

# IMPACT FEE FACILITIES PLAN

*Prepared for*

*Mapleton City, Utah*

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TischlerBise, Inc., certifies that the attached Impact Fee Facilities Plan:

1. includes only the costs 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;
  - b. costs 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;
  - c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement; and
3. complies in each and every relevant respect with the Impact Fees Act.

**TABLE OF CONTENTS**

**OVERVIEW.....1**

**SUMMARY OF PROPOSED IMPACT FEES .....1**

*Figure 1. Proposed Mapleton City Impact Fees .....2*

**DEMAND PLACED UPON EXISTING PUBLIC FACILITIES.....3**

*Figure 2 – Mapleton City General Plan Land Use Map.....3*

**CURRENT HOUSING UNIT AND POPULATION ESTIMATES .....3**

*Figure 3 - Housing Unit Growth, April 1, 2000 – December 31, 2011.....4*

*Figure 4 - Household Size (Persons per Housing Unit).....5*

*Figure 5 - Base Year Population Estimate .....5*

**POPULATION AND HOUSING UNIT PROJECTIONS.....6**

*Figure 6 - Housing Unit and Population Projections.....7*

**NONRESIDENTIAL DEVELOPMENT ESTIMATES AND PROJECTIONS .....7**

*Figure 7 - Current Employment and Nonresidential Sq. Ft. Estimates.....8*

**NONRESIDENTIAL FLOOR AREA AND EMPLOYMENT PROJECTIONS .....8**

*Figure 8 - Employment and Nonresidential Floor Area Projections.....9*

**PUBLIC SAFETY IMPACT FEE FACILITIES PLAN .....10**

**PUBLIC SAFETY FUNDING SOURCES.....10**

**EXISTING LEVELS OF SERVICE FOR PUBLIC SAFETY .....10**

*Figure 9. Level of Service for Public Safety .....11*

**IMPACT FEE FACILITIES PLAN.....11**

**CASH FLOW ANALYSIS FOR PUBLIC SAFETY INFRASTRUCTURE .....11**

*Figure 10. Cash Flow Summary for Public Safety .....12*

**PARKS IMPACT FEE FACILITIES PLAN .....13**

**PARKS AND RECREATION FUNDING SOURCES .....13**

**EXISTING LEVELS OF SERVICE .....13**

*Figure 11. Level of Service for Park Land.....13*

*Figure 12. Level of Service for Citywide Trails .....14*

*Figure 13. Level of Service for Park Improvements .....15*

**PROJECTED NEED FOR PARK FACILITIES.....15**

*Figure 14. Park and Recreation Facility Needs Analysis .....16*

**IMPACT FEE ELIGIBLE PROJECTS .....16**

*Figure 15. Identified Impact Fee Eligible Projects and Spending Required to Maintain LOS.....17*

**CASH FLOW ANALYSIS FOR PARKS INFRASTRUCTURE .....17**

*Figure 16. Cash Flow Summary for Parks and Recreation.....17*

<b>SECONDARY WATER SYSTEM IMPACT FEE FACILITIES PLAN .....</b>	<b>18</b>
<b>SECONDARY WATER FUNDING SOURCES.....</b>	<b>18</b>
<b>EXISTING LEVELS OF SERVICE.....</b>	<b>18</b>
<b>SECONDARY WATER IMPACT FEE FACILITIES PLAN.....</b>	<b>18</b>
<b>CASH FLOW ANALYSIS FOR SECONDARY WATER INFRASTRUCTURE .....</b>	<b>19</b>
<i>Figure 17. Cash Flow Summary for Secondary Water .....</i>	<i>19</i>
<b>WATER IMPACT FEE FACILITIES PLAN .....</b>	<b>20</b>
<b>CULINARY WATER FUNDING SOURCES.....</b>	<b>20</b>
<b>EXISTING LEVELS OF SERVICE.....</b>	<b>20</b>
<i>Figure 18. Water System Average Daily Demand Factors.....</i>	<i>20</i>
<b>CULINARY WATER IMPACT FEE FACILITIES PLAN .....</b>	<b>21</b>
<i>Figure 19. Water System Impact Fee Facilities Plan.....</i>	<i>21</i>
<b>CASH FLOW ANALYSIS FOR CULINARY WATER INFRASTRUCTURE .....</b>	<b>21</b>
<i>Figure 20. Cash Flow Summary for Culinary Water.....</i>	<i>22</i>
<b>SEWER IMPACT FEE FACILITIES PLAN .....</b>	<b>23</b>
<b>SEWER FUNDING SOURCES .....</b>	<b>23</b>
<b>EXISTING LEVELS OF SERVICE.....</b>	<b>23</b>
<i>Figure 21. Sewer System Average Daily Demand Factors .....</i>	<i>23</i>
<b>SEWER IMPACT FEE FACILITIES PLAN .....</b>	<b>24</b>
<i>Figure 22. Sewer System Impact Fee Facilities Plan .....</i>	<i>24</i>
<b>CASH FLOW ANALYSIS FOR SEWER INFRASTRUCTURE .....</b>	<b>24</b>
<i>Figure 23. Cash Flow Summary for Sewer .....</i>	<i>25</i>

## Overview

The City of Mapleton, Utah, has retained TischlerBise to determine growth-related infrastructure needs and calculate impact fees for the following infrastructure categories:

- Parks
- Public Safety
- Secondary Water
- Water
- Sewer

This Impact Fee Facility Plan is a companion document to the City's Impact Fee Analysis Report, prepared for Mapleton City, Utah. Whereas the Impact Fee Analysis Report presents the technical analysis, assumptions and impact fee methodology, this Impact Fee Facilities Plan summarizes:

- Demands placed upon existing public facilities by new development
- The proposed means by which the City will meet these demands
- Funding source and cash flow analysis

Impact fees are one-time payments used to construct system improvements needed to accommodate new development. An impact fee represents new growth's fair share of capital facility needs. By law, impact fees can only be used for *capital* improvements, not operating or maintenance costs. Impact fees are subject to legal standards, which require fulfillment of three key elements: need, benefit and proportionality. First, to justify a fee for public facilities, it must be demonstrated that new development will create a **need** for capital improvements. Second, new development must derive a **benefit** from the payment of the fees (i.e., in the form of public facilities constructed within a reasonable timeframe). Third, the fee paid by a particular type of development should not exceed its **proportionate** share of the capital cost for system improvements.

## SUMMARY OF PROPOSED IMPACT FEES

Figure 1 provides a summary schedule of the proposed impact fees for Mapleton City. Fees for residential development are per housing unit and fees for nonresidential development are per 1,000 square feet of floor area and per meter size for utilities.

