



IMPACT FEE FACILITIES PLAN

IMPACT FEE ANALYSIS

MARCH 2012

MIDWAY CITY

WASATCH COUNTY, UTAH

PREPARED BY

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**HORROCKS**  
ENGINEERS

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## Chapter 1

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# Projected Population Growth

*A pleasant living environment and a high growth rate along the Wasatch Front have been factors influencing Midway City's population growth over the past several years. This growing population places additional burdens on the City's infrastructure.*

The projected conditions of Midway City's infrastructure and facilities are based upon a number of assumptions such as: present growth rates, economic stimuli, environmental and recreational development, and residential development. As these factors change, the projected conditions made in this master plan study also change. To help minimize the effect of changing conditions, the recommendations made in this master plan study will be based upon the projected population served by Midway City.

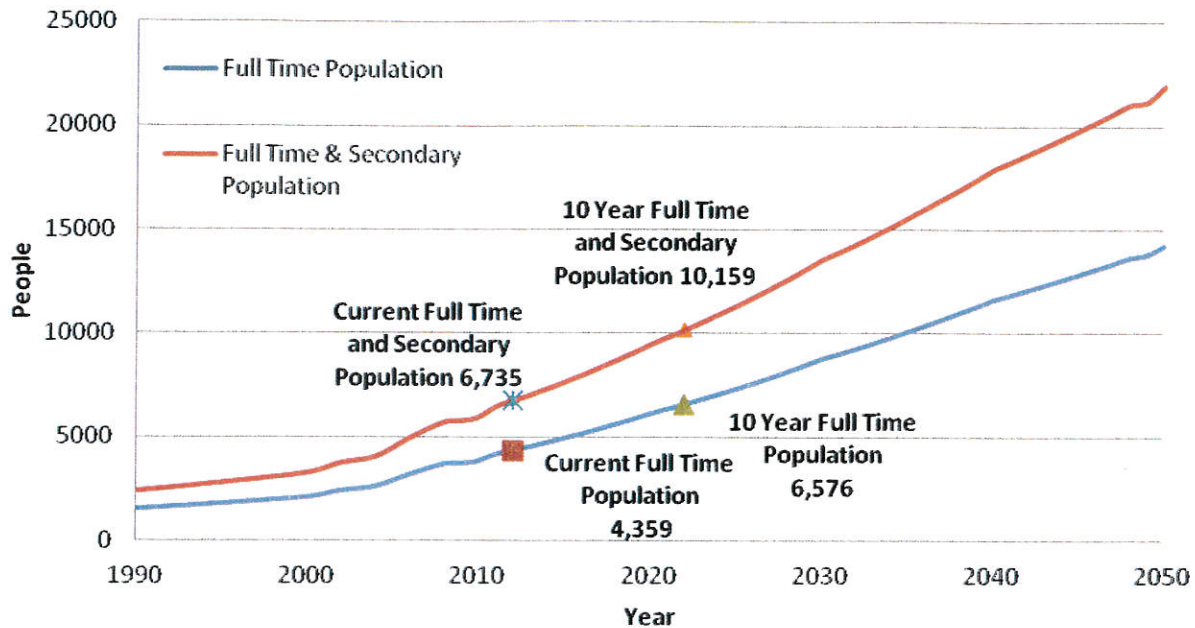
### **Methodology for Determining Projected Population**

The method for projecting the population for Midway City is compiled in this chapter. The method used in this document took the projected population as determined by Mountainland Association of Governments (MAG) and interpolated between the projected years. The Governor's Office of Planning and Budget was also used as a reference. The 2010 census stated that approximately 65-percent of the total housing units within Midway City were occupied full-time. This number indicates Midway has a large number of second homes.

Generally MAG's population projections only include full time residents. Because the city infrastructure needs to meet the demands of both the full time and secondary homes the population projections used within the capital facility plan combines the full-time and secondary population. The population projections falling between MAG's projected years were established using interpolation.

Figure 1-1 graphically shows Midway City's historical full time resident growth since 1990 and the population projection of the full time residents to the year 2050. The current 2012 full time population of 4,359 is shown on the graph, as well as the end of the ten year planning period population of 6,576 for the year 2022. The current 2012 full time plus secondary population of 6,735 and the end of the ten year planning period population of 10,159 for the year 2022 are also shown.

## Midway City's Historic and Projected Population



**Figure 1-1: Midway City's Projected Full Time Residents**

### Results of Calculation

Even though the impact fee analysis is for a ten-year period, it is useful to determine the Midway City population as the city reaches the projected build-out. The method used to project the population build-out was to look at the area of undeveloped land within each separate zone within the proposed City annexation boundary. Midway City's General Plan (January 2012) looked at the current zoning within the proposed future annexation boundary. From aerial mapping, the total undeveloped land within the future annexation boundary was established. An estimate of the percent of roadways, parks, and open space was established. It is projected that the total amount of housing units at build-out will be 6,860. From the 2010 census, it was determined that there is an average of 3.1 people per household. Multiplying the number of build-out housing units by the average household size 3.1 predicts a build-out population of approximately 21,000 people. This build-out population is a combination of full-time and secondary residents.

The 2010 census stated that approximately 65-percent of the total housing units within Midway City were occupied full-time. Sixty-five percent of the 6,860 total build-out housing units reduce the full-time occupied housing units to 4,458. Multiplying number of full-time households by the average household size predicts a full time resident build-out population of 13,777 people. The MAG projections, as shown in Figure 1-1, shows the build-out population will be reached by the year 2050.

**Table 1-1: Population and Housing Unit projections for Midway City through 10 year planning period**

Year	Full Time Residents	Total (Full Time + Secondary) Residents	Total Housing Units
2012	4,359	6,735	2,179
2013	4,547	7,026	2,274
2014	4,744	7,329	2,372
2015	4,949	7,646	2,474
2016	5,163	7,976	2,581
2017	5,386	8,321	2,693
2018	5,618	8,681	2,809
2019	5,861	9,056	2,931
2020	6,120	9,456	3,060
2021	6,343	9,800	3,172
2022	6,576	10,159	3,288

The ten year planning period of 2022 statistics shown in Table 1-1 will be the basis of analysis for the city’s impact fees and required upgrades to the transportation, culinary water, trail, and park systems within the city.

## Chapter 2

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# Transportation System

### 2.1 Summary and Recommendations

#### Introduction

Midway City's streets comprise of five typical roadway functional classifications: historic local, local, local collector, minor collector, and collector. Each roadway has a specific cross-section and right-of-way. The street system master plan designates each future street as one of the five types listed above. Developers are required to provide local streets unless the developer's specific traffic study requires a larger functional classification to accommodate the traffic which is generated by the proposed development.

Although residents of the county and outside the county also impact Midway City's street system, the purposes of this study are only to address the six to ten year development and improvements that will occur within the City and development that will occur within the proposed annexation boundary.

The Transportation Impact Fee is:

$$\text{Transportation Impact Fee} = \$2,750.00/\text{ERU}$$

#### Projected Population

Midway City's full-time and secondary population is expected to increase to 10,159 people by the end of the 10 year design period in the year 2022. An increase of 1,109 housing units is expected to occur during this period. When build-out occurs in the year 2050, the full time and secondary population is expected to be 21,000 people and the total housing units is expected to be 6,860.

See Chapter 1 for more details.

#### Street System Master Plan

Figure 2-1 shows the street system master planned roads. The existing and future streets shown in the Capital Facilities Master Plan reflect the major network of streets, transportation needs, and improvements of the fully developed city under the present existing city limit and proposed annexation boundary. Future streets are those that should be constructed to meet the needs of the projected population. Generally future local streets are not shown within the master plan except for those which are critical to the transportation model.

#### Development Standards

Midway City's streets comprise of five typical roadway functional classifications: historic local, local, local collector, minor collector, and collector. Each roadway has a specific cross-section

and right-of-way requirement. A description of the pavement widths and right-of-way for the respective streets is shown in Table 2-1 and also on Figure 2-1. The street system master plan designates each existing and future street as one of the five classifications listed above. Developers are required to construct local streets, unless the street master plan recommends a larger street be constructed. If a higher street classification is constructed as indicated in the master plan, the developer is credited for the upgraded street construction costs.

**Table 2-1: Street Classification**

Street Classification	Pavement Width	Right-of-Way Width
Collector	48 feet	72 feet
Minor Collector	44 feet	66 feet
Local Collector	34 feet	56 feet
Local	30 feet	50 feet
Historic Local	24 feet	Existing, as Determined by City Council

**Driveway and Access Management**

Access management is the regulation and design of driveway access. The goal is to reduce accidents while increasing the roadway capacity. Several key components of good access management include corner sight distance and clearances, street and driveway spacing, corridor signal spacing, and roadway median control. The design recommendations listed in Table 2-2 should be observed.

**Table 2-2: Access Management Guidelines**

Classification	Proposed Access Management Guidelines	
	Street Spacing (ft)	Driveway Spacing (ft)
Collector	300	Note 1
Minor Collector	250	200
Local Collector	200	150
Local	150	100
Historic Local	150	80

*Note 1: New driveways are not allowed on collector streets unless approved by City Council.*

**Upkeep and Maintenance**

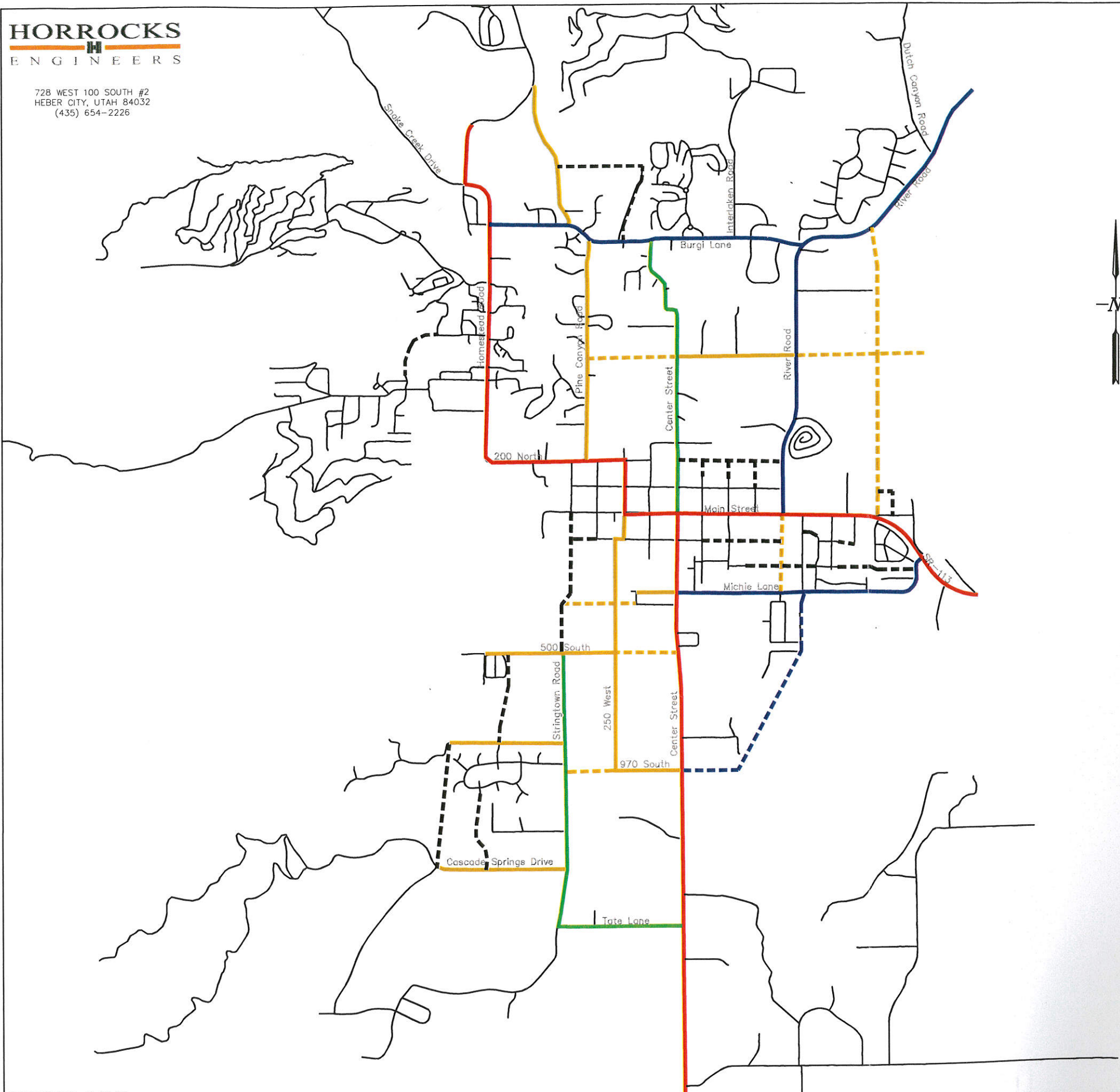
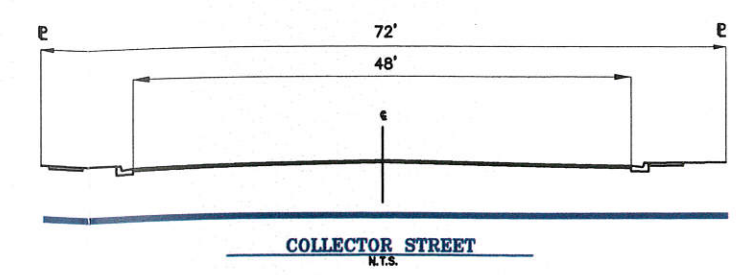
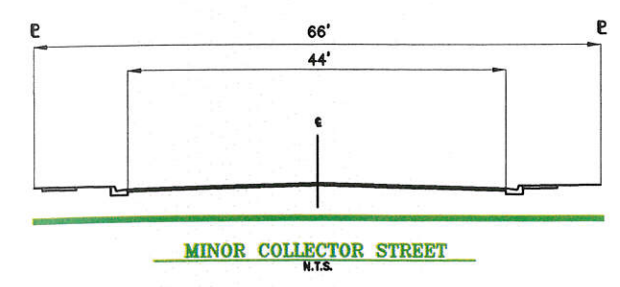
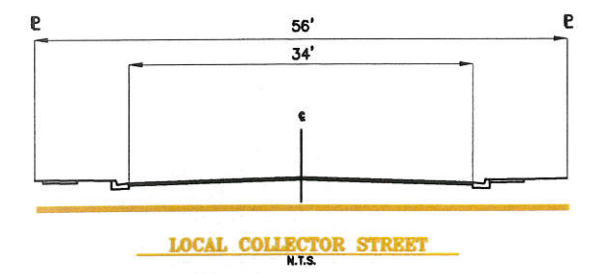
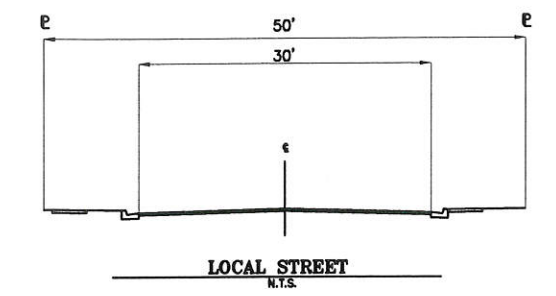
It is recommended that all streets receive their proper maintenance. The life of a street can be increased by installing the proper crack seal, slurry seal, or chip seal approximately every 5 years or as needed. By applying a 2-inch asphalt overlay every 10 to 15 years, the design life of the street can also be extended. Depending upon the change in loading conditions, such as an increase in large truck or heavy equipment traffic, part or all of the sub-base material may need to be replaced every 15 to 20 years. Based on the existing condition of the roadway, and/or the problems found, a decision should be made as to what types of specific improvements are needed.



