Washington City
Where Dixie Begins

**Washington City Power Board**
111 North 100 East
Washington City, UT 84780
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**WashingtonCity.org**

Notice of Electronic Meeting
Power Board Meeting Agenda - Amended
September 7, 2021

**PUBLIC NOTICE** is hereby given that the Washington City Power Board will hold an Electronic Meeting on Tuesday, September 7, 2021 at 5:00 P.M. hosted at the Washington City Office located at 111 North 100 East, Washington, Utah The meeting will be broadcast via Youtube Live linked online at https://washingtoncity.org/meetings

1. APPROVAL OF AGENDA

2. APPROVAL OF MINUTES

    a. Approval of the minutes from 08/03/2021.

3. NEW BUSINESS

    a. Impact Fee Facilities Plan (IFFP) - Rick Hansen
    b. Impact Fee Study - Rick Hansen & UFS
    c. Rate Study - Rick Hansen & UFS

4. REGULAR BUSINESS

    a. Operations Report & Generation Update - Power Director Rick Hansen

5. UAMPS REPORT

6. ADJOURNMENT

POSTED on this 1st day of September 2021
Nikki Wells
Administrative Assistant

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*In accordance with the Americans with Disabilities Act, Washington City will make reasonable accommodations to participate in the meeting. Requests for assistance can be made by calling the City Recorder at 656-6308 at least 24 hours in advance of the meeting to be held.*

Washington City
Where Dixie Begins

# WASHINGTON CITY POWER

# Impact Fee Facility Plan

## August 2020

**Intermountain Consumer**
**Professional Engineers, Inc.**
**1145 East South Union Avenue**
**Midvale, Utah 84047**
**(801) 255-1111**

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# SECTION I GENERAL

## Introduction

Intermountain Consumer Professional Engineers, Inc. ("ICPE") performed studies and analyses for Washington City Power ("WCP") to update their 2013 Electrical Power Capital Facilities Plan and Impact Fee Facilities Plan.

ICPE utilized load predictions in the studies that were developed using recent load data provided by WCP and load trends observed in Washington City over the past several years. The future loads used in the studies are predictions and do not reflect actual values which prevents ICPE from guaranteeing or assuring that the recommendations reflect actual events that will occur in the future. However, it is believed that all predictions and observations used in the study are reasonable and appropriate for the purpose of the Capital Facilities Plan and Impact Fee Facilities Plan.

## Impact Fees - General

Impact fees are generally used by cities to fund infrastructure projects necessary to provide services to new developments within the city's boundary. The new development should bear the additional or incremental capital cost for the services, existing residents who do not benefit from the new development should not bear the costs for services to the new development. Impact fees are not intended for operating expenses or for corrections to existing deficiencies in the services presently being provided by a city. Impact fees are based on anticipated new load increase to the electrical system due to the new developments. The improvements outlined in the plans are required to maintain the present level of service to both new and existing customers.

## Impact Fees - Utah

In Utah, impact fees are governed by state statute, specifically U.C.A. 1953 § 11-36a-102. The Statute requires that each governmental agency that imposes an impact fee shall (1) prepare an Impact Fee Facilities Plan (§ 11-36a-301), (2) perform an Impact Fee Analysis (§ 11-36a-303), (3) calculate the Impact Fee(s) (§ 11-36a-305) and (4) certify the Impact Fee Facilities Plan (§ 11-36a-306).

As stated in the Statute, the "Impact Fee Facilities Plan ("IFFP") shall identify (a) demands placed upon existing public facilities by new development activity; and (b) the proposed means by which the political subdivision will meet those demands." The IFFP shall also consider all revenue sources, including impact fees, used to finance impacts on system improvements. This report incorporates the

most recent WCP Capital Facilities Plan ("CFP"), dated April 2020. In general, the CFP outlines all projects necessary to maintain electrical service to existing customers and the IFFP outlines fees for the improvements necessary to provide service to new developments and customers. Projects identified in the CFP may be due to the correction of an existing deficiency or improvement necessary to maintain reliability and are not included in the IFFP.

The Utah Statute requires the governmental agency that imposes an impact fee to perform an analysis of the impact fee and document the results. The agency is also required to provide a summary document of the analysis that can be understood by a layman. The estimated impacts on the existing electrical system due to the new development are to be included in the Impact Fee Analysis (IFA) along with the costs associated with addressing the impacts. The IFA is also required to include the costs of existing capacity that will be recouped.

Impact Fee calculations may include the following:

(a) The construction cost.
(b) The cost of acquiring land and material.
(c) The cost for planning, surveying, and engineering fees for services provided to design the construction.
(d) Debt service charges, if the impact fees are used to pay the principal and interest on bonds or other obligations to finance the costs of the construction.

Impact Fee calculations are to be based on local industry standard material and labor estimates. The assumptions used to develop the estimates are to be included in the IFA. The IFFP and the IFA area to be certified by the person or entity that prepared the documents.

## Washington City

According to the US Census, Washington City is located in Washington County, Utah. The land area is 32.86 square miles and the estimated population in 2019 was about 29,174 persons. The median resident age is 31 years, the average household size is 3.01 persons and the median household income is about $58,815.

Washington City Power was formed in 1987 to serve electricity to Washington City. The service area is north of the Virgin River and within the Washington City limits. The CFP and IFFA plans do not include the south side of the Virgin River which is served by Dixie Power.

# Electricity Supply

## General

Figure 1 illustrates the three basic components of an electrical system, an electric generator that creates the electricity, a transmission system that carries the electricity to the distribution system; and the distribution system that delivers the electricity to the customer.

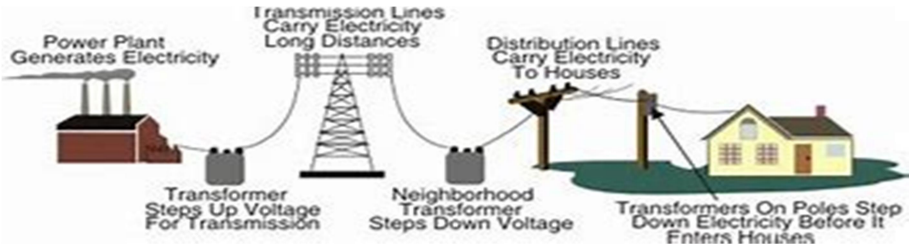



**Figure 1**

**Illustration of a Typical Power Delivery System**

## Electricity Generation

Electricity is produced by a generator that is powered by a fuel source. The generator can be a steam, hydro, turbine, diesel engine, wind, solar or geothermal. The generated electricity is provided to a utility through purchased power agreements, which can be a firm power agreement (long-term and short-term); unit power (a portion of a specific generating unit) and non-firm (usually short-term). The type and amount of each generating resource that is used by a utility to meet the electrical demand depends on the amount and duration of the demand, the availability of the generating units and the cost of the electricity from the generating units. To meet the hourly demand for electricity, each available generating resource is evaluated according to its availability, capacity and operating cost and then dispatched accordingly to meet the demand for electricity in each hour of the day.

The utility's peak demand is the highest demand for electricity in any one hour. It is during these peak hours that a utility will use multiple generating resources including its own generating resources.

## Electricity Transmission

The electricity leaving the generator is stepped up to a higher voltage by a transformer and delivered to the transmission system. The transmission system consists of transmission power poles or towers, conductors, substations and other equipment necessary to deliver electricity from the generators to the utility.

Transmission of electricity to Washington City Power is through the Utah Associated Municipal Power Systems (UAMPS) transmission system. UAMPS receives electricity through Rocky Mountain Power's transmission system.

## Electricity Distribution

Electricity distribution is the final stage in the delivery of electricity to customers. An electricity distribution system receives electricity from the transmission system and delivers it to consumers. A typical electric distribution system includes medium-voltage (69 kV & 12.47 kV) power lines, substations, transformers, service drops and metering. The distribution system begins where the voltage is stepped down through transformer(s) and ends at the secondary service point at the customer's meter. Distribution circuits begin at the low-voltage side of the transformer located in the City's substation. Conductors for the distribution delivery system are either located overhead on utility poles, or buried underground.

Most electric customers are connected to a pole mounted or pad mounted transformer that reduces the distribution voltage to the low voltage used by customers. Each customer has an electrical service connection and a meter.

# SECTION II CAPITAL FACILITIES PLAN AND IMPACT FEE FACILITIES PLAN

## General

The Impact Fee Facilities Plan identifies the additional electrical load placed on an existing electrical system by new developments, identifies additions or modifications to the existing electrical system necessary to meet the increased load and provides costs for the system additions or modifications. The Plan will enable the utility to determine how they will fund the projects necessary to meet the load increase to the system.

The following summarizes the results of the Capital Facilities Plan Update that was completed in April 2020 where load increases were identified, projects were proposed to meet the load increase and costs were provided for the proposed projects.

## Historical Population and Load Growth

According to the U.S. Census Bureau, the Washington City's population in 2010 was approximately 18,761. The population grew to 29,174 by 2019 for an approximate 50% increase in population over ten years. The following table is a summary of the population growth since 1960.

**Table 2-1**
**Washington City Historical Population**

| Historical population | | |
|---|---|---|
| **Census** | **Pop.** | **%±** |
| 1960 | 445 | 2.3% |
| 1970 | 750 | 68.5% |
| 1980 | 3,092 | 312.3% |
| 1990 | 4,198 | 35.8% |
| 2000 | 8,186 | 95.0% |
| 2010 | 18,761 | 129.2% |
| Est. 2019 | 29,174 | 55.5% |

Washington City experienced a high growth rate between 1980 and 1990 and between 1990 and 2010. However the electrical load during these periods did not increase as significantly as the population. The annual historical load growth since 1987 is shown in Table 2-2.

**Table 2-2**
**Washington City**
**Electrical Load History**

| | PEAK kW | | | |
|---|---|---|---|---|
| **Year** | **Summer Peak** | **% Growth (Summer)** | **Winter Peak** | **% Growth (Winter)** |
| 1987 | 3,639 | | 6,498 | |
| 1988 | 3,840 | 5.52% | 6,146 | -5.42% |
| 1989 | 4,360 | 13.54% | 6,851 | 11.47% |
| 1990 | 4,514 | 3.53% | 6,520 | -4.83% |
| 1991 | 4,433 | -1.79% | 6,500 | -0.31% |
| 1992 | 5,121 | 15.52% | 5,616 | -13.60% |
| 1993 | 5,615 | 9.65% | 6,083 | 8.32% |
| 1994 | 6,514 | 16.01% | 6,268 | 3.04% |
| 1995 | 6,984 | 7.22% | 6,376 | 1.72% |
| 1996 | 8,112 | 16.15% | 6,436 | 0.94% |
| 1997 | 8,590 | 5.89% | 6,665 | 3.56% |
| 1998 | 9,883 | 15.05% | 6,410 | -3.83% |
| 1999 | 10,646 | 7.72% | 7,154 | 11.61% |
| 2000 | 11,956 | 12.31% | 6,976 | -2.49% |
| 2001 | 14,490 | 21.19% | 8,144 | 16.74% |
| 2002 | 15,638 | 7.92% | 8,930 | 9.65% |
| 2003 | 17,782 | 13.71% | 8,714 | -2.42% |
| 2004 | 19,840 | 11.57% | 9,716 | 11.50% |
| 2005 | 23,971 | 20.82% | 11,302 | 16.32% |
| 2006 | 25,093 | 4.68% | 12,966 | 14.72% |
| 2007 | 28,542 | 13.74% | 14,854 | 14.56% |
| 2008 | 27,852 | -2.42% | 15,216 | 2.44% |
| 2009 | 28,176 | 1.16% | 14,374 | -5.53% |
| 2010 | 29,005 | 2.94% | 14,731 | 2.48% |
| 2011 | 29,035 | 0.10% | 14,332 | -2.71% |
| 2012 | 31,518 | 8.55% | 15,332 | 6.98% |
| 2013 | 32,117 | 1.90% | 16,614 | 8.36% |
| 2014 | 31,714 | -1.25% | 15,377 | -7.45% |
| 2015 | 34,025 | 7.29% | 14,893 | -3.15% |
| 2016 | 36,134 | 6.20% | 14,945 | 0.35% |
| 2017 | 37,943 | 5.01% | 14,906 | -0.26% |
| 2018 | 38,494 | 1.45% | 16,183 | 8.57% |
| 2019 | 40,414 | 4.99% | 16,777 | 3.67% |

# Electric Infrastructure and Future Needs

## Transmission

It is proposed to install Substation 8 by approximately 2025. Significant load is expected to occur in the area surrounding I-15 Exit 13 and in the SITLA area lands. The new substation will be required to serve this load. A new 69 kV transmission line will be required to feed Substation 8. It is also proposed to install a new 69 kV tie line from the intersection at Main St. and Parkway that feeds the Parkway Substation to the new Substation 8. This will create a 69 kV loop so that both substations can be fed from more than one location in the event of a line outage or for system maintenance. This versatility will enhance the City's ability to operate the electrical system and will improve service reliability to City customers.

Four existing 69 kV lines converge near Main Street substation. These lines branch out to substations and to 69 kV sources. At this time it is not possible to switch the lines individually so that individual substations can be switched to alternate 69 kV sources. It is proposed to upgrade 69 kV switching to allow substations to be switched individually. This will improve flexibility and reliability of the 69 kV systems.

## Substation & Distribution

Approximately 22.7 MW of new load is projected over the next ten years in Washington City. Sienna Hills circuits will be the most heavily impacted since the area currently served by Sienna Hills is projected to grow by 16.5 MW. Significant load for Sienna Hills circuits is expected to occur in the area surrounding I-15 Exit 13 and in the SITLA area lands. Additionally, Sienna Hills circuits will need to feed several projects for apartment buildings and hotels that are currently in the planning and construction stages. Without upgrades, the Sienna Hills circuits will become overloaded. It is proposed to add load to circuit 601 which currently does not feed any load except during outage conditions of other circuits. Additionally, it is proposed to create circuit ties between Main Street, Staheli and Sienna Hills circuits and to add a third circuit at Staheli substation. This will allow Main Street and Staheli circuits to help support the load growth that would have been served by Sienna Hills circuits. Based on projected load growth, by approximately 2025 load growth in the area surrounding I-15 Exit 13 and in the SITLA area lands will begin to surpass what existing substations can support. It will be become necessary to add a new Substation 8. Two new circuits for Substation 8 are proposed.

Approximately 9.2 MW of load is projected for the SITLA area lands. A new Substation 8, as described above, will help serve this load. Additionally, existing Parkway and Main Street circuits will also help serve the new load in this area. Several new distribution lines will be required in the SITLA area lands. Two new lines are proposed to be built by Washington City to tie the SITLA area lands into existing circuits. The rest of the new lines in the SITLA area are proposed to be built by developers as the area is developed.

During N-1 contingencies such as loss of a substation transformer, recloser, or main line segment it becomes necessary to be able to back up circuits with adjacent circuits. Load flows indicate that the system is able to do this properly under existing load conditions. However, load flows indicate that as Washington load increases some line sections could become overloaded during N-1 contingencies. It will become necessary to rebuild those line sections with larger conductor.

## Level of Service Standards

Consistent with current practice and level of service, Washington City plans, designs and operates its system based on the following criteria:

- Transformer ratings under varying load levels and loading conditions remain below their base rating.
- The system is capable of adequately serving load under single contingency (N-1) situations, where "N" is a power system elements such as a transformer or line.
- The system switching required under an N-1 contingency is simplified to ensure that switching orders not become unnecessarily complex.
- Distribution circuit loading remains below 90% of its maximum current rating.
- Primary circuit voltage is kept between 95% and 105% of its nominal value.
- Distribution circuit mains are able to serve additional load under N-1 contingencies.

The above criteria was used to determine Washington City's future facility needs based on the amount of new load placed on the existing electrical system over the study period.

## Demands Placed on Existing Facilities

Electrical demand loads on a system are measured in kilowatts (kW) or kilovolt-amperes (kVA) and are indicated as either coincident-peak ("CP") demand or non-coincident peak ("NCP") demand. The system CP demand is the maximum demand for the entire system measured at a point in time where the sum of all demands on the system is the highest for the system as a whole. The NCP demand is the sum of the maximum demands of individual customers or customer classes such as residential, commercial, industrial, measured for a period of time. The CP demand represents the combined loads across all customer classes measured at the system level where the NCP demand represents the total demand the system would be subject to if all customer classes peaked at the same time. The CP demand is usually lower than the NCP demand. For Impact Fees, CP represents the demand placed on the existing system as a whole, while NCP reflects the maximum demand placed on local facilities by individual customer classes. The CP demand is normally the demand that a utility plans for when sizing facilities that will be used to meet future growth on the system. However, each individual piece of equipment must be able to support its own individual peak demand even if that demand does not occur at the same time as the system's CP.

Washington City's projected CP demand between 2019 and 2029 are shown in Table 2-3. The System CP Demands for the 10-year planning period (2019 – 2029) were developed by ICPE.

**Table 2-3**
**Summary of CP Demands**
**For the Period 2019 through 2029**

| Description | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total System CP Demands (kW) | 40,414 | 42,889 | 46,852 | 50,390 | 53,290 | 56,470 | 58,850 | 60,355 | 61,277 | 62,199 | 63,121 |

## System Modeling for the CFP/IFFP

The recently completed CFP contains results of load flow analysis of the Washington City electrical system. The system load flows provide insight on substation transformer loading, distribution circuit loading, and system voltage drop. The study included analyzing N-1 outage conditions. An N-1 outage condition is the loss of a major system component such as loss of a substation transformer or loss of a main line section. The existing substations that were studied include Staheli, Main Street T1, Main Street T2, Coral Canyon, Buena Vista, Sienna Hills, and Parkway. Sixteen existing 12.47 kV circuits were studied. The CFP proposed changes to circuit boundaries, the addition of one new substation and the addition of three new circuits.