Figure 1. Proposed Mapleton City Impact Fees

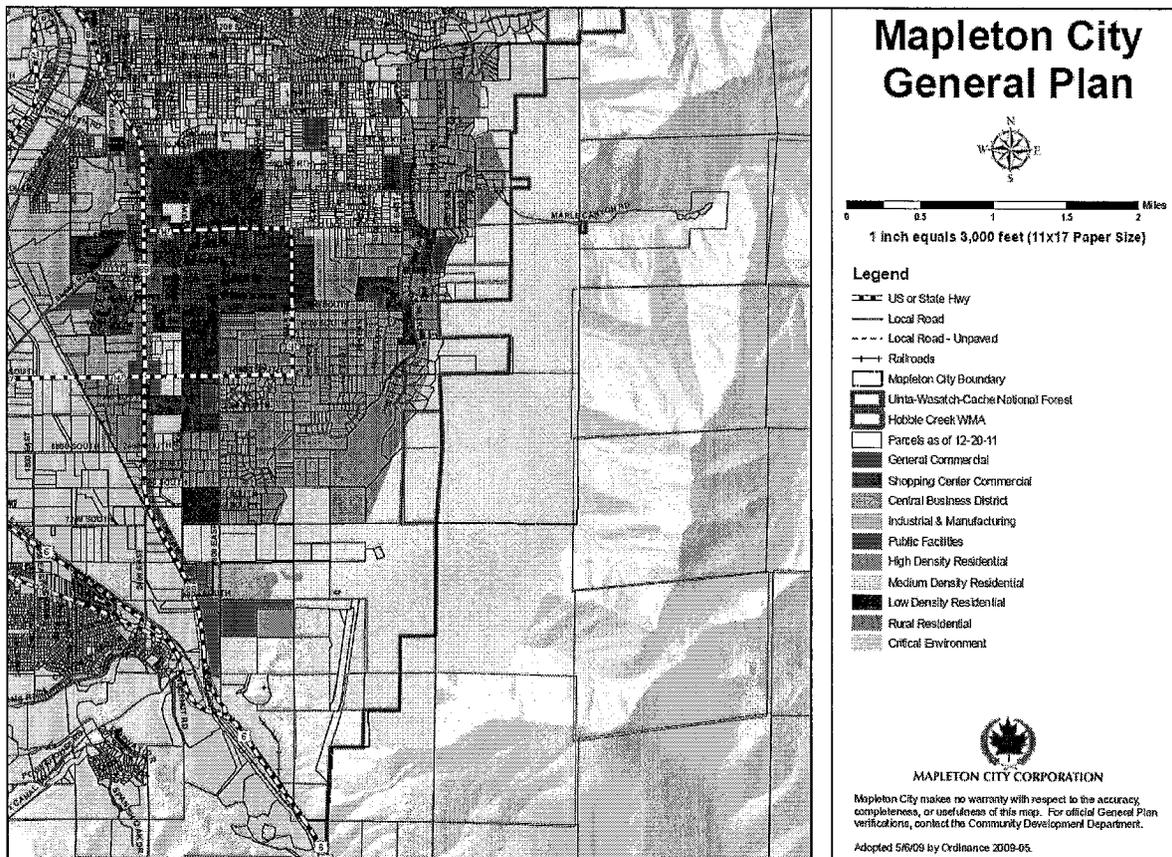
Type of Infrastructure	Single Family	Multifamily	Retail	Office	Industrial	Institutional
	(per hsg unit)*		(per 1,000 sq. ft*)			
Parks	\$5,549	\$2,647	\$0	\$0	\$0	\$0
Public Safety	\$534	\$255	\$455	\$182	\$115	\$182
Secondary Water	\$422	\$116	\$31	\$31	\$145	\$31
Sewer	\$1,367	\$650	\$2,324	\$2,324	\$2,324	\$2,324
Water	\$2,428	\$1,155	\$4,128	\$4,128	\$4,128	\$4,128
TOTAL	\$10,301	\$4,823				

\* Assumes 1 inch meters for nonresidential land uses.

## Demand Placed Upon Existing Public Facilities

In this Impact Fee Facilities Plan, TischlerBise documents the demographic data and development projections used in the Impact Fee Study for Mapleton City. Although a long-range plan is necessary for planning capital improvements (see Figure 2), a shorter time frame of six years is critical for the impact fees analysis. Infrastructure standards will be calibrated using fiscal year 201-2012 data and the first projection year for the cash flow model will be fiscal year 2012-2013. The City's fiscal year begins July 1st.

Figure 2 – Mapleton City General Plan Land Use Map



## CURRENT HOUSING UNIT AND POPULATION ESTIMATES

Impact Fees require an analysis of current levels of service. For residential development, current levels of service are determined using current estimates of population and housing units. To determine a

January 1, 2012 housing unit estimate, TischlerBise used 2000 U.S. Census housing unit data and building permit data provided by the City of Mapleton.

According to data provided by the City of Mapleton, a total of 763 units were built from April 1, 2000 through December 31, 2011. The current estimate of total housing units is 2,245, which reflects new units added to the 2000 Census number of housing units. Breakdown by type of unit is also shown in Figure 3.

**Figure 3 - Housing Unit Growth, April 1, 2000 – December 31, 2011**

<i>Year</i>	<i>Single Family Detached</i>	<i>Single Family Attached</i> <sup>2</sup>	<i>Total Units</i>
U.S. Census (2000) <sup>1</sup>	1,460	22	1,482
<b>New Units April 1, 2000 - December 31, 2011</b> <sup>3</sup>	<b>619</b>	<b>144</b>	<b>763</b>
<b>January 1, 2012 Estimate</b>	<b>2,079</b>	<b>166</b>	<b>2,245</b>
Percent of Total	93%	7%	100%

1. U.S. Census Bureau, 2000 Census.

2. Single Family Attached of 2-4 units.

3. Building permit data provided by the City of Mapleton, UT.

Housing unit categorization by type of unit is based on building permit and Census data. Currently, single family detached units comprise 93 percent of the City's inventory, and 7 percent comprise single family attached, which includes single family attached of 2, 3, and 4 units.

Household size by type of unit from the U.S. Census American Community Survey (2006-2010) is shown in Figure 4. Household size (persons per housing unit (PPHU)) is an important demographic factor that helps account for variations in service demand by type of housing. Persons per housing unit is used to account for vacancies and will be held constant over the projection period since the impact fees represent a "snapshot approach" of current levels of service and costs.

**Figure 4 - Household Size (Persons per Housing Unit)**

<i>Type of Unit</i>	<b>Persons per Housing Unit</b>			
	<i>Persons</i>	<i>HUs</i>	<i>Persons Per Housing Unit</i>	<i>HseHds</i>
Single Family Detached	7,402	1,978	3.74	1,921
Single Family Attached	141	79	1.78	79

\* Includes Single Family Attached of 2-4 Units and Mobile Homes

Source: U.S. Census Bureau 2006-2010 American Community Survey 5-Yr Estimates

Tables: B25033, B25032, B25024

The City of Mapleton population is estimated at 8,237 persons as of January 1, 2012. TischlerBise used 2010 U.S. Census population data, new housing units through December 31, 2011 provided by the City of Mapleton, and persons per housing unit described above to derive the current population estimate. The City added an estimated 265 new residents between April 1, 2010 and December 31, 2011. This was derived by multiplying new housing units by persons per housing unit to calculate new population. (i.e. 69 new single family attached units X 3.74 persons per housing unit = 258 new persons). As shown in Figure 5, the January 1, 2012 population is estimated to be 8,237.