FIGURE 2-1  
MIDWAY CITY  
ROAD SYSTEM  
MASTER PLAN

LEGEND

- EXISTING LOCAL COLLECTOR
- EXISTING MINOR COLLECTOR
- EXISTING COLLECTOR
- EXISTING MINOR ARTERIAL (UDOT)
- - - - - NEW OR UPGRADED LOCAL
- - - - - NEW OR UPGRADED LOCAL COLLECTOR
- - - - - NEW OR UPGRADED MINOR COLLECTOR
- - - - - NEW OR UPGRADED COLLECTOR



The original design and construction of the street will also be a major factor in the life of the street.

Street systems offer a wide range of choices in terms of traffic volumes provided. The characteristics of streets are often evaluated in terms of: volume of traffic, travel time, travel frequency, comfort, reliability, convenience, and safety. The term level-of-service is used to describe the relative value of these attributes.

State standards require all streets to maintain a level-of-service "C". At level of service C, stable operation is provided but flows approach the range at which an increase in volume immediately results in traffic delays and a deterioration of service.

### **Recommended Street System Improvements**

Capital improvements recommended to meet the needs of the projected build-out population are shown in Figure 2-1. A detailed listing of the recommended improvements is given in the following paragraphs.

#### **Street Improvements**

- 1 - **300 West, 200 North to 100 South, Historic Local.** This roadway should be improved and widened to a two lane local street.
- 2 - **450 North / Dairy Lane, Center Street to the end of the Cul-de-sac, Historic Local.** This roadway should be improved and widened to a two lane local street.
- 3 - **600 North, Center Street to River Road, Local Collector.** This roadway should be reconstructed as a two lane road with selected center turning lanes.
- 4 - **100 East, 100 North to 150 North, Historic Local.** This roadway should be improved and widened to a two lane local street.
- 5 - **500 South, Stringtown Road to the Cemetery, Local Collector.** This roadway should be improved and widened to a two lane local collector street.
- 6 - **200 East, 100 North to 150 North, Historic Local.** This roadway should be improved and widened to a two lane local street.
- 7 - **Probst Way, Pine Canyon Rd to the end of the Cul-de-sac, Historic Local.** This roadway should be improved and widened to a two lane local street.
- 8 - **Lime Canyon Road, Homestead Drive to Oak Lane, Local.** This roadway should be improved and widened to a two lane local street.
- 9 - **100 West/Center, Swiss Farm Way to Alfalfa Circle, Historic Local.** This roadway should be improved and widened to a two lane local street.
- 10 - **Swiss Alpine Road, Homestead Dr to 980 West, Local.** This roadway should be improved and widened to a two lane local street.
- 11 - **1400 West, 310 North to the end of the Cul-de-sac, Historic Local.** This roadway should be improved and widened to a two lane local street.
- 12 - **250 North, Center Street to 100 West, Historic Local.** This roadway should be improved and widened to a two lane local street.

- 13 - **100 West, 250 North to 100 North, Historic Local.** This roadway should be improved and widened to a two lane local street.
- 14 - **250 West, 500 South to 970 South, Local Collector.** This roadway should be improved and widened to a three lane local collector street.
- 15 - **970 South, Center Street to 250 West, Local Collector.** This roadway should be improved and widened to a three lane local collector street.
- 16 - **Michie Lane, Center Street to 325 East, Collector Street.** This roadway should be improved and constructed to a three lane collector street.
- 17 - **Pine Canyon road, 200 North to Burgi Lane, Local Collector.** This roadway should be improved and widened to a three lane local collector street.
- 18 - **200/185 South, 100 East to 275 East, Historic Local.** This roadway should be improved and widened to a two lane local street.
- 19 - **Burgi Lane, Collector.** Because of expected growth Burgi Lane has been constructed as a minor collector street between River Road and Pine Canyon Road. Because of the bond repayment on this road, a percentage of the costs to construct this road have been included in the impact fee.
- 20 - **Cari Lane, Collector.** This roadway should be widened from a two lane to a three lane roadway from Burgi Lane to Homestead Drive.
- 21 - **River Road, Collector.** This roadway should be widened from a two lane to a three lane roadway with selected acceleration and deceleration lanes.
- 22 - **Pine Canyon Road and Burgi Lane, Intersection.** A roundabout should be constructed at this intersection.
- 23 - **Pine Canyon Road, Burgi North to Warm Springs Road, Local Collector.** This roadway should be improved and widened to a local collector street.
- 24 - **500 South, 250 West to Stringtown Road, Local Collector.** This roadway should be improved and widened to a local collector street.
- 25 - **400 East from Main to Michie, Local Collector.** This roadway should be reconstructed and/or constructed to an improved two lane road with selected turning movements.
- 26 - **Center Street, Main Street to Burgi Lane, Minor Collector.** This roadway should be improved and widened to a minor collector.
- 27 - **Stringtown Road, 500 South to Tate Lane, Minor Collector.** This road should be improved to a two lane minor collector with selected center turning.
- 28 - **Stringtown Road and 500 South, Intersection.** A center turning lane should be constructed.
- 29 - **Stringtown Road and Cascade Springs Road, Intersection.** A center turning lane should be constructed.
- 30 - **Stringtown Road and 970 South, Intersection.** A center turning lane should be constructed.
- 31 - **New Local Collector, 600 North, from Center Street to Pine Canyon Road.** A new two lane local collector should be constructed with selected center turning lanes.
- 32 - **New Local Collector, 970 South, from 250 West to Stringtown Road.** A new two lane local collector should be constructed with selected center turning lanes.

- 33 - **New Local Collector, 500 South, from 250 West to Center Street.** A new two lane local collector should be constructed with selected center turning lanes.
- 34 - **New Local Collector, 600 North, from River Road to Provo River.** A new two lane local collector should be constructed with selected center turning lanes.
- 35 - **New Local Collector, 800 East, from Main Street to River Road.** A new local collector should be constructed with selected center turning lanes.
- 36 - **New Collector, from 970 South to Fox Den Road.** A new three lane collector with selected left hand turn lane should be constructed.
- 37 - **New Local Collector, 300 South, from 160 West to 400 West.** A new local collector should be constructed with selected center turning lanes.
- 38 - **Burgi Lane Traffic Calming.** Traffic calming islands should be installed in Burgi Lane to help control the traffic speeds.
- 39 - **River Road Traffic Calming.** Traffic calming islands should be installed in River Road to help control the traffic speeds.
- 40 - **Michie Lane Property Acquisition.** New property will need to be acquired to accommodate the expansion of Michie Lane.
- 41 - **Homestead Drive, Minor Arterial.** Homestead Road should be improved from a two lane road to a three lane road with selected acceleration and deceleration lanes. This section of road is a state highway, 25 percent of the impact fee funds for this section has been allotted.
- 42 - **200 North (Homestead Road), Minor Arterial.** Homestead Road should be improved from a two lane road to a three lane road with selected acceleration and deceleration lanes. Because this section of road is a state highway, 25 percent of the impact fee funds for this section have been allotted.
- 43 - **Center Street, Main to 500 South, Minor Arterial.** This section of roadway should be improved from a two lane road to a three lane road with selected acceleration and deceleration lanes. Because this section of road is a state highway, 25 percent of the impact fee funds for this section have been allotted.
- 44 - **Main Street and River Road, Intersection.** A roundabout should be constructed. Because this section of road is a state highway, 25 percent of the impact fee funds for this section have been allotted.
- 45 - **Center Street and Main Street, Intersection.** A roundabout should be constructed. Because this section of road is a state highway, 20 percent of the impact fee funds for this section have been allotted.
- 46 - **Main Street improvements.** Main Street should be continued from 300 East to the eastern city boundary as UDOT funds are available. Because this section of road is a state highway, 25 percent of the impact fee funds for this section have been allotted.

## 2.2 Future Conditions

### Introduction

Future conditions in Midway City will affect the street conditions and the improvements needed to meet the increased population. Some of the assumptions used to determine the future conditions are:

- Present growth rates
- Future growth rates
- Economic stimuli
- Environmental and recreational development
- Residential development

As the factors and conditions change, the projected future conditions made in this study could be affected. In this chapter the 10 year projected population is used to determine where the new streets should be constructed and what roadway classification the street should be constructed to based on the potential for development within each portion of the City.

### Street Impact Fees Administration

An impact fee is a one-time fee with the purpose of raising revenue for new or expanded public facilities which have deteriorated due to new development, or as required by the new development. Impact fees cannot be used to correct existing roadway sub-grade deficiencies or for routine maintenance activities. The premise behind impact fees is based on the critical assumption that if no new development were to occur, the existing street system would adequately serve the existing needs of the City. Therefore, the recommended roadway improvements outlined in the street system master plan are used in the development of the impact fees. These improvements are growth related and are needed to accommodate the 10 year projected growth within the City to maintain a minimum level of service (“C”).

### Trip Generation Rates

The Midway City Planning Area Map was converted to potential vehicle trips through applying specific trip generation rates required for each land use category as established in the Institute of Transportation Engineers (ITE) Trip Generation Manual 5th Edition. Trip generation rates established for each of the land uses were derived by selecting the most appropriate type and amount of development as determined from the City’s Zoning Map. Selected trip generation rates for residential land uses are summarized in Table 2-3.

