the current adopted general plan as of September 23, 2014 as shown in Figure 2 (the most recent version can be found on South Weber City's website at <u>www.southwebercity.org</u>).

The information is considered to be the best available data for predicting future travel demands. However, land use planning is a dynamic process and the assumptions made in this report should be used as a guide and should not supersede other planning efforts especially when it comes to localized intersections and roadways.

#### Socioeconomic Conditions

Currently, South Weber City's population is estimated to be 7,200 residents. The median household income (2016) in the city is \$84,260 and the average family size is 3.63. The median age of South Weber City residents is 31 years. The 2000 to 2010 decade saw moderate growth in South Weber, with an increase in population from 4,260 to 6,051 (42.0 percent). The City has an unemployment rate of 2.7.





Based on the current land use, zoning, demographics, and growth patterns, South Weber City is expected to grow to approximately 14,500 residents by the year 2040. The forecasted growth within South Weber City as well the surrounding cities will place increased pressure on the City's infrastructure, including the street network. South Weber City is also committed to increasing commercial, office, and retail stores to provide greater opportunity for residents to live, work, and play in the City. This growth will therefore have considerable impact on traffic volumes in the City.

#### Trip Generation

In order to generate vehicle trips, sections of the city are split into geographical sections called Traffic Analysis Zones (TAZ). Each TAZ contains socioeconomic data including the number of households, employment opportunities, and average income levels. This data is used to generate vehicle trips that originate in the TAZ. All trips generated in the TAZ are assigned to other TAZs based on the data within other zones. Since the WFRC travel demand model predicts regional travel patterns, the TAZ structure was updated to obtain more detailed travel demand data for South Weber City. This was completed by splitting larger TAZ's.

#### Travel Demand Model Precautions

South Weber City aims to plan for and encourage responsible and sustainable growth in the City. Part of the commitment to provide a sustainable system includes encouraging a reduction in vehicle trips by providing a balance of roads, trails and bikeways, and public transit facilities. Today's transportation system should not only accommodate existing travel demands, but should also have built-in capacity to account for the demand that will be placed on the system in the future. While considering the socioeconomic data used in this report and the anticipated growth in the City, some precautions should be considered. First, the TAZ specific socioeconomic data only approximates the boundary conditions of the City and is based on data provided by WFRC and the City's planning documents. Second, actual values may vary somewhat as a result of the large study area of the regional travel demand model, which includes the unincorporated areas around South Weber City. Therefore, the recommendations in this report represent a planning level analysis and should not be used for construction of any project without review and further analysis. This document should also be considered a living document and should be updated regularly as development plans, zoning plans, and traffic patterns and trends change.







## **Functional Classification**

All trips include two distinct functions: mobility and land access. Mobility and land access share an inverse relationship, meaning as mobility increases land access decreases. Street facilities are classified by the relative amounts of through and land-access service they provide. There are four primary classifications: Freeway/Expressway, Arterial, Collector and Local Streets. Each classification is explained in further detail in the following paragraphs and is also represented in Figure 3.

**Freeways and Expressways** – Freeway and expressway facilities provide service for long distance trips between cities and states. No land access is provided by these facilities.

**Arterials** – Arterial facilities provide service primarily through-traffic movements. All traffic controls and the facility design are intended to provide efficient through movement. There are limited access points to these facilities.

**Collectors** – Collector facilities are intended to serve both through and land-access functions in relatively equal proportions. They are frequently used for shorter through movements associated with the distribution and collection portion of trips.

**Local Streets** – Local street facilities primarily serve land-access functions. The design and control facilitates the movement of vehicles onto and off of the street system from land parcels.



#### Figure 3: Mobility vs. Access Chart





The current South Weber roadway network is separated into Minor Arterial (South Weber Drive), Major Collector, Minor Collector, and Local Residential roadways. This CFP updates the roadway classifications based on Right-of-Way (ROW) widths and is shown in <u>Table 1</u>. South Weber Drive maintains its designation as a Minor Arterial built as a 3-lane roadway with an 80 foot ROW. Major and Minor Collector roadways have been combined and designated at Minor Collector with a 78 foot ROW. Minor Collectors can be built as a 2-lane or 3-lane roadway. The 2-lane roadway will include parking and are meant for low volume roadways with the 3-lane roadway including a middle turn lane for higher roadway volumes. The Local Collector cross-section is for residential areas and has a 70 foot ROW.

#### Table 1: Typical Cross-Sections

Functional Classification	Number of Lanes	Right of Way Width (ft.)
Local Collector	2	70
Minor Collector	2 or 3	78
South Weber Drive	3	80

For this CFP, each functional classification is color coded based on the ROW width on each street. Many of the city streets were constructed prior to the adoption of the typical street sections and therefore do not comply with these standards. As such, designating the streets as arterials and collectors in the existing conditions analysis may be misleading.

Private streets are rare in the City and should be used only where public streets are not possible. However, if private streets are allowed they should meet the minimum cross-section design shown in this chapter. A more detailed description of the characteristics of the four primary functional classifications of streets are found in <u>Table 2</u>.

All information on design and development in South Weber City can be found in the Standard Drawings for the *South Weber City Corporation Public Works Standards* adopted in October 2017. The most current version can be found online at <u>http://www.southwebercity.com</u>.





#### Table 2 Street Functional Classification

		Functional Classification			
Characteristic	Freeway and Expressway	Arterial	Collector	Local Street	
Function	Traffic movement	Traffic movement, land access	Collect and distribute traffic between streets and arterials, land access	Land access	
Typical % of Surface Street System Mileage	Not applicable	5-10%	10-20%	60-80 %	
Continuity	Continuous	Continuous	Continuous	None	
Spacing	4 miles	1-2 miles	½-1 mile	As needed	
Typical % of Surface Street System Vehicle- Miles Carried	Not applicable	40-65%	10-20%	10-25 %	
Direct Land Access	None	Limited: major generators only	Restricted: some movements prohibited; number and spacing of driveways controlled	Safety controls access	
Minimum Roadway Intersection Spacing	1 mile	½ mile	300 feet-¼ mile	300 feet	
Speed Limit	55-75 mph	40-50 mph in fully developed areas	30-40 mph	25 mph	
Parking	Prohibited	Discouraged	Limited	Permitted	
Comments	Supplements capacity of arterial street system & provides high- speed mobility	Backbone of street system		Through traffic should be discouraged	





## Level of Service

The adequacy of an existing street system can be quantified by assigning Levels of Service (LOS) to major roadways and intersections. As defined in the *Highway Capacity Manual (HCM),* a document published by the Transportation Research Board (TRB), LOS serves as the traditional form of measurement of a roadway's functionality. The TRB identifies LOS by reviewing elements, such as the number of lanes assigned to a roadway, the amount of traffic using the roadway and the time of delay per vehicle traveling on the roadway and at intersections. Levels of service range from A (free flow where users are virtually unimpeded by other traffic on the roadway) to F (traffic exceeds the operating capacity of the roadway) as shown in Figure 4.

#### Figure 4: Level of Service Representation



#### Roadway Level of Service

Roadway LOS is used as a planning tool to quantitatively represent the ability of a particular roadway to accommodate the travel demand. <u>Table 3</u> shows LOS traffic volume thresholds for each of the major roadways in the City. These values are based on HCM principles and regional experience. Roadway segment LOS can be mitigated with geometry improvements, additional lanes, two-way-left turn lanes, and access management.