**Figure 5 - Base Year Population Estimate**

April 1, 2010 Population <sup>1</sup>	7,979
<hr/>	
New Units April 2010 - December 2011 <sup>2</sup>	
Detached	69
Attached	4
<i>Total</i>	73
<hr/>	
Persons per Housing Unit <sup>3</sup>	
Detached Units	3.74
Attached Units	1.78
<hr/>	
Population Added Since April 1, 2010	
Detached Units	258
Attached Units	7
<i>Total</i>	265
<hr/>	
<b>January 1, 2012 Population</b>	<b>8,237</b>

1. U.S. Census Bureau 2010 Population

2. Building permit data provided by the City of Mapleton

3. Persons per Housing Units as discussed in Figure 2.

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## POPULATION AND HOUSING UNIT PROJECTIONS

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According to analysis of U.S. Census Data and City building permit data, housing growth in Mapleton has averaged a 2.9 percent annual rate of growth since 2000. Over this time period, the City has had years of significant growth as well as years of slow growth due to recent economic conditions. The Utah Governor's Office of Planning and Budget projects the population in Utah County to increase by 2.7 percent annually in the next 30 years. TischlerBise reviewed data from the City as well as demographic information from the Mountainland Association of Governments Regional Planning Organization and the Governor's Office of Planning and Budget<sup>1</sup>. Given the recent economic recession and uncertain recovery, along with projected pace of growth in the County, a 1.5 percent growth rate is recommended as a conservative and appropriate rate for future projections. The rate exponentially increases to reflect future periods of growth to match regional projections.

Figure 6 shows population and housing unit projections through 2032 for the City of Mapleton. (Starting in year 2017, five-year increments are shown in the figure below, although interim years are projected. Further detail is provided in the summary at the end of this memo.)

Population and housing unit projections are used for the purpose of having an understanding of the possible future pace of service demands, revenues, and expenditures. As these factors will vary to the extent that future development varies, there will be virtually no effect on the actual amount of the impact fee.

Population and Housing unit projections use a base year data of January 1, 2012. The City's population is projected to be 11,790 in 2032 while housing units are projected to be 3,233 in 2032. The breakdown of population and unit by type is also shown Figure 6 below.

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<sup>1</sup>Mountainland Association of Governments Regional Planning *2040 Metropolitan Transportation Plan*, pg 13. May 5, 2011.

Figure 6 - Housing Unit and Population Projections

		5-Yr Increments ==>								
		January 1, 2012	1	2	3	4	5	10	15	20
			2013	2014	2015	2016	2017	2022	2027	2032
<b>Housing Units</b>										
<i>Single Family Detached</i>	93%	2,079	2,110	2,142	2,174	2,207	2,244	2,446	2,693	2,994
<i>Single Family Attached</i>	7%	166	168	171	174	176	179	195	215	239
<b>Total Units</b>		<b>2,245</b>	<b>2,279</b>	<b>2,313</b>	<b>2,348</b>	<b>2,383</b>	<b>2,423</b>	<b>2,642</b>	<b>2,908</b>	<b>3,233</b>
<i>Annual Growth</i>			1.5%	1.5%	1.5%	1.5%	1.7%	1.9%	2.1%	2.3%
<b>Annual Increase in Units</b>			<b>34</b>	<b>34</b>	<b>35</b>	<b>35</b>	<b>41</b>	<b>49</b>	<b>60</b>	<b>73</b>
<b>Population</b>										
	PPHU									
<i>Single Family Detached</i>	3.74	7,628	7,745	7,863	7,984	8,106	8,246	9,002	9,925	11,051
<i>Single Family Attached</i>	1.78	609	614	618	623	627	633	661	697	739
<b>Annual Increase</b>			<b>121</b>	<b>123</b>	<b>125</b>	<b>127</b>	<b>146</b>	<b>177</b>	<b>215</b>	<b>261</b>
<b>Population in Housing Units</b>		<b>8,237</b>	<b>8,358</b>	<b>8,481</b>	<b>8,606</b>	<b>8,733</b>	<b>8,879</b>	<b>9,664</b>	<b>10,622</b>	<b>11,790</b>

## NONRESIDENTIAL DEVELOPMENT ESTIMATES AND PROJECTIONS

In addition to data on residential development, the calculation of impact fees requires data on employment (number of jobs) and nonresidential square footage in the City of Mapleton.

For current employment estimates, TischlerBise used employment data from the U.S. Census Bureau, *Longitudinal Employer Household Dynamics (LEHD) 2009 jobs data*. TischlerBise analyzed building permit data provided by the City of Mapleton to determine job growth from 2009 to January 1, 2012. According to the data, no new nonresidential buildings were permitted since December 31, 2009; therefore, there are no new jobs as a direct result of new nonresidential development. The January 1, 2012 jobs estimate for the City of Mapleton is 1,104 jobs. Breakdown by type of job is shown in Figure 7.

TischlerBise used 2009 *LEHD* jobs data and Institute of Transportation Engineers (ITE) 2008 *Trip Generation* data to derive a January 1, 2012 nonresidential square footage estimate for the City of Mapleton. The total square footage is estimated at 389,533 square feet. This was derived by multiplying jobs by type by ITE's jobs per square foot estimate. Therefore, 208 retail jobs X 330 jobs per square foot = 68,640 square feet of retail space. This calculation was completed for each type of nonresidential type.

Figure 7 shows the July 1, 2011 estimates for employment and nonresidential square footage. TischlerBise used the most current data as an estimate for the July 1 figure. As shown below, the City of Mapleton has an estimated 1,104 jobs and 389,533 square feet of nonresidential space. The breakdown by type and ratio's to population and housing units are also shown below.

**Figure 7 - Current Employment and Nonresidential Sq. Ft. Estimates**

<b>Jobs</b>		
<i>Nonresidential Type</i>	<i>January 1, 2012 Jobs Estimate <sup>1</sup></i>	<i>Percent Distribution</i>
Retail	208	19%
Office	265	24%
Industrial	384	35%
Institutional	247	22%
<b>Total</b>	<b>1,104</b>	<b>100%</b>

<b>Nonresidential Square Footage</b>		
<i>Nonresidential Type</i>	<i>Sq. Ft. per Job <sup>2</sup></i>	<i>January 1, 2012 Nonres Sq. Ft. Estimate</i>
Retail	330	68,640
Office	302	80,030
Industrial	433	166,382
Institutional	302	74,481
<b>Total</b>		<b>389,533</b>

1. U.S. Census Bureau Longitudinal Employer Household Dynamics (LEHD)  
2009 Employment Data

2. Institute of Transportation Engineers (ITE) 2008 Trip Generation

## **NONRESIDENTIAL FLOOR AREA AND EMPLOYMENT PROJECTIONS**

Future employment growth and nonresidential development in the City are projected based on regional market data. According to the Utah Governor's Office of Planning and Budget, Utah Population Estimates Committee, employment in Utah County is projected to have an annual growth rate of 2.2 percent through 2040.