To perform load flow analysis a system computer model was developed. System model development and analysis were performed on Paladin DesignBase 4.0 software. System modeling data was developed from data provided by Washington City. Circuit models are based on the assumption that provided circuit maps and data (conductor sizes, circuit configurations, line lengths, etc.) are reflective of actual field conditions.

## Model Results

The following System Improvement Summary from the CFP details the anticipated projects and estimated expenditures necessary to sustain the projected growth rate for Washington City's electrical system for the next 10 years. There is greater confidence in projecting requirements for 2 to 3 years than there is for a 10-year or longer outlook. However it is necessary to forecast future projects due to the magnitude (and cost) of the modifications necessary. Also substation and transmission line projects can take significant time from start to finish due to material lead times and permitting requirements. Substation, distribution, and transmission line requirements need to be addressed to meet future needs of the City in a timely fashion.

The proposed projects will provide a method for Washington City to plan and budget for the facilities necessary to serve the anticipated electrical load growth. Existing electrical facilities as well as new facilities will be used to meet projected load levels. Table 2-4 is a summary of the recommended projects, timing and costs. Detailed cost estimates for the various projects can be found in the appendix of the CFP. Costs shown are based on present 2020 project material and labor pricing.

**Table 2-4**
**Summary of CFP Improvement Projects**
**For the Period 2018 through 2029***

| Project ID | Description | Project Estimated Cost ($) ** | Estimated Timeframe | Impact Fee % | Impact Fee Amount ($) | Revenue Funds % | Revenue Funds Amount ($) |
|---|---|---|---|---|---|---|---|
| 18-PR-01 *** | Parkway Substation | 2,075,000.00 | 2018 | 100.00% | 2,075,000.00 | 0.00% | 0.00 |
| 18-PR-02 *** | Beuna Vista Feeder Upgrade | 93,250.00 | 2018 | 100.00% | 93,250.00 | 0.00% | 0.00 |
| 18-PR-03 *** | Green Springs Dr. Feeder | 225,000.00 | 2019 | 100.00% | 225,000.00 | 0.00% | 0.00 |
| 19-PR-01 *** | Staheli Substation Rebuild | 2,815,000.00 | 2019-2020 | 20.00% | 563,000.00 | 80.00% | 2,252,000.00 |
| 19-PR-03 | 100 South Feeder Upgrade | 125,000.00 | 2019-2020 | 50.00% | 62,500.00 | 50.00% | 62,500.00 |
| 20-PR-01 | Turf Farm URD Tie | 75,000.00 | 2020-2021 | 50.00% | 37,500.00 | 50.00% | 37,500.00 |
| 20-PR-02 | Kings ROW Rebuild | 200,000.00 | 2020-2021 | 0.00% | 0.00 | 100.00% | 200,000.00 |
| 21-PR-04 | Circuit 601 Extension | 175,000.00 | 2020-2021 | 100.00% | 175,000.00 | 0.00% | 0.00 |
| 21-PR-05 | Circuit 102 to 202 Tie | 182,000.00 | 2021-2022 | 100.00% | 182,000.00 | 0.00% | 0.00 |
| 21-PR-06 | Circuit 102 to 603 Tie | 285,000.00 | 2021-2022 | 100.00% | 285,000.00 | 0.00% | 0.00 |
| 22-PR-02 | Main St. Transrupters | 467,500.00 | 2021-2022 | 0.00% | 0.00 | 100.00% | 467,500.00 |
| 22-PR-03 | Circuit 303 to 603 Tie | 32,750.00 | 2021-2022 | 20.00% | 6,550.00 | 80.00% | 26,200.00 |
| 22-PR-05 | Cherokee Springs Rebuild | 200,000.00 | 2022-2023 | 0.00% | 0.00 | 100.00% | 200,000.00 |
| 22-PR-06 | Main St. Switching Upgrade | 1,117,500.00 | 2021-2022 | 50.00% | 558,750.00 | 50.00% | 558,750.00 |
| 23-PR-01 | 1100 E to 300 E Underbuild Upgrade | 185,000.00 | 2022-2023 | 40.00% | 74,000.00 | 60.00% | 111,000.00 |
| 23-PR-02 | Grapevine Tank Line Upgrade | 485,000.00 | 2022-2023 | 60.00% | 291,000.00 | 40.00% | 194,000.00 |
| 23-PR-03 | Circuit 302 to 303 Tie | 437,500.00 | 2021-2023 | 100.00% | 437,500.00 | 0.00% | 0.00 |
| 24-PR-01 | Winter Haven Rebuild | 200,000.00 | 2024-2025 | 0.00% | 0.00 | 100.00% | 200,000.00 |
| 24-PR-02 | Circuit 703 Line Extension (Washington Pkwy) | 735,000.00 | 2024-2029 | 100.00% | 735,000.00 | 0.00% | 0.00 |
| 25-PR-01 | New Substation 8 | 3,140,000.00 | 2024-2025 | 100.00% | 3,140,000.00 | 0.00% | 0.00 |
| 25-PR-02 | 69 kV Line Extension to Sub. 8 | 230,000.00 | 2024-2025 | 100.00% | 230,000.00 | 0.00% | 0.00 |
| 25-PR-03 | Circuit 801 Extension | 305,000.00 | 2024-2025 | 100.00% | 305,000.00 | 0.00% | 0.00 |
| 25-PR-04 | Circuit 802 Extension | 560,000.00 | 2024-2025 | 100.00% | 560,000.00 | 0.00% | 0.00 |
| 26-PR-01 | Circuit 703 Line Extension (I-15 to Wash Pkwy) | 220,000.00 | 2024-2029 | 100.00% | 220,000.00 | 0.00% | 0.00 |
| 27-PR-01 | Parkway to Sub. 8 69 kV Line | 560,000.00 | 2026-2027 | 50.00% | 280,000.00 | 50.00% | 280,000.00 |
| | | | | | | | |
| | TOTALS | 15,125,500.00 | | | 10,536,050.00 | | 4,589,450.00 |

* Note: Project timing will vary based on actual load growth amount and location
** Values have been rounded.
*** Project Completed

## IFFP Capital Projects and Costs

As previously mentioned, the costs for the above projects are estimated in 2020 dollars. As with most capital facilities plans, the majority of these projects are scheduled to occur in the earlier planning windows. However, growth in demand on the system generally happens in "groups" or "lumps" according to actual commercial and residential development. Actual load growth may be sooner or later than shown based on current economic and development levels. Projects shown in the IFFP may be delayed or accelerated based on actual load growth locations and timing.

# Certification of the IFFP

I certify that the attached Impact Fee Facilities Plan:

1. includes only the costs of public facilities that are:
    a. allowed under the Impact Fees Act; and
    b. actually incurred; or
    c. projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
2. does not include:
    a. costs of operation and maintenance of public facilities;
    b. costs for qualifying public facilities that will raise the level of service for facilities, through impact fees, above the level of service that is supported by existing residents;
    **c.** an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement;

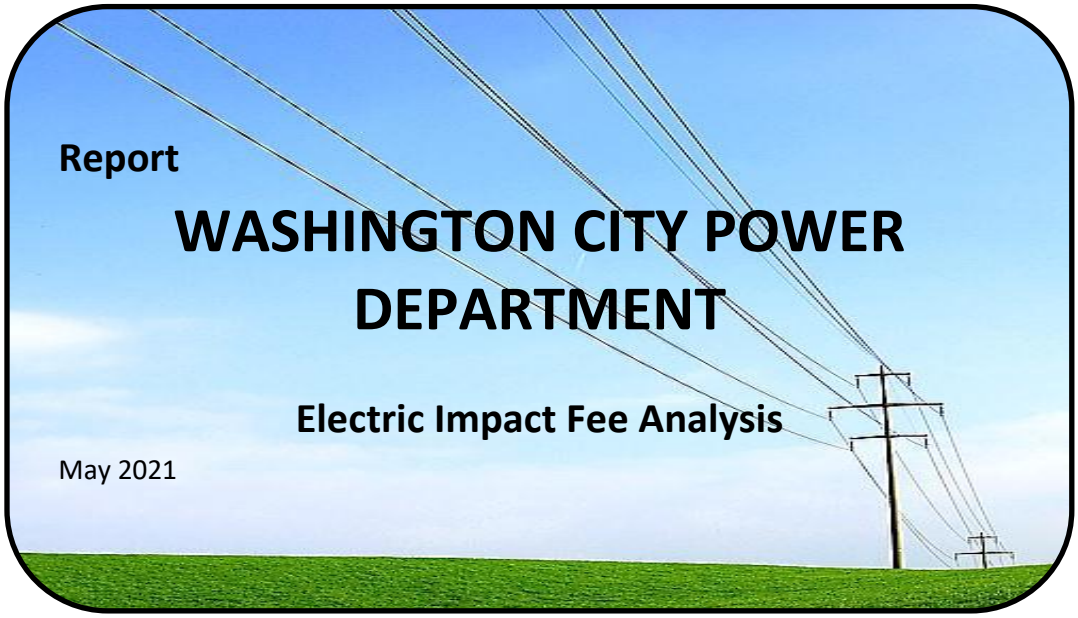
**CERTIFIED BY:**

**Signature:** _____

**Name:** _____

**Title:** ___ICPE, Senior Engineer__

**Date:** ___August 15, 2020_____



Report

# WASHINGTON CITY POWER DEPARTMENT

## Electric Impact Fee Analysis

May 2021

May 2021

Rick Hansen, Director of Power
Washington City Power Department
111 North 100 East
Washington City, UT 84780

Dear Mr. Hansen:

We are pleased to present a final report for the Impact Fee Analysis for Washington City Power Department (Washington City). This report was prepared to provide Washington City with a comprehensive examination of its existing impact fee structure by an outside party. It is compliant with Utah Statute U.C.A. 1953 §11-36a-102.

The specific purposes of this rate study are:

- Identify the fixed cost contributions from new customers through electric rate tariffs
- Identify gross investment in plant to provide system capacity to accommodate growth
- Determine impact fees for new customers

This report utilizes results of the electric cost of service study completed in 2020 and Washington City's capital improvement plan.

The impact fee analysis and supporting calculations include the following:

1. Includes only the costs of public facilities that are
    a. Allowed under the Impact Fees Act; and
    b. Actually incurred; or projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
2. Does not include:
    c. Costs of operation and maintenance of public facilities;
    d. 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; or
    e. An expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement;
3. Capital plans offsets by grants or other alternate sources of payment.

This report is intended for information and use by the utility and management for the purposes stated above and is not intended to be used by anyone except the specified parties.

Sincerely,

Mark Beauchamp
Utility Financial Solutions, LLC
CPA, MBA, CMA
185 Sun Meadow Ct
Holland, MI 49424

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## Introduction

This report identifies the impact fees Washington City should charge to new customers. The charges were determined in two parts:

1. Capital costs for infrastructure that will add capacity to serve the electric load for new customers
2. Subtracts from the impact costs margins generated in the electric rates of new customers that are used to fund capital improvements

The purpose of this analysis is to help ensure:

- New customers pay their impacts without subsidization by existing customers.
- New customers are not subsidizing replacement of existing infrastructure used by existing customers.

This analysis helps ensure growth will benefit all customers in the system and will not adversely impact the rates of existing customers.

## Steps to Complete the Analysis

The following steps were taken to complete the impact fee analysis:

1) Determine the contribution margins generated through current rates charged to customers and used to fund investments in infrastructure (Net Revenue)
2) Identify the value of the contribution margins over an appropriate period of time considering customer electric usage and risk levels
3) Compile future plant investments required to add capacity in the backbone distribution, sub-transmission, and transmission systems of Washington City
4) Identify the impacts customers create on backbone system of the utility based on customers usage patterns and level of service required
5) Calculate total system cost impacts by subtracting the contribution margins generated in rates from the net impacts new customer create on the backbone utility system
6) Identify the net impacts by customers required service amperages

## Step One – Determination of Contribution Margin

Contribution margins were calculated for each class by subtracting total revenue from variable costs (power supply, transmission, billing, and meter reading). This information was provided by the cost of service study. Summary of these outputs are listed in Table 1.

**Revenue minus variable cost equals contribution margin**

Table 1 identifies the expense allocated to each class of customers from the cost of service study. Variable costs are primarily driven by power supply and transmission costs. Distribution system costs are classified as fixed cost used to fund operation, maintenance, replacement, and expansion of the system. Table 1 below identifies the total recovery of distribution operations for each class. The residential class generates $3.9M in net revenues used to fund infrastructure, Small Commercial, $411k, Large Commercial, $1.14M, and Steel Structures, $16.3k.

**Table 1 – Contribution Margin by Class**

| Expense Description | Expense Classification | Residential Service | Small Commercial | Large Commercial | Steel Structures |
|---|---|---|---|---|---|
| Power Supply Expenses: | | | | | |
| Summer Demand | Variable | $ 411,084 | $ 41,076 | $ 117,674 | $ 1,398 |
| Summer Energy | Variable | 1,305,924 | 106,154 | 356,384 | 4,171 |
| Winter Demand | Variable | 531,074 | 78,707 | 231,649 | 3,854 |
| Winter Energy | Variable | 1,038,895 | 112,030 | 418,174 | 6,298 |
| Inter 2 Demand | Variable | 290,961 | 30,049 | 88,551 | 1,098 |
| Inter 2 Energy | Variable | 694,697 | 66,973 | 240,903 | 2,261 |
| Inter 4 Demand | Variable | 605,482 | 67,958 | 196,869 | 3,232 |
| Inter 4 Energy | Variable | 854,921 | 99,411 | 376,320 | 5,478 |
| Distribution Expenses: | | | | | |
| Distribution | Fixed | 1,334,294 | 141,042 | 384,646 | 5,712 |
| Transmission | Fixed | 1,421,700 | 159,674 | 460,498 | 6,662 |
| Transformer | Fixed | 22,430 | 1,270 | 3,482 | 52 |
| Substation | Fixed | 854,111 | 90,085 | 247,093 | 3,673 |
| Customer Related Expenses: | | | | | |
| Distribution Customer Costs | Included in Customer Investment | 269,626 | 19,362 | 18,289 | 246 |
| Transformer Customer Costs | Included in Customer Investment | 148,769 | 10,683 | 10,091 | 136 |
| Substation Customer Costs | Included in Customer Investment | 116,757 | 8,384 | 7,920 | 107 |
| Meter O&M | Included in Customer Investment | 92,347 | 13,125 | 11,902 | 114 |
| Meter Reading | Variable | 103,010 | 7,397 | 6,987 | 94 |
| Billing | Variable | 272,457 | 19,565 | 18,481 | 249 |
| Services | Included in Customer Investment | 3,440 | 247 | 233 | 1 |
| Customer Service | Fixed | 272,457 | 19,565 | 18,481 | 249 |
| Total Cost of Service | | $ 10,644,436 | $ 1,092,759 | $ 3,214,628 | $ 45,084 |
| Total Fixed | | $ 3,904,993 | $ 411,636 | $ 1,114,200 | $ 16,348 |

## Step Two - Contribution Margin Unit Conversion

The contribution margin (Net Revenue) is valued over a specified time period using an appropriate discount rate equal to the target rate of return required by Washington City. Table 2 shows the average net revenue for each customer class for each unit of sale generated by the class. For residential customers, the billing unit is kWh and for demand metered customers the unit is kW. For example, for each kWh of sales to the residential class, 4.76 cents is used to fund investments in the distribution system.

**Table 2 – Determination of Present Value of Contribution Margins**

| Customer Class | Recovery Period (Years) | | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|
| | | | ***Investment Calculator (Fixed Cost Contirbution / # of Units)*** | | | |
| Residential Service | 4 | per kWh | $ 0.0476 | $ 0.0476 | $ 0.0476 | $ 0.0476 |
| Small Commercial | 2 | per kW | 14.04 | 14.04 | - | - |
| Large Commercial | 2 | per kW | 13.16 | 13.16 | - | - |
| Steel Structures | 2 | per kW | 11.49 | 11.49 | - | - |

Table 3 details the value of the contribution margins for each customer class. The value is determined by discounting the net revenue over a specified time period at the rate of return identified in the cost of service study. The discounted value of additional kWh sales to the residential class is $0.1648 per additional kWh sales generated annually. Based on a residential customer's average annual usage of 10,700 kWh, the fixed cost recovery generated by the customer over a 4-year period is $1,765. Due to variations in customer usages within the small, medium, and large commercial classes, the utility investment is best expressed on a per kW basis multiplied by the projected annual kW sales for that customer. For example, a small commercial customer's value is $25.75 kW times the projected annual kW sales to the new customer.