**Table 2-3: Trip Generation Rates**

Dwelling Unit Type	Trips Generated
Single Family Detached Housing	9.55
Apartment	5.41
Mobile Home Park	4.81

Because of the wide range of different types of commercial and light industrial development that occurs in Midway, these impact fees are determined on an individual basis. The impact is based on the amount of new trips generated by the individual business.

### **Impact Fees**

The calculation for street impact fees consists of dividing the total cost of the recommended improvements during the 10 year planning period by the total number of projected trips, based on future zoning and the 10 year population increases. The improvements and associated costs for the planning period are shown in Table 2-4.

### **Impact Fee Fund**

Street improvements must be made to provide safety and access to property as future growth occurs. Revenue must be generated to fund the needed street improvements. This Capital Facility Transportation Master Plan recommends that Midway City maintain the current street impact fee of \$288 per trip generated. This fee equals \$2,750 per ERU and \$1,558 per unit for apartment housing. The revenue collected will generate the funds required to update the necessary improvements caused by growth and to maintain a minimum level of service C.

To keep abreast of increasing inflation and construction costs, the transportation impact fees should be analyzed periodically to make sure funding is available for improvements and capital expenditures.

**Table 2-4: Recommended Street Improvements**

Location	Improvement	Classification	Unit	Qty.	Unit Cost	Total Cost	CIP %	Dev. %	Impact Fee	
									%	Cost
300 W, 200 N to 100 S	Widen	Historic Local to Local	Mile	0.30	\$318,737	\$95,621	52%	0%	48%	\$45,633
450 N/Dairy Lane, Center St to End	Reconstruction	Local	Mile	0.07	\$188,116	\$12,737	100%	0%	0%	\$0
600 N, Center St to River Road	Reconstruction	Historic Local to Local Collector	Mile	0.50	\$510,000	\$255,000	10%	0%	90%	\$230,000
100 E, 100 N to 150 N	Widen	Historic Local to Local	Mile	0.40	\$41,723	\$16,689	52%	0%	48%	\$7,953
500 South, Stringtown Rd to Cemetery	Widen	Historic Local to Local Collector	Mile	0.70	\$241,181	\$168,827	76%	0%	24%	\$39,819
200 E, 100 N to 150 N	Reconstruction	Local	Mile	0.05	\$441,696	\$23,005	100%	0%	0%	\$0
Probst Way, Pine Canyon Rd to End	Reconstruction	Local	Mile	0.10	\$138,230	\$13,823	100%	0%	0%	\$0
Lime Canyon Rd, Homestead Dr to Oak Ln	Widen	Historic Local to Local	Mile	3.10	\$51,689	\$160,237	72%	0%	28%	\$45,152
100 West/Cen, Swiss Farm Way to Alf Cir	Widen	L. Collector to M. Collector	Mile	0.13	\$333,169	\$43,312	80%	0%	20%	\$8,786
Swiss Alpine Rd, Homestead Dr to 980 W	Widen	Historic Local to Local	Mile	0.70	\$112,061	\$78,443	96%	0%	4%	\$3,125
1400 W, 310 N to End	Widen	Historic Local to Local	Mile	0.17	\$203,412	\$34,557	88%	0%	12%	\$4,037
250 N, Center St to 100 W	Widen	Historic Local to Local	Mile	0.10	\$367,565	\$38,288	63%	0%	37%	\$14,287
100 W, 250 N to 100 N	Widen	Historic Local to Local	Mile	0.16	\$296,320	\$46,300	65%	0%	35%	\$16,436
250 W, 500 S to 970 S	Widen	Historic Local to Local Collector	Mile	0.42	\$465,701	\$194,042	86%	0%	14%	\$26,582
970 S, Center St to 250 W	Widen	Historic Local to Local Collector	Mile	0.28	\$408,133	\$115,947	49%	0%	51%	\$59,614
Mitchie Lane, Center St to 325 E	New Construction	Collector	Mile	0.40	\$1,640,000	\$656,000	0%	62%	38%	\$248,000
Pine Canyon Rd 200 N to Burgi Ln	Reconstruction	Historic Local to Local Collector	Mile	0.95	\$630,000	\$598,500	5%	0%	95%	\$570,000
200 S/185 S, 100 E to 275 E	Reconstruction	Local	Mile	0.31	\$430,000	\$63,698	100%	0%	0%	\$0
Cari Lane	Reconstruction	Collector	Mile	0.40	\$690,000	\$276,000	13%	\$0	87%	\$240,000
Pine Canyon Rd, Burgi North to County	Widen	Local to Local Collector	Mile	0.63	\$330,000	\$207,900	0%	0%	100%	\$207,900
400 East, Main to Michie	New Construction	Local Collector	Mile	0.35	\$1,220,000	\$427,000	0%	84%	16%	\$70,000
600 N, Center St to Pine Canyon	New Construction	Local Collector	Mile	0.40	\$1,220,000	\$488,000	0%	84%	16%	\$80,000
970 S, 250 W to Stringtown	New Construction	Local Collector	Mile	0.25	\$1,220,000	\$305,000	0%	0%	100%	\$305,000
Michie Lane Property Acquisition	Property Acquisition		Each	1.00	\$250,000	\$250,000	0%	0%	100%	\$250,000
Michie Ln, 325 E. to 750 E	Widen	Historic Local to Collector	Mile	0.46	\$600,000	\$276,000	0%	72%	28%	\$78,200
*Main Street Imp. 300 E to 500 E	Widen		Mile	0.20	\$1,100,000	\$220,000	0%	0%	100%	\$220,000
Updating Capital Facilities Plan	Plan Update		Each	3.00	\$10,000	\$30,000	0%	0%	100%	\$30,000
<b>TOTAL</b>						<b>\$ 5,094,926</b>				<b>\$2,800,524</b>

Build-out, Full-time and Secondary Pop. 21,195  
 10 Year Planning Total Population 10,159  
 People per Residence, (ERU) 3.09  
 Number of 10 Yr-ERUs 3,288  
 Number of Existing ERUs 2,179  
 Number of New ERUs 1,109  
 Number of Residential Homes @ 80%  
 Number of Apartments @ 18%  
 Number of Modular Homes @ 2%  
 Number of Residential Trips per Day @ 9.55  
 Number of Apartment Trips per Day @ 5.41  
 Number of Modular Home Trips / Day @ 4.81

Impact Fee Cost/Trip (Total IF/Total Trips) **\$290.01**  
 Calculated Residential Impact Fee \$2,769.55  
 Calculated Apartment Impact Fee \$1,568.93  
 Calculated Modular Home Impact Fee \$1,394.93  
**Actual Residential Impact Fee \$2,750.00**  
**Actual Apartment Impact Fee \$1,557.85**  
**Actual Modular Home Impact Fee \$1,385.08**

**Total Number of Trips Per Day 9,657**

## Chapter 3

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# Culinary Water System

### 3.1 Summary & Recommendations

#### Introduction

This chapter addresses the culinary water system of Midway City. The chapter will identify the criteria used in establishing the level of service that the culinary system provides as well as identify the deficiencies and recommended improvements to meet the projected 10 year planning period demands. Impact fees were analyzed to determine the feasibility of implementing the recommended improvements.

Future conditions in Midway City were analyzed by projecting both the 10 year planning period population and the approximate build-out population, which is anticipated by the year 2050. Rather than try to predict which development will occur during the 10 year planning period, the build-out conditions have been addressed. However, the impact fee calculation is based on the predicted 10 year improvements. It is important to know when new culinary sources and storage will be required so it can be planned for accordingly. From the population projections, the number of future equivalent residential units (ERUs) was calculated. Based upon the projected average yearly, peak daily, and peak instantaneous demands, the culinary flows were projected through the planning period. These flows were used to determine the required capacities of the culinary water source, storage, and distribution system. Recommendations are made to provide the needed capacity for the projected population in the three categories.

Upon evaluation to update the culinary water system impact fee, it was determined that the existing fee is adequate to meet the future needs of Midway City.

$$\text{Culinary Water Impact Fee} = \$2,300.00/\text{ERU}$$

The criteria used in this study are summarized below:

- Indoor/outdoor demand (800 gpd indoor / 2.8 gpm/acre outdoor)
- Storage (400 gpd indoor, 1,873 gal/acre outdoor)
- Storage – Fire: 2,500 gpm for 2 hr; or 300,000 gallons
- Minimum static pressure of 50 psi
- Maximum static pressure of 120 psi
- Peak day demand pressure of 40 psi
- Peak day demand with fire flow pressure of 20 psi.



- Pipe Sizes: Minimum 8-inch
- Velocity: Design velocity - 5 fps, Peak Flow velocity 10 fps.

### **Projected Population**

Midway City's full time and secondary population is expected to increase to approximately 21,000 people by the build-out year 2050. At the end of the 10 year planning period, 2022, the full time and secondary population is expected to increase to 10,160 people. See Chapter 1 for more details.

### **Projected Culinary Water Use**

Using 3,448 projected equivalent residential units in the year 2022, it is calculated that 2,171 gallons per minute (gpm) will be required to meet the peak day demand. It is also projected that an average yearly demand of 1,657 acre feet (ac/ft) will be used for indoor and outdoor water usage.

### **Recommended Culinary Water System Improvements**

Capital improvements recommended to meet the projected population demands are shown in Figure 3-2. These recommendations were determined by the use of a computer model of Midway City's culinary water system, projected culinary water flows, and input from City officials.

### **Source Protection**

Midway City has submitted the Drinking Water Source Protection plans for each of its sources as defined in section R309-113-3(2) of the Utah Administrative Code. Midway City also submits an Annual Water Quality Report.

### **Water Rights**

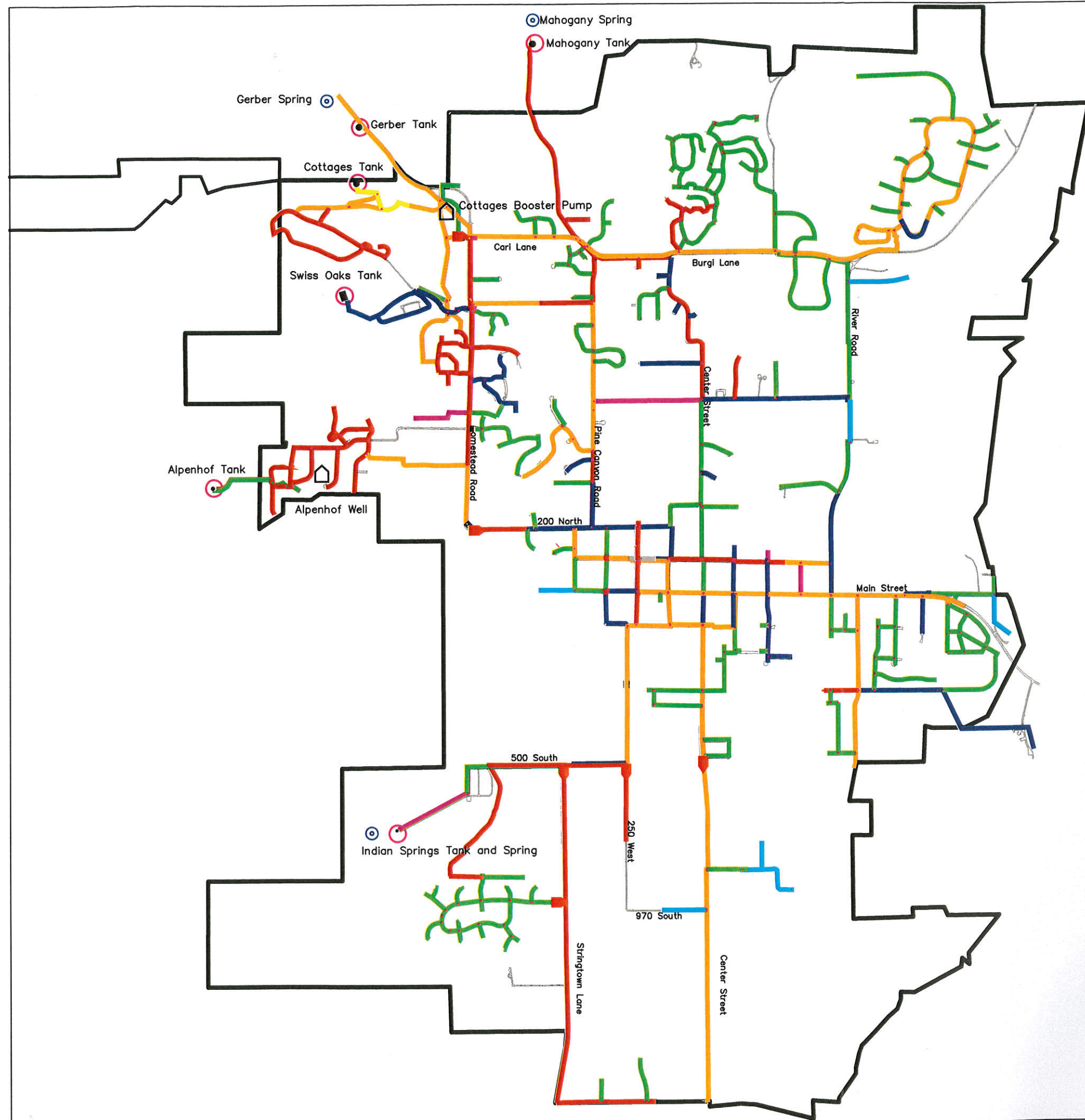
All of the water within the Midway area has been judicated. Therefore, additional water rights cannot be obtained for new wells unless it is purchased from agriculture or obtained through land development and converted to a culinary use. Because of this, it is recommended that the City continue requiring developed land to provide the required water for each new development.