Given the recent economic recession and uncertain recovery, along with the recent pace of growth in the City, regional projections and conversations with the City, a 0.5 percent growth rate is recommended as a conservative and appropriate rate for future projections. The rate exponentially increases to reflect future periods of potential higher growth and recovery and to remain consistent with regional projections.

Nonresidential square footage projections are derived by multiplying the Institute of Transportation Engineer's square foot per employee by type to jobs by type (208 retail jobs X 330 sq. ft. per employee = 68,640 square feet of retail space). The City's number of jobs is estimated to be 1,305 by 2032 and the total nonresidential square footage is estimated to be 460,444 square feet by 2032. Breakdown by job and type of nonresidential growth is shown below.

Figure 8 - Employment and Nonresidential Floor Area Projections

Jobs	Distribution	January 1,	1	2	3	4	5	10	15	20
		2012 <sup>1</sup>	2013	2014	2015	2016	2017	2022	2027	2032
Retail	19%	208	209	210	211	212	214	222	232	246
Office	24%	265	266	268	269	270	272	282	296	313
Industrial	35%	384	386	388	390	392	394	409	429	454
Institutional	22%	247	248	249	251	252	254	263	276	292
<b>Total</b>		<b>1,104</b>	<b>1,110</b>	<b>1,115</b>	<b>1,121</b>	<b>1,126</b>	<b>1,134</b>	<b>1,177</b>	<b>1,233</b>	<b>1,305</b>
<b>New Jobs</b>			<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>8</b>	<b>43</b>	<b>56</b>	<b>72</b>
Growth Rate			0.5%	0.5%	0.5%	0.5%	0.7%	0.9%	1.1%	1.3%

## Nonresidential Square Footage

	Sq. Ft. per Job <sup>2</sup>	July 1,	1	2	3	4	5	10	15	20
		2011	2012	2013	2014	2015	2016	2021	2026	2031
Retail	330	68,640	68,983	69,328	69,675	70,023	70,513	73,161	76,665	81,135
Office	302	80,030	80,430	80,832	81,236	81,643	82,214	85,301	89,386	94,599
Industrial	433	166,382	167,214	168,050	168,890	169,734	170,922	177,341	185,833	196,670
Institutional	302	74,481	74,854	75,228	75,604	75,982	76,514	79,387	83,189	88,040
<b>Total</b>		<b>389,533</b>	<b>391,481</b>	<b>393,438</b>	<b>395,405</b>	<b>397,382</b>	<b>400,164</b>	<b>415,190</b>	<b>435,074</b>	<b>460,444</b>
<b>New Sq. Ft.</b>			<b>1,948</b>	<b>1,957</b>	<b>1,967</b>	<b>1,977</b>	<b>2,782</b>	<b>15,026</b>	<b>19,884</b>	<b>25,370</b>
Growth Rate			0.5%	0.5%	0.5%	0.5%	0.7%	0.9%	1.1%	1.3%

1. U.S. Census Bureau Longitudinal Employer Household Dynamics (LEHD) 2009 Employment Data

2. Institute of Transportation Engineers (ITE) 2008 Trip Generation

## Public Safety Impact Fee Facilities Plan

Mapleton City has determined that the growth within the City is placing demands on various services provided by the City, including the Public Safety. In response to increasing demands resulting from new development the City of Mapleton recently constructed a new Public Safety Facility which has excess capacity from which new development will benefit. According to conversations with the City, the new public safety facility has enough capacity to adequately serve new residential and nonresidential growth through 2032.

### PUBLIC SAFETY FUNDING SOURCES

The City has studied various ways of providing the funding for Public Safety facilities. The sources of revenue for Public Safety are either general fund revenues or impact fees. In comparing an equitable allocation to the costs borne in the past and to be borne in the future, in comparison to the benefits already received and yet to be received, the City has determined that impact fees are the most equitable way of financing the growth-related Public Safety facilities.

### EXISTING LEVELS OF SERVICE FOR PUBLIC SAFETY

Mapleton City has one large, central Public Safety Facility that totals 27,479 square feet. According to conversations with the City, this facility has sufficient capacity to adequately serve new residential and nonresidential growth for the next twenty years (through 2032). Therefore the level of service for Public Safety is established using the projected demand units in 2032. Square feet per demand unit was derived by multiplying the current total square footage by the proportionate share and dividing by the 2032 demand unit (27,479 square feet X 95% residential share / 11,790 persons in 2032 = 2.21 square feet per person). Please see the accompanying *Impact Fee Report* for documentation of proportionate share factors. A similar calculation is employed for nonresidential development using vehicle trips. The use of the City's 2032 population and employment base ensures that existing and new development is treated equally and that new residential and nonresidential development is paying only its proportionate share.

The top part of Figure 9 documents the level of service calculations discussed above.

**Figure 9. Level of Service for Public Safety**

<i>Site</i>	<i>Total SF*</i>
Public Safety Building	27,479

Cost per Square Foot => \$80

	Proportionate Share	2032 Demand Units	Sq.Ft. per Demand Unit
Residential	95%	11,790 Population	2.21
Nonresidential	5%	2,810 Vehicle Trips	0.52

\*Includes 4,967 square feet of existing unfinished space.

## IMPACT FEE FACILITIES PLAN

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The *Impact Fee Study* prepared by TischlerBise utilizes the cost recovery, or buy-in, methodology for the City's existing Public Safety Facility, which was oversized to service the demands from future residential and nonresidential development. Therefore, there are no specific plans to construct additional Public Safety facilities over the next six years.

## CASH FLOW ANALYSIS FOR PUBLIC SAFETY INFRASTRUCTURE

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The cash flow summary for Public Safety capital facilities is shown in Figure 10. As discussed above, the *Impact Fee Study* prepared by TischlerBise utilizes the cost recovery, or buy-in, methodology that allows the City recoup the actual cost incurred to provide excess capacity from which new development will benefit. Since the City does not have debt service, there are no capital costs shown in Figure 10. As Figure 10 indicates, Public Safety impact fees are projected to yield a revenue stream that averages approximately \$23,840 per year. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the impact fee revenue and capital costs.