**Table 3 – Average Contribution Margin per Billing Basis**

| Customer Class | COS Revenue Requirement | Fixed Costs Contribution | Recovery Period (Years) | Utility Investment | | Maximum Utility Investment per Customer |
|---|---|---|---|---|---|---|
| Residential Service | $ 10,644,436 | $ 3,904,993 | 4 | $ 0.1648 | per kWh | $ 1,765 |
| Small Commercial | 1,092,759 | 411,636 | 2 | 25.75 | per kW | 2,056 |
| Large Commercial | 3,214,628 | 1,114,200 | 2 | 24.13 | per kW | 19,642 |
| Steel Structures | 45,084 | 16,348 | 2 | 21.06 | per kW | 29,972 |

## Step Three - Infrastructure Cost Analysis

The determination of impact fees depends on the additional capacity needed to service new load and is expressed by amperage and voltage requirements. The infrastructure costs are broken down into the following components:

- Distribution Local
- Distribution Substation

Washington City provided the "Washington City Capital Facilities Plan – Update" in April of 2020 Impact Fee Facilities Plan (IFFP) that provided a breakout of the amount attributed to expansion due to growth. The table below outlines the projected Washington City investments in plant, the additional capacity provided by the investments and the expansion costs expressed on a per kW basis. "Distribution local" are investments made to provide additional capacity to service a customer peak demand, "distribution substation" are investments made by Washington City to handle peak demands in a given area. Table 4 below identifies the cost impacts associated adding an additional kW of demand in each area.

**Table 4 – Cost of Additional Investment in Plant**

| | Distribution Local | Distribution Sub |
|---|---|---|
| Gross Investment in Plant | $ 7,898,050 | $ 4,066,050 |
| Additional Capacity | 12,000 | 14,000 |
| Optimal to Base Loading | 1 | 1 |
| Cost per kW | $ 658.17 | $ 290.43 |

Customer Demand = Peaks created by customers
NCP = Area or Class Peak Demands
CP = System Peak Demands

## Step Four – Determine Cost Impact by Class

The cost of service study provided information on each class' demand impacts on various portions of the electric system and the capacity needs for a new customer within each class.

### Residential Class Example

The average residential customer creates a peak demand of 3.65 kW on local infrastructure and substations. The expansion cost per kW (A. Rate per kW) is then multiplied by the peak demand 3.65 kW (B. Average Impacts). For residential, the average new customer cost impact of $3,151.70 is reduced by the contribution margin value of $1,765.09 to identify the net cost impact of $1,386.61 and the maximum utility contribution derived in Table 3 was subtracted to generate an average impact of $1,386.61.

**Table 5 – Calculation of Impact Fees by Class**

| Description | Residential Service | Small Commercial | Large Commercial | Steel Structures |
|---|---|---|---|---|
| **A. Rate per kW** | | | | |
| Distribution Local | $ 568.14 | $ 568.14 | $ 568.14 | $ 568.14 |
| Distribution Sub | $ 295.34 | $ 295.34 | $ 295.34 | $ 295.34 |
| **B. Average Impacts** | | | | |
| Distribution Local (NCP) | 3.65 | 8.05 | 77.89 | 126.50 |
| Distribution Substation (NCP) | 3.65 | 8.05 | 77.89 | 126.50 |
| **Cost Impact by Component (A x B)** | | | | |
| Distribution Local | $ 2,073.71 | $ 4,573.53 | $ 44,252.42 | $ 71,869.71 |
| Distribution Sub | $ 1,077.99 | $ 2,377.49 | $ 23,004.03 | $ 37,360.51 |
| Total Impact Cost | $ 3,151.70 | $ 6,951.02 | $ 67,256.45 | $ 109,230.22 |
| *Less: Maximum Utility Contribution* | $ 1,765.09 | $ 2,056.38 | $ 19,641.98 | $ 29,971.54 |
| Impact Fees to be Recovered | $ 1,386.61 | $ 4,894.64 | $ 47,614.47 | $ 79,258.68 |
| Rate per kW installed Transformer Capacity | $ 379.89 | $ 608.03 | $ 611.30 | $ 626.55 |

## Step Five – Conversion to Amperage

Table 6 expresses the Table 5 results by Amperage and Voltage level using a typical residential customer's 100A 120/240V service voltage as the base. Small Commercial is typically represented by the Commercial 120/240V, 1 Phase.

**Table 6 – Impact Fees by Amperage and Voltage Level**

| Description / Panel Rating | 2013 Rates Impact Fee ** | 2020 Proposed | Percent Change |
|---|---|---|---|
| ***Impact Fee Charge for Applicable Panel Size*** | | | |
| Residential (120/240 V, 1 phase) | | | |
| 100 Amp (min. size) | $ 1,224 | $ 1,387 | 13% |
| 125 Amp | 1,530 | 1,733 | 13% |
| 150 Amp | 1,836 | 2,080 | 13% |
| 200 Amp | 2,449 | 2,773 | 13% |
| 225 Amp | 2,755 | 3,120 | 13% |
| 400 Amp | 4,897 | 5,546 | 13% |
| 600 Amp | 7,346 | 8,320 | 13% |
| 800 Amp | 9,794 | 11,093 | 13% |
| Residential (208/120 V, 3 phase Apartments) | | | |
| 100 Amp (min. size) | $ 1,838 | $ 2,081 | 13% |
| 125 Amp | 2,297 | 2,602 | 13% |
| 150 Amp | 2,757 | 3,122 | 13% |
| 200 Amp | 3,676 | 4,163 | 13% |
| 225 Amp | 4,135 | 4,683 | 13% |
| 400 Amp | 7,351 | 8,326 | 13% |
| 600 Amp | 11,027 | 12,488 | 13% |
| 800 Amp | 14,702 | 16,651 | 13% |
| 1000 Amp | 18,378 | 20,814 | 13% |
| 1200 Amp | 22,053 | 24,977 | 13% |
| 1600 Amp | 29,404 | 33,302 | 13% |

Table 7 expresses the Table 5 results by Amperage and Voltage level using a typical large commercial customer's 208 V / 120 V or 480 V / 277 V service voltage as the base.

**Table 7 – Impact Fees by Amperage and Voltage Level (Continued)**

| Description / Panel Rating | 2013 Rates Impact Fee ** | 2020 Proposed | Percent Change |
|---|---|---|---|
| ***Impact Fee Charge for Applicable Panel Size*** | | | |
| Commercial (120/240 V, 1 phase) | | | |
| 100 Amp (min. size) | $ 2,313 | $ 2,219 | -4% |
| 125 Amp | 2,891 | 2,774 | -4% |
| 150 Amp | 3,469 | 3,329 | -4% |
| 200 Amp | 4,625 | 4,439 | -4% |
| 225 Amp | 5,203 | 4,993 | -4% |
| 400 Amp | 9,250 | 8,877 | -4% |
| 600 Amp | 13,876 | 13,316 | -4% |
| Commercial (208/120 V, 3 phase) | | | |
| 100 Amp (min. size) | $ 3,471 | $ 3,331 | -4% |
| 125 Amp | 4,339 | 4,164 | -4% |
| 150 Amp | 5,207 | 4,997 | -4% |
| 200 Amp | 6,943 | 6,663 | -4% |
| 225 Amp | 7,811 | 7,496 | -4% |
| 300 Amp | 10,414 | 9,994 | -4% |
| 400 Amp | 13,885 | 13,325 | -4% |
| 600 Amp | 20,828 | 19,988 | -4% |
| 800 Amp | 27,771 | 26,651 | -4% |
| 1200 Amp | 41,656 | 39,976 | -4% |
| 1600 Amp | 55,542 | 53,301 | -4% |
| 2000 Amp | 69,427 | 66,627 | -4% |
| 2500 Amp | 86,784 | 83,283 | -4% |
| 3000 Amp | 104,140 | 99,940 | -4% |
| 4000 Amp | 138,854 | 133,253 | -4% |
| Commercial (480/277 V, 3 phase) | | | |
| 200 Amp (min. size) | $ 16,022 | $ 15,458 | -4% |
| 225 Amp | 18,024 | 17,390 | -4% |
| 400 Amp | 32,043 | 30,916 | -4% |
| 800 Amp | 64,086 | 61,833 | -4% |
| 1200 Amp | 96,130 | 92,749 | -4% |
| 1400 Amp | 112,151 | 108,207 | -4% |
| 2000 Amp | 160,216 | 154,582 | -4% |
| Special Services (120/240 V, 1 phase) * | | | |
| 60 Amp | $ 735 | $ 666 | -9% |

## Significant Assumptions

The following assumptions are made in the creation of this report:

1) **Discount Rate** – 6.0%
2) **Recovery Period:**
   All Residential Services – 4-year recovery
   Commercial – 2-year recovery

## Statistical Information

**Table 8 – Class Load Data and Statistics**

| Description | Residential Service | Small Commercial | Large Commercial | Steel Structures |
|---|---|---|---|---|
| Number of Customers | 7,666 | 367 | 104 | 1 |
| NCP Primary | 28,787 | 3,036 | 8,328 | 127 |
| NCP Input | 29,590 | 3,121 | 8,560 | 127 |
| Group LF | 33% | 32% | 42% | 36% |
| Group Diversity Factor | 100% | 100% | 100% | 100% |
| Class Peak Factor | 98% | 100% | 100% | 100% |
| Grouping of Classes | Res | MC | LC | Ind |
| Transmission Impacts | | | | |
| Average NCP (kw) | 3.65 | 8.05 | 77.89 | 126.50 |
| Average NCP (kw) Impact | $ 7,966.29 | $ 17,550.75 | $ 169,878.36 | $ 275,896.50 |
| Average kWh per kW of NCP | 2,933 | 2,791 | 3,701 | 3,161 |
| Average kWh per kW of NCP Impact | 802.89 | 346.77 | 47.52 | 24.99 |
| Group Diversity Factor Impact | | | | |
| Substation Impacts | | | | |
| Average NCP (kw) | 3.65 | 8.05 | 77.89 | 126.50 |
| Average NCP (kw) Impact | $ 4,470.76 | $ 9,849.66 | $ 95,337.51 | $ 154,836.00 |
| Average kWh per kW of NCP | 2,933 | 2,791 | 3,701 | 3,161 |
| Average kWh per kW of NCP Impact | 802.89 | 346.77 | 47.52 | 24.99 |
| Group Diversity Factor Impact | $ 1,078.75 | $ 2,376.63 | $ 23,004.07 | $ 37,360.51 |
| Transformer Impacts | | | | |
| Average NCP (kw) | 3.65 | 8.05 | 77.89 | 126.50 |
| Average kWh per kW of NCP | 2,933 | 2,791 | 3,701 | 3,161 |
| Average kWh per kW of NCP Impact | 802.89 | 346.77 | 47.52 | 24.99 |
| Group Diversity Factor Impact | $ 2,075.18 | $ 4,571.89 | $ 44,252.50 | $ 71,869.71 |
| Feeder Impacts | | | | |
| Average kWh per kW of NCP | 2,933 | 2,791 | 3,701 | 3,161 |
| Average kWh per kW of NCP Impact | 0.21 | 0.22 | 0.17 | 0.19 |
| Group Diversity Factor Impact | $ 51.00 | $ 51.00 | $ 51.00 | $ 51.00 |
| | | | | |
| **Impacts on Distribution Substations** | | | | |
| Total Class NCP (kw) | 28,000.71 | 2,953.29 | 8,100.57 | 126.50 |
| Average Customer NCP (kw) | 3.65 | 8.05 | 77.89 | 126.50 |
| | | | | |
| **Impacts on System Substations and Sub-Transmission Facilities** | | | | |
| Total System CP (kw) | 27,440.70 | 2,953.29 | 8,100.57 | 126.50 |
| Average kW - System (kw) | 3.58 | 8.05 | 77.89 | 126.50 |

## Considerations

Currently, new customers are not contributing enough to cover the cost of capacity upgrades to the system. The table below compares the current and proposed impact fees.

**Table 9 – Proposed Impact Fees for Residential**

| Description / Panel Rating | 2013 Rates Impact Fee ** | 2020 Proposed | Percent Change |
|---|---|---|---|
| ***Impact Fee Charge for Applicable Panel Size*** | | | |
| Residential (120/240 V, 1 phase) | | | |
| 100 Amp (min. size) | $ 1,224 | $ 1,387 | 13% |
| 125 Amp | 1,530 | 1,733 | 13% |
| 150 Amp | 1,836 | 2,080 | 13% |
| 200 Amp | 2,449 | 2,773 | 13% |
| 225 Amp | 2,755 | 3,120 | 13% |
| 400 Amp | 4,897 | 5,546 | 13% |
| 600 Amp | 7,346 | 8,320 | 13% |
| 800 Amp | 9,794 | 11,093 | 13% |
| Residential (208/120 V, 3 phase Apartments) | | | |
| 100 Amp (min. size) | $ 1,838 | $ 2,081 | 13% |
| 125 Amp | 2,297 | 2,602 | 13% |
| 150 Amp | 2,757 | 3,122 | 13% |
| 200 Amp | 3,676 | 4,163 | 13% |
| 225 Amp | 4,135 | 4,683 | 13% |
| 400 Amp | 7,351 | 8,326 | 13% |
| 600 Amp | 11,027 | 12,488 | 13% |
| 800 Amp | 14,702 | 16,651 | 13% |
| 1000 Amp | 18,378 | 20,814 | 13% |
| 1200 Amp | 22,053 | 24,977 | 13% |
| 1600 Amp | 29,404 | 33,302 | 13% |

## Table 10 –Proposed Impact Fees for Commercial/Special Services

| Description / Panel Rating | 2013 Rates Impact Fee ** | 2020 Proposed | Percent Change |
|---|---|---|---|
| ***Impact Fee Charge for Applicable Panel Size*** | | | |
| Commercial (120/240 V, 1 phase) | | | |
| 100 Amp (min. size) | $ 2,313 | $ 2,219 | -4% |
| 125 Amp | 2,891 | 2,774 | -4% |
| 150 Amp | 3,469 | 3,329 | -4% |
| 200 Amp | 4,625 | 4,439 | -4% |
| 225 Amp | 5,203 | 4,993 | -4% |
| 400 Amp | 9,250 | 8,877 | -4% |
| 600 Amp | 13,876 | 13,316 | -4% |
| Commercial (208/120 V, 3 phase) | | | |
| 100 Amp (min. size) | $ 3,471 | $ 3,331 | -4% |
| 125 Amp | 4,339 | 4,164 | -4% |
| 150 Amp | 5,207 | 4,997 | -4% |
| 200 Amp | 6,943 | 6,663 | -4% |
| 225 Amp | 7,811 | 7,496 | -4% |
| 300 Amp | 10,414 | 9,994 | -4% |
| 400 Amp | 13,885 | 13,325 | -4% |
| 600 Amp | 20,828 | 19,988 | -4% |
| 800 Amp | 27,771 | 26,651 | -4% |
| 1200 Amp | 41,656 | 39,976 | -4% |
| 1600 Amp | 55,542 | 53,301 | -4% |
| 2000 Amp | 69,427 | 66,627 | -4% |
| 2500 Amp | 86,784 | 83,283 | -4% |
| 3000 Amp | 104,140 | 99,940 | -4% |
| 4000 Amp | 138,854 | 133,253 | -4% |
| Commercial (480/277 V, 3 phase) | | | |
| 200 Amp (min. size) | $ 16,022 | $ 15,458 | -4% |
| 225 Amp | 18,024 | 17,390 | -4% |
| 400 Amp | 32,043 | 30,916 | -4% |
| 800 Amp | 64,086 | 61,833 | -4% |
| 1200 Amp | 96,130 | 92,749 | -4% |
| 1400 Amp | 112,151 | 108,207 | -4% |
| 2000 Amp | 160,216 | 154,582 | -4% |
| Special Services (120/240 V, 1 phase) * | | | |
| 60 Amp | $ 735 | $ 666 | -9% |

## Appendix A - Utah Statute U.C.A. 1953 § 11-36a-102

# Chapter 36a
# Impact Fees Act

## Part 1
## General Provisions

**11-36a-101 Title.**
This chapter is known as the "Impact Fees Act."

Enacted by Chapter 47, 2011 General Session

**11-36a-102 Definitions.**
As used in this chapter:
(1)
(a) "Affected entity" means each county, municipality, local district under Title 17B, Limited Purpose Local Government Entities - Local Districts, special service district under Title 17D, Chapter 1, Special Service District Act, school district, interlocal cooperation entity established under Chapter 13, Interlocal Cooperation Act, and specified public utility:
(i) whose services or facilities are likely to require expansion or significant modification because of the facilities proposed in the proposed impact fee facilities plan; or
(ii) that has filed with the local political subdivision or private entity a copy of the general or long-range plan of the county, municipality, local district, special service district, school district, interlocal cooperation entity, or specified public utility.
(b) "Affected entity" does not include the local political subdivision or private entity that is required under Section 11-36a-501 to provide notice.
(2) "Charter school" includes:
(a) an operating charter school;
(b) an applicant for a charter school whose application has been approved by a charter school authorizer as provided in Title 53G, Chapter 5, Part 6, Charter School Credit Enhancement Program; and
(c) an entity that is working on behalf of a charter school or approved charter applicant to develop or construct a charter school building.
(3) "Development activity" means any construction or expansion of a building, structure, or use, any change in use of a building or structure, or any changes in the use of land that creates additional demand and need for public facilities.
(4) "Development approval" means:
(a) except as provided in Subsection (4)(b), any written authorization from a local political subdivision that authorizes the commencement of development activity;
(b) development activity, for a public entity that may develop without written authorization from a local political subdivision;
(c) a written authorization from a public water supplier, as defined in Section 73-1-4, or a private water company:
(i) to reserve or provide:
(A) a water right;
(B) a system capacity; or
(C) a distribution facility; or
(ii) to deliver for a development activity:

(A) culinary water; or
(B) irrigation water; or
(d) a written authorization from a sanitary sewer authority, as defined in Section 10-9a-103:
(i) to reserve or provide:
(A) sewer collection capacity; or
(B) treatment capacity; or
(ii) to provide sewer service for a development activity.
(5) "Enactment" means:
(a) a municipal ordinance, for a municipality;
(b) a county ordinance, for a county; and
(c) a governing board resolution, for a local district, special service district, or private entity.
(6) "Encumber" means:
(a) a pledge to retire a debt; or
(b) an allocation to a current purchase order or contract.
(7) "Hookup fee" means a fee for the installation and inspection of any pipe, line, meter, or appurtenance to connect to a gas, water, sewer, storm water, power, or other utility system of a municipality, county, local district, special service district, or private entity.
(8)
(a) "Impact fee" means a payment of money imposed upon new development activity as a condition of development approval to mitigate the impact of the new development on public infrastructure.
(b) "Impact fee" does not mean a tax, a special assessment, a building permit fee, a hookup fee, a fee for project improvements, or other reasonable permit or application fee.
(9) "Impact fee analysis" means the written analysis of each impact fee required by Section 11-36a-303.
(10) "Impact fee facilities plan" means the plan required by Section 11-36a-301.
(11) "Level of service" means the defined performance standard or unit of demand for each capital component of a public facility within a service area.
(12)
(a) "Local political subdivision" means a county, a municipality, a local district under Title 17B, Limited Purpose Local Government Entities - Local Districts, or a special service district under Title 17D, Chapter 1, Special Service District Act.
(b) "Local political subdivision" does not mean a school district, whose impact fee activity is governed by Section 11-36a-206.
(13) "Private entity" means an entity in private ownership with at least 100 individual shareholders, customers, or connections, that is located in a first, second, third, or fourth class county and provides water to an applicant for development approval who is required to obtain water from the private entity either as a:
(a) specific condition of development approval by a local political subdivision acting pursuant to a prior agreement, whether written or unwritten, with the private entity; or
(b) functional condition of development approval because the private entity:
(i) has no reasonably equivalent competition in the immediate market; and
(ii) is the only realistic source of water for the applicant's development.
(14)
(a) "Project improvements" means site improvements and facilities that are:
(i) planned and designed to provide service for development resulting from a development activity;

(ii) necessary for the use and convenience of the occupants or users of development resulting from a development activity; and
(iii) not identified or reimbursed as a system improvement.
(b) "Project improvements" does not mean system improvements.
(15) "Proportionate share" means the cost of public facility improvements that are roughly proportionate and reasonably related to the service demands and needs of any development activity.
(16) "Public facilities" means only the following impact fee facilities that have a life expectancy of 10 or more years and are owned or operated by or on behalf of a local political subdivision or private entity:
(a) water rights and water supply, treatment, storage, and distribution facilities;
(b) wastewater collection and treatment facilities;
(c) storm water, drainage, and flood control facilities;
(d) municipal power facilities;
(e) roadway facilities;
(f) parks, recreation facilities, open space, and trails;
(g) public safety facilities;
(h) environmental mitigation as provided in Section 11-36a-205; or
(i) municipal natural gas facilities.
(17)
(a) "Public safety facility" means:
(i) a building constructed or leased to house police, fire, or other public safety entities; or
(ii) a fire suppression vehicle costing in excess of $500,000.
(b) "Public safety facility" does not mean a jail, prison, or other place of involuntary incarceration.
(18)
(a) "Roadway facilities" means a street or road that has been designated on an officially adopted subdivision plat, roadway plan, or general plan of a political subdivision, together with all necessary appurtenances.
(b) "Roadway facilities" includes associated improvements to a federal or state roadway only when the associated improvements:
(i) are necessitated by the new development; and
(ii) are not funded by the state or federal government.
(c) "Roadway facilities" does not mean federal or state roadways.
(19)
(a) "Service area" means a geographic area designated by an entity that imposes an impact fee on the basis of sound planning or engineering principles in which a public facility, or a defined set of public facilities, provides service within the area.
(b) "Service area" may include the entire local political subdivision or an entire area served by a private entity.
(20) "Specified public agency" means:
(a) the state;
(b) a school district; or
(c) a charter school.
(21)
(a) "System improvements" means:
(i) existing public facilities that are:
(A) identified in the impact fee analysis under Section 11-36a-304; and
(B) designed to provide services to service areas within the community at large; and

(ii) future public facilities identified in the impact fee analysis under Section 11-36a-304 that are intended to provide services to service areas within the community at large.
(b) "System improvements" does not mean project improvements.

Amended by Chapter 196, 2018 General Session
Amended by Chapter 415, 2018 General Session

## Part 2
## Impact Fees

**11-36a-201 Impact fees.**
(1) A local political subdivision or private entity shall ensure that any imposed impact fees comply with the requirements of this chapter.
(2) A local political subdivision and private entity may establish impact fees only for those public facilities defined in Section 11-36a-102.
(3) Nothing in this chapter may be construed to repeal or otherwise eliminate an impact fee in effect on the effective date of this chapter that is pledged as a source of revenues to pay bonded indebtedness that was incurred before the effective date of this chapter.

Enacted by Chapter 47, 2011 General Session

**11-36a-202 Prohibitions on impact fees.**
(1) A local political subdivision or private entity may not:
(a) impose an impact fee to:
(i) cure deficiencies in a public facility serving existing development;
(ii) raise the established level of service of a public facility serving existing development;
(iii) recoup more than the local political subdivision's or private entity's costs actually incurred for excess capacity in an existing system improvement; or
(iv) include an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with:
(A) generally accepted cost accounting practices; and
(B) the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement;
(b) delay the construction of a school or charter school because of a dispute with the school or charter school over impact fees; or
(c) impose or charge any other fees as a condition of development approval unless those fees are a reasonable charge for the service provided.
(2)
(a) Notwithstanding any other provision of this chapter, a political subdivision or private entity may not impose an impact fee:
(i) on residential components of development to pay for a public safety facility that is a fire suppression vehicle;
(ii) on a school district or charter school for a park, recreation facility, open space, or trail;
(iii) on a school district or charter school unless:

(A) the development resulting from the school district's or charter school's development activity directly results in a need for additional system improvements for which the impact fee is imposed; and
(B) the impact fee is calculated to cover only the school district's or charter school's proportionate share of the cost of those additional system improvements;
(iv) to the extent that the impact fee includes a component for a law enforcement facility, on development activity for:
(A) the Utah National Guard;
(B) the Utah Highway Patrol; or
(C) a state institution of higher education that has its own police force; or
(v) on development activity on the state fair park, as defined in Section 63H-6-102.
(b)
(i) Notwithstanding any other provision of this chapter, a political subdivision or private entity may not impose an impact fee on development activity that consists of the construction of a school, whether by a school district or a charter school, if:
(A) the school is intended to replace another school, whether on the same or a different parcel;
(B) the new school creates no greater demand or need for public facilities than the school or school facilities, including any portable or modular classrooms that are on the site of the replaced school at the time that the new school is proposed; and
(C) the new school and the school being replaced are both within the boundary of the local political subdivision or the jurisdiction of the private entity.
(ii) If the imposition of an impact fee on a new school is not prohibited under Subsection (2)(b)(i) because the new school creates a greater demand or need for public facilities than the school being replaced, the impact fee shall be based only on the demand or need that the new school creates for public facilities that exceeds the demand or need that the school being replaced creates for those public facilities.
(c) Notwithstanding any other provision of this chapter, a political subdivision or private entity may impose an impact fee for a road facility on the state only if and to the extent that:
(i) the state's development causes an impact on the road facility; and
(ii) the portion of the road facility related to an impact fee is not funded by the state or by the federal government.
(3) Notwithstanding any other provision of this chapter, a local political subdivision may impose and collect impact fees on behalf of a school district if authorized by Section 11-36a-206.

Amended by Chapter 415, 2018 General Session

**11-36a-203 Private entity assessment of impact fees -- Charges for water rights, physical infrastructure -- Notice -- Audit.**
(1) A private entity:
(a) shall comply with the requirements of this chapter before imposing an impact fee; and
(b) except as otherwise specified in this chapter, is subject to the same requirements of this chapter as a local political subdivision.
(2) A private entity may only impose a charge for water rights or physical infrastructure necessary to provide water or sewer facilities by imposing an impact fee.
(3) Where notice and hearing requirements are specified, a private entity shall comply with the notice and hearing requirements for local districts.

(4) A private entity that assesses an impact fee under this chapter is subject to the audit requirements of Title 51, Chapter 2a, Accounting Reports from Political Subdivisions, Interlocal Organizations, and Other Local Entities Act.

Enacted by Chapter 47, 2011 General Session

**11-36a-204 Other names for impact fees.**

(1) A fee that meets the definition of impact fee under Section 11-36a-102 is an impact fee subject to this chapter, regardless of what term the local political subdivision or private entity uses to refer to the fee.
(2) A local political subdivision or private entity may not avoid application of this chapter to a fee that meets the definition of an impact fee under Section 11-36a-102 by referring to the fee by another name.

Enacted by Chapter 47, 2011 General Session

**11-36a-205 Environmental mitigation impact fees.**

Notwithstanding the requirements and prohibitions of this chapter, a local political subdivision may impose and assess an impact fee for environmental mitigation when:

(1) the local political subdivision has formally agreed to fund a Habitat Conservation Plan to resolve conflicts with the Endangered Species Act of 1973, 16 U.S.C. Sec. 1531, et seq. or other state or federal environmental law or regulation;
(2) the impact fee bears a reasonable relationship to the environmental mitigation required by the Habitat Conservation Plan; and
(3) the legislative body of the local political subdivision adopts an ordinance or resolution:
  (a) declaring that an impact fee is required to finance the Habitat Conservation Plan;
  (b) establishing periodic sunset dates for the impact fee; and
  (c) requiring the legislative body to:
    (i) review the impact fee on those sunset dates;
    (ii) determine whether or not the impact fee is still required to finance the Habitat Conservation Plan; and
    (iii) affirmatively reauthorize the impact fee if the legislative body finds that the impact fee must remain in effect.

Enacted by Chapter 47, 2011 General Session

**11-36a-206 Prohibition of school impact fees.**

(1) As used in this section, "school impact fee" means a charge on new development in order to generate revenue for funding or recouping the costs of capital improvements for schools or school facility expansions necessitated by and attributable to the new development.
(2) Beginning March 21, 1995, there is a moratorium prohibiting a county, city, town, local school board, or any other political subdivision from imposing or collecting a school impact fee unless hereafter authorized by the Legislature by statute.
(3) Collection of any fees authorized before March 21, 1995, by any ordinance, resolution or rule of any county, city, town, local school board, or other political subdivision shall terminate on May 1, 1996, unless hereafter authorized by the Legislature by statute.

Renumbered and Amended by Chapter 3, 2018 General Session

## Part 3
## Establishing an Impact Fee

**11-36a-301 Impact fee facilities plan.**

(1) Before imposing an impact fee, each local political subdivision or private entity shall, except as provided in Subsection (3), prepare an impact fee facilities plan to determine the public facilities required to serve development resulting from new development activity.

(2) A municipality or county need not prepare a separate impact fee facilities plan if the general plan required by Section 10-9a-401 or 17-27a-401, respectively, contains the elements required by Section 11-36a-302.

(3) A local political subdivision or a private entity with a population, or serving a population, of less than 5,000 as of the last federal census that charges impact fees of less than $250,000 annually need not comply with the impact fee facilities plan requirements of this part, but shall ensure that:

(a) the impact fees that the local political subdivision or private entity imposes are based upon a reasonable plan that otherwise complies with the common law and this chapter; and

(b) each applicable notice required by this chapter is given.

Amended by Chapter 200, 2013 General Session

**11-36a-302 Impact fee facilities plan requirements -- Limitations -- School district or charter school.**

(1)

(a) An impact fee facilities plan shall:

(i) identify the existing level of service;

(ii) subject to Subsection (1)(c), establish a proposed level of service;

(iii) identify any excess capacity to accommodate future growth at the proposed level of service;

(iv) identify demands placed upon existing public facilities by new development activity at the proposed level of service; and

(v) identify the means by which the political subdivision or private entity will meet those growth demands.

(b) A proposed level of service may diminish or equal the existing level of service.

(c) A proposed level of service may:

(i) exceed the existing level of service if, independent of the use of impact fees, the political subdivision or private entity provides, implements, and maintains the means to increase the existing level of service for existing demand within six years of the date on which new growth is charged for the proposed level of service; or

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

(2) In preparing an impact fee facilities plan, each local political subdivision shall generally consider all revenue sources to finance the impacts on system improvements, including:

(a) grants;

(b) bonds;

(c) interfund loans;
(d) impact fees; and
(e) anticipated or accepted dedications of system improvements.
(3) A local political subdivision or private entity may only impose impact fees on development activities when the local political subdivision's or private entity's plan for financing system improvements establishes that impact fees are necessary to maintain a proposed level of service that complies with Subsection (1)(b) or (c).
(4)
(a) Subject to Subsection (4)(c), the impact fee facilities plan shall include a public facility for which an impact fee may be charged or required for a school district or charter school if the local political subdivision is aware of the planned location of the school district facility or charter school:
(i) through the planning process; or
(ii) after receiving a written request from a school district or charter school that the public facility be included in the impact fee facilities plan.
(b) If necessary, a local political subdivision or private entity shall amend the impact fee facilities plan to reflect a public facility described in Subsection (4)(a).
(c)
(i) In accordance with Subsections 10-9a-305(3) and 17-27a-305(3), a local political subdivision may not require a school district or charter school to participate in the cost of any roadway or sidewalk.
(ii) Notwithstanding Subsection (4)(c)(i), if a school district or charter school agrees to build a roadway or sidewalk, the roadway or sidewalk shall be included in the impact fee facilities plan if the local jurisdiction has an impact fee facilities plan for roads and sidewalks.

Amended by Chapter 200, 2013 General Session

**11-36a-303 Impact fee analysis.**
(1) Subject to the notice requirements of Section 11-36a-504, each local political subdivision or private entity intending to impose an impact fee shall prepare a written analysis of each impact fee.
(2) Each local political subdivision or private entity that prepares an impact fee analysis under Subsection (1) shall also prepare a summary of the impact fee analysis designed to be understood by a lay person.

Enacted by Chapter 47, 2011 General Session

**11-36a-304 Impact fee analysis requirements.**
(1) An impact fee analysis shall:
(a) identify the anticipated impact on or consumption of any existing capacity of a public facility by the anticipated development activity;
(b) identify the anticipated impact on system improvements required by the anticipated development activity to maintain the established level of service for each public facility;
(c) subject to Subsection (2), demonstrate how the anticipated impacts described in Subsections (1)(a) and (b) are reasonably related to the anticipated development activity;
(d) estimate the proportionate share of:
(i) the costs for existing capacity that will be recouped; and

(ii) the costs of impacts on system improvements that are reasonably related to the new development activity; and
(e) based on the requirements of this chapter, identify how the impact fee was calculated.
(2) In analyzing whether or not the proportionate share of the costs of public facilities are reasonably related to the new development activity, the local political subdivision or private entity, as the case may be, shall identify, if applicable:
(a) the cost of each existing public facility that has excess capacity to serve the anticipated development resulting from the new development activity;
(b) the cost of system improvements for each public facility;
(c) other than impact fees, the manner of financing for each public facility, such as user charges, special assessments, bonded indebtedness, general taxes, or federal grants;
(d) the relative extent to which development activity will contribute to financing the excess capacity of and system improvements for each existing public facility, by such means as user charges, special assessments, or payment from the proceeds of general taxes;
(e) the relative extent to which development activity will contribute to the cost of existing public facilities and system improvements in the future;
(f) the extent to which the development activity is entitled to a credit against impact fees because the development activity will dedicate system improvements or public facilities that will offset the demand for system improvements, inside or outside the proposed development;
(g) extraordinary costs, if any, in servicing the newly developed properties; and
(h) the time-price differential inherent in fair comparisons of amounts paid at different times.

Enacted by Chapter 47, 2011 General Session

**11-36a-305 Calculating impact fees.**
(1) In calculating an impact fee, a local political subdivision or private entity may include:
(a) the construction contract price;
(b) the cost of acquiring land, improvements, materials, and fixtures;
(c) the cost for planning, surveying, and engineering fees for services provided for and directly related to the construction of the system improvements; and
(d) for a political subdivision, debt service charges, if the political subdivision might use impact fees as a revenue stream to pay the principal and interest on bonds, notes, or other obligations issued to finance the costs of the system improvements.
(2) In calculating an impact fee, each local political subdivision or private entity shall base amounts calculated under Subsection (1) on realistic estimates, and the assumptions underlying those estimates shall be disclosed in the impact fee analysis.

Enacted by Chapter 47, 2011 General Session

**11-36a-306 Certification of impact fee analysis.**
(1) An impact fee facilities plan shall include a written certification from the person or entity that prepares the impact fee facilities plan that states the following:"I certify that the attached impact fee facilities plan:
1. includes only the costs of public facilities that are:
a. allowed under the Impact Fees Act; and
b. actually incurred; or
c. projected to be incurred or encumbered within six years after the day on which each impact fee is paid;

2. does not include:
    a. costs of operation and maintenance of public facilities;
    b. costs for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents; or
    c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement; and
3. complies in each and every relevant respect with the Impact Fees Act."