#### Table 3 Suburban Arterial and Collector LOS Capacity Criteria in Vehicles per Day

Lanos	Arte	Arterial		ector
Lanes	LOS C LOS D		LOS C	LOS D
2	7,500	10,000	7,000	9,000
3	9,000	11,500	7,500	10,000

LOS C is approximately two thirds of a roadway's capacity and is a common goal for smaller urban cities during peak hours. A standard of LOS C for system streets (collectors and arterials) is acceptable for future





planning. Attaining LOS B or better on these streets would be potentially cost prohibitive and may present societal impacts, such as the need for additional lanes and wider street cross-sections. LOS C suggests that for most times of the day, the roadways will be operating well below capacity. The peak times of the day will likely experience moderate congestion characterized by a higher vehicle density and slower than free flow speed.

#### Intersection Level of Service

Whereas roadway LOS considers an overall picture of a roadway to estimate operating conditions, intersection LOS looks at each individual movement at an intersection and provides a much more precise method for quantifying operations. Since intersections are typically a source of bottlenecks in the transportation network, a detailed look into vehicle delay at each intersection should be performed on a regular basis. The methodology for calculating delay at an intersection is outlined in the *Highway Capacity Manual* (HCM) and the resulting criteria for assigning LOS to signalized and un-signalized intersections are outlined in <u>Table 4</u>. LOS D is considered the industry standard for intersections in an urbanized area. LOS D at an intersection corresponds to an average control delay of 35-55 seconds per vehicle for a signalized intersection.

At a signalized intersection under LOS D conditions, the average vehicle will be stopped for less than 55 seconds. This is considered an acceptable amount of delay during the times of the day when roadways are most congested. As a general rule, traffic signal cycle lengths (the length of time it takes for a traffic signal to cycle through each movement in turn) should be below 90 seconds. An average delay of less than 55 seconds suggests that in most cases, no vehicles will have to wait more than one cycle before proceeding through an intersection.

Un-signalized intersections are generally stop-controlled. These intersections allow major streets to flow freely, and minor intersecting streets to stop prior to entering the intersection. In cases where traffic volumes are more evenly distributed or where sight distances may be limited, four-way stop-controlled intersections are common. LOS for an un-signalized intersection is assigned based on the average control of the worst approach (always a stop approach) at the intersection. An un-signalized intersection operating at LOS D means the average vehicle waiting at one of the stop-controlled approaches will wait no longer than 35 seconds before proceeding through the intersection. This delay may be caused by large volumes of traffic on the major street resulting in fewer gaps in traffic for a vehicle to turn, or for queued vehicles waiting at the stop sign. Roundabout LOS is also measured using the stopped controlled LOS parameters.

LOS*	Signalized Intersection (sec)	Stop-Controlled/ Roundabout (sec)
А	≤10	≤10
В	>10-20	>10-15
С	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	≥80	≥50

#### Table 4: Intersection Level of Service

\*LOS F when traffic volumes exceed capacity



Intersection and roadway segment LOS problems must be solved independently of each other, as the treatment required to mitigate the congestion is different in each case. Intersection problems may be mitigated by adding turn lanes, improving signal timing, and improving corridor signal coordination.

## Existing Roadway Network Conditions

#### Travel Demand Model Calibration

As with the TAZ structure, the WFRC Travel Demand Model was calibrated to fit existing traffic conditions in South Weber City. The method used to calibrate the model was to use traffic counts throughout the City. Traffic counts were collected from UDOT and include annual average daily traffic (AADT) volumes as defined in *Traffic on Utah Highways*. On City owned roadways, traffic counts were either provided by South Weber City or were manually counted as part of this CFP. <u>Figure 5</u> shows the count locations throughout the City used for model calibration.

#### Existing Functional Classification and Level of Service

The existing functional classification used in the WFRC Travel Demand Model is shown in <u>Figure 6</u>. The LOS was calculated for each roadway according to the guidelines explained in the Level of Service section and a LOS map is included in <u>Figure 7</u>.











#### Mitigations to Existing Capacity Deficiencies

Using LOS D as the threshold for roadway improvements in **Figure 7** (Indicated by red lines), the following shows the roadways and intersections that are nearing existing capacity deficiencies:

#### Roadway Segments Nearing Capacity (LOS C):

• South Weber Dr.: Junction with US-89

In most cases, roadway capacity improvements are achieved by adding travel lanes. In some cases, additional capacity can be gained by striping additional lanes where the existing pavement width will accommodate it. This can be accomplished by eliminating on street parking, creating narrower travel lanes, and adding two-way left turn lanes where they don't currently exist. For all roadway capacity improvements, it is recommended to investigate other mitigation methods before widening the roadway. The only roadway segment nearing capacity (LOS C) is on South Weber Dr. No mitigations are needed for the existing roadway network.

## Future Roadway Network Conditions

By calibrating the WFRC Travel Demand Model to fit the existing traffic conditions in South Weber City, the model is prepared to project traffic volumes into the future. There are two future models used for this CFP, a no build scenario and a solution scenario. The model used was to identify potential capacity deficiencies, called the capital facilities plan No Build Model. The other model used was the capital facilities plan Moster Plan Solution Model, which includes all future projects to improve the deficiencies in the capital facilities plan No Build Model.

#### No Build Level of Service

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 travel demand model was again used to predict this condition by applying the future growth and travel demand to the existing roadway network. As shown in **Figure 8**, the following roadways would perform at LOS D or worse if no action were taken to improve the roadway network:

- South Weber Drive: Junction with US-89
- **475 East:** (South Weber Dr to Junction with I-84)

The following roadways would perform at LOS C if no action were taken to improve the roadway network:

- South Weber Drive: (1900 East to 2700 East)
- South Weber Drive: (475 East to 1200 East)







#### Build Out Roadway Network Conditions

Improvements will need to be made as growth occurs in order to preserve the quality of life for South Weber City residents and to maintain an acceptable LOS on city streets and intersections. These improvements will also provide a sound street system that will support the City's desire for economic development.

The No Build Level of Service as well as the WFRC long range plan form the basis for improving the South Weber City roadway network for 2040. The WFRC long range plan is included in this CFP as Figure 9. The 2040 network was developed through a series of iterations with input from City staff, planning commission and the city council. The final recommended roadway network seeks to balance accommodating demand through the year 2040 with fiscal responsibility, while also considering the planning efforts of neighboring cities. Many of the neighboring cities and other jurisdictional stake holders including Layton City, Wasatch Front Regional Council (WFRC), and UDOT were consulted and their input welcomed and considered during the planning process. The culmination of this analysis, as well as the efforts of the planning commission and city council, are shown as a recommended 2040 roadway network in Figure 10. The following indicates roadway and intersection improvements required to produce the proposed street network in Figure 10.

#### **Roadway Improvements**

- South Bench Drive (South Boundary to Top of Bench): New Road
- South Bench Drive: (Top of Bench to Toe of Bench): New Road
- South Bench Drive: (Toe of Bench to South Weber Drive): New Road
- South Bench Drive: (South Weber Drive to Cook Property): New Road
- South Bench Drive: (Cook Property to 475 East (Includes Realignment of 475 East)): New Road
- Harper Way: (End of Existing to South Weber Drive): New Road
- Kingston Drive & Harper Way: New Roads
- New Local Collector: (South Weber Drive to Harper Way): New Road
- Canyon Meadow Drive: (End of Existing to South Bench Drive): New Road
- Old Fort Road: (End of Existing to South Bench Drive): New Road
- Lester Drive/7375 South: (End of Existing to South Bench Drive): New Road
- 7500 South: (South Bench Drive to 1375 East): New Road
- 7600 South Connection: (End of Existing to 1650 East): New Road
- 1900 East Extension: (Deer Run Drive to South Bench Drive): New Road
- 7800 South Connection: (End of Existing to 2450 East): New Road
- Old Maple Road: (End of Existing to South Weber Drive): New Road

#### Intersection Improvements

- 7800 South & South Weber Drive: New Traffic Signal
- 1900 East & South Weber Drive: New Traffic Signal
- South Bench Drive & South Weber Drive: New Traffic Signal

It is expected that the roadway network recommended in this document will perform at an acceptable LOS through the planning year of 2040 as shown in <u>Figure 11</u>. This will help in preserving the quality of life and economic vitality of the City. The specific details of the recommended roadway network are discussed more extensively in subsequent sections.