Figure 10. Cash Flow Summary for Public Safety

Mapleton, Utah 2012\$ in thousands	FY	1 2013	2 2014	3 2015	4 2016	5 2017	6 2018	Cumulative Total	Average Annual
<b>REVENUES</b>									
1 Public Safety Fee- Single Family		\$21	\$21	\$21	\$22	\$25	\$25	\$135	\$22
2 Public Safety Fee- Multifamily		\$1	\$1	\$1	\$1	\$1	\$1	\$5	\$1
<b>Subtotal Public Safety Fees</b>		<b>\$21</b>	<b>\$22</b>	<b>\$22</b>	<b>\$22</b>	<b>\$26</b>	<b>\$26</b>	<b>\$140</b>	<b>\$23.28</b>
Public Safety Fee -Retail		\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$0.2
Public Safety Fee -Office		\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$1	\$0.1
Public Safety Fee -Industrial		\$0.1	\$0.1	\$0.1	\$0.1	\$0.2	\$0.2	\$1	\$0.1
Public Safety Fee -Institutional		\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$1	\$0.1
<b>Subtotal Public Safety Fees</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1</b>	<b>\$1</b>	<b>\$3</b>	<b>\$0.56</b>
<b>TOTAL PUBLIC SAFETY FEE REVENUE</b>		<b>\$22</b>	<b>\$22</b>	<b>\$23</b>	<b>\$23</b>	<b>\$26</b>	<b>\$27</b>	<b>\$143</b>	<b>\$23.84</b>
<b>CAPITAL COSTS</b>									
Public Safety Building		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL PUBLIC SAFETY CAPITAL COSTS</b>		<b>\$0</b>	<b>\$0</b>						
<b>NET CAPITAL FACILITIES CASH FLOW</b>									
Annual Surplus (or Deficit)		\$22	\$22	\$23	\$23	\$26	\$27	\$143	\$23.84
Cumulative Surplus (or Deficit)		\$22	\$44	\$67	\$90	\$116	\$143		

## Parks Impact Fee Facilities Plan

Mapleton City has determined that past and future growth is placing demands on the various services and facilities provided by the City, including parks and recreation. Growth will continue to create a need for additional park improvement development (e.g. trails and ball fields).

### PARKS AND RECREATION FUNDING SOURCES

The City has studied various ways of providing the funding Parks and Recreation facilities. The sources of revenue for Parks and Recreation are General Fund revenues, grants or impact fees. In comparing an equitable allocation to the costs borne in the past and to be borne in the future, in comparison to the benefits already received and yet to be received, the City has determined that impact fees are the most equitable way of financing the growth-related Parks and Recreation facilities.

### EXISTING LEVELS OF SERVICE

The park land component of the parks and recreation impact fee is based on the current number of park acres in the City. As shown in Figure 11, Mapleton City currently has 75.7 acres of park land. Since the City recently purchased a 19.9-acre park site (Highway 89 Park) that it plans on improving, Mapleton City does not intend on purchasing additional park land over the next six years. Therefore, the cost component for park land utilizes a cost recovery methodology based on the planned level of service for improved parks in 2018. To determine the planned level of service in 2018 the inventory of 75.7 acres is compared to the projected population in 2018 (9,027) for a level of service standard of 8.4 acres per 1,000 persons. The use of the City's 2018 population base ensures that existing and new development is treated equally and that new residential development is only paying its proportionate share.

Figure 11. Level of Service for Park Land

Site	Improved Acres	Total Acres
Mapleton City Park	8.0	8.0
Mapleton North Park	2.4	2.4
Ira Allen Sports Park	15.6	15.6
Wing Point Park	1.5	1.5
Eagle Rock Park	10.1	10.1
City Center Park	0.0	3.5
Reservoir Park	0.0	8.0
Harvest Park	6.8	6.8
Highway 89 Park to be Improved	0.0	19.9
	44.3	75.7

<b>Level of Service (LOS) Standards</b>	
Projected Mapleton Population in 2018	9,027
LOS: Acres Per 1,000 Persons in 2018	8.4

Figure 12 provides detail on level of service standard used for Citywide trails. As Figure 12 indicates, the City currently has one trail totaling 1,320 linear feet. When this is compared the City’s current population (8,275 persons) the existing level of service is 0.2 feet per person. Also shown in Figure 12 is the City’s planned trail expansion, the 31,680 linear foot Historic Mapleton Trail. This expansion should serve the City for the next twenty years (2032), resulting in a system totaling 33,000 linear feet. When this is compared to the projected population in 2032 (11,790), the level of service for trails will be 2.8 linear feet of trails per person (33,000 linear feet/11,790 persons = 2.8 linear feet per person), which is a substantial increase in level of service. By spreading the cost of the trail system over the entire 2032 residential base ensures there are no existing infrastructure deficiencies and that new development is only paying its proportionate share for the trail system.

**Figure 12. Level of Service for Citywide Trails**

<i>Current Trails</i>		<i>Linear Feet</i>
Eagle Rock Trail		1,320
<i>Total</i>		1,320
<i>Trails to be Developed</i>		<i>Linear Feet</i>
Historic Mapleton Trail		31,680
<i>TOTAL</i>		31,680

**Level of Service (LOS) Standards**

<i>Planned Trail Linear Feet in 2032</i>	33,000
Current Mapleton Population	8,275
LOS: Linear Feet Per Person in 2008	0.2
<b>Projected Mapleton Population in 2032</b>	<b>11,790</b>
<b>LOS: Linear Feet Per Person in 2032</b>	<b>2.8</b>

Figure 13 provides detail on level of service standard used for park improvements at Citywide parks. As Figure 13 indicates, the City currently has 40 park improvements within the park system. When this is compared the City’s current population (8,275 persons) the existing level of service is 4.8 improvements per 1,000 persons.

**Figure 13. Level of Service for Park Improvements**

<i>Improvement Type</i>	<i>Total Units</i>
Sports Fields	12
Basketball/Tennis Court	2
Playground	5
Pavillion	7
Building/Restroom	6
Parking Lot	8
<i>Total</i>	<i>40</i>

<b><i>Level of Service (LOS) Standards</i></b>	
Number of Improvements	40
Number of Improved Acres	44
Number of Improvements per Acre	0.9
2012 Mapleton Population	8,275
<b><i>Current LOS: Improvements per 1,000 Persons</i></b>	<b><i>4.8</i></b>

#### **PROJECTED NEED FOR PARK FACILITIES**

The need for additional growth-related park infrastructure, based on projected population growth over the next six years and level of service standards as discussed above, is shown in Figure 14. It is projected that Mapleton City will spend approximately \$374,000 on growth-related park development and improvements, in addition to debt service payments on the Highway 89 park bond issue.