(2) An impact fee analysis shall include a written certification from the person or entity that prepares the impact fee analysis which states as follows:"I certify that the attached impact fee analysis:
1. includes only the costs of public facilities that are:
    a. allowed under the Impact Fees Act; and
    b. actually incurred; or
    c. projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
2. does not include:
    a. costs of operation and maintenance of public facilities;
    b. costs for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents; or
    c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement;
3. offsets costs with grants or other alternate sources of payment; and
4. complies in each and every relevant respect with the Impact Fees Act."

Amended by Chapter 278, 2013 General Session

## Part 4
## Enactment of Impact Fees

**11-36a-401 Impact fee enactment.**

(1)
(a) A local political subdivision or private entity wishing to impose impact fees shall pass an impact fee enactment in accordance with Section 11-36a-402.
(b) An impact fee imposed by an impact fee enactment may not exceed the highest fee justified by the impact fee analysis.

(2) An impact fee enactment may not take effect until 90 days after the day on which the impact fee enactment is approved.

Enacted by Chapter 47, 2011 General Session

**11-36a-402 Required provisions of impact fee enactment.**

(1) A local political subdivision or private entity shall ensure, in addition to the requirements described in Subsections (2) and (3), that an impact fee enactment contains:
(a) a provision establishing one or more service areas within which the local political subdivision or private entity calculates and imposes impact fees for various land use categories;
(b)
(i) a schedule of impact fees for each type of development activity that specifies the amount of the impact fee to be imposed for each type of system improvement; or
(ii) the formula that the local political subdivision or private entity, as the case may be, will use to calculate each impact fee;
(c) a provision authorizing the local political subdivision or private entity, as the case may be, to adjust the standard impact fee at the time the fee is charged to:
(i) respond to:
(A) unusual circumstances in specific cases; or
(B) a request for a prompt and individualized impact fee review for the development activity of the state, a school district, or a charter school and an offset or credit for a public facility for which an impact fee has been or will be collected; and
(ii) ensure that the impact fees are imposed fairly; and
(d) a provision governing calculation of the amount of the impact fee to be imposed on a particular development that permits adjustment of the amount of the impact fee based upon studies and data submitted by the developer.
(2) A local political subdivision or private entity shall ensure that an impact fee enactment allows a developer, including a school district or a charter school, to receive a credit against or proportionate reimbursement of an impact fee if the developer:
(a) dedicates land for a system improvement;
(b) builds and dedicates some or all of a system improvement; or
(c) dedicates a public facility that the local political subdivision or private entity and the developer agree will reduce the need for a system improvement.
(3) A local political subdivision or private entity shall include a provision in an impact fee enactment that requires a credit against impact fees for any dedication of land for, improvement to, or new construction of, any system improvements provided by the developer if the facilities:
(a) are system improvements; or
(b)
(i) are dedicated to the public; and
(ii) offset the need for an identified system improvement.

Enacted by Chapter 47, 2011 General Session

**11-36a-403 Other provisions of impact fee enactment.**
(1) A local political subdivision or private entity may include a provision in an impact fee enactment that:
(a) provides an impact fee exemption for:
(i) development activity attributable to:
(A) low income housing;
(B) the state;
(C) subject to Subsection (2), a school district; or
(D) subject to Subsection (2), a charter school; or
(ii) other development activity with a broad public purpose; and

(b) except for an exemption under Subsection (1)(a)(i)(A), establishes one or more sources of funds other than impact fees to pay for that development activity.
(2) An impact fee enactment that provides an impact fee exemption for development activity attributable to a school district or charter school shall allow either a school district or a charter school to qualify for the exemption on the same basis.
(3) An impact fee enactment that repeals or suspends the collection of impact fees is exempt from the notice requirements of Section 11-36a-504.

Enacted by Chapter 47, 2011 General Session

## Part 5
## Notice

**11-36a-501 Notice of intent to prepare an impact fee facilities plan.**
(1) Before preparing or amending an impact fee facilities plan, a local political subdivision or private entity shall provide written notice of its intent to prepare or amend an impact fee facilities plan.
(2) A notice required under Subsection (1) shall:
(a) indicate that the local political subdivision or private entity intends to prepare or amend an impact fee facilities plan;
(b) describe or provide a map of the geographic area where the proposed impact fee facilities will be located; and
(c) subject to Subsection (3), be posted on the Utah Public Notice Website created under Section 63F-1-701.
(3) For a private entity required to post notice on the Utah Public Notice Website under Subsection (2)(c):
(a) the private entity shall give notice to the general purpose local government in which the private entity's private business office is located; and
(b) the general purpose local government described in Subsection (3)(a) shall post the notice on the Utah Public Notice Website.

Enacted by Chapter 47, 2011 General Session

**11-36a-502 Notice to adopt or amend an impact fee facilities plan.**
(1) If a local political subdivision chooses to prepare an independent impact fee facilities plan rather than include an impact fee facilities element in the general plan in accordance with Section 11-36a-301, the local political subdivision shall, before adopting or amending the impact fee facilities plan:
(a) give public notice, in accordance with Subsection (2), of the plan or amendment at least 10 days before the day on which the public hearing described in Subsection (1)(d) is scheduled;
(b) make a copy of the plan or amendment, together with a summary designed to be understood by a lay person, available to the public;
(c) place a copy of the plan or amendment and summary in each public library within the local political subdivision; and
(d) hold a public hearing to hear public comment on the plan or amendment.
(2) With respect to the public notice required under Subsection (1)(a):

(a) each municipality shall comply with the notice and hearing requirements of, and, except as provided in Subsection 11-36a-701(3)(b)(ii), receive the protections of Sections 10-9a-205 and 10-9a-801 and Subsection 10-9a-502(2);
(b) each county shall comply with the notice and hearing requirements of, and, except as provided in Subsection 11-36a-701(3)(b)(ii), receive the protections of Sections 17-27a-205 and 17-27a-801 and Subsection 17-27a-502(2); and
(c) each local district, special service district, and private entity shall comply with the notice and hearing requirements of, and receive the protections of, Section 17B-1-111.
(3) Nothing contained in this section or Section 11-36a-503 may be construed to require involvement by a planning commission in the impact fee facilities planning process.

Enacted by Chapter 47, 2011 General Session

**11-36a-503 Notice of preparation of an impact fee analysis.**
(1) Before preparing or contracting to prepare an impact fee analysis, each local political subdivision or, subject to Subsection (2), private entity shall post a public notice on the Utah Public Notice Website created under Section 63F-1-701.
(2) For a private entity required to post notice on the Utah Public Notice Website under Subsection (1):
(a) the private entity shall give notice to the general purpose local government in which the private entity's primary business is located; and
(b) the general purpose local government described in Subsection (2)(a) shall post the notice on the Utah Public Notice Website.

Enacted by Chapter 47, 2011 General Session

**11-36a-504 Notice of intent to adopt impact fee enactment -- Hearing -- Protections.**
(1) Before adopting an impact fee enactment:
(a) a municipality legislative body shall:
(i) comply with the notice requirements of Section 10-9a-205 as if the impact fee enactment were a land use regulation;
(ii) hold a hearing in accordance with Section 10-9a-502 as if the impact fee enactment were a land use regulation; and
(iii) except as provided in Subsection 11-36a-701(3)(b)(ii), receive the protections of Section 10-9a-801 as if the impact fee were a land use regulation;
(b) a county legislative body shall:
(i) comply with the notice requirements of Section 17-27a-205 as if the impact fee enactment were a land use regulation;
(ii) hold a hearing in accordance with Section 17-27a-502 as if the impact fee enactment were a land use regulation; and
(iii) except as provided in Subsection 11-36a-701(3)(b)(ii), receive the protections of Section 17-27a-801 as if the impact fee were a land use regulation;
(c) a local district or special service district shall:
(i) comply with the notice and hearing requirements of Section 17B-1-111; and
(ii) receive the protections of Section 17B-1-111;
(d) a local political subdivision shall at least 10 days before the day on which a public hearing is scheduled in accordance with this section:
(i) make a copy of the impact fee enactment available to the public; and

(ii) post notice of the local political subdivision's intent to enact or modify the impact fee, specifying the type of impact fee being enacted or modified, on the Utah Public Notice Website created under Section 63F-1-701; and

(e) a local political subdivision shall submit a copy of the impact fee analysis and a copy of the summary of the impact fee analysis prepared in accordance with Section 11-36a-303 on its website or to each public library within the local political subdivision.

(2) Subsection (1)(a) or (b) may not be construed to require involvement by a planning commission in the impact fee enactment process.

Amended by Chapter 84, 2017 General Session

## Part 6
## Impact Fee Proceeds

**11-36a-601 Accounting of impact fees.**

A local political subdivision that collects an impact fee shall:

(1) establish a separate interest bearing ledger account for each type of public facility for which an impact fee is collected;

(2) deposit a receipt for an impact fee in the appropriate ledger account established under Subsection (1);

(3) retain the interest earned on each fund or ledger account in the fund or ledger account;

(4) at the end of each fiscal year, prepare a report that:

(a) for each fund or ledger account, shows:

(i) the source and amount of all money collected, earned, and received by the fund or ledger account during the fiscal year; and

(ii) each expenditure from the fund or ledger account;

(b) accounts for all impact fee funds that the local political subdivision has on hand at the end of the fiscal year;

(c) identifies the impact fee funds described in Subsection (4)(b) by:

(i) the year in which the impact fee funds were received;

(ii) the project from which the impact fee funds were collected;

(iii) the project for which the impact fee funds are budgeted; and

(iv) the projected schedule for expenditure; and

(d) is:

(i) in a format developed by the state auditor;

(ii) certified by the local political subdivision's chief financial officer; and

(iii) transmitted to the state auditor within 180 days after the day on which the fiscal year ends.

Amended by Chapter 394, 2017 General Session

**11-36a-602 Expenditure of impact fees.**

(1) A local political subdivision may expend impact fees only for a system improvement:

(a) identified in the impact fee facilities plan; and

(b) for the specific public facility type for which the fee was collected.

(2)

(a) Except as provided in Subsection (2)(b), a local political subdivision shall expend or encumber an impact fee collected with respect to a lot:
(i) for a permissible use; and
(ii) within six years after the impact fee with respect to that lot is collected.
(b) A local political subdivision may hold the fees for longer than six years if it identifies, in writing:
(i) an extraordinary and compelling reason why the fees should be held longer than six years; and
(ii) an absolute date by which the fees will be expended.

Amended by Chapter 190, 2017 General Session

**11-36a-603 Refunds.**
(1) A local political subdivision shall refund any impact fee paid by a developer, plus interest earned, when:
(a) the developer does not proceed with the development activity and has filed a written request for a refund;
(b) the fee has not been spent or encumbered; and
(c) no impact has resulted.
(2)
(a) As used in this Subsection (2):
(i) "Affected lot" means the lot or parcel with respect to which a local political subdivision collected an impact fee that is subject to a refund under this Subsection (2).
(ii) "Claimant" means:
(A) the original owner;
(B) the person who paid an impact fee; or
(C) another person who, under Subsection (2)(d), submits a timely notice of the person's valid legal claim to an impact fee refund.
(iii) "Original owner" means the record owner of an affected lot at the time the local political subdivision collected the impact fee.
(iv) "Unclaimed refund" means an impact fee that:
(A) is subject to refund under this Subsection (2); and
(B) the local political subdivision has not refunded after application of Subsections (2)(b) and (c).
(b) If an impact fee is not spent or encumbered in accordance with Section 11-36a-602, the local political subdivision shall, subject to Subsection (2)(c):
(i) refund the impact fee to:
(A) the original owner, if the original owner is the sole claimant; or
(B) to the claimants, as the claimants agree, if there are multiple claimants; or
(ii) interplead the impact fee refund to a court of competent jurisdiction for a determination of the entitlement to the refund, if there are multiple claimants who fail to agree on how the refund should be paid to the claimants.
(c) If the original owner's last known address is no longer valid at the time a local political subdivision attempts under Subsection (2)(b) to refund an impact fee to the original owner, the local political subdivision shall:
(i) post a notice on the local political subdivision's website, stating the local political subdivision's intent to refund the impact fee and identifying the original owner;
(ii) maintain the notice on the website for a period of one year; and

(iii) disqualify the original owner as a claimant unless the original owner submits a written request for the refund within one year after the first posting of the notice under Subsection (2)(c)(i).

(d)

(i) In order to be considered as a claimant for an impact fee refund under this Subsection (2), a person, other than the original owner, shall submit a written notice of the person's valid legal claim to the impact fee refund.

(ii) A notice under Subsection (2)(d)(i) shall:

(A) explain the person's valid legal claim to the refund; and

(B) be submitted to the local political subdivision no later than 30 days after expiration of the time specified in Subsection 11-36a-602(2) for the impact fee that is the subject of the refund.

(e) A local political subdivision:

(i) may retain an unclaimed refund; and

(ii) shall expend any unclaimed refund on capital facilities identified in the current capital facilities plan for the type of public facility for which the impact fee was collected.

Amended by Chapter 215, 2018 General Session

## Part 7
## Challenges

**11-36a-701 Impact fee challenge.**

(1) A person or an entity residing in or owning property within a service area, or an organization, association, or a corporation representing the interests of persons or entities owning property within a service area, has standing to file a declaratory judgment action challenging the validity of an impact fee.

(2)

(a) A person or an entity required to pay an impact fee who believes the impact fee does not meet the requirements of law may file a written request for information with the local political subdivision who established the impact fee.

(b) Within two weeks after the receipt of the request for information under Subsection (2)(a), the local political subdivision shall provide the person or entity with the impact fee analysis, the impact fee facilities plan, and any other relevant information relating to the impact fee.

(3)

(a) Subject to the time limitations described in Section 11-36a-702 and procedures set forth in Section 11-36a-703, a person or an entity that has paid an impact fee that a local political subdivision imposed may challenge:

(i) if the impact fee enactment was adopted on or after July 1, 2000:

(A) subject to Subsection (3)(b)(i) and except as provided in Subsection (3)(b)(ii), whether the local political subdivision complied with the notice requirements of this chapter with respect to the imposition of the impact fee; and

(B) whether the local political subdivision complied with other procedural requirements of this chapter for imposing the impact fee; and

(ii) except as limited by Subsection (3)(c), the impact fee.

(b)

(i) The sole remedy for a challenge under Subsection (3)(a)(i)(A) is the equitable remedy of requiring the local political subdivision to correct the defective notice and repeat the process.
(ii) The protections given to a municipality under Section 10-9a-801 and to a county under Section 17-27a-801 do not apply in a challenge under Subsection (3)(a)(i)(A).
(c) The sole remedy for a challenge under Subsection (3)(a)(ii) is a refund of the difference between what the person or entity paid as an impact fee and the amount the impact fee should have been if it had been correctly calculated.
(4)
(a) Subject to Subsection (4)(d), if an impact fee that is the subject of an advisory opinion under Section 13-43-205 is listed as a cause of action in litigation, and that cause of action is litigated on the same facts and circumstances and is resolved consistent with the advisory opinion:
(i) the substantially prevailing party on that cause of action:
(A) may collect reasonable attorney fees and court costs pertaining to the development of that cause of action from the date of the delivery of the advisory opinion to the date of the court's resolution; and
(B) shall be refunded an impact fee held to be in violation of this chapter, based on the difference between the impact fee paid and what the impact fee should have been if the local political subdivision had correctly calculated the impact fee; and
(ii) in accordance with Section 13-43-206, a local political subdivision shall refund an impact fee held to be in violation of this chapter to the person who was in record title of the property on the day on which the impact fee for the property was paid if:
(A) the impact fee was paid on or after the day on which the advisory opinion on the impact fee was issued but before the day on which the final court ruling on the impact fee is issued; and
(B) the person described in Subsection (3)(a)(ii) requests the impact fee refund from the local political subdivision within 30 days after the day on which the court issued the final ruling on the impact fee.
(b) A local political subdivision subject to Subsection (3)(a)(ii) shall refund the impact fee based on the difference between the impact fee paid and what the impact fee should have been if the local political subdivision had correctly calculated the impact fee.
(c) This Subsection (4) may not be construed to create a new cause of action under land use law.
(d) Subsection (4)(a) does not apply unless the cause of action described in Subsection (4)(a) is resolved and final.
(5) Subject to the time limitations described in Section 11-36a-702 and procedures described in Section 11-36a-703, a claimant, as defined in Section 11-36a-603, may challenge whether a local political subdivision spent or encumbered an impact fee in accordance with Section 11-36a-602.

Amended by Chapter 215, 2018 General Session

**11-36a-702 Time limitations.**
(1) A person or an entity that initiates a challenge under Subsection 11-36a-701(3)(a) may not initiate that challenge unless it is initiated within:
(a) for a challenge under Subsection 11-36a-701(3)(a)(i)(A), 30 days after the day on which the person or entity pays the impact fee;

(b) for a challenge under Subsection 11-36a-701(3)(a)(i)(B), 180 days after the day on which the person or entity pays the impact fee;
(c) for a challenge under Subsection 11-36a-701(5):
(i) if the local political subdivision has spent or encumbered the impact fee, one year after the expiration of the time specified in Subsection 11-36a-602(2); or
(ii) if the local political subdivision has not yet spent or encumbered the impact fee, two years after the expiration of the time specified in Subsection 11-36a-602(2); or
(d) for a challenge under Subsection 11-36a-701(3)(a)(ii), one year after the day on which the person or entity pays the impact fee.
(2) The deadline to file an action in district court is tolled from the date that a challenge is filed using an administrative appeals procedure described in Section 11-36a-703 until 30 days after the day on which a final decision is rendered in the administrative appeals procedure.