#### FIGURE 09: WFRC LONG RANGE PLAN









South Weber City Capital Facilities Plan

## **Capital Facilities Plan**

As growth continues in South Weber City, the roadway network will need to be improved by constructing new roads, widening existing transportation corridors, and making intersection improvements to provide future residents of the city with an adequate transportation system. A concept plan for future growth between the planning years of 2018-2040 is provided in <u>Figure 10</u>.

#### **Transportation Needs as a Result of New Development**

The specific roadway network needs resulting from future growth throughout South Weber City are identified in <u>Figure 12</u>. Updating <u>Figure 12</u> is necessary since project scopes change and development occurs throughout the City. All projects necessary to improve the roadway network were identified and compiled into tables to produce a Transportation Improvement Plan (TIP). All projects under South Weber City's and UDOT's jurisdictions are found in <u>Table 5</u>.

Where the project is likely to be completed using WFRC funding, the South Weber impact fee eligible portion of the project is only the amount of money the City will need to find as their required "matching funds", in this case, 8% of the total project cost. UDOT projects will be funded entirely with state funds and are therefore not eligible for impact fee expenditure. Road widening projects will be 100% covered by the City, as any work on these roads will only be needed as traffic increases as a result of growth. New city-owned roads are variable depending on the road classification. The cost attributable to new growth is defined as the portion of the roadway cross section in excess of the standards for a local residential street. This is based on the premise that a local street cross section serves the needs of the localized development which directly access the new road. This portion will be paid for by the individual development, which accesses the new road. Any improvement due to growth that requires a cross section beyond a local street would be considered a system improvement and covered by the City. The City responsibility cost for each new road is determined as the percentage of the total project cost beyond a local street classification. For example, a Collector Street is 10% more costly than a local residential street so the City responsible portion of a new Collector is 10%. Where WFRC funding is included as part of the project, the 8% cost required by the City is proportioned between the City and developer using the same methodology as described above.

Two projects in the cost estimates that do not follow the same process and were proportioned based on a cost analysis by the City:

- Lester Drive/7375 South from the end of existing to South Bench Drive
- Old Maple Road from the end of existing to South Weber Drive

There are additional costs included in each cost estimate based on a percentage of the construction costs. The four additional costs are **contingency**, **mobilization**, **preconstruction engineering**, and **construction engineering**. The percentages used for the additional costs may vary as these values are estimated for each individual project. These estimates are based on the concept cost estimate values used by UDOT.



**Contingency** accounts for the items not estimated during the concept cost estimate. Examples include roadway striping, utility placement, and survey. **Contingency** costs can range up to 15% based on the number of items not estimated. **Mobilization** is the preparation made by the contractor before construction begins on a project. UDOT recommends that 10% be used for local projects. **Preconstruction** engineering is based on the complexity of the project as well as the construction costs. For local projects the preconstruction costs can range up to 16% of the construction costs based on UDOT cost estimating. For the cost estimates included in this IFFP, a value of 10% was used. **Construction engineering** includes the construction management and additional design necessary during construction. Recommended costs for local projects are up to 16% and a value of 10% was used for the cost estimates included in the IFFP. See <u>Appendix A: Cost Estimates</u> for more details.

The cost estimates shown, in cooperation with City officials, represent the costs of construction, right-ofway, and engineering. All costs represent 2018 costs. Project timing should be determined by development and transportation needs. It is expected that the total cost of roadway improvements funded by South Weber City for 2040 will be approximately \$42,770,000. Of this total it is expected that future development will provide \$21,970,000 and South Weber City will be responsible to fund \$10,720,000 of the total estimated cost.







#### Table 5: Capital Facilities Plan - South Weber City Responsibility

Capital Facilities Plan – South Weber City Responsibility						
No.	Location	Total Price	Cost of Others (UDOT, WFRC, etc.)	Cost to Developers	South Weber City Total	
1	South Bench Drive: South Boundary to Top of Bench	\$6,410,000	\$5,900,000	\$470,000	\$50,000	
2	South Bench Drive: Top of Bench to Toe of Bench	\$3,760,000	\$3,460,000	\$280,000	\$30,000	
3	South Bench Drive: Toe of Bench to South Weber Drive	\$5,050,000	\$0	\$4,570,000	\$490,000	
4	South Bench Drive: South Weber Drive to Cook Property	\$5,250,000	\$0	\$4,760,000	\$500,000	
5	South Bench Drive: Cook Property to 475 East (includes realignment of 475 East)	\$1,940,000	\$0	\$0	\$1,940,000	
6	Harper Way: End of Existing to South Weber Drive	\$2,250,000	\$0	\$2,250,000	\$0	
7	New Roads: Kingston Drive & Harper Way	\$1,830,000	\$0	\$1,830,000	\$0	
8	New Local Collector: South Weber Drive to Harper Way	\$2,310,000	\$0	\$2,310,000	\$0	
9	Canyon Meadow Drive: End of Existing to South Bench Drive	\$1,320,000	\$0	\$1,320,000	\$0	
10	Old Fort Rd: End of Existing to South Bench Drive	\$800,000	\$0	\$800,000	\$0	
11	Lester Drive/7375 South: End of Existing to South Bench Drive	\$2,310,000	\$0	\$560,000	\$1,760,000	
12	7500 South: South Bench Drive to 1375 East	\$2,030,000	\$0	\$2,030,000	\$0	
13	Roadway Connections: 7600 South & 1650 East	\$230,000	\$0	\$230,000	\$0	
14	1900 East Extension: Deer Run Drive to South Bench Drive	\$1,220,000	\$0	\$0	\$1,220,000	
15	7800 South Connection: End of Existing to 2450 East	\$1,040,000	\$0	\$0	\$1,040,000	
16	Old Maple Road: End of Existing to South Weber Drive	\$1,860,000	\$0	\$560,000	\$1,310,000	
17	New Traffic Signal: 7800 South & South Weber Drive	\$260,000	\$260,000	\$0	\$0	
18	New Traffic Signal: 1900 East & South Weber Drive	\$260,000	\$260,000	\$0	\$0	
19	New Traffic Signal: South Bench Drive & South Weber Drive	\$260,000	\$260,000	\$0	\$0	





Capital Facilities Plan – South Weber City Responsibility						
No.	Location	Total Price	Cost of Others (UDOT, WFRC, etc.)	Cost to Developers	South Weber City Total	
20	South Bench Drive: Roadway Improvements at South Weber Drive	\$2,380,000	\$0	\$0	\$2,380,000	
Total \$42,770,000 \$10,140,000 \$21,970,000 \$10,720,0						

# Proposed Means to Meet Demands of New Development

All possible revenue sources have been considered as a means of financing transportation capital improvements needed as a result of new growth. This section discusses the potential revenue sources that could be used to fund transportation needs as a result of new development.

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 Government or UDOT, or WFRC. The City will need to continue to partner and work with these other jurisdictions to ensure the 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.).

Funding sources for transportation are essential if South Weber City recommended improvements are to be built. The following paragraphs further describe the various transportation funding sources available to the City.