The installation of the pressurized irrigation system reserves potable culinary water for indoor purposes and postpones the burden of finding new potable sources.






FIGURE 3-1

MIDWAY CITY








EXISTING CULINARY WATER SYSTEM



LEGEND

-  20 YEAR BUILDOUT BOUNDARY
-  PRV'S
-  WELL OR PUMP
-  SPRING
-  RESERVOIRS

PIPE SIZE

-  2 INCH
-  4 INCH
-  6 INCH
-  8 INCH
-  10 INCH
-  12 INCH
-  15 INCH

## **Operation**

Midway City has converted the majority of its water meters to be read remotely. This conversion has decreased operating costs and enhanced the accuracy and water billing process by allowing monthly water billings to be based on actual flows instead of estimated flows. Meters are currently read during the months of April through September of each year.

## **3.2 Future Conditions**

The culinary water demand can be projected through the planning period using the projected number of ERUs based on population growth, historical culinary demands, and Utah State regulations. Projected capacities of the average yearly, average daily, peak daily and the peak instantaneous flows can also affect the overall performance of a culinary water system.

Midway City's future conditions will affect the amount of water used and the storage capacity required of the present culinary water system. By identifying these conditions, projected flows can be determined so the inadequacies of the existing system can be found.

From the projected population, the increased number of culinary connections is determined along with the increased number of ERU's. Using State design regulations, the future water demands, including the average yearly, average daily, peak daily, and the peak instantaneous demands, are projected through the planning period. The existing system uses the same State design regulations.

The number of future culinary water connections within a city is dependent upon the projected population and their proximity to lines within the culinary water system. It will be assumed that all new growth in Midway will be connected to the culinary water system. Therefore, the projected number of culinary water connections within Midway City is expected to increase at the same rate as the projected population.

## **Indoor and Outdoor Water Use**

Culinary water used by city connections can be separated into two categories, indoor and outdoor water use. The amount of water used indoors and outdoors depends on the type of connection. For example, a commercial restaurant may use the same amount of water in the summer as the winter. However, an office building with a large amount of grass or other types of vegetation may use up to three times more water in the summer than in the winter.

## **Indoor Water Use**

The State of Utah Public Drinking Water Rules (R309-510) requires that sources provide sufficient supply to meet Peak Day and Average Yearly indoor water demands. The rules recommend the use of 800 gpd per ERU for Peak Day, and 400 gpd per ERU (146,000 gallons year) for Average Yearly demands for indoor water use. Storage is required to provide 400 per ERU for indoor water use. Due to the numerous leaks throughout the City and un-metered watering, Midway City's yearly peak indoor water demand cannot be accurately calculated. Therefore, the State requirements will be used for this document.

## **Outdoor Water Use**

The Department of Drinking Water also requires source and storage systems to provide outdoor water. Water used outdoors should be in addition to the indoor water demands. The combined capacity must be provided by the sources and storage. The procedure for determining the water used outdoors consists of the following:

- Determine the consumptive water use zone in which Midway City resides (Zone 2).
- Determining the amount of land which will be irrigated
- Determine the average peak flows and the required storage using Table 3 and Table 5 found in the State of Utah Public Drinking Water Rules, R309-510

Midway City is in a "low consumptive use and precipitation zone". Therefore, with respect to the rest of the State, the consumptive use of the vegetation and average annual precipitation is low. Using Table 3 and 5 in the Drinking Water Rules, the peak daily demand for sources is 2.8 gpm per irrigated acre of land. The average yearly demand for sources is 1.23 acre-feet per irrigable acre. The average daily demand for storage is 1,873 gallons per irrigable acre of land.

With the installation of a pressurized irrigation system throughout Midway, the demand on the culinary water system is decreased. The culinary water system was modeled figuring that 10% of the ERUs would use the culinary water system for outdoor watering. This should account for areas that are not feasible to connect to pressurized irrigation and other individuals that don't utilize the pressurized irrigation system.

The irrigable land in Midway City is related to the ERU's by estimating that 80 percent of the ERU lot is irrigated. It is also assumed that there are 3 ERUs per acre of land. Therefore, the State requirements for Midway City's outdoor water use would be a peak daily demand of 0.74 gpm per ERU utilizing culinary water for outdoor use, and an average yearly demand of 105,810 gallons per year per ERU utilizing culinary for outdoor use. Since the majority of new growth within the City will fall under these criteria, and at least 90% of new development will utilize pressurized irrigation, the above criteria will be used.

## **Equivalent Residential Units (ERU)**

The ERUs are found by using the state requirements of the respective types of connections. The usage demands of the different connections are then divided by the average residential usage demand. For example, the average commercial water usage is 0.357 million gallons/year and the residential State requirement usage is 0.146 million gallons/year. Therefore, the average commercial connection is equal to  $0.357/0.146 = 2.42$  residential connections.

The total number of projected residential, church, government and commercial culinary water connections and the calculated ERU's are shown in Table 3-1. These Equivalent Residential Connections will be used to calculate the projected culinary water flows.

Table 3-1: Total ERUs through Planning Period

Year	Residential ERUs	Commercial ERUs	Total ERUs
2012	2,179	107	2,287
2013	2,274	110	2,383
2014	2,372	117	2,489
2015	2,474	124	2,599
2016	2,581	132	2,713
2017	2,693	136	2,829
2018	2,809	141	2,950
2019	2,931	146	3,077
2020	3,060	151	3,211
2021	3,172	156	3,327
2022	3,288	161	3,448

### Projected Number of Culinary Water Connections

The projected number of new culinary water connections was determined using the growth numbers in Chapter 1. To evaluate the commercial, agricultural, and residential connections on an equal basis, the equivalent residential unit (ERU) was used.

Historical growth trends were used along with the population projections to determine the projected growth of the respective connections. The residential connections are assumed to increase at the same rate as the population growth. However, commercial and agricultural connections are assumed to increase at a percentage rate equal to the ratio of historical commercial growth.

Agricultural connections are used primarily to water livestock. With the conversion to pressurized irrigation and progressive zoning regulations, the number of livestock watering connections has decreased considerably. Due to the minimal amount of water used, this study will maintain the present agricultural demand throughout the planning period.

### Projected Areas of Development

To relate the projected population to the improvements needed to serve them, the areas expected to be developed need to be determined. The areas projected to be developed by the increased population are determined based upon the existing zoning regulations, available land within city limits, and land presently being annexed.

City officials have anticipated where and how future development will occur through the proposed annexation boundary and zoning map. This study uses the proposed annexation boundary and build-out in the year 2050 for the planning area.

### **Projected Culinary Water Use**

Utah State regulations require sources to be capable of meeting peak daily demands and average yearly demands; storage to meet average daily demands; and distribution systems to meet peak instantaneous demands while maintaining minimum pressures. The projected flows were determined by using State regulations and the projected indoor and outdoor ERUs.

A definition of the flows required by the City's culinary water system will be given in the following paragraphs. These flows will be used to determine culinary water improvements needed to meet the projected demands of the population.

### **Average Daily Demand**

The average daily demand is found by dividing the total annual flow by 365 days. Due to numerous leaks and inaccuracies in measuring the total annual flow, the state requirements will be used in calculating the average daily demands.

### **Peak Daily Demand**

Peak daily demand is found by determining the maximum daily flow throughout the year. Meters are read only once per month, so it is impossible to calculate Midway's historical peak daily demand. Therefore, the state indoor required flow of 800 gallons per day (gpd) will be used. This is equivalent to 0.56 gallons per minute (gpm). Outdoor flow will be modeled using 10% of new growth at the state requirement of 2.8 gallons per minute per irrigated acre. These peaking flow rates were used in the determination of required sources for Midway City and when new sources will need to be established.

### **Peak Instantaneous Demand**

Peak instantaneous demand is the maximum flow on any given day. The Department of Drinking Water recommends using Equation (1) to determine the peak instantaneous flows for indoor use within the system.

$$Q=10.8*N^{.64} \qquad \text{Equation (1)}$$

The variable N in the equation is the total number of ERUs in the system and varies with time. The variable Q in the equation is the flow in gpm. Variable Q plus the maximum fire flow is equal to the peak instantaneous flow for indoor use. Peak instantaneous demand for outdoor use is calculated using Table 7 from the Drinking Water Rules and the total number of irrigable acres. The number of irrigable acres is calculated using 10% of Total ERUs watering 80% of 1/3 acre lots. This is equivalent to 1.48 gpm per ERU utilizing culinary water for outdoor use.

### **Fire Flow**

Midway City has adopted the Uniform Fire Code to determine the fire flows required for buildings within the City. The fire code determines the size and duration of flow that will be required. The amount of fire flow required for a building is based on the type of construction, square footage, and distance from other buildings.

For the purpose of this study, fire flows will be calculated using a minimum of 1,500 gpm for 2 hours for residential and 2,500 gpm for 2 hours for commercial. This criterion was implemented based on recommendations from the Wasatch County Fire Marshall. In cases where fire flows for buildings exceed these criteria, fire sprinkling will be required.

### Summary of Projected Culinary Water Flows

Determining the projected flows includes projecting the indoor and outdoor flows along with the fire flow and the inherent system losses. Required indoor water use was calculated using an average yearly demand of 0.45 ac-ft/ERU for sources, a peak day demand of 800 gpd/ERUs for sources, and a storage requirement of 400 gallons/ERU. Required outdoor water sources and storage capacity was calculated by taking 10% of the total ERUs and using 0.74 gpm/Outdoor ERU for peak day demand, 0.32 ac-ft/yr per Outdoor ERU for the average yearly demand, and 800 gallons/ERU plus 300,000 fire flow for the storage requirement. By combining the required indoor, outdoor, and fire demands, the source and storage requirements were calculated as seen in Table 3-2. The end of the planning period is in bold.

**Table 3-2: Culinary Water Demands**

Year	Number of ERUs	Average yearly Source Demand (ac-ft)	Peak Day Source Demand (gpm)	Storage volume Required (MG)
2012	2,287	1,099	1,440	1.33
2017	2,829	1,360	1,781	1.57
<b>2022</b>	<b>3,448</b>	<b>1,657</b>	<b>2,171</b>	<b>1.85</b>
2030	4,567	2,194	2,875	2.35
2040	6,004	2,885	3,780	3.00
2049	7,085	3,405	4,460	3.48

### 3.3 Culinary Water System Analysis

Midway City's present culinary water system's capacity is determined by analyzing the source, storage, and distribution systems. Improvements are then recommended to increase the capacity to meet the projected population's demands. The present system will be discussed, design parameters introduced, and recommendations for needed improvements will be made.

## SOURCE

Midway City's culinary water system is presently served by three springs and one well. The source capacity will be determined based upon the amount of water the City has available through water rights, amount of water physically provided, and the peak daily and average yearly flow requirements. Improvements needed by Midway City's sources will then be determined along with a discussion of the Division of Drinking Water's Drinking Water Source Protection Rule.

### Water Rights

Water used by Midway City is obtained from springs and wells that have municipal water rights. The City owns both culinary and irrigation water rights. Some of the irrigation water rights are from land that was annexed into the City. In this portion of the chapter, both the municipal and irrigation water rights will be discussed.

Water rights state the legal amount of water the City owns and has access to. State regulations require that the City's water sources be legally and physically capable of meeting peak daily flows and average yearly flows. Midway City has both culinary water rights and shares in irrigation companies. These rights are summarized in Table 3-3.