Amended by Chapter 215, 2018 General Session

**11-36a-703 Procedures for challenging an impact fee.**
(1)
(a) A local political subdivision may establish, by ordinance or resolution, or a private entity may establish by prior written policy, an administrative appeals procedure to consider and decide a challenge to an impact fee.
(b) If the local political subdivision or private entity establishes an administrative appeals procedure, the local political subdivision shall ensure that the procedure includes a requirement that the local political subdivision make its decision no later than 30 days after the day on which the challenge to the impact fee is filed.
(2) A challenge under Subsection 11-36a-701(3)(a) is initiated by filing:
(a) if the local political subdivision or private entity has established an administrative appeals procedure under Subsection (1), the necessary document, under the administrative appeals procedure, for initiating the administrative appeal;
(b) a request for arbitration as provided in Section 11-36a-705; or
(c) an action in district court.
(3) The sole remedy for a successful challenge under Subsection 11-36a-701(1), which determines that an impact fee process was invalid, or an impact fee is in excess of the fee allowed under this act, is a declaration that, until the local political subdivision or private entity enacts a new impact fee study, from the date of the decision forward, the entity may charge an impact fee only as the court has determined would have been appropriate if it had been properly enacted.
(4) Subsections (2), (3), 11-36a-701(3), and 11-36a-702(1) may not be construed as requiring a person or an entity to exhaust administrative remedies with the local political subdivision before filing an action in district court under Subsections (2), (3), 11-36a-701(3), and 11-36a-702(1).
(5) The judge may award reasonable attorney fees and costs to the prevailing party in an action brought under this section.
(6) This chapter may not be construed as restricting or limiting any rights to challenge impact fees that were paid before the effective date of this chapter.

Amended by Chapter 200, 2013 General Session

**11-36a-704 Mediation.**

(1) In addition to the methods of challenging an impact fee under Section 11-36a-701, a specified public agency may require a local political subdivision or private entity to participate in mediation of any applicable impact fee.
(2) To require mediation, the specified public agency shall submit a written request for mediation to the local political subdivision or private entity.
(3) The specified public agency may submit a request for mediation under this section at any time, but no later than 30 days after the day on which an impact fee is paid.
(4) Upon the submission of a request for mediation under this section, the local political subdivision or private entity shall:
  (a) cooperate with the specified public agency to select a mediator; and
  (b) participate in the mediation process.

Enacted by Chapter 47, 2011 General Session

**11-36a-705 Arbitration.**
(1) A person or entity intending to challenge an impact fee under Section 11-36a-703 shall file a written request for arbitration with the local political subdivision within the time limitation described in Section 11-36a-702 for the applicable type of challenge.
(2) If a person or an entity files a written request for arbitration under Subsection (1), an arbitrator or arbitration panel shall be selected as follows:
  (a) the local political subdivision and the person or entity filing the request may agree on a single arbitrator within 10 days after the day on which the request for arbitration is filed; or
  (b) if a single arbitrator is not agreed to in accordance with Subsection (2)(a), an arbitration panel shall be created with the following members:
    (i) each party shall select an arbitrator within 20 days after the date the request is filed; and
    (ii) the arbitrators selected under Subsection (2)(b)(i) shall select a third arbitrator.
(3) The arbitration panel shall hold a hearing on the challenge no later than 30 days after the day on which:
  (a) the single arbitrator is agreed on under Subsection (2)(a); or
  (b) the two arbitrators are selected under Subsection (2)(b)(i).
(4) The arbitrator or arbitration panel shall issue a decision in writing no later than 10 days after the day on which the hearing described in Subsection (3) is completed.
(5) Except as provided in this section, each arbitration shall be governed by Title 78B, Chapter 11, Utah Uniform Arbitration Act.
(6) The parties may agree to:
  (a) binding arbitration;
  (b) formal, nonbinding arbitration; or
  (c) informal, nonbinding arbitration.
(7) If the parties agree in writing to binding arbitration:
  (a) the arbitration shall be binding;
  (b) the decision of the arbitration panel shall be final;
  (c) neither party may appeal the decision of the arbitration panel; and
  (d) notwithstanding Subsection (10), the person or entity challenging the impact fee may not also challenge the impact fee under Subsection 11-36a-701(1) or Subsection 11-36a-703(2)(a) or (2)(c).
(8)

(a) Except as provided in Subsection (8)(b), if the parties agree to formal, nonbinding arbitration, the arbitration shall be governed by the provisions of Title 63G, Chapter 4, Administrative Procedures Act.
(b) For purposes of applying Title 63G, Chapter 4, Administrative Procedures Act, to a formal, nonbinding arbitration under this section, notwithstanding Section 63G-4-502, "agency" means a local political subdivision.

(9)
(a) An appeal from a decision in an informal, nonbinding arbitration may be filed with the district court in which the local political subdivision is located.
(b) An appeal under Subsection (9)(a) shall be filed within 30 days after the day on which the arbitration panel issues a decision under Subsection (4).
(c) The district court shall consider de novo each appeal filed under this Subsection (9).
(d) Notwithstanding Subsection (10), a person or entity that files an appeal under this Subsection (9) may not also challenge the impact fee under Subsection 11-36a-701(1) or Subsection 11-36a-703(2)(a) or (2)(c).

(10)
(a) Except as provided in Subsections (7)(d) and (9)(d), this section may not be construed to prohibit a person or entity from challenging an impact fee as provided in Subsection 11-36a-701(1) or Subsection 11-36a-703(2)(a) or (2)(c).
(b) The filing of a written request for arbitration within the required time in accordance with Subsection (1) tolls all time limitations under Section 11-36a-702 until the day on which the arbitration panel issues a decision.

(11) The person or entity filing a request for arbitration and the local political subdivision shall equally share all costs of an arbitration proceeding under this section.

Enacted by Chapter 47, 2011 General Session

Report

# WASHINGTON CITY ELECTRIC DEPARTMENT

## Electric Cost of Service Study and Financial Projection

July 2020

Utility Financial Solutions, LLC

Specializing in Cost of Service, Rate Design, and Financial Analysis

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July 2020

Rick Hansen
Washington City Electric Department
111 North 100 East
Washington City, UT 84780

Dear Mr. Hansen:

We are pleased to present the Report for the electric cost of service study and financial projection for the Washington City Electric Department (Washington City). This report was prepared to provide Washington City with a comprehensive examination of its existing rate structure by an outside party.

The specific purposes of this rate study are:

- Determine electric utility's revenue requirements for fiscal year 2021
- Identify cross-subsidies that may exist between rate classes
- Proposed rate adjustments needed to meet targeted revenue requirements
- Identify the appropriate monthly customer charge for each customer class

This report includes results of the electric cost of service study and financial projection and proposed future rate designs.

This report is intended for information and use by the utility and management for the purposes stated above and is not intended to be used by anyone except the specified parties.

Sincerely,

Mark Beauchamp
Utility Financial Solutions, LLC
CPA, MBA, CMA
185 Sun Meadow Ct
Holland, MI 49424

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## 1. Introduction

This report was prepared to provide the Washington City Electric Department (Washington City) with an electric cost of service study and financial projection, and a comprehensive examination of its existing rate structure by an outside party. The specific purposes of the study are identified below:

1) ***Determine electric utility's revenue requirements for fiscal year* 2021.** Washington City's revenue requirements were projected for the period from 2021 - 2025 and included adjustments for the following:

    a. Projected power costs
    b. Projected changes in staffing levels
    c. Capital improvement plan projected over next five years

2) ***Identify if cross-subsidies exist between rate classes.*** Cross-subsidies exist when certain customer classes subsidize the electric costs of other customers. The rate study identifies if cross-subsidies exist and practical ways to reduce the subsidies. The cost of service study was completed using 2021 projected revenues and expenses. The financial projections are for the period from 2021 – 2025.

3) ***Identify cost-based power supply and distribution rates.*** The cost of providing electricity to customers consists of several components, including power generation, distribution, customer services, transmission, and transfers to the general fund. Electric unbundling identifies the cost of each component to assist the utility in preparing for electric restructuring and understanding its cost structure.

4) ***Identify the appropriate monthly customer charge for each customer class.*** The monthly customer charge consists of fixed costs to service customers that do not vary based on the amount of electricity used.

5) ***Propose rate adjustments needed to meet targeted revenue requirements.*** The primary purpose of this study is to identify appropriate revenue requirements and the rate adjustments needed to meet targeted revenue requirements. The report includes a long-term rate track for Washington City to help ensure the financial stability of the utility in future years.

## 2. Cost of Service Summary

### Utility Rate Process

Washington City retained Utility Financial Solutions, LLC to review utility rates and cost of service and make proposals on the appropriate course of action. This report includes results of the electric cost of service and unbundling study and proposed future rate designs.

### Utility Revenue Requirements

To determine revenue requirements, the revenues and expenses for Fiscal Years 2019, 2020, and 2021 budget were analyzed, with adjustments made to reflect projected operating characteristics. ***The projected financial statements are for cost of service purposes only.***

Table 1 is the projected financial statement for the Electric Department from 2021-2025.

The following pages review cash flow, debt coverage ratio, and rate of return which are important indicators of financial health.

**Table 1 – Financial Statements (without rate adjustments)**

| Description | Projected 2021 | Projected 2022 | Projected 2023 | Projected 2024 | Projected 2025 |
|---|---|---|---|---|---|
| **Operating Revenues:** | | | | | |
| Electric Sales | | | | | |
| Residential Service | $ 10,104,182 | $ 10,407,307 | $ 10,698,712 | $ 11,030,372 | $ 11,350,253 |
| Private Lighting | 12,860 | 13,246 | 13,617 | 14,039 | 14,446 |
| Small Commercial | 1,054,187 | 1,085,813 | 1,116,215 | 1,150,818 | 1,184,192 |
| Large Commercial | 3,388,669 | 3,490,329 | 3,588,058 | 3,699,288 | 3,806,567 |
| Steel Structures | 40,060 | 41,261 | 42,417 | 43,732 | 45,000 |
| Miscellaneous | 287,789 | 280,000 | 280,000 | 280,000 | 280,000 |
| Reconnect Fee | 26,262 | 25,000 | 25,000 | 25,000 | 25,000 |
| Penalties | 58,494 | 60,248 | 61,935 | 63,855 | 65,707 |
| Connection Fees | 322,051 | 331,712 | 341,000 | 351,571 | 361,767 |
| Discount | 26,966 | 18,798 | 20,274 | 21,787 | 22,843 |
| Pole Attachement Fees | 3,924 | 3,583 | 3,691 | 3,821 | 3,772 |
| Temp Power Construction | 16,350 | 16,000 | 16,000 | 16,000 | 16,000 |
| Additional PCA Revenues | - | 236,322 | 482,968 | 733,160 | 994,104 |
| Growth PCA Revenue | - | 7,090 | 28,418 | 67,204 | 122,595 |
| Operating Revenue | $ 15,341,791 | $ 16,016,709 | $ 16,718,306 | $ 17,500,647 | $ 18,292,245 |
| **Power Cost Adjustment:** | | | | | |
| Power Cost | $ 9,722,765 | $ 10,257,860 | $ 10,806,239 | $ 11,414,358 | $ 12,038,498 |
| kWh Purchases | 126,158,496 | 129,943,251 | 133,581,662 | 137,722,694 | 141,716,652 |
| Line Loses | 3.9% | 3.9% | 3.9% | 3.9% | 3.9% |
| Projected kWh Sales | 121,433,048 | 125,076,040 | 128,578,169 | 132,564,092 | 136,408,451 |
| Average Power Costs | $ 0.0801 | $ 0.0820 | $ 0.0840 | $ 0.0861 | $ 0.0883 |
| Base Power Costs | $ 0.0711 | $ 0.0711 | $ 0.0711 | $ 0.0711 | $ 0.0711 |
| PCA | $ 0.0090 | $ 0.0109 | $ 0.0129 | $ 0.0150 | $ 0.0172 |
| **Total Operating Revenues** | **$ 15,341,791** | **$ 16,016,709** | **$ 16,718,306** | **$17,500,647** | **$18,292,245** |

| Description | Projected 2021 | Projected 2022 | Projected 2023 | Projected 2024 | Projected 2025 |
|---|---|---|---|---|---|
| **Operating Expenses:** | | | | | |
| Purchases | | | | | |
| Purchased Power (Cost of Sales and Service) | $ 8,262,542 | $ 8,765,730 | $ 9,281,506 | $ 9,856,310 | $10,446,407 |
| Total Purchases Expense | $ 8,262,542 | $ 8,765,730 | $ 9,281,506 | $ 9,856,310 | $10,446,407 |
| Transmission | | | | | |
| Total Transmission O&M | $ 1,460,224 | $ 1,492,130 | $ 1,524,733 | $ 1,558,048 | $ 1,592,091 |
| Total Transmission Expense | $ 1,460,224 | $ 1,492,130 | $ 1,524,733 | $ 1,558,048 | $ 1,592,091 |
| Distribution | | | | | |
| Repairs and Maintenance | $ 177,255 | $ 181,128 | $ 185,086 | $ 189,130 | $ 193,262 |
| Lease Purchase (R&M) | 34,782 | 35,542 | 36,319 | 37,113 | 37,924 |
| Projects (R&M) | 392,550 | 401,127 | 409,892 | 418,848 | 428,000 |
| Capital (R&M) | 108,383 | 110,751 | 113,171 | 115,644 | 118,170 |
| Total Distribution Expense | $ 712,971 | $ 728,549 | $ 744,468 | $ 760,734 | $ 777,356 |
| Other Operating Expenses (Revenues) | | | | | |
| Salaries and Wages | $ 1,286,775 | $ 1,314,891 | $ 1,343,621 | $ 1,372,979 | $ 1,402,979 |
| Employee Benefits | 738,138 | 754,267 | 770,748 | 787,588 | 804,797 |
| Utilities | 76,190 | 77,855 | 79,556 | 81,294 | 83,070 |
| Professonial Services | 174,779 | 178,598 | 182,500 | 186,488 | 190,563 |
| Miscellaneous | 173,384 | 177,173 | 181,044 | 185,000 | 189,042 |
| Administrative Cost Allocation | 629,845 | 643,608 | 657,670 | 672,040 | 686,725 |
| Supplies | 109,813 | 112,212 | 114,664 | 117,170 | 119,730 |
| Depreciation Expense | 1,084,860 | 1,120,715 | 1,182,220 | 1,226,070 | 1,332,470 |
| Total Other Operating Expenses | $ 4,273,785 | $ 4,379,318 | $ 4,512,024 | $ 4,628,630 | $ 4,809,376 |
| **Total Operating Expenses** | $14,709,521 | $15,365,727 | $16,062,730 | $16,803,722 | $17,625,231 |
| **Operating Income** | $ 632,270 | $ 650,982 | $ 655,575 | $ 696,926 | $ 667,015 |

## Projected Cash Flow

Table 2 is the projected cash flow for 2021-2025, including projections of capital improvements as provided by Washington City. Changes in the capital improvement plan can greatly affect cash balances and the proposed minimum cash reserve target. The cash balance for 2021 is projected at $8.5M and $6.8M in 2025. The proposed minimum cash reserve level for 2021 is $4.9M and $5.3M for 2025.

**Table 2 – Projected Cash Flows (without rate adjustments)**

| Description | Projected 2021 | Projected 2022 | Projected 2023 | Projected 2024 | Projected 2025 |
|---|---|---|---|---|---|
| **Projected Cash Flows** | | | | | |
| Net Income | $ 1,474,672 | $ 1,270,289 | $ 1,153,520 | $ 1,203,958 | $ 1,035,350 |
| Depreciation Expense/Amortization | 1,084,860 | 1,120,715 | 1,182,220 | 1,226,070 | 1,332,470 |
| Subtract Debt Principal | (679,605) | (702,079) | (671,238) | (693,286) | (715,769) |
| Cash Available from Operations | $ 1,879,928 | $ 1,688,925 | $ 1,664,502 | $ 1,736,742 | $ 1,652,051 |
| Estimated Annual Capital Additions | 1,192,000 | 1,792,750 | 1,282,500 | 910,000 | 4,410,000 |
| Net Cash From Operations | $ 687,928 | $ (103,825) | $ 382,002 | $ 826,742 | $ (2,757,949) |
| Beginning Cash Balance | $ 7,808,745 | $ 8,496,673 | $ 8,392,848 | $ 8,774,850 | $ 9,601,592 |
| Ending Cash Balance | $ 8,496,673 | $ 8,392,848 | $ 8,774,850 | $ 9,601,592 | $ 6,843,643 |
| **Total Cash Available** | **$ 8,496,673** | **$ 8,392,848** | **$ 8,774,850** | **$ 9,601,592** | **$ 6,843,643** |
| **Recommended Minimum** | **$ 4,855,048** | **$ 4,886,836** | **$ 4,907,884** | **$ 5,035,588** | **$ 5,275,902** |

Cash balances are strong but decrease in 2025 due to a large capital project in that year.