**Figure 14. Park and Recreation Facility Needs Analysis**

Parks Improvements	4.8 improvements/ 1,000 persons				
Parks Improvement Costs	\$54,250 per improvement				
Parks Development	5.4 acres / 1,000 persons				
Park Development Costs	\$40,500 per acre				
Parks Level of Service in 2018	8.4 acres / 1,000 persons				
Trails	1,320 linear feet				
Trail Cost	\$6.52 per linear foot				
Trails Level of Service in 2032	2.8 linear feet per person				
		<b>Infrastructure Needed</b>			
		Mapleton Population	Recreation Improvements	Park Acres to be Developed	Trails to be Developed
Base	2012	8,275	40	44	1,320
Year 1	2013	8,358	40	45	1,552
Year 2	2014	8,481	41	45	1,897
Year 3	2015	8,606	42	46	2,246
Year 4	2016	8,733	42	47	2,602
Year 5	2017	8,879	43	48	3,011
Year 6	2018	9,027	44	48	3,425
<i>Six-Year Increase</i>		752	3.6	4.1	2,105
<b>Total Growth Related Costs of Parks =&gt;</b>		<b>\$373,486</b>			
Cost of Park Improvements =>		\$195,300			
		Cost of Park Development =>		\$164,462	
		Cost of Trail Development =>			\$13,724

**IMPACT FEE ELIGIBLE PROJECTS**

Figure 14 above identified park improvement, development and trail needs over the next six years based on current levels of service and projected population growth. Figure 15 identifies park and trail improvements identified in the *Mapleton City Capital Improvements Program* as well as spending identified above in Figure 14 to maintain current levels of service.

**Figure 15. Identified Impact Fee Eligible Projects and Spending Required to Maintain LOS**

Project	Total Project Cost	Non-Impact	
		Fee Funding	Impact Fee Eligible Costs
Bond Payment for Highway 89 Park*	\$1,062,000	\$0	\$1,062,000
Trash System and Containers*	\$16,000	\$0	\$16,000
Frisbee Golf at Eagle Ridge*	\$10,000	\$0	\$10,000
Mapleton Trail Development*	\$75,000	\$61,276	\$13,724
Miscellaneous Park Improvements	\$169,300	\$0	\$169,300
Park Development	\$164,462	\$0	\$164,462
	<b>\$1,496,762</b>	<b>\$61,276</b>	<b>\$1,435,486</b>

\*Identified in the Mapleton City Capital Improvements Program

### CASH FLOW ANALYSIS FOR PARKS INFRASTRUCTURE

The cash flow summary for park is shown in Figure 16 indicates impact fee revenue and expenditures necessary to meet the demand for growth-related park facilities. The park impact fees are projected to yield a revenue stream that averages \$195,000 per year. Cost will exceed impact fee revenue over the six years as the impact fee amount does not cover the cost for bringing existing residents up to the higher level of service planned for trail system, as well as the need to include a debt service credit in the fee calculation to avoid potential double payment on bond payments for the Highway 89 Park bond.

To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the impact fee revenue and capital costs.

**Figure 16. Cash Flow Summary for Parks and Recreation**

Mapleton, Utah 2012\$ in thousands	1 FY 2013	2 2014	3 2015	4 2016	5 2017	6 2018	Cumulative Total	Average Annual
<b>REVENUES</b>								
1 Public Safety Fee- Single Family	\$173	\$176	\$178	\$181	\$208	\$212	\$1,128	\$188
2 Public Safety Fee- Multifamily	\$7	\$7	\$7	\$7	\$8	\$8	\$43	\$7
<b>TOTAL PARKS FEE REVENUE</b>	<b>\$180</b>	<b>\$182</b>	<b>\$185</b>	<b>\$188</b>	<b>\$216</b>	<b>\$220</b>	<b>\$1,171</b>	<b>\$195.13</b>
<b>CAPITAL COSTS</b>								
Highway 89 Park Bond	\$177	\$177	\$177	\$177	\$177	\$177	\$1,062	\$177
Park Development	\$18	\$27	\$27	\$27	\$27	\$27	\$153	\$25
Park Improvements	\$28	\$28	\$28	\$28	\$28	\$28	\$169	\$28
Frisbee Golf System	\$0	\$10	\$0	\$0	\$0	\$0	\$10	\$2
Trash System and Containers	\$16	\$0	\$0	\$0	\$0	\$0	\$16	\$3
Trail Development	\$0	\$75	\$0	\$0	\$0	\$0	\$75	\$13
<b>TOTAL PARKS CAPITAL COSTS</b>	<b>\$239</b>	<b>\$317</b>	<b>\$232</b>	<b>\$232</b>	<b>\$232</b>	<b>\$232</b>	<b>\$1,485</b>	<b>\$247</b>
<b>NET CAPITAL FACILITIES CASH FLOW</b>							<i>Current \$ in thousands</i>	
Annual Surplus (or Deficit)	(\$60)	(\$135)	(\$47)	(\$44)	(\$16)	(\$12)	(\$314)	(\$52.37)
Cumulative Surplus (or Deficit)	(\$60)	(\$195)	(\$242)	(\$286)	(\$302)	(\$314)		

## Secondary Water System Impact Fee Facilities Plan

Mapleton City has determined that past and future growth is placing demands on the various services and facilities provided by the City, including secondary water. Whereas the City's culinary system delivers high quality water for indoor use, the secondary water system delivers lower quality water for outdoor use. Thus, the secondary water system greatly reduces the need to expand the culinary water system. Conversations with City staff indicate that growth will continue to create a need for additional secondary water improvements.

### SECONDARY WATER FUNDING SOURCES

The City has studied various ways of providing the funding secondary water facilities. The sources of revenue for secondary water are utility rate revenues and impact fees. In comparing an equitable allocation to the costs borne in the past and to be borne in the future, in comparison to the benefits already received and yet to be received, the City has determined that impact fees are the most equitable way of financing the growth-related secondary water improvements.

### EXISTING LEVELS OF SERVICE

The northwest portion of Mapleton City has an existing secondary water system that was constructed as mitigation for contamination of a portion of the City's culinary water aquifer. The system is supplied by three groundwater wells and water is pumped, treated and conveyed to the system through a large transmission pipeline which ranges in size from 18 to 30 inches. Unfortunately, pressure is often inadequate to properly operate pop-up sprinkler systems. The City's *Secondary Water Master Plan* estimated future demand using State of Utah recommended values for outdoor irrigation of 3.96 gallons per minute per irrigated acre.

### SECONDARY WATER IMPACT FEE FACILITIES PLAN

The capital cost assumptions for the impact fee calculation are from the City's *Secondary Water Master Plan*. The overall system needs have been divided into three phases, although only one phase is anticipated over the next six years.

#### Phase I

This phase includes adding facilities (pipes and connections) to the existing system in the northwest section of Mapleton City (north of 800 North and between Main Street and Highway 89) where they do not now exist, construction of the storage pond and pump station, construction of pipes in Maple Street that will connect the storage pond to the existing mainline pipe in Main Street, and construction of the portion of the system between Maple Street and 400 North from Maple Street east to the Mapleton-Springville Canal. Although they are large cost items, the storage pond and pipes in Maple Street will provide a backbone for the additions to the water system that will follow in Phase II. As a result of the heavy infrastructure costs in Phase I, water meters will not be included in this phase, but will be installed

at a future time. The total construction cost to complete this work is estimated to be \$6,450,500. An additional \$665,000 will be required to install water meters in this portion of the city for a total phase cost of \$7,115,500.