**Table 3-3: Midway City's Water Rights**

Water Right	Flow			Notes
	gpm	cfs	ac-ft	
55-4614	8.8	0.1	14.2	Cabin Springs Area
55-4615	30.1	0.267	48.6	Faucett's Devils Hole, Big Hollow
55-5950	71.8	0.16		Developed Spring
55-8131	235.1		379.2	Provo River, Snake reek and Mahogany Spring
55-9364	2.98		4.8	Cabin Spring Area
55-9365	2.98		4.8	Faucett's Devils Hole, Big Hollow
55-9395	557.9	5	900	Snake Creek, Pine Creek Springs, and Provo River
a15217	164.5		265.4	Underground Water Well – Evidenced by 45 Midway Irrigation Shares
a15824	235.1		379.2	Provo River and Mahogany Spring – Evidenced by 80 Midway Irrigation Shares
a17418	557.9	5	900	Snake Creek, Provo River, and Other
a17887	27		43.6	Underground Water Well
a24462	2468.4	5.5		Ontario Drain Tunnel and Provo River
<b>TOTAL</b>	<b>4363</b>	<b>16.03</b>	<b>2940</b>	

### Irrigation Shares



Midway City currently requires new development to turn in irrigation shares or some other equivalent water right sufficient to provide for that development. Midway City should continue to require these water rights and appropriate these rights to the City.

**State Source Requirements and Regulations**

Regulations are placed on the city’s culinary water sources by the State of Utah Department of Health. These regulations attempt to require sufficient water to meet the needs of cities and also protect the sources themselves from environment and development.

**Source Capacity**

Culinary water source capabilities are required to meet the cities peak daily and average yearly flows as shown in Table 3-2 Section 3.2 of this chapter. The State requires sources to be able to provide 800 gpd per ERU for indoor use and 146,000 gallons per year (0.45 acre foot) for indoor use for each ERU. For outdoor water use an additional 1,064 gpd per Outdoor ERU for peak daily flows and 0.32 ac-ft. per Outdoor ERU for average yearly flow are required. As previously mentioned, only 10% of ERUs will utilize the system for outdoor demand, the remainder will utilize the pressurized irrigation system for their outdoor needs.

The amount of source that Midway City culinary water system is physically capable of producing is shown in Table 3-4.

**Table 3-4: Midway City Culinary Water Sources**

<b>Description</b>	<b>Approximate Capacity (gpm)</b>
Mahogany Spring	897
Gerber Spring	500
Alpenhof Well	150
Indian Springs	50
<b>TOTAL</b>	<b>1,597</b>

**Culinary Water Source Improvement Recommendations**

Although the City has sufficient water rights to meet peak daily demands, the existing springs and wells will not be capable of providing the needed peak daily demand. Due to the fact that the peak flow is estimated to occur only eight hours a day, storage can help during peak times and sources can replenish the storage at night. It is estimated, however, that by 2015 additional source capacity will be required. Table 3-5 shows a summary of the reserve flows required by the springs and wells.

**Table 3-5: Culinary Water Flows**

Year	Peak Day Demand (gpm)	Available flow (gpm)	Reserve flow (gpm)
2012	1,440	1,597	157
2013	1,500	1,597	97
2014	1,567	1,597	30
2015	1,636	1,597	(39)
2016	1,708	1,597	(111)
2017	1,781	1,597	(184)
2018	1,857	1,597	(260)
2019	1,937	1,597	(340)
2020	2,021	1,597	(424)
2021	2,094	1,597	(497)
<b>2022</b>	<b>2,171</b>	<b>1,597</b>	<b>(574)</b>

The peak source demand can be alleviated by implementing a number of items. First, the City could investigate for major leaks within the system. This would make the system more efficient and place fewer burdens on the pumps. Secondly, an educational program could be started to inform the citizens of the summer water demand problem and give the users conservation guidelines (sprinkler irrigation at night, landscaping with drought tolerant plants, eliminate over watering, etc.). Although these items will help, in the end the City will need to increase their share of Mahogany or Gerber Springs or locate a new source in order to meet the projected peak demand.

## **STORAGE**

Midway City presently has six storage reservoirs in the culinary water system. Midway City is required by the State of Utah to provide sufficient storage for average daily flows. In addition, reservoirs provide capacity for fire flows and operating reserve.

### **Available Storage**

The Gerber and Mahogany tanks are the backbone of Midway's culinary water system with a capacity of 800,000 gallons each. The Cottages on the Green Tank also has an 800,000 gallon capacity. The Alpenhof Tank and the Swiss Oaks Tank feed the upper zone with 250,000, gallons each. The Indian Springs is a 100,000 gallon tank that supplements the Lower Zone.

### **Capacity Requirements**

The State of Utah Department of Drinking Water requires cities to provide 400 gallons per ERU per day for indoor water use. Since Midway City is located in a low consumptive use and precipitation zone, approximately 494 gallons of storage per Outdoor ERU is required for use. In addition to outdoor and indoor water demands, it is recommended that the City provide storage for the maximum city fire flow. It will be assumed that 90% of the ERUs will require

gallons due to the installation of the pressurized irrigation system and 10% of the ERUs will require 894 gallons since outdoor watering will be provided through the culinary system.

**Recommendations**

Table 3-6 shows the summary of the storage capacities needed for Midway City through the proposed build-out year of 2050. The total storage includes indoor and outdoor water use and the required fire flow. Midway City has adequate storage throughout the 10 year planning period. However, it should budget for future expenditure for additional storage.

**Table 3-6: Summary of required storage capacity**

Year	Required ERU Storage (MG)	Available Storage (MG)	Reserve Storage (MG)
2012	1.33	3	1.67
2017	1.57	3	1.43
2022	1.85	3	1.15
2030	2.35	3	0.65
2040	3.00	3	0.00
2050	3.48	3	(0.48)

**DISTRIBUTION SYSTEM**

Midway City’s water system was analyzed using peak instantaneous demand, peak day demand, and peak day demand with a fire demand in a water distribution computer modeling program called Water CAD®. The capacity of the existing distribution system will be discussed in this section. Improvements will then be recommended to meet the projected water demands and areas of development.

**Distribution Requirements and Regulations**

The distribution system needs to be able to maintain specified minimum pressures given three specific demands. First, it must maintain a minimum pressure of 20 psi at all connections while experiencing a fire demand during peak day demand. Second, it must maintain a minimum pressure of 30 psi at all connection during peak instantaneous demand. Third, it must maintain a minimum pressure of 40 psi at all connections during peak day demand.

**Distribution System Recommendations**

The current system was modeled using the three different demand scenarios. Additionally, the build-out system was modeled using the build-out demand scenarios. Different distribution system scenarios were also modeled to determine the most efficient system. Figure 3-1 shows the existing distribution system.

Midway City installed a telemetry system that helps to determine the future needs of Midway City. The telemetry system provides a less labor-intensive water system. Without a telemetry system, a City employee would be required to physically inspect each tank and well daily. The telemetry system allows the operator to monitor the system from a computer. The computer is programmed to automatically call the system operator in the event of a problem. However, the critical items such as pumps and tanks should be inspected at least weekly. All future improvements should be tied into Midway City's telemetry system, and the system should be upgraded on a regular basis as technology evolves.

### **Computer Model of Culinary Water System**

A computer program called Water CAD® was used to model Midway City's water system. The program requires that all pipes, elevations at junctions, wells, tanks, booster pumps, and pressure reducing valves be entered into the model as they are constructed. System demands are then entered in. The program calculates both static and dynamic pressure throughout the system based on the given elevations. Available fire flows can also be determined. The program determines the available fire flows at various locations based on the user-defined parameters, such as required flow and residual pressure.

After the model is run and problem areas are defined, improvements can be modeled to bring the system up to the minimum level of service (LOS). Determining which improvements in the system will bring the system up to the minimum LOS in the most economical manner is a trial and error process. The cost of these system improvements are shown as Capital Improvement Projects (CIP).

### **The following scenarios were modeled for Midway City's culinary water system:**

- **Present conditions**
- **10 year planning period conditions**
- **Build-out conditions**

The existing water system was modeled and the areas that did not meet the minimum LOS were identified. Improvements were determined that would allow minimum fire flows and pressures to be provided throughout the existing system. These improvements are recommended in this section and shown as CIP projects.

Based on the current and anticipated conditions, the projected number of ERUs in undeveloped areas was determined. Twenty percent of the area was assumed to be used in the development of roadways, sidewalks, etc. The additional demand projected for undeveloped areas was added to the present demand. From this information, the future improvements were identified to provide fire flows and pressures.

### **The following is a description of each scenario that was computer modeled.**

**Scenario 1:** The existing water system was modeled under present conditions. This model was

used to determine the recommended improvements for the existing system which did not meet minimum LOS.

**Scenario 2:** Recommended improvements were added to provide for future demand. Future storage and source and pumping requirements were also identified to provide water for future demand.

### **Summary of the Recommended Improvements**

The entire culinary water system was modeled for both present and projected populations for instantaneous conditions and a 24-hour extended period simulation. Midway City's existing distribution system is presently adequate for the three different demand scenarios.

Recommended improvements and estimated costs are shown in Figure 3-2 and in Table 3-8. The total estimated cost for the recommended improvements during the planning period is \$2,895,366. These estimated costs and dates will assist in determining the needed connection fees and water rates.

## **3.4 ECONOMIC FEASIBILITY ANALYSIS**

The capital improvements required to bring the existing system up to the minimum LOS are referred to as operating costs or expenses. Other items included in operating expenses are personnel and contractual services, materials, supplies, depreciation, and other miscellaneous expenses. These improvements cannot be funded through impact fees but could be funded through general funds, revenue from water sales, and bonds.

Improvements that are required for future development are called non-operating expenses. These improvements should be funded through impact fees and bonds. Independently, sufficient revenue should be generated to fund the respective operating and non-operating expenses.

In this section, the two types of expenses are discussed individually. Projected revenue and expenditures have been analyzed to determine if the present rates and fees are sufficient to fund the recommended improvements and other expenditures.

The impact fee will be calculated to provide revenue for future improvements.

### **Impact Fee Fund**

The Impact Fee Fund or capital project fund is used to fund improvements needed to meet the increased demands due to the growth. Revenue is currently generated from the "impact fee" charged to new developments. This revenue is used for capital improvement projects and debt service.

The impact fee can be used to fund capital improvements including construction costs, land acquisition, material costs, planning, surveying, and engineering fees provided for and related directly to the construction of the system improvements, and debt service charges to the principal and interest on bonds, notes or other obligations issued to pay the cost of the system

improvements. This revenue can also be used to fund periodic master plan reviews and master updates.

Currently, the impact fee that is charged to new development is \$2,300 per 3/4-inch meter. Based on the estimated cost of the required improvements as shown in Table 3-8, the impact fees in Table 3-7 are calculated based on meter capacity as shown.

The money generated from the current impact fees and the projected numbers of connections should generate sufficient revenue to fund the recommended capital improvements.

To keep abreast of inflation and increasing construction costs, the water rates and impact fees should be reviewed periodically to ensure that the required funding will be available.

In addition to the impact fees, a hook-up fee may also be charged for the average cost of services provided for and directly attributable to utility services. Specific city service would include meter installation and inspection of developer's connection to the system.