## Minimum Cash Reserve

Table 3 details the minimum level of cash reserves required to help ensure timely replacement of assets and to provide financial stability of the utility. The methodology used to establish this target is based on an assessment of working capital needs to fund operating expenses, capital improvements, annual debt service payments and utility's exposure to risks related to catastrophic events, exposure to market risks, changes in fuel costs, loss of major customers, and utilities ability to timely recover changes in power supply expenses. Based on these assumptions, Washington City should maintain a minimum of $4.9M in cash reserves for 2021 and $5.3M in 2025.

**Table 3 – Minimum Cash Reserves (without rate adjustments)**

| Description | Projected 2021 | Projected 2022 | Projected 2023 | Projected 2024 | Projected 2025 |
|---|---|---|---|---|---|
| Minimum Cash Reserve Allocation | | | | | |
| Operation & Maintenance Less Depreciation Expense | 12.3% | 12.3% | 12.3% | 12.3% | 12.3% |
| Purchase Power Expense | 13.8% | 13.8% | 13.8% | 13.8% | 13.8% |
| Historical Rate Base | 1% | 1% | 1% | 1% | 1% |
| Current Portion of Debt Service Payment | 83% | 83% | 83% | 83% | 83% |
| Five Year Capital Improvements - Net of bond proceeds | 20% | 20% | 20% | 20% | 20% |
| Calculated Minimum Cash Level | | | | | |
| Operation & Maintenance Less Depreciation Expense | $ 661,083 | $ 675,528 | $ 690,288 | $ 705,371 | $ 720,783 |
| Purchase Power Expense | 1,142,219 | 1,211,780 | 1,283,081 | 1,362,543 | 1,444,118 |
| Historical Rate Base | 443,520 | 461,448 | 474,273 | 483,373 | 527,473 |
| Current Portion of Debt Service Reserve | 690,775 | 650,030 | 653,742 | 657,302 | 661,528 |
| Five Year Capital Improvements - Net of bond proceeds | 1,917,450 | 1,888,050 | 1,806,500 | 1,827,000 | 1,922,000 |
| **Minimum Cash Reserve Levels** | **$ 4,855,048** | **$ 4,886,836** | **$ 4,907,884** | **$ 5,035,588** | **$ 5,275,902** |
| **Projected Cash Reserves** | **$ 8,496,673** | **$ 8,392,848** | **$ 8,774,850** | **$ 9,601,592** | **$ 6,843,643** |

Projected cash balances are above the proposed minimums for all years.

## Debt Coverage Ratio

Table 4 is the projected debt coverage ratios with capital additions as provided by Washington City. The coverage required in bond ordinances is typically 1.15 – 1.20; however, the minimum proposed debt coverage ratio is established at 1.35 – 1.40 for projection purposes, a 0.20 premium to ordinance. Maintaining a higher debt coverage ratio is good business practice and helps to achieve the following:

- Helps to ensure adequate funds are available to meet debt service payments in years when sales are low due to temperature fluctuations.
- Obtain higher bond rating, if revenue bonds are sold in the future, to lower interest cost.

**Table 4 – Projected Debt Coverage Ratios (without rate adjustments)**

| Description | Projected 2021 | Projected 2022 | Projected 2023 | Projected 2024 | Projected 2025 |
|---|---|---|---|---|---|
| Debt Coverage Ratio | | | | | |
| Net Income | $ 1,474,672 | $ 1,270,289 | $ 1,153,520 | $ 1,203,958 | $ 1,035,350 |
| Add Depreciation/Amortization Expense | 1,084,860 | 1,120,715 | 1,182,220 | 1,226,070 | 1,332,470 |
| Add Interest Expense | 162,703 | 130,180 | 111,930 | 94,355 | 76,161 |
| Cash Generated from Operations | $ 2,722,236 | $ 2,521,184 | $ 2,447,670 | $ 2,524,383 | $ 2,443,981 |
| Debt Principal and Interest | $ 842,308 | $ 832,259 | $ 783,168 | $ 787,641 | $ 791,930 |
| **Projected Debt Coverage Ratio (Covenants)** | **3.23** | **3.03** | **3.13** | **3.20** | **3.09** |
| **Minimum Debt Coverage Ratio** | **1.4** | **1.4** | **1.4** | **1.4** | **1.4** |

Washington City's debt coverage ratio is above the minimum proposed debt coverage ratio throughout the projection.

## Rate of Return

The optimal target for setting rates is the establishment of a target operating income to help ensure the following:

A. Funding of interest expense on the outstanding principal on debt. Interest expense is below the operating income line and needs to be recouped through the operating income balance.
B. Funding of the inflationary increase on the assets invested in the system. The inflation on the replacement of assets invested in the utility should be recouped through the Operating Income.
C. Funding of depreciation expense.
D. Adequate rate of return on investment to help ensure current customers are paying their fair share of the use of the infrastructure and not deferring the charge to future generations.
E. The rate of return identifies the target operating income and is used to identify the appropriate funding for replacement of existing infrastructure to recover in rates charged to customers.

As improvements are made to the system, the optimal operating income target will increase unless annual depreciation expense is greater than yearly capital improvements. The revenue requirements for the study are set on the utility basis. Table 5 identifies the utility basis target established for 2021 is $1.3M and increases to $1.6M in 2025.

**Table 5 – Rate of Return Calculation (without rate adjustments)**

| Description | Projected 2021 | Projected 2022 | Projected 2023 | Projected 2024 | Projected 2025 |
|---|---|---|---|---|---|
| Target Operating Income Determinants | | | | | |
| Net Book Value | $ 31,420,845 | $ 32,092,879 | $ 32,193,159 | $ 31,877,089 | $ 34,954,618 |
| Outstanding Principal on Debt | 5,461,994 | 4,759,915 | 4,088,677 | 3,395,391 | 2,679,622 |
| System Equity | $ 25,958,850 | $ 27,332,964 | $ 28,104,482 | $ 28,481,698 | $ 32,274,997 |
| Debt:Equity Ratio | 17% | 15% | 13% | 11% | 8% |
| Target Operating Income Allocation | | | | | |
| Interest on Debt | 2.98% | 2.73% | 2.74% | 2.78% | 2.84% |
| Contributed Capital Estimated | 3.10% | 3.10% | 3.10% | 3.10% | 3.10% |
| System Equity | 4.38% | 4.46% | 4.57% | 4.70% | 4.68% |
| Target Operating Income | | | | | |
| Interest on Debt | $ 162,703 | $ 130,180 | $ 111,930 | $ 94,355 | $ 76,161 |
| System Equity | $ 1,135,907 | $ 1,218,323 | $ 1,283,518 | $ 1,338,848 | $ 1,509,814 |
| **Target Operating Income** | **$ 1,298,610** | **$ 1,348,502** | **$ 1,395,448** | **$ 1,433,202** | **$ 1,585,974** |
| **Projected Operating Income** | **$ 632,270** | **$ 650,982** | **$ 655,575** | **$ 696,926** | **$ 667,015** |
| **Rate of Return in %** | **4.1%** | **4.2%** | **4.3%** | **4.5%** | **4.5%** |

Current rates are projected to be below the target in all years 2021 - 2025.

## Projected Rate Track

Table 6 is a summary of the financial results detailing the proposed revenue adjustments.

**Table 6 – Projected Revenue Adjustments**

| Fiscal Year | Projected Rate Adjustments | Debt Coverage Ratio | Adjusted Operating Income | Target Operating Income | Projected Cash Balances | Recommended Minimum Cash |
|---|---|---|---|---|---|---|
| 2021 | 0.0% | 3.23 | $ 632,270 | $ 1,298,610 | $ 8,496,673 | $ 4,855,048 |
| 2022 | 0.0% | 3.03 | 650,982 | 1,348,502 | 8,392,848 | 4,886,836 |
| 2023 | 0.0% | 3.13 | 655,575 | 1,395,448 | 8,774,850 | 4,907,884 |
| 2024 | 0.0% | 3.20 | 696,926 | 1,433,202 | 9,601,592 | 5,035,588 |
| 2025 | 0.0% | 3.09 | 667,015 | 1,585,974 | 6,843,643 | 5,275,902 |

## Debt to Equity Ratio

Debt to equity identifies the amount of existing infrastructure financed through debt and is used to determine the amount the system is leveraged in debt. For distribution system the debt to equity ratio is normally between 30% and 35% with an upper range of 50% and a lower range of 0%. Table 7 details the debt/equity ratio.

**Table 7 – Debt/Equity Ratio**

| Description | Projected 2021 | Projected 2022 | Projected 2023 | Projected 2024 | Projected 2025 |
|---|---|---|---|---|---|
| Target Operating Income Determinants | | | | | |
| Net Book Value | $ 31,420,845 | $ 32,092,879 | $ 32,193,159 | $ 31,877,089 | $ 34,954,618 |
| Outstanding Principal on Debt | 5,461,994 | 4,759,915 | 4,088,677 | 3,395,391 | 2,679,622 |
| System Equity | $ 25,958,850 | $ 27,332,964 | $ 28,104,482 | $ 28,481,698 | $ 32,274,997 |
| Debt:Equity Ratio | 17% | 15% | 13% | 11% | 8% |

## Age of Infrastructure

Washington City is currently 29% depreciated compared with similar utilities around the nation. Average infrastructure is approximately 50% to 55% depreciated. Replacement of infrastructure tends to indicate the utility's ability to consistently provide a reliable system to customers, its ability to withstand catastrophic weather events, and unexpected replacement of system infrastructure. Washington City system age indicates it below the average infrastructure age. Table 8 identifies the depreciated plant.

**Table 8 – Age of Infrastructure**

| Description | Projected 2021 | Projected 2022 | Projected 2023 | Projected 2024 | Projected 2025 |
|---|---|---|---|---|---|
| Historical Rate Base | $ 44,352,030 | $ 46,144,780 | $ 47,427,280 | $ 48,337,280 | $ 52,747,280 |
| Net Book Value | 31,420,845 | 32,092,879 | 32,193,159 | 31,877,089 | 34,954,618 |
| % Plant Depreciated | 29% | 30% | 32% | 34% | 34% |

## Cost of Service Summary Results

A cost of service study was completed to determine the cost of providing service to each class of customers and to assist in design of electric rates for customers. A cost of service study consists of the following general steps:

1) Determine utility revenue requirement for test year 2021
2) Classify utility expenses into common cost pools
3) Allocate costs to customer classes based on the classes' contribution to utility expenses
4) Compare revenues received from each class to the cost of service

The cost of service summary is included as Table 9 which compares the projected cost to serve each class with the revenue received from each class. The "% change" column is the revenue adjustment necessary to meet projected cost of service requirements. The cost of service summary uses the current rates including any adjustment factors.

No utility charges 100% cost of service-based rates because retail rates are based on customers usage patterns that are largely driven by variations in weather. Due to these variations it is proposed that rates move toward cost of service slowly with a general tolerance of a 10% variation between projected revenue and cost of service. The cost of service summary "% change" column indicates all major customer classes fall within this variation.

**Table 9 – Cost of Service Summary**

| Customer Class | Cost of Service | Projected Revenues | % Change |
|---|---|---|---|
| Residential Service | $ 10,644,436 | $ 10,104,182 | 5.3% |
| Street Lighting | 256,264 | - | 0.0% |
| Private Lighting | 13,125 | 12,860 | 2.1% |
| Small Commercial | 1,092,759 | 1,054,187 | 3.7% |
| Large Commercial | 3,214,628 | 3,388,669 | -5.1% |
| Steel Structures | 45,084 | 40,060 | 12.5% |
| Total | $ 15,266,297 | $ 14,599,957 | 4.6% |

## Cost of Service Results

Table 10 shows the average cost of service per kWh and compares the cost to the average revenue per kWh for each customer class. This table is for information purposes only and is not used in the setting of rates. Average cost per kWh varies due to fixed costs recoveries such as meter costs and infrastructure needs of the customer. In general, customer classes that use energy consistently have a lower average kWh cost to serve compared with customer classes that use energy only part of the day or year.

**Table 10 – Average Cost per kWh vs. Average Revenue per kWh**

| Customer Class | Cost of Service $/kWh | Projected Revenues $/kWh |
|---|---|---|
| Residential Service | $ 0.1296 | $ 0.1230 |
| Street Lighting | 0.4488 | - |
| Private Lighting | 0.1053 | 0.1032 |
| Small Commercial | 0.1326 | 0.1279 |
| Large Commercial | 0.1072 | 0.1130 |
| Steel Structures | 0.1127 | 0.1002 |

Cost differences result from usage patterns of customers and how efficiently each class of customer use facilities based on load data provided by Washington City.

## Distribution Costs

Separation of distribution cost helps identify distribution charges for each customer class and the fixed monthly customer charge. Distribution rates include separation of the following costs:

- Operation and maintenance of distribution & transmission system
- Contributions to general fund
- Customer service
- Customer accounting
- Meter reading
- Billing
- Meter operation & maintenance
- Administrative expenses

The distribution rates consist of two components:

- Monthly customer charge to recover the costs of meter reading, billing, customer service, and a portion of maintenance and operations of the distribution system.
- Distribution rate based on billing parameter, (kW or kWh) to recover the cost to operate and maintain the distribution system. Table 11 identifies the cost-based distribution rates for customer classes.

**Table 11 – Distribution Costs by Customer Class (COS)**

| Customer Class | Customer Charge | Distribution Rate | Billing Basis |
|---|---|---|---|
| Residential Service | $ 13.90 | $ 0.0442 | kWh |
| Street Lighting | 1.18 | 0.4026 | kWh |
| Private Lighting | 11.78 | 0.0290 | kWh |
| Small Commercial | 22.33 | 13.38 | kW |
| Large Commercial | 74.03 | 12.94 | kW |
| Steel Structures | 99.67 | 11.31 | kW |

The cost of service based on the monthly customer charge for residential customers recovers 26% of the fixed cost of delivery of electricity. UFS averages across the United States show 40% to 60% fixed cost recovery in the residential customer charge.

## Power Supply Costs

Table 12 identifies the average cost of providing power supply to customers of Washington City.

**Table 12 – Power Supply Costs by Customer Class**

| Customer Class | Demand | Billing Basis | Energy | Billing Basis |
|---|---|---|---|---|
| Residential Service | $ 0.0224 | kWh | $ 0.0474 | kWh |
| Street Lighting | - | kWh | 0.0463 | kWh |
| Private Lighting | 0.0143 | kWh | 0.0463 | kWh |
| Small Commercial | 7.43 | KW | 0.0467 | kWh |
| Large Commercial | 7.50 | KW | 0.0464 | kWh |
| Steel Structures | 6.73 | KW | 0.0455 | kWh |

Demand recovers costs for power supply and transmission fixed demand related costs. Energy is cost recovery for variable power supply costs.

## Combined Cost Summary

Table 13 identifies the cost of service rates for each customer class. Charging these rates would directly match the cost of providing service to customers identified in this study.

**Table 13 – Total Costs by Customer Class**

| Customer Class | Customer Charge | COS Customer Charge | Demand | Energy |
|---|---|---|---|---|
| Residential Service | $ 16.50 | $ 13.90 | $ - | $ 0.1141 |
| Street Lighting | - | 1.18 | - | 0.4488 |
| Private Lighting | - | 11.78 | - | 0.0895 |
| Small Commercial | 22.50 | 22.33 | 20.81 | 0.0467 |
| Large Commercial | 92.50 | 74.03 | 20.44 | 0.0464 |
| Steel Structures | 92.50 | 99.67 | 18.05 | 0.0455 |

## Residential Customer Charge

The customer charge consists of expenses related to 1) providing a minimum amount of electricity to the residential customer, and 2) expenses related to servicing a meter on the customer's premises and together they reflect the cost to deliver a single kWh of electricity to the customer. The methodology used in this study is consistent with methodologies and practices used in the electric industry.

The customer charge includes two types of charges called minimum system charges and direct charges.

**Minimum System Charges:**

The cost to provide the minimum level of service. Washington City provides wires to connect the transmission system to the customers' homes and businesses. This wire is required to provide even the minimal amount of service to a customer. For cost of service purposes, the total cost of the distribution infrastructure is broken into two components: 1) the minimum system costs, in effect to provide a customer with a single kWh of electricity which should be recovered through the customer charge, and 2) demand related costs to recover the additional infrastructure costs for when a customer uses more than a single kWh, which should be recovered through the usage component. The distribution system is sized to handle the customers' peak demands and the cost above the minimum system is recovered through the usage component (for residential customers this is included in the kWh charge).

The first step in identifying the cost related to the minimum system is obtaining information on the number and current replacement costs of Washington City distribution system. For this study Washington City provided information on the average number and size of all the utility's poles and the cost to replace the poles. The minimum size pole was identified and the cost to construct Washington City's system at the minimum sizing was determined. This process was completed for all Washington City's distribution system assets including overhead and underground conductors and devices, line transformers, etc. Based on this methodology 22% of Washington City's total distribution costs should be recovered by the usage component and 78% recovered in the fixed customer charge component.

**Direct Charges**

Costs related to maintaining a customer's account. These costs include the cost to operate and maintain the meter, including meter installation, meter repair and replacement costs, the cost to read the meter, billings and collections, customer service personnel to assist with questions and maintain the account and the cost of the "service drop" to connect the home to the distribution line.

## 3. Functionalization of Costs

Delivery of electricity consists of many components that bring electricity from the power supply facilities to the communities and eventually into customer facilities. The facilities consist of four major components: transmission, distribution, customer-related services, and administration. Following are general descriptions of each of these facilities and the sub-breakdowns within each category.