#### Federal Funding

Federal monies are available to cities and counties through the federal-aid program. UDOT administers the funds. In order 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 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 the applications and then a portion of the application is passed to the State Transportation Commission. Transportation enhancements include 12 categories ranging from historic preservation, bicycle and pedestrian facilities and water runoff mitigation. Other federal and state trail funds are available from the Utah State Parks and Recreation Program.





WFRC accepts applications for federal funds through local and regional government jurisdictions. The WFRC Technical Advisory and Regional Planning committees select projects for funding annually. 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 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

#### State/County Funding

The distribution of State Class B and C Program monies is established by State Legislation and is administered by the State Department of Transportation. 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 the major roads in South Weber fall under UDOT jurisdiction, it is in the interests of the City that staff is 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 by a formula based on population, centerline miles, and land area. Class B funds are given to counties, and Class C funds are given to cities and towns. Class B and C funds can be used for maintenance and construction projects; however, thirty percent of those funds must be used for construction or maintenance projects that exceed \$40,000. The remainder of these funds can be used for matching federal funds or to pay the principal, interest, premiums, and reserves for issued bonds.

In 2005 the state senate passed a bill providing for the advance acquisition of right-of-way for highways of regional significance. This bill would enable cities in the county to better plan for future transportation needs by acquiring property to be used as future right-of-way before it is fully developed and becomes extremely difficult to acquire. UDOT holds on account the revenue generated by the local corridor preservation fund but the county is responsible to program and control monies. In order to qualify for preservation funds, the City must comply with the Corridor Preservation Process found at the flowing link *www.udot.utah.gov/public/ucon*.

#### City Funding

Some cities utilize general fund revenues for their transportation programs. Another option for transportation funding is the creation of 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 includes 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 could 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, which 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.

Certain areas might require different needs or methods of funding other than traditional revenue sources. A Special Assessment Area (SAA) can be created for infrastructure needs that benefit or encompass specific areas of the City. Creation of the SAA may be initiated by the municipality by a resolution declaring the public health, convenience, and necessity requiring the creation of a SAA. The boundaries and services provided by the district must be specified and a public hearing held prior to creation of the SAA. 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.

#### Interfund Loans

Since infrastructure must generally built ahead of growth, it must sometimes be 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.

#### 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 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 must reimburse the developer the difference.

#### 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 developments should pay for the portion of required improvements that result from new growth. Impact fees are assessed for many types of infrastructures and facilities that are provided by a community, such as roadway facilities. According to state law, impact fees can only be used to fund growth related system improvements.



South Weber City Capital Facilities Plan

## **Appendix A: Cost Estimates**



	Project Summary (All Projects)					
Project	Location	Total Price	Cost of Others (UDOT, WFRC, etc.)	Cost to Developers	South Weber City Cost	
1	South Bench Drive: South Boundary to Top of Bench	\$6,410,000	\$5,900,000	\$470,000	\$50,000	
2	South Bench Drive: Top of Bench to Toe of Bench	\$3,760,000	\$3,460,000	\$280,000	\$30,000	
3	South Bench Drive: Toe of Bench to South Weber Drive (Project 20)	\$5,050,000	\$0	\$4,570,000	\$490,000	
4	South Bench Drive: South Weber Drive (Project 20) to Cook Property	\$5,250,000	\$0	\$4,760,000	\$500,000	
5	South Bench Drive: Cook Property to 475 East (includes realignment of 475 East)	\$1,940,000	\$0	\$0	\$1,940,000	
6	Harper Way: End of Existing to South Weber Drive	\$2,250,000	\$0	\$2,250,000	\$0	
7	New Roads: Kingston Drive & Harper Way	\$1,830,000	\$0	\$1,830,000	\$0	
8	New Local Collector: South Weber Drive to Harper Way	\$2,310,000	\$0	\$2,310,000	\$0	
9	Canyon Meadow Drive: End of Existing to South Bench Drive	\$1,320,000	\$0	\$1,320,000	\$0	
10	Old Fort Rd: End of Existing to South Bench Drive	\$800,000	\$0	\$800,000	\$0	
11	Lester Drive/7375 South: End of Existing to South Bench Drive	\$2,310,000	\$0	\$560,000	\$1,760,000	
12	7500 South: South Bench Drive to 1375 East	\$2,030,000	\$0	\$2,030,000	\$0	
13	Roadway Connections: 7600 South & 1650 East	\$230,000	\$0	\$230,000	\$0	
14	1900 East Extension: Deer Run Drive to South Bench Drive	\$1,220,000	\$0	\$0	\$1,220,000	
15	7800 South Connection: End of Existing to 2450 East	\$1,040,000	\$0	\$0	\$1,040,000	
16	Old Maple Road: End of Existing to South Weber Drive	\$1,860,000	\$0	\$560,000	\$1,310,000	
17	New Traffic Signal: South Bench Drive & South Weber Drive	\$260,000	\$260,000	\$0	\$0	
18	New Traffic Signal: 1900 East & South Weber Drive	\$260,000	\$260,000	\$0	\$0	
19	New Traffic Signal: 7800 South & South Weber Drive	\$260,000	\$260,000	\$0	\$0	
20	South Bench Drive: Roadway Improvements at South Weber Drive	\$2,380,000	\$0	\$0	\$2,380,000	
	Total	\$42,770,000	\$10,140,000	\$21,970,000	\$10,720,000	

### South Weber City Capital Facilities Plan

#### Unit Costs

Item	Unit	Unit Cost	
Parkstrip	S.F.	\$3.00	
Removal of Existing Asphalt	S.Y.	\$5.00	
Clearing and Grubbing	Acre	\$2,000	
Roadway Excavation	C.Y.	\$11.00	
HMA Concrete	Ton	\$85.00	
Untreated Base Course	C.Y.	\$40.00	
Granular Borrow	C.Y.	\$30.00	
Curb and Gutter (2.5' width)	L.F.	\$23.00	
Sidewalk (6' width)	L.F.	\$40.00	
Drainage	L.F.	\$60.00	
Right of Way	S.F.	\$5.00	
Bridge/Culvert	S.F.	\$225.00	
Traffic Signal	Each	\$180,000	
Contingency	15%		
Mobilization	1	.0%	

Preconstruction Engineering	10%
Construction Engineering	10%

#### **Capital Facilities Plan**

Project No. 1

Improvement Type: New Road

#### South Bench Drive: South Boundary to Top of Bench

Major Collector					
Costs					
Item	Unit	Unit Cost	Quantity	Cost	
Parkstrip	S.F.	\$3	46,830	\$140,490	
Removal of Existing Asphalt	S.Y.	\$5	0	\$0	
Clearing and Grubbing	Acre	\$2,000	8	\$16,771	
Roadway Excavation	C.Y.	\$11	21,681	\$238,486	
HMA Concrete	Ton	\$85	6,049	\$514,154	
Untreated Base Course	C.Y.	\$40	5,781	\$231,259	
Granular Borrow	C.Y.	\$30	10,118	\$303,528	
Curb and Gutter (2.5' width)	L.F.	\$23	9,366	\$215,418	
Sidewalk (6' width)	L.F.	\$40	9,366	\$374,640	
Drainage	L.F.	\$60	9,366	\$561,960	
Right of Way	S.F.	\$5	365,274	\$1,826,370	
Bridge/Culvert	S.F.	\$225	0	\$0	
Traffic Signal	Each	\$180,000	0	\$0	
Subtotal \$4,420,000					

Contingency	15%	\$663,000
Mobilization	10%	\$442,000
Preconstruction Engineering	10%	\$442,000
Construction Engineering	10%	\$442,000