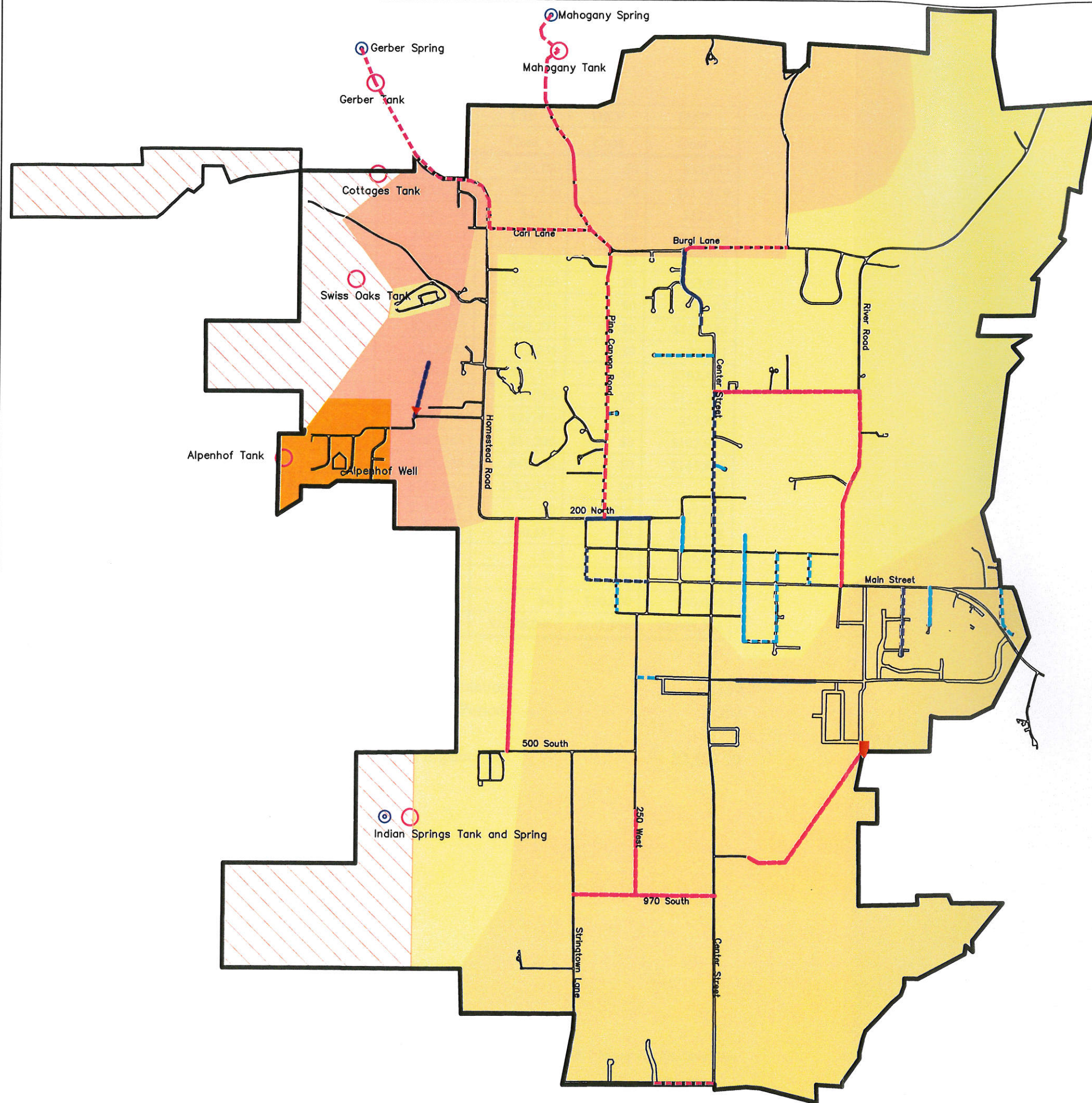
**Table 3-7: Impact Fees**

Meter Size (inches)	Flow Capacity (gpm)	ERUs	Impact Fee
0.75	30	1	\$2,300
1	50	1.67	\$3,833
1.5	100	3.33	\$7,667
2	160	5.33	\$12,267
3	350	11.67	\$26,833
4	1,000	33.33	\$76,667

FIGURE 3-2

MIDWAY CITY

MASTER PLAN IMPROVEMENTS



LEGEND

- EXISTING WELL OR PUMP
- EXISTING SPRING
- EXISTING RESERVOIR
- BUILD-OUT BOUNDARY
- FUTURE PRV
- FUTURE CHECK VALVE

FUTURE WATER LINES

PIPE SIZE(In.)	PIPE COLOR
8	
10	
12	

PRESSURE ZONES

- MAIN PRESSURE ZONE (HGL 5780)  
(GERBER, MAHOGANY, AND DUTCH FIELDS TANK)
- HOMESTEAD PRESSURE ZONE (HGL 6035)  
(COTTAGES TANK)
- ALPENHOF PRESSURE ZONE (HGL 6040)  
(ALPENHOF TANK)
- SWISS OAKS PRESSURE ZONE (HGL 6035)  
(SWISS OAKS TANK)
- INDIAN SPRINGS ZONE (5626)  
(INDIAN SPRINGS TANK)
- VALAIS PRV ZONE
- BOOSTER PUMP ZONE

**Table 3-8: Cost Summary of Recommended Improvements**

#	IMPROVEMENT DESCRIPTION	Project Cost	CIP	DEV	IMP
			Cost	Cost	Cost
1	300 West Upgrade, Main to 100 S	\$86,133	\$32,300	\$0	\$53,833
2	Johnson Mill, Main South to Dead End	\$135,755	\$22,626	\$0	\$113,129
3	450 N/Dairy Lane, Center to End of Cul	\$39,210	\$6,535	\$0	\$32,675
4	600 North Upgrade, Center to River Rd	\$389,531	\$55,647	\$0	\$333,884
5	100 East Upgrade, 150 N to 185 S	\$86,133	\$32,300	\$0	\$53,833
6	300 East Upgrade, Main to 100 N	\$86,133	\$32,300	\$0	\$53,833
7	700 East Upgrade, Main to 100 S	\$111,844	\$18,641	\$0	\$93,203
8	200 East, 100 N to 185 S,	\$246,055	\$92,271	\$0	\$153,784
9	Probst Way, Pine Canyon to End of Cul	\$33,425	\$12,535	\$0	\$20,891
10	100 West/Center, 850 N to Burgi Lane	\$209,976	\$46,518	\$0	\$163,459
11	200 North, 200 W to 400 W	\$161,455	\$35,768	\$0	\$125,687
12	100 West Upgrade, 100 N to 200 N	\$86,133	\$32,300	\$0	\$53,833
13	Farm Road, Center St to End of Cul	\$163,266	\$61,225	\$0	\$102,041
14	580 East, Main St to 250 S	\$187,295	\$41,493	\$0	\$145,802
15	Pine Canyon Road, 200 N to 800 N.	\$785,442	\$785,442	\$0	\$0
16	200/185 S, 100 E to 200 E	\$159,795	\$0	\$111,856	\$47,938
17	Main St, 200 W to 400 W	\$181,266	\$40,157	\$0	\$141,108
18	Tate Lane Improvements	\$176,434	\$0	\$0	\$176,434
19	Establish New Source	\$1,000,000	\$0	\$0	\$1,000,000
20	Update Capital Facilities Plan	\$30,000	\$0	\$30,000	\$30,000
	<b>TOTAL</b>	<b>\$4,355,279</b>	<b>\$1,348,056</b>	<b>\$141,856</b>	<b>\$2,895,366</b>

Planning Period Total Population	10,159
Total New ERUs During Planning Period	1,257
Calculated Impact Fee	\$2,303.39



## Chapter 4

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# Trail System

### 4.1 Summary and Recommendations

#### Introduction

The trails within this master plan are comprised of three typical trail types: 6-foot improved surface, 8-foot hard surface, and natural surface trails. The Trail System Capital Facility Plan designates each trail as one of these three types. Developers are required to provide these master planned trails and are encouraged to provide an internal development trail system that connects into the city trail system as often as possible. For the purpose of calculating the trail's impact fee, the City Council, trails committee, and staff estimated which trails are likely to be installed by development and which trails the City's trails impact fee will be required to build.

Although residents of the county use the Midway City trail system, for the purposes of this study only developments that occur in the City will be considered.

**Trails Impact Fee = \$802.00/ERU**

#### Projected Population

Midway City's full-time and secondary population is expected to increase from 6,735 to 10,159 people by the end of the 10 year design period in the year 2022. An increase of 1,109 housing units is expected to occur during this period. Additionally, the full time and secondary population is expected to increase to 21,000 people and 6,860 total housing units in the build-out year of 2050.

See Chapter 1 for more details.

#### Trail System Master Plan

Figure 1 shows the Trail System Master Plan. The existing and future trails shown reflect the major network of trails, transportation needs, and improvements of the fully developed city within the proposed future annexation boundary. Future trails are those that should be constructed to meet the needs of the projected population. The cost of trails which are anticipated to be installed by future developments were not used to calculate the trails impact fee. Because these are the minimum required trails, no trails reimbursement will be made for the construction of any master plan trails that were anticipated to be constructed by developers.

**Development Standards**

Midway City trails are comprised of three typical trail types: natural surface, 6-foot improved surface, and 8-foot hard surface. Due to the small length of natural trails within the city limit they have not been included in this evaluation. A description of the widths of the respective trails are shown in Table 4-1 and also shown on Figure 4-1. The Trail system plan designates each existing and future trail as a 6-foot improved surface or an 8-foot hard surface trail. Developers are required to construct the size and type of trail the Trail Capital Facility Plan and Trails Committee recommends. All improved surface trails are to be constructed of a road base type material as shown in the construction standards.

With the construction of trails throughout Midway City, a large number of trail bridges will need to be constructed. Bridges should be designed to adequately allow the passing of a 100-year flood; the bridges should also require minimal maintenance and accommodate the typical maintenance equipment which has an 8-foot width.

**Table 4-1: Midway City’s Trail Size Requirements**

Type	Right-of-Way Width	Surface Width
8-foot Hard Surface	20-foot	8 ft
6-foot Improved Surface	20-foot	6 ft
Natural Surface	20-foot	4 ft

Trail design should be ADA compliant where possible (slope < 5%). When the slope of the trail is above 5%, all other requirements of an ADA trail should still be followed and grades should follow the requirements of Table 4-2. For all other design criteria (stopping distances, curve radius, intersections, etc.) refer to the AASHTO Guide for Development of Bicycle Facilities.

**Table 4-2: Length of Trail for Grades Above 5%**

Grade	Limit on length at that Grade
<5%	None
5-6%	800-foot
6-7%	400-foot
7-8%	200-foot
8-9%	100-foot
9-10%	50-foot
>10%	0

### **Upkeep and Maintenance**

It is recommended that Midway City establish a trail maintenance plan and evaluate trails that need to be repaired or replaced. The design life of the trail can be increased by placing a slurry or chip seal, and/or crack seal approximately every five years or as needed. By applying a 2-inch asphalt overlay every 15 to 20 years, the design life of the trail can also be extended. Based on the maintenance issues and use of the trail, a decision should be made as to what types of improvements are needed. The original design of the trail and sub-grade will also be a factor in the trail's life.

Midway City should have a yearly trail maintenance plan that ensures that the trails continually have adequate drainage, shoulders are kept free of weeds and debris, and patching is completed to minimize the effects of the city's intense freeze thaw cycles.

### **Recommended Trail System Improvements**

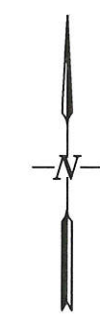
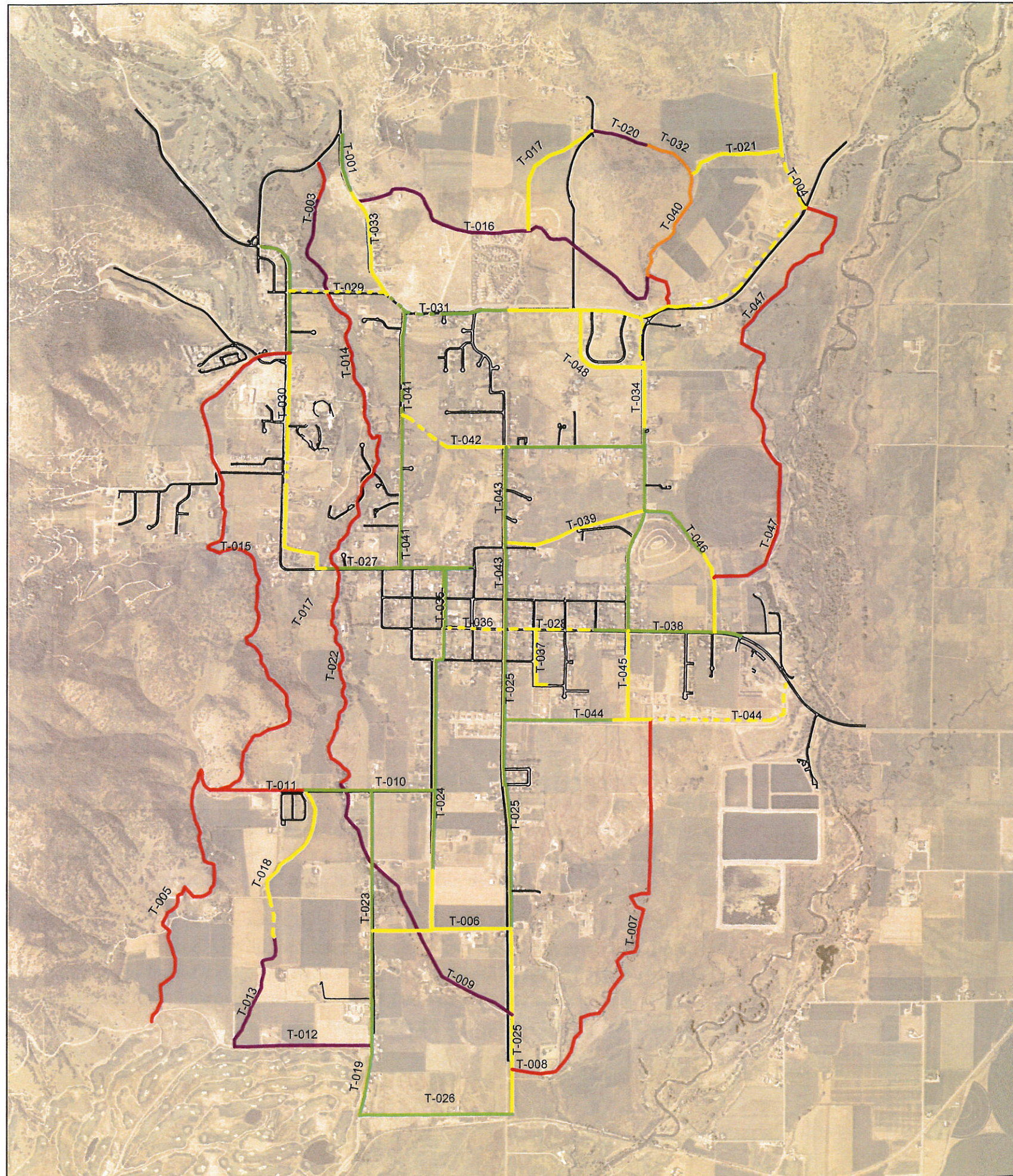
Capital improvements recommended to meet the projected population are shown in Figure 4-1 and listed in Table 4-3. These recommendations were determined by projecting the future areas of development, the Midway City Master Trail Plan developed by the Trails Committee, and input from City Officials.