### CASH FLOW ANALYSIS FOR SECONDARY WATER INFRASTRUCTURE

The cash flow summary for secondary water capital facilities is shown in Figure 17. As discussed above, the City plans on constructing Phase I of a three-phase system over the next six years, with a total cost of \$7.1 million. As Figure 17 indicates, secondary water impact fees are projected to yield a revenue stream that averages approximately \$15,000 per year. Because the need for secondary water improvements represents an increase to the City's current level of service, the costs are spread over the entire development base. Therefore, deficits generated reflect the cost for the existing development base's share of the improvements. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the impact fee revenue and capital costs.

Figure 17. Cash Flow Summary for Secondary Water

Mapleton, Utah 2012\$ in thousands	1 FY 2013	2 2014	3 2015	4 2016	5 2017	6 2018	Cumulative Total	Average Annual
<b>REVENUES</b>								
1 Secondary Water Fee- Single Family	\$13	\$13	\$14	\$14	\$16	\$16	\$86	\$14
2 Secondary Water Fee- Multifamily	\$0	\$0	\$0	\$0	\$0	\$0	\$2	\$0
<b>Subtotal Secondary Water Fees</b>	<b>\$13</b>	<b>\$14</b>	<b>\$14</b>	<b>\$14</b>	<b>\$16</b>	<b>\$16</b>	<b>\$88</b>	<b>\$14.61</b>
Secondary Water Fee -Retail	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0	\$0.0
Secondary Water Fee -Office	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0	\$0.0
Secondary Water Fee -Industrial	\$0.1	\$0.1	\$0.1	\$0.1	\$0.2	\$0.2	\$1	\$0.1
Secondary Water Fee -Institutional	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0	\$0.0
<b>Subtotal Secondary Water Fees</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1</b>	<b>\$0.18</b>
<b>TOTAL SECONDARY WATER FEE REVENUE</b>	<b>\$14</b>	<b>\$14</b>	<b>\$14</b>	<b>\$14</b>	<b>\$16</b>	<b>\$17</b>	<b>\$89</b>	<b>\$14.79</b>
<b>CAPITAL COSTS</b>								
Phase I Improvements	\$1,250	\$5,000	\$0	\$0	\$0	\$0	\$6,250	\$1,042
<b>TOTAL SECONDARY WATER CAPITAL COSTS</b>	<b>\$1,250</b>	<b>\$5,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$6,250</b>	<b>\$1,042</b>
<b>NET CAPITAL FACILITIES CASH FLOW</b>							<i>Current \$ in thousands</i>	
Annual Surplus (or Deficit)	(\$1,236)	(\$4,986)	\$14	\$14	\$16	\$17	(\$6,161)	(\$1,027)
Cumulative Surplus (or Deficit)	(\$1,236)	(\$6,223)	(\$6,209)	(\$6,194)	(\$6,178)	(\$6,161)		

## Water Impact Fee Facilities Plan

Mapleton City has determined that past and future growth is placing demands on the various services and facilities provided by the City, including the culinary water system. Growth will continue to create a need for additional secondary water improvements.

### CULINARY WATER FUNDING SOURCES

The City has studied various ways of providing the funding culinary water facilities. The sources of revenue for secondary water are water rate revenues and impact fees. In comparing an equitable allocation to the costs borne in the past and to be borne in the future, in comparison to the benefits already received and yet to be received, the City has determined that impact fees are the most equitable way of financing the growth-related culinary water capital improvements.

### EXISTING LEVELS OF SERVICE

Water use by type of customer was provided by the City of Mapleton. Figure 18 depicts the average gallons per day, connections by type, gallons per day per connection, and gallons per day by type. TischlerBise calculated the average gallons per day by type using 2010 water use data provided by the City of Mapleton.

**Figure 18. Water System Average Daily Demand Factors**

	Gallons/Day*	Customers*	Gallons/ Customer	MGD
Residential	481,867	2,164	223	0.48
Nonresidential	9,446	46	205	0.01
	491,313	2,210	222	

\* Provided by City staff (Public Works Director).

Gallons per Residential Customer	223
Persons Per Unit	3.67
Gallons per Person	61
Percentage of Future Housing Units as Water Customers	100%
Gallons from Nonresidential Development	9,446
Jobs	1,104
Gallons per Job	9
Nonresidential Customers	46
Jobs per Nonresidential Customer	24

### CULINARY WATER IMPACT FEE FACILITIES PLAN

The capital cost assumptions for the impact fee calculation are from the City's *Capital Improvement Program*.

Over the next six years, Mapleton City is planning to replace six miles of undersized water lines to accommodate the demands from projected development. In addition, the City plans on installing an 18 inch transmission line linking the Crowd Canyon Water Tank with the Maple Canyon Water Tank. This is shown below in Figure 19.

**Figure 19. Water System Impact Fee Facilities Plan**

Project Description	1 2012	2 2013	3 2014	4 2015	5 2016	6 2017	TOTAL COST
Replace 1 Miles of Undersized Water Lines	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$1,800,000
Transmission Line Linking Crowd Canyon Tank to Maple Canyon Tank	\$0	\$0	\$0	\$0	\$1,000,000	\$0	\$1,000,000
						<b>Total Cost</b>	<b>\$2,800,000</b>

### CASH FLOW ANALYSIS FOR CULINARY WATER INFRASTRUCTURE

The cash flow summary for water capital facilities is shown in Figure 20. As Figure 20 indicates, water impact fees are projected to yield a revenue stream that averages approximately \$85,000 per year. Average annual expenditures are estimated at \$467,000, resulting in an average annual net deficit of approximately \$380,000 over the six-year period. Costs exceed revenue because the upsizing of the water lines benefit a customer base that exceeds the six-year time CIP frame. However, these expenditures can be shifted to cost recovery methodology in the next impact fee methodology update, allowing the City to recapture a portion of these expenditures over a longer time period. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the impact fee revenue and capital costs.