Total Project Costs\$6,410,000

Responsibility of Others (UDOT WERC FTC)	92%
Responsibility of Others (ODOT, WIRC, ETC.)	\$5,900,000
Responsibility of Developer	7%
Responsibility of Developer	\$470,000
South Weber City Responsibility	1%
	\$50,000

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Project No. 2

Improvement Type: New Road

#### South Bench Drive: Top of Bench to Toe of Bench

Major Collector				
Costs				
ltem	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$3	27,450	\$82,350
Removal of Existing Asphalt	S.Y.	\$5	0	\$0
Clearing and Grubbing	Acre	\$2,000	5	\$9,831
Roadway Excavation	C.Y.	\$11	12,708	\$139,792
HMA Concrete	Ton	\$85	3,546	\$301,378
Untreated Base Course	C.Y.	\$40	3,389	\$135,556
Granular Borrow	C.Y.	\$30	5,931	\$177,917
Curb and Gutter (2.5' width)	L.F.	\$23	5,490	\$126,270
Sidewalk (6' width)	L.F.	\$40	5,490	\$219,600
Drainage	L.F.	\$60	5,490	\$329,400
Right of Way	S.F.	\$5	214,110	\$1,070,550
Bridge/Culvert	S.F.	\$225	0	\$0
Traffic Signal	Each	\$180,000	0	\$0
Subtotal \$2,590,000				

Contingency	15%	\$388,500
Mobilization	10%	\$259,000
Preconstruction Engineering	10%	\$259,000
Construction Engineering	10%	\$259,000

Total Project Costs \$3,760,000

Responsibility of Others (UDOT WERC FTC)	92%
Responsibility of Others (ODOT, WIRC, ETC.)	\$3,460,000

Responsibility of Developer	7%
Responsibility of Developer	\$280,000
South Weber City Responsibility	1%
South Weber City Responsibility	\$30,000

#### **Capital Facilities Plan**

Project No. 3

Improvement Type: New Road

#### South Bench Drive: Toe of Bench to South Weber Drive (Project 20)

Major Collector				
Costs				
ltem	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$3	36,880	\$110,640
Removal of Existing Asphalt	S.Y.	\$5	0	\$0
Clearing and Grubbing	Acre	\$2,000	7	\$13,208
Roadway Excavation	C.Y.	\$11	17,074	\$187,815
HMA Concrete	Ton	\$85	4,764	\$404,912
Untreated Base Course	C.Y.	\$40	4,553	\$182,123
Granular Borrow	C.Y.	\$30	7,968	\$239,037
Curb and Gutter (2.5' width)	L.F.	\$23	7,376	\$169,648
Sidewalk (6' width)	L.F.	\$40	7,376	\$295,040
Drainage	L.F.	\$60	7,376	\$442,560
Right of Way	S.F.	\$5	287,664	\$1,438,320
Bridge/Culvert	S.F.	\$225	0	\$ <mark>0</mark>
Traffic Signal	Each	\$180,000	0	\$0
Subtotal \$3,480,000				

Contingency	15%	\$522,000
Mobilization	10%	\$348,000
Preconstruction Engineering	10%	\$348,000
Construction Engineering	10%	\$348,000

Total Project Costs\$5,050,000

\$0

Responsibility of Others (UDOT WERC FTC)	0%
Responsibility of others (obor, write, Ereij	40

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Responsibility of Developer	90%
Responsibility of Developer	\$4,570,000
South Weber City Responsibility	10%
	\$490,000

#### **Capital Facilities Plan**

Project No. 4

Improvement Type: New Road

#### South Bench Drive: South Weber Drive (Project 20) to Cook Property

Major Collector				
Costs				
Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$3	38,370	\$115,110
Removal of Existing Asphalt	S.Y.	\$5	0	\$0
Clearing and Grubbing	Acre	\$2,000	7	\$13,741
Roadway Excavation	C.Y.	\$11	17,764	\$195,403
HMA Concrete	Ton	\$85	4,956	\$421,271
Untreated Base Course	C.Y.	\$40	4,737	\$189,481
Granular Borrow	C.Y.	\$30	8,290	\$248,694
Curb and Gutter (2.5' width)	L.F.	\$23	7,674	\$176,502
Sidewalk (6' width)	L.F.	\$40	7,674	\$306,960
Drainage	L.F.	\$60	7,674	\$460,440
Right of Way	S.F.	\$5	299,286	\$1,496,430
Bridge/Culvert	S.F.	\$225	0	\$0
Traffic Signal	Each	\$180,000	0	\$0
	Subtotal \$3,620,000			

Contingency	15%	\$543,000
Mobilization	10%	\$362,000
Preconstruction Engineering	10%	\$362,000
Construction Engineering	10%	\$362,000

Total Project Costs \$5,250,000

Responsibility of Others (UDOT WERC FTC)	0%
Responsibility of others (obor, write, Ereij	\$0

Responsibility of Developer	90%
Responsibility of Developer	\$4,760,000
South Weber City Responsibility	10%
South Weber city Responsibility	\$500,000

#### **Capital Facilities Plan**

Project No. 5

Improvement Type: New Road

#### South Bench Drive: Cook Property to 475 East (includes realignment of 475 East)

Major Collector				
Costs				
Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$3	7,000	\$21,000
Removal of Existing Asphalt	S.Y.	\$5	7,794	\$38,969
Clearing and Grubbing	Acre	\$2,000	3	\$5,604
Roadway Excavation	C.Y.	\$11	4,984	\$54,822
HMA Concrete	Ton	\$85	3,965	\$337,025
Untreated Base Course	C.Y.	\$40	1,780	\$71,198
Granular Borrow	C.Y.	\$30	3,204	\$96,117
Curb and Gutter (2.5' width)	L.F.	\$23	4,670	\$107,410
Sidewalk (6' width)	L.F.	\$40	2,450	\$98,000
Drainage	L.F.	\$60	800	\$48,000
Right of Way	S.F.	\$5	91,612	\$458,060
Bridge/Culvert	S.F.	\$225	0	\$0
Traffic Signal	Each	\$180,000	0	\$0
Subtotal \$1,340,000				

Contingency	15%	\$201,000
Mobilization	10%	\$134,000
Preconstruction Engineering	10%	\$134,000
Construction Engineering	10%	\$134,000

Total Project Costs\$1,940,000

Responsibility of Others (UDOT, WFRC, ETC.)	0%
	\$0

Responsibility of Developer	0%
Responsibility of Developer	\$0
South Weber City Responsibility	100%
	\$1,940,000

South Weber City	
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Project No. 6

Improvement Type: New Road

#### Harper Way: End of Existing to South Weber Drive

Local Street				
Costs				
Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$3	28,230	\$84,690
Removal of Existing Asphalt	S.Y.	\$5	0	\$0
Clearing and Grubbing	Acre	\$2,000	3	\$6,049
Roadway Excavation	C.Y.	\$11	6,273	\$69,007
HMA Concrete	Ton	\$85	1,313	\$111,579
Untreated Base Course	C.Y.	\$40	1,673	\$66,916
Granular Borrow	C.Y.	\$30	2,928	\$87,827
Curb and Gutter (2.5' width)	L.F.	\$23	3,764	\$86,572
Sidewalk (6' width)	L.F.	\$40	3,764	\$150,560
Drainage	L.F.	\$60	3,764	\$225,840
Right of Way	S.F.	\$5	131,740	\$658,700
Bridge/Culvert	S.F.	\$225	0	\$0
Traffic Signal	Each	\$180,000	0	\$0
Subtotal \$1,550,000				

Contingency	15%	\$232,500
Mobilization	10%	\$155,000
Preconstruction Engineering	10%	\$155,000
Construction Engineering	10%	\$155,000