### **Feasibility Recommendations**

The trail impact fee is calculated based on an equivalent residential unit (ERU). These funds should generate sufficient revenue to fund the recommended capital improvements shown on table 4-3. However, to keep abreast of increasing inflation and construction costs, the trail impact fees should be analyzed periodically to make sure funding is available for improvements and capital expenditures. Developers can be reimbursed for master plan trails only if the trail they construct is used in calculating the trails impact fee cost.

Commercial developments also impact Midway City's trail master plan. Trails can provide a way for employees to exercise during lunch, or breaks, and also provide access to work. Since a large portion of the commercial property located within the C2 & C3 zones are currently connected to an existing trail, bicycle path, or widened sidewalk, Midway City hereby designates these zones as service areas in which a trails impact fee will not be imposed on commercial development unless extraordinary circumstances warrant.

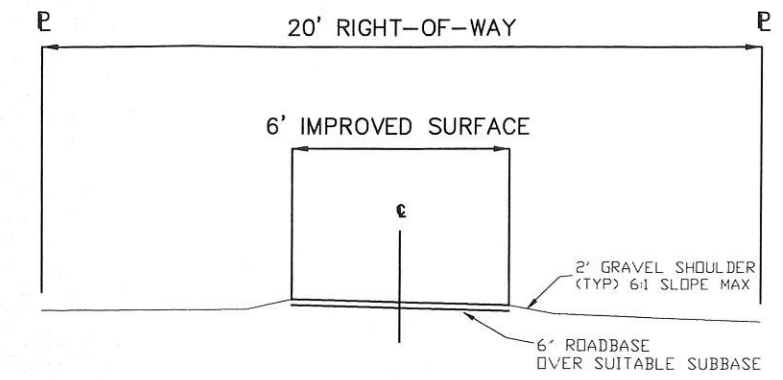
FIGURE 4-1  
MIDWAY CITY  
TRAIL SYSTEM  
MASTER PLAN



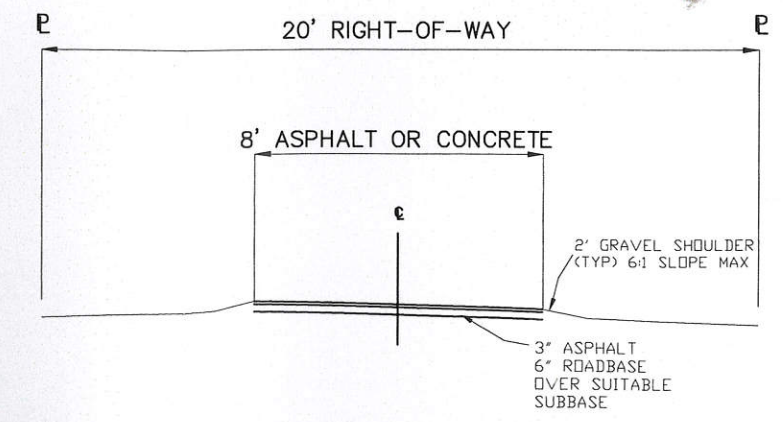
LEGEND

- 4' Natural Back Country Trail
- NON-IMPACT FEE ELIGIBLE**
- 6' IMPROVED TRAIL NOT ELIGIBLE FOR IMPACT FEES
- 8' PAVED TRAIL NOT ELIGIBLE FOR IMPACT FEES
- IMPACT FEE ELIGIBLE**
- 6' IMPROVED TRAIL ELIGIBLE FOR IMPACT FEES
- 8' PAVED TRAIL ELIGIBLE FOR IMPACT FEES

NOTE: DASHED LINE DENOTES AN EXISTING TRAIL



PROPOSED 6' TRAIL  
N.T.S.



PROPOSED 8' TRAIL  
N.T.S.

## 4.2 Future Conditions

### Introduction

Future conditions in Midway City will affect the trail conditions and the improvements needed to meet the increased population. Some of the assumptions used to determine the future conditions are:

- Present growth rates
- Economic stimuli
- Environmental and recreational development
- Residential development

As the factors change, the projected future conditions made in this study may also change. To help minimize the effect of the changing future conditions, the recommendations made in this study will be based upon the 10-year growth period.

In this chapter the future Midway City boundary projected at build-out was used to determine the type and location of the proposed trails. The projected population at the end of the 10 year planning period was used to calculate the trails impact fee.

### Projected Population

The projected population for Midway City from 2012 to 2022 is discussed in Chapter 1. The current 2012 full time and secondary population is estimated to be 6,735. The existing number of equivalent residential units (ERUs) is estimated to be 2,179. At the end of the 10 year planning period the population is projected to be 10,159 full time and secondary residents which is equivalent to 3,288 ERUs. This will be an increase in ERUs of 1,109.

## 4.3 Trail System Analysis

### Trail Impact Fees Administration

An impact fee is a one-time fee with the purpose of raising revenue for new or expanded public facilities required by new development. Impact fees cannot be used to correct existing trail corridor deficiencies or for routine maintenance activities. The premise behind an impact fee is based on the assumption that if no new development was allowed, the existing trail system would adequately serve the existing level of development within the city.

Due to an increase in Midway City's population, traffic and congestion on Midway City's roadways will increase. Getting pedestrians, cyclists, and equestrian users off of the roadways and away from traffic creates the need for an adequate trail system within Midway City. The recommended trail improvements outlined in the Trail System Master Plan are used in the development of impact fees. These improvements are growth related and are needed to accommodate the projected growth.

### **Impact Fees**

The calculations for trail impact fees consist of dividing the total cost of the trails Midway City anticipates constructing within the 10 year planning period by the total increase in ERUs of 1,109. Also included in the impact fee is the cost to update the capital facility plan and impact fee analysis costs. Table 4-3 has a detailed cost of the anticipated improvements.

### **Impact Fee Fund**

Trail improvements must be made to provide safety and access to property as future growth occurs. Revenue must be generated to fund the needed trail improvements. It is calculated that the revenue collected from the trails impact fee will generate the funds required to update the necessary improvements the City anticipates will need to be installed. Each of the trail improvements are related to growth.

Table 4-3: Cost Summary of recommended improvements

TRAIL CAPITAL IMPROVEMENTS										
IMPROVEMENT DESCRIPTION	Total Length			Surface Type	Not Eligible for Impact Fees Length (feet)	Eligible for Impact Fees Length (feet)	Developer Cost	Midway City Impact Fees Cost		
	(miles)	(feet)	Width (feet)							
T-001	0.26	1,373	8	paved	0	1,373	\$0	\$46,682		
T-030	1.23	6,494	8	paved	4,325	2,169	\$147,059	\$188,461		
T-031	0.66	3,484	8	paved	2,820	1,880	\$95,880	\$63,920		
T-034	1.46	7,710	8	paved	4,240	3,470	\$144,160	\$232,691		
T-041	1.74	9,187	8	paved	0	9,187	\$0	\$427,069		
<b>Totals</b>	<b>5.4</b>	<b>28,248</b>					<b>\$387,099</b>	<b>\$958,823</b>		

2012 Population 6,735  
 2022 Population 10,159  
 New ERUs 1,109 ERU's  
 Calculated Impact Fee per ERU \$865

## Chapter 5

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# Parks Facilities Master Plan

### 5.1 Summary and Recommendations

#### Introduction

The number of parks and size of parks, or park acres, that are required by a city is based largely on the population. Over the 10 year planning period the City's full time and secondary population is projected to increase to 10,159 people. During this period of time the number of park acres that the City will need to purchase and develop will also need to increase. This park facilities master plan consists of a plan to develop and improve some of the existing city parks with landscaping and public facilities, and to purchase new land for a proposed multi-purpose dual use park site. The criteria used in this study are summarized below:

- Park Ratio: 5 acres of park per 1,000 people

**Recommended Park Impact Fee = \$1,000.00/ERU**

#### Capital Improvements Plan

Midway City currently has approximately 19.3 acres of improved park space and 36.1 acres of total park acres. It is anticipated the total population of Midway City will grow to 10,159 people by the end of the 10 year planning period. The current full time and secondary populations of 6,735 people enjoy 36.1 acres of park. This is a ratio of roughly five acres of park per 1,000 people. Additionally, The National Recreation and Park Association in conjunction with the American Academy for Park and Recreation Administration has published the 1996, Park, Recreation, Open Space and Greenway Guidelines. This guideline states that up to ten acres per 1,000 people is a commonly accepted standard used by a majority of communities. Because of the surrounding mountains and the existing Wasatch Mountain State Park, Midway City has adopted five acres of parks per 1,000 people as the standard for this parks capital facility plan.

To achieve five acres of park per one-thousand people during the planning period, an additional 14.7 acres of parks will need to be purchased. Due to the need to improve existing park acreage, the purchase of additional land may have to be completed through bonding. Midway City already owns some unimproved park property that has the potential to be developed into city parks. The Valais Park is 25 acres; currently approximately 10 acres of the park have been improved.



In addition to improving parks throughout Midway City, bike and walking trails have been placed as a priority by the city. Additional information about the city wide trail system can be found in Chapter Four of the master plan.

Impact fees are necessary to maintain the current ratio of parks and recreation facilities to the number of residents of Midway City. The Park Impact Fee is assessed on new building permits to improve existing parks and provide new parks and recreation benefits to the new residents. The Park and Recreation Impact Fee is determined in part by the value of existing city parks.

### **Reasoning for Park Impact Fees**

As the population of Midway City grows, there will be a need for the existing parks to be further improved and additional parks and recreational areas to be developed. The required amount of parks and recreation area is based on a predetermined amount of acreage per thousand residents. Midway City has established a standard of five acres of park per one thousand residents. To maintain this ratio throughout the planning period, Midway City must purchase new lands, improve existing parks, and improve existing lands to park status. Impact fees are charged for new developments in order to improve the existing parks and fund these new Midway City parks.

### **Contributors to Park Impact Fees**

A park impact fee is the most reasonable method of obtaining funding for improving existing parks and developing new parks by obtaining the money from those who create the need. When population increases, so does the demand for residential housing. As residential developments fill with occupants, the new residents place a demand on the existing city infrastructure including parks and recreation areas. As the population density of a development increases, the demand for open spaces increases per capita. By levying fees on building permits, Midway City can fund the new demand on the infrastructure in a fair and rational method, and maintain the existing level of service.

Commercial developments also impact Midway City's parks and recreation facilities. Parks can provide an area for employees to go during lunch and business hours for breaks or relaxation. Parks also furnish a place for people to rest who come from out of town to conduct business. Since a large portion of the commercial property located within the C2 & C3 zones are currently connected to an existing park, Midway City hereby designates these zones as service areas in which a parks impact fee will not be imposed on commercial development unless extraordinary circumstances warrant.

### **Current Value of Existing Facilities and Acreage**

The current acreage of improved city parks is approximately 19.3 acres and the estimated amount of unimproved potential city park is estimated at 15 acres. A short description of the existing city parks included in this study is given in the following paragraphs.