Figure 20. Cash Flow Summary for Culinary Water

Mapleton, Utah 2012\$ in thousands	1 FY 2013	2 2014	3 2015	4 2016	5 2017	6 2018	Cumulative Total	Average Annual
<b>REVENUES</b>								
1 Water Fee- Single Family	\$76	\$77	\$78	\$79	\$91	\$93	\$493	\$82
2 Water Fee- Multifamily	\$3	\$3	\$3	\$3	\$3	\$4	\$19	\$3
<b>Subtotal Water Fees</b>	<b>\$79</b>	<b>\$80</b>	<b>\$81</b>	<b>\$82</b>	<b>\$95</b>	<b>\$96</b>	<b>\$512</b>	<b>\$85.37</b>
<b>Water Fee -Retail</b>								
Water Fee -Retail	\$1.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1	\$0.2
<b>Water Fee -Office</b>								
Water Fee -Office	\$1.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2	\$0.3
<b>Water Fee -Industrial</b>								
Water Fee -Industrial	\$3.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$3	\$0.6
<b>Water Fee -Institutional</b>								
Water Fee -Institutional	\$1.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2	\$0.3
<b>Subtotal Water Fees</b>	<b>\$8</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$8</b>	<b>\$1.34</b>
<b>TOTAL WATER FEE REVENUE</b>	<b>\$87</b>	<b>\$80</b>	<b>\$81</b>	<b>\$82</b>	<b>\$95</b>	<b>\$96</b>	<b>\$520</b>	<b>\$86.71</b>
<b>CAPITAL COSTS</b>								
Replacement/Upsizing Water Lines	\$300	\$300	\$300	\$300	\$300	\$300	\$1,800	\$300
Crowd Canyon Transmission Line	\$0	\$0	\$0	\$1,000	\$0	\$0	\$1,000	\$167
<b>TOTAL WATER CAPITAL COSTS</b>	<b>\$300</b>	<b>\$300</b>	<b>\$300</b>	<b>\$1,300</b>	<b>\$300</b>	<b>\$300</b>	<b>\$2,800</b>	<b>\$467</b>
<b>NET CAPITAL FACILITIES CASH FLOW</b>								
							<i>Current \$ in thousands</i>	
Annual Surplus (or Deficit)	(\$213)	(\$220)	(\$219)	(\$1,218)	(\$205)	(\$204)	(\$2,280)	(\$380)
Cumulative Surplus (or Deficit)	(\$213)	(\$434)	(\$653)	(\$1,870)	(\$2,076)	(\$2,280)		

## Sewer Impact Fee Facilities Plan

Mapleton City has determined that past and future growth is placing demands on the various services and facilities provided by the City, including the sewer system. Growth will continue to create a need for additional sewer improvements.

### SEWER FUNDING SOURCES

The City has studied various ways of providing the funding sewer facilities. The sources of revenue for sewer are rate revenues and impact fees. In comparing an equitable allocation to the costs borne in the past and to be borne in the future, in comparison to the benefits already received and yet to be received, the City has determined that impact fees are the most equitable way of financing the growth-related culinary sewer capital improvements.

### EXISTING LEVELS OF SERVICE

The sewer impact fee is based on gallons per day per customer. The City of Mapleton provided sewer use data for 2010 including gallons per month and total connections. TischlerBise calculated gallons used per day, and by connection, as shown in Figure 21.

Figure 21. Sewer System Average Daily Demand Factors

	Gallons/Day*	Customers*	Gallons/ Customer	MGD
Residential	539,930	1,837	294	0.54
Nonresidential	0	0	0	0.00
	539,930	1,837	294	

\* Provided by City staff (Public Works Director).

Gallons per Residential Customer	294
Persons Per Unit	3.67
Gallons per Person	80
Percentage of Future Housing Units as Water Customers	100%
Gallons from Nonresidential Development	0
Jobs	1,104
Gallons per Job	0
Nonresidential Customers	0
Jobs per Nonresidential Customer	0

## SEWER IMPACT FEE FACILITIES PLAN

Over the next six years, Mapleton City is planning to upgrade the 200 East Sewer line with Spanish Fork City in order to serve the demands of future development. Mapleton City's share of the project (23% of the total) is \$132,250. In addition, in the past year the City recently spent \$450,000 (23% of total) for Mapleton City's share of capacity upgrades to the Spanish Fork wastewater treatment plant. This is shown below in Figure 22.

**Figure 22. Sewer System Impact Fee Facilities Plan**

Project Description	1 2012	2 2013	3 2014	4 2015	5 2016	6 2017	TOTAL COST
200 East Sewer 36 Inch Trunk Line	\$0	\$132,250	\$0	\$0	\$0	\$0	\$132,250
Capacity Upgrade to WWTP	\$450,000	\$0	\$0	\$0	\$0	\$0	\$450,000
						<b>Total Cost</b>	<b>\$582,250</b>

## CASH FLOW ANALYSIS FOR SEWER INFRASTRUCTURE

The cash flow summary for sewer capital facilities is shown in Figure 23. As Figure 20 indicates, sewer impact fees are projected to yield a revenue stream that averages approximately \$53,000 per year. Average annual expenditures are estimated at \$97,000, resulting in an average annual net deficit of approximately \$44,000 over the six-year period. Costs exceed revenue because these projects benefit a customer base that exceeds the six-year time CIP frame. However, these expenditures can be shifted to cost recovery methodology in the next impact fee methodology update, allowing the City to recapture a portion of these expenditures over a longer time period. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the impact fee revenue and capital costs.

Figure 23. Cash Flow Summary for Sewer

Mapleton, Utah 2012\$ in thousands	FY	1 2013	2 2014	3 2015	4 2016	5 2017	6 2018	Cumulative Total	Average Annual
<b>REVENUES</b>									
1 Sewer Fee- Single Family		\$43	\$43	\$44	\$45	\$51	\$52	\$278	\$46
2 Sewer Fee- Multifamily		\$2	\$2	\$2	\$2	\$2	\$2	\$11	\$2
<b>Subtotal Sewer Fees</b>		<b>\$44</b>	<b>\$45</b>	<b>\$46</b>	<b>\$46</b>	<b>\$53</b>	<b>\$54</b>	<b>\$288</b>	<b>\$48.06</b>
<b>SEWER FEES</b>									
Sewer Fee -Retail		\$0.8	\$0.8	\$0.8	\$0.8	\$1.1	\$1.1	\$6	\$0.9
Sewer Fee -Office		\$0.9	\$0.9	\$0.9	\$0.9	\$1.3	\$1.3	\$6	\$1.1
Sewer Fee -Industrial		\$1.9	\$1.9	\$2.0	\$2.0	\$2.8	\$2.8	\$13	\$2.2
Sewer Fee -Institutional		\$0.9	\$0.9	\$0.9	\$0.9	\$1.2	\$1.2	\$6	\$1.0
<b>Subtotal Sewer Fees</b>		<b>\$5</b>	<b>\$5</b>	<b>\$5</b>	<b>\$5</b>	<b>\$6</b>	<b>\$7</b>	<b>\$31</b>	<b>\$5.20</b>
<b>TOTAL SEWER FEE REVENUE</b>		<b>\$49</b>	<b>\$49</b>	<b>\$50</b>	<b>\$51</b>	<b>\$60</b>	<b>\$61</b>	<b>\$320</b>	<b>\$53.26</b>
<b>CAPITAL COSTS</b>									
200 East Trunk Line		\$0	\$132	\$0	\$0	\$0	\$0	\$132	\$22
Capacity Upgrade to WWTP		\$450	\$0	\$0	\$0	\$0	\$0	\$450	\$75
<b>TOTAL SEWER CAPITAL COSTS</b>		<b>\$450</b>	<b>\$132</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$582</b>	<b>\$97</b>
<b>NET CAPITAL FACILITIES CASH FLOW</b>									
<i>Current \$ in thousands</i>									
Annual Surplus (or Deficit)		(\$401)	(\$83)	\$50	\$51	\$60	\$61	(\$263)	(\$44)
Cumulative Surplus (or Deficit)		(\$401)	(\$484)	(\$434)	(\$383)	(\$323)	(\$263)		