Total Project Costs \$2,250,000

Responsibility of Others (UDOT WERC FTC)	<b>U%</b>
Responsibility of others (obor, write, Ere.)	\$0
<b>Besponsibility of Developer</b>	100%
Responsibility of Developer	\$2,250,000
South Weber City Responsibility	0%
South Weber City Responsibility	\$0

South Weber City Capital Facilities Plan Project No. 7 Improvement Type: New Road					
New Roads:	Kingston D	rive & Harper	r Way		
	Local Str	eet			
	Cost	S			
Item Unit Unit Cost Quantity Cost					
Parkstrip	S.F.	\$3	22,995	\$68,985	
Removal of Existing Asphalt	S.Y.	\$5	0	\$0	
Clearing and Grubbing	Acre	\$2,000	2	\$4,927	
Roadway Excavation	C.Y.	\$11	5,110	\$56,210	
HMA Concrete	Ton	\$85	1,069	\$90,888	
Untreated Base Course	C.Y.	\$40	1,363	\$54,507	
Granular Borrow	C.Y.	\$30	2,385	\$71,540	
Curb and Gutter (2.5' width)	L.F.	\$23	3,066	\$70,518	
Sidewalk (6' width)	L.F.	\$40	3,066	\$122,640	
Drainage	L.F.	\$60	3,066	\$183,960	
Right of Way	S.F.	\$5	107,310	\$536 <i>,</i> 550	
Bridge/Culvert	S.F.	\$225	0	\$0	
Traffic Signal	Each	\$180,000	0	\$0	
Subtotal \$1,260,000				\$1,260,000	

Contingency	15%	\$189,000
Mobilization	10%	\$126,000
Preconstruction Engineering	10%	\$126,000
Construction Engineering	10%	\$126,000

Total Project Costs\$1,830,000

Responsibility of Others (UDOT WERC FTC)	0%
Responsibility of Others (ODOT, WIRE, ETC.)	\$0
Responsibility of Developer	100%
Responsibility of Developer	\$1,830,000
South Weber City Responsibility	0%
South Weber city Responsibility	\$0

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Project No. 8

Improvement Type: New Road

#### New Local Collector: South Weber Drive to Harper Way

Local Street				
Costs				
ltem	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$3	28,920	\$86,760
Removal of Existing Asphalt	S.Y.	\$5	0	\$0
Clearing and Grubbing	Acre	\$2,000	3	\$6,197
Roadway Excavation	C.Y.	\$11	6,427	\$70,693
HMA Concrete	Ton	\$85	1,345	\$114,306
Untreated Base Course	C.Y.	\$40	1,714	\$68,551
Granular Borrow	C.Y.	\$30	2,999	\$89,973
Curb and Gutter (2.5' width)	L.F.	\$23	3,856	\$88,688
Sidewalk (6' width)	L.F.	\$40	3,856	\$154,240
Drainage	L.F.	\$60	3,856	\$231,360
Right of Way	S.F.	\$5	134,960	\$674,800
Bridge/Culvert	S.F.	\$225	0	\$0
Traffic Signal	Each	\$180,000	0	\$0
Subtotal \$1,590,000				

Contingency	15%	\$238,500
Mobilization	10%	\$159,000
Preconstruction Engineering	10%	\$159,000
Construction Engineering	10%	\$159,000

Total Project Costs \$2,310,000

Responsibility of Others (UDOT, WFRC, ETC.)	0%
	\$0

Responsibility of Developer	100%
	\$2,310,000
South Weber City Responsibility	0%
	<b>\$</b> 0

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Project No. 9

Improvement Type: New Road

#### Canyon Meadow Drive: End of Existing to South Bench Drive

Local Street				
Costs				
ltem	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$3	16,635	\$49,905
Removal of Existing Asphalt	S.Y.	\$5	0	\$0
Clearing and Grubbing	Acre	\$2,000	2	\$3,564
Roadway Excavation	C.Y.	\$11	3,697	\$40,663
HMA Concrete	Ton	\$85	774	\$65 <i>,</i> 750
Untreated Base Course	C.Y.	\$40	986	\$39,431
Granular Borrow	C.Y.	\$30	1,725	\$51,753
Curb and Gutter (2.5' width)	L.F.	\$23	2,218	\$51,014
Sidewalk (6' width)	L.F.	\$40	2,218	\$88,720
Drainage	L.F.	\$60	2,218	\$133,080
Right of Way	S.F.	\$5	77,630	\$388,150
Bridge/Culvert	S.F.	\$225	0	\$0
Traffic Signal	Each	\$180,000	0	\$0
Subtotal \$910,000				

Contingency	15%	\$136,500
Mobilization	10%	\$91,000
Preconstruction Engineering	10%	\$91,000
Construction Engineering	10%	\$91,000

Total Project Costs \$1,320,000

Responsibility of Others (LIDOT WERC FTC)	0%
Responsibility of others (ODOT, Write, Erei)	\$0
	100%

Responsibility of D	eveloper 100%
Responsibility of D	\$1,320,000
South Weber City Resp	onsibility 0%
South Weber city Responsibility	\$0

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Project No. 10

Improvement Type: New Road

#### Old Fort Rd: End of Existing to South Bench Drive

Local Street					
Costs					
ltem	Unit	Unit Cost	Quantity	Cost	
Parkstrip	S.F.	\$3	10,110	\$30,330	
Removal of Existing Asphalt	S.Y.	\$5	0	\$0	
Clearing and Grubbing	Acre	\$2,000	1	\$2,166	
Roadway Excavation	C.Y.	\$11	2,247	\$24,713	
HMA Concrete	Ton	\$85	470	\$39,960	
Untreated Base Course	C.Y.	\$40	599	\$23,964	
Granular Borrow	C.Y.	\$30	1,048	\$31,453	
Curb and Gutter (2.5' width)	L.F.	\$23	1,348	\$31,004	
Sidewalk (6' width)	L.F.	\$40	1,348	\$53,920	
Drainage	L.F.	\$60	1,348	\$80,880	
Right of Way	S.F.	\$5	47,180	\$235,900	
Bridge/Culvert	S.F.	\$225	0	\$0	
Traffic Signal	Each	\$180,000	0	\$ <mark>0</mark>	
			Subtotal	\$550,000	

Contingency	15%	\$82,500
Mobilization	10%	\$55,000
Preconstruction Engineering	10%	\$55,000
Construction Engineering	10%	\$55,000

Total Project Costs \$800,000

Responsibility of Others (UDOT WERC FTC)	0%
Responsibility of Others (ODOT, WIRC, ETC.)	\$0
Responsibility of Developer	100%
	\$800,000

South Weber City Responsibility	0%
South Weber City Responsibility	\$0

#### **Capital Facilities Plan**

Project No. 11

Improvement Type: New Road

#### Lester Drive/7375 South: End of Existing to South Bench Drive

Minor Collector					
Costs					
Item	Unit	Unit Cost	Quantity	Cost	
Parkstrip	S.F.	\$3	25,163	\$75,489	
Removal of Existing Asphalt	S.Y.	\$5	4,652	\$23,259	
Clearing and Grubbing	Acre	\$2,000	3	\$6,356	
Roadway Excavation	C.Y.	\$11	3,885	\$42,738	
HMA Concrete	Ton	\$85	2,885	\$245,225	
Untreated Base Course	C.Y.	\$40	3,885	\$155,410	
Granular Borrow	C.Y.	\$30	0	\$0	
Curb and Gutter (2.5' width)	L.F.	\$23	5,683	\$130,709	
Sidewalk (6' width)	L.F.	\$40	5,624	\$224,960	
Drainage	L.F.	\$60	2,950	\$177,000	
Right of Way	S.F.	\$5	101,766	\$508 <i>,</i> 830	
Bridge/Culvert	S.F.	\$225	0	\$0	
Traffic Signal	Each	\$180,000	0	\$0	
			Subtotal	\$1,590,000	