**Town Square Park:** The Town Square Park is located in the center of town adjacent to the City building and town hall. The park has an area of 2.5 acres. The park includes a tennis court and an ice skating rink with summer activities. The city wide trail system is planned to connect to this park. Proposed improvements will include additional trees and minor landscaping. This park is the center of Swiss Days.

**Centennial Park:** The Centennial Park is between Center Street and 100 East adjacent to 100 North. The park has an area of 1.5 acres. The park provides a playground and a pavilion with barbecues and picnic tables. A small section of the park has a small stream and a trail system. The city wide trail system is planned to connect to this park.

**Hamlet City Park:** The Hamlet City Park is located on the east entrance of town adjacent to Main Street. The 4.5 acres park provides a playground, a small restroom, and two pavilions with barbecues and picnic tables. This park also accommodates a storm water retention pond. The city wide trail system is planned to connect to this park.

**Valais Park:** The Valais Park is located adjacent to Burgi Lane between Interlaken Road and the Valais development. The park has an area of 25 acres; however, approximately 10 acres have currently been improved. The park was donated to the City by the developer as part of the developments open space. The park includes a concrete tennis court with a basketball court. The Park also contains several areas of open space with wetlands and a trail system. A section of the city wide trail system is currently connected to this park. Proposed improvements will include landscaping, playground equipment, restrooms, a minor sports field, and additional trails.

**Alpenhof City Park:** The Alpenhof City Park is located in the west portion of the City in the southwest corner of the Alpenhof development. The 2.6 acres park provides a playground and a pavilion with barbecues and picnic tables.

The parks and recreation responsibilities in the Heber Valley have been shared by both Midway City and Wasatch County. The County has provided the large community-type recreation parks and Midway City provides the smaller, community-type parks within the city limits. The planning of city parks and recreation facilities should be in concert with the planning of the County's larger recreational facilities. Meetings between the two governing bodies should occur to ensure the recommended open space, trails, parks, and recreational facilities are being fulfilled.

### **Recommended Park Improvements**

To accommodate the projected population, an additional 14.7 acres of park area will be needed. This will bring the total Midway City park acreage to approximately 50.8 acres. This additional acreage can be met by acquiring new property. It is possible that new property will need to be acquired through bonding, due to the large amount of money involved. It is recommended that

larger storm water detention basins be designed to serve as a dual use. A short description of the proposed city parks are given in the following paragraphs.

**Tate Lane Park:** The proposed Tate Lane Park could be located near Tate Lane on the south side of the city. The park will have an area of approximately 25 acres. This area would provide a park at the southern entrance to Midway City. The park is proposed to be a nature park with trails designed to enhance natural bird and wetland observation, the scenic Deer Creek Reservoir and the majestic beauty of Timpanogos Mountain. As noted in Table 5-1, Midway City's estimated cost of park improvements, the facilities proposed for this park are, a pavilion and picnic area, restrooms, and trails. Also included near the pavilion is a small play area. It is proposed that benches and information stands would be constructed at several locations along the trail.

**Midway Sports Park:** The proposed Midway Sports south of the existing Midway Elementary School. The park will have an area of approximately 25 acres. The park would be centrally located with the main entrance off Michie Lane. The park is proposed to be a sports field providing baseball, softball, soccer, basketball and sand volleyball facilities. This park is also proposed to have picnic and pavilion facilities with restrooms. The estimated costs can be seen in Table 5-1, Midway City's estimated cost of park improvements.

Cities often experience difficulties with the land obtained for parks and recreation in lieu of impact fees. The land donated often is the least usable land within the development. Due to undesirable locations and geography, the parks are often not widely used by residents. Less viable property creates problems for the City in maintaining the grounds. It also falls on the City to improve the property to a suitable level of service for the community. Often times the expenses are excessive. It is recommended that the City impose the impact fee on developments in lieu of property being donated by developments. It thereby gives Midway City the opportunity to obtain suitable properties for parks and recreation purposes.

Although the total build-out will probably not come for many decades, proper planning to obtain adequate amounts of park space should occur now. The collection of impact fees for park development is one way to help plan for and benefit future generations.

Since population growth, property values, inflation, zoning, and other variables affecting park values change from year to year, it is recommended that Midway City periodically review the impact fee to determine if an adjustment is required. Changes to state and county codes may also affect how the City assesses impact fees. For these reasons, it is recommended that Midway City have a review performed on the parks impact fee periodically.

**Table 5-1: Proposed Park Projects**

**10 Year Planning Period Projects**

**Cost to Develop Existing Parks**

**Town Square**

Description	Units	Quantity	Unit Cost	Total Cost
Playground equipment	Lump Sum	1	\$2,000	\$2,000
Landscaping	acres	1	\$5,000	\$5,000
<b>Total</b>				<b>\$7,000</b>

**Valais Park**

Description	Units	Quantity	Unit Cost	Total Cost
Playground equipment	Lump Sum	1	\$30,000	\$30,000
Landscaping	acres	15	\$5,000	\$75,000
Minor sports field	Lump Sum	1	\$75,000	\$75,000
Trails	Lump Sum	1	\$10,000	\$10,000
Restrooms	Lump Sum	1	\$75,000	\$75,000
Fencing and Miscellaneous	Lump Sum	1	\$25,000	\$25,000
<b>Total</b>				<b>\$290,000</b>

**Cost to Develop Proposed Parks**

Description	Units	Quantity	Unit Cost	Total Cost
Purchase Land	acres	12.5	\$65,000	\$812,000

<b>Total</b>				<b>\$1,109,000</b>
Projected New ERUs				1109
<b>Park Impact Fee</b>				<b>\$1,000</b>

**Build-Out Proposed Projects**

**Cost to Develop Proposed Parks**

**Tate Lane Park**

Description	Units	Quantity	Unit Cost	Total Cost
Purchase Land (25-12.5)	acres	12.5	\$65,000	\$813,000
Playground equipment	Lump Sum	1	\$10,000	\$10,000
Enhance Natural Landscaping	acres	15	\$12,000	\$180,000
Picnic Pavilion	Lump Sum	1	\$25,000	\$25,000
Restrooms	Lump Sum	1	\$70,000	\$70,000
Trails	Lump Sum	1	\$20,000	\$20,000
Fencing and Miscellaneous	Lump Sum	1	\$20,000	\$20,000
<b>Total</b>				<b>\$1,138,000</b>

**Midway Sports Park**

Description	Units	Quantity	Unit Cost	Total Cost
Purchase Land	acres	25	\$80,000	\$2,000,000
Playground equipment	Lump Sum	1	\$15,000	\$15,000
Landscaping	acres	25	\$30,000	\$750,000
Picnic Pavilion / Concessions	Lump Sum	1	\$25,000	\$25,000
Restrooms	Lump Sum	1	\$70,000	\$70,000
Fencing and Miscellaneous	Lump Sum	1	\$15,000	\$15,000
<b>Total</b>				<b>\$2,875,000</b>

## CERTIFICATION OF IMPACT FEE ANALYSIS BY CONSULTANT

In accordance with Utah Code Annotated, § 11-36-201 {6}(b), Horrocks Engineers makes the following certification:

We certify that the intent of the attached impact fee analysis includes only the costs for qualifying public facilities that are:

- Allowed under the Impact Fees Act;
- Projected to be incurred or encumbered within six years after each impact fee is paid;
- Contains no cost for operation and maintenance of public facilities;
- Offsets costs with grants or other alternate sources of payment;
- Does not include 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; and
- Complies with the Impact Fees Act.

HORROCKS ENGINEERS makes this certification with the following caveats:

1. All of the recommendations for implementations of the Impact Facilities Plans documents or in the Impact Fee Analysis documents are followed in their entirety by Midway City staff and elected officials.
2. If all or a portion of the Impact Facilities Plans or Impact Fee Analysis are modified, amended, or not adhered to, this certification is no longer valid.
3. All information provided to Horrocks Engineers, its contractors or suppliers is assumed to be correct, complete and accurate. This includes information provided by Midway City and outside sources.

Dated: March 14, 2012

**HORROCKS ENGINEERS**



By: Wesley Johnson, P.E.



## ORDINANCE 2012-02

### AN ORDINANCE AMENDING THE IMPACT FEES FOR MIDWAY CITY

**WHEREAS**, pursuant to Utah Code Section 11-36a-301, the City Council of Midway City has directed the preparation of a revised Impact Fee Facilities Plan to determine the public facilities required to serve new development activity in the City; and

**WHEREAS**, the revised Impact Fee Facilities Plan is attached to this ordinance; and

**WHEREAS**, pursuant to Utah Code Section 11-36a-303, the City Council of Midway City has directed the preparation of an Impact Fee Analysis and Summary to calculate and analyze the impact fees that the City is allowed to impose upon new development activity in the City; and

**WHEREAS**, the Impact Fee Analysis and Summary are attached to this ordinance; and

**WHEREAS**, all required notices for preparing and adopting the Impact Fee Facilities Plan, the Impact Fee Analysis and Summary, and this Impact Fee Ordinance were given as required by law; and

**WHEREAS**, separate public hearings were noticed and held as required by law on (1) the Impact Fee Facilities Plan and Impact Fee Analysis and Summary and (2) this Impact Fee Ordinance; and

**WHEREAS**, the City Council of Midway City now finds it in the public interest to adopt an Impact Fee Enactment by way of this ordinance, as authorized by Utah Code Section 11-36a-401.

**NOW THEREFORE**, be it ordained by the City Council of Midway City, Utah, as follows:

Section 1: Based on the results of the revised Impact Fee Facilities Plan and Impact Fee Analysis, no change will be made to Midway City Municipal Code Section 4.06.010, Parks and Recreation Impact Fee.

Section 2: Based on the results of the revised Impact Fee Facilities Plan and Impact Fee Analysis, Midway City Municipal Code Section 4.06.020(D), Streets and Transportation Impact Fee, is amended to read as follows:

D. Formula.

1. Midway City shall impose a streets and transportation impact fee on residential and commercial development, based on \$288.00 per trip generated, resulting in an impact fee of \$2,750.00 per equivalent residential unit and \$1,558.00 per unit for apartment housing, to be imposed on new development and building activity throughout the City limits, which may be adjusted to reflect any significant changes in the underlying data or sections upon which the fee is based.

2. The fee shall be deposited only in a designated, interest bearing account with monies expended only for streets and transportation facilities.

Section 3: Based on the results of the revised Impact Fee Facilities Plan and Impact Fee Analysis, Midway City Municipal Code Section 4.06.030(D), Trails Impact Fee, is amended to read as follows:

D. Formula.

1. Midway City shall impose a trails impact fee of \$802.00 per equivalent residential unit, to be imposed on new development and building activity throughout the City limits, which may be adjusted to reflect any significant changes in the underlying data or sections upon which the fee is based.

2. The fee shall be deposited only in a designated, interest bearing account with monies expended only for trails facilities.

Section 4: Based on the results of the revised Impact Fee Facilities Plan and Impact Fee Analysis, no change will be made to Midway City Municipal Code Section 4.06.040, Water Impact Fee.

Section 5: This ordinance shall take effect 90 days after its passage.

**PASSED AND ADOPTED** by the City Council of Midway City, Wasatch County, Utah this 14<sup>th</sup> day of March, 2012.

	AYE	NAY
Council Member Colleen Bonner	<u>  X  </u>	<u>          </u>
Council Member Steve Ashton	<u>  X  </u>	<u>          </u>
Council Member Dick Hines	<u>  X  </u>	<u>          </u>
Council Member Danny Hofheins	<u>  X  </u>	<u>          </u>

Council Member Ken Van Wagoner

X

APPROVED:

Connie Tatton

Connie Tatton, Mayor

ATTEST:

Brad Wilson

Brad Wilson, City Recorder

APPROVED AS TO FORM:

Kraig Powell

Kraig Powell, City Attorney







## Certificate of Passage, Posting and Publication

I certify that on 14 March 2012 the Midway City Council adopted Ordinance 2012-02 (The ordinance amending Title 4 of the Midway City Municipal Code pertaining to the Revision of the Impact Fee Facilities Plan).

I certify that a full, true, and correct copy of the ordinance was posted on 5 April 2012 at the following locations:

Midway City Office Building  
7-Eleven (Midway)  
The Store Express

I further certify that a summary of the ordinance was published in The Wasatch Wave on 11 April 2012.

Becky Wood, Midway City Deputy Recorder

Dated 05 April 2012



MIDWAY CITY CORPORATION

75 North 100 West, P.O. Box 277  
Midway, Utah 84049  
Phone: 435-654-3223 Fax: 435-654-4120