### Transmission

The transmission system is comprised of four types of subsystems that operate together:

1) Backbone and inter-tie transmission facilities are the network of high voltage facilities through which a utility's major production sources are integrated.
2) Generation set-up facilities are the substations through which power is transformed from a utility's generation voltages to its various transmission voltages.
3) Sub-transmission plant consists of lower voltage facilities to transfer electric energy from convenient points on a utility's backbone system to its distribution system.
4) Radial transmission facilities are those that are not networked with other transmission lines but are used to serve specific loads directly.

Operation of the transmission system also consists of providing certain services that ensure a stable supply of power. These services are typically referred to as ancillary services. The Federal Energy Regulatory Commission (FERC) has defined six ancillary service charges for the use of transmission facilities. For Washington City, these charges will be passed-through charges by the control area operator. Ancillary services consist of the following:

- **Mandatory Ancillary Service Charges:**

  Reactive Supply and Voltage Control
  Regulation and Frequency Response Service
  Energy Imbalance Charges
  Operating Reserves Spinning
  Operating Reserves Supplemental
  Reactive Power Supply
  Power losses of the transmission system

**Terminology of Cost of Service**

FUNCTIONALIZATION – Cost data arranged by functional category (e.g. power supply, transmission, distribution

CLASSIFICATION – Assignment of functionalized costs to cost components (e.g. demand, energy and customer related).

ALLOCATION – Allocating classified costs to each class of service based on each class's contribution to that specific cost component.

DEMAND COSTS – Costs that vary with the maximum or peak usage. Measured in kilowatts (kW)

ENERGY COSTS – Costs that vary over an extended period of time. Measured in kilowatt-hours (kWh)

CUSTOMER COSTS – Costs that vary with the number of customers on the system, e.g. metering costs.

DIRECT ASSIGNMENT – Costs identified as belonging to a specific customer or group of customers.

## Distribution

The distribution facilities connect the customer with the transmission grid to provide the customer with access to the electrical power that has been generated and transmitted. The distribution plant includes substations, primary and secondary conductors, poles, and line transformers that are jointly used and in the public right-of-way.

**Substations** typically separate the distribution plant from the transmission system. The substation power transformer "steps down" the voltage to a level that is more practical to install on and under city streets.

**Distribution circuits** are divided into primary and secondary voltages with the primary voltages usually ranging between 35 kV and 4 kV and the secondary below 4 kV.

## Distribution Customer Types

**Sub-transmission customers** are served directly from the substation feeder and bypass both the secondary and primary distribution lines. The charges for this type of customer should reflect the cost of the substation and not include the cost of primary or secondary line charges.

**Primary customers** are typically referred to as customers who have purchased, owned, and maintained their own transformers that convert the voltage to the secondary voltage level. The rates for these customers should reflect the cost of substations and the cost of primary distribution lines and not include the cost of secondary line extensions.

**Secondary customers** have the services provided by the utilities directly into their facilities. The utility provides the customer with the transformer and the connection on the customers' facilities.

## Customer-Related Services

Certain administrative-type services are necessary to ensure customers are provided service connections and disconnections in a timely manner and the facilities are in place to read meters and bill for customer usages. These services typically consist of the following components:

- Customer Services – The cost of providing personnel to assist customers with questions and dispatch personnel to connect and disconnect meters.
- Billing and Collections – The cost of billing and collections personnel, postage, and supplies.
- Meter Reading – The cost of reading customers' meters.
- Meter Operation and Maintenance – The cost of installing and maintaining customer meters.

## Administrative Services

These costs are sometimes referred to as overhead costs and relate to functions that cannot be directly attributed to any service. These costs are spread to the other services through an allocator such as labor, expenses, or total rate base. These costs may consist of governing body expenses, property insurance, and wages for higher level management of the utility.

## System Losses

As energy moves through each component of the transmission and distribution system, some of the power is lost and cannot be sold to customers. Losses vary based on time of day and season. Typically, as system usage increases or ambient temperature increases, the percentages of losses that occur also increase. These losses are recovered from distribution customers through an analysis of the peak losses that occur in the system. The historic system losses and unaccounted energy for Washington City are approximately 4.7%.

## 4. Unbundling Process

The cost of power supply, distribution, and customer services are identified as part of the unbundling process and are the first step in determining unbundled charges to customers. The total revenue requirements of $15.3M are separated into three categories identified in Table 14.

**Table 14 – Breakdown of Washington City Cost Structure**

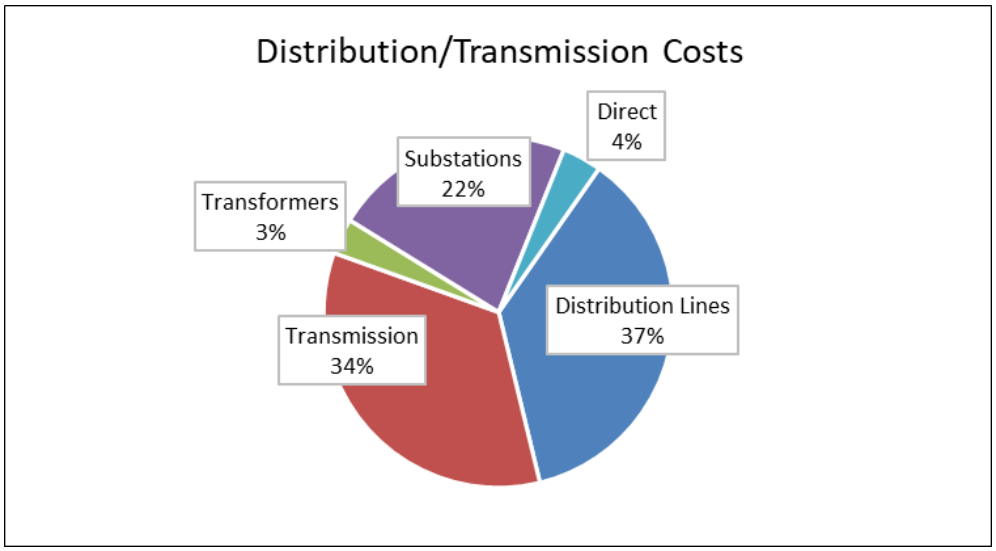
| Expense Type | | Amount | Percentage |
|---|---|---|---|
| Power Supply | $ | 8,423,659 | 55% |
| Distribution/Transmission | $ | 5,981,228 | 39% |
| Customer | $ | 861,411 | 6% |
| | $ | 15,266,297 | 100% |

Washington City is projected to expend 55% of its total costs toward power supply. Distribution/transmission-related costs are 39%, and customer service is 6%. These components are broken down into each of the subcomponents and are identified in the following sections.

### Distribution Breakdown

Distribution rates consist of several different components. Total distribution-related costs of $5.9M for 2021 are broken down into the main components including substations, transformers, transmission, and distribution lines. Figure 1 shows the breakdown of distribution components identified in the study.

**Figure 1 – Breakdown of Distribution Costs**

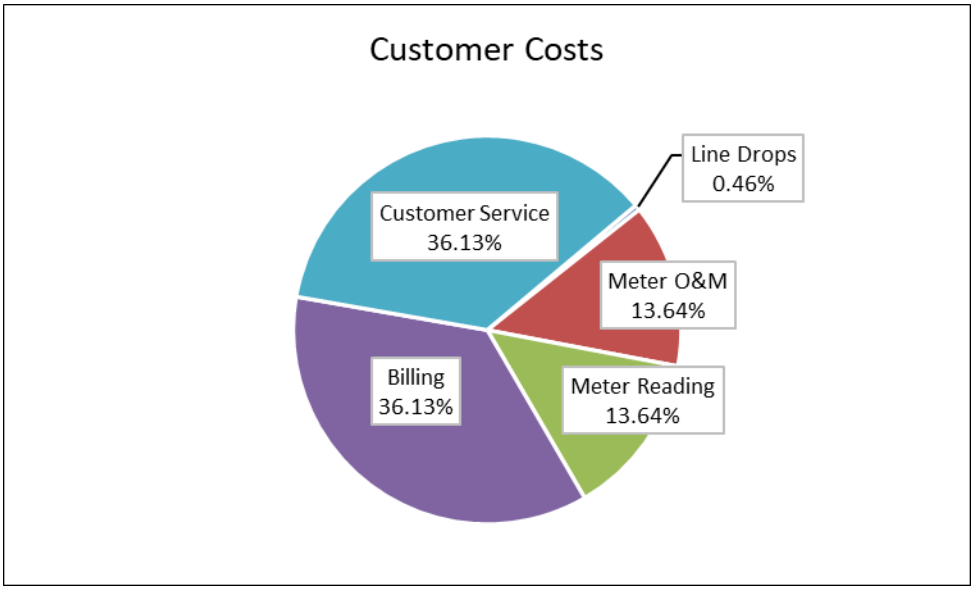



Each of these components is allocated to customer groups based on certain factors established in the study. These factors are based on the efficiency of each customer class and the time of day or the season the electricity is used. Other factors are also considered, such as the length of line extensions to reach certain customer classes.

## Customer-Related Cost Breakdown

Washington City total expenses for customer-related costs are $861k for 2021. The cost is broken down into the components identified in Figure 2.

**Figure 2 – Breakdown of Customer Costs**




## Power Supply Cost Breakdown

Power supply costs for 2021 were made up of purchased power and transmission expenses.

## 5. Significant Assumptions

This section outlines the procedures used to develop the cost of service and unbundling study for Washington City and the related significant assumptions.

### Forecasted Operating Expenses

Forecasted expenses were based on 2019, 2020, and 2021 budget adjusted for power supply costs and inflation. The table below is a summary of the expenses used in the analysis. The projected operating expenses include an adjustment for any city contributions.

**Table 15 – Projected Operating Expenses for 2021 – 2025**

| Description | Projected 2021 | Projected 2022 | Projected 2023 | Projected 2024 | Projected 2025 |
|---|---|---|---|---|---|
| **Operating Expenses:** | | | | | |
| Purchases | | | | | |
| Purchased Power (Cost of Sales and Service) | $ 8,262,542 | $ 8,765,730 | $ 9,281,506 | $ 9,856,310 | $ 10,446,407 |
| Total Purchases Expense | $ 8,262,542 | $ 8,765,730 | $ 9,281,506 | $ 9,856,310 | $ 10,446,407 |
| Transmission | | | | | |
| Total Transmission O&M | $ 1,460,224 | $ 1,492,130 | $ 1,524,733 | $ 1,558,048 | $ 1,592,091 |
| Total Transmission Expense | $ 1,460,224 | $ 1,492,130 | $ 1,524,733 | $ 1,558,048 | $ 1,592,091 |
| Distribution | | | | | |
| Repairs and Maintenance | $ 177,255 | $ 181,128 | $ 185,086 | $ 189,130 | $ 193,262 |
| Lease Purchase (R&M) | 34,782 | 35,542 | 36,319 | 37,113 | 37,924 |
| Projects (R&M) | 392,550 | 401,127 | 409,892 | 418,848 | 428,000 |
| Capital (R&M) | 108,383 | 110,751 | 113,171 | 115,644 | 118,170 |
| Total Distribution Expense | $ 712,971 | $ 728,549 | $ 744,468 | $ 760,734 | $ 777,356 |
| Other Operating Expenses (Revenues) | | | | | |
| Salaries and Wages | $ 1,286,775 | $ 1,314,891 | $ 1,343,621 | $ 1,372,979 | $ 1,402,979 |
| Employee Benefits | 738,138 | 754,267 | 770,748 | 787,588 | 804,797 |
| Utilities | 76,190 | 77,855 | 79,556 | 81,294 | 83,070 |
| Professonial Services | 174,779 | 178,598 | 182,500 | 186,488 | 190,563 |
| Miscellaneous | 173,384 | 177,173 | 181,044 | 185,000 | 189,042 |
| Administrative Cost Allocation | 629,845 | 643,608 | 657,670 | 672,040 | 686,725 |
| Supplies | 109,813 | 112,212 | 114,664 | 117,170 | 119,730 |
| Depreciation Expense | 1,084,860 | 1,120,715 | 1,182,220 | 1,226,070 | 1,332,470 |
| Total Other Operating Expenses | $ 4,273,785 | $ 4,379,318 | $ 4,512,024 | $ 4,628,630 | $ 4,809,376 |
| **Total Operating Expenses** | $ 14,709,521 | $ 15,365,727 | $ 16,062,730 | $ 16,803,722 | $ 17,625,231 |

## Load Data

Load data is one of the most critical components of a cost of service study. Information from the billing statistics were used to determine the usage patterns of each customer class after reconciling revenues with financial statements to ensure a good basis for development of the study.

## Annual Projection Assumptions

The kWh sales forecast is based on FY2019 actual adjusted for growth. Table 16 details growth, inflation of expenses, changes in purchase power costs, and interest earned on investments.

**Table 16 – Projection Annual Escalation Factors 2021 – 2025**

| Fiscal Year | Inflation | Growth | Investment Income |
|---|---|---|---|
| 2021 | 2.2% | 3.3% | 0.5% |
| 2022 | 2.2% | 3.0% | 0.5% |
| 2023 | 2.2% | 2.8% | 0.5% |
| 2024 | 2.2% | 3.1% | 0.5% |
| 2025 | 2.2% | 2.9% | 0.5% |

## System Loss Factors

Losses occurring from the transmission and distribution of electricity can vary from year to year depending upon weather and system loading.

## Revenue Forecast

The revenue forecast was based on FY2019 usages adjusted for growth.

## 6. Proposed and Additional Information

### Washington City Financial Considerations

1. Washington City is projected to require the following changes in rates charged to customers from 2021 until 2025.

| Fiscal Year | Projected Rate Adjustments | Debt Coverage Ratio | Adjusted Operating Income | Target Operating Income | Projected Cash Balances | Recommended Minimum Cash |
|---|---|---|---|---|---|---|
| 2021 | 0.0% | 3.23 | $ 632,270 | $ 1,298,610 | $ 8,496,673 | $ 4,855,048 |
| 2022 | 0.0% | 3.03 | 650,982 | 1,348,502 | 8,392,848 | 4,886,836 |
| 2023 | 0.0% | 3.13 | 655,575 | 1,395,448 | 8,774,850 | 4,907,884 |
| 2024 | 0.0% | 3.20 | 696,926 | 1,433,202 | 9,601,592 | 5,035,588 |
| 2025 | 0.0% | 3.09 | 667,015 | 1,585,974 | 6,843,643 | 5,275,902 |

2. Cash balances are strong and increasing through 2024.
3. Debt Coverage Ratios are above proposed minimum levels throughout the projection period without changes in rates.
4. Current rate related revenues are projected to result in operating income below the target operating income for each year. The target operating income is a maximum return metric. Since projected cash balances are above the proposed minimum cash levels, we do not purpose increasing rates to meet this target.
5. Infrastructure of Washington City is below the national average. The infrastructure in total is approximately 30% depreciated compared with the national average between 50% - 55%. This indicates Washington City has an appropriate infrastructure and capital replacement plan over the planning horizon.

## Rate-Related Considerations

1. Revenue currently recovered by each major class of customers closely resembles the cost of providing service to the customer class.
2. The table below compares the current customer charges with the cost-based customer charge. There are no purposed changes to the customer charge at this time.

| Customer Class | COS Customer Charge | Average Customer Charge |
|---|---|---|
| Residential Service | $ 13.90 | $ 16.50 |
| Street Lighting | 1.18 | - |
| Private Lighting | 11.78 | - |
| Small Commercial | 22.33 | 22.50 |
| Large Commercial | 74.03 | 92.50 |
| Steel Structures | 99.67 | 92.50 |

3. Washington City may consider revenue neutral movements toward cost of service. The cost of service study indicates a variance exists between revenues and costs for certain rate classes. The study results are listed below:

| Customer Class | Cost of Service | Projected Revenues | % Change |
|---|---|---|---|
| Residential Service | $ 10,644,436 | $ 10,104,182 | 5.3% |
| Street Lighting | 256,264 | - | 0.0% |
| Private Lighting | 13,125 | 12,860 | 2.1% |
| Small Commercial | 1,092,759 | 1,054,187 | 3.7% |
| Large Commercial | 3,214,628 | 3,388,669 | -5.1% |
| Steel Structures | 45,084 | 40,060 | 12.5% |
| Total | $ 15,266,297 | $ 14,599,957 | 4.6% |

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## Accountant's Compilation Report

Governing Body
Washington City Electric Department

The accompanying forecasted statements of revenues and expenses of the Washington City Electric Department (Utility) were compiled for the year ending December 31, 2021 in accordance with guidelines established by the American Institute of Certified Public Accountants.

The purpose of this report is to assist management in forecasting revenue requirements and determining the cost to service each customer class. This report should not be used for any other purpose.

A compilation is limited to presenting, in the form of a forecast; information represented by management and does not include evaluation of support for any assumptions used in projecting revenue requirements. We have not audited the forecast and, accordingly, do not express an opinion or any other form of assurance on the statements or assumptions accompanying this report.

Differences between forecasted and actual results will occur since some assumptions may not materialize and events and circumstances may occur that were not anticipated. Some of these variations may be material. Utility Financial Solutions, LLC has no responsibility to update this report after the date of this report.

This report is intended for information and use by the governing body and management for the purposes stated above. This report is not intended to be used by anyone except the specified parties.

UTILITY FINANCIAL SOLUTIONS, LLC

Mark Beauchamp, CPA, CMA, MBA
Holland, MI
July 2020