Contingency	15%	\$238,500
Mobilization	10%	\$159,000
Preconstruction Engineering	10%	\$159,000
Construction Engineering	10%	\$159,000

Total Project Costs\$2,310,000

Responsibility of Others (UDOT WERC FTC)	0%
	<b>\$0</b>

Responsibility of Developer	24%
Responsibility of Developer	\$560,000
South Weber City Responsibility	76%
	\$1,760,000

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Project No. 12

Improvement Type: New Road

#### 7500 South: South Bench Drive to 1375 East

Local Street					
Costs					
Item	Unit	Unit Cost	Quantity	Cost	
Parkstrip	S.F.	\$3	25,605	\$76,815	
Removal of Existing Asphalt	S.Y.	\$5	0	\$0	
Clearing and Grubbing	Acre	\$2,000	3	\$5,486	
Roadway Excavation	C.Y.	\$11	5,690	\$62,590	
HMA Concrete	Ton	\$85	1,191	\$101,204	
Untreated Base Course	C.Y.	\$40	1,517	\$60,693	
Granular Borrow	C.Y.	\$30	2,655	\$79,660	
Curb and Gutter (2.5' width)	L.F.	\$23	3,414	\$78,522	
Sidewalk (6' width)	L.F.	\$40	3,414	\$136,560	
Drainage	L.F.	\$60	3,414	\$204,840	
Right of Way	S.F.	\$5	119,490	\$597,450	
Bridge/Culvert	S.F.	\$225	0	\$0	
Traffic Signal	Each	\$180,000	0	\$0	
Subtotal \$1,400,000					

Contingency	15%	\$210,000
Mobilization	10%	\$140,000
Preconstruction Engineering	10%	\$140,000
Construction Engineering	10%	\$140,000

Total Project Costs \$2,030,000

Responsibility of Others (UDOT WERC FTC)	0%
Responsibility of Others (ODOT, WIRC, LTC.)	\$0

Responsibility of Developer	100%
Responsibility of Developer	\$2,030,000
South Weber City Responsibility	0%
South Weber city Responsibility	\$0

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Project No. 13

Improvement Type: New Road

#### Roadway Connections: 7600 South & 1650 East

Local Street					
Costs					
ltem	Unit	Unit Cost	Quantity	Cost	
Parkstrip	S.F.	\$3	1,948	\$5,844	
Removal of Existing Asphalt	S.Y.	\$5	0	\$0	
Clearing and Grubbing	Acre	\$2,000	0	\$671	
Roadway Excavation	C.Y.	\$11	325	\$3,572	
HMA Concrete	Ton	\$85	241	\$20,485	
Untreated Base Course	C.Y.	\$40	325	\$12,990	
Granular Borrow	C.Y.	\$30	0	\$0	
Curb and Gutter (2.5' width)	L.F.	\$23	487	\$11,201	
Sidewalk (6' width)	L.F.	\$40	487	\$19,480	
Drainage	L.F.	\$60	244	\$14,640	
Right of Way	S.F.	\$5	14,613	\$73,065	
Bridge/Culvert	S.F.	\$225	0	\$0	
Traffic Signal	Each	\$180,000	0	\$0	
	Subtotal \$160,000				

Contingency	15%	\$24,000
Mobilization	10%	\$16,000
Preconstruction Engineering	10%	\$16,000
Construction Engineering	10%	\$16,000

**Total Project Costs** \$230,000

Responsibility of Others (UDOT WERC FTC)	0%
Responsibility of Others (ODOT, WIRE, ETC.)	\$0
Responsibility of Developer	100%
Responsibility of Developer	\$230,000
South Weber City Responsibility	0%
South Weber city Responsibility	\$0

#### **Capital Facilities Plan**

Project No. 14

Improvement Type: New Road

#### 1900 East Extension: Deer Run Drive to South Bench Drive

Minor Collector					
Costs					
ltem	Unit	Unit Cost	Quantity	Cost	
Parkstrip	S.F.	\$3	750	\$2,250	
Removal of Existing Asphalt	S.Y.	\$5	1,036	\$5,182	
Clearing and Grubbing	Acre	\$2,000	1.35	\$2,693	
Roadway Excavation	C.Y.	\$11	3,129	\$34,416	
HMA Concrete	Ton	\$85	2,904	\$246,840	
Untreated Base Course	C.Y.	\$40	3,129	\$125,148	
Granular Borrow	C.Y.	\$30	0	\$0	
Curb and Gutter (2.5' width)	L.F.	\$23	4,573	\$105,179	
Sidewalk (6' width)	L.F.	\$40	4,526	\$181,040	
Drainage	L.F.	\$60	2,338	\$140,280	
Right of Way	S.F.	\$5	0	\$0	
Bridge/Culvert	S.F.	\$225	0	\$0	
Traffic Signal	Each	\$180,000	0	\$0	
Subtotal \$840,000					

Contingency	15%	\$126,000
Mobilization	10%	\$84,000
Preconstruction Engineering	10%	\$84,000
Construction Engineering	10%	\$84,000

Total Project Costs\$1,220,000

Responsibility of Others (UDOT WERC FTC)	0%
Responsibility of others (obor, write, fre.)	\$0
	-
	0%

Responsibility of Developer	078
Responsibility of Developer	\$0
South Weber City Responsibility	100%
South Weber City Responsibility	\$1,220,000

#### **Capital Facilities Plan**

Project No. 15

Improvement Type: New Road

#### 7800 South Connection: End of Existing to 2450 East

Minor Collector							
Costs							
Item Unit Unit Cost Quantity Cost							
Parkstrip	S.F.	\$3	12,342	\$37,026			
Removal of Existing Asphalt	S.Y.	\$5	3,411	\$17,056			
Clearing and Grubbing	Acre	\$2,000	1	\$2,942			
Roadway Excavation	C.Y.	\$11	2,108	\$23,187			
HMA Concrete	Ton	\$85	1,565	\$133,025			
Untreated Base Course	C.Y.	\$40	2,108	\$84,317			
Granular Borrow	C.Y.	\$30	0	\$0			
Curb and Gutter (2.5' width)	L.F.	\$23	3,164	\$72,772			
Sidewalk (6' width)	L.F.	\$40	2,924	\$116,960			
Drainage	L.F.	\$60	1,580	\$94,800			
Right of Way	S.F.	\$5	26,678	\$133,390			
Bridge/Culvert	S.F.	\$225	0	\$0			
Traffic Signal	Each	\$180,000	0	\$0			
Subtotal \$720,000							

Contingency	15%	\$108,000
Mobilization	10%	\$72,000
Preconstruction Engineering	10%	\$72,000
Construction Engineering	10%	\$72,000

Total Project Costs \$1,040,000

Responsibility of Others (UDOT, WFRC, ETC.)	0%
	\$0

Responsibility of Developer	0%
Responsibility of Developer	\$0
South Weber City Responsibility	100%
South Weber city Responsibility	\$1,040,000

South Weber City Capital Facilities Plan Project No. 16 Improvement Type: New Road Old Maple Road: End of Existing to South Weber Drive				
•	Minor Col	lector		
	Cost	S		
Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$3	30,801	\$92,403
Removal of Existing Asphalt	S.Y.	\$5	3,475	\$17,377
Clearing and Grubbing	Acre	\$2,000	3	\$5,649
Roadway Excavation	C.Y.	\$11	2,864	\$31,504
HMA Concrete	Ton	\$85	2,126	\$180,710
Untreated Base Course	C.Y.	\$40	2,864	\$114,559
Granular Borrow	C.Y.	\$30	0	\$0
Curb and Gutter (2.5' width)	L.F.	\$23	4,192	\$96,416
Sidewalk (6' width)	L.F.	\$40	4,121	\$164,840
Drainage	L.F.	\$60	2,210	\$132,600
Right of Way	S.F.	\$5	53,149	\$265,745
Bridge/Culvert	S.F.	\$225	0	\$0
Intersection Improvement	Each	\$180,000	1	\$180,000
		-	Subtotal	\$1.280.000

Contingency	15%	\$192,000
Mobilization	10%	\$128,000
Preconstruction Engineering	10%	\$128,000
Construction Engineering	10%	\$128,000

Total Project Costs\$1,860,000

Responsibility of Others (UDOT, WFRC, ETC.)	0%
	\$0

Responsibility of Developer	30%
	\$560,000
South Weber City Responsibility	70%
	\$1,310,000

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Project No. 17

Improvement Type: Traffic Signal

#### New Traffic Signal: South Bench Drive & South Weber Drive

South Weber Drive					
Costs					
Item	Unit	Unit Cost	Quantity	Cost	
Parkstrip	S.F.	\$3	0	\$0	
Removal of Existing Asphalt	S.Y.	\$5	0	\$0	
Clearing and Grubbing	Acre	\$2,000	0	\$0	
Roadway Excavation	C.Y.	\$11	0	\$0	
HMA Concrete	Ton	\$85	0	\$0	
Untreated Base Course	C.Y.	\$40	0	\$0	
Granular Borrow	C.Y.	\$30	0	\$0	
Curb and Gutter (2.5' width)	L.F.	\$23	0	\$0	
Sidewalk (6' width)	L.F.	\$40	0	\$0	
Drainage	L.F.	\$60	0	\$0	
Right of Way	S.F.	\$5	0	\$0	
Bridge/Culvert	S.F.	\$225	0	\$0	
Traffic Signal	Each	\$180,000	1	\$180,000	
Subtotal \$180,000					

Contingency	15%	\$27,000
Mobilization	10%	\$18,000
Preconstruction Engineering	10%	\$18,000
Construction Engineering	10%	\$18,000

Total Project Costs \$260,000

Responsibility of Others (UDOT WERC FTC)	100%
Responsibility of Others (ODOT, WIRC, ETC.)	\$260,000
<b>Bespansibility of Developer</b>	0%
Responsibility of Developer	\$0
South Weber City Responsibility	0%
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Project No. 18

Improvement Type: Traffic Signal

#### New Traffic Signal: 1900 East & South Weber Drive

South Weber Drive						
Costs						
Item	Unit	Unit Cost	Quantity	Cost		
Parkstrip	S.F.	\$3	0	\$0		
Removal of Existing Asphalt	S.Y.	\$5	0	\$0		
Clearing and Grubbing	Acre	\$2,000	0	\$0		
Roadway Excavation	C.Y.	\$11	0	\$0		
HMA Concrete	Ton	\$85	0	\$0		
Untreated Base Course	C.Y.	\$40	0	\$0		
Granular Borrow	C.Y.	\$30	0	\$0		
Curb and Gutter (2.5' width)	L.F.	\$23	0	\$0		
Sidewalk (6' width)	L.F.	\$40	0	\$0		
Drainage	L.F.	\$60	0	\$0		
Right of Way	S.F.	\$5	0	\$0		
Bridge/Culvert	S.F.	\$225	0	\$0		
Traffic Signal	Each	\$180,000	1	\$180,000		
Subtotal \$180,000						

Contingency	15%	\$27,000
Mobilization	10%	\$18,000
Preconstruction Engineering	10%	\$18,000
Construction Engineering	10%	\$18,000

Total Project Costs \$260,000

Responsibility of Others (UDOT WERC FTC)	100%
	\$260,000
Besponsibility of Developer	0%
Responsibility of Developer	\$0
South Weber City Responsibility	0%
South Weber eity Responsibility	\$0

S	outh Web	ber City				
Caj	oital Facili	ties Plan				
	Project No.	19				
Impr	ovement Type:	Traffic Signal				
New Traffic Sign	al: 7800 Sou	th & South W	eber Drive			
South Weber Drive						
Costs						
Item	Unit	Unit Cost	Quantity			
	S.F.	\$3	0			
Existing Asphalt	S.Y.	\$5	0			
d Grubbing	Acre	\$2,000	0			
xcavation	C.Y.	\$11	0			
ata	Ton	¢οε	0			

Costs						
Item	Unit	Unit Cost	Quantity	Cost		
Parkstrip	S.F.	\$3	0	\$0		
Removal of Existing Asphalt	S.Y.	\$5	0	\$0		
Clearing and Grubbing	Acre	\$2,000	0	\$0		
Roadway Excavation	C.Y.	\$11	0	\$0		
HMA Concrete	Ton	\$85	0	\$0		
Untreated Base Course	C.Y.	\$40	0	\$0		
Granular Borrow	C.Y.	\$30	0	\$0		
Curb and Gutter (2.5' width)	L.F.	\$23	0	\$0		
Sidewalk (6' width)	L.F.	\$40	0	\$0		
Drainage	L.F.	\$60	0	\$0		
Right of Way	S.F.	\$5	0	\$0		
Bridge/Culvert	S.F.	\$225	0	\$0		
Traffic Signal	Each	\$180,000	1	\$180,000		
	Subtotal \$180.000					

Contingency	15%	\$27,000
Mobilization	10%	\$18,000
Preconstruction Engineering	10%	\$18,000
Construction Engineering	10%	\$18,000

**Total Project Costs** \$260,000

Responsibility of Others (UDOT WERC FTC)	100%
Responsibility of Others (ODOT, WIRE, ETC.)	\$260,000
Responsibility of Developer	0%
Responsibility of Developer	\$0
South Weber City Responsibility	0%
South Weber eny Responsibility	<b>\$</b> 0

#### **Capital Facilities Plan**

Project No. 20

Improvement Type: New Road

#### South Bench Drive: Roadway Improvements at South Weber Drive

Major Collector						
Costs						
ltem	Unit	Unit Cost	Quantity	Cost		
Parkstrip	S.F.	\$3	19,400	\$58,200		
Removal of Existing Asphalt	S.Y.	\$5	5,600	\$28,000		
Clearing and Grubbing	Acre	\$2,000	2	\$4,000		
Roadway Excavation	C.Y.	\$11	4,745	\$52,195		
HMA Concrete	Ton	\$85	3,500	\$297,500		
Untreated Base Course	C.Y.	\$40	3,200	\$128,000		
Granular Borrow	C.Y.	\$30	11,500	\$345,000		
Curb and Gutter (2.5' width)	L.F.	\$23	2,200	\$50,600		
Sidewalk (6' width)	L.F.	\$40	2,200	\$88,000		
Drainage	L.F.	\$60	2,000	\$120,000		
Right of Way	S.F.	\$5	92,000	\$460,000		
Bridge/Culvert	S.F.	\$225	0	\$0		
Traffic Signal	Each	\$180,000	0	\$0		
Subtotal \$1,640,000						

Contingency	15%	\$246,000
Mobilization	10%	\$164,000
Preconstruction Engineering	10%	\$164,000
Construction Engineering	10%	\$164,000

Total Project Costs\$2,380,000

Responsibility of Others (UDOT, WFRC, ETC.)	0%
	\$0

Responsibility of Developer	0%
	\$0
South Weber City Responsibility	100%
	\$2,